



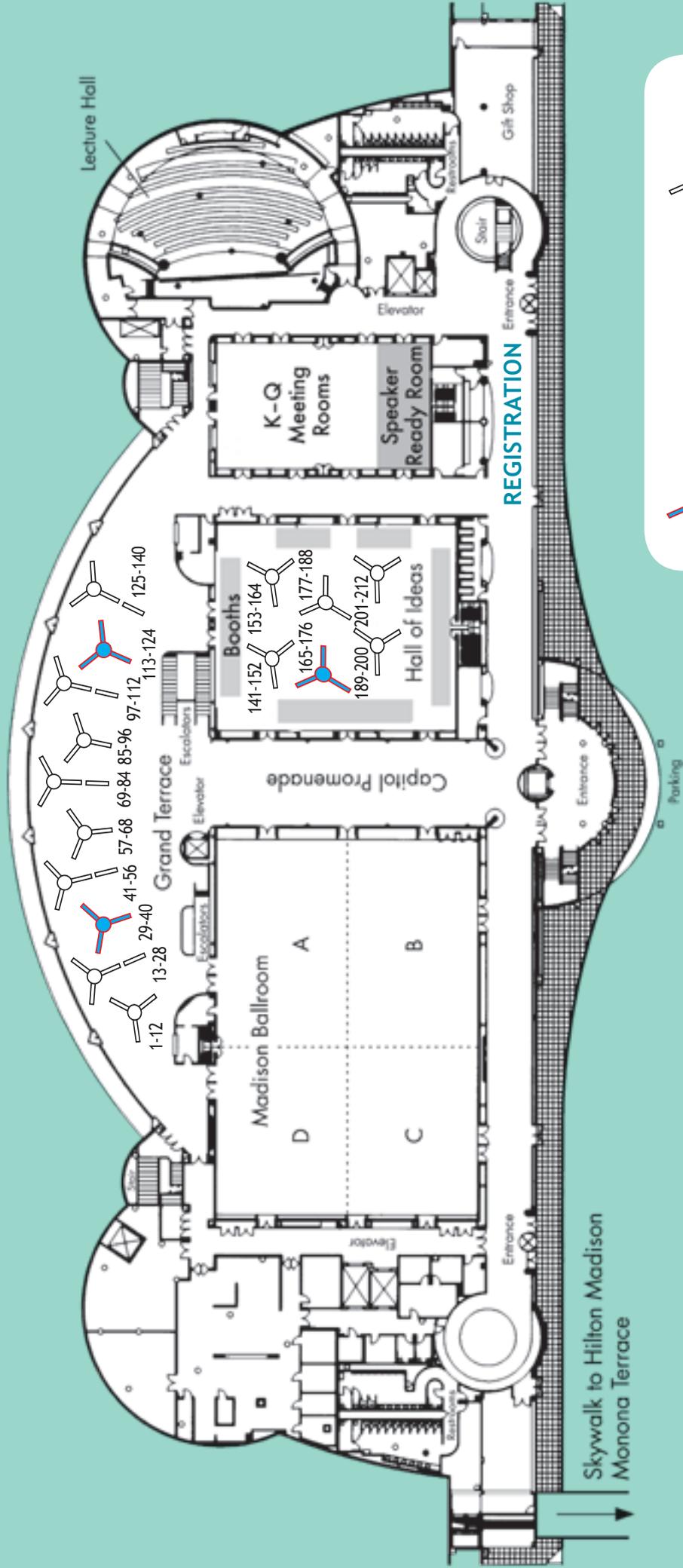
PROGRAM



CONFERENCE ON
MERCURY
AS A GLOBAL
POLLUTANT

MADISON WISCONSIN
AUGUST 6-11, 2006

POSTERS • MONONA TERRACE-LEVEL 4



 Plenary Session Poster
  Poster

Community Terrace is on Level 3 - use escalator.



Photo of conference site,
Monona Terrace



CONFERENCE ON
MERCURY
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POLLUTANT

MADISON WISCONSIN
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ORGANIZED BY





Production of this publication supported in part with funding from the National Sea Grant College Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce (fed. grant no. NA16RG2257, projects C/C-1, A/AS-1)



CONTENTS

1	A Pathway to the Conference and Challenge to Conferees
	Conference Goals Plenary Sessions, Synthesis Manuscripts and Conference Declaration
3-5	Committees and Organizations
6-7	Sponsors, Map, and List of Commercial Exhibits
8	Monona Terrace
9	Student Art Project, Under-Represented Groups Support, Student Awards of Excellence
10-12	Conference Information
	Registration Name Badge Policy and Benefits Registration Fees Official Language Language Assistance Smoking Policy Limitation of Liability Recording and Photography Monona Terrace Amenities Disability Access Business Center Wireless Access Internet Café Grandview Café Message Center Job Opportunities Speaker-Ready Room Poster-Ready Area
13	Social Events
14	Schedule at a Glance
15-69	Daily Programs – Plenary Sessions, Poster Presentations, Platform Presentations
16	Monday
30	Tuesday
44	Wednesday
54	Thursday
68	Friday
70-81	Author Index
82	Platform Session Code Conversion
83-84	Notes
Inside back cover	Maps of Downtown Madison

Front cover photo: Demonstration of techniques for reducing mercury exposure through artisanal gold mining practices in Jacobina, Brazil—United Nations Industrial Development Organization’s Global Mercury Project. Credit: James Hurley

A Pathway to the Conference

Welcome to the Eighth International Conference on Mercury as a Global Pollutant (ICMGP)! This conference series, begun in Sweden in 1990, has become the preeminent international forum for the presentation and discussion of advances in the understanding of environmental mercury pollution. The depth, breadth, and pace of scientific discovery pertaining to the sources, transport, fate, biogeochemical cycling, and adverse effects of mercury in the environment have increased greatly since the inaugural conference. The 2006 conference presents a timely opportunity to synthesize and disseminate scientific information in a form useful to governmental and societal decisions regarding this toxic metal.



and Challenge to Conferees...

CONFERENCE GOALS

Previous conferences in this series have established a high standard of excellence and an atmosphere that fosters the collegial discussion of information and ideas. The current Conference Organizing Committee, which began planning the Madison Conference in 2001, is committed to maintaining this tradition of excellence. We have established four specific goals for the Madison conference and here summarize the path we have taken toward meeting each.

GOAL 1: To increase conferee participation in the development of the technical program. Proposals for special sessions, which are topically focused sessions developed by conferees, were solicited, received, and reviewed. The resulting technical program contains 36 special sessions that together include more than half of the papers presented at the conference.

In addition, all submitting authors were given the opportunity to express their preference regarding desired session and mode of presentation. Overall, 88% of the submitted abstracts were assigned to the most preferred session, and 84% were assigned the preferred presentation format (i.e., platform or poster).

GOAL 2: To enhance the use of poster sessions as the primary medium for communication at the conference. During the conference more than 800 papers will be presented as posters, organized spatially into topically-focused and session-organized modules. The poster sessions have been allocated premium time and space and will be enhanced by snack and beverage service. Poster presentations facilitate direct interaction among conferees and provide opportunities for detailed discussion, contributing to the dialog on mercury during the conference.

GOAL 3: To increase participation by under-represented groups, including students, beginning professionals, nongovernmental organizations, and representatives of developing nations. Thanks to the generous support of several conference sponsors, 65 conferees were provided travel assistance to facilitate their participation in the conference. Conference grants were supported by donations from the International Development Research Centre of Canada, United Nations Environment Program, United Nations Industrial Development Organization, Minnesota Pollution Control Agency, DuPont, CEBAM Analytical, and anonymous donors. We hope that this support will enhance global information transfer and outreach concerning mercury pollution and the risks of dietary and occupational exposure. In addition, a student was appointed to the steering committee.

GOAL 4: To focus and enhance the integration of mercury science into formats pertinent to the policy arena. An active conference advertising campaign, undertaken to enhance participation in the technical program, led to the submission of 1,070 abstracts from a total of 58 countries. The resulting technical program is a diverse and multidisciplinary reflection of the global community of mercury researchers. Preparation for the conference also included an International Mercury Workshop convened in Madison on 13-18 July 2005, more than a year before the conference. Forty internationally renowned experts attended and were assigned to one of four interdisciplinary panels, each of which was challenged to produce a synthesis paper on a key, policy-relevant question to be presented in a plenary session at the conference.

PLENARY SESSIONS, SYNTHESIS MANUSCRIPTS AND CONFERENCE DECLARATION

Four synthesis papers serve as the basis for a series of four plenary papers that will begin each day of the conference, as follows.

Plenary Session

Question Addressed by Panel

Monday

Source attribution of atmospheric mercury deposition

Can we ascertain the relative contributions of local, regional, and global sources, and of natural versus anthropogenic emissions to mercury deposition?

Tuesday

Health risks and toxic effects of methylmercury

What is the evidence that humans, fish, wildlife, and other biota are being adversely affected by exposure to methylmercury?

Wednesday

Recovery of mercury-contaminated fisheries

How would methylmercury levels in fish respond to reduced anthropogenic emissions of mercury?

Thursday

Societal consequences of mercury pollution

What are the socioeconomic and cultural costs of mercury pollution?

THE CHALLENGE. Collectively, the four synthesis papers provide the foundation for the Conference Declaration, a summary document to be considered by conferees at the Eighth International Conference in Madison. Input from registered conferees will be used to assess overall scientific concurrence on the summary statements contained in the Conference Declaration, and the results of this assessment will be presented at the closing ceremony on Friday, August 11. We are challenging each of you to participate actively in this process and in the week-long dialog on mercury that will occur at the plenary, poster, and platform sessions. Please refer to the materials in your registration packet that pertain to the Conference Declaration and follow the instructions contained therein to provide your input on the Declaration. The participants in this conference series represent a diverse global body of scientific and technical expertise on environmental mercury pollution, and your collective appraisal of the conclusions expressed in the Conference Declaration will be highly valued.

The four synthesis papers and Conference Declaration will be published after the conference in *Ambio*, a multidisciplinary, international journal published by the Royal Swedish Academy of Sciences. A copy of the *Ambio* issue containing the synthesis papers will be sent to each registered conferee.

Thank you for participating in the conference. We realize all of you have traveled a unique path to Madison, and we wish you a successful, rewarding conference.

The Conference Organizing Committee:

David P. Krabbenhoft and James P. Hurley, Conference Co-Chairs

James G. Wiener, Technical Chair

Christopher L. Babiarz, Conference Secretariat

ACKNOWLEDGEMENTS

The Organizing Committee is indebted to all the individuals who have worked tirelessly to make this conference a success. Without their collective contributions of time and talents the numerous functions, amenities, and technical program of the conference would have not been possible. In addition, every conferee benefited from the generous support of the sponsors, whether through directed sponsorship of a specific event, travel for under-represented groups or to defray general costs. Without their generosity the quality program for this week would not have been possible, or would have come at a significantly higher cost to individual attendees. We encourage you to take the time to read the acknowledgements section and help us in thanking all those who made this event possible.

HOST ORGANIZATIONS

The host organizations for the conference are the University of Wisconsin-Madison, UW Sea Grant, the U.S. Geological Survey, and the University of Wisconsin-La Crosse.

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 Edward Swain, Minnesota Pollution Control Agency, USA
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 Stephen Wittman, Wisconsin Sea Grant Program, USA

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Carmen Connor
Christine Custer
Thomas Custer
Bruce Monson
Mark Sandheinrich

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Stephen Wittman

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Eric Uram

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Kathleen Schmitt

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Mark Sandheinrich

Acknowledgements

Seth DeVos, Nikita Brabbit, Ben Bailey, Terri Klousie, Anders Andren, Paula Lorenz, Ron Rada, Indigenous Environmental Network, John Persell, Heidi Ableidinger, Fluno Center for Executive Education, Anne Babich, Amy Kittleson, Elizabeth White, Laura Moberly, Sharon Mallman

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Meg Statz, event services manager

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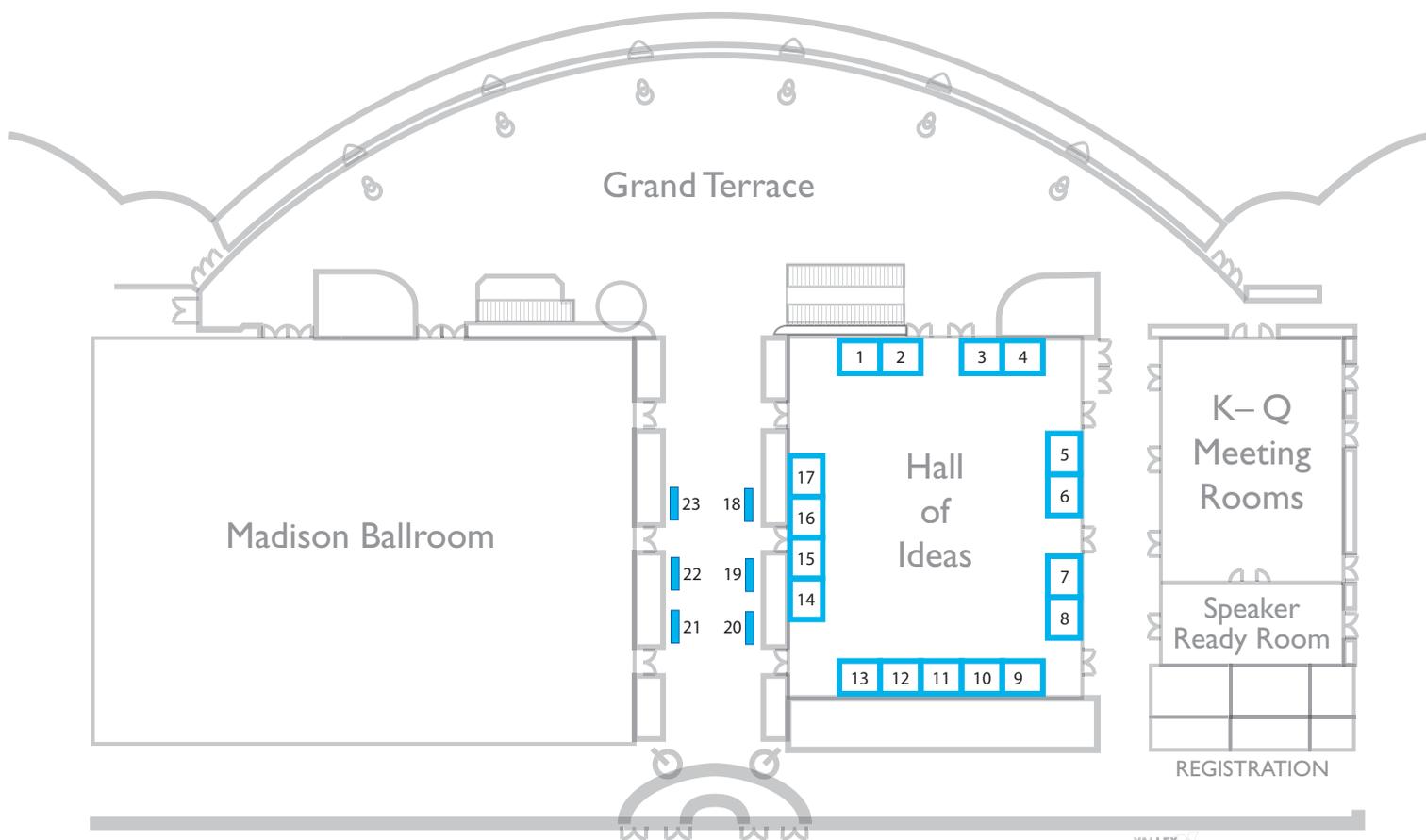
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Level 4

- | | |
|---|---|
| 1 Edison Electric Institute | 16 Mercury Deposition Network |
| 2 Teledyne Leeman Labs | 17 Tekran |
| 3 United Nations Environment Programme (UNEP) | 18 Dupont |
| 4 Seefeldler Messtechnik | 19 U.S. Environmental Protection Agency-
Great Lakes National Program Office |
| 5 Brooks Rand, LLC | 20 Minnesota Pollution Control Agency |
| 6 Spectra Gases | 21 Southern Company |
| 7 PSA Analytical | 22 American Dental Association |
| 8 CH2M Hill, Incorporated | 23 National Association of Clean Water
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| 10 Ohio Lumex | |
| 11 Milestone | |
| 12 Quicksilver Scientific, LLC | |
| 13 Nippon Instruments | |
| 14 Frontier | |
| 15 RMT, Incorporated | |

MONONA TERRACE



It was in 1938 that world-renowned architect and Wisconsin native Frank Lloyd Wright first brought before the City of Madison plans for the Monona Terrace Community and Convention Center. More than 50 years later, his plans finally came to life on the shores of Lake Monona. Today the 250,000-square-foot, tri-level convention center hosts meetings, conferences, and community events of all sorts using the latest in equipment and technology. The 14,000-square-foot ballroom will serve as the location for the conference's plenary sessions, as well as the Opening Ceremony and Closing Ceremony. The Grand Terrace, lined with glass windows that overlook the lake and shoreline, will be host to conference posters. Other posters, as well as exhibitors, can be found in the spacious Hall of Ideas. The centerpiece of the building is a 68,000-square-foot rooftop garden overlooking Lake Monona and downtown Madison. Both conference receptions will be held in this location.

Monona Terrace is situated just two blocks from the State Capitol and within easy walking distance to shops, restaurants, museums, entertainment and outdoor markets. It is also within walking distance of the University of Wisconsin-Madison and the State Street Mall

that connects the University and State Capitol. Madison is known for its bike and pedestrian paths, including the one that passes along the shore of Lake Monona just outside the doors of the convention center. You'll find plenty of welcoming outdoor space nearby to explore or just enjoy your box lunch.

Monona Terrace Community and Convention Center has begun the process of certification as an environmentally friendly, energy efficient building. If approved, it will be only the second convention center in the nation to be so certified. Goals for the process include reducing energy and water use, maintaining good indoor air quality, using materials made from recycled content, ensuring that spent materials are recycled, and preserving the sustainability of the facility's site. In keeping with this spirit, conference organizers have made efforts to use recycled materials whenever possible and to purchase conference food from local producers if available. The City of Madison recycles newspapers, cans, plastic bottles, cardboard boxes, and glass containers, among other products. We invite and encourage you to join us in recycling these materials whenever possible. Thank you for helping to keep our city "green."

STUDENT ART PROJECT

Throughout the halls of the convention center you will see displays of children's art work. In an effort to involve today's young people in the global issues surrounding mercury, conference organizers invited children aged 10 to 18 from each of the locations where the conference has been held, and from China where the conference will be held in 2009, to produce a piece of art work that depicted some facet of mercury. Coordinators in each country—Sweden, Germany, Japan, Brazil, Slovenia, Canada, the United States, and China—gave presentations to groups of students and provided them with materials on mercury. Using what they learned, students then created works of art, which are on display and also rotating on screens between talks in session rooms. These works of art will also be exhibited at ceremonies commemorating the fiftieth anniversary of Minamata disease to be held in that city in October.

UNDER-REPRESENTED GROUPS SUPPORT

The ICMGP 2006 committed time and resources to helping individuals from under-represented groups attend this conference. We selected 65 deserving applicants from the almost 200 individuals who applied for assistance. Individuals from four categories of under-represented groups were awarded conference grants—graduate students and beginning professionals, members of non-governmental agencies working on mercury issues, representatives of developing nations facing mercury issues, and leaders of communities affected by mercury pollution. Lodging assistance and/or a conference fee waiver were offered to successful applicants. In total, the committee awarded over \$45,000 to members of under-represented groups. We wish them well, and look forward to their attendance and participation.

STUDENT AWARDS OF EXCELLENCE

One of the principal goals of the Eighth International Conference on Mercury as a Global Pollutant is to increase participation by under-represented groups, including students. It is in this spirit that the Conference is pleased to make an award for an Outstanding Student Platform Presentation and multiple awards for Outstanding Student Poster Presentations to recognize excellence in mercury research. Student platform and poster presentations will be evaluated on their scientific merit and rigor, originality, and aesthetics by teams of judges who are established professionals in the field. The awards will be presented to the student recipients on Friday, August 11, during the Closing Ceremony. Each award will include a memento that reflects the artistic vision of Frank Lloyd Wright, the world-famous architect and creator of the Monona Terrace Community and Convention Center.



REGISTRATION

The Conference Registration Booth is located on the main floor (4th floor) of the Convention Center. The hours of operation are as follows:

Sunday, August 6 12:00 noon - 9:00 p.m.
Monday, August 7 7:30 a.m. - 5:00 p.m.
Tuesday, August 8 7:30 a.m. - 5:00 p.m.
Wednesday, August 9 7:30 a.m. - 1:00 p.m.
Thursday, August 10 7:30 a.m. - 5:00 p.m.
Friday, August 11 7:30 a.m. - 3:00 p.m.

NAME BADGE POLICY AND BENEFITS

Please wear your name badge during all conference activities. Name badges are required for entrance to all conference events, including evening socials and the opening/closing ceremonies. Your badge also grants you the use of recreational sports facilities (gymnasiums) at the University of Wisconsin-Madison. Persons over 21 years of age may also purchase beer and wine on the University of Wisconsin-Madison campus by presenting their name badge and proper identification (proof of age on a government issued identification card, drivers license, or passport). For more information and a complete list of benefits, please stop by the registration desk. Conferees who return their badge during the closing ceremony will be entered into a drawing for door-prizes. Thank you for helping us reduce, reuse, and recycle your badge, badge-holder, and lanyard.

REGISTRATION FEES

Standard Registration and Student Registration include admission to the Opening Ceremony and Welcome Reception on Sunday evening; all technical sessions, plenary sessions, and poster sessions during the week; evening socials on Tuesday and Thursday; and the Closing Ceremony on Friday. The fee also includes refreshment breaks, drink tickets for certain social functions, and box lunches on Monday and Wednesday. The fee includes the conference program, a book of abstracts on CD-ROM, a canvas bag, and a souvenir portfolio with pen and paper. Fees for individual items cannot be waived or segregated from the standard or student registration fee because the venue, meeting, materials, and meal costs are integrally linked.

Daily Registration includes admission to all technical sessions and social events for the specified day of registration. The fee also includes refreshment breaks for the specified day. If you register for Monday or Wednesday, the fee also includes a box lunch. The fee includes the conference program, a book of abstracts on CD-ROM, a canvas bag, and a souvenir portfolio with pen and paper. Fees for individual items cannot be waived or segregated from the daily registration fee because the venue, meeting, materials, and meal costs are integrally linked.

Guest Registration includes admission to all social events. These include the Opening Ceremony and Welcome Reception on Sunday evening, the reception on Tuesday, the conference celebration on Thursday, and the Closing Ceremony on Friday. Accompanying persons may NOT attend any of the technical sessions. Fees for individual items cannot be waived or segregated from the accompanying person registration fee because the venue, meeting, materials, and meal costs are integrally linked.

OFFICIAL LANGUAGE

The official language of the conference is English. No simultaneous translation is provided.

LANGUAGE ASSISTANCE

We understand that customs, culture, and language are in some ways different no matter where you travel. So for those arriving on Saturday and Sunday, we plan to provide language assistance—in as many languages as possible—to help you easily make your way to your lodging and the conference site. Please look for signs offering assistance near the registration counter at Monona Terrace.

SMOKING POLICY

Smoking is not allowed inside the Monona Terrace Convention Center nor within the William T. Evjue Rooftop Gardens area. Designated outdoor smoking areas are located near the Olin Terrace main entrance and outside the Lakeside Commons exits to the bicycle/ pedestrian path on Level 1. Monona Terrace greeters can direct you to these locations.

Smoking is prohibited in all public (government and university) buildings in Wisconsin, and inside all taverns, restaurants, park shelters, sports arenas, bowling alleys and the common areas of hotels, motels and bed-and-breakfasts in the City of Madison. Persons who violate Madison's smoking ban may be ticketed and fined \$100 USD plus court costs for the first offense and \$500 USD plus court costs for subsequent offenses. Smoking is permitted in outdoor areas, and many taverns and restaurants offer decks, patios, screened porches, gazebos or sidewalk cafes that accommodate smokers.

LIMITATION OF LIABILITY

The Monona Terrace Community and Convention Center is a public facility and conferees are encouraged to safeguard their possessions at all times. By attending the conference, participants agree that the Mercury2006 conference organizers, the Monona Terrace, and their associates will be held harmless for any loss or damage to any items brought along to the conference. These items are kept in conference center rooms at the participant's risk. The convention center, conference organizers, and affiliates are not liable for any loss, destruction, or damage, including pecuniary loss. Participants are therefore requested not to leave any valuables or other important materials in conference rooms during breaks.

RECORDING AND PHOTOGRAPHY

The plenary sessions will be recorded, and the video will be made available on the conference Web site www.mercury2006.org. Various aspects of the conference will be photographed as well. By attending this conference, you acknowledge the possibility that you may be videotaped or photographed.

MONONA TERRACE AMENITIES

Disability Access

The Monona Terrace Community and Convention Center is fully wheelchair accessible.

Business Center

The Monona Terrace Self-Service Business Center is located on the main floor (4th floor) behind the conference registration area. The Business Center is equipped with a fax machine, color laser printer, high-speed copier, telephone (including free local calls) and three computers with high-speed Internet access. Cell phones are available for an additional rental fee.

The Business Center is available for use by conference participants during the same hours of operation as the Conference Registration Booth. Please sign in at the Registration Booth before use.

Wireless Internet Access

Wireless access is available throughout the Monona Terrace building and the rooftop gardens. If you have a laptop, Pocket PC or other device with 802.11b or 802.11g wireless capability, you can log onto the Monona Terrace wireless network. Two speed options are available, free 28k connections, or paid 768k connections. Open your internet browser and you will be redirected automatically to the login page where you can view the available wireless networks and make your selection.

Internet Cafe

The Monona Terrace Internet Café is located on the Community Terrace on level 2. It is equipped with several PC computers and two black-and-white printers. The hours are as follows:

Monday	8:00 a.m. - 7 30 p.m.
Tuesday	7:00 a.m. - 7:30 p.m.
Wednesday	7:00 a.m. - 5:00 p.m.
Thursday	7:00 a.m. - 11:00 p.m.
Friday	7:00 a.m. - 11:00 a.m.

Grandview Café

A small café located inside the Monona Terrace in the Grand Terrace offers gourmet coffee, espresso, cappuccino, café latte, herbal tea, soda and bottled water for sale. Bakery items, wrapped lunch sandwiches, ice cream novelties and snacks are also available. Hours are Monday-Friday, 8 a.m. - 2 p.m. and Sunday 9 a.m. - 2 p.m.

Volunteer Assistance

If at any time during the conference you have a question or require assistance, just ask a conference volunteer. If volunteers cannot answer your question, they will direct you to someone who can. All conference volunteers will wear aqua-colored polo shirts with the conference logo on the front. Each volunteer will have information available to assist you. Certain volunteers will be specially trained to help with audio visual equipment and to assist in the speaker-ready room.

Message Center/Board

The Conference Message Board will be located near the Registration Booth on the main floor (4th floor) of the Convention Center.

Job Opportunities

A Job Board will be located near Ballroom A in the Capitol Promenade on the main floor (4th floor) of the Convention Center.

Speaker-Ready Room

Open Hours:

Location: Meeting Rooms—Level 4: Rooms N and R

Sunday	2:00 p.m. - 7:00 p.m.
Monday	7:00 a.m. - 5:00 p.m.
Tuesday	7:00 a.m. - 5:00 p.m.
Wednesday	7:00 a.m. - 1:00 p.m.
Thursday	7:00 a.m. - 5:00 p.m.
Friday	7:00 a.m. - 9:00 a.m.

Poster-Ready Area

Poster presentation information tables are located in the Hall of Ideas and Grand Terrace. Supplies will be available for attaching posters to poster boards, and staff will be available to assist presenters and orient conference participants. The tables will be staffed during poster set-up times (3-5 pm on Sunday; 7-8 a.m. on Monday; 7-8:30 a.m. on Tuesday, Wednesday, and Thursday; and 7-8 p.m. on Monday, Tuesday, Wednesday) and during poster viewing times.

Poster presenters are responsible for setup and take down of their poster during the prescribed times. Please remove posters at the conclusion of the afternoon poster session. Posters must be removed by 7 p.m. to facilitate setup of posters for the next day. Session organizers will dispose of unclaimed posters.

Each poster board is equipped with plastic sleeves for handouts and for collecting business cards of those desiring more information. Please leave the plastic sleeves in place for the next presenter.

Daily Schedule for Poster Sessions

Monday
 7:00 a.m. - 8:00 a.m. (set up)
 10:00 a.m. - 12:00 p.m.
 5:20 p.m. - 7:00 p.m.

Tuesday
 7:00 a.m. - 8:30 a.m. (set up)
 10:00 a.m. - 12:00 p.m.
 5:40 p.m. - 7:00 p.m.

Wednesday
 7:00 a.m. - 8:30 a.m. (set up)
 10:00 a.m. - 1:00 p.m.

Thursday
 7:00 a.m. - 8:30 a.m. (set up)
 10:00 a.m. - 12:00 p.m.
 5:40 p.m. - 7:00 p.m.

Posterboards and booths will be dismantled Thursday night.

The Welcome Reception will be held on Sunday, August 6, at 7:00 p.m., directly after the Opening Ceremony, on the Monona Terrace Rooftop. The reception will feature home-grown Wisconsin foods, local beers, and a cash bar. Entertainment will be provided by Michelle DuVall and Doug Brown.

Doug Brown and Michelle DuVall are rapidly gaining a reputation in the Midwest for playing some of the most swinging and refined jazz around. DuVall has been called “a cross between Ella Fitzgerald and Bernadette Peters” by Madison Newspapers, and “a vocalist who can take a standard and make it shine” by Madison’s weekly newspaper *Isthmus*. *Isthmus* named guitarist Brown “one of the best pickers in the Midwest” and his work with numerous artists and bands has led to performances at major music festivals in the U.S., Canada and Europe.

An outing on Tuesday, August 8th, offers you an opportunity to see the zany side of Madison—and possibly your colleagues—at the High Noon Saloon at 9:00 p.m. One of Madison’s favorite and wackiest bands will back up anyone who wants to join them on lead vocals. Sign up in advance to sing one of the 1,000 songs the Gomers play at <http://beeftone.com/gomers.html>, or just watch your colleagues take the stage and rock the house. Your conference badge gets you admittance and a free beer. Conference shuttle starts at 8:45 p.m.

The final reception will be held at the close of the conference on Thursday, August 10, at 7:00 p.m. and will also be held on the Monona Terrace rooftop. It will feature an international fair with foods representing a variety of cultures and ethnicities, along with local beers and a cash bar. Music will be provided by the Westside Andy/Mel Ford Band.

Harmonica player Westside Andy Linderman and his guitar-playing collaborator Mel Ford have decades of experience bringing Chicago-style blues to Madison. Blues Brother Dan Aykroyd calls Andy “one of the most dynamic electric harmonica players of our generation.” Jazz performer and producer Ben Sidran calls Mel “one of the finest blues players in the Midwest if not the country.” Put them together and you have one of the most exciting blues groups in the country: The Westside Andy / Mel Ford Band.

Your registration materials will include drink tickets. The tickets can be used at cash bars at any conference social event held at the Monona Terrace. (Note: you must be 21 years or older to purchase or consume alcohol in Wisconsin.)

SCHEDULE AT A GLANCE

NOTE: Times are approximate; please consult your program schedule for exact times.

	AUG. 6	AUG. 7	AUG. 8	AUG. 9	AUG. 10	AUG. 11
	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00		Welcome				6 Concurrent Platform Sessions
9:00		Plenary Session Source Attribution of Atmospheric Mercury	Plenary Session Health Risks and Toxicological Effects of Methylmercury	Plenary Session Recovery of Mercury-Contaminated Fisheries	Plenary Session Societal Consequences of Mercury Pollution	
10:00						Break
11:00		Poster Session	Poster Session	Poster Session	Poster Session	Student Awards Synthesis and Declaration
12:00		Box Lunch	Lunch on your own	Box Lunch	Lunch on your own	Closing Ceremony
1:00						
2:00		6 Concurrent Platform Sessions		Participant Field Trips		
3:00			6 Concurrent Platform Sessions		6 Concurrent Platform Sessions	
4:00	Registration Desk Open	Break	Break		Break	
5:00		6 Concurrent Platform Sessions	6 Concurrent Platform Sessions		6 Concurrent Platform Sessions	
6:00	Opening Ceremony [Madison Ballroom]	Poster Session continued	Poster Session continued		Poster Session continued	
7:00						
8:00	Welcome Reception [Monona Terrace Rooftop]				Conference Social [Monona Terrace Rooftop]	
9:00						
10:00			Social Night [High Noon Saloon]			

Social Program

Join us for the Opening Ceremony and the Wisconsin-themed Welcome Reception.



MADISON BALLROOM

Opening Ceremony

5:00 – 7:00 P.M.

The conference opens with a ceremony in the Monona Terrace Ballroom on Level 4. The event serves both as a welcome and a vehicle to set the stage for issues addressed throughout the meetings. It includes:

Welcome by conference co-chair James Hurley

Presentation of flags from all countries represented at the conference

Introduction of an international global mercury art project involving students from eight locations around the world

Remarks from Dr. Komyo Eto from the National Institute for Minamata Disease on the fiftieth anniversary of the Minamata disaster

Views of mercury as it affects American Indian tribes in the Upper Midwest USA by George Goggeye, Chairman of the Leech Lake Band of Ojibwe

Perspectives on mercury by U.S. Senator from Wisconsin, Russell Feingold (invited)

Tribal Drum performance by the Sokaogon Band of Lake Superior Chippewa

Following the ceremony will be a reception on the rooftop of the Monona Terrace overlooking Lake Monona and the City of Madison.

MONONA TERRACE ROOFTOP

Welcome Reception

7:00 – 10:00 P.M.

The Welcome Reception will feature foods for which Wisconsin is famous, local beers, and a cash bar. Entertainment will be provided by Michelle DuVall and Doug Brown who are rapidly gaining a reputation in the Midwest for playing some of the most swinging and refined jazz around. DuVall has been called “a cross between Ella Fitzgerald and Bernadette Peters” and “a vocalist who can take a standard and make it shine.”

Source attribution of atmospheric mercury deposition

During the past two decades, researchers have generally concluded that human-related mercury emissions have increased the total amount of mercury in the atmosphere about 3-5-fold over pre-industrial times, and the rate of deposition to the earth's surface is concomitantly higher. However, at any specific location, the actual change in the relative rates of current to historic mercury deposition may vary widely from that range, depending strongly on the relative contributions of local, regional, and global sources. Also, although human-related emissions are reasonably well cataloged, natural and legacy emissions have been less well studied, and the "background" level impact for any particular location is difficult to estimate. Adding to this uncertainty are observations that emissions from the two largest natural sources (volatilization from the oceans and soils) are relatively under-studied as net sources or sinks, and as re-emitters of previously deposited mercury. Unraveling the complexities of relating emission controls to mercury deposition rates is essential for understanding current trends and making future predictions. However, it is debatable whether we presently have the needed technical understanding for making predictions. For example, while mercury emissions in some regions of the world have decreased over the past decade (e.g., North America), emissions from the Asian continent have reportedly increased rapidly, and the overall global mercury emission budget has leveled off after decades of declines. As a result, the benefits of reducing local and regional emissions remain an active area of research and debate due to the prospect for increasing inputs of "imported mercury" from global emissions.

The Key Question posed to this panel: Can we ascertain with confidence the relative contributions of local, regional, and global sources, and of natural versus anthropogenic emissions to mercury deposition?

Panel Chair: Steve Lindberg, USA

Panelists: Orren R. Bullock, USA; Ralf Ebinghaus, Germany; Daniel Engstrom, USA; Xinbin Feng, China; William Fitzgerald, USA; Nicola Pirrone, Italy; Eric Prestbo, USA; Christian Seigneur, USA



Credit: Dan Engstrom

Advances in Analytical Chemistry 1

M-1: Comparison of Acid Digestion and Direct Combustion Methods to Determine Total Mercury in Solids

Thomas G. Sabin (Presenting Author), Mark Olson

M-3: Analytical Approaches for Evaluation of Mercury Transformation and Partitioning in Aquatic Systems

Hirokatsu Akagi (Presenting Author), Justinian Ikingura, Akito Matsuyama, Takashi Tomiyasu, Milena Horvat

M-5: A Sample Preparation Procedure for the Determination of Total Hg in Otter's (*Lontra longicaudis*) Spraints by Atomic Fluorescence Spectrometry and Scales Clean-Up for the Animal Diet Identification

Carla Josef, Leonardo Adriano, José Roberto Ferreira (Presenting Author)

M-6: Monitoring Bio-Available MeHg Using the DGT Technique

Olivier Clarisse (Presenting Author), Gui Lotufo, Holger Hintelmann

M-7: An Automatic Method for Continuous Measurements of Dissolved Gaseous Mercury

Maria Andersson (Presenting Author), Katarina Gårdfeldt, Ingvar Wängberg

M-8: Metrological Aspects of Mercury Speciation in Marine Waters, Sediments and Biota—Experience from the MERCYMS Project

Milena Horvat (Presenting Author), Nives Ogrinc, Vesna Fajon, Darija Gibičar, Jože Kotnik, Mathilde Monperrus, David Amoroux, Emmanuel Tessier, Daniel Cossa, Nicola Pirrone

M-9: WDNR Certification Process for Low-Level Mercury at GBMSD

Michael Urbancic (Presenting Author)

M-10: Development of a New Modeless Laser Tool Dedicated to Gaseous Mercury Measurement: Application to Past Atmosphere Studies by Analyses of the Air Trapped in Ice Core Bubbles

Xavier Fain (Presenting Author), Ioana Moldovan, Jean-Paul Pique, Christophe Ferrari, Vincent Fesquet, Thibault Vacelet, Hugues Guillet de Chatellus, Claude Boutron

M-11: A Fully Automated Flow Injection System for Fast Trace and Ultratrace Analysis of Organic and Inorganic Mercury Species

Kerstin Leopold (Presenting Author), Lena Harwardt, Michael Schuster

M-12: Hg Determination in the Sub-ng/L Range in Seawater and Snow Samples

Rene Nowka (Presenting Author)

S-IM-1: Adaptive Management of Wetland Restoration

Organizers: Jay Davis, San Francisco Estuary Institute, USA; Thomas Atkeson, Florida Department of Environmental Protection, USA

M-13: Initiation of a Biosentinel Mercury Monitoring Program to Aid Adaptive Management in the San Francisco Bay Watershed

Darell Slotton (Presenting Author), Shaun Ayers, Ronald Weyand

M-14: Mercury Monitoring Program for Everglades (Florida, USA) Restoration: 1. Multi-Scale Abiotic
Darren Rumbold (Presenting Author), Nicole Niemeyer

M-15: Mercury Monitoring Program for Everglades (Florida, USA) Restoration: 2. Multi-Scale Biotic
Ted Lange (Presenting Author), Darren Rumbold

M-16: Mercury Levels and Related Ecosystem Parameters in the Greater Everglades: A Landscape Perspective over Time
Peter Kalla (Presenting Author), Daniel Scheidt, Yong Cai

M-17: Monitoring Mercury Bioaccumulation in Freshwater and Coastal Marine Fish in South Florida as Part of a Landscape-Scale Effort at Adaptive Management during Everglades Restoration
David Evans (Presenting Author), Derek Tremain, Douglas Adams, Ted Lange, Darren Rumbold

M-18: Mercury Studies Associated with the Hamilton Army Airfield (San Francisco Bay, California, USA) Restoration Project
Herbert Fredrickson (Presenting Author), Elly Best, Holger Hintelmann, Brian Dimock, Olivier Clarisse, Gui Lotufo

M-19: Geochemical Controls on MeHg in Wetland Sediments of a Contaminated Urban Watershed: The Grand Calumet River
Robert Hudson (Presenting Author), Christopher Shade, Brian Vermillion, Gabriel Filippelli

M-20: Monitoring and Assessment of Mercury Bioaccumulation and Environmental Mercury in the South Bay Salt Pond Restoration Project
J. Letitia Grenier (Presenting Author), Joshua N. Collins, Jay Davis, Mark Marvin-DiPasquale, David Drury

S-RE-6: Mercury TMDLs—Scientific, Legal and Regulatory Perspectives

Organizers: Ravi Ravichandran, Department of Defense, USA; David Dean, ArcTellus, USA; Robert Goldstein, Electric Power Research Institute, USA

M-21: Science-Based Regional Mercury TMDL Assessment
Carl W. Chen (Presenting Author), Joel W. Herr, Robert A. Goldstein

M-22: A Bayesian Network-Based Decision Analytical Approach for a Mercury TMDL Case Study
William Labiosa (Presenting Author), James Leckie, James Rytuba

M-23: Mercury Budget for Stormwater Conveyances in the San Francisco Bay Area: Towards Achieving TMDL Management Goals for Sediment and Fish Tissue
Lester J. McKee (Presenting Author)

M-24: California Mercury Mine TMDLs
Carrie Austin (Presenting Author)

M-25: Nationwide Review of Mercury TMDLs: Approaches and Challenges for the Future
David Dean (Presenting Author), Mahalingam Ravichandran, John Goodrich-Mahoney

M-26: Key Scientific and Technical Issues Associated with Mercury TMDLs: An Overview
Robin Reash (Presenting Author)

M-27: The Devil's Lake, Wisconsin Mercury TMDL Pilot Study: An Examination of the Technical Issues Involved in Integrating Atmospheric Deposition Modeling with Aquatic Cycling Modeling
Dwight Atkinson (Presenting Author), Ruth Chemerys, Tom Myers, Curtis Pollman, Reed Harris, Randy Waite, Martin Burkholder

M-28: Legal Issues with Criterion Implementation and Mercury TMDLs
Fredric Andes (Presenting Author)

Plenary: Source Attribution of Atmospheric Mercury Deposition

M-29: A Remarkable Uniformity of Secular Change in Mercury Deposition for Remote Areas of North America
Daniel R. Engstrom (Presenting Author), William F. Fitzgerald, Carl H. Lamborg, Prentiss H. Balcom, Steven J. Balogh, Edward B. Swain

M-30: Hg Stable Isotope Signatures of Fossil Fuel Sources and Their Potential as a Source Tracer
Jeroen Sonke (Presenting Author), Catherine Liousse, Robert Rosset, Bernard Dupre

M-31: A 350-Year Geochronological Assessment of Atmospheric Mercury Deposition in California: Implications for Preanthropogenic Biotic Exposure
Rhea Sanders (Presenting Author), Chris Foe, Mark Stephenson, Gary Gill, Kenneth Coale

M-32: Comparison of Atmospheric Sulfate and Mercury Deposition in the United States
Krish Vijayaraghavan, Christian Seigneur (Presenting Author), Prakash Karamchandani, Shu-Yun Chen

M-33: Observations and Measurement of Methyl Mercury in Precipitation: 1996-2004 Seasonal, Spatial and Yearly Trends at Selected MDN Sites in North America
Robert Brunette (Presenting Author), Gerard Van der Jagt, Eric Prestbo, David Gay, Bob Larson

M-34: Atmospheric Mercury Inputs at Salmon Falls Creek Reservoir, Idaho—Where Is the Mercury Coming from?
Michael Abbott (Presenting Author), Robert Kotchenruther

M-35: Sources and Pathways of Mercury to Michigan's Inland Lakes
Matthew J. Parsons (Presenting Author), Sharon S. Yohn, David T. Long, John P. Giesy

M-36: Source Apportionment of Atmospheric Mercury in Tampa, Florida Based on Highly Time-Resolved Multi-Element Tracers Measurements
Joseph Patrick Pancras (Presenting Author), Matthew Landis, John Ondov, Robert Stevens

M-37: Mercury Modeling and Source Attribution in Maryland Using CALPUFF
John Sherwell (Presenting Author), Mark Garrison, Mark Castro, Anand Yegnan, Ann Baines

M-38: Air-Water Exchange of Atmospheric Mercury in the Bay Saint-François Wetlands: Observation and Modeling
Hong Zhang, Laurier Poissant, Xiaohong Xu, Martin Pilote (Presenting Author), Conrad Beauvais

M-39: Mercury Reemission from a Contaminated Wetland in Eastern New Jersey
Stephen Peters (Presenting Author), Jennifer Wollenberg

M-40: Mercury Accumulation in Wetland Plants from the Atmosphere, Water and Sediments
Laura Fay (Presenting Author)

Bioaccumulation and Trophic Transfer 1

M-41: Mercury and Antibiotic Resistance in the Gastrointestinal Microflora of Hatchery Reared Trout
Keith A. Johnson (Presenting Author), Nicholas O. Markham, Molly R. Hyde, Jennifer N. Steele, J.L. Weisbein, A.M. Meguire, Allison Thacker, Erin M. Parry, Matthew M. Meredith, G. Russell Danner, Frank A. Fekete

M-42: Mercury Tolerance in Terrestrial Isopods and Their Bacterial Gut Microbiota
Ales Lapanje, Natasa Nolde (Presenting Author), Barbara Muscet, Janez Valant, Maja Rupnik, Milena Horvat, Damjana Drobne

M-43: Determination of Mercury Concentration in Habitat, Muscle and Gill of Mudskipper (*Boleophthalmus dussumieri*) in Mahshahr Creek, Persian Gulf
Abbas Esmaili Sari, Seyed Jafar Seifabadi (Presenting Author), Seyed Mahmoud Ghasempouri, Vahid Ghadri

M-44: Mercury in the Pelagic Food Web of Hudson Bay
Monica Pazerniuk (Presenting Author), Alex Hare, Gary Stern

M-45: Bioaccumulation of Enriched Stable Isotopes of Hg in the Benthic Invertebrate Food Web of L658 Following Whole-Ecosystem Additions: Results from the METAALICUS Project
Cheryl Podemski (Presenting Author), Michelle Dobrin, Holger Hintelmann, Ken Sandilands, Reed Harris

M-46: Are Epiphytic Biofilms Important Contributors for Hg Accumulation, Methylation and Demethylation in Fluvial Wetlands? (Lake St.Pierre, Quebec, Canada)
Stéphanie Hamelin (Presenting Author), Dolores Planas, Marc Amyot

M-47: Antagonism between Methyl Mercury and Selenium in Fish Organs: Investigating the Mechanism
Dan Yang (Presenting Author), Xu Ye, Yu-Wei Chen, John Gunn, Nelson Belzile

M-48: Selenium-Mercury Interactions in Aquatic Organisms
Nelson Belzile (Presenting Author), Yu-Wei Chen, John Gunn, Yves Alarie, Xu Ye, Dan Yang

M-49: Total and Organic Mercury Concentrations in the White Muscle of the Swordfish, *Xiphias Gladius*, from the Indian and Atlantic Oceans
Meng-Hsien Chen (Presenting Author)

M-50: Mercury Pathways in Terrestrial Montane Forest Biota
Christopher Rimmer, Kent McFarland, Eric Miller, David Evers (Presenting Author), Robert Taylor

M-51: Mercury in the Pelagic Food Web of the Coastal Environment of the Canadian High Arctic
Corinne Pomerleau (Presenting Author), Gary A. Stern

M-52: Northern Right Whale Foraging and Metabolism Inferred from Stable Isotope and Methylmercury Analysis of Baleen
Chad Hammerschmidt (Presenting Author), Nadine Lysiak, Mak Saito, Michael Moore

M-53: Trophic Bottlenecks and Carbon Sources in Freshwater Littoral Food Webs
Fabien Cremona (Presenting Author), Dolores Planas, Marc Lucotte

M-54: Ectomycorrhizal Fungi-Mercury Interactions
Sharron Crane (Presenting Author), Tamar Barkay, John Dighton

M-55: Mercury Accumulation in Fish in Relation to Abiotic Characteristics and Carbon Source in a Five-Year-Old, Brazilian Reservoir
Terese Niklasson, Leena Tuomola, Edinaldo de Castro e Silva, Olaf Malm, Lars Hylander (Presenting Author)

M-56: Mercury Bioaccumulation in Forage Fish Communities Invaded by Rainbow Smelt (*Osmerus mordax*)
Heidi Swanson, Thomas Johnston, David Schindler, Drew Bodaly (Presenting Author)

M-57: Methylmercury in Surficial Sediment, Macroinvertebrates, and Yearling Yellow Perch in Wetland and Near-Shore Habitats of Southern Lake Superior (USA)
Roger Haro (Presenting Author), Jacob Ogorek, Kristofer Rolfhus, James Wiener, Sean Bailey

S-HR-6: Methylmercury Availability in Invertebrate Food Webs

Organizers: David Evers, BioDiversity Research Institute, USA; Daniel Cristol, College of William and Mary, USA

M-58: Riparian Zone Spiders as Mercury Sentinels
Christopher Pennuto (Presenting Author), Marley Smith

M-59: Potential Negative Impacts of Air Pollutants on Thrushes and Other Songbirds in the Appalachian Mountains
David Evers (Presenting Author)

M-60: Is Mercury Entering the Terrestrial Food Web in the Shenandoah Valley, Virginia?
Daniel Cristol (Presenting Author), Rebecka Brasso, Ravi Jefferson-George, Sean Koebley, Ariel White

M-61: Reproductive Success of Insectivorous Birds in a Watershed Contaminated with Mercury
Rebecka Brasso (Presenting Author), Ravi Jefferson-George, Sean Koebley, Ariel White, Daniel Cristol

M-62: Mercury Exposure and Effects in Cavity Nesting Birds on the Carson River, Nevada
Christine Custer (Presenting Author), Thomas Custer, Elwood Hill

M-63: Accumulation and Effect of Mercury on Morpho-Functional Indices of Chironomus Riparius Meigen (Diptera: Chironomidae) Larvae
Vera Gremyachikh (Presenting Author), Irina Tomilina

M-64: Mercury in Macroinvertebrates, Amphibians, and Fish from the Catskill Mountain Region, New York
Jefferey Loukmas (Presenting Author)

M-65: Mercury in an Insectivorous Bird Species
Blakely Adair (Presenting Author)

M-66: Soils, Invertebrates, and Methylmercury Accumulation in Forest Birds
Ralph S. Hames (Presenting Author), James D. Lowe

M-67: Mercury Exposure in Insectivorous Bats: Insights from Stable Carbon and Nitrogen Isotope Analyses
Frances Bennett (Presenting Author), William Bowerman

M-68: Bats as a Bioindicator of Mercury Contamination on the North Fork of the Holston River, Virginia
David Yates (Presenting Author), John Schmerfeld, Gale Heffinger, Joy Ryan, Robert Taylor

Atmospheric Transport and Deposition 1

M-69: Airborne Observations of the Distributions of Atmospheric Mercury and a New Facility
Lawrence Radke (Presenting Author), Hans Friedli

M-70: The Impact of Chemical Uncertainties on the Simulated Dry and Wet Mercury Depositions Using a Modified Version of CMAQ-Hg
Che-Jen Lin (Presenting Author), Pruek Pongprueksa, Steve Lindberg, Simo Pehkonen, Thomas Ho, Carey Jang

M-71: Rainfall Mercury Deposition and Trace Element Correlations in the Pensacola Bay Watershed
Sara Cleveland (Presenting Author), William Landing, Jane Caffrey

M-72: Mercury in the Atmosphere in Bermuda
Eun-Hee Kim (Presenting Author), Robert Mason, Andrew Peters, Dave Ker

M-73: A Proposed Dynamic Compartmentalized Surface Layer Model for the Atmosphere-Surface Exchange of Mercury
Jesse Bash (Presenting Author), Patricia Bresnahan, David Miller

M-74: The Urban Excess of Atmospheric Mercury Species in Milwaukee, Wisconsin
Catherine Kolb (Presenting Author), Britt Hall, James Schauer

M-75: Atmospheric-Ocean Integrated Mercury Research Aimed at Understanding the Mercury Cycle in the Mediterranean Region
Nicola Pirrone (Presenting Author), Ian M. Hedgecock, Francesca Sprovieri, Giuseppe Trunfio, Sergio Cinnirella

M-76: Atmospheric Mercury Speciation in Riverside, California
David Snyder (Presenting Author), James Schauer, Xueying Qin, Kimberly Prather

M-77: Levels and Behavior of Mercury in Rome Urban Atmosphere: Preliminary Results
Pasquale Avino (Presenting Author), Maurizio Manigrasso

M-78: Atmospheric Mercury Speciation and Wet and Dry Deposition Fluxes in Central California
Key-Young Choe (Presenting Author), Gary Gill, Ronald Lehman, Wesley Heim, Kenneth Coale, Rhea Sanders, Chris Foe

M-79: Detailed Treatment of Power Plant Plumes in the Regional Modeling of Atmospheric Mercury
Prakash Karamchandani, Krish Vijayaraghavan, Christian Seigneur (Presenting Author)

M-80: Mercury and Other Trace Metals in Lichen Samples Collected Near a Power Plant Cluster: Assessment of Near-Field Local Deposition
Robin Reash (Presenting Author)

M-81: Atmospheric Mercury Speciated (TGM, RGM and Hg_p) Concentrations and Source Identification Using Hybrid Receptor Models in Seoul, Korea
Seung-Muk Yi (Presenting Author), Seung-Hee Kim, Jong-Bae Huh, Kyung-Duk Zoh, Young-Ji Han, Thomas Holsen

M-82: Atmospheric Mercury at Mediterranean Coastal Stations
Ingvar Wangberg (Presenting Author)

S-RE-7: Successes and Challenges in Management of Mercury within the Great Lakes

Organizers: Thomas Muga, Wisconsin Department of Natural Resources, USA; William Bowerman, Clemson University, USA

M-83: Milwaukee's Dental Amalgam Regulatory Program
Thomas Nowicki (Presenting Author)

M-84: Lake Superior Basin Mercury Reduction with the Shipping Industry
Diane Thompson (Presenting Author)

M-85: Mercury Flow Model for Wisconsin
John Reindl (Presenting Author)

M-86: Great Lakes Region Wastewater Treatment Plant Mercury Data
Matt Gluckman (Presenting Author), Robert Pepin, Sean Ramach

M-87: ISO Testing and Certification of Amalgam Separators
Peter Berglund (Presenting Author)

M-88: Wisconsin's Wastewater Mercury Strategy
Thomas Muga (Presenting Author)

M-89: Great Lakes Binational Toxics Strategy Management Assessment for Mercury
Amy Thomas (Presenting Author), Rachel Sell, Alexis Cain, Robert Krauel

M-90: Control of Mercury Emissions from Coal-Fired Power Plants: Opportunities for Coal-Fired Power Plants Located in the U.S. Lake Superior Basin
Kathya Mahadevan (Presenting Author), Amy Thomas

S-SC-5: Global Mercury Trade and Possible Control Parameters for Mercury Use and Emissions

Organizers: Lars Hylander, Uppsala University, Sweden; Peter Maxson, Concorde East/West, Belgium

M-91: European and Global Mercury Trade—Sources, Sinks and Data Needs
Peter Maxson (Presenting Author)

M-92: Strategies to Reduce Mercury Use and Exposure in Small-Scale Gold Mining—Experiences from Mt. Diwata, the Philippines
Joseph A.L. Diosana (Presenting Author), Lars D. Hylander

M-93: Mercury Use and Emissions in Small-Scale Gold Mining in Southeastern Mindanao, Philippines and the Need for Intervention
Conrado Miranda (Presenting Author), Danilo Rodriguez, Esteban Bagacay, Jr., Andres Hufancia, Lars Hylander

M-94: Controlled Trade or Poison Streams to the Developing Countries?
Riikka Halonen, Lars D. Hylander (Presenting Author)

S-SA-4: Mercury and Coal

Organizers: Barbara Toole O'Neil, Tetra Tech EM Inc., USA; Robert Finkelman, US Geological Survey; Jeffrey Quick, Utah Geological Survey, USA; Alan Kolker, US Geological Survey

M-95: Mercury Flow via Coal and Coal Combustion By-Products: A Global Perspective
Arun B. Mukherjee (Presenting Author), Ron Zevenhoven, Kenneth S. Sajwan, Jörg Matschullat, Prosun Bhattacharya

M-96: Mercury Flux from Soils Amended with Ash Materials
Jody Ericksen (Presenting Author), Mae Sexauer Gustin

M-97: Mercury in U.S. Coal and the Clean Air Mercury Rule
Barbara Toole O'Neil (Presenting Author)

M-98: Understanding Mercury in U.S. Coal—A Geographic Approach
Jeffrey Quick (Presenting Author)

S-EB-6: Mercury Methylation and Mercury Cycling Modeling

Organizers: Curtis Pollman, Frontier Geosciences Inc., USA; Sujoy Roy, Tetra Tech Inc., USA

M-100: Modeling Sulfate Limitation on Mercury Methylation
Carl W. Chen (Presenting Author), Joel W. Herr, Robert A. Goldstein

M-101: Ecological Processes Controlling Methylmercury Production in Prairie Wetlands
Britt Hall (Presenting Author)

M-102: Simulation of Mercury Methylation in Adirondack Riparian Wetlands and Its Impact on Downgradient Drainage Lakes
Ronald Munson (Presenting Author), Charles Driscoll, Robert Newton, Joseph Yavitt, Pat Knoll

M-103: Photo-Degradation of Methyl Mercury in the Sacramento-San Joaquin Delta, California
Amy Byington (Presenting Author), Kenneth Coale, Gary Gill, Key-Young Choe

M-104: The Biogeochemical Cycling and Fate of Mercury and Methylmercury in the San Francisco Delta Region
Genevieve Bernier (Presenting Author), Andrew Heyes, Eun Hee Kim, Mark Marvin-DiPasquale, Robert Mason, Carrie Miller

M-105: The Effect of Snow, Ice and Open Water on Methyl Mercury Distribution in the Arctic Ocean
Alex Hare (Presenting Author), Robbie Macdonald, Gary Stern, Feiyue Wang, David Lean, Tim Papakyriakou

M-106: Thermocline Change Has an Effect on Methyl Mercury Cycle in Small Boreal Lakes
Matti Verta (Presenting Author), Petri Porvari, Markku Korhonen, Anna Paloheimo, John Munthe, Ingvar Wängberg

M-107: Numerical Simulation of the Influence of Different Terminal Electron-Accepting Processes on Mercury Methylation in Aquatic Sediments
Eric Roden (Presenting Author)

M-108: Impact of Scale on Modelling of Reduction and Evasion in the Mediterranean Sea
Dusan Zagar (Presenting Author), Maria Andersson, Katarina Gärdfeldt, Gregor Petkovsek, Vanja Ramsak, Rudi Rajar, Milena Horvat, Joze Kotnik, Nives Ogrinc, Matjaz Cetina

M-109: Modelling of Mercury Transport and Transformations in the Water Compartment of the Mediterranean Sea
Dusan Zagar (Presenting Author), Gregor Petkovsek, Rudi Rajar, Natasa Sirnink, Milena Horvat, Antigoni Voudouri, George Kallos, Matjaz Cetina

M-110: Insights into Factors Affecting Methylmercury Concentrations in Aquatic Systems, Based on an Analysis of Datasets from Geographically Diverse Landscapes
Karen Summers (Presenting Author), Ron Munson, Curt Pollman, Sujoy Roy, Tom Grieb

M-111: Hg Methylation and the Microbial Consortium in Sediment and in Periphyton of Tropical Macrophytes: Effect of Different Inhibitors
Jean-Remy Davée Guimarães (Presenting Author), Marc Roulet, Volga Iniguez, Marcio Rodrigues Miranda, Fabio Sidonio de Barros Evangelista, Raquel Rose Silva Correia

M-112: The Importance of Aquatic Macrophytes in the Hg Cycle in Floodplain Lakes from Tapajós River, Brazilian Amazon
Sergio Augusto Coelho Souza, Jean Remy Davée Guimarães (Presenting Author), Hugo Poirier, Jane Beatriz Narvaez Mauro, Marc Lucotte, Donna Mergler

Plenary: Source Attribution of Atmospheric Mercury Deposition

M-113: Atmospheric Mercury Cycling at the Week Bay Estuarine Reserve

Mark Olson (Presenting Author), David Krabbenhoft, John DeWild, Michael Tate, Mark Engle

M-114: The Research on the Release of Mercury from Intertidal Sediment to Atmosphere

Changqing Shan, Ruhai Liu (Presenting Author), Hongxian Shan

M-115: Abrupt Decrease in Mercury Wet-Deposition Concentration and Annual Flux in Seattle, Washington, Due to Emission Point-Source Changes

Eric Prestbo (Presenting Author), Josie Leutner, Curtis Pollman

M-116: Characteristics of Atmospheric Wet Deposition of Total Mercury (TM) in Seoul, Korea

Yong-Seok Seo, Jong-Bae Huh, Seung-Hee Kim, Kyung-Duk Zoh, Seung-Muk Yi (Presenting Author)

M-117: High Mercury Deposition in the Luquillo Mountains, Puerto Rico

James B Shanley (Presenting Author), Joseph W. Troester, David P. Krabbenhoft, Mark L. Olson

M-118: Evaluation of the Change in Mercury Deposition in New Hampshire Associated with Changing Emission Scenarios Using the ISCST Model

Young-Ji Han (Presenting Author), Charles Driscoll, Thomas Holsen

M-119: Characterization of a Mercury Atmospheric Deposition Hotspot Region

Michael Hutcheson, C. Mark Smith (Presenting Author), Carol Rowan West, Jane Rose, Gordon Wallace, Darryl Luce

M-120: Identifying Atmospheric Mercury Sources and Assessing Atmospheric Mercury Deposition in Michigan through Various Partnerships

Joy Taylor Morgan (Presenting Author), Gerald Keeler, George Southworth, Leah Granke, Mark Allen, Edward Swain

M-121: Influence of Prescribed Forest Fire on the Remobilization of Mercury in the Boundary Waters Canoe Area Wilderness

Mark Gabriel (Presenting Author), Trent Wickman, Randy Kolka, Edward Nader, Ken Gebhardt, Jason Butcher

M-122: Influence of Fire on Total and Methyl Mercury Deposition in Boreal Landscapes

Emma Witt (Presenting Author), Ed Nater, Randy Kolka

M-123: Mercury Emissions from Forest Fires in Europe and Northern Africa

Sergio Cinnirella (Presenting Author)

M-124: Measurements of Ambient Atmospheric Concentrations of Elemental, Reactive Gaseous, and Particle-Bound Mercury at Two Sites in New Jersey

Adriana Calle (Presenting Author), Michael Aucott, Rudy Zsolway, Charles Pietarinen, Randy England

Remediation and Pollution-Control Technologies 1

M-125: Relationship between Leached Mercury and Soil Characteristics about the Mercury Contaminated Soil, which Were Taken in Guizhou, China

Akito Matsuyama (Presenting Author), Yoshiaki Yasuda, Qu Liya

M-126: Mercury Deposit Distribution in the Paddy Fields Downstream from an Organic Chemical Company

Junfang Zhang (Presenting Author)

M-127: Mercury Cycling in Coastal Environment Influenced by Long-Term Mining Activity, Gulf of Trieste, North Adriatic Sea

Joze Kotnik (Presenting Author), Dusan Zagar, Vanja Ramsak, Milena Horvat, Rudi Rajar, Nives Ogrinc, Matjaz Cetina, David Kocman, Vesna Fajon, Darija Gibicar, Suzana Zizek

M-128: Total Mercury in Sediment Profiles from a Historical Hg-Contaminated Reservoir: Baihua Reservoir, Guizhou, China

Haiyu Yan (Presenting Author), Xinbin Feng

M-129: The Concentrations and Distribution of Different Mercury Species in the Water Columns and Sediment of Aha Lake, Guizhou, China

Weiyang Bai (Presenting Author), Xinbin Feng

M-130: Natural Mercury as a Source of Mercury Pollution of Fish in the Lakes of Gold Mining Regions

Edward N. Baranov, Tatiana G. Laperdina (Presenting Author), Yuri G. Tatsy

M-131: Do Living Green Roofs Reduce Total Mercury in Stormwater Runoff?

Elizabeth Malcolm (Presenting Author), Margaret Reese, Maynard Schaus

M-133: Glutathione Mediates Mercury-Binding and Detoxification in *Ipomoea Aquatica* Forsk

Rosemarie D.R. Josue, Juliana Janet M. Puzon (Presenting Author), James A. Villanueva, Gilda C. Rivero

M-134: Silica-Titania Composites for the Reduction of Mercury in Liquids to Trace Concentrations

Anna Casasus (Presenting Author), Jennifer Stokke, David Mazyck

M-135: Performance of Diatomite Based Mercury Removal Sorbent

Bo Wang (Presenting Author)

M-136: Adsorption Behaviour of ETS-4 in Removing Mercury Ion (Hg²⁺) from Aqueous Solutions: Influence of Temperature

Cláudia Lopes (Presenting Author), Zhi Lin, Eduarda Pereira, João Rocha, Armando Duarte

S-RE-9: Role of Mercury-Containing Products in Release Reduction Efforts—Assessment, Substitution, Responsible Management and Regulation

Organizers: Jakob Maag, COWI Department of Environment and Noise Abatement, Denmark; Lars Hylander, Uppsala University, Sweden

M-137: Research on the Strategy of Mercury Consumption Abatement in China

Jian Xiaodong (Presenting Author)

M-138: Mercury Recovery In Situ of Four Different Dental Amalgam Separators

Lars D. Hylander (Presenting Author), Anders Lindvall, Roland Uhrberg, Lars Gahnberg, Ulf Lindh

M-139: Application of the Ergonomic Work Analysis to the Exhausted Fluorescent Lamps Recycling

Jose Roberto Mafra, Allegra Yallouz (Presenting Author), Debora Pereira, Mario Cesar Vidal, Eduardo Carvalho, William Bortolazzo

M-140: Batteries and VCM in China Consume Serious Mercury

Peter Maxson (Presenting Author)

M-141: Use of a Spatial Alternation Task to Assess Learning Deficits in Adult Zebrafish Developmentally Exposed to Methylmercury and/or Selenomethionine

Leigh Smith (Presenting Author), Jason Dorsey, Daniel Weber, Frederick Williams

S-HR-1: Mechanisms and Outcomes of Methylmercury Exposure on Reproduction and Development

Organizer: Daniel Weber, University of Wisconsin-Milwaukee, USA

M-142: Developmental Delays Associated with Maternal Mercury Exposure in Breastfed Infants from Porto Velho City (Amazon), Brazil

Rejane Corrêa Marques (Presenting Author), José Garrofe Dórea, Wanderley Rodrigues Bastos, Márlon de Freitas Fonseca, Olaf Malm

M-143: Retinal Electrophysiology Correlates with Behavioral Responses to Visual Stimuli in Adult Zebrafish Developmentally Exposed to Either Methylmercury, Selenomethionine, or Both

Daniel Weber (Presenting Author), Michael Carvan III, Victoria Connaughton, John Dellinger, Ava Udvadia

M-144: Effects of Methylmercury on Gene Expression Associated with Reproductive Decline in Fathead Minnows

Rebecca Klaper (Presenting Author), Christopher Rees, Paul Drevnick, Daniel Weber, Mark Sandheinrich, Michael Carvan

M-145: Mercury and Selenium Speciation in Fish Tissues

Wendy Olson (Presenting Author), Susan Krezoski, David Petering

M-146: Fish Consumption in a Riparian Community from Brazilian Amazon: Risk or Health Benefit?

Marlon De Freitas Fonseca (Presenting Author), Wanderley Rodrigues Bastos, Joao Paulo Machado Torres, Valeria De Oliveira, Rejane Correa Marques, Cláudio Eduardo De Azevedo E Silva, Antonio Azeredo, Olaf Malm

S-HR-3: Chronic Exposure to Low Levels of Methylmercury

Organizers: Luiz Carlos de Lima Silveira, Maria Elena Crespo López, and Maria da Conceição Nascimento Pinheiro, Nucleus of Tropical Medicine, Brazil

M-147: Methylmercury Exposure Assessment: Wisconsin, 2004-5

Lynda Knobloch (Presenting Author), Gemma Gliori, Pamela Imm, Henry Anderson

M-148: Methylmercury Genotoxicity in Developing Central Nervous System

Maria Elena Crespo-López (Presenting Author), Andrea Lima de Sá, Anderson Manoel Herculano, Rosa del Carmen Rodríguez Martín-Doimeadios, Juan José Berzas Nevado, Rommel Burbano, José Luiz Martins do Nascimento

M-149: Mercury Toxicity: Visual Dysfunction Following Mercury Exposure by Breathing Mercury Vapor and by Eating Mercury Contaminated Food

Luiz Carlos de Lima Silveira (Presenting Author), Maria da Conceição Nascimento Pinheiro, Dora Fix Ventura, José Luiz Fernandes Vieira, Anderson Raiol Rodrigues, Maria Izabel Tentés Côrtes, Antonio de Oliveira Castro

M-150: Antioxidants Activity in Riverside Women of Methylmercury Polluted Areas in the Amazon

Maria da Conceição Nascimento Pinheiro (Presenting Author), Teiichi Oikawa, Jose Luiz Fernandes Vieira, Barbarella Macchi, José Luiz Martins do Nascimento, Maria Elena Crespo-López, Luiz Carlos de Lima Silveira

M-151: Chronic Exposure to Mercury and Clinical Outcomes in Gold Diggers of Serra Pelada Village, Pará, Brazil

Carlos Eduardo Pereira Corbett (Presenting Author), Marcelo El Khouri, André Nathan Costa, Daniel Ciampi de Araújo Andrade, Janos Valery Guyricza, Andréas Stravogiannis, Ronaldo Frizzarini, Celso Alberto Chassot, Julieta França Corbett, Maria da Conceição Nascimento Pinheiro

M-152: Methylmercury Toxicity in Retinal Cells: Role of Glutamatergic and Nitrenergic Systems

Anderson Manoel Herculano (Presenting Author), Maria Elena Crespo-Lopez, Silene Maria Lima, Domingos Luiz Wanderley Picanço-Diniz, Jose Luiz Martins Do Nascimento

M-153: Long-Term Losses of Psychophysical and Electrophysiological Visual Functions Due to Occupational Exposure to Mercury Vapor

Dora Fix Ventura (Presenting Author), Marcelo Trulha Valente Costa, Marcelo Fernandes Costa, Claudia Feitosa Santana, Adriana Berezovsky, Solange Rios Salomao, Ana Luiza Simoes, Marcos Lago, Marcilia de Araujo Medrado Faria, Sandra Tomaz, John Manuel de Souza, Luiz Carlos Lima Silveira

M-154: Total Mercury in Feathers of Casmerodius Albus (Aves:Ardeidae) in the District of Belém, State of Pará, Brazil

José Luiz Fernandes Vieira (Presenting Author), José Aglair Barbosa de Freitas Junior, Andreza de Lourdes Souza Gomes, Daniele Regina Gomes Ribeiro, Pinheiro Maria da Conceição Nascimento, Luiz Carlos de Lima Silveira

M-155: Mercury Toxicity in the Amazon: Visual Dysfunction Assessed by Retinal and Cortical Electrophysiology

César Akiyoshi Saito (Presenting Author), Genilma Matos Costa, Laiza Medeiros dos Anjos, Givago da Silva Souza, Bruno Duarte Gomes, Manoel da Silva Filho, Luiz Carlos de Lima Silveira

S-RE-8: Approach to Reducing Mercury Emissions: Clean Air Mercury Rule

Organizers: Thomas Braverman, Russell Bullock, and Tyler Fox, US Environmental Protection Agency, USA

M-156: Sensitivity Analysis of Model Science Modifications on Mercury Depositions Using CMAQ-Hg in a Continental US Domain

Che-Jen Lin (Presenting Author), Pruek Pongprueksa, Steve Lindberg, Simo Pehkonen, Carey Jang

M-157: Estimating Global Source Influence on U.S. Mercury Deposition Using GEOS-Chem

Noelle Selin (Presenting Author), Daniel Jacob, Rokjin Park, Robert Yantosca, Sarah Strode, Lyatt Jaeglé

M-158: Application of CMAQ for the Clean Air Mercury Rule (CAMR)

Thomas Braverman (Presenting Author)

M-159: Development of 2001 National Mercury Emissions Inventories for Rule Support and 1990–2002 Trends in Mercury Air Emissions

Anne Pope (Presenting Author), Madeleine Strum, Lee Tooty, Richard Mason

M-160: Results from a North American Mercury Model Inter-Comparison Study (NAMMIS)

Russell Bullock (Presenting Author)

M-161: Challenges in Modeling Mercury-Related Risk for Special High-Exposure Fish-Consuming Populations in the Cost-Benefit Analysis Context

Zachary Pekar (Presenting Author)

M-164: Exposures to Mercury from Consumption of Recreationally-Caught Freshwater Fish

Lisa Conner (Presenting Author), Zachary Pekar, Janet Cakir

Plenary: Source Attribution of Atmospheric Mercury Deposition

M-165: Urban-Rural Differences in Atmospheric Mercury Chemistry

Bian Liu (Presenting Author), Gerald J. Keeler, Khalid Al-Wali, J. Timothy Dvonch, James A. Barres, Frank J. Marsik, Joy Taylor-Morgan

M-166: Atmospheric Gaseous Mercury in Hsinchu County, Taiwan

Tien-Ho Kuo (Presenting Author), Chin-Tsun Lin, Mei-Yin Hwa, Cheng-Fen Chang, Andrius Urba, Kestutis Kviatkus

M-167: Atmospheric Gaseous Elemental Mercury (GEM) over the Tibet Plateau

Junxia Wang, Julia Lu (Presenting Author), Tandong Yao

M-168: Mercury in Coal from the People's Republic of China

Harvey E. Belkin (Presenting Author), Baoshan Zheng, Robert B. Finkelman

M-169: Measurement and Modeling of Atmospheric Mercury Species and Related Pollutants in South Florida from 2000 to 2005

Robert K. Stevens (Presenting Author), Matthew Landis, Gerald J. Keeler, Thomas D. Atkeson, Kenneth Larson

M-170: The Mediterranean Sea: Quantifying Emission and Deposition

Ian Hedgecock, Giuseppe Trunfio, Nicola Pirrone (Presenting Author), Francesca Sprovieri

M-171: Atmospheric Mercury in the Gulf of Trieste, North Adriatic

Nives Ogrinc (Presenting Author), Vesna Fajon, Milena Horvat

M-172: Mercury in Air and Volcanic Gasses at Mt. Etna Area

Joze Kotnik (Presenting Author), Salvatore Giammanco

M-173: Continuous Monitoring of Elemental and Reactive Gaseous Mercury from the Combustion of Automobile Shredder Residue and Refuse-Derived Fuel in a Test Plant

Fumitake Takahashi (Presenting Author), Akiko Kida

M-175: Experimental Investigation of the Scavenging of Gaseous Mercury by Sea Salt

Elizabeth Malcolm (Presenting Author), Tara Redding

M-176: Monitoring of Atmospheric Mercury Emitted by Forest Fires in the Amazonian Region

Paula A.M. Michelazzo, Anne H el ene Fostier (Presenting Author)

Environmental Biogeochemistry 1

M-177: Mercury Inputs and Outputs at a Small Lake in Northern Minnesota

Neal Hines (Presenting Author)

M-178: Effect of Bedrock Geology on Mercury Accumulation Rates in Brook Trout in Shenandoah National Park

Craig Snyder (Presenting Author), Rick Webb, James Atkinson

M-179: Identification of Terrigenous Organic Compounds at the Molecular Level and Mercury Concentrations in Boreal Lake Sediments

Roman Teisserenc (Presenting Author), Marc Lucotte, St ephane Houel, Jean Carreau

M-180: Dynamics of Hg in Forest Wetland Ecosystem in the Adirondack Region of New York, USA

Pranesh Selvendiran (Presenting Author), Charles Driscoll, Joseph Bushey, Montesdeoca Mario

M-181: Evidence for High Production of Methylmercury in Salt Marshes

Jo o Can rio, Carlos Vale (Presenting Author), Miguel Caetano, Rute Ces rio, Marta Nogueira

M-182: X-Ray Absorption Studies of Mercury Binding to Sulfur Ligands

Lynn Diener, William Bleam (Presenting Author)

M-183: Depth Profiles of Mercury Isotope Composition in Lake Sediments

Delphine Foucher (Presenting Author), Holger Hintelmann, Kevin Telmer

M-184: Mercury Accumulation in Biomass and Soil in a Boreal Forest Ecosystem: At Risk from Fire

Hans Friedli (Presenting Author), Lawrence Radke, Nicholas Payne

M-185: Gross Photo-Reduction Kinetics of Mercury in Temperate Freshwater Lakes and Rivers: Application to a General Model for DGM Dynamics

Nelson O'Driscoll (Presenting Author), Steven Siciliano, David Lean, Marc Amyot

M-186: Climate Change and Mobilisation of Mercury in Forest Soil—Effects of Artificially Increased Precipitation on Mercury Methylation and Mobility in Soils

Lihai Shang (Presenting Author), John Munthe, Conny Haraldsson, Therese Zetterberg, Filip Moldan, Ulla Hageström, Benny Lyvén

M-187: Effects of Mercury on Soil Microbial Communities in French Guiana: A Multiple Approach Analysis

Noureddine Bousserhine (Presenting Author), Jennifer Harris, Edouard Miambi, Philippe Mora, Evelyne Garnier-Zarli

M-188: Transport Dynamics of Mercury between a Tidal Estuary and the Sea

Pedro Pato (Presenting Author), Mónica Válega, João Dias, Eduarda Pereira, Carlos Vale, Armando Duarte

M-189: Determination of Mercury Concentration in Sediments of Bandar Imam

Mohamad Godarzi Nik (Presenting Author)

M-190: Mercury Contamination in Semi-Enclosed Estuarine Environment: A Case Study from Ennore Creek, South East Coast of India

Muthmanickam Jayaprakash (Presenting Author), S Muthuraj

S-BT-1: Critical Processes Controlling Mercury Bioaccumulation, Trophic Transfer and Distribution in Food Webs 1

Organizers: Robin Stewart, US Geological Survey; Celia Chen, Dartmouth College, USA

M-191: What Can Water Striders Tell Us about the Movement of Mercury and Organic Matter through Aquatic Systems?

Timothy Jardine, Paul Arp, Karen Kidd (Presenting Author), Richard Cunjak

M-192: Accumulation of Mercury through Boreal Freshwater Food Webs

Karen Kidd (Presenting Author), Marlene Evans, Michael Whittle, Stephanie Guildford, Derek Muir

M-193: Hg Transfer from Invertebrates to Yellow Perch from Contaminated Sites—Cornwall, Ontario, Canada

L. Elizabeth Yanch (Presenting Author), Peter Hodson, Linda Campbell

M-194: Bioaccumulation and Trophic Transfer of Methylmercury in Long Island Sound

Chad Hammerschmidt (Presenting Author), William Fitzgerald

M-195: Loss of Mercury by Yellow Perch (*Perca flavescens*) in Different Environments: A Comparison of an Experimental Reservoir and an Oligotrophic Lake

Jill Van Wallegghem (Presenting Author), Paul Blanchfield, Holger Hintelmann

M-196: The Effect of Growth Rate on Mercury Levels in Fish: A Replicated, Whole-Lake Experiment

Paul Blanchfield (Presenting Author), Diane Orihel, Peter Biro

M-197: Preliminary Findings on Mercury Biomagnification in Gulf of Maine Harbor Seals (*Phoca vitulina*)

Dianne Kopec (Presenting Author), Rebecca Van Beneden, Adria Elskus, Luke Whitman

M-198: Seasonality of Methylmercury Production and Bioaccumulation in a Reservoir with Extreme Water-Level Fluctuations: Camp Far West Reservoir, California

Charles N. Alpers (Presenting Author), A. Robin Stewart, Mark Marvin-DiPasquale, James S. Kuwabara, Michael K. Saiki

M-199: A Comparison of Mercury Accumulation in Mink and Fisher

James Lake (Presenting Author), Stephan Ryba, Jonathan Serbst, Charles Brown, Lori Gibson

S-EB-1: Mercury (micro)Biogeochemistry: Missing Links and Recent Progress

Organizers: Tamar Barkay, Rutgers University, USA; Mark Hines, University of Massachusetts, USA

M-200: Mercury Methylation among the Dissimilatory Iron-Reducing Bacteria

Elizabeth Kerin (Presenting Author), Cynthia Gilmour, Marcelino Suzuki, Robert Mason

M-201: An Update on the Phylogeny of Mercury Methylation among the Sulfate-Reducing Bacteria

Cynthia Gilmour (Presenting Author), Elizabeth Kerin, Sarah Werner, Marcelino Suzuki, Robert Mason

M-202: Biotic and Abiotic Sources of Methylmercury in the Ocean

Eileen Ekstrom (Presenting Author), Elizabeth Malcolm, Jeffra Schaefer, Francois Morel

M-203: Mercury in Methane Bubbles in the Amazon Varzea

Kevin Telmer (Presenting Author)

M-204: Correlations between Potential Mercury Methylation Rates and Sulfate-Reducing Microbial Communities in a Watershed Impacted by Historic Mining of Placer Gold Deposits

Andrea Foster (Presenting Author), Elizabeth Bailey, Roger Ashley, James Rytuba, Mark Marvin-DiPasquale

M-205: Mercury Methylation and Demethylation Potentials and Sulfate Reducing Bacteria Community Structure in an Amazonian Macrophytes Rhizosphere

Dario Acha (Presenting Author), Holger Hintelmann, Cecilia Pabon, Marc Roulet

M-206: Sulfate Reducing Bacteria Isolated from the Amazon Basin and Boreal Lake Methylate and Demethylate Mercury at Variable Rates

Cecilia Pabon (Presenting Author), Dario Acha, Holger Hintelmann, Marc Roulet

M-207: Reduction of Hg(II) to Hg(0) by Dissimilatory Metal-Reducing Bacteria

Heather Wiatrowski (Presenting Author), Tamar Barkay

M-208: Mercury Speciation and Microbial Communities in Mats of Yellowstone National Park Hot Springs and Outflow Channels

Susan King (Presenting Author), Sabrina Behnke, Kim Slack, Tamar Barkay, David Krabbenhoft, Mark Burr

M-209: Factors Controlling Mercury Methylation and Demethylation in Wetlands and Soils at an Adirondack Lake

Isaac Adatto (Presenting Author), Mark Hines

M-210: Molecular Characterization of Microorganisms in Methylmercury-Producing Adirondack Wetland

Riqing Yu (Presenting Author), Christopher DiPasquale, Tamar Barkay

M-211: Effect of Chemical Speciation on Mercury Methylation in Sulfate-Reducing Planktonic and Biofilm Cultures

Chu-Ching Lin (Presenting Author), Jennifer A. Jay

PLATFORM PRESENTATIONS

PLENARY SESSION • 8:30 a.m.

Source attribution of atmospheric mercury deposition

KEY QUESTION: Can we ascertain with confidence the relative contributions of local, regional, and global sources, and of natural versus anthropogenic emissions to mercury deposition?

PANEL CHAIR: Steve Lindberg, USA
PANELISTS: Orren R. Bullock, USA; Ralf Ebinghaus, Germany; Daniel Engstrom, USA; Xinbin Feng, China; William Fitzgerald, USA; Nicola Pirrone, Italy; Eric Prestbo, USA; Christian Seigneur, USA

BALLROOM A

Environmental Biogeochemistry, Part 1

Moderators: Marc Amyot, University of Montreal, Canada; Gary Gill, Battelle Marine Science Laboratory, USA

1:00 PM

S-295: Climate Change and Mobilisation of Mercury in Forest Soil—Effects of Artificially Increased Precipitation on Mercury and Methylmercury in Run Off

John Munthe (Presenting Author), Filip Moldan, Lihai Shang, Ulla Hageström

1:20 PM

S-1532: Mercury and Methylmercury Speciation across the Mercury Methylation Layer in Wetlands

Feiyue Wang (Presenting Author), Bryan Page, Marcos Lemes, Richard Goulet, Jonathan Holmes, André Tessier, David Lean, Marc Amyot

1:40 PM

S-474: The Influence of Forestry Activity on the Structure of Dissolved Organic Matter in Lakes: Implications for Mercury Photoreactions

Nelson O'Driscoll (Presenting Author), Steven Siciliano, Derek Peak, Richard Carignan, David Lean

2:00 PM

S-1153: Estimation of Mass Balance of Mercury in the Mediterranean Region

Rudi Rajar (Presenting Author), Dusan Zagar, Matjaz Cetina

2:20 PM

S-277: Mercury Cycling and Air-Sea Exchange Flux in the East China Sea

Chun-Mao Tseng (Presenting Author)

2:40 PM

S-860: Long-Term Decrease of Methyl Mercury in Fish after Additions of Selenium to a Hydroelectric Reservoir and a Downstream Lake in Sweden

Hans Hultberg (Presenting Author)

Environmental Biogeochemistry, Part 2

Moderators: Britt Hall, University of Regina, Canada; Chad Hammerschmidt, Woods Hole Oceanographic Institution, USA

3:40 PM

S-668: Fractionation of Mercury Isotopes during Methylation by Sulfate-Reducing Bacteria

Mark Dzurko (Presenting Author)

4:00 PM

S-1490: Microbial Community Structure Is Correlated with Mercury Methylation in Northern Wisconsin Lakes

Angela Kent (Presenting Author), Carl Watras, Chris Eckley, Olof Regnell, Holger Hintelmann, Katherine McMahon

4:20 PM

S-1263: Methylmercury Biomagnification in the Food Web of the St. Lawrence River near Cornwall, Ontario

David Lean (Presenting Author), Jules Blais, Tania Delongchamp, Tamar Bodek, Yumvihoze Emmanuel, Luyza Avramescu, Laurier Poissant, Brian Hickey, Jeff Ridal, Adrienne Fowlie, Peter Hodson

4:40 PM

S-358: Mercury Speciation in Surface and Deep Waters of the Mediterranean and Adriatic Seas

Joze Kotnik (Presenting Author), Nives Ogrinc, Milena Horvat, Vesna Fajon, Darija Gibicar, Martina Logar, Suzana Zizek, Nusa Horvat, David Amouroux, Mathilde Monperrus, Emmanuel Tessier, Nicola Pirrone

5:00 PM

S-1147: Mercury in Different Amazon Reservoirs, Brazil

Olaf Malm (Presenting Author)

Abstracts can be found in the abstracts book using the number preceding the title for both platform and poster presentations.

BALLROOM B

Atmospheric Transport and Deposition, Part 1

Moderators: Katarina Gårdfeldt, Göteborg University & Chalmers University of Technology, Sweden; Anders Andren, University of Wisconsin-Madison, USA

1:00 PM

S-507: Identification and Quantification of Mercury Source Regions from Year-Long Observations at a Mountain-Top Site in the Free Troposphere

Peter Weiss-Penzias (Presenting Author)

1:20 PM

S-634: Measurements of Atmospheric Mercury at Lulin Atmospheric Background Station (LABS) in Taiwan

Guey-Rong Sheu (Presenting Author), Neng-Huei Lin, Chia-Hua Lee, Chien-Chih Lin

1:40 PM

S-691: Spatial and Temporal Distributions of Atmospheric Mercury and Its Compounds over the Mediterranean Sea

Nicola Pirrone (Presenting Author), Francesca Sprovieri, Franco Cofone, Amerigo Armentano

2:00 PM

S-1093: Estimation of Mercury Loadings to Lake Ontario: Results from the Lake Ontario Atmospheric Deposition Study (LOADS)

Soon-Onn Lai, Thomas M. Holsen, Young-Ji Han (Presenting Author), Philip K. Hopke, Seung-Muk Yi, Pierrette Blanchard, James J. Pagano, Michael S. Milligan

2:20 PM

S-1156: Modeling Past Mercury Deposition from Lake Sediments and Peat Bogs—Is the Human Impact 3, 30 or 300-Fold?

Harald Biester (Presenting Author), Richard Bindler

2:40 PM

S-588: Seasonal Trends of Mercury in Mt. Everest Snow Pack

Mark Loewen (Presenting Author), Shichang Kang, Debbie Armstrong, Gregg Tomy, Feiyue Wang

Atmospheric Transport and Deposition, Part 2

Moderators: Franz Slemr, Max-Planck Institute for Chemistry, Germany; Nicola Pirrone, CNR-Institute for Atmospheric Pollution, Italy

3:40 PM

S-1503: Speciation of Mercury (II) in Cloud and Fog Water

David Bittrich (Presenting Author), David Armstrong, Shawn Chadwick, James Schauer

4:00 PM

S-1233: Trends in Air Concentrations and Deposition of Mercury in the Marine Environment of the North East Atlantic

Ingvar Wangberg (Presenting Author)

4:20 PM

S-1599: Regional-Scale Formation of Reactive Mercury: Observations and Model Results for Florida and the Great Lakes

Sandy Sillman (Presenting Author), Jerry Keeler

4:40 PM

S-914: The Investigation of Mercury Inputs into the Forest Canopy as Wet Deposition and Throughfall in the Adirondacks

Hyun-Deok Choi (Presenting Author), Timothy Sharac, Thomas Holsen

5:00 PM

S-971: Annual Mercury Total Gaseous Mercury Flux Measurements over a Hardwood Forest

David Miller (Presenting Author)

Poster session numbers indicate the day of the week and the location of the poster. (See the map on the inside front cover.)

BALLROOM C

S-BT-1: Critical Processes Controlling Mercury Bioaccumulation, Trophic Transfer and Distribution in Food Webs

Organizers: Robin Stewart, US Geological Survey; Celia Chen, Dartmouth College, USA • Moderator: Robin Stewart

1:00 PM

S-1542: Uptake of Mercury in Freshwater Phytoplankton and the Successive Trophic Transfer to Crustacean Grazers

Paul Pickhardt (Presenting Author), Nicholas Fisher

1:20 PM

S-1452: Methyl Mercury In Planktonic Organisms—the Role of Biochemical Diet Composition

Martin Kainz (Presenting Author), Asit Mazumder

1:40 PM

S-1357: Methylmercury in Food Webs of Interior Lakes of Voyageurs National Park (Minnesota, USA)

Kristofer Rolfhus (Presenting Author), Brent Knights, James Wiener, Mark Sandheinrich, Roger Haro, Jeffrey Jeremiason

2:00 PM

S-1395: Forest Fire Influences Bioaccumulation of Mercury and Persistent Organic Pollutants by Fishes

Erin Kelly (Presenting Author), Marc Demers, David Schindler, Vincent St. Louis, David Donald, Jules Blais, Frances Pick

2:20 PM

S-1194: Bioaccumulation and Trophic Transfer of Mercury in Intertidal Food Webs of the Gulf of Maine

Celia Chen (Presenting Author), Brandon Mayes, Michele Dionne, Ata Bilgili, Richard MacKenzie

2:40 PM

S-1076: Effects of Disturbance Mechanisms on the Distribution and Bioaccumulation of Mercury in the Conterminous United States and the Gulf of Mexico

Michael Bank (Presenting Author), David Senn, James Shine, Edward Chesney, Nancy Rabalais, Jennifer Jay, Jeffrey Crocker, Aria Amirbahman

S-HR-2: Mercury and Omega-3 Fatty Acid Status in Geographically Diverse Populations

Organizers: Kathryn Mahaffey, Washington, DC, USA; David Bellinger, Harvard University, USA • Moderator: Kathryn Mahaffey

3:40 PM

S-678: Relationships Of Fatty Acids, Amino Acids and Methylmercury Profiles between Maternal and Fetal Blood; Risks and Benefits of Fish Consumption to Fetus

Mineshi Sakamoto (Presenting Author), Machi Kubota, Katsuyuki Murata, Kuniuhiko Nakai, Hiroshi Satoh

4:00 PM

S-669: Balancing the Risks and Benefits of Maternal Seafood Consumption during Pregnancy

David Bellinger (Presenting Author)

4:20 PM

S-1612: Mercury and Cardiovascular Disease

Eliseo Guallar (Presenting Author)

4:40 PM

S-1611: Blood Concentrations of Long Chain n-3 PUFA and Methylmercury among French High Seafood Consumers (Study CALIPSO)

Jean-Charles Leblanc (Presenting Author)

5:00 PM

S-1613: Blood Organic Mercury (OHg) among Coastal and Non-Coastal Populations and Omega-3 Fatty Acid Intake from Fish and Shellfish Consumption in the United States: NHANES 1999 through 2002

Kathryn Mahaffey (Presenting Author)

BALLROOM D

S-RE-7: Successes and Challenges in Management of Mercury within the Great Lakes

Organizers: Thomas Muga, Wisconsin Department of Natural Resources, USA; William Bowerman, Clemson University, USA
Moderator: Donna Mergler, University of Quebec at Montreal, Canada

1:00 PM

S-782: Great Lakes Binational Toxics Strategy

Alexis Cain (Presenting Author), Robert Krauel

1:20 PM

S-1180: Regulation of Mercury in Surface Water, a Federal Perspective

Holly Arrigoni, Brian Thompson (Presenting Author), David Pfeifer

1:40 PM

S-771: Minnesota's Statewide Mercury TMDL

Bruce Monson (Presenting Author), Howard Markus, Edward Swain, Ned Brooks, Anne Jackson

2:00 PM

S-1027: Phase-out Strategies as Alternatives to TMDLs for Mercury-Impaired Waters

Michael Murray (Presenting Author)

2:20 PM

S-1562: Projected Mercury Concentrations in Freshwater Fish Tissue and Changes in Exposure Resulting from the Clean Air Mercury Rule

Lisa Conner (Presenting Author), Zachary Pekar, Janet Cakir

2:40 PM

S-950: Wisconsin's Community Mercury Reduction Pilot Program

Charles Case (Presenting Author)

Remediation and Pollution-Control Technologies

Moderators: Luis Sobral, Center of Mineral Technology, Brazil; Ralph Turner, RT Geosciences Inc, Canada

3:40 PM

S-813: Photocatalytic Reduction: Low Level Mercury Removal from Aqueous Systems

Heather Byrne (Presenting Author), David Mazyck

4:00 PM

S-1161: Engineering Aspects of Microbial Hg Removal in Different Environments

Johannes Leonhäuser (Presenting Author), Irene Wagner-Döbler, Wolf-Dieter Deckwer

4:20 PM

S-1150: Transport and Retention of Mercury-Species in a Contaminated Soil-Aquifer System—Implications for Remediation Strategies

Anne Bollen (Presenting Author), Axel Wenke, Harald Biester

4:40 PM

S-1291: The Impact of Mercury Control Technologies on Coal-Fired Utility By-Products

Carl Hensman (Presenting Author), Eric Prestbo, Amy Dahl, Lynn Brickett

5:00 PM

S-1195: Simultaneous Removal of Mercury, Submicron Particles, and Dioxins

Jens Korell (Presenting Author), Hanns-Rudolf Paur, Helmut Seifert

LECTURE HALL

S-HR-1: Mechanisms and Outcomes of Methylmercury Exposure on Reproduction and Development

Organizer: Daniel Weber, University of Wisconsin-Milwaukee, USA
Moderator: John Dellinger, University of Wisconsin-Milwaukee, USA

1:00 PM

S-646: Interspecies Extrapolations Using Laboratory Animal Feeding Studies with Human Dietary Fish

John Dellinger (Presenting Author)

1:20 PM

S-1052: Environmental Epidemiology of Methylmercury Neurotoxicity in Children

Philippe Grandjean (Presenting Author)

1:40 PM

S-1270: Cognitive and Motor Effects of Early Developmental Exposure to Low Doses of Methyl Mercury in a Rodent Model

Susan Schantz (Presenting Author), John Widholm, Cindy Roegge, Helen Sable

2:00 PM

S-1255: Impaired Cerebellar Granule Cell Migration Following Continuous Exposure to Methylmercury in Rat Neonatal Organotypic Slice Culture

William Atchison (Presenting Author)

2:20 PM

S-1040: Effects of Methylmercury on Wild Populations of Walleye

Mark Sandheinrich (Presenting Author)

2:40 PM

S-1384: The Effects of Developmental Methylmercury Exposure in Zebrafish: The Potential Influences of Maternal Diet on Early Lifestage Toxicity

Michael Carvan (Presenting Author), Matthew Rise, Matthew Dellinger, John Dellinger, Daniel Weber

S-EB-1: Mercury (micro)Biogeochemistry: Missing Links and Recent Progress (S-EB-1)

Organizers: Tamar Barkay, Rutgers University, USA; Mark Hines, University of Massachusetts, USA
Moderators: Tamar Barkay and Mark Hines

3:40 PM

S-788: Why It Is Necessary to Look at Mercury Bioavailability from the Perspective of the Bacteria: A New Paradigm

Carol A. Kelly (Presenting Author), John W.M. Rudd

4:00 PM

S-1335: The Effect of Various Physiological Conditions on Hg(II) Uptake in *Escherichia coli*

George Golding, Carol Kelly, Richard Sparling (Presenting Author)

4:20 PM

S-797: Cobalt-Limitation Studies in Sulfate-Reducing Bacteria: Investigations Into Mechanisms of Hg Methylation

Eileen Ekstrom (Presenting Author), Francois Morel

4:40 PM

S-1235: Dynamics of Bacterially-Mediated Formation, Degradation, and Potential Accumulation of Methylmercury

Mark Hines (Presenting Author)

5:00 PM

S-1473: Is Mercury Methylation Significant in Molybdate-Inhibited, Iron-Rich, Marine Sediments?

Emily J. Fleming (Presenting Author), Douglas Nelson

MEETING ROOMS K-Q

S-RE-9: Role of Mercury-Containing Products in Release Reduction Efforts—Assessment, Substitution, Responsible Management and Regulation

Organizers: Jakob Maag, COWI Department of Environment and Noise Abatement, Denmark; Lars Hylander, Uppsala University, Sweden
Moderator: Jakob Maag

1:00 PM

S-766: Mercury Flows through the Mercury-Containing Lamp Sector of the Economy of the United States

Thomas Goonan (Presenting Author)

1:20 PM

S-586: Efficiency of Different Amalgam Separators

Ulla Jacobsson-Hunt (Presenting Author)

1:40 PM

S-1208: High Mercury Emissions from Dental Clinics Despite Amalgam Separators

Lars D. Hylander (Presenting Author), Anders Lindvall, Lars Gahnberg

2:00 PM

S-1154: Chlor-Alkali and the Mercury Process: A Reassessment of the Voluntary Phase-Out

Peter Maxson (Presenting Author)

2:20 PM

S-294: Control of Mercury Emissions from Gas Processing Plant Dryers

Peter Carnell, Andr ea Iara Foster (Presenting Author)

2:40 PM

S-549: "Mercury Substitution Priority Work-List"—An Input to Global Considerations on Mercury Management

Jakob Maag (Presenting Author), Peter Maxson, Erik Hansen, Lars Hylander

S-SC-5: Global Mercury Trade and Possible Control Parameters for Mercury Use and Emissions

Organizers: Lars Hylander, Uppsala University, Sweden; Peter Maxson, Concorde East/West, Belgium
Moderators: Lars Hylander and Peter Maxson

3:40 PM

S-1056: U.S. and China Role in Global Trade of Mercury

Linda Greer (Presenting Author)

4:00 PM

S-436: The EU Mercury Strategy

Stina Andersson (Presenting Author)

4:20 PM

S-1171: Philippine National Policy Relevant to Mercury Use in Small-Scale Gold Mining and Its Implementation and Enforcement

Conrado Miranda (Presenting Author), Danilo Rodriguez, Esteban Bagacay Jr., Andres Hufancia

4:40 PM

S-1601: Life-Cycle Flow of Mercury-Containing Products in Japan and Life-Cycle Inventory of Mercury-Containing Fluorescent Lamps

Sin-ichi Sakai (Presenting Author), Misuzu Asari, Hideyuki Umehara, Kazuki Fukui

5:00 PM

S-1204: Mercury Recycling in the United States

William E. Brooks (Presenting Author), Grecia R. Matos

P L E N A R Y S E S S I O N • 8 : 3 0 a . m .

Health risks and toxicological effects of methylmercury

Research on environmental mercury contamination has been largely motivated by the human health risks of methylmercury exposure, which results from consumption of finfish, aquatic mammals, and shellfish. Recent toxicological research on methylmercury has focused largely on neurological effects of low-level exposure, with emphasis on fetal exposure from maternal transfer. In particular, results from the epidemiological studies in the Faroe and Seychelle Islands continue to advance scientific understanding of the effects of dietary exposure to methylmercury before birth or during early childhood. Other sublethal effects of methylmercury exposure have been recently recognized, including endocrine disruption, organ dysfunction, cardiovascular disease, and immune suppression; however, the doses producing such effects and the dose-response relations have not been determined. Methylmercury exposure can be substantial in biota atop aquatic food webs, and the results of recent descriptive and experimental studies imply that the reproduction and fitness of certain fish and wildlife could be adversely affected by exposure to environmentally realistic concentrations of methylmercury.

The Key Question posed to this panel: What is the evidence that humans, fish, wildlife, and other biota are being adversely affected by exposure to methylmercury?

Panel Chair: Donna Mergler, Canada

Panelists: Henry Anderson, USA; Laurie Chan, Canada; Kathryn Mahaffey, USA; Michael Meyer, USA; Michael Murray, USA; Mineshi Sakamoto, Japan; Mark Sandheinrich, USA; Anton Scheuhammer, Canada; Alan Stern, USA



Credit: Michele P. Woodford

S-HR-5: Mercury in Dental Amalgam: Health, Environmental and Management Aspects 1

Organizers: Lars Barregard, Göteborg University, Sweden; P. L. Fan, American Dental Association, USA; Ulf Lindh, Uppsala University, Sweden

T-2: Long-Term Effect of Amalgam Removal on Levels of Inorganic and Organic Hg in Blood and of Total Hg in Urine.

Stefan Halbach (Presenting Author), Wolfgang Köhler, Sandra Vogt, Gerhard Welzl, Dieter Melchart, Leo Kremers, Thomas Zilker

T-3: Total Mercury in Human Hair and Nail: Amalgam Fillings as Exposure Factor

Abbas Esmaili Sari (Presenting Author), Seyed Mahmoud Ghasempouri, Gholamreza Zolfaghari

T-4: Biological Monitoring Exposure to Mercury among Iranian Dentists

Abbas Esmaili Sari (Presenting Author), Gholamreza Zolfaghari, Seyed Mahmoud Ghasempouri

T-5: Allergy to Inorganic Mercury in Patients without Amalgam Fillings—Sensitization *in utero*?

Elizabeth Valentine-Thon (Presenting Author), Sybille Kreisel, Max Staudinger, Friedrich Witzig

T-6: The Impact of Dental Amalgam on Mercury Levels in Kidneys

Gerd Sällsten (Presenting Author), Thomas Lundh, Elisabeth Fabricius-Lagging, Lars Barregard

T-7: Effect of Dental Amalgams on Urinary Mercury—Findings of a Three-Country Interdisciplinary Project (EMECAP)

Dorota Jarosinska (Presenting Author), Gerd Sällsten, Barbara Mazzolai, Lars Barregård

T-8: Evaluation of Amalgam Separators

Hanu Batchu (Presenting Author)

T-9: Management of Amalgam Waste in Large Dental Treatment Facilities

Mark Stone (Presenting Author)

S-BT-1: Critical Processes Controlling Mercury Bioaccumulation, Trophic Transfer and Distribution in Food Webs 2

Organizers: Robin Stewart, US Geological Survey; Celia Chen, Dartmouth College, USA

T-10: Mercury Accumulation in Fish from Lakes of the Boreal Forest

Céline Surette (Presenting Author), M. Robin Anderson, Marc M. Lucotte, Roman Teisserenc, Marie-Julie Roux, Mélyssa Lavigne

T-11: Trophic Effects on Mercury Concentrations in Landlocked Arctic Char (*Salvelinus alpinus*) from Four Remote Lakes in the Canadian High Arctic

Nikolaus Gantner (Presenting Author)

T-12: Trophic Enrichment of Methylmercury in Aquatic Food Webs of the San Francisco Bay Delta: How Important Is Biology and Food Web Structure?

A. Robin Stewart (Presenting Author), Karen Higgins, Paul, C. Pickhardt, Marie-Noële Croteau, Andrew Heyes

T-13: Benthic-Biotic Methylmercury Relationships in Chequamegon Bay (Wisconsin), Lake Superior

Jacob Ogorek (Presenting Author), Roger Haro, Kris Rolfhus, James Wiener

T-14: Mercury Distribution and Impacts in Penobscot Bay, Maine

Stephen Jones (Presenting Author)

T-15: Mercury Cycling during a Spring Phytoplankton Bloom in San Francisco Bay

Allison Luengen (Presenting Author), Nicolas Bloom, A. R. Flegal

T-16: Mercury Bioaccumulation and Transfer in Periphyton of Eight River Ecosystems in the USA

Amanda Bell (Presenting Author), Barbara Scudder

T-17: Mercury Bioaccumulation in Stream Ecosystems: How Important Are Food-Web Processes?

Lia Chasar (Presenting Author), Barbara Scudder, Robin Stewart, Amanda Bell

S-SA-1: Air Surface Exchange of Mercury in Terrestrial Ecosystems 1

Organizers: Mae Gustin, University of Nevada-Reno, USA; Frank Marsik, University of Michigan, USA; Daniel Obrist, University of Basel, Switzerland

T-20: A Simple Field Method to Determine Mercury Volatilization from Soils

Anja Stubbe (Presenting Author), Frank Böhme, Jörg Rinklebe, Hans-Joachim Stärk, Rainer Wennrich, Sibylle Mothes, Heinz-Ulrich Neue

T-21: The Role of Humic Matter, Clay and Soil Constituents on the Emission of Mercury

Conrad Maclair (Presenting Author), Julie Layshock, Anthony Carpi

T-22: Evaluating the Role of Light on the Soil Mercury Emissions Process: A Comparison of the Emission of Divalent and Elemental Mercury

Daniel Cocris (Presenting Author), Allan Frei, Anthony Carpi

T-23: UV Light and Soil Mercury Emissions: Identifying the Wavelength of Light Important in the Process

Rachel McCloskey (Presenting Author), Anthony Carpi

T-24: Assessing the Potential for Re-Emission of Mercury Deposited in Precipitation from Arid Soil Using a Stable Isotope

Jody Ericksen (Presenting Author), Mae Sexauer Gustin, Steve Lindberg, Shane Olund, David Krabbenhoft

T-25: Sensitivity of the Global Atmospheric Cycling of Mercury to Emissions

Christian Seigneur (Presenting Author), Kristen Lohman, Mae Gustin, Steve Lindberg

T-26: Six Months of Continuous Mercury Flux and Speciation Measurements at Alert, Nunavut, Canada

(January 2005-June 2005)

Frank Cobbett (Presenting Author), Alexandra Steffen, Bill Van Heyst

T-27: Mercury Flux Measurements from Abandoned Gold Mine Tailing Sites in Nova Scotia, Canada

Robert Tordon (Presenting Author), John Dalziel, Stephen Beauchamp

T-28: Mercury Wet and Dry Depositions in the Maple Forest

Ripon Banik (Presenting Author), Laurier Poissant, Martin Pilote, Conrad Beauvais, Hong Zhang

Plenary: Health Risks and Toxicological Effects of Methylmercury

T-29: Symptoms of Newly-Examined Residents around Minamata City Nearly 50 Years after the Outbreak of Minamata Disease

Shigeru Takaoka (Presenting Author), Yoshinobu Kawakami, Kazuhisa Okuda

T-30: Sensory Disturbance of Minamata Disease (Methylmercury Poisoning) Patients: From the Neuropathological Point of View

Komyo Eto (Presenting Author), Akira Yasutake, Masumi Sawada, Hidehiro Tokunaga

T-31: Effects of Dietary Nutrients on Methylmercury Neurotoxicity

Ellen Lye (Presenting Author), Eric Lok, Rekha Mehta, Laurie HM Chan

T-32: Difference in Methylmercury Exposure to Offspring during Gestation and Breast-Feeding; Animal and Human Studies

Mineshi Sakamoto (Presenting Author), Machi Kubota

T-33: Interactions of MeHg and Fish Oil on Cardiovascular Functions in a Rodent Model

Carmen Teodorescu, Margaret Craig-Schmidt, M. Christopher Newland (Presenting Author)

T-35: Tohoku Study of Child Development, a Cohort Study to Examine the Effects of Perinatal Exposures to Methylmercury and Environmentally Persistent Organic Pollutants on Neurobehavioral Development in Japanese Children: The Association of Neonatal Neurobehavioral Status with Maternal Hair Mercury Concentration

Keita Suzuki (Presenting Author)

T-36: Behavioral Toxicity in Prenatal Methylmercury Exposure in *Macaca fascicularis*

Koji Murao (Presenting Author), Junji Walamiya, Ken-Ichiro Miyamoto

T-37: Development and Application of Biochemical Markers for Mercury in Humans

Christopher Stampler (Presenting Author), Nadia Abdelouahab, Donna Mergler, Vanier Claire, Laurie H.M. Chan

T-38: Electrochemical Analysis of Interaction between Elemental Mercury and Sulfhydryl Compounds in Aqueous Solution

Megumi Yamamoto (Presenting Author), Thirapon Charoenraks, Amara Apilux, Atsuhiko Nakano, Hidemitsu Pan-Hou, Masaaki Tabata

T-39: Trigeminal Nerve Pathology and Its Pathogenesis in Methylmercury-Intoxicated Rats

Masumi Sawada (Presenting Author), Masatake Fujimura, Akira Yasutake, Komyo Eto

T-40: Long-Term Exposure to Low-Concentration Methylmercury Induces Neuronal Cell Death via Neurite Retraction in Rat Cultured Neuron

Masatake Fujimura (Presenting Author), Masumi Sawada, Akihiko Takashima

S-SC-3: Contamination and Native Peoples—Cultural, Social, Ecological and Human Health

Organizers: Catherine O'Neill, Seattle University School of Law, USA; John Persell, Minnesota Chippewa Tribe Research Laboratory, USA

T-41: Reconstructing Historical Mercury Exposure from Beluga Whale Consumption among Inuit in the Mackenzie Delta

April Kinghorn (Presenting Author), Laurie Chan, Murray Humphries, Peter Outridge

T-42: Innu Food Consumption Profile: Benefits of Traditional Food in Relation to Body Mass Index.

Laura Atikessé (Presenting Author), Sylvie Boucher de Grosbois, Mélissa St-Jean

T-43: Blood Hg and Associated Contaminants Levels in Relation with Blood Thyroid Hormones, TSH and PRL Levels in an Innu Community (Labrador)

Mélissa St-Jean (Presenting Author), Sylvie Boucher de Grosbois, Laura Atikessé, Mary Pia Benuen, Basile Penashue

T-44: Spatial and Temporal Trends in Mercury Content of Walleye from Northern Wisconsin Lakes

Eric Madsen (Presenting Author)

T-45: Communicating Tribal Fish Consumption Advisories through Geographic Information Systems (GIS)

Esteban Chiriboga (Presenting Author)

Environmental Biogeochemistry 2**T-46: Quantitative and Qualitative Analysis of Mercury in the Marine Sediments of Kangan Area (Northern Part of Persian Gulf)**

Syd Mohammad Taghi Sadati Pour (Presenting Author), Marzieh Eslami, Pourya Dorvar, Mohammad Nik Godazi

T-47: Assessment of Post-Depositional Transport and Transformation of Mercury in Carbon-Rich Lake Sediment

James Hurley (Presenting Author), Christopher Babiarz, Shawn Chadwick, David Krabbenhoft

T-48: Sources of Methylmercury to a Boreal Lake: Implications from a Well-Constrained Hypolimnetic Mass Balance

Christopher Babiarz (Presenting Author), Shawn Chadwick, James Hurley, David Krabbenhoft, Michael Tate, Helen Manolopoulos

T-50: Sulfate versus Sulfide Controls on Hg Methylation: A Compilation of Field and Experimental Data from Multiple Ecosystems

Cynthia Gilmour (Presenting Author), Andrew Heyes, Carl Mitchell, Brian Branfireun

T-51: Seven Years Increase of Methyl Mercury in Runoff after Clear-Cutting at Gårdsjön, Sweden

Hans Hultberg (Presenting Author), John Munthe

T-52: Distribution of Mercury and Methylmercury in Sediments of the Mediterranean Sea

Nives Ogrinc (Presenting Author), Joze Kotnik, Vesna Fajon, David Kocman, Suzana Zizek, Milena Horvat, David Amouroux, Mathilde Monperrus

T-53: Sulfate-Reducing Bacterial Community Structure in Hg-Methylating Freshwater Sediments

Eva Sedo (Presenting Author), Eric Roden

T-54: Methyl Mercury Production in Two California Delta Freshwater Ponds

Elizabeth Sassone (Presenting Author), Mark Stephenson, Kenneth Coale

T-55: Species Transformation of Mercury in Wet-Dry Alteration Soils in Drawdown Zone of Three Gorges Reservoir, China

Jinyang Zhang, Dingyong Wang (Presenting Author), Lei He

T-56: Assessing Sulphate and Carbon Controls on Mercury Methylation in Northern Peatlands: An *in situ* Mesocosm Approach

Carl Mitchell (Presenting Author), Brian Branfireun, Randall Kolka, Susitha Wanigaratne

T-57: Effects of Microbiological Activity on Hg(0) Emission in Uncontaminated Terrestrial Soils

Johannes Fritsche (Presenting Author), Daniel Obrist, Christine Alewell

T-59: Influence of Forest Fires on Levels of Mercury in Forest Soils, Lake Superior Region, USA

Laurel Woodruff (Presenting Author), William Cannon

T-60: Impact of Prescribed Fire on Mercury Cycling in Southeastern U.S. Forests

Ralph DiCosty (Presenting Author), Mac Callahan Jr., John Stanturf

T-61: Impact of Logging on Hg and MeHg Export from Boreal Watersheds

Andrew Heyes (Presenting Author), Craig Allan

S-RE-3: Inputs, Transport, Transformations and Fate of Atmospheric Mercury in Complex Landscapes

Organizers: Charles Driscoll, Syracuse University, USA; Brian Branfireun, University of Toronto at Mississauga, Canada; Andrew Heyes, University of Maryland, USA

T-62: Hot Spots of Mercury Methylation in Northern Peatlands: Spatial and Seasonal Variability

Carl Mitchell (Presenting Author), Brian Branfireun, Andrew Heyes, Randall Kolka

T-63: Is There Chronic Enhancement of Mercury Methylation from Prolonged Sulfate Addition to an Experimental Wetland?

Jill Coleman Wasik (Presenting Author), Daniel Engstrom, Edward Swain, Bruce Monson, Jeff Jeremiason, Randy Kolka, Carl Mitchell, Brian Branfireun, James Almendinger

T-64: The Response of Mercury Species in Streamwater to Storm Events within a Northern Forest Landscape

Joseph Bushey (Presenting Author), Pranesh Selvendiran, Patrick McHale, Charles Driscoll, Myron Mitchell

T-65: Mercury Dissolution Studies in Wetland Soils as a Function of pE

Stefan Grimberg (Presenting Author), Matthew Fox, Marilyn Mayer

T-66: Mercury Concentrations in Storm Water and Correlation with Landscape Coverage in the Sinclair-Dyes Inlet Watershed, Washington, USA

Jill Brandenberger (Presenting Author), Chris May, Gary Gill, Robert Johnston, Jerry Sherrell

T-67: Effects of Urbanization on Mercury Deposition and Accumulation in New England, USA

Ann Chalmers (Presenting Author)

T-68: Size-Segregated Particulate Mercury Measurements in Steubenville, Ohio and Detroit, Michigan, USA

Mary Lynam (Presenting Author), Matthew Landis

T-69: The Impact of Aerosol Composition on the Gas to Particle Partitioning of Reactive Mercury in the Atmosphere

Andrew Rutter (Presenting Author), James Schauer

T-70: Mercury Dry Deposition in Arizona

Vasanti Deshpande (Presenting Author), Jennifer Hummer

T-71: Atmospheric Mercury Deposition in the San Francisco Bay Area

Donald Yee (Presenting Author), Meg Sedlak, Andy Lincoff, Peter Husby

Atmospheric Transport and Deposition 2**T-72: Dry Deposition of Atmospheric Mercury to the Mediterranean Basin**

Amy Gildemeister (Presenting Author), Nicola Pirrone, Gerald Keeler

T-73: Wet Deposition of Trace Metals at Selected MDN Sites

Robert Brunette (Presenting Author), Gerard Van der Jagt

T-74: Measurements of Ambient Mercury Levels and Deposition Fluxes in Urban/Suburban and Background Areas in China

Xiaoshan Zhang (Presenting Author)

T-75: Distribution of Atmospheric Mercury Species in Changbai Mountain in Northeast China

Qi Wan (Presenting Author), Xinbin Feng, Wei Zheng, Julia Lu

T-76: Total Particulate Mercury in the Atmosphere of a Residential Area in the City of Guiyang, People's Republic of China

Wei Zheng (Presenting Author), Xinbin Feng

T-77: Total Gaseous Mercury in an Urban and Background Area in Southern Finland

Katriina Pyy (Presenting Author), Jussi Paatero

T-78: Isotopic Mass Dependent Fractionation of Mercury during Evaporation

Wang Zheng (Presenting Author)

T-79: Annual Distribution of Atmospheric Mercury Species in the Urban Atmosphere

Julia Lu (Presenting Author)

T-80: Long-Term Observations of Total Gaseous Mercury at the Cape Point Gaw Station, South Africa

Franz Slemr (Presenting Author), Ernst Brunke, Casper Labuschagne

T-81: Atmospheric Mercury at a Coastal Site in the South of Italy: Overview of a Six-Year Observations Programme

Francesca Sprovieri (Presenting Author), Franco Cofone, Amerigo Armentano, Nicola Pirrone

T-82: Anthropogenic Mercury in Air, Water and Bottom Sediments of North East Asia Marginal Seas

Maxim Ivanov (Presenting Author), Kirill Aksentov

T-83: Atmospheric Particulate and Reactive Gaseous Mercury Measurement in a Background Site in the East Part of Minya Gonga Mountain, China

Xuewu Fu (Presenting Author), Xinbin Feng

T-84: Atmospheric Gaseous Mercury Concentrations in East Slope of Minya Konka Mountain, Sichuan, China

Xuewu Fu (Presenting Author), Xinbin Feng

S-HR-4: Contributions of Wildlife Toxicology to Environmental Mercury Science and Policy 1

Organizers: Tony Scheuhammer, Environment Canada; Kevin Kenow, US Geological Survey

T-85: Mercury Concentration in Different Tissues of Common Cormorant (*Phalacrocorax carbo*) in Fereydoonkenar Wildlife Refuge, North of Iran

Abbas Esmaili Sari, Seyed Mahmoud Ghasempouri, Sohrab Mazloomi, Behrooz Behroozirad (Presenting Author)

T-86: Mercury Concentrations in Feathers of Eighteen Species of Birds in the Southwest of Iran

Gholamreza Zolfaghari, Seyed Mahmoud Ghasempouri (Presenting Author), Abbas Esmaili Sari, Bahram Hassanzadeh Kiabi

T-87: Effects of Mercury Exposure on the Health and Fitness of Captive-Reared Common Loon (*Gavia immer*) Chicks

Kevin Kenow (Presenting Author), Michael Meyer, Randy Hines, Francois Fournier, William Karasov, David Hoffman, Keith Grasman, Annette Gendron-Fitzpatrick, Marilyn Spalding, John Bickham

T-88: Patterns and Consequences of in ovo Exposure to Methylmercury in Common Loons

Kevin Kenow (Presenting Author), Michael Meyer, Ronald Rossmann

T-89: Mercury Trends in Seabird Eggs from the Canadian Arctic: 1975-2003

B.M. Braune (Presenting Author), K.A. Hobson, A.J. Gaston, M.L. Mallory, H.G. Gilchrist

T-90: Mercury Concentrations in Feathers from Iran Birds: Influence of Trophic Level, Feeding Strategy and Taxonomic Affiliation

Seyed Mahmoud Ghasempouri (Presenting Author), Abbas Esmaili Sari, Gholamreza Zolfaghari, Bahram Hassanzadeh Kiabi

T-91: Mercury Dynamics in Waterbirds: Influence of Reproductive Status and Sex

Collin Eagles-Smith (Presenting Author), Josh Ackerman, Terry Adelsbach

T-92: Hg Correlations among Six Tissues in Four Species of Waterbirds Vary by Season and Taxa

Collin Eagles-Smith (Presenting Author), Josh Ackerman, Terry Adelsbach, John Takekawa, Carloyn Marr

T-93: Hg Concentrations in Chicks versus Adult Avocet and Stilts: Spatially Explicit Bioaccumulation Inferred via Radio Telemetry

Collin Eagles-Smith (Presenting Author), Josh Ackerman, Terry Adelsbach, John Takekawa, Carloyn Marr

T-94: Mercury Concentrations Vary among Waterbird Foraging Guilds and Locations in San Francisco Bay

Collin Eagles-Smith (Presenting Author), Josh Ackerman, Susan De La Cruz, Terry Adelsbach, John Takekawa, A. Keith Miles

Bioaccumulation and Trophic Transfer 2

T-96: Mercury Concentrations in Free-Ranging Bottlenose Dolphin (*Tursiops truncatus*) Populations along the Southeast Atlantic Coast

Hui-Chen Stavros (Presenting Author), Gregory Bossart, Jeff Adams, Patricia Fair

T-97: Modelling and Characterization of Mercury Bioaccumulation by Plants in Almadén (Spain), by Means of Langmuir Equations

Jose Antonio Molina, Jose María Esbri, Manuel Carmona, Pablo Higuera (Presenting Author)

T-98: Biotic Mercury Contamination in a Mine-Dominated Ecosystem (Clear Lake, California) is Decoupled from Bulk Inorganic Mercury Loading

Thomas Suchanek (Presenting Author), Collin Eagles-Smith, E. James Harner

T-99: Influence of Lake Sediment Sources of Hg on Tissue Mercury Burdens in Specific Ontario Fish Species over a 27-Year Period (1976-2003)

Eric DeLong (Presenting Author), Linda Campbell, Greg Mierle, Wolfgang Scheider, Al Hayton

T-100: Factors Influencing Mercury Bioavailability in the Dniester River (Dubasari Reservoir)

Vera Munteanu (Presenting Author)

T-101: What Are the Sources of Elevated Mercury Concentrations in Fish from the St. Lawrence River at Cornwall?

Adrienne Fowlie (Presenting Author), Peter Hodson, M. Brian C. Hickey

T-102: Histopathological Analysis of Gills and Intestine for the Impact of Mercury and Cobalt in a Teleost, *Cirrhinus mrigala*
Rajender Gupta (Presenting Author)

T-103: Symptomatic Analysis of Sublethal Effects of Mercury in a Teleost Fish *Cirrhinus mrigala*

Krishan Lal Jain (Presenting Author)

T-104: Long Term Time Trend in Mercury Feathers of Falcons and Eagles

Rune Dietz (Presenting Author), Frank Riget, David Boertmann, Christian Sonne, Morten Olsen, Jon Fjeldsø

T-105: Mercury in Bald Eagle Eggs from Maine—Present and Past

Steven Mierzykowski (Presenting Author), Charles Todd, William Hanson, Christopher DeSorbo, David Evers

T-106: Distribution of Mercury in Different Tissues of Frigate Tuna (*Auxis thazard thazard*) from the Atlantic Coastal Waters of Ghana, Gulf of Guinea

Anthony A. Adimado (Presenting Author)

T-107: Recreational Fish Mercury Levels and Consumption Rates in Northern Gulf of Mexico, USA

Kimberly Warner (Presenting Author)

T-108: Mercury in Fish and Plankton Communities of Samuel Hydroelectric Reservoir, Rondônia, Amazon

Elisabete Lourdes do Nascimento, Ronaldo de Almeida, João Paulo de Oliveira Gomes, Ronaldo Cavalcante Oliveira, Dario Pires de Carvalho, Roberto Keidi Miyai, Wanderley Rodrigues Bastos (Presenting Author), José Vicente Elias Bernardi, Ene Glória da Silveira

T-109: Mercury Contamination in Forage Fish of Wadeable Streams in the Southeastern United States

Peter Kalla (Presenting Author), Jerry Ackerman, Eddie Bonnell

T-110: Bioaccumulation of Mercury in Benthic Communities of a River Ecosystem, Affected by Mercury Mining

Suzana Žižek (Presenting Author), Milena Horvat, Mihael J. Toman, Darija Gibičar, Vesna Fajon

T-111: Hg Speciation in Zooplankton in Open and Coastal Mediterranean Waters

Suzana Žižek (Presenting Author), Milena Horvat, Jože Kotnik, Olja Vidjak, Tomislav Zvonarić, Nicola Pirrone

T-112: Mercury Distribution in Different Fish Species Representing Different Trophic Levels from the Atlantic Coastal Waters of Ghana

Ray Bright Voegborlo (Presenting Author)

Plenary: Health Risks and Toxicological Effects of Methylmercury

T-113: National Seafood Mercury Testing Project

Michael Bender (Presenting Author)

T-114: EPA's National Assessment of Mercury in Lake Fish Tissue

Leanne Stahl (Presenting Author)

T-115: Risk Communication about Mercury in Fish in Northern California

Alyce Ujihara, Jay Davis (Presenting Author), Jessica Kaslow, May Lynn Tan, Sun Lee, Elana Silver, Lori Copan

T-116: Risk of Methylmercury and Dioxin versus Benefits of Omega-3 Fatty Acids in Finnish Fish

Olli Leino (Presenting Author)

T-117: Study on the Methylmercury and Total Mercury Concentrations in Fishes

Xiaojie Liu (Presenting Author)

T-118: Interpretation of the U.S. EPA Reference Dose for Methylmercury: The Benchmark Dose in Context

Rita Schoeny (Presenting Author), Kathryn Mahaffey, Deborah Rice

T-119: Effects of Exposure to Developmental Methylmercury and Lifelong DHA on Discrimination Reversal Performance during Adulthood and after Aging

Elliott Paletz (Presenting Author), Jeremy Day, Margaret Craig-Schmidt, M. Christopher Newland

T-120: Pilot Study of Intrauterine Exposure to Methylmercury in Eastern Aegean Islands, Greece

Darija Gibicar (Presenting Author), Milena Horvat, Sheena Nakou, Jasmin Sarafidou, Janice Yager

T-121: Trends in Mercury in Hair of Greenlandic Polar Bears (*Ursus maritimus*) during 1892-2001

Rune Dietz (Presenting Author), Frank Riget, Erik Born, Christian Sonne, Philippe Grandjean

T-122: Developing an Exposure Profile of Mercury in Salt Marshes of New England Using Saltmarsh Sharp-tailed Sparrows.

Oksana Lane (Presenting Author), Kathleen O'Brien, David Evers, Thomas Hodgman, Andrew Major

T-123: Accumulation of Hg and Other Heavy Metals in the Javan Mongoose, *Herpestes javanicus*, Captured on Amamioshima Island, Japan

Sawako Horai (Presenting Author)

Sources and Emissions 1

T-125: A Comparison of Methods to Estimate Mercury Emissions during Wildfires

Abir Biswas (Presenting Author), Joel Blum, Jerry Keeler

T-126: Analysis of Mercury Contribution from Global Anthropogenic Sources as Reflected by Emissions Inventories 1990-2000

Didier Davignon (Presenting Author), Ashu Dastoor

T-127: Mercury Emission and Deposition Reductions under the New England Governors' and Eastern Canadian Premiers' Mercury Action Plan

C. Mark Smith (Presenting Author), Carol Rowan-West, John Shea, Michael Hutcheson, John Graham, Jung-Hun Woo, Emily Savelli

T-128: European Emissions of Mercury Derived from Long-Term Observations at Mace Head, on the Western Irish Coast

Franz Slemr (Presenting Author), Ralf Ebinghaus, Peter Simmonds, Gerard Jennings

T-129: Study of Spatial-Temporal Variation of Atmospheric Mercury Based on Geostatistics—A Case Study In Beibei, Chongqing, China

Dingyong Wang (Presenting Author), Chunxiao Wang, Lei He

T-130: Mercury Levels in World Trade Steam Coal

Ruud Meij (Presenting Author), Henk Te Winkel

T-131: Mercury Speciation and Emission from Coal Combustion in Guiyang, Southwest China

Shunlin Tang (Presenting Author), Xinbin Feng

T-132: Mercury in the System of Cement Clinker Production and Emissions Control

Tanja Ljubič Mlakar (Presenting Author), Milena Horvat, Jože Kotnik, Zvonka Jeran, Tomaž Vuk, Tanja Mrak, Vesna Fajon, Radojko Jačimovič

T-133: Emissions of Oxidized Mercury at a Hazardous Waste Incinerator

Carl-Johan Löthgren (Presenting Author), Sven Andersson

S-RE-5: Bases for Remediation Decisions at Mercury-Contaminated Soil and Sediment Sites

Organizers: Gary Bigham and Betsy Henry, Exponent, USA

T-134: An Overview of Mercury Contamination in Sediments—Case Studies

Sandip Chattopadhyay (Presenting Author)

T-135: Mobilization and Transport of Mercury in Almadén Mining District (Spain)

Jose María Esbrí, Pablo Higuera (Presenting Author)

T-136: High Nitrate Inputs to Help Remediate a Mercury Contaminated Lake

Svetoslava Todorova (Presenting Author), Charles Driscoll, David Matthews, Steven Effler

T-137: Total and Methyl Mercury Diffusion from Contaminated Sediments in the St. Lawrence River near Cornwall, Ontario, Canada

Tania DeLongchamp, David Lean (Presenting Author)

T-138: Immobilization of Mercury in Contaminated Soils Using Aluminum-Rich Water Treatment Residuals: A Cost-Effective Remediation Approach?

Anna Hovsepian (Presenting Author), Jean-Claude Bonzongo

T-139: Assessment of Natural Resource Damages at the New Almaden Mercury Mining District, California

Nicholas Gard, Gary Bigham (Presenting Author), David Drury

T-140: Historic Mercury Contamination from Gold Mining Activities in South Brazil

Maria Heloisa Pestana (Presenting Author), Jerusa Dames, Milton Formoso

Advances in Analytical Chemistry 2

T-141: The Accuracy and Comparability of the Results Obtained for Total Mercury in Solid Environmental Samples by Various Analytical Methods: Comparative Study

David Kocman (Presenting Author), Darija Gibičar, Radojko Jaćimović, Milena Horvat

T-142: Determination of Organomercury in Soil and Sediment Using Atomic Absorption Spectrometry

Kohji Marumoto (Presenting Author), Akito Matsuyama, Hirokatsu Akagi

T-143: Recent Advancements in the Determination of Methylmercury in the Environment

Kerry Tate (Presenting Author)

T-144: Measurements of Reactive Gaseous Mercury Using a KCl Denuder with Analysis by Sequential Two Photon-Laser Induced Fluorescence

Dieter Bauer, Deanna Donohoue, Anthony Hynes (Presenting Author)

T-145: Application of the Atomic Absorption Spectrometry by Pyrolysis for Total Mercury Analysis in Organic Samples

Luiz Roberto, Martins Pedroso, Ana Paula Rodrigues, Alinne Ramos, Karen Muniz, Edson D. Bidone, Zuleica C. Castilhos (Presenting Author)

T-146: Test and Application of a Diffusive Sampler for Total Mercury in Air

Ulla Hageström (Presenting Author), Martin Ferm, John Munthe, Ingvar Wängberg

T-147: Further Development and Quality Control of a Dry Mercury Speciation Method

Jens Korell (Presenting Author), Hanns-Rudolf Paur, Helmut Seifert

T-148: Mercury in Collection Geochemical Samples

Yury Tatsy (Presenting Author), Valentin Oreshkin, Vladimir Sevryukov, Igor Bezsudnov

T-149: Determination of Inorganic and Organic Mercury in Industrial Waste Water and Environmental Water Using Fully-Automated Reduction-Vaporization Mercury Analyzer

Masashi Taguchi (Presenting Author), Ryo Hasegawa, Toshiyuki Toyoguchi, Munehiro Hoshino

T-150: A Comparison of Preconcentration Trap Materials for Use in Determination of Monomethyl Mercury by Cold Vapor Atomic Fluorescence Spectroscopy

Jacob Meyer (Presenting Author)

T-151: Direct Zeeman AAS Determination of the Mercury Concentration in Natural Hydrocarbon Gases of Complex Composition

Vladimir Ryzhov (Presenting Author), Sergey Pogarev, Nikolay Mashyanov, Sergey Sholupov

T-152: Validation of an Automated System for Methyl Mercury Analysis using Cold Vapor Atomic Fluorescence Spectroscopy with Gas Chromatography Separation

Paul Danilchik (Presenting Author), Biniamw Zelelow, Colin Davies

Health Effects of Methylmercury and Inorganic Mercury 1

T-153: 2004 United States FDA/EPA Consumer Advisory: What You Need to Know about Mercury in Fish and Shellfish

Jeffrey Bigler (Presenting Author)

T-154: Interactive Effects of Dietary Mercury and Selenium on Elemental Tissue Distributions

Laura Raymond (Presenting Author), Carla Ralston, Nicholas Ralston

T-155: A Preliminary Study of Mercury Exposure and Blood Pressure in the Brazilian Amazon

Myriam Fillion (Presenting Author), Donna Mergler, Carlos José Sousa Passos, Fabrice Larribe, Mélanie Lemire, Jean Remy Davée Guimaraes

T-157: Effects of Low Mercury Exposure from Dental Amalgam on Children's Health

Xibiao Ye (Presenting Author)

T-158: A Computer Simulation of Mercury Levels in Vaccinated Children

Joan Shepherd (Presenting Author), Guim Kwon, H. Felix Lee

T-159: New Evidence on the Effects of Tea on Mercury Toxicokinetics

René Canuel (Presenting Author), Sylvie Boucher de Grosbois, Marc Lucotte, Atikessé Laura, Catherine Larose

T-160: Heavy Metal Load, Metal Hypersensitivity and Genetic Detoxification Defects in Electro-Sensitive Patients

Margareta Griesz-Brisson (Presenting Author), Gabriel Joachim-Brisson

T-161: Mercury Burden, a Prognostic Factor of Breast Cancer?

Wen-Sheng Huang (Presenting Author), Sayfone Phounsavan

T-162: Environmental Contamination of Mercury in the Philippines: Its Impact to Health and the Environment

Ana Trinidad Rivera (Presenting Author)

T-163: Predicting the Impact of Foods on Mercury Bioavailability

Soon-Mi Shim, Mario Ferruzzi, Young-Cheul Kim, Elsa Janle, Charles Santerre (Presenting Author)

Plenary: Health Risks and Toxicological Effects of Methylmercury

T-165: Adjustment of Mercury Concentrations in Bird Eggs Collected throughout Incubation

Thomas Custer (Presenting Author), Christine Custer

T-166: Variations in Concentration of Mercury and Stable Isotopes among Sections of Bald Eagle Feathers

Jennifer Thomsen (Presenting Author), Christopher Romanek, Charles Jagoe, William Bowerman

T-167: The Toxicological Effects of Dietary Methylmercury on the Maternal Transfer of Antibody to Egg Yolk in Captive American Kestrels (*Falco sparverius*)

Dawn Fallacara (Presenting Author), Richard Halbrook, John French

T-168: Mercury Induced Biochemico Physiological Responses in Fishes

Rajender Gupta (Presenting Author)

T-169: Contrasted Patterns of Hg and Se Accumulation in Amazonian Fish

Delaine Sampaio da Silva, Marc Lucotte (Presenting Author), Hugo Poirier, Serge Paquet, Isabelle Rhéault, Mélanie Lemire, Gabrielle Normand

T-170: Impact of Metabolism and Genetics on Mercury Burdens in Fish

Catherine Larose (Presenting Author), René Canuel, Marc Lucotte, Philip Spear, Bernard Angers, Richard Di Giulio

T-171: Increased Ovarian Follicular Apoptosis in Fathead Minnows Exposed to Dietary Methylmercury

Paul Drevnick (Presenting Author), Mark Sandheinrich, James Oris

T-172: Impact of Chronic Dietary Exposure to Methylmercury on Hydrolysis of Carbohydrates in the Intestine of Roach *Rutilus rutilus*

Golovanova Irina (Presenting Author)

T-173: Mercury Bioequivalence in Muscles and Blood of Four Estuarine Tropical Fish Species

Ana Paula Rodrigues, Alinne Ramos, Karen Muniz, Luiz Roberto Pedroso, Mariana Gonçalves, Nádia Almosny, Michele Longo, Bruno Meurer, Bruno Absolon, Felipe Manzano, Dirceu Teixeira, Nilo Freret, José Andreata, Edson Bidone, Zuleica Castilhos (Presenting Author)

T-174: Methylmercury in Eggs of *Trachemys scripta elegans*: A Bioindicator of MeHg Exposure in Turtle Populations from Two Illinois River Floodplain Lakes

Wade Wimer (Presenting Author), John Tucker, Val Beasley, Christopher Shade, Robert Hudson

T-175: Effects of Elevated Environmental Mercury to Terrestrial Isopods (Crustacea) and Their Gut Microbiota

Nataša Nolde (Presenting Author), Aleš Lapanje, Janez Valant, David Kocman, Tjaša Kanduč, Primož Zidar, Damjana Drobne, Milena Horvat

T-176: Monitoring of Total Hg Exposure Level in Whole Blood and Urine of School Children, Korea

Kim Dae-Seon, Kim Guen-Bae (Presenting Author), Kang Tack-Sin, Lee Jong-Ha

S-EM-1: Bridging the Gap between Empirical Data and Multimedia Modeling

Organizers: Chris Knightes and Elsie Sunderland, US Environmental Protection Agency

T-177: Using Forest Soils Profiles to Estimate Deposition Timeframes and Net Deposition

David Dean (Presenting Author)

T-178: The Mercury Flux of an East Coast Marine Embayment

John Dalziel (Presenting Author), Gareth Harding, Elsie Sunderland

T-179: Bioaccumulation of Methylmercury in the Food Web of the Bay of Fundy, Gulf of Maine

Gareth Harding (Presenting Author), John Dalziel, Elsie Sunderland

T-180: Modeling Mercury Dynamics in Stream Systems with WASP7: Characterizing Processes Controlling Short and Long Term Response

Tim Wool (Presenting Author), Robert Ambrose, Christopher Knightes

T-181: Modeling Processes Controlling Mercury Fate in Watersheds Receiving Atmospheric Deposition—Comparison of Field Scale GLEAMS and Watershed Scale WCS-GBMM

Robert Ambrose (Presenting Author), Ioannis Tsiros, Wool Tim, Ting Dai

T-182: Sensitivity of the CMAQ Mercury Model to Gas-Phase Oxidation Chemistry

Russ Bullock (Presenting Author), Tom Braverman

T-183: Modeling Mercury Bioaccumulation in Largemouth Bass along Water Quality Gradients in Florida Lakes

Ted Lange (Presenting Author), Curtis Pollman, Donald Axelrad

T-184: Assessing Multimedia/Multipathway Human Exposures to Mercury and Methylmercury Using a Probabilistic Source-to-Dose Framework

Sheng-Wei Wang (Presenting Author), Alan Sasso, Sastry Isukapalli, Yu-Ching Yang, Panos Georgopoulos, Valarie Zartarian, Jianping Xue, Thomas McCurdy, Haluk Ozkaynak, Linda Sheldon

T-185: Finding the Optimal Level of Complexity in Food Web Bioaccumulation Modeling Using the Bioaccumulation and Aquatic System Simulator

M. Craig Barber (Presenting Author), John M. Johnston, Natasa Sirmik, Dusan Zagar (Presenting Author), Gregor Petkovsek, Milena Horvat, Matjaz Cetina

T-186: Modeling of Mercury Cycling in Aquatic Environment Using Machine Learning Tools

Natasa Sirmik, Dusan Zagar (Presenting Author), Gregor Petkovsek, Milena Horvat, Matjaz Cetina

S-RE-4: Fluvial Transport and Cycling of Mercury and Methylmercury

Organizers: Mark Brigham, US Geological Survey; Steven Balogh, Metropolitan Council Environmental Services, USA

T-187: Characteristics of Mercury Speciation in Minnesota Rivers and Streams

Steven Balogh (Presenting Author), Edward Swain, Yabing Nollet

T-189: Total Mercury and Methylmercury in Streams Draining Small, Forested Watersheds

James B. Shanley (Presenting Author), Donald H. Campbell, M. Alisa Mast, David W. Clow, Randy J. Hunt, Martin J. Shafer, Paul J. Juckem, Brent T. Aulenbach, Norman E. Peters, Paul F. Schuster, Ann Chalmers, George R. Aiken, Mark C. Marvin-DiPasquale, David P. Krabbenhoft

T-190: Estimating Sediment, Nutrient, and Mercury Loads from Four Western Lake Superior Watersheds Using Continuous In-Stream Turbidity Monitoring.

Elaine Ruzycski (Presenting Author), Richard Axler, George Host, Joseph Mayasich, Jerry Henneck

T-191: Assessing Mercury Methylation Rates in Heterogeneous Streambed Sediment

Michelle A. Lutz (Presenting Author), Mark Marvin-DiPasquale, Mark E. Brigham, Britt D. Hall, Pamela K. Smith, Laura L. Rozumalski, Amanda H. Bell, M. Kate Segreto, David P. Krabbenhoft

T-192: Occurrence and Transport of Mercury and Methylmercury in the Yukon River Basin

John De Wild (Presenting Author), David Krabbenhoft, Mark Olson

T-193: Interaction of Mercury and Organic Matter in the Yukon River Basin

Paul Schuster (Presenting Author), George Aiken, Michael Reddy, David Krabbenhoft, Robert Striegl, John DeWild, Mark Olson, Shane Olund

T-194: Mercury and Methylmercury Fluxes in Urban and Undeveloped Watersheds in Oregon, Wisconsin, and Florida

Dennis Wentz (Presenting Author)

T-195: Spatial Variation in Mercury Concentrations and Fluxes in the Upper Big Thompson Watershed, Colorado

M. Alisa Mast (Presenting Author), Donald H. Campbell, David P. Krabbenhoft

T-196: Mercury Transport in an Alpine Watershed in the Rocky Mountains

Donald Campbell (Presenting Author), M. Alisa Mast, David Clow, David Krabbenhoft, George Aiken

T-197: Agricultural Soils as a Source for Hg Found in Lac St-Pierre

Sébastien Caron (Presenting Author), Marc Lucotte, Steve Garceau

T-198: Mercury Adsorption Properties in Natural Surface Coatings Developed in Huangpu River

Cheng Jin Ping (Presenting Author), Wang Wen Hua

T-199: An *in situ* Mercury Isotope Injection Experiment to Assess Cycling and Transport of Mercury in Streams

Michael Tate (Presenting Author), David Krabbenhoft, Shawn Chadwick, Chris Babiarz, George Aiken, Mark Olson

T-200: Effects of Hydroelectric Reservoir on Mercury Transportation in Wujiang River

Yannan Guo (Presenting Author), Xinbin Feng, Haiyu Yan, Junfang Guo

S-EM-2: How Do You Know That? The Case for Long-Term Monitoring

Organizers: Tamara Saltman and David Schmeltz, US Environmental Protection Agency

T-201: Long-Term Changes in Mercury Concentrations in Fish Collected from the Middle Reaches of the Savannah River

Michael Paller (Presenting Author), James Littrell

T-202: A National Monitoring and Assessment Strategy for Mercury

Stanley B. Durkee, Timothy H. Watkins, Charles French, Marilyn Engle, Arnold M. Kuzmack (Presenting Author), Dwain Winters, John Ackermann, Richard Gillam, Melissa L. Hulting, Dan J. Hopkins

T-203: Mercury Pollution: The Case of Marano and Grado Lagoons (Northern Adriatic Sea, Italy)

Giorgio Mattassi, Sergio Predonzani (Presenting Author), Cinzia De Vittor, Alessandro Acquavita, Fulvio Daris, Enio Decorte, Antonella Zanello, Fabio Barbone

T-204: Study Design Considerations of Monitoring Mercury Levels in Aquatic Biota: Distinguishing Real Trends from Normal Variability

Robin Reash (Presenting Author)

T-205: Trends in Wet Atmospheric Deposition of Mercury in North America

Mark Nilles (Presenting Author), Amy Ludtke

T-206: Measurement of Atmospheric Mercury Species with Manual Collection and Analysis Methods to Support Estimates of Mercury Dry-Deposition Rates in Indiana

Martin Risch (Presenting Author), Eric Prestbo

T-207: Wisconsin Mercury Deposition Network (MDN) and Trends

Bruce Rodger (Presenting Author), David Gay, Eric Prestbo

T-208: Wet Deposition of Mercury in the U.S. and Canada, 1996-2004: Results, Trends and Future Directions of the NADP-Mercury Deposition Network (MDN)

David Gay (Presenting Author), Eric Prestbo, Robert Brunette, Clyde Sweet

T-209: Mercury Monitoring in California Sport Fish: A Historical Review and Recommendations for the Future

Jay Davis (Presenting Author), Letitia Grenier, Aroon Melwani, Shira Bezalel, Jennifer Hunt, Alyce Ujihara, Robert Brodberg

T-210: Birds as Indicators for Monitoring Mercury Trends in North America

David Evers (Presenting Author), Michael Murray, Marti Wolfe, Ed Zillioux, Bill Bowerman, Joanna Burger, Tom Atkeson

T-211: Mercury in Forest Mor Layers—Litter Decomposition at Risk

Lage Bringmark (Presenting Author), Staffan Åkerblom, Ewa Bringmark, Kjell Johansson

T-212: Leech Lake Mercury Monitoring: Mercury in Native Foods

Brandy Toft (Presenting Author)



Credit: James Finley

PLENARY SESSION • 8:30 a.m.

Health risks and toxicological effects of methylmercury

KEY QUESTION: What is the evidence that humans, fish, wildlife, and other biota are being adversely affected by exposure to methylmercury?

BALLROOM A

S-RE-3: Inputs, Transport, Transformations and Fate of Atmospheric Mercury in Complex Landscapes

Organizers: Charles Driscoll, Syracuse University, USA; Brian Branfireun, University of Toronto at Mississauga, Canada; Andrew Heyes, University of Maryland, USA • Moderators: Charles Driscoll and Brian Branfireun

1:20 PM

S-1079: Inputs, Transport, Transformations and Fate of Atmospheric Mercury in Complex Landscapes: Progress and Future Directions
Brian Branfireun (Presenting Author), Charles Driscoll, Andrew Heyes

1:40 PM

S-1320: The Role of Terrestrial Vegetation on Mercury Mobilization to Lakes and the Atmosphere: A Forest Canopy Hg Mass Balance from the METAALICUS Project.

Jennifer Graydon (Presenting Author), Vincent St. Louis, Holger Hintelmann, Steve Lindberg, David Krabbenhoft, Ken Sandilands, Michael Tate

2:00 PM

S-494: Deposition, Re-Emission, and Evasion: Snow Sampling Provides Estimates of Mass Fluxes in Winter at Acadia National Park, Maine, USA
Sarah Nelson (Presenting Author), Ken Johnson, Cynthia Loftin, Kathleen Weathers

2:20 PM

S-976: Mercury and Methylmercury Production and Transport in Watersheds: The Importance of Flow Paths in Boreal Forests
Andrew Heyes (Presenting Author), Brian Branfireun, Carl Mitchell, David Krabbenhoft, Michael Tate

2:40 PM

S-1262: Mercury on the Move - The Sources and Processes Driving Mercury and Methylmercury Export by Streamwater

James B. Shanley (Presenting Author), Ann Chalmers, Paul F. Schuster, George R. Aiken, Mark C. Marvin-DiPasquale, Michael M. Reddy

3:00 PM

S-865: Do Catchment Characteristics Affect Fish Mercury Concentration and Change?

Anna Paloheimo, Matti Verta (Presenting Author), Petri Porvari

S-RE-4: Fluvial Transport and Cycling of Mercury and Methylmercury

Organizers: Mark Brigham, US Geological Survey; Steven Balogh, Metropolitan Council Environmental Services, USA
Moderator: Steven Balogh

4:00 PM

S-804: The Influences of Catchment Soils and Hydrological Flowpaths on Hg and MeHg Delivery to Surface Waters: A Current Synthesis

Kevin Bishop (Presenting Author)

4:20 PM

S-377: Variables Controlling Flow of Total and Methyl Mercury in a Boreal Forest River in South Eastern Sweden—Comparison between the Years of 1996 and 2003

Olof Regnell (Presenting Author)

4:40 PM

S-1181: Role of the Floodplain-River Exchanges in the Transport, Transfer and Speciation of Hg in the Middle Amazon (Brazil)

Laurence Maurice Bourgoin (Presenting Author), Poliana Dutra Maia, Emmanuel Tessier, David Amouroux, Patricia Moreira-Turcq, Isabelle Rhéault

5:00 PM

S-731: The Mackenzie River Basin as a Source of Mercury to the Beaufort Sea

Dan Leitch, Jesse Carrie (Presenting Author), Feiyue Wang, Gary Stern, David Lean, Robie Macdonald

5:20 PM

S-1038: Concentrations and Transport of Total Mercury and Methylmercury in Selected U.S. Streams

Mark Brigham (Presenting Author), Steven Balogh

BALLROOM B

S-HR-4: Contributions of Wildlife Toxicology to Environmental Mercury Science and Policy

Organizers: Tony Scheuhammer, Environment Canada; Kevin Kenow, US Geological Survey • Moderator: Tony Scheuhammer

1:20 PM

S-818: Identification and Evaluation of Biological Mercury Hotspots Impacting Wildlife

David Evers (Presenting Author), Morgan Goodale, Charley Driscoll, Neil Kamman, Tom Clair, Neil Burgess, Melissa Duron, Kathleen Lambert

1:40 PM

S-704: Impacts of Mercury on Wild Birds Breeding in the Florida Everglades

Peter Frederick (Presenting Author), Marilyn Spalding

2:00 PM

S-496: An Evaluation of Mercury Exposure and Effects on Waterbirds along the Lower Carson River in Nevada, 1997-2005

Charles Henny (Presenting Author), Elwood Hill, David Hoffman, Robert Grove, James Kaiser

2:20 PM

S-889: Evaluating the Impact of Methylmercury Exposure on the Common Loon Populations of Wisconsin and the Canadian Maritimes

Michael Meyer (Presenting Author), Kevin Kenow, Neil Burgess

2:40 PM

S-1115: Mercury Legacy to Aquatic Birds in the San Francisco Estuary: Declines from 19th Century Levels Remain Insufficient to Eliminate Mercury Risks to Some Bird Species

Steven E. Schwarzbach (Presenting Author), Josh T. Ackerman, Collin A. Eagles-Smith, John Y. Takekawa, A. Keith Miles, Susan De La Cruz, Terry Adelsbach, Thomas H. Suchanek

3:00 PM

S-261: Toxicological Significance of Mercury Levels in Bird Eggs: Knowns and Unknowns

Gary Heinz (Presenting Author), David Hoffman, Jon Klimstra, Katie Schoen

Sources and Emissions

Moderators: Mark Engle, US Geological Survey; Alexis Cain, US Environmental Protection Agency

4:00 PM

S-1435: The Effects of Soil Temperature and Radiation on Air-Soil Exchange of Mercury in a Controlled Environment

Ripon Banik, Xiaohong Xu (Presenting Author), Paul Henshaw, Laurier Poissant

4:20 PM

S-1436: Mercury Emissions from Gasoline and Diesel Powered On-Road Vehicles

Matthew Landis (Presenting Author), Alan Vette, Michael Christianson, Gerald Keeler

4:40 PM

S-1517: The Intra-Eruptive Volcanic Atmospheric Mercury Emissions

Lawrence Radke (Presenting Author), Hans Friedli

5:00 PM

S-610: Sources of Mercury and Other Trace Metals in Aerosols in Southern Alabama, USA

Mark Engle (Presenting Author), Allan Kolker, David Krabbenhoft, Mark Olson, Ann Mcpherson

5:20 PM

S-714: Mercury Fluxes from Lakes in the Urban Setting of Central New York

Revital Bookman (Presenting Author), Charles T. Driscoll, Daniel R. Engstrom

PANEL CHAIR: Donna Mergler, Canada

PANELISTS: Henry Anderson, USA; Laurie Chan, Canada; Kathryn Mahaffey, USA; Michael Meyer, USA; Michael Murray, USA; Mineshi Sakamoto, Japan; Mark Sandheinrich, USA; Anton Scheuhammer, Canada; Alan Stern, USA



Credit: Dave Krabbenhoft

BALLROOM C

S-EM-1: Bridging the Gap between Empirical Data and Multimedia Modeling

Organizers: Chris Knightes and Elsie Sunderland, US Environmental Protection Agency, USA

Moderator: Gary Foley, USEPA National Center for Environmental Research

1:20 PM

S-718: Overview of Session Goals with Examples of the Evolution of Multi-Media Modeling for Informing Regulatory Decisions at the U.S. Environmental Protection Agency

Christopher Knightes (Presenting Author)

1:40 PM

S-1614: Simulating the Atmospheric Fate and Transport of Mercury Using the NOAA HYSPLIT Model

Mark Cohen (Presenting Author)

2:00 PM

S-717: Challenges and Successes Modeling the Influences of Land Use Changes on Mercury Dynamics

Ioannis Tsiros (Presenting Author), Robert Ambrose, Christopher Knightes

2:20 PM

S-795: Progress Made in Integrating Models and Data to Describe Mercury Cycling in Coastal Ecosystems: A Case Study of the Bay of Fundy

Elsie Sunderland (Presenting Author), Gareth Harding, John Dalziel

2:40 PM

S-621: Modeling the Impact of Anthropogenic Emissions on Ocean Mercury Concentration

Robert Mason (Presenting Author)

3:00 PM

S-784: Uncertainty in Economic Data Used for the Valuation of Reducing Mercury Exposure

Charles Griffiths (Presenting Author), Nicole Owens, Maggie Miller

S-SC-6: How Do We Know that They Know?

Organizer: Johanne Saint-Charles, University of Quebec at Montreal, Canada

Moderator: Johanne Saint-Charles

4:00 PM

S-194: A Communication Perspective on Knowledge Sense Making: Participatory Research on Mercury in the Amazon

Johanne Saint-Charles (Presenting Author), Pierre Mongeau, Mertens Frédéric, Donna Mergler, Robert Davidson, Marc Lucotte

4:20 PM

S-628: Through the Looking Glass: Media Portrayals of Mercury Pollution and Implications for Risk Communication and Risk Reduction

Barbara Knuth (Presenting Author)

4:40 PM

S-891: Fish Advisories in Context: How Physical, Socioeconomic, and Cultural Contexts Affect What People Know—and What They Want to Know—about Fish Contamination

Maria Powell (Presenting Author)

5:00 PM

S-1010: Communicating Health Risk Related to Fish Consumption

Roger Schetagne (Presenting Author), Michel Plante, Stephane Babo

5:20 PM

S-1492: Multidisciplinarity and Knowledge “Transfer”

Frédéric Mertens (Presenting Author), Jean-Rémy Guimarães, Pierre Mongeau, Johanne Saint-Charles, Robert Davidson, Donna Mergler, Marc Lucotte

BALLROOM D

S-SC-3: Mercury Contamination and Native Peoples: Cultural, Social, Ecological and Human Health

Organizers: Catherine O’Neill, Seattle University School of Law, USA; John Persell, Minnesota Chippewa Tribe Research Laboratory, USA

Moderator: Carol Jorgensen, USEPA American Indian Environmental Protection Office, USA

1:20 PM

S-665: Impacts to Tribal Health and Culture of Mercury and Other Contaminants in Columbia Basin Fish.

Stuart Harris (Presenting Author), Barbara Harper

1:40 PM

S-1363: Cultural Impacts of Mercury Contamination on Indigenous Peoples Living in the Western Great Lakes Region of North America

Robert Shimek (Presenting Author)

2:00 PM

S-698: Mercury and Other Contaminants in the Tribal Food Supply

John Persell (Presenting Author)

2:20 PM

S-1397: Reducing Health Risks to the Anishinaabe from Methylmercury

Matt Hudson (Presenting Author), Adam Deweese, Jeffery Foran, Neil Kmiecik

2:40 PM

S-1484: Fish Consumption Rates of Select Anishinaabe Tribes

Adam Deweese (Presenting Author), Neil Kmiecik, Jeffery A. Foran

3:00 PM

S-607: Mercury Contamination and Native Peoples: Law and Policy Issues

Catherine O’Neill (Presenting Author)

Advances in Analytical Chemistry

Moderators: Holger Hintelmann, Trent University, Canada; Ulf Skjellberg, Swedish University of Agricultural Sciences, Sweden

4:00 PM

S-303: In Situ Measurements of Dissolved Methylmercury in Natural Waters Using Diffusive Gradients in Thin Film (DGT)

Olivier Clarisse (Presenting Author), Holger Hintelmann

4:20 PM

S-1386: New Techniques for Quantitative Isolation of MeHg from Difficult Sediment Matrixes: Nitric Acid Leaching and Solid Phase Extraction Coupled to Hg-Thiourea Ion Chromatography CVAFS

Christopher Shade (Presenting Author), Brian Vermillion, Holger Hintelmann, Robert Hudson

4:40 PM

S-441: Analytical Interferences in Studies of Methylation Potential of Mercury in Sediments Using Radiotracers

Sergio Ribeiro Guevara, Suzana Žižek (Presenting Author), Soledad Pérez Catán, Urška Repinc, Milena Horvat

5:00 PM

S-1297: Developments and Recommendations for the High Precision Measurement of Natural Mercury Isotope Variation

Joel Blum (Presenting Author), Christopher Smith, Marcus Johnson, Bridget Bergquist, Abir Biswas

5:20 PM

S-1271: Isotopic Composition of Mercury in Geologic Materials by Multi-Collector ICP-MS

Sarah Stetson (Presenting Author), W. Ian Ridley, Ruth E. Wolf, Richard B. Wanty, Donald L. Macalady

LECTURE HALL

S-HR-5: Mercury in Dental Amalgam: Health, Environmental and Management Aspects

Organizers: Lars Barregard, Göteborg University, Sweden; P. L. Fan, American Dental Association, USA; Ulf Lindh, Uppsala University, Sweden
Moderators: Henry Anderson, Wisconsin Division of Public Health, USA; Kathryn Mahaffey, Washington, DC, USA

1:20 PM

S-597: Mercury from Dental Amalgam - An Overview

Lars Barregard (Presenting Author)

1:40 PM

S-591: Trends in the Global Use of Dental Amalgam

Frederick Eichmiller (Presenting Author)

2:00 PM

S-317: Long-Term Use of Chewing Gum Increases the Uptake from Dental Amalgam

Gerd Sällsten (Presenting Author), Lars Barregard

2:20 PM

S-1619: Randomized Clinical Trial of Neuropsychological and Renal Effects of Dental Amalgam in Children

David Bellinger, Felicia Trachtenberg, Lars Barregard, Mary Tavares, Elsa Cernichiari, David Daniel, Sonja McKinlay (Presenting Author)

2:40 PM

S-1620: Randomized Clinical Trial of Neurobehavioral Effects of Amalgam in Children

Timothy Derouen, Michael Martin (Presenting Author), Brian Leroux, Brenda Townes, James Woods, J. Leitão, A. Castro-Caldas, H. Luis, M. Bernardo, G. Rosenbaum, I. Martins

3:00 PM

S-1134: Ill Health Associated with Exposure to Metals from Dental Restorative Materials—Treatment and Long-Term Effects

Ulf Lindh (Presenting Author)

3:20 PM

Break

4:00 PM

S-1018: The Effects of Synergistic Toxicities and Genetic Susceptibility on the Toxic Effects of Inorganic and Organic Mercury Compounds

Boyd Haley (Presenting Author)

4:20 PM

S-920: Fate of Amalgam Discharged from Dental Offices

Jay Vandeven (Presenting Author), John Zimmerman, Steven Mcginnis

4:40 PM

S-547: Pollution Prevention Using Best Management Practices for Dental Amalgam Waste

P. L. Fan (Presenting Author)

5:00 PM

S-1211: A Novel Approach to Routine Clinical Chemistry Results for Patients with Suspected Side Effects from Metallic Dental Restorative Material—Multivariate Analysis

Peter Frisk (Presenting Author)

5:20 PM

Mercury in Dental Amalgam—Closing Remarks by the Session Organizers

Lars Barregard, P. L. Fan, Ulf Lindh (Presenting in sequence)

MEETING ROOMS K-Q

S-RE-5: Bases for Remediation Decisions at Mercury-Contaminated Soil and Sediment Sites

Organizers: Gary Bigham and Betsy Henry, Exponent, USA
Moderator: Gary Bigham

1:20 PM

S-363: Overview of Remediation Decisions at Mercury-Contaminated Sites

Betsy Henry (Presenting Author), Gary Bigham

1:40 PM

S-660: Drainage Basin-Scale Remediation Strategies for Contaminated Soils and Sediments Due to Past Mercury Mining in Idrija, Slovenia

David Kocman (Presenting Author), Jože Kotnik, Dušan Žagar, Davor Kontić, Tatjana Dizdarevič, Milena Horvat

2:00 PM

S-1295: Recommendations for Rehabilitation of the Almaden Mining District, Spain

Rocio Millan (Presenting Author), Ramon Carpena, Thomas Schmid, M^a Jose Sierra, Elvira Esteban, Roberto Gamarra, Ana Cardona

2:20 PM

S-285: Activities to Contain Mercury Pollution from Entering the River Irtysh in Pavlodar, Kazakhstan

Mikhail Ilyushchenko (Presenting Author), Paul Randall, Trevor Tanton, Artur Akhmetov, R. I. Kamberov, Lyudmila Yakovleva

2:40 PM

S-551: Remediation at a Former Mercury Cell Chlor-Alkali Plant, New York

Imants Reks (Presenting Author), Edward Glaza, Michael Broschart

3:00 PM

S-228: Remediation of a Mercury Cell Chlor-Alkali Plant Site at Squamish, BC Canada

Ralph Turner (Presenting Author), Weldon Bosworth

S-EM-2: How Do You Know That? The Case for Long-Term Monitoring

Organizers: Tamara Saltman and David Schmeltz, US Environmental Protection Agency, USA
Moderator: Tamara Saltman

4:00 PM

S-1445: Tutorial: An Overview of Long-Term Monitoring and Assessment for Mercury

David Schmeltz (Presenting Author)

4:20 PM

S-751: Long-Term Monitoring of Atmospheric Mercury in Canada—Sites, Data Quality, Outcome, and Perspective of the Canadian Atmospheric Mercury Measurement Network (Camnet)

Christian Temme (Presenting Author), Pierrette Blanchard, Alexandra Steffen, Cathy Banic, Stephen Beauchamp, Laurier Poissant, Rob Tordon, Brian Wiens, Ashu Dastoor

4:40 PM

S-463: Mapping Modeled National-Scale Vulnerability to Mercury Loading across the United States: A New Use for Nationally Available and Consistent Aquatic and Terrestrial Datasets

Booth Nathaniel (Presenting Author), David Krabbenhoft, Tamara Saltman

5:00 PM

S-1559: Regional Status and Trends Data for Hg As a Policy Assessment Tool

Steve Kahl (Presenting Author)

5:20 PM

S-1483: Estimating the Health and Economic Benefits of Reducing Human Methylmercury Exposures

Glenn Rice (Presenting Author), James Hammitt



P L E N A R Y S E S S I O N • 8 : 3 0 a . m .

Recovery of mercury-contaminated fisheries

Mercury contamination has degraded the quality of fishery resources in many of the world's inland, coastal, and marine waters. This has diminished the socioeconomic, nutritional, cultural, and recreational benefits derived from these resources. Nearly all of the mercury in fish is methylmercury, a highly toxic compound that readily crosses biological membranes, accumulates in exposed organisms, and biomagnifies in food webs supporting fish production. Consumption of fish is the primary pathway of human exposure to methylmercury in much of the world. Atmospheric deposition is an important source of total mercury in many surface waters, and this mercury is believed to be a substantive source for the production of methylmercury that is accumulated in fish. Analyses of dated cores from many remote and semi-remote areas have shown that most of the mercury accumulating in lake sediment, peat, and glacial ice is from human activities. Reductions in anthropogenic emissions of mercury are, therefore, being considered as a means of decreasing both mercury concentrations in fish and the associated exposures of fish-eating humans and wildlife to methylmercury.

The Key Question posed to this panel: How would methylmercury levels in fish respond to reduced anthropogenic emissions of mercury?

Panel Chair: John Munthe, Sweden

Panelists: R. A. (Drew) Bodaly, Canada; Brian Branfireun, Canada; Charles Driscoll, USA; Cynthia Gilmour, USA; Reed Harris, Canada; Milena Horvat, Slovenia; Marc Lucotte, Canada; Olaf Malm, Brazil



Credit: James Hurley

Advances in Analytical Chemistry 3

W-1: Determining Mercury by Two Procedures, Method 7471A, Classic Digestion with Cold Vapor Analysis and Method 7473, Direct Combustion Generation: A Comparison Study of Solid Environmental Samples such as Mine Tailings, Fish Tissue and Fly Ash

David Pfeil (Presenting Author), Peter Brown, William Grimes, Brad Craig

W-2: Bringing Together USEPA Methods 1631, 245.1, 245.7 and 7473 for the Determination of Mercury in Solids and Liquids

David Pfeil (Presenting Author), Peter Brown

W-3: Atmospheric Mercury Speciation: Innovative Techniques for In-Field Reactive Gaseous Mercury Spiking and Calibration

Philip I. Kilner (Presenting Author), Eric Prestbo, Eric S. Edgerton, Daniel Jaffe

W-4: Digestion Approaches for Simultaneous Determination of Methyl and Mercuric Mercury in Biotic Tissues by Hg-Thiourea Complex Ion Chromatography

Christopher Shade (Presenting Author), Wade Wimer, Robert Hudson

W-5: Effects of a Freeze and Thaw Cycle in Aqueous Environmental Samples on Methyl Mercury Species Transformation

Frank Colich (Presenting Author)

W-6: A Comparison of Fluorinated HDPE Bottles to Teflon(TM) and Glass Bottles for Methyl Mercury Water Sample Storage

Annie Carter (Presenting Author)

W-7: Effect of Frozen Storage Temperature and Duration on Mercury Distribution in Green-Back Mullet (*Liza dussumieri*)

Mahmood Naseri, Masoud Rezaei (Presenting Author), Azra Abedi, Iman Soorinejad

W-8: Bioreporter Bacteria for the Detection of Mercury from Fish Tissue

Robert Burlage (Presenting Author), John Dellinger

W-9: Rapid Testing for Mercury in Soils and Wastewater Using Direct Combustion Analysis

Tim Michel (Presenting Author)

W-10: A Quick and Accurate Method for Determining Mercury Levels in Fish Tissue Utilizing Direct Mercury Analysis

Tim Michel (Presenting Author)

W-12: A Semi-Quantitative Method for Analyzing Mercury in Environmental Samples: A Comprehensive Overview of the Potentialities and Challenges

Allegra Yallouz (Presenting Author)

Environmental Monitoring and Assessment 1

W-13: Comparison of Two Non-Lethal Techniques to Predict Mercury (Hg) in the Tissues of Largemouth Bass (*Micropterus Salmoides*)

Jonathan Serbst (Presenting Author), James Lake, Stephan Ryba, Alan Libby, Suzanne Ayvazian

W-14: Analysis of Fin Clips as a Non-Lethal Method for Monitoring Mercury in Fish

Sean Bailey (Presenting Author), Kristofer Rolffhus, Mark Sandheinrich, James Wiener

W-15: Assessment of Effect Biomarkers for Mercury Exposure in Four Tropical Estuarine Fish Species

Ana Paula Rodrigues, Alinne Ramos, Karen Muniz, Luiz Roberto Pedroso, PO Maciel, LCCP Silva, MVC Gonçalves, MM Longo, BC Meurer, F Manzano, BA Absolon, F Manzano, DE Teixeira, NV Freret, TAP Viana, C de Albuquerque, MM Freire, AR Linde, N Almosny, JV Andreata, AF Inácio, ED Bidone, Zuleica Castilho (Presenting Author)

W-16: Biomonitoring of Mercury in Coastal Regions of São Paulo by Using the Transplanted Mussel Perna Perna

Marília G. M. Catharino, Marina B. A. Vasconcellos (Presenting Author), Edson G. Moreira, E. Ceci P. M. de Sousa, Déborah I.T. Fávoro

W-17: Mercury Spatial Distribution in Bottom Sediment of the Madeira River, Rondônia, Brazil

João Paulo de Oliveira Gomes, Elisabete Lourdes do Nascimento, Ronaldo de Almeida, Ronaldo Cavalcante de Oliveira, Jose Vicente Elias Bernardi, Wanderley Rodrigues Bastos (Presenting Author)

W-18: Mercury in the Tapajós Basin in Brazilian Amazon: A Regional Overview

Delaine Sampaio da Silva, Marc Lucotte (Presenting Author), Hugo Poirier, Serge Paquet, Isabelle Rhéault, Steve Garceau, Gabrielle Normand

W-19: Measuring Hg and MeHg Fluxes from Dynamic Systems Using High Resolution *in situ* Monitoring, Case Study: The Sacramento-San Joaquin Delta Tidal Wetlands

Jacob Fleck (Presenting Author), Brian Bergamaschi, Bryan Downing, Megan Lionberger, David Schoellhamer

W-20: Methods of Identifying Non-Point Mercury Sources in a Contaminated Fluvial System

Ralph Turner (Presenting Author), Richard Jensen, Nicolas Bloom, Ted Turner, Richard Landis, Thomas Benzing, Doug Graber-Neufeld

S-EB-2: Mercury-Dissolved Organic Matter (DOM) Interactions 1

Organizers: George Aiken, US Geological Survey; Gary Gill, Battelle Marine Sciences Laboratory, USA; Nick Loux, US Environmental Protection Agency

W-21: Occurrence, Distribution, Form, and Source Attribution of Elevated Mercury in the Surficial Coastal Plain Aquifer, Long Neck Peninsula, Sussex County, Delaware

Michael Koterba (Presenting Author), Zoltan Szabo, A. Scott Andres, Joseph Vrabel, Dianna Crilley, John DeWild, George Aiken, Betzaida Reyes-Pardo

W-22: The Pathway of Mercury in Contaminated Waters Determined by Association with Organic Carbon

João Canário (Presenting Author), Carlos Vale, Marta Nogueira

W-23: Determination of Mercury Complexation in Coastal and Estuarine Waters Using Competitive Ligand Equilibration Techniques

Seunghee Han (Presenting Author), Gary Gill

W-24: Thermodynamic Reaction Constants for Modeling Aqueous Environmental Mercury Speciation

Nicholas Loux (Presenting Author)

W-25: Isolation of Dissolved Organic Matter Species of Mercury and Methylmercury with Diethylaminoethyl Resin

Shawn Chadwick (Presenting Author), Christopher Babiarz, James Hurley, David Armstrong, David Krabbenhoft

W-26: Techniques to Investigate the Mechanism Involved in the Interactions of Hg, Sulfide and DOM

Carrie Miller (Presenting Author), Robert Mason, Cynthia Gilmour, Andrew Heyes

W-27: Dissolution of Cinnabar in the Presence of Dissolved Organic Matter

Kathryn Nagy (Presenting Author), George Aiken, Joseph Ryan, Jacob Waples

W-28: The Influence of Dissolved Organic Matter on the Photoreduction of Mercury (II)

Douglas Latch (Presenting Author), George Aiken, Joseph Ryan

Plenary: Recovery of Mercury-Contaminated Fisheries

W-29: Biological and Anthropogenic Factors Affecting Longitudinal and Latitudinal Gradients in Mercury Concentrations in Lake Trout

Marlene Evans (Presenting Author), Derek Muir, Karen Kidd, Lyle Lyle, Lyndsay Doetzel, Robin Anderson, Michael Whittle

W-30: Response of Yellow Perch in Adirondack Lakes to Changes in Atmospheric Deposition of Mercury and Strong Acids.

Jason Dittman (Presenting Author), Charles Driscoll

W-31: Use of Yellow Perch (*Perca flavescens*) to Determine Mercury Trends in Lakes

Candy Schrank (Presenting Author), Paul Rasmussen, Patrick Campfield

W-32: Mercury Bioaccumulation Profile of Four Tropical Fish Species from Estuarine Ecosystems

Ana Paula Rodrigues, Alinne Ramos, Karen Muniz, Luiz Roberto Pedroso, Mariana Gonçalves, Michele Longo, Bruno Meure, Felipe Manzano, Dirceu Teixeira, Nilo Freret, José Andreata, Edson Bidone, Zuleica Castilhos (Presenting Author)

W-33: Role of Growth Rates on Mercury Concentrations in Three Different Fish Species

Mélyssa Lavigne (Presenting Author), Marc Michel Lucotte, Steve Garceau, Michel Simoneau, Paquet Serge

W-34: Mercury Dynamics in South Dakota Walleye: Water Level Fluctuations, Seasonal Variation and Reproductive Condition

Trevor Selch (Presenting Author), Steven Chipps

W-35: Determination of Mercury Concentration in Liver, Lien and Muscle of 10 Freshwater Fishes in Anzali Wetland: A Simple Food Chain

Abbas Esmaili Sari (Presenting Author), Seyed Mahmoud Ghasempouri, Gholamreza Ghasemzadeh, Leila Taheriazad

W-36: Fish Mercury Variation and Seasonal Flooding of the Madeira River Basin, Amazon

Wanderley R. Bastos, Ronaldo Almeida, José G. Dórea (Presenting Author), Antônio C. Barbosa

W-37: Mercury in Fish of Gold Mining Area of the Madeira River, Rondônia, Brazil

Ronaldo de Almeida, Ronaldo Cavalcante de Oliveira, Dario Pires de Carvalho, Elisabete Lourdes do Nascimento, João Paulo de Oliveira Gomes, José Vicente Elias Bernardi, Wanderley Rodrigues Bastos (Presenting Author)

W-38: Mercury Concentrations in Flatfish (*Euryglossa Orientalis*) to Assess the Impact of a Petrochemical Complex, Persian Gulf

Abbas Esmaili Sari, Seyed Mahmoud Ghasempouri, Seyed Jafar Seyfabadi (Presenting Author), Maryam Rafii

W-39: Mercury and Selenium in the Liver and Kidney of Pilot Whale, *Globicephala melas*

Marianna Badini, Antonio Azeredo, Tércia Guedes Seixas, Helena do A. Kehrig (Presenting Author), Dorete Bloch, Philippe Grandjean, Olaf Malm

W-40: Lake Variability—Key Factors Controlling Mercury Concentrations in New York State Fish

Howard Simonin (Presenting Author), Jeff Loukmas, Larry Skinner

S-SA-3: Understanding and Controlling Mercury Emissions from Coal-Fired Power Plants 1

Organizers: John Pavlish, University of North Dakota Energy & Environmental Research Center, USA; David Michaud, WE Energies, USA

W-41: The Demonstration of EPRI's TOXCON Process to Control Mercury Emissions from Coal-Fired Utility Boilers

Steven Derenne (Presenting Author), David Michaud

W-42: The Study of Environmental Stability of Mercury in Coal Combustion By-Products

Ligang Wang (Presenting Author)

W-43: DOE/NETL's Phase II Preliminary Economic Analysis of Mercury Control via Activated Carbon Injection

Andrew Jones (Presenting Author), Jeffrey Hoffmann, Dennis Smith, Thomas Feeley, James Murphy

W-45: Mercury Exchange between Air, Water and Coal Combustion By-products

Mae Sexauer Gustin (Presenting Author), Mei Xin, Kenneth Ladwig, Jody Ericksen, Debra Pflughoeft-Hassett, Edward Swain

W-46: Understanding Chemisorption of Flue Gas Mercury on Halogenated Carbons

Edwin Olson (Presenting Author)

W-48: New Approach to Design of Mercury CEM Systems

Sergey Sholupov, Sergey Pogarev, Vladimir Ryzhov, Alexander Stroganov, Leonid Sheshin, Joseph Siperstein (Presenting Author)

W-49: The Use of Isotope Dilution ICP-MS for the Development of Reference Standards for Mercury in Gas Streams

Stephen Long (Presenting Author), Gerald Mitchell

W-50: Mercury Control by Wet FGD Systems and Its Impacts on Flue Gas Desulfurization (FGD) By-Products

Gary Blythe, David DeBerry, Julie Range (Presenting Author), Mandi Richardson

Sources and Emissions 2**W-51: Mercury Emissions from Brake Wear Associated with On-Road Vehicles**

Michael Christianson (Presenting Author), Gerald Keeler, Matthew Landis, Alan Vette

W-52: On Mercury's Diurnal Cycles

Lawrence Radke (Presenting Author)

W-53: Mercury Emission from Landfills Surface: A Comparison in Warm and Cold Season

Zhonggen Li, Xinbin Feng (Presenting Author)

W-54: An Investigation of Emission Fluxes of Gaseous Mercury from the Soil Surface under the Forest Canopy in the Adirondacks.

Hyun-Deok Choi (Presenting Author), Timothy Sharac, Thomas Holsen

W-55: Release Characteristics of Mercury from Soil in Rice-Wheat Rotation Systems

Peijuan Cao, Dingyong Wang, Cheng Zhang, Tao Lin, Xiaojun Shi (Presenting Author)

W-56: Effects of Organic Matter and pH on Mercury Release from Soil

Cheng Zhang, Dingyong Wang (Presenting Author), Peijuan Cao, Yongkui Yang

W-57: Mercury Soil-Air Fluxes in Regions Polluted by Different Anthropogenic Activities

Joze Kotnik (Presenting Author), Jasna Huremovic, David Kocman, Milena Horvat

W-58: Estimate of Global Mercury Emissions from Primary Industrial Metals Production

Alexis Cain (Presenting Author)

W-59: Atmospheric Mercury around Abandoned Hg Mines in Asturias (NW Spain)

Jose Maria Esbri, Pablo Higuera (Presenting Author), Jorge Loreda, Roberto Oyarzun, Rodrigo Alvarez

S-SC-1: Mercury in Artisanal Gold Mining: Environment, Health, Policy and Solutions 1

Organizers: Marcello Veiga, United Nations Industrial Development Organization, Canada; Randy Baker, Azimuth Consulting Group, Canada; Kevin Telmer, University of Victoria, Canada

W-60: Global Mercury Project Status Update—Kalimantan Indonesia

Randy Baker (Presenting Author), Rini Suliaman, Marcello Veiga

W-61: Gold Mining and Mercury Contamination to the Local Environment in Tongguan, Shaanxi Province, People's Republic of China

Xinbin Feng (Presenting Author), Qianjin Dai, Guangle Qiu

W-62: Introducing Solutions to Reduce Mercury Pollution in Artisanal Mining: The Global Mercury Project

Marcello Veiga (Presenting Author), Pablo Huidobro

W-63: Evaluation of a New Method Using Magnetic Sluices for Mercury-Free Small-Scale Gold Mining in The Philippines

Sofie Lücke, Jenny Öhlander, Ana Francisco-Rivera, Lars Hylander (Presenting Author)

W-64: Preventing Mercury Pollution in Artisanal Gold Mining: Lessons from Manica District, Mozambique

Samuel Spiegel, Olivier Savornin (Presenting Author), Dennis Shoko, Marcello Veiga

W-65: The Use of Satellite Imagery for Reconstructing and Monitoring Artisanal Mining Activities and Mercury Emissions

Kevin Telmer (Presenting Author), Maycira Costa, Alvaro Crosta, Daniele Cardoso

W-66: The Presence of Hg in the Tapajos River Basin

Roberto Villas-Bôas (Presenting Author), Saulo Rodrigues Filho, Zuleica Castilhos, Ronaldo Santos, Allegra Yalouz, Adão Benvindo da Luz, Marcello Veiga, Silvia Egler

W-67: Preliminary Assessment of Fate of Mercury in Artisanal Gold Mining in Zaruma-Portovelo, Ecuador

Patricio Colon Velasquez (Presenting Author), Marcello Veiga

W-68: Global Mercury Project Update—Sudan

Gillian Davis (Presenting Author)

Environmental Biogeochemistry 3**W-69: The Impacts of the First Year of Cultivation on Soil Fertility and on Soil Mercury Levels in the Lower Tapajós Region, Brazilian Amazon**

Annie Béliveau (Presenting Author), Robert Davidson, Marc Lucotte, Otavio do Canto

W-70: Mercury Levels in Different Compartments of a Few Azores' Islands, Portugal

Maria do Carmo Freitas (Presenting Author), Adriano Pacheco, Isabel Dionisio

W-71: Determination of MeHg Concentrations in Sediment Porewaters by Sampling with DGT Probes and Analyzing MeHg by Hg-Thiourea Complex Ion Chromatography with CVAFS Detection.

Brian Vermillion (Presenting Author), Olivier Clarisse, Christopher Shade, Robert Hudson, Holger Hintelmann

W-72: Comparison of Mercury Concentrations in Western Maryland Streams

Ray Morgan (Presenting Author), Mark Castro, Joseph Thompson

W-73: Total Mercury Concentrations in Sea Water and Sediments in the Mediterranean Basin

Francesca Sprovieri (Presenting Author), Gianluca Manna, Amerigo Armentano, Franco Cofone, Nicola Pirrone

W-74: Daily and Seasonal Variations of Dissolved Gaseous Mercury (DGM) in Juam Reservoir in Korea

Jong-Sung Park, Sehee Oh, Mi-Yeon Sin, Seung-Muk Yi, Kyung-Duk Zoh (Presenting Author)

W-75: The Stability of HgS in Environment: the Dissolution of HgS in HCl

Qichao Wang (Presenting Author), Na Zheng, Shaoqing Zhang, Dongmei Zheng

W-76: The Measurement of Microbial Mercury Stable Isotope Fractionation and Its Potential Utility for Distinguishing between Hg Sources

Kritee K. (Presenting Author), Joel Blum, Tamar Barkay, Marcus Johnson, Bridget Bergquist

W-77: Decrease of Hg Content in Soil after the Reclamation of Sanjiang Plain Marsh in China

Ruhai Liu (Presenting Author), Qichao Wang, Yan Wang

W-78: Depth-Distribution for Mercury and Fallout of Excess Pb-210 in Selected Soils of Taiwan

S.C. Hsu, L. Narasimham Vemuri (Presenting Author), C.A. Huh

W-79: Sources of Dissolved Gaseous Mercury (DGM) in Waters of the Mediterranean and Adriatic Sea

Joze Kotnik (Presenting Author), Janja Vaupotic, Milena Horvat

W-80: Selected Radionuclides and Dissolved Gaseous Mercury in Coastal and Deep Sea Waters in the Mediterranean

Janja Vaupotic, Jože Kotnik (Presenting Author), Urška Repinc, Ivan Kopal, Milena Horvat, Nicola Pirrone

W-81: Total Mercury and Monomethylmercury Variations in UV Exposed Inter-Tidal Sediments

João Canário (Presenting Author), Daniel Cossa, Carlos Vale, Bernard Averty, Marta Nogueira

W-82: Mercury Dynamics in Surface Sediments of the Upper St. Lawrence River (Canada)

João Canário (Presenting Author), Laurier Poissant, Nelson O'Driscoll, Jeff Ridal, Tania Delongchamp, Martin Pilote, Philippe Constant, Jules Blais, David Lean

S-HR-7: Human Health and Indicators of Exposure to Methylmercury

Organizer: Sylvie Boucher de Grosbois, University of Quebec at Montreal, Canada

W-83: Mercury Exposure in Riverbank Communities of the Alvarado Lagoon System, Veracruz State, Mexico

Jane Guentzel (Presenting Author), Edward Keith

W-84: Environmental and Occupational Exposure to Inorganic Mercury in Gorlovka, Ukraine

Allan Kolker (Presenting Author), Boris Panov, Kathryn Conko, Kostj Koslov, Yuri Panov, Herman Gibb, Jose Centeno, Isaac Trachtenberg, Viktor Korchemagin, Tatiana Shendrik, Veronika Gunchenko, Anna Shkvar

W-85: Mercury Concentrations in Hair of Autistic and Typical Young Adults and the Relationship with Fish Consumption Levels

Grace Baron, Janina Benoit (Presenting Author)

W-86: Mercury Assimilation in Humans: Questioning the Evidence

Sylvie Boucher de Grosbois (Presenting Author), René Canuel, Laura Atikessé, Mélissa St-Jean

S-EB-4: Biogeochemical Controls on Mercury in Geothermal Systems

Organizers: Susan King, Montana State University, USA; Tamar Barkay, Rutgers University, USA

W-87: Estimating Mercury Emissions from Geothermal Systems and Volcanoes for the Conterminous United States

Mark Engle (Presenting Author), Mae Gustin

W-88: Atmospheric Mercury Speciation in Yellowstone National Park

Britt Hall (Presenting Author), Mark Olson, Andrew Rutter, Renee Frontiera, David Krabbenhoft, Deborah Gross, Jamie Schauer

W-89: Possible Contribution of Hydrothermal Vents and Tectonic Activity as a Source of Mercury in the Mediterranean

Dusan Zagar (Presenting Author), Rudi Rajar, Katarina Gärdfeldt, Maria Andersson, Milena Horvat, Joze Kotnik, George Kallos, Antigoni Voudouri, Nicola Pirrone

W-90: Mercury Geochemistry in Yellowstone National Park

Kirk Nordstrom (Presenting Author), Blaine McCleskey, James Ball, Howard Taylor, David Krabbenhoft

W-91: Geothermal Chemical Elements in Lichens of Yellowstone National Park

James P. Bennett (Presenting Author)

W-92: Geochemical Controls on Mercury Speciation and Distribution in Yellowstone National Park Hot Springs

Susan King (Presenting Author), Jesse Bennett, David Krabbenhoft, Sabrina Behnke

W-93: Seasonal Distribution of Methylmercury and Microbial Populations in Mats of a Low pH Geothermal Stream

Kim Slack (Presenting Author), Sabrina Behnke, Susan King, David Krabbenhoft, Jesse Bennett, Mark Burr

W-94: Gaseous Mercury Distributions and Transport in Geothermal Features of Yellowstone National Park

Susan King (Presenting Author), David Krabbenhoft, Jesse Bennett, Kim Slack

W-95: Interactions of Chemosynthetic Bacteria with Mercury at Deep-Sea Hydrothermal Vents

Melitta Crespo-Medina (Presenting Author), Nicolas Bloom, Aspasia Chatziefthimiou, John Reinfelder, Costantino Vetriani, Tamar Barkay

W-96: Archaeal Mercury Resistance: Mechanisms and Phylogeny

Paul Blum (Presenting Author)

Remediation and Pollution-Control Technologies 2

W-97: Mercury Immobilization on Pyrochlore: Mechanism and Efficiency

Ricardo Melamed (Presenting Author), Jose Carlos Gaspar

W-98: Removal of Organomercury (MeHg) by Free and Immobilized Cyanobacterial Cells—A Comparative Analysis

Anjana Pant (Presenting Author)

W-99: The Use of the Algal Biomass *Sargassum sp.* for Removing Ionic Mercury from Liquid Effluents of the Chlor-Alkali Industry: Practical and Molecular Modeling Approaches

André Fernandes (Presenting Author), Luis Sobral, Renata Lima, Débora de Oliveira

W-100: Preparation of Inorganic Supports for Liquid Waste Treatment

Aissa Belouatek (Presenting Author)

W-101: Suppression of Methylmercury Production and Release from Sediment Using Ferric Oxide

Stephen Klein (Presenting Author)

W-102: Control of Mercury Release from Profundal Lake Sediments Using Oxygenation

Theo Leonard (Presenting Author)

W-103: Mercury Methylation in Dental Waste Water

Xiuhong Zhao (Presenting Author), Karl Rockne, James Drummond, Ryan Hurley, Christopher Shade, Robert Hudson

W-104: Management of Hg in Dental Wastewater by Low-Cost Filtration Systems

Mark Stone (Presenting Author)

W-106: Preliminary Evaluation of Lavender as an Economic Alternative in a Mercury Contaminated Area

María José Sierra (Presenting Author), Elvira Esteban, Rocío Millán

W-107: Effect of Sewage Sludge on Mercury Accumulation in Soil and Corn

Maryam Karimpour, Abbas Esmaili Sari (Presenting Author), Majid Afyuni, Yahya Rezaeinejad, Seyed Mahmoud Ghasempouri

W-108: The Effect of Mercury in a Salt Marsh Species Composition: Hysteresis in Vegetation Shift

Mónica Válega (Presenting Author), Ana Isabel Lillebø, Maria Eduarda Pereira, Armando Duarte, Miguel Pardal

S-SC-2: Mercury Cycling and Biogeochemistry in Tropical and Subtropical Africa

Organizers: Jean-Claude Bonzongo, University of Florida, USA; Linda Campbell, Queen's University, Canada

W-109: Mercury Contamination in the Pra River Basin, Ghana: Levels and Speciation

Vincent Kodzo Nartey (Presenting Author)

W-110: Total Mercury Levels in Key Commercial Fish Species in the Lake Victoria Wetlands of Uganda and Kenya: Preliminary Findings

Irene Naigaga (Presenting Author)

W-111: Distribution of Mercury in Freshwater Fish across Africa

Linda Campbell (Presenting Author), Robert Hecky, George Dixon, SB Wandera, John Balirwa, Odipo Osano, Lauren Chapman

W-112: Hydrologic and Redox Driven Controls on Mercury Biotransformation in a Gold Mining Impacted Tropical River Basin

Augustine Donkor, Jean-Claude Bonzongo (Presenting Author)

Plenary: Recovery of Mercury-Contaminated Fisheries

W-113: Enhanced Mercury Bioaccumulation in a Near-Shore Fish Assemblage Resulting from the Invasion of Threadfin Shad

Collin Eagles-Smith (Presenting Author), Thomas Suchanek, Art Colwell, Norm Anderson, Peter Moyle

W-114: The Response of Fish Mercury Levels to Increased Inorganic Mercury Loading: The METAALICUS Study

Paul Blanchfield (Presenting Author), John Rudd, Reed Harris, Holger Hintelmann

W-115: Modeling Methylmercury Bioaccumulation in Aquatic Food Webs

Robert Hudson (Presenting Author)

W-116: Variations in the Stable Isotope Composition of Mercury in Freshwater Food Webs and Sediments: Evidence for Mass-Independent Biotic Fractionation of Mercury Isotopes

Togwell A. Jackson (Presenting Author), D. Michael Whittle, Marlene S. Evans, Derek C.G. Muir

W-117: Historic and Contemporary Presence of Methylmercury in Food Webs of Large Inland Ontario Lakes

John Pouloupoulos (Presenting Author), Linda Campbell

W-118: Sources and Fate of Mercury in Lakes of the Chibougamau Area (Québec, Canada)

Stephane Petit, Marc Lucotte (Presenting Author)

W-119: Mercury in Lake Champlain

Ning Gao (Presenting Author)

W-120: Mercury and Methylmercury Leaching from Forest Soil after a Severe Storm-Fell Event

John Munthe (Presenting Author), Sofie Hellsten, Olle Westling, Therese Zetterberg, Hans Hultberg

W-121: The Effect of Forest Harvest on Catchment Outputs of Total and Methyl-Mercury during Spring Snowmelt: A Case Study on the Effects of Riparian Buffer Zones in the Boreal Forest

Rasmus Sorensen (Presenting Author), Lars Högbom, Markus Meili, Mats Nilsson, Ulf Skyllberg, Kevin Bishop

W-122: Will the Clearcutting of Drained Peatland Forests Mobilize Mercury?

Michael Starr, Erkki Ahti, Klaus Einsalo, Marjatta Kantola, Kirsti Loukola-Ruskeeniemi, Markku Mäkilä, Toni Malila, Mika Nieminen, Tiina Nieminen, Paavo Perämäki, Juha Piispanen, Liisa Ukonmaanaho, Matti Verta (Presenting Author)

W-123: Bioavailability of Mercury to Freshwater Algae in Relation to Dissolved Organic Carbon

Patrick Gorski (Presenting Author), David Armstrong, James Hurley, David Krabbenhoft

W-124: Mercury Mass Fluxes from the Lake 658 Watershed

David Krabbenhoft (Presenting Author), Michael Tate, Reed Harris, Mark Olson, John DeWild, Shane Olund

Bioaccumulation and Trophic Transfer 3

W-125: Mercury Bioaccumulation in Pacific Giant Salamander Larvae from Lotic Ecosystems in the Pacific Northwestern United States

Michael Bank (Presenting Author), Jeffrey Crocker, Jennifer Wachtl, Patrick Kleeman, Christopher Currens, Gary Fellers, Jason May, Roger Hothem, John Wise, Mary Ann Madej

W-126: Mercury Bioaccumulation in Fish from the Coastal Louisiana Region of the Gulf of Mexico

Michael Bank (Presenting Author), Edward Chesney, James Shine, David Senn

W-127: Mercury Bioconcentration Factors for the Relation Sediment-Benthonic Fish from Guanabara and Ribeira Bays-RJ, Brazil

Ana Paula Rodrigues, Alinne Ramos, Karen Muniz, Luiz Roberto Pedroso, Mariana Gonçalves, Michele Longo, Bruno Meurer, Bruno Absolon, Felipe Manzano, Dirceu Teixeira, Nilo Freret, José Andreata, Edson Bidone, Zuleica Castilhos (Presenting Author)

W-128: Comparison of Hematological Values of *Astronotus Ocellatus* (Cuvier, 1829) (Cichlidae, Teleostei) Healthy and Exposed Experimentally to Methylmercury

Patricia Maciel, Luiz Silva, Nádia Almosny, Zuleica Castilhos (Presenting Author)

W-129: Biomarkers of Mercury Exposure in Amazonian Fish, Pará, Brazil

Ana Paula Rodrigues, Alinne Ramos, Karen Muniz, Luiz Roberto Pedroso, C. A. Lima, A.M.L. Castro, Zuleica Castilhos (Presenting Author), C. de Albuquerque, A. F. Inácio, T. A. P. Viana, A.R. Linde, L. A. Novo, S. Rodrigues, R. Villas-Bôas, C. Beinhoff, M. Veiga

W-130: Mercury and Selenium in the Liver and Kidney of Dolphin from Two Different Brazilian Coast Areas

Tercia Seixas, Helena Kehrig (Presenting Author), Marianna Costa, Ana Paula Di Benedito, Gilberto Fillmann, Cristina Souza, Isabel Moreira, Olaf Malm

W-131: Total and Methyl Mercury, Selenium, Arsenic and Cadmium in Tissues of Magellanic Penguins (*Spheniscus magellanicus*—Forster, 1781)

Helena Kehrig (Presenting Author), Tercia Seixas, Gilberto Filmann, Olaf Malm

W-132: Different Species of Mercury and Total Selenium in the Liver of Marine Dolphins

Helena Kehrig (Presenting Author), Tercia Seixas, Ana Paula di Benedito, Cristina Souza, Olaf Malm

W-133: Trophic Transfer of Inorganic and Organic Mercury in Fish from Four Reservoirs of the Paraíba Do Sul—Guandu River System, Brazil

Elisabete Fernandes Albuquerque Palermo, Daniele Kasper, Christina Wyss Castelo Branco, Olaf Malm (Presenting Author)

W-134: Mercury Bioaccumulation and Selenium-Mediated Methylmercury Detoxification in Marine Tucuxi Dolphin, *Sotalia guianensis*, from Rio De Janeiro State Coast.

José Lailson-Brito, Paulo Dorneles, Caroline Souza, Alexandre Azevedo, Ana Fragoso, Haydée Cunha, Tercia Seixas, Mariana Badini, Helena Kehrig, Olaf Malm (Presenting Author)

W-135: Mercury in a Piscivorous Fish (*Micropogonias furnieri*) from Sepetiba Bay, Rio De Janeiro, Brazil

Lara Vidal, José Lailson-Brito, Paulo Dorneles, Olaf Malm (Presenting Author)

W-136: Mercury Distribution in Tissues of Fish Species with Different Feeding Habits from a Tropical Reservoir, Brazil

Daniele Kasper, Elisabete Fernandes Albuquerque Palermo, Christina Wyss Castelo Branco, Olaf Malm (Presenting Author)

W-137: Inorganic and Organic Mercury in Fish at Upstream and Downstream the Dam from Tucuruí Reservoir, Brazil

Elisabete Fernandes Albuquerque Palermo, Daniele Kasper, Christina Wyss Castelo Branco, Olaf Malm (Presenting Author)

W-138: Body Distribution of Mercury in Dwarf Sperm Whale (*Kogia sima*)

Paulo Dorneles, José Lailson-Brito, Alexandre Azevedo, Ana Fragoso, Haydée Cunha, Lara Vidal, Olaf Malm (Presenting Author)

W-139: Total Mercury and Selenium Concentrations in Livers of Franciscana, *Pontoporia blainvillei* (Cetacea, Pontoporiidae), from Rio Grande Do Sul State

José Lailson-Brito, Paulo Dorneles, Eduardo Secchi, Manuela Bassoi, Caroline Souza, Olaf Malm (Presenting Author)

W-140: Mercury Concentrations in Amazon Dolphins

José Lailson-Brito, Paulo Dorneles, Vera da Silva, Anthony Martin, Wanderley Bastos, Mariana Badini, Lara Vidal, Olaf Malm (Presenting Author)

W-141: Total and Methyl Mercury Accumulation in the Muscle Tissue of Frigate (*Auxis thazard thazard*) and Yellow Fin (*Thunnus albacares*) Tuna from the Gulf of Guinea, Ghana

Ray Bright Voegborlo (Presenting Author)

S-HR-4: Contributions of Wildlife Toxicology to Environmental Mercury Science and Policy 2

Organizers: Tony Scheuhammer, Environment Canada; Kevin Kenow, US Geological Survey

W-142: Mercury Exposure in Fish and Fish-Eating Birds Near a Former Mercury Mine, Pinchi Lake, B.C., Canada

Shari Weech, Tony Scheuhammer (Presenting Author)

W-143: Effects of Methyl Mercury on Reproduction in American Kestrels

Peter Albers (Presenting Author), Michael Koterba, Ronald Rossmann, John French, Richard Bennett, Wayne Bauer

W-144: Mercury Affects Ionotropic Receptors in Wild and Captive Mink

Nil Basu (Presenting Author), Tony Scheuhammer

W-145: Long-Term Monitoring and Assessment of Mercury Based on Integrated Sampling Efforts Using the Common Loon, Prey Fish, Water, and Sediment

Nina Schoch (Presenting Author), David Evers, Melissa Duron, Michale Glennon, Howard Simonin, Charles Driscoll, Amy Sauer, John Ozard

W-146: Evaluating Exposure Patterns and Impacts of Methylmercury on Freshwater-Feeding Bald Eagles in Maine

Christopher DeSorbo (Presenting Author), Charles Todd, David Evers, Steve Mierzykowski, William Hanson

W-147: Rapid Accumulation of Mercury in Black-Necked Stilt Chicks Growing in San Francisco Bay

Josh Ackerman (Presenting Author), Collin Eagles-Smith, Terry Adelsbach

W-148: Survival of American Avocet and Black-Necked Stilt Chicks in Relation to Mercury Contamination in San Francisco Bay

Josh Ackerman (Presenting Author), John Y. Takekawa, Collin Eagles-Smith, Carolyn Marn, Terry Adelsbach

W-149: Are Growth Rates of Forster's Tern Chicks Influenced by Mercury in San Francisco Bay?

Josh Ackerman (Presenting Author), Collin Eagles-Smith, Terry Adelsbach, Julie Yee

W-150: Terns as Indicators of Mercury and Other Priority Pollutant Exposure in San Francisco Bay

Terry Adelsbach (Presenting Author), Collin Eagles-Smith, Josh Ackerman

W-151: Determination of Blood Mercury Levels in Diamondback Terrapins (*Malaclemys terrapin*) Using Two Distinct Stable Isotope Tracers with Application to Pharmacokinetic Wildlife Studies

Jeffrey Schwenter (Presenting Author), Steven Christopher, David McGuinn, Rusty Day

W-152: Cross-Seasonal Implications of Mercury Bioaccumulation by Surf Scoters (*Melanitta perspicillata*) from San Francisco Bay

Susan Wainwright-De La Cruz (Presenting Author), Matthew Wilson, John Takekawa, John Eadie, A. Keith Miles

S-HR-5: Mercury in Dental Amalgam: Health, Environmental and Management Aspects

Organizers: Lars Barregard, Göteborg University, Sweden; P. L. Fan, American Dental Association, USA; Ulf Lindh, Uppsala University, Sweden

W-153: Mercury Reduction Efforts at Wastewater Treatment Plants

Tim Tuominen (Presenting Author)

W-154: Dental Mercury Loadings to Wastewater Treatment Plants and Evaluation of Amalgam Separators

Peter Berglund, (Presenting Author)

W-155: Dental Amalgam—The Most Important Point Source of Mercury Pollution in Swedish Soils

Lars Hylander (Presenting Author), Anders Lindvall

W-156: The Impact of the Use of Amalgam Separation Equipment in Dental Offices on the Concentration of Mercury in Treatment Plant 'Biosolids': King County, Washington's Experience

Gail Savina (Presenting Author)

W-157: Important Issues Surrounding Amalgam Separators: Mercury Reductions, Do They Work?*AL Dube' (Presenting Author)***W-158: A Study of Clinical Chemistry Parameters in Blood after Removal of Dental Amalgam and Other Metal Alloys***Peter Frisk (Presenting Author)***W-159: Characterization of Mercury and Antibiotic-Resistant Bacteria Isolated from Oral Cavities of Humans***Keith Johnson (Presenting Author), Colin E. Widener, Amanda L. Ganong, Nicholas O. Markham, Frank Fekete***W-160: Dental Sector Mercury Reduction Initiatives in Massachusetts and New England***C. Mark Smith (Presenting Author), Sarah Weinstein, Arleen O'Donnell, Ginger Jordan-Hillier***W-161: Amalgam Is Dangerous: Multiple Chemical Sensitivity Due to Amalgam Fillings***T. Shimazu (Presenting Author)***W-162: Mercury-Free Dental Fillings***Petra Ekblom (Presenting Author)***Plenary: Recovery of Mercury-Contaminated Fisheries****W-165: Retention, Transformation, and Potential Long-Term Export of Mercury from Wetlands to Surface Waters in the Adirondack Region, New York, USA***Jason Demers (Presenting Author), Charles Driscoll, Joseph Yavitt***W-166: Are Wetlands Important Sources of Mercury Contamination for Brook Trout in Small Streams of Western Maryland?***Mark Castro (Presenting Author), Alan Heft, Robert Hiderbrand***W-167: Groundwater Contributions of Methylmercury to Lake Superior in a Wetland-Forested Watershed***Richard Stoor, Shawn Chadwick (Presenting Author), James Hurley, David Armstrong***W-168: Import and Export of Methyl Mercury during Tidal Flushing of Suisun Marsh, California***Mark Stephenson (Presenting Author), Wesley Heim, Kenneth Coale, Gary Gill, Key-Young Choe, Chris Enright, Jon Burau***W-169: Reservoirs, Sources, and Sinks of Methyl Mercury and Total Mercury in the San Francisco Bay Estuary and Delta, California***Wesley Heim (Presenting Author), Kenneth Coale, Mark Stephenson, Key-Young Choe, Ron Lehman, Gary Gill, Chris Foe***W-170: Marshes as Sources of Methylmercury in the San Francisco Bay Estuary and Delta, California***Key-Young Choe (Presenting Author), Gary Gill, Ronald Lehman, Mark Stephenson, Wesley Heim, Kenneth Coale***W-171: Buildup of Methyl Mercury in a Seasonal Anoxic and Hyper-Eutrophic Reservoir and Its Impact on Downstream***Tianrong He, Julia Lu (Presenting Author)***W-172: Methylmercury in an Artificial Tropical Reservoir***Bogdan Muresan (Presenting Author), Daniel Cossa, Sandrine Richard***W-173: Mercury Dynamics in the Piney Creek Reservoir Watershed System***Mark Castro (Presenting Author), Joe Thompson***W-174: Mercury in Canadian Tributary Mouth Sediments in the Laurentian Great Lakes***Sean Backus (Presenting Author), D. Burniston, J. Kraft, A. Dove***W-175: Mass Balance Study of Mercury in Tokyo Bay***Masahiro Sakata (Presenting Author), Kohji Marumoto, Masahiro Narukawa, Kazuo Asakura***W-176: Are Fish Affected by Mercury in a Mine-Dominated Ecosystem (Clear Lake, California)?***Thomas Suchanek (Presenting Author), Collin Eagles-Smith, E. James Harner, Darell Slotton, Arthur Colwell***Health Effects of Methylmercury and Inorganic Mercury 2****W-177: A New Real-Time Dosimeter to Monitor Personal Exposure to Elemental Gaseous Mercury***Virgilio Mattoli (Presenting Author), Barbara Mazzolai, Vittoria Raffa, Alessio Mondini, Paolo Dario***W-178: Methylmercury Induces Tau Degradation and Neuronal Cell Death via Tau Hyperphosphorylation in Rat Cultured Neuron***Masatake Fujimura (Presenting Author), Masumi Sawada, Akihiko Takashima***W-179: Underestimation of Adverse Effects of Mercury Exposure Unadjusted for Beneficial Effects of Seafood Consumption***Esben Budtz-Jørgensen, Pal Weihe, Philippe Grandjean (Presenting Author)***W-180: Methylmercury Concentrations in Cord Blood and Related Factors in Tokyo/Sado Cohort***Noriyuki Hachiya (Presenting Author), Akira Yasutake, Mio Sakuma, Kazuo Koba, Mitsuyoshi Urashima***W-181: Comparison of Mercury Concentrations between Umbilical Cord Tissue and Other Biomarkers of Fetal Exposure to Methylmercury in Japanese Population***Mineshi Sakamoto (Presenting Author), Katsuyuki Murata, Kunihiko Nakai, Hiroshi Satoh***W-182: Effects of "Spike" (Short-Term Peak) Exposure to Methylmercury on Mercury Accumulation and Neuronal Degeneration in the Brain***Mineshi Sakamoto (Presenting Author), Shun'ichi Honda***W-183: Total Mercury and Methylmercury Levels in the Hair of Residents in Wanshan Mercury Mining District, Guizhou Province, China***Ping Li (Presenting Author), Xinbin Feng, Guangle Qiu***W-184: Human Mercury Exposure Related to Indigenous Mercury Smelting in Mercury Mining Areas, Guizhou Province, China***Ping Li (Presenting Author), Xinbin Feng, Guangle Qiu, Mineshi Sakamoto*

W-185: Mercury Vapor, Dental Amalgams, and Wine*Gianpaolo Guzzi (Presenting Author)***W-186: Mercury in Maternal Milk from Dental Amalgam***Gianpaolo Guzzi (Presenting Author)***W-187: Radioactivity and Mercury Dental Amalgam***Gianpaolo Guzzi (Presenting Author)***S-SA-1: Air Surface Exchange of Mercury in Terrestrial Ecosystems 2***Organizers: Mae Gustin, University of Nevada-Reno, USA; Frank Marsik, University of Michigan, USA; Daniel Obrist, University of Basel, Switzerland***W-189: The Snowpacks, a Sink and a Source of Gaseous Mercury: An Overview of Oxidation and Reduction Mechanisms Involved in Arctic and Alpine Areas***Xavier Fain (Presenting Author), Christophe Ferrari, Aurélien Dommergue, Pierre Alexis Gauchard, Sylvain Grangeons, Raphaëlle Hennebelle, Claude Boutron***W-190: Natural Background Levels of Mercury from an Eastern Deciduous Forest Floor: A Yearlong Study within Standing Stone State Forest in Overton County, Tennessee***Todd Kuiken (Presenting Author), Mae Gustin, Hong Zhang, Steve Lindberg***W-191: Hg Exchange between Soil and Air in Wuchuan Hg Mining District, Northeastern Guizhou, China***Shaofeng Wang (Presenting Author), Xinbin Feng***W-192: Variation of Atmospheric Mercury in Minamata Area What Are the Main Causes?***Nikolay Mashyanov (Presenting Author), Akira Yasutake, Vladimir Ryzhov, Sergey Sholupov, Akito Matsuyama, Kohji Marumoto, Pavel Pitirimov***W-193: Ecosystem-Level Distribution of Mercury in Vegetation, Litter, and Soil: Potential Sources of Atmospheric Mercury from Fires***Mark Engle (Presenting Author), Mae Gustin, Dale Johnson***W-194: Air-Forest Floor Mercury Exchange along the Eastern Seaboard and New England***Todd Kuiken (Presenting Author), Mae Gustin, Hong Zhang, Ben Sedinger, Steve Lindberg***W-195: Total Gaseous Mercury Emissions from Mercury Enriched Soil in Guizhou, China***Xinbin Feng (Presenting Author), Shaofeng Wang, Guangle Qiu***W-196: Direct Measurements of Elemental Mercury Deposition in Terrestrial Ecosystems***Daniel Obrist (Presenting Author), Johannes Fritsche, Frank J. Marsik, Christine Alewell***W-197: Atmospheric Mercury Concentrations and Accumulation on Urban Surfaces—Spatial and Temporal Trends***Chris Eckley (Presenting Author), Brian Branfireun, Miriam Diamond, Susi Wanigaratne***W-198: Transport Mechanisms of Mercury in Mineralised Subsurface Area and Its Impact on Aquatic Systems***Fadila Alligui (Presenting Author)***W-199: Spatial and Temporal Trends of Mercury in Ontario Trees***Eden Siwik (Presenting Author), Linda Campbell, Greg Mierle***W-200: Novel Metabolic Pathway for Reduction and Volatilization of Mercury by Plants***Stefan Halbach (Presenting Author), Florian Battke, Dieter Ernst***S-EB-3: Defining, Measuring and Investigating 'Reactive' or 'Bioavailable' Mercury in Environmental Studies***Organizers: Mark Marvin-DiPasquale, US Geological Survey; Britt Hall, University of Regina, Canada***W-201: The Measurement and Comparison of Mercury Concentration in the Sediment and Organs of Some Aquatic Plants in Anzali Wetland, Iran***Abbas Esmaili Sari (Presenting Author), Habib Vahabzaderodsari, Seyyed Mahmoud Ghasempouri, Nahid Shahsavaripour***W-202: Transformations of Mercury, Iron, and Sulfur during the Reductive Dissolution of Iron-Oxyhydroxide by Sulfide***Aaron Slowey (Presenting Author), Gordon Brown, Jr.***W-203: The Influence of Dissolved Organic Matter on the Abundance of Neutral Mercury***Carrie Miller (Presenting Author), Robert Mason, Cynthia Gilmour, Andrew Heyes***W-204: Apparent Solubility of Elemental Mercury in Aerobic Solutions***Margareta Svensson (Presenting Author), Erik Hagelberg, Anders Düker, Bert Allard***W-205: Synthesis, Characterization, and Analysis of Methylmercury-Cysteine and Methylmercury-glutathione Complexes***Marcos Lemes (Presenting Author), Mark Cooper, Feiyue Wang***W-206: Microprobe Techniques for Speciation Analysis and Geochemical Characterization of the Mercury District of Almadén in Spain***Anna Bernaus, Xavier Gaona, José María Esbrí, Pablo Higuera (Presenting Author), Manuel Valiente***W-207: Comparison of Two Biological and One Chemical Approach for Measuring Bio-Available Mercury in Ferruginous Tropical Soils***Jennifer Harris (Presenting Author), Marieke Demoucron, Noureddine Bouderrhine***W-209: Inorganic Mercury (II) Speciation and Bioavailability to a Bacterial Biosensor, the Saga Continues***Frank Black (Presenting Author), Chad Saltikov, A. Russ Flegal*

P L E N A R Y S E S S I O N • 8 : 3 0 a . m .

Societal consequences of mercury pollution

In the dialog concerning environmental mercury contamination, little consideration has been given to the broad societal effects of mercury pollution. Consequently, applied or proposed corrective actions may be driven by technological, scientific, or narrowly defined financial considerations, without sufficient attention to the broader sociological, economic, or cultural implications of those decisions. For example, the contamination of fish with methylmercury is a serious consequence of environmental mercury pollution because consumption of fish is the primary pathway for human exposure to this highly toxic compound. The contamination of fish, therefore, has been viewed largely from a toxicological perspective with the focus on exposure and health effects. Yet mercury pollution has also diminished the economic, recreational, nutritional, and cultural benefits derived from fishery resources. In North America, mercury contamination now accounts for more than 80 percent of all fish-consumption advisories. Almost half of the 83,000 lakes in Sweden contain game fish with mercury concentrations exceeding their national guideline. In Canada, indigenous communities that abandoned subsistence fishing because of contaminated fisheries have experienced particularly severe consequences, including adverse effects on lifestyle, culture, social cohesion, economic status, and health. The socioeconomic losses caused by mercury contamination of fishery resources have not been quantified, but they are highly relevant to policy considerations regarding the problem.

The Key Question posed to this panel: What are the socioeconomic and cultural costs of mercury pollution?

Panel Chair: Edward Swain, USA

Panelists: Paul Jakus, USA; Frank Lupi, USA; Peter A. Maxson, Belgium; Jozef Pacyna, Norway; Alan Penn, Canada; Glenn Rice, USA; Samuel Spiegel, Canada; Marcello Veiga, Canada



Credit: James Hurley

Remediation and Pollution-Control Technologies 3

R-1: Treatment of Mercury Bearing Exhausted Fluorescent Lamps Using an Electrochemical Process

Luis Sobral (Presenting Author), Ronaldo Santos, André Fernandes, Débora de Oliveira, Priscila Xavier

R-2: Collecting Dispersed Mercury from Crushed Fluorescent Lamps by Using Sulfur-Bridged Trinuclear Molybdenum Clusters

Hiromi Aikoh, Yasuhiro Tanaka, Takashi Shibahara (Presenting Author)

R-3: Modeling and Forecast of Mercury Polluted Groundwater Spread Outside Industrial Area of JSC "Radical" in Kiev, Ukraine

Vladimir Panichkin, Mikhail Ilyushchenko (Presenting Author), Leonid Postolov

R-5: Mercury Contents in Earthworms from the Almadén Mercury Mining District, Central Spain

Jose María Esbri, Pablo Higuera (Presenting Author)

R-6: Mercury in the District of Xi'an, China

Xiaojuan Wang, Yongqing Jin, Julia Lu (Presenting Author), Chengxiao Zhang

R-7: Spatial Variability and Distribution of Total Gaseous Mercury from Zinc Smelting Area in Weining County, Guizhou, China

Guanghui Li, Xinbin Feng (Presenting Author), Xiangyang Bi, Guangle Qiu

R-8: Distribution of Mercury Species in Caohai Lake, Guizhou Province

Xiaoli Qian, Xinbin Feng (Presenting Author)

R-9: A Preliminary Study on Mercury Contamination to Crop, Vegetable Contaminated by Zinc Smelting and Chlor-Alkali Production in Huludao City, China

Na Zheng, Qichao Wang (Presenting Author), Dongmei Zheng

R-10: Study on Purification of the Second Songhua River Polluted by Mercury in 20 Years

Zhiguo Shao, Qichao Wang (Presenting Author), Lei Zhang, Na Zheng, Dongmei Zheng

R-11: Combined Pollution Characteristics and Sources of Mercury, Lead, Zinc in Three Rivers Contaminated by Zinc Smelting and Chlor-Alkali Production in Huludao City, China

Na Zheng, Dongmei Zheng, Qichao Wang (Presenting Author), Shaoqing Zhang

R-12: The Mercury in Woody Plants in the Area Suffering Combined Pollution by Zinc Smelting and Chlor-Alkali Production

Dongmei Zheng, Qichao Wang (Presenting Author), Na Zheng

Bioaccumulation and Trophic Transfer 4

R-13: Trophic Transfer of Inorganic and Organic Mercury in Fish from Four Reservoirs of the Paraíba Do Sul-Guandu River System, Brazil - Case One - Funil Reservoir

Elisabete Fernandes Albuquerque Palermo, Daniele Kasper, Christina Wyss Castelo Branco, Olaf Malm (Presenting Author)

R-14: Trophic Transfer of Inorganic and Organic Mercury in Fish from Four Reservoirs of the Paraíba Do Sul-Guandu River System, Brazil - Case Two - Santana Reservoir

Elisabete Fernandes Albuquerque Palermo, Daniele Kasper, Christina Wyss Castelo Branco, Olaf Malm (Presenting Author)

R-15: Trophic Transfer of Inorganic and Organic Mercury in Fish from Four Reservoirs of the Paraíba Do Sul-Guandu River System, Brazil—Case Three—Vigário Reservoir

Elisabete Fernandes Albuquerque Palermo, Daniele Kasper, Christina Wyss Castelo Branco, Olaf Malm (Presenting Author)

R-16: Trophic Transfer of Inorganic and Organic Mercury in Fish from Four Reservoirs of the Paraíba Do Sul-Guandu River System, Brazil—Case Four—Lajes Reservoir

Elisabete Fernandes Albuquerque Palermo, Christina Wyss Castelo Branco, Olaf Malm (Presenting Author)

R-17: Development and Application of a One-Compartment Bioaccumulation Model for Disaggregating the Effect of Sediment Organic Carbon Content on Feeding Rate from the Effect on Toxicant Bioavailability in the Mudworm (*Lumbriculus variegatus*)

Larry Fink (Presenting Author)

R-18: Intra-and Intercorrelations among Soil Constituents and MeHg Bioaccumulation in the Mudworm (*Lumbriculus Variegatus*) Exposed to a Set of South Florida Peat Soils in a 28-Day Wet Soil Bioassay

Larry Fink (Presenting Author)

R-19: Intercorrelations between Soil Constituent Concentrations and the Model-Inferred Methylmercury Absorption Efficiency by the Mudworm (*Lumbriculus variegatus*) Exposed to a Set of South Florida Peat Soils in a 28-Day Wet Soil Bioassay

Larry Fink (Presenting Author)

R-20: Application of a Time-Dependent, Multi-Trophic Level Bioaccumulation Model to the Evaluation of Methylmercury Concentration Dynamics in the Mosquitofish (*Gambusia holbrooki*) following an Unprecedented Methylmercury Anomaly in a South Florida Constructed Wetland

Larry Fink (Presenting Author)

R-21: Development of a Model of Fickian Diffusive Transport of Uncharged Molecules across the Gill Membrane Based on Steady-State Partitioning among Organs and Tissues Relative to a Reference Ligand

Larry Fink (Presenting Author)

R-23: Mercury Determination in 5 Different Shrimp Species in the Persian Gulf

Abbas Esmaili Sari (Presenting Author), Seyed Mahmoud Ghasempouri, Fateme alsadat Namayandeh, Samar Mortazavi

R-24: Mercury Concentration in Various Organs of the White Cheek Shark (*Carcharhinus dussumieri*) in the Persian Gulf

Abbas Esmaili Sari (Presenting Author), Seyed Mahmoud Ghasempouri, Majid Mousavi

R-25: The Correlation between Weight and Length of Fish and Mercury Concentration in Different Organs of the Kutum Roach (*Rutilus frisii kutum*) from South-Central Region of the Caspian Sea

Abbas Esmaili Sari (Presenting Author), Seyed Mahmoud Ghasempouri, Somayeh Foroughi

R-26: Acute LC-50 and Bioaccumulation of Mercury in *Rutilus frisii kutum*

Ahmad Gharaei, Abbas Esmaili Sari (Presenting Author), Rajab Nazari, Mohsen Shahriari

R-27: Assessing the Concentration and Bioaccumulation of Mercury in Some Organs of *Liza aurata* in the Southern Caspian Sea

Abbas Esmaili Sari (Presenting Author), Behrooz Abtahi, Seyed Mahmoud Ghasempouri, Leila Yazdani Nasab

R-28: Determination and Comparison of Mercury Concentrations in Different Organs of Pike (*Esox lucius*) in the Anzali Wetland, Iran

Abbas Esmaili Sari (Presenting Author), Alireza Riahi Bakhtiari, Mahmoud Ghasempouri, Mahboubeh Nozari

Plenary: Societal Consequences of Mercury Pollution

R-29: Costs Related to Mercury Pollution

Lars D. Hylander (Presenting Author), Michael E. Goodsite

R-30: Global Health Impacts and Costs Due to Mercury Emissions

Ari Rabl (Presenting Author)

R-31: A Pathological Study of Minamata Disease (Methylmercury Poisoning) in Japan

Komyo Eto (Presenting Author), Akira Yasutake, Hitoshi Takahashi, Akihoshi Kakita, Masumi Sawada, Hidehiro Tokunaga

R-32: Why So Many Residents Began to Receive the Minamata Disease Examination Almost 50 Years after the Outbreak of Minamata Disease

Shigeru Takaoka (Presenting Author), Yoshinobu Kawakami

R-33: Diffusion of Mercury Risk Information

Dan Petersen (Presenting Author)

R-34: Methylmercury Risk and Awareness in American Indian Women of Childbearing Age

Sandra Kuntz (Presenting Author), Wade Hill, Susan King, Jeff Linkenbach, Gary Lande

R-35: Mercury Fish Consumption Advisories of the U.S.

Jeffrey Bigler (Presenting Author)

R-36: Fish Consumption Practices of California Women of Childbearing Age and Anglers

Elana Silver (Presenting Author), Jessica Kaslow, Trina Mackie, Erica Weis, Diana Lee, Sun H. Lee, May Lynn Tan, Lori Copan, Alyce Ujihara

R-37: Methylmercury Exposure in Current Japanese: Estimation from Hair Analysis

Noriyuki Hachiya (Presenting Author), Akira Yasutake

R-38: The Association between Hg Concentration in the Blood and Neurobehavioral Performance of Children

Kim Dae-Seon (Presenting Author), Kim Guen-Bae, Sakong Jun

R-39: Community-Directed Assessment of Risk from Exposure to Mercury from Gold Mining in a Maroon Village in Suriname

Daniel Peplow (Presenting Author), Sarah Augustine

R-40: Health and Environmental Training in Mercury Contaminated Artisanal Mining Areas

Stephan Boese-O'Reilly (Presenting Author), Thuy-Lin Cao, Beate Lettmeier, Gustav Drasch

Polar Ecosystems

R-41: Hg Dynamics in Snow of a Mixed Forest of the Laurentians, Quebec, Canada

Alexandre Poulain (Presenting Author), Virginie Roy, Ariane Bouffard, Marc Amyot

R-42: Deposition of Total Mercury to Antarctica from 260,000 to 660,000 Years B.P.

Alexandrine Marteel, Christophe Ferrari (Presenting Author), Claude Boutron, Carlo Barbante, Carlo Alberto Ricci, Paolo Gabrielli, Warren Cairns

R-43: Recent Atmospheric Evolution of Gaseous Mercury Concentrations Revealed by Firn Air Archive at Summit Station, Greenland

Xavier Fain (Presenting Author), Christophe Ferrari, Mary Albert, Jeffrey Severinghaus, Mark Battle, Claude Boutron

R-44: Elevated Concentrations of Mercury in Mosses Growing at the Arctic Coast of Norway—A Phenomenon Caused by Arctic Mercury Depletion Events?

Torunn Berg (Presenting Author), Katrine Aspomo, Eiliv Steinnes

R-45: Mercury in Air, Water and Sediments across the Canadian Arctic: Preliminary Results from Arctinet's Amundsen Icebreaker Cruise in 2005

Laurier Poissant (Presenting Author), Martin Pilote, Philippe Constant, Fabien Aulagnier, Hong Zhang

R-46: Speciation of Atmospheric Mercury in the North Atlantic Ocean during Arctic Summer

Katrine Aspomo (Presenting Author), Christian Temme, Torunn Berg, Christophe Ferrari

R-47: Peat in Coastal Thaw Lake Basins as an Archive of Arctic Mercury Deposition

Andrew Lammers (Presenting Author), Joel Blum, Abir Biswas, Thomas Douglas, Jerry Keeler

R-48: The Fate of Mercury and Methyl Mercury within the Tundra Snowpack at Kuujjuarapik, Québec (Canada)

Philippe Constant (Presenting Author), Laurier Poissant, David Lean, Martin Pilote, Richard Villemur

R-49: Biogeochemical Cycling of Methylmercury in Lakes and Tundra Watersheds of Arctic Alaska

Chad Hammerschmidt (Presenting Author), William Fitzgerald, Carl Lamborg, Prentiss Balcom, Mao Tseng

R-50: Interaction between Mercury and Arctic Bacteria in Snow: Implications on Hg Cycle in Polar Areas

Raphaëlle Hennebelle (Presenting Author)

R-52: Circumpolar Atmospheric Measurements of Marine Boundary Layer Speciated Hg, O₃ and CO Using an Icebreaker as a Platform

Jonas Sommar (Presenting Author)

R-53: Continuous Measurements of Elemental Mercury in Surface Water in the Arctic Ocean

Maria Andersson (Presenting Author), Jonas Sommar, Katarina Gårdfeldt

R-54: Fate of Mercury Deposited to the Arctic Sea Ice

Maria Andersson (Presenting Author), Jonas Sommar, Katarina Gårdfeldt

S-SA-2: Global-Scale Transport and Deposition Patterns of Atmospheric Mercury

Organizers: Eric Prestbo, Frontier Geosciences, USA; Ralf Ebinghaus, GKSS Institute for Coastal Research, Germany; Daniel Jaffe, University of Washington-Bothell, USA

R-55: A Global View of Atmospheric Mercury from the Arctic

Alexandra Steffen (Presenting Author), Ashu Dastoor, Christian Temme, Torunn Berg, Steve Brooks, Steve Lindberg, Alexei Konoplev

R-56: Seasonal Variations in Gaseous Elemental Mercury Concentrations at Two Altitudes in the Atmospheric Boundary Layer at a Coastal Site

Hans Herbert Kock (Presenting Author)

R-57: Mercury Wet Deposition in the Great Lakes Region: Patterns, Trends, and Sources

Emily Christianson (Presenting Author), Gerald Keeler, Frank Marsik, James Barres, J. Timothy Dvonch, Matthew Landis, Gary Norris

R-58: Measurement of Dry Deposition of Atmospheric Mercury in Nevada by Direct and Indirect Methods

Seth Lyman (Presenting Author), Mae Gustin, Eric Prestbo

R-59: Reactive Gaseous Mercury in the Coastal and Open Ocean Atmosphere

Fabien Laurier (Presenting Author), Lindsay Whalin, Robert Mason

R-60: What Is the Atmospheric Lifetime of Hg(0) upon O₃ Initiated Reactions?

Parisa Ariya (Presenting Author)

R-61: Long-Range Transport of Mercury from Asia

Sarah Strode (Presenting Author), Lyatt Jaegle, Dan Jaffe, Phil Swartzendruber, Noelle Eckley Selin, Chris Holmes, Rokjin Park, Robert Yantosca

R-62: Observations of Mercury-Containing Aerosols

Daniel Murphy (Presenting Author), Paula Hudson, David Thomson, Patrick Sheridan

R-63: Long-Term Modelling of Mercury Atmospheric Dispersion in the Northern Hemisphere

Oleg Travnikov (Presenting Author), Ilia Ilyin

R-64: The Influence of Meteorology and Long-Range Transport on Summertime Mercury Concentrations at Rendezvous Mountain, Wyoming

Lynne Gratz (Presenting Author), Gerald J. Keeler

R-65: Investigating Oxidation Mechanisms of Hg(0) in the Free Troposphere and Its Influence on Long-Range Mercury Transport

Matthew Landis (Presenting Author), Robert Stevens, Gerald Keeler

R-66: Speciated Hg Measurements at a Suburban and an Urban-Industrial Site in the Southeastern U.S.

Eric Edgerton (Presenting Author)

R-67: Global Mercury Transport: Implications of Halogen Mercury Chemistry

Ashu Dastoor (Presenting Author), Didier Davignon, Arturo Quintanar

R-68: Reactive Gaseous Mercury in the Free Troposphere at the Mt. Bachelor Observatory

Phil Swartzendruber (Presenting Author), Dan Jaffe, Jeremy Smith, Peter Weiss-Penzias, Eric Prestbo, Noelle Eckley Selin, Rokjin Park, Daniel Jacob, Sarah Strode, Lyatt Jaegle

S-EB-2: Mercury—Dissolved Organic Matter (DOM) Interactions 2

Organizers: George Aiken, US Geological Survey; Gary Gill, Battelle Marine Sciences Laboratory, USA; Nick Loux, US Environmental Protection Agency, USA

R-69: A Critical Review of Methods Used for the Measurement of Mercury (II) -Dissolved Organic Matter Stability Constants

Jarrod Gasper (Presenting Author), George Aiken, Joseph Ryan

R-71: Geochemical Cycling and Transport of Mercury and Organic Matter in South Carolina

Jane Guentzel (Presenting Author)

R-72: Reducible Hg Titrations of Dissolved Organic Matter Complexation Equivalents in Seawater

Carl Lamborg (Presenting Author)

R-73: Observed Relationships between Mercury Species and Properties of Dissolved and Particulate Organic Matter Measured *in situ* in a Tidal Wetland in the San Francisco Estuary

Brian Bergamaschi (Presenting Author), Jacob Fleck, Bryan Downing, Emmanuel Boss, George Aiken

R-74: The pH Independent Binding of Methyl-Hg⁺ by NOM Thiol S at pH > 4

Paul Bloom (Presenting Author), Abdul Khwaja, Patrick Brezonik, Ulf Skyllberg

R-75: Manipulation of UV and DOC in Mesocosm Experiments to Evaluate Controls on Mercury Evasion from Freshwater Lakes

Jennifer Wollenberg (Presenting Author), Stephen Peters

R-76: Mercury Complexation with Dissolved Organic Matter as a Function of Redox Conditions

Chase Gerbig (Presenting Author), Stefan Grimberg

S-EB-3: Defining, Measuring and Investigating 'Reactive' or 'Bioavailable' Mercury' in Environmental Studies 2

Organizers: Mark Marvin-DiPasquale, US Geological Survey; Britt Hall, University of Regina, Canada

R-77: Measuring Microbiological Methylation of Mercury in Coal Utilization By-Products under Anaerobic Conditions

Amy L. Dahl (Presenting Author), Trevor Baker, Carl E. Hensman

R-78: Complementary Approaches to Assessing Reactive and Bioavailable Mercury at a Mercury Contaminated Creek

Marshall Allen, Prabhakar Pant (Presenting Author), Angelique Lawrence, Julio Cabrera, Yong Cai

R-79: A Comparison of Mercury Thermal Desorption and Cold Vapor Atomic Fluorescence Spectroscopy (MTD-CVAFS) as an Alternative to the Tekran Atmospheric Mercury Analyzer

Andrew Rutter (Presenting Author), James Schauer, Katy Hanford, Jaime Zwiers

R-80: Direct Speciation of Mercury-Bearing Samples Using EXAFS Spectroscopy, Micro-X-Ray Fluorescence, and Micro-X-Ray Diffraction

Christopher Kim (Presenting Author), Lauryn DeGreeff, Matthew Marcus, Nicolas Bloom

R-81: Assessing Mercury Bio-Availability in Lakes with the Aid of Genetically Modified *E. Coli*

Ralph Bona (Presenting Author), Holger Hintelmann, Steven Rafferty, Neil Emery

R-82: Use of Sequential Extraction and Methylmercury Production Rates to Assess Potential Bioavailability of Mercury in Gold Placer Tailings

Roger Ashley (Presenting Author), Andrea Foster, Elizabeth Bailey, Aaron Slowey

R-83: Storage, Release and Remobilization of Mercury by Wetland Plants—Implications for the "Reactive" Pool of Mercury Available for Methylation

Lisamarie Windham-Myers (Presenting Author)

R-84: Fractionation and Speciation of Mercury Species in a Soil Sample Collected Near the Oak Ridge Reservation

Guangliang Liu (Presenting Author), Julio Cabrera, Marshall Allen, Yong Cai

S-SC-1: Mercury in Artisanal Gold Mining: Environment, Health, Policy and Solutions 2

Organizers: Marcello Veiga, United Nations Industrial Development Organization, Canada; Randy Baker, Azimuth Consulting Group, Canada; Kevin Telmer, University of Victoria, Canada

R-85: Mercury Concentrations in Sediment and Fish from Nanay River, Peru—A Small-Scale Gold Mining Area

Adrian Sandin Sokolik, Lars Hillström, Lars Hylander (Presenting Author)

R-86: Preliminary Results from Diagnosis of Nerve Damages at Mt Diwata in 2005

Tadashi Ninomiya, Ana Francisco-Rivera, Annabelle Yumang, Lars D. Hylander (Presenting Author)

R-87: Reclamation Strategies for Gold Mining Regions Polluted with Mercury

Kevin Telmer (Presenting Author), Carlos Antonio Alvares Soares Ribeiro, David Stevens, Marcello Veiga

R-88: Microscopy and Certification as Tools for Environmentally Benign, Mercury-Free Small-Scale Gold Mining

David Plath, Lars D. Hylander (Presenting Author)

R-89: Towards Mining Land Reclamation in the Brazilian Amazon: Implications for Policy and Practice

Carlos Antonio Ribeiro (Presenting Author), Kevin Telmer, Marcello Veiga, Samuel Spiegel, Angelo Marcos Oliveira

R-90: Mercury Awareness Campaign in Brazil

Zuleica Carmen Castilhos (Presenting Author), Silvia Egler, Allegra Viviane Yallouz, Luiz Roberto Pedroso, Roberto Villas Boas, Adao Benvindo Luz, Stephen Metcalf, Marcello Veiga, B.C. Meurer

R-91: Organisation, Business, Technology and Education: Interventions for Reducing Mercury Use in Artisanal Gold Mining in Tanzania and Zimbabwe

Jemma Scoble (Presenting Author), Andrew Bamber, Marcello Veiga

R-92: Mercury Exposure Risk and Intoxication for Men, Women and Children in the Kadoma-Chakari Gold Mining Communities, Zimbabwe

Dennis Shoko (Presenting Author), Stephan Boese-O'Reilly, Gustav Drasch, Pierre Billaud, Phillippe Freyssinet

R-93: National and International Efforts to Reduce and Control Mercury Use and Exposure Risk in Zimbabwe

Dennis Shoko (Presenting Author), David Love, Ndatenda Mondoh

Environmental Monitoring and Assessment 2**R-94: Determination of Trends in Mercury Contamination in Sediment and Aquatic Biota in the Lower Cataraqui River at Kingston, Ontario**

Nathan Manion (Presenting Author)

R-95: Lysimeter Experiments to Determine the Transfer of Mercury from Soil to Cultivation

Thomas Schmid (Presenting Author), M. José Sierra, Rocio Millán, Ana Cardona

R-96: Mercury in Soils of Metropolitan Areas (by the Example of St. Petersburg)

Nikolay Mashyanov, Sergey Pogarev (Presenting Author), Vladimir Ryzhov, Andrey Gorky

R-97: Development and Evaluation of a Passive Sampler for Hg(0) Determination

Britt T. Sorensen, Henrik Skov, Matthew S. Landis (Presenting Author), Matthew S. Johnson, Paolo Sacco

R-98: Field Intercomparison of Existing and Prototype Mercury Wet Deposition Collectors

Robert Brunette (Presenting Author), Gerard Van der Jagt, Doug Disney, Ryan Nelson, David Gay

R-99: Field Intercomparison of Mercury Measurements in Ambient Air and Precipitation within EMEP

Christian Temme (Presenting Author), Ralf Ebinghaus, Andreas Schwerin, Elke Bieber

R-100: U.S. Geological Survey External Quality Assurance Programs for the National Atmospheric Deposition Program/Mercury Deposition Network

Gregory Wetherbee, Natalie Latysh, David Gay, Christopher Lehmann (Presenting Author), Shannon Greene

R-101: Data-Quality Objectives for the National Atmospheric Deposition Program/Mercury Deposition Network

Christopher Lehmann (Presenting Author), Gregory Wetherbee, Natalie Latysh, Robert Brunette, Gerard Van der Jagt, David Gay

R-102: The Visual Simulation System of the Water Pollution

Dong Li (Presenting Author)

Health Effects of MeHg and Inorganic Mercury 3**R-103: Homocysteine and Mercury Dental Amalgam**

Cristina Novembrino, Fabrizia Bamonti, Claudio Minoia, Gianpaolo Guzzi, Paolo Pigatto (Presenting Author)

R-104: Measurements of Methyl Mercury and Total Mercury in Patient in Pre-and Post Amalgam Removal

Gianpaolo Guzzi, Claudio Minoia, Paolo Pigatto (Presenting Author), Anna Ronchi, Manuela Passoni, Gianluca Severi

R-105: Estimates of Mercury in Urine and Dental Amalgams

Claudio Minoia, Anna Ronchi, Paolo Pigatto (Presenting Author), Gianpaolo Guzzi, Gianluca Severi

R-106: Computational Models of Mercury-Selenium Interactions

Nicholas Ralston (Presenting Author)

R-107: Selenium in Blood Samples from Seychellois Mother-Child Pairs

Nicholas Ralston (Presenting Author), Laura Raymond, Conrad Shamlaye, Gary Myers, Thomas Clarkson

R-108: Total Mercury in Blood, Hair and Target Organs of Adult Rats after Methylmercury Administration

Áurea R. A. Ignácio (Presenting Author), Helena A. Kehrig, Cecilia Hedin-Pereira, Olaf Malm

R-109: Methylmercury Contamination Increases Proliferation in the Brains of Adult Rats

Áurea Regina Ignácio (Presenting Author), Mariana Badini Costa, Helena A. Kehrig, Olaf Malm, Cecilia Hedin-Pereira

R-110: Methylmercury in Target Organs of Adult Rats after Intoxication with Methylmercury

Áurea Regina Ignácio (Presenting Author), Mariana Badini Costa, Helena A. Kehrig, Cecilia Hedin-Pereira, Olaf Malm

R-111: Human Health Risk Assessment for Mercury Exposure by Ingestion of Fish from Ribeira and Guanabara Bay, RJ - Brazil

Ana Paula de Castro Rodrigues, Aline Santos Ramos, Karem Pereira Marmello S. Muniz, Luiz Roberto Martins Pedroso, Mariana Gonçalves, Michele Longo, Bruno Meurer, Bruno Absolon, Felipe Manzano, Teixeira Dirceu, Milo Freret, José Andreata, Edson D. Bidone, Zuleica C. Castilhos (Presenting Author)

R-112: Spatial and Temporal Analysis of Human Health Risk by Ingestion of *Micropogonias furnieri* Contaminated by Mercury

Alline dos Santos Ramos, Ana Paula de Castro Rodrigues, Aline Machado Castro, Cristina Andrade Lima, Kareem P. M. S. Muniz, Luiz Roberto Martins Pedrosa, Edson D. Bidone, Zuleica C. Castilhos (Presenting Author), Mariana Gonsalves, Longo Michele, Meurer Bruno, Bruno Absolon, Felipe Manzano, Dirceu Teixeira, Milo Freret, José Andreata

Plenary: Societal Consequences of Mercury Pollution

R-113: Mercury Concentration in Hair of Artisanal Miners and Their Families from Mineral Processing Centers at El Callao, Venezuela.

Armando Carrasquero (Presenting Author)

R-114: Gold Mining and Environmental Pollution with Mercury: A Review

Augustine Donkor, Jean-Claude Bonzongo (Presenting Author)

R-115: Mercury Contamination by Historical Small-Scale Gold Mining: The Case of the Municipality of Descoberto, Minas Gerais State, Brazil

Carlos Alberto Carvalho Filho (Presenting Author), Otávio Eurico Aquino Branco, Mauro Campos Trindade, Décio Antônio Chaves Beato, Peter Marshall Fleming, Helena Leonhardt Palmieri, Claudia Carvalhinho Windmoller

R-116: Mercury Temporal Exposure in Gold Shop Workers of the Itaituba City, Amazon.

Terezinha Cid de Souza (Presenting Author)

R-117: Health and Environmental Impact of Mercury in a Gold Mining Community in Western Mindanao, Philippines

Nelia Maramba (Presenting Author)

R-118: Monitoring the Consequences of Shutdown of the Idrija Mercury Mine

Tatjana Dizdarevic (Presenting Author), Jakob Likar, Milena Horvat, Jože Kotnik, Jože Janež, Marko Cigale, Bojan Režun, Jurij Čadež

R-119: Mercury Pollution in a Mercury Mining Area, Guizhou Province (II): High Urinal Hg Levels in Mercury Mine Smelters

Mineshi Sakamoto (Presenting Author), Xin-bin Feng, Xiaojie Liu, Ping Li, Minoru Yoshida, Toyoto Iwata

R-120: Health Impact of Chronic Hg Exposure on Residents in Hg-Mining Area

Chunying Chen (Presenting Author), Yufeng Li, Zhifang Chai, Liya Qu

R-121: Assessment of the Socio-Economic Impact of Total Mercury Levels in Fish Commonly Consumed by Communities around Selected Wetlands in the Lake Victoria Basin of Uganda and Kenya

Christopher Gor (Presenting Author)

R-122: Total Mercury Loss Evaluation before and after Cooking in Fish Most Commonly Consumed in Manaus, Amazonas State, Brazil

Luciana Farias, Déborah Fávaro (Presenting Author), José Osman Santos, Vera Akiko Maihara, Marina Beatriz Vasconcellos, Lucia Yuyama

R-123: An Impact Analysis of Chronic Mercury Pollutant Hazards in Fish

Rajender Gupta (Presenting Author)

R-124: Mercury in Fish from Water Bodies in the Northwest of Russia

Viktor Komov (Presenting Author)

S-SA-1: Air Surface Exchange of Mercury in Terrestrial Ecosystems 3

Organizers: Mae Gustin, University of Nevada-Reno, USA; Frank Marsik, University of Michigan, USA; Daniel Obrist, University of Basel, Switzerland

R-125: Surface-Air Exchange of Mercury from Urban Surfaces

Chris Eckley (Presenting Author), Brian Branfireun

R-126: Enhancement of Mercury Evasion after Conversion of Amazonian Forest to Pasture

Gabriella Magarelli, Anne H el ene Fostier (Presenting Author)

R-127: Light-Driven Mercury Volatilization from Tidally-Exposed Wetland Sediments of Hudson River Tributaries

Lora Smith (Presenting Author), John Reinfeldt

R-128: The Significance of GEM Fluxes and Atmospheric Mercury Concentrations (GEM, RGM and PM) from an Agricultural Field Amended with Biosolids in Southern Ontario, Canada (October 2004-November 2004)

Bill Van Heyst, Frank Cobbett (Presenting Author)

R-129: Estimating Vertical Fluxes of Gaseous Elemental Mercury in Wisconsin

Bill Adamski (Presenting Author), Mark Allen

R-130: Hg Isotope Ratios Measurements: A New Tool to Trace Contamination Sources of Mercury at Contaminated Sites

Delphine Foucher (Presenting Author), Holger Hintelmann, Tom Al

R-131: Finding More about the Composition of the Total Gaseous Mercury in the Atmosphere

Andrius Urba (Presenting Author), Christian Temme, Hans Herbert Kock, Tien-Ho Kuo, Kestutis Kviatkus, Cheng-Fen Chang

R-132: Antarctic Polar Plateau Snowpack Conversion of Deposited Oxidized Mercury to Gaseous Elemental Mercury with Fractional Long-Term Burial

Steve Brooks (Presenting Author), Rich Arimoto, Steve Lindberg, George Southworth

R-133: The Dry-Deposition of Speciated Mercury to the Florida Everglades: Measurements and Modeling

Frank Marsik (Presenting Author), Gerald Keeler

R-134: Evidence for a Link between Soil Respiration and Mercury Emission from Organic Soils

Kimberly Wickland (Presenting Author), David Krabbenhoft, Shane Olund

R-135: Elemental Mercury Transport in the Deep Unsaturated Zone from an Arid Waste Disposal Site

Michelle Walvoord, David Krabbenhoft, Robert Striegl (Presenting Author), Brian Andraski

S-RE-2: Response of Fish Mercury Concentrations to Point-Source Mercury Loads

Organizers: Erin Mack, DuPont Corporate Remediation Group, USA; James Dyer, DuPont Engineering Research and Technology, USA; Reed Harris, Tetra Tech Inc., Canada

R-136: Relative Mercury Bioaccumulation along the Ayeyarwady River of Myanmar

Darell Slotton (Presenting Author), Brian Smith, Mya Than Tun, Tint Tun, Shaun Ayers, Alan Jassby

R-137: Effect of Sediment Transport in a Contaminated River System on Fish Mercury Concentrations

Susanne M. Ullrich (Presenting Author), Mikhail A. Ilyushchenko, Grigoriy A. Uskov

R-138: Mercury Trends in Lavaca Bay in Response to Source Control

Ron Weddell (Presenting Author), Bryan McCulley, Tom Schadt

R-139: Bioavailability of Mercury within the Great Lakes Basin: A Comparison of Two USEPA-Designated "Areas of Concern"

James Hurley (Presenting Author), Helen Manolopoulos, Christopher Babiarz

R-140: Comparison of Mercury Bioaccumulation in Adjacent Watersheds Influenced by Historical Mining in the Klamath-Trinity Mountains, California

Jason T. May (Presenting Author), Roger L. Hothem, Larry R. Brown, Johnnie N. Moore, Jennifer K. Gibson, James R. Rytuba, Charles N. Alpers

R-141: Mercury in Fish Caught Close to a Sunken Submarine Containing Metallic Mercury

Amund Maage (Presenting Author), Kaare Julshamn, Jarle Klungsøyr, Dag Furevik

R-142: Fish Mercury Body Burdens in a Riverine Environment (South River, Virginia, USA) Affected by a Historic Mercury Point Source

E. Erin Mack (Presenting Author), John W. Green, Robert Turner, Paul Bugas

S-SA-3: Understanding and Controlling Mercury Emissions from Coal-Fired Power Plants 2

Organizers: John Pavlish, University of North Dakota Energy & Environmental Research Center, USA; David Michaud, WE Energies, USA

R-143: Mercury Removal in Coal-Fired Power Plants

Ruud Meij (Presenting Author), Henk Te Winkel

R-144: Atmospheric Mercury Emission from Coal Combustion and Coke Production in Russia

Evgeny Yanin, Yury Tatsy (Presenting Author)

R-145: Controlling Mercury Emission for China's Coal-Fired Electricity Plants: An Economic Analysis

Shiqiu Zhang, Dan Wu (Presenting Author), Tong Zhu

R-146: Mercury Capture by Wet FGD Systems

Susanne M. Ullrich (Presenting Author)

R-147: Passive Mercury Control Technology: Silica-Titania Composites

Jennifer Stokke (Presenting Author), Anna Casasus, David Mazyck

R-148: Evidence of Reduction of RGM in Power Plant Stack Plumes

Leonard Levin (Presenting Author), Susannah Scott, Arnout ter Schure

R-149: Mercury Oxidation across SCR Catalysts

Jason Laumb (Presenting Author), Michael Holmes

R-150: Multimedia Considerations for Improving Control of Mercury Air Emissions at Coal-Fired Electric Power Plants

David Lee (Presenting Author)

R-151: Mercury Control Options from a Canadian Perspective

Erica Oberst (Presenting Author), Ken Omotani

R-152: Predicting the Fate of Mercury in Coal Utility By-Products Using Chemical and Thermal Speciation Methods

Lucas Hawkins (Presenting Author), Eric Prestbo, Sharon Sjostrom

S-RE-1: Relating Mercury Load to Methylmercury Production and Bioaccumulation

Organizers: Cynthia Gilmour, Smithsonian Environmental Research Center, USA; R. A. (Drew) Bodaly, Penobscot River Mercury Project, USA

R-153: Relative Importance of Newly-Deposited Mercury in the Environment and Food Web of a Boreal Lake

Diane Orihel (Presenting Author), Michael Paterson, Drew Bodaly, Paul Blanchfield, Cynthia Gilmour, Holger Hintelmann

R-154: Reduced Mercury Concentrations in Massachusetts Freshwater Fish during a Period of Substantial Reductions in Mercury Emissions

Michael Hutcheson, C. Mark Smith (Presenting Author), Carol Rowan-West, Jane Rose

R-155: Evaluating Changes in Mercury in Fish and Other Biota from Waterbodies across Northeast North America Based on Changing Regional Deposition Patterns—Lessons and Applications of the NERC Data Synthesis Project.

Neil Kamman (Presenting Author), David Evers, Charles Driscoll, Wing Goodale, Thomas M. Holsen, Neil Burgess, Celia Chen, Kathy Fallon-Lambert, Han Young-Ji

R-156: Methylmercury in Lacustrine Food Webs in the Voyageurs National Park (Minnesota, USA): Importance of Atmospheric Deposition and Ecosystem Factors

James Wiener (Presenting Author), Brent Knights, Mark Sandheinrich, Jeffrey Jeremiason, Mark Brigham, Daniel Engstrom, Laurel Woodruff, William Cannon, Steven Balogh

R-157: Does Reservoir Water-Level Fluctuation Affect Mercury Methylation and Transport in Surrounding Wetlands?

Brian Branfireun (Presenting Author), David Krabbenhoft, David Fowle, Carl Mitchell, Lowell Neudahl, Jessica Iraci

R-158: METAALICUS: Methylmercury Production in Lake Sediments from Ecosystem Mercury Isotope Amendments to Lake 658 and Its Watershed

Cynthia Gilmour (Presenting Author), J. Tyler Bell, Carrie Miller, Michael Rearick, Georgia Riedel, Ken Sandilands

Impacts of Mining

R-159: Distribution of Mercury in River Water and Sediment near Idrija Mercury Mine, Slovenia

Takashi Tomiyasu (Presenting Author), Akito Matsuyama, Ryusuke Imura, Junko Miyamoto, Milena Horvat, Joze Kotnik, Vesna Fajon, Darija Gibicar, Hirokatsu Akagi

R-160: Novel Solution to Reduce or Eliminate Mercury Pollution from Artisanal and Small Scale Gold Mining

Kristina Shafer, Lars Hylander (Presenting Author), David Plath

R-161: Biosentinels of Methylmercury Exposure in Areas Affected by Abandoned Gold and Mercury Mines: Why Not the Ubiquitous Water Strider?

Roger Hothem (Presenting Author), Jason May, Charles Alpers

R-162: Mercury and Methylmercury in Agricultural Crops Collected from Hg-Mining Areas in Guizhou, China

Guangle Qju (Presenting Author), Xinbin Feng

R-163: Hg-Uptake Assessment of Plants Colonizing Hg-Contaminated Mine Tailings Dumpsites in Itogon, Philippines

Malona Alinsug (Presenting Author)

Plenary: Societal Consequences of Mercury Pollution

R-165: Economic and Environmental Analysis of Technologies to Treat Mercury and Dispose in a Monofill

Paul Randall (Presenting Author)

R-166: Consumer Perspectives on a Recycling System for Mercury-Containing Fluorescent Lamps

Misuzu Asari (Presenting Author), Kazuki Fukui, Sin-ichi Sakai

R-167: Investigation of Mercury Pollution and Analysis of Its Chemical-Ecological Effect in the Region of the Weisha River on the Upper Reach of the Song-Hua River, China

Ning Wang (Presenting Author), Yan-Ming Zhu, Dan Meng

R-168: Anthropogenic Mercury Emissions in China

Melissa Chan (Presenting Author)

R-169: The Spatial Distribution of Soil Mercury in the Area Suffering Combined Pollution by Zinc Smelting and Chlor-Alkali Production

Dongmei Zheng, Na Zheng, Qichao Wang (Presenting Author)

R-170: Levels of Mercury in Hair of People Working in or Living Close to a Mercury Cell Chlor-Alkali Plant

Darija Gibičar (Presenting Author), Milena Horvat, Vesna Fajon, Barbara Mazzolai, Lars Barregård, Gerd Sällsten, Sergio di Bona

R-171: The Distribution of Mercury in Urban Soils under Influence of a Chemical Complex

Anabela Cachada (Presenting Author), Rodrigues Sonia, Claudia Mieiro, Eduardo Ferreira da Silva, Eduarda Pereira, Armando Duarte

R-173: Mercury in Soil of the Garbage Deposit Area in Porto Velho City, Rondônia, Brazil

Janeide Paiva Santos, Cibelle Mendes Cabral, Ronaldo Almeida, Ronaldo Cavalcante de Oliveira, Dario Pires Carvalho, Dárlly de Oliveira Souza, Wanderley Rodrigues Bastos (Presenting Author)

R-174: Is the Mercury Buried in the Qinshihuang Mausoleum, Xi'an, China an Environmental Concern?

Yongqing Jin, Xiaojuan Wang, Julia Lu (Presenting Author), Chengxiao Zhang, Qingbo Duan

R-175: Comparison of Mercury Vapor in Common Areas of Residential Buildings in Communities that Use Mercury for Cultural Purposes with Those in a Reference Community

Gary Garetano (Presenting Author), Alan Stern, Michael Gochfeld

R-176: The Status of Mercury Research in South Africa

Joy Leaner (Presenting Author), Peter Ashton

Environmental Biogeochemistry 4

R-177: Benthic Fluxes of Mercury Species in a Lagoony Environment: Diel Cycling

Stefano Covelli, Jadran Faganeli (Presenting Author), Cinzia De Vittor, Sergio Predonzani, Alessandro Acquavita, Milena Horvat, Nives Ogrinc

R-178: Benthic Fluxes of Mercury Species in a Lagoony Environment: Oxic-Anoxic Transition

Stefano Covelli, Jadran Faganeli (Presenting Author), Cinzia De Vittor, Sergio Predonzani, Alessandro Acquavita, Nives Ogrinc, Julija Hmeljak

R-179: Kinetics of Stable Isotopic Mercury(II) Sorption to Epilimnetic Particles

Shawn Chadwick (Presenting Author), Christopher Babiarz, James Hurley, David Armstrong

R-180: Particle Partitioning of Ambient and Amended Mercury in a Stratified Temperate Lake

Shawn Chadwick (Presenting Author), Christopher Babiarz, James Hurley, David Armstrong

R-181: Evasion of Mercury from the Mediterranean Sea

Maria Andersson (Presenting Author), Katarina Gärdfeldt, Ingvar Wängberg, Francesca Sprovieri, Nicola Pirrone, Dusan Zagar, Oliver Lindqvist

R-182: Mercury Evasion from the North Atlantic

Maria Andersson (Presenting Author), Jonas Sommar, Katarina Gärdfeldt

R-183: Mercury Deposition in Puruzinho Lake Influenced by Fluvimetric Level of the Madeira River, Amazon

Ronaldo de Almeida, Ronaldo Cavalcante de Oliveira, Dario Pires de Carvalho, Elisabete Lourdes do Nascimento, João Paulo de Oliveira Gomes, José Vicente Elias Bernardi, Wanderley Rodrigues Bastos (Presenting Author)

R-184: Mercury in the Urban Area of the Porto Velho City, Rondônia, Brazil

Darllly de Oliveira Souza, Ronaldo Almeida, Ronaldo Cavalcante de Oliveira, Janeide Paiva Santos, Cibelle Mendes Cabral, Wanderley Rodrigues Bastos (Presenting Author)

R-185: Heavy Metals in Remote Lakes from Negro and Branco River Basins, Brazilian Amazon

Claudio Azevedo-Silva, Antonio Azeredo, Rodrigo Meire, Paulo Dorneles, José Lailson-Brito, José Thomaz, João Torres, Olaf Malm (Presenting Author)

R-186: Heavy Metals in Brazilian Remote Lakes

Claudio Azevedo-Silva, Antonio Azeredo, Rodrigo Meire, Paulo Dorneles, José Lailson-Brito, José Thomaz, João Torres, Olaf Malm (Presenting Author)

S-EB-7: Mercury Methylation and Cycling in Estuarine and Coastal Waters

Organizers: Robert Mason, University of Connecticut-Groton, USA; Chad Hammerschmidt, Woods Hole Oceanographic Institution, USA

R-190: Mercury Cycling in Sulfide-Rich Sediments: Contaminant Storage in the Penobscot River Estuary, Maine

Karen Merritt (Presenting Author), Aria Amirbahman

R-191: Biogeochemistry of Methylmercury in Sediments of New York/New Jersey Harbor

Chad Hammerschmidt (Presenting Author), William Fitzgerald, Prentiss Balcom

R-192: Speciation of Mercury in Bottom Water in Minamata Bay

Takashi Tomiyasu (Presenting Author), Akito Matsuyama, Tomomi Eguchi, Koji Marumoto, Kimihiko Oki, Hirokatsu Akagi

R-193: Release of Mercury from Barite Used in Drilling Fluids: Experiments Simulating Conditions in the Gulf of Mexico

Brenda Lasorsa (Presenting Author), Eric Crecelius, John Trefrey

R-194: The Influence of Irrigated Infaunal Burrows on Sediment Monomethyl Mercury Accumulation in Boston Harbor, Massachusetts

Janina Benoit (Presenting Author), David Shull, Lynne Ucran

R-195: Coastal Erosion and Permafrost Melt as a Potential Source of Mercury to the Beaufort Sea

Dan Leitch (Presenting Author), Gary Stern, Feiyue Wang, Nicole Couture, Wayne Pollard

R-196: Temporal Variations of Mercury and Methylmercury in Estuarine Sediment: An Examination of Controlling Factors

Andrew Heyes (Presenting Author), Eun-Hee Kim, Robert Mason

R-197: Distributions and Cycling of Mercury and Methylmercury in the Waters of New York/New Jersey Harbor Estuary

Prentiss Balcom (Presenting Author), William Fitzgerald, Chad Hammerschmidt, Carl Lamborg, Joel O'Connor

R-198: Vertical Distribution of Mercury Species at Two Sites in the Western Black Sea

Oğuz Yigiterhan (Presenting Author), Carl Lamborg, William Fitzgerald, Prentiss Balcom, Chad Hammerschmidt, James Murray

R-199: The Redox Chemistry and Transformations of Mercury in Surface Waters: Studies Using Stable Isotopes

Lindsay Whalin, Eun-Hee Kim (Presenting Author), Robert Mason

R-200: Pore Water MeHg Geochemistry Investigations Using DGT/DET Technique.

Olivier Clarisse (Presenting Author), Brian Dimock, Holger Hintelmann

R-201: Mercury Transport and Cycling in the Hudson River Estuary and Bouyant Plume

Derek Wright (Presenting Author), John Reinfelder

R-202: Mercury Biogeochemistry in Gulf of Mexico Sediments (Coastal Louisiana)

David Senn (Presenting Author), Michael Bank, Laurel Schaidler, James Shine, Robert Mason, Terill Hollweg, Jennifer Jay, Nancy Rabalais

R-203: Upwelling of Dimethylmercury in Monterey Bay as a Potential Source of Monomethylmercury to the Atmosphere

Christopher Conaway (Presenting Author), Frank Black, Melanie Gault, J.T. Pennington, A.R. Flegal

S-EB-5: Physiological and Environmental Implications of Mercury-Selenium Interactions

Organizers: Nicholas Ralston and Laura Raymond, University of North Dakota Energy and Environmental Research Center, USA

R-204: Spectroscopic Analysis of Hg and Se Species in Liver Tissues of a Beluga Whale and a Pygmy Sperm Whale

Frank Huggins (Presenting Author), Nicholas Ralston

R-205: Mercury and Selenium in Muscle and Liver of Blue Shark (*Prionace glauca*) and Swordfish (*Xiphias gladius*) from the Atlantic

Vasco Branco, João Canário (Presenting Author), Carlos Vale, Miguel Neves dos Santos

R-206: Effects of Dietary Selenium and Mercury on Growth and Survival of House Crickets (*Acheta domesticus* L.)

Carla Ralston (Presenting Author), J. Lloyd Blackwell, Nicholas Ralston

R-207: Effects of Storage Conditions on Mercury and Selenium in Insect Samples

Carla Ralston (Presenting Author), David Meier, J. David Robertson, Laura Raymond, Nicholas Ralston

R-208: Increased Hair Mercury Is Associated with Low Iodine but Variable Selenium Concentrations

Berislav Momcilovic (Presenting Author), Jadran Morović, Nikola Ivicic, Anatoly Skalny, Margarite Skalny, Andrei Grabeklis

R-209: Simultaneous Analysis of Mercury and Selenium in Biological Systems by Instrumental Neutron Activation Analysis

J. David Robertson (Presenting Author), David Meier, John Brockman, Carla Ralston, Nick Ralston

R-210: Dietary Methylmercury and Selenium Effects on Rat Nail Elemental Distributions

John Brockman (Presenting Author), J. David Robertson, J. Steven Morris, Laura Raymond, Carla Ralston, Nick Ralston

R-211: Mercury and Selenium Accumulation in Zebra Mussels

Carla Ralston (Presenting Author), Stacy Crane, J. David Robertson, Nicholas V.C. Ralston

PLENARY SESSION • 8:30 a.m.

Societal consequences of mercury pollution

KEY QUESTION: What are the socioeconomic and cultural costs of mercury pollution?

BALLROOM A**Health Effects of Methylmercury and Inorganic Mercury I**

Moderators: Glenn Rice, USA; Alan Stern, New Jersey Department of Environmental Protection, USA

1:20 PM**S-730: Characteristics of Somatosensory Disturbance of Residents in the Methylmercury-Polluted Area**

Shigeru Takaoka (Presenting Author)

1:40 PM**S-987: Low Level Methylmercury Exposure and Neurobehavioral Assessment among Canadian Fish Consumers**

Nadia Abdelouahab (Presenting Author), Claire Vanier, Marie Baldwin, Donna Mergler

2:00 PM**S-1378: Selenium as a Potential Protective Factor against Mercury Developmental Neurotoxicity**

Anna L. Choi (Presenting Author), Esben Budtz-Jørgensen, Poul J. Jørgensen, Pál Weihe, Philippe Grandjean

2:20 PM**S-890: Mercury in Breast Milk—A Health Hazard for Infants in Gold Mining Areas?**

Beate Lettmeier (Presenting Author), Stephan Boese-O'Reilly, Gustav Drasch

2:40 PM**S-877: Mercury Intoxicated Children in Small Scale Gold Mining Areas**

Stephan Boese-O'Reilly (Presenting Author), Beate Lettmeier, Gustav Drasch

3:00 PM**S-632: Health Risk Assessment among Mother and Child Residents Living Near an Abandoned Mercury Mine: A Toxic Legacy**

Ana Trinidad Rivera (Presenting Author)

Health Effects of Methylmercury and Inorganic Mercury II

Moderators: Patricia McCann, Minnesota Department of Health, USA; Megumi Yamamoto, National Institute for Minamata Disease, Japan

4:00 PM**S-1057: Relationship between Fish Intake and Serum Fatty Acid Profiles: A Community-Based Study in Quebec, Canada**

Aline Philibert (Presenting Author), Claire Vanier, Nadia Abdelouahab, Laurie Chan, Donna Mergler

4:20 PM**S-471: Blood Selenium and Mercury Relation in the Brazilian Amazon**

Mélanie Lemire (Presenting Author), Donna Mergler, Myriam Fillion, Carlos José Sousa Passos, Jean Rémy Davée Guimarães, Robert Davidson, Marc Lucotte

4:40 PM**S-904: Glutathione Level after Long-Term Occupational Elemental Mercury Exposure**

Alfred B. Kopal (Presenting Author), Marija Prezelj, Mladen Krsnik, Alenka Briski, Milena Horvat, Darija Gibicar, Josko Osredkar

5:00 PM**S-906: Increase of the Renal Excretion of Organo-Mercury Compounds like Methylmercury by DMPS (2,3-Dimercapto-1-Propanesulfonic Acid, Dimaval®)**

Gustav Drasch (Presenting Author), Sven Illig, Stephan Boese-O'Reilly

5:20 PM**S-992: An Estimate of the Population Variability in the Relationship between Cord Blood Mercury and Maternal Methylmercury Intake**

Alan Stern (Presenting Author)

BALLROOM B**S-SA-1: Air Surface Exchange of Mercury in Terrestrial Ecosystems**Organizers: Mae Gustin, University of Nevada-Reno, USA; Frank Marsik, University of Michigan, USA; Daniel Obrist, University of Basel, Switzerland
Moderator: Frank Marsik**1:20 PM****S-702: Air-Surface Exchange of Mercury in Terrestrial Ecosystems**

Mae Gustin (Presenting Author), Frank Marsik, Daniel Obrist

1:40 PM**S-1461: A Kinetic Model for Mercury Emissions from Soils**

Enno Bahlmann (Presenting Author), Ralf Ebinghaus

2:00 PM**S-1345: Laboratory Studies on the Re-Emission Potential of Mercury from Different Snow Packs: The Effect of Solar Radiation, Temperature and Snow Composition**

Enno Bahlmann, Christophe Ferrari (Presenting Author), Ralf Ebinghaus

2:20 PM**S-287: Inter Annual and Intra Annual TGM Concentrations and Fluxes at the Bay St-Francois Wetlands**

Laurier Poissant (Presenting Author), Martin Pilote, Hong Zhang, Philippe Constant, Conrad Beauvais

2:40 PM**S-1507: Are We Doing a Good Job of Quantifying the Net Deposition of Mercury to Ecosystems?**

Vincent St.Louis (Presenting Author), Jennifer Graydon, Jane Kirk

3:00 PM**S-347: Environmental Controls on Mercury Flux from Ecosystem Components at Different Temporal Scales**

Jelena Stamenkovic (Presenting Author), Mae Gustin, Daniel Obrist, John Arnone, Dale Johnson, Paul Verburg

S-EB-3: Defining, Measuring and Investigating 'Reactive' or 'Bioavailable' Mercury in Environmental StudiesOrganizers: Mark Marvin-DiPasquale, US Geological Survey; Britt Hall, University of Regina, Canada
Moderators: Mark Marvin-DiPasquale and Britt Hall**4:00 PM****S-1011: International Solid Phase Mercury Speciation Exercise (ISPMSE): Introduction and Preliminary Results**

Nicolas Bloom (Presenting Author), Anne Bollen, Michelle Briscoe, Gwendy Hall, Milena Horvat, Chris Kim, Brenda Lasorsa, Mark Marvin-DiPasquale, Jennifer Parker

4:20 PM**S-348: Speciation and Bioavailability of Mercury in EPA-Approved KO71 Plant Waste (Gypsum) from the Chlor-Alkali Industry**

Nicolas Bloom, Jennifer Parker (Presenting Author)

4:40 PM**S-404: Ecosystem Investigations of Benthic Methylmercury Production: A Tin-Reduction Approach for Assessing the Inorganic Mercury Pool Available for Methylation**

Mark Marvin-DiPasquale (Presenting Author), Britt D. Hall, John R. Flanders, Nicolas Ladizinski, Jennifer L. Agee, Le H. Kieu, Lisamarie Windham-Myer

5:00 PM**S-875: Does "Reactive Hg" Really Have Any Meaning?**

Carl Lamborg (Presenting Author), Chad Hammerschmidt, William Fitzgerald

5:20 PM**S-789: Is Reactive Mercury a Good Indicator of the Bioavailability of Mercury to Bacteria?**

John W. M. Rudd (Presenting Author), Carol A. Kelly, Nicolas S. Bloom, Morris H. Holoka



PANEL CHAIR: Edward Swain, USA

PANELISTS: Paul Jakus, USA; Frank Lupi, USA; Peter A. Maxson, Belgium; Jozef Pacyna, Norway; Alan Penn, Canada; Glenn Rice, USA; Samuel Spiegel, Canada; Marcello Veiga, Canada



BALLROOM C

S-EB-5: Physiological and Environmental Implications of Mercury-Selenium Interactions

Organizers: Nicholas Ralston and Laura Raymond, University of North Dakota Energy and Environmental Research Center, USA

Moderator: Nicholas Ralston

1:20 PM

S-1042: Interactive Effects of Dietary Mercury and Selenium on Distribution into Hair and Blood

Laura Raymond (Presenting Author), Carla Ralston, Nicholas Ralston

1:40 PM

S-848: Toxicological Interaction between Perinatal Methylmercury Exposure and Selenoenzymes in Mice

Chiho Watanabe (Presenting Author)

2:00 PM

S-325: Developmental Neurotoxicity of Mercury in Rats on Selenium-Rich Diets

M. Christopher Newland (Presenting Author), John C. Heath, Miranda N. Reed, Wendy D. Donlin

2:20 PM

S-1241: Chronic Methylmercury and Selenium Interactions in an Animal Model

Wendy Donlin (Presenting Author), M. Christopher Newland, Miranda Reed, John Heath

2:40 PM

S-892: Can Selenium Additions Lower MeHg in Freshwater Fish without Imposing Toxicity? A Limnocorral Study

Mariah Mailman (Presenting Author), R. A. (Drew) Bodaly

3:00 PM

S-1272: The Role of Selenium Sequestration in the Molecular Mechanism of Mercury Toxicity

Nicholas Ralston (Presenting Author)

Environmental Monitoring and Assessment

Moderators: Robin Reash, American Electric Power, USA; R. A. (Drew) Bodaly, Penobscot River Mercury Study, USA

4:00 PM

S-1259: Mercury in Stream Water, Sediment, and Fish: Results from a National Survey

Barb Scudder (Presenting Author), Lia Chasar, Nancy Bauch, Dennis Wentz, Mark Brigham, David Krabbenhoft, Patrick Moran, William Brumbaugh

4:20 PM

S-799: Methylmercury Levels in Fish from the Abitibi-Temiscamingue Region: A GIS Approach

Jean-Sébastien Beaulne (Presenting Author), Marc Lucotte

4:40 PM

S-160: Noninvasive Environmental Monitoring of Mercury as a Global Pollutant in Alaskan Reindeer

Lawrence K. Duffy (Presenting Author)

5:00 PM

S-468: A Simple and Effective Water Sampling Technique for Mercury in Surface Waters

Robert McCrea (Presenting Author)

5:20 PM

S-492: A Comparison of Sampling Methods for Low Level Mercury Analysis of Wastewater Treatment Effluents at GBMSD

Michael Urbancic (Presenting Author)

BALLROOM D

Bioaccumulation and Trophic Transfer, Part 1

Moderators: Matti Verta, Finnish Environment Institute, Finland; Celia Chen, Dartmouth College, USA

1:20 PM

S-154: Methyl Mercury Bioaccumulation in Brown Trout (*Salmo Trutta*): effects of Food Source, Trophic Levels and Life History Deduced from Stable Carbon, Nitrogen and Sulfur Isotopes and Strontium-Calcium Ratios in Fish Otoliths

Jonathan Kim (Presenting Author), Timothy Rochford

1:40 PM

S-169: Is the Recovery of Mercury Concentrations in Northern Pike and Walleye from Reservoir Flooding Affected by the Invasion of Rainbow Smelt? Evidence from Northern Manitoba (Canada)

Wolfgang Jansen (Presenting Author), Richard Remnant

2:00 PM

S-447: Bioaccumulation in the Aquatic Food Web of Enriched Stable Isotopes of Hg Following Whole-Ecosystem Additions: Results from the METAALICUS Project

Michael Paterson (Presenting Author), Cheryl Podemski, Paul Blanchfield, Holger Hintelmann, Diane Orihel, Ken Sandilands

2:20 PM

S-611: Mercury in Seston (Zooplankton and Particulate) and Bivalves from a Brazilian Estuary

Helena Kehrig (Presenting Author), Elisabete Palermo, Tércia Seixas, Olaf Malm

2:40 PM

S-1370: Assessing Biomagnification of Mercury in Food Webs Using Stable Isotopes: A Global Perspective

Linda Campbell (Presenting Author), Robert Hecky, Karen Kidd, Marlene Evans, Derek Muir

3:00 PM

S-1466: Carcinus Maenas Bioaccumulation in a Human Induced Mercury Gradient (Ria De Aveiro, Portugal)

João Pedro Coelho (Presenting Author), Maria Eduarda Pereira, Armando Duarte, Miguel Angelo Pardal

Bioaccumulation and Trophic Transfer, Part 2

Moderators: Olaf Malm, Federal University of Rio de Janeiro, Brazil; Jonathan Kim, University of Otago, New Zealand

4:00 PM

S-289: Mercury Concentrations of Fish from Caddo Lake, Texas

Matthew Chumchal (Presenting Author), Ray Drenner, Brian Fry, K. David Hambright, Dijar Lutz-Carrillo, William McClain, Leo Newland

4:20 PM

S-553: Estimating the Loss of Mercury from Prey and Predatory Fish Species in the Wild

Jill Van Wallegghem (Presenting Author), Paul Blanchfield, Holger Hintelmann

4:40 PM

S-1514: Effects of Hypolimnetic Oxygenation on the Bioaccumulation of Mercury in Benthic Organisms

Stephen Dent (Presenting Author)

5:00 PM

S-429: Transformations and Effects of Mercury on the Isopod Porcellio Scaber (Isopoda, Crustacea)

Nataša Nolde (Presenting Author), Vesna Jereb, Janez Valant, Ingrid Padovan, Damjana Drobne, Milena Horvat

5:20 PM

S-581: Mercury Bioaccumulation in a Mine-Dominated Ecosystem in Clear Lake, California: From Ore to Organism.

Thomas Suchanek (Presenting Author), Peter Richerson, Robert Zierenberg, Collin Eagles-Smith, Darell Slotton, James Harner, David Osleger, Daniel Anderson

LECTURE HALL

S-RE-1: Relating Mercury Load to Methylmercury Production and Bioaccumulation

Organizers: Cynthia Gilmour, Smithsonian Environmental Research Center, USA; R. A. (Drew) Bodaly, Penobscot River Mercury Project, USA
Moderators: Cynthia Gilmour and Drew Bodaly

1:20 PM

S-1458: Critical Levels of Atmospheric Mercury Pollution for Soils and Freshwaters: European Mapping and Modeling
Markus Meili (Presenting Author), et al.

1:40 PM

S-982: Spatial Patterns of Mercury Contamination in Remote Forest and Aquatic Ecosystems in Eastern North America and Relationship to Atmospheric Hg Deposition
Charles Driscoll (Presenting Author), Neil Kamman, David Evers, Celia Chen, Young-Ji Han, Thomas Holsen, Ron Munson, Thomas Clair, Kathy Fallon Lambert

2:00 PM

S-372: Sedimentary Production and Bioaccumulation of Methylmercury Linked to Atmospheric Mercury Deposition
Chad Hammerschmidt (Presenting Author), William Fitzgerald

2:20 PM

S-888: How Does Atmospheric Mercury Deposition Affect Methylmercury Concentrations in a Boreal Ecosystem: Results from the First Four Years of METAALICUS
Reed Harris (Presenting Author), John Rudd, Marc Amyot, Christopher Babiarz, Ken Beaty, Paul Blanchfield, Richard Bodaly, Brian Branfireun, Cynthia Gilmour, Jennifer Graydon, Andrew Heyes, Holger Hintelmann, James Hurley, Carol Kelly, David Krabbenhoft, Steven Lindberg, Robert Mason, Michael Paterson, Cheryl Podemski, Ken Sandilands, George Southworth, Vincent St. Louis, Michael Tate

2:40 PM

S-647: MESOSIM: An Experimental Simulation of Different Rates of Atmospheric Mercury Deposition in a Boreal Lake
Diane Orihel (Presenting Author), Michael Paterson, Drew Bodaly, Paul Blanchfield, Cynthia Gilmour, Holger Hintelmann

3:00 PM

S-1382: Stable Mercury Isotope Dose-Response Studies in Florida Everglades Mesocosms: The Relationship between Load and Bioaccumulation, and the Influence of Sulfate and Organic Carbon
Cynthia Gilmour (Presenting Author), David Krabbenhoft, George Aiken, William Orem

S-SA-2: Global-Scale Transport and Deposition Patterns of Atmospheric Mercury

Organizers: Eric Prestbo, Frontier Geosciences, USA; Ralf Ebinghaus, GKSS Institute for Coastal Research, Germany
Moderator: Daniel Engstrom, St. Croix Watershed Research Station, USA

4:00 PM

S-620: Special Session Overview: Global-Scale Transport and Deposition Patterns of Atmospheric Mercury
Eric Prestbo (Presenting Author), Ralf Ebinghaus

4:20 PM

S-1049: Mercury Emissions and Ambient Air Monitoring of Mercury Species in a Few Locations in China
Xinbin Feng (Presenting Author), David Streets, Wei Zheng, Xuewu Fu, Qi Wan, Shaofeng Wang

4:40 PM

S-422: Distribution of Gaseous Mercury in the Upper Troposphere and Lower Stratosphere as Observed by CARIBIC Flights
Franz Slemr (Presenting Author), Ralf Ebinghaus, Andreas Zahn, Carl Brenninkmeijer

5:00 PM

S-1307: Transport and Cycling of Mercury in the Pacific Atmosphere
Dan Jaffe (Presenting Author), Philip Swartzendruber, Peter Weiss-Penzias, Duli Chand, Eric Prestbo, Noelle Eckley Selin, Daniel Jacob, Sarah Strode, Lyatt Jaegle

5:20 PM

S-297: Constraints from RGM Measurements on Global Mercury Chemistry
Noelle Selin (Presenting Author), Daniel Jacob, Rokjin Park, Robert Yantosca, Sarah Strode, Lyatt Jaegle

MEETING ROOMS K-Q

S-SC-1: Mercury in Artisanal Gold Mining: Environment, Health, Policy and Solutions

Organizers: Marcello Veiga, United Nations Industrial Development Organization, Canada; Randy Baker, Azimuth Consulting Group, Canada; Kevin Telmer, University of Victoria, Canada • Moderator: Marcello Veiga

1:20 PM

S-652: Legal and Policy Approaches to Address Mercury Hazards in Africa: An Analysis of Government Strategies in the Small-Scale Mining Sector
Samuel Spiegel (Presenting Author), Dennis Shoko, Aloyce Tesha, David Love, Marcello Veiga

1:40 PM

S-1283: Incomplete Transition from Mercury Amalgamation to Cyanidation Practice, North Sulawesi, Indonesia
Rini Sulaiman, Randy Baker, Marcello Veiga, Budi Susilorini (Presenting Author)

2:00 PM

S-844: Mobilization of Dissolved, Particulate and Methyl Mercury in Former Gold-Mined Watershed in French Guiana
Stéphane Guedron (Presenting Author), Michel Grimaldi, Daniel Cossa, Laurent Charlet

2:20 PM

S-835: The Diagnosis and the Cure: Assessing the Viability of Intervention in Artisanal Gold Mining Communities
Shefa Siegel (Presenting Author), Marcello Veiga

2:40 PM

S-1418: Knowledge Gaps in the Understanding of Mercury Pollution from Gold Mining
Kevin Telmer (Presenting Author), Carlos Antonio Alvares Soares Ribeiro, Marcello Veiga

3:00 PM

S-1117: Implementation of Global Mercury Project Initiatives in Tanzania in Reducing Mercury Emissions from Small-Scale Gold Miners around Great Lakes of East Africa
Aloyce Tesha (Presenting Author), Marcello Veiga

Mercury in Polar Ecosystems, Part 1

Moderators: Vincent St. Louis, University of Alberta, Canada; Alexandra Steffen, Environment Canada

4:00 PM

S-759: Atmospheric Mercury Deposition in the Arctic—New Answers Can Be Found in Monitoring Mercury Species in the Air at the Top of the World at Alert, Canada
Alexandra Steffen (Presenting Author), Tina Scherz, Greg Lawson, Richard Leitch, Christophe Ferrari

4:20 PM

S-1596: The Fate of Atmospheric Mercury at Svalbard
Torunn Berg (Presenting Author), Katrine Aspomo, Christophe Ferrari, John Munthe, Alexandra Steffen, Christian Temme

4:40 PM

S-1078: Pulsed Laser Photolysis-Pulsed Laser Induced Fluorescence Studies of the Kinetics and Mechanism of the Recombination of Hg(0) with Chlorine and Bromine Atoms
Deanna Donohoue, Dieter Bauer, Anthony Hynes (Presenting Author)

5:00 PM

S-1330: Mercury Deposition to Snow and Ice in Northern Alaska: Exploring the Link between the Lower Atmosphere and the Cryosphere
Thomas Douglas (Presenting Author), Matthew Sturm, William Simpson, Joel Blum, Laura Alvarez-Aviles, Donald Perovich, Gerald Keeler, Andrew Lammers, Abir Biswas

5:20 PM

S-1598: Re-Emission of Mercury from Snow Covered Surfaces during Atmospheric Mercury Depletion Events
Katrine Aspomo (Presenting Author), Torunn Berg, Alexandra Steffen, Steve Brooks, Steve Lindberg, George Southworth





Platform Sessions • 8:00-10:00 a.m.

Closing Ceremony • 10:40 a.m. • Ballrooms A-D

Student Awards • Synthesis and Declaration • Previa of Ninth International Conference on Mercury as a Global Pollutant (ICMGP) • Announcement of Tenth ICMGP • Door Prizes

BALLROOM A

Mercury in Polar Ecosystems, Part 2

Moderators: Alexandra Steffen, Environment Canada; Vincent St. Louis, University of Alberta, Canada

8:00 AM

S-980: Potential Sources of Monomethyl Hg to Arctic Marine Ecosystems

Jane Kirk (Presenting Author), Vincent St. Louis, Holger Hintelmann, Igor Lehnherr

8:20 AM

S-1173: Mercury Cycling in the Arctic Ocean

Maria Andersson (Presenting Author), Jonas Sommar, Katarina Gärdfeldt, Oliver Lindqvist

8:40 AM

S-787: Beaufort Beluga Whales: Mercury, Habitat Use, Trophic Level Interactions

Lisa Loseto (Presenting Author), Gary Stern, Tara Connelly, Steven Ferguson

9:00 AM

S-1533: Investigating Relationships between Climate Warming and Mercury in Arctic and Subarctic Lake Sediments

Derek Muir (Presenting Author), Marlene Evans, Togwell Jackson, Hedy Kling, Dermot Antoniadis, Marianne Douglas, Reinhard Pienitz, John Smol, Xiaowa Wang, Fan Yang

9:20 AM

S-750: Production and Cycling of Methylmercury in High Arctic Ponds

Igor Lehnherr (Presenting Author), Vincent St. Louis, Joel Barker

9:40 AM

S-1582: Comparisons of Mercury Concentrations in Sea-Run Char, Landlocked Char and Seals in Arctic Canada, Traditional Food Items Commonly Consumed by Coastal Communities

Marlene Evans (Presenting Author), Derek Muir, Michael Kwan, Nikolaus Gantner, Lois Harwood, Terry Dick, Jonathan Keating, Xiaowa Wang

BALLROOM B

S-RE-2: Response of Fish Mercury Concentrations to Point-Source Mercury Loads

Organizers: Erin Mack, DuPont Corporate Remediation Group, USA; James Dyer, DuPont Engineering Research and Technology, USA; Reed Harris, Tetra Tech Inc., Canada
Moderators: Erin Mack and James Dyer

8:00 AM

S-1336: Methylmercury Production and Bioaccumulation in a Watershed with Legacy Inputs from Mercury Mining: Guadalupe River Watershed, California

Thomas Grieb (Presenting Author), Karen Summers, Sujoy Roy, Peter Husby, David Salsbery

8:20 AM

S-1097: Mercury, Methylmercury and Selenium in Muscle, Liver and Gills of the Fish from the River Polluted Due to Past Mercury Mining

Milena Horvat (Presenting Author), Miha Naglič, Jošt Stergaršek, Jože Kotnik, Vesna Fajon, Darija Gibičar, Suzana Žižek, Mihael J. Toman

8:40 AM

S-828: Lack of Ecological Effects Associated with Sediment Contamination at Pinchi Lake, British Columbia Mercury Mine

Randy Baker (Presenting Author), Patrick Allard, Gary Mann

9:00 AM

S-281: Response of Mercury Concentrations in Fish to Source Reduction at Contaminated Sites in Oak Ridge, Tennessee, USA

George Southworth (Presenting Author), Mark Peterson

9:20 AM

S-230: Aqueous and Biotic Mercury Relationships across Diverse Exposure Conditions in the Cache Creek Watershed of California

Darell Slotton (Presenting Author), Shaun Ayers, Thomas Suchanek

9:40 AM

Panel Discussion: Response of Fish Mercury Concentrations to Point-Source Mercury Loads: Common Themes, Questions and Synthesis

BALLROOM C

S-EB-2: Mercury-Dissolved Organic Matter (DOM) Interactions

Organizers: George Aiken, US Geological Survey; Gary Gill, Battelle Marine Sciences Laboratory, USA; Nick Loux, US Environmental Protection Agency
Moderator: George Aiken

8:00 AM

S-1385: Challenges in the Study of Mercury-Dissolved Organic Matter Interactions

George Aiken (Presenting Author), Mahalingham Ravichandran

8:20 AM

S-341: The Role of Reduced Sulfur Groups in the Interactions between Natural Organic Matter and Mercury

Ulf Skjellberg (Presenting Author)

8:40 AM

S-453: Complexation of Mercury by Dissolved Organic Matter in Surface Waters of Galveston Bay, Texas

Seunghye Han (Presenting Author), Gary Gill, Ronald Lehman, Key-Young Choe

9:00 AM

S-1096: Interactions of Dissolved Organic Matter with Mercuric Sulfide (HgS): Inhibition of Precipitation and Stabilization of Colloidal HgS

Joseph N. Ryan (Presenting Author), George R. Aiken, Kathryn L. Nagy, Mahalingham Ravichandran

9:20 AM

S-283: Complexation of Hg(II) by Inorganic Sulfide in Municipal Wastewater Effluent

Heileen Hsu-Kim (Presenting Author)

9:40 AM

S-760: Effect of DOM on the Redox Cycling of Mercury in Aquatic Systems: An Overview

Marc Amyot (Presenting Author)



Credit: James Hurley

BALLROOM D

Impacts of Mining

Moderators: Charles Alpers, US Geological Survey; Nives Ogrinc, Jozef Stefan Institute, Slovenia

8:00 AM

S-814: Remediation of Historic Mercury Mine Sites in the California Coast Range Mercury Mineral Belt

James Rytuba (Presenting Author), David Lawler, Aaron Slowey, Christopher Kim

8:20 AM

S-1242: Release of Mercury from Mine Residues into Lake Superior

Noel R. Urban (Presenting Author), Cory McDonald, W. Charles Kerfoot, Ronald Rossmann

8:40 AM

S-1311: The Use of Cyanides in Artisanal and Small Scale Gold Mining and Its Effects on Tailings Containing Metallic Mercury from Amalgamation

Stephen Metcalf, Jozsef Miskolczi (Presenting Author), Denise G. Nunes, Marcello Veiga

9:00 AM

S-911: Ferri-Reducing Bacteria Impact on the Bio-Availability of Mercury Associated to Iron in Ferruginous Soils of French Guiana

Jennifer Harris (Presenting Author), Nouredine Bousserhine, Evelyne Garnier-Zarli, Michel Grimaldi

9:20 AM

S-1148: Mercury Contamination along the Mekong River, Cambodia

Tom Murphy (Presenting Author)

9:40 AM

S-562: Mercury Speciation and Sulfate-Reducing Bacteria in Mine Tailings

Susan Winch (Presenting Author), Michael Parsons, Heath Mills, Danielle Fortin, David Lean, Joel Kostka

LECTURE HALL

S-SA-3: Understanding and Controlling Mercury Emissions from Coal-Fired Power Plants

Organizers: John Pavlish, University of North Dakota Energy & Environmental Research Center, USA; David Michaud, WE Energies, USA
Moderators: John Pavlish and David Michaud

8:00 AM

S-622: Understanding Mercury Speciation, Variability, and Operational Impacts on Mercury Control

John Pavlish (Presenting Author)

8:20 AM

S-1186: An Update on the U.S. Department of Energy's Phase II Mercury Control Technology Field Testing Program

Thomas Feeley (Presenting Author)

8:40 AM

S-737: Policy Perspectives on Mercury

Jason Burnett (Presenting Author)

9:00 AM

S-672: A Utility Perspective on the Need for a Comprehensive Testing and Evaluation Program for Mercury Control Technologies Applicable to Utility-Scale Coal-Fired Boilers

Larry Monroe (Presenting Author)

9:20 AM

S-1441: Mercury Control with SDA/FF Technology at Black Hills Power

Scot Renninger (Presenting Author), Kevin Redinger, Bryan Jankura

9:40 AM

S-133: Mercury Control from Coal Combustion in Europe

Lesley Sloss (Presenting Author)

10:00 AM

S-1393: Test Results from Activated Carbon Injection for Mercury Control on Coal-Fired Power Plants

Sharon Sjoström (Presenting Author), Mike Durham, C. Jean Bustard, Travis Starns, Tom Campbell, Cody Wilson

MEETING ROOMS K-Q

S-EB-7: Mercury Methylation and Cycling in Estuarine and Coastal Waters

Organizers: Robert Mason, University of Connecticut Groton, USA; Chad Hammerschmidt, Woods Hole Oceanographic Institution, USA
Moderator: Robert Mason

8:00 AM

S-567: Dynamics of Mercury and Methylmercury in San Francisco Bay Estuarial Marshes

Shane Olund (Presenting Author), David Krabbenhoft, Thomas Sabin, Mark Marvin-DiPasquale, Lisamarie Windham, John Takekawa, Donald Yee

8:20 AM

S-324: Wetlands as Principal Zones of Methylmercury Production in Southern Louisiana and the Gulf of Mexico Region

Britt Hall (Presenting Author), George Aiken, David Krabbenhoft, Mark Marvin-DiPasquale, Christopher Swarzenski

8:40 AM

S-395: Sources, Yields and Controls on Methylmercury in Mugu Lagoon, California, USA

Sarah Rothenberg (Presenting Author), Jennifer Jay

9:00 AM

S-965: Mercury Methylation in the Chesapeake Bay and Mid-Atlantic Continental Shelf

Terill Hollweg (Presenting Author), J. Tyler Bell, Georgia Riedel, Cynthia Gilmour, Robert Mason

9:20 AM

S-366: Methylmercury Cycling in Sediments on the Continental Shelf of Southern New England

William Fitzgerald (Presenting Author), Chad Hammerschmidt

9:40 AM

S-179: Monomethylmercury and Mercury Distribution in Surface Sediments of Ria Vigo (Northwestern Iberian Peninsula)

João Canário (Presenting Author), Ricardo Prego, Carlos Vale, Vasco Branco

- Abbott, Michael M-34
 Abdelouhab, Nadia S-987, S-1057, T-37
 Abedi, Azra W-7
 Absolon, Bruno R-111, R-112, T-173, W-127, W-15
 Abtahi, Behrooz R-27
 Acha, Dario M-205, M-206
 Ackerman, Jerry T-109
 Ackerman, Josh S-1115, T-91, T-92, T-93, T-94, W-147, W-148, W-149, W-150
 Ackermann, John T-202
 Acquavita, Alessandro R-177, R-178, T-203
 Adair, Blakely M-65
 Adams, Douglas M-17
 Adams, Jeff T-96
 Adamski, Bill R-129
 Adatto, Isaac M-209
 Adelsbach, Terry S-1115, T-91, T-92, T-93, T-94, W-147, W-148, W-149, W-150
 Adimado, Anthony A. T-106
 Adriano, Leonardo M-5
 Afyuni, Majid W-107
 Agee, Jennifer L. S-404
 Ahti, Erkki W-122
 Aiken, George R-69, R-73, S-1096, S-1262, S-1382, S-1385, S-324, T-189, T-193, T-196, T-199, W-21, W-27, W-28
 Aikoh, Hiromi R-2
 Akagi, Hirokatsu M-3, R-159, R-192, T-142
 Åkerblom, Staffan T-211
 Akhmetov, Artur S-285
 Aksentov, Kirill T-82
 Al, Tom R-130
 Alarie, Yves M-48
 Albers, Peter W-143
 Albert, Mary R-43
 Alewell, Christine T-57, W-196
 Alinsug, Malona R-163
 Allan, Craig T-61
 Allard, Bert W-204
 Allard, Patrick S-828
 Allen, Mark M-120, R-129
 Allen, Marshall R-78, R-84
 Alligui, Fadila W-198
 Almeida, Ronaldo de R-173, R-183, R-184, T-108, W-17, W-36, W-37
 Almendinger, James T-63
 Almosny, Nádia T-173, W-128, W-15
 Alpers, Charles M-198, R-140, R-161
 Alvarez, Rodrigo W-59
 Alvarez-Aviles, Laura S-1330
 Al-Wali, Khalid M-165
 Ambrose, Robert S-717, T-180, T-181
 Amirbahman, Aria R-190, S-1076
 Amouroux, David M-8, S-1181, S-358, T-52
 Amyot, Marc M-185, M-46, R-41, S-1532, S-760, S-888
 Anderson, Daniel S-581
 Anderson, Henry M-147
 Anderson, M. Robin T-10, W-29
 Anderson, Norm W-113
 Andersson, Maria M-108, M-7, R-181, R-182, R-53, R-54, S-1173, W-89
 Andersson, Stina S-436
 Andersson, Sven T-133
 Andes, Fredric M-28
 Andrade, Daniel Ciampi M-151
 de Araújo
 Andraski, Brian R-135
 Andreato, José R-111, R-112, T-173, W-15, W-127, W-32
 Andres, A. Scott W-21
 Angers, Bernard T-170
 Antoniades, Dermot S-1533
 Antonio Alvares Soares Ribeiro, Carlos R-87, S-1418
 Aquino Branco, Otávio Eurico R-115
 Arimoto, Rich R-132
 Ariya, Parisa R-60, R-60
 Armentano, Amerigo S-691, T-81, W-73
 Armstrong, David R-179, R-180, S-1503, W-123, W-167, W-25
 Armstrong, Debbie S-588
 Arnone, John S-347
 Arp, Paul M-191
 Arrigoni, Holly S-1180
 Asakura, Kazuo W-175
 Asari, Misuzu R-166, S-1601
 Ashley, Roger M-204, R-82
 Ashton, Peter R-176
 Aspino, Katrine R-44, R-46, S-1596, S-1598
 Atchison, William S-1255
 Atikessé, Laura T-42, T-43, W-86
 Atkeson, Tom M-169, T-210
 Atkinson, Dwight M-27
 Atkinson, James M-178
 Aucott, Michael M-124
 Augustine, Sarah R-39
 Aulagnier, Fabien R-45
 Aulenbach, Brent T. T-189
 Austin, Carrie M-24
 Averty, Bernard W-81
 Avino, Pasquale M-77
 Avramescu, Luyza S-1263
 Axelrad, Donald T-183
 Axler, Richard T-190
 Ayers, Shaun M-13, R-136, S-230
 Ayvazian, Suzanne W-13
 Azeredo, Antonio M-146, R-185, R-186, W-39
 Azevedo, Alexandre W-134, W-138
 Azevedo-Silva, Claudio R-185, R-186
 Babiarz, Christopher R-139, R-179, R-180, S-888, T-199, T-47, T-48, W-25
 Babo, Stephane S-1010
 Backus, Sean W-174
 Badini, Mariana W-134, W-140, W-39
 Bagacay, Jr., Esteban M-93, S-1171
 Bahlmann, Enno S-1345, S-1461
 Bai, Weiyang M-129
 Bailey, Elizabeth M-204, R-82
 Bailey, Sean M-57, W-14
 Baines, Ann M-37
 Baker, Randy S-1283, S-828, W-60
 Baker, Trevor R-77
 Balcom, Prentiss M-29, R-191, R-197, R-198, R-49
 Baldwin, Marie S-987
 Balirwa, John W-111
 Ball, James W-90
 Balogh, Steven M-29, R-156, S-1038, T-187
 Bamber, Andrew R-91
 Bamonti, Fabrizia R-103
 Banic, Cathy S-751
 Banik, Ripon S-1435, T-28
 Bank, Michael R-202, S-1076, W-125, W-126
 Baranov, Edward N. M-130
 Barbante, Carlo R-42
 Barber, M. Craig T-185
 Barbone, Fabio T-203
 Barbosa, Antônio C. W-36
 Barkay, Tamar M-207, M-208, M-210, M-54, W-76, W-95
 Barker, Joel S-750
 Baron, Grace W-85
 Barregård, Lars S-317, S-597, T-6, T-7, R-170
 Barres, James M-165, R-57
 Bash, Jesse M-73
 Bassoi, Manuela W-139
 Bastos, Wanderley Rodrigues M-142, M-146, R-173, R-183, R-184, T-108, W-17, W-36, W-37, W-140
 Basu, Nil W-144
 Batchu, Hanu Batchu T-8, W-105
 Battke, Florian W-200
 Battle, Mark R-43
 Bauch, Nancy S-1259
 Bauer, Dieter S-1078, T-144
 Bauer, Wayne W-143
 Beasley, Val T-174
 Beaty, Ken S-888
 Beauchamp, Stephen S-751, T-27
 Beaulne, Jean-Sébastien S-799
 Beauvais, Conrad M-38, S-287, T-28
 Behnke, Sabrina M-208, W-92, W-93
 Behroozirad, Behrooz T-85
 Beinhoff, C4 W-129
 Béliveau, Annie W-69
 Belkin, Harvey E. M-168
 Bell, Amanda T-16, T-17, T-191
 Bell, J. Tyler R-158, S-965
 Bellinger, David S-669
 Belouatek, Aissa W-100
 Belzile, Nelson M-47, M-48
 Bender, Michael T-113
 Bennett, Frances M-67
 Bennett, James P. W-91
 Bennett, Jesse W-92, W-93, W-94
 Bennett, Richard W-143
 Benoit, Janina R-194, W-85
 Benuen, Mary Pia T-43
 Benvindo da Luz, Adão W-66
 Benzing, Thomas W-20
 Berezovsky, Adriana M-153
 Berg, Torunn R-44, R-46, R-55, S-1596, S-1598

Bergamaschi, Brian R-73, W-19
 Berglund, PE, Peter M-87, W-154
 Bergquist, Bridget S-1297, W-76
 Bernardi, José Vicente Elias R-183, T-108,
 W-17, W-37
 Bernardo, M. S-1620
 Bernaus, Anna W-206
 Bernier, Genevieve M-104
 Berzas Nevado, Juan José M-148
 Best, Elly M-18
 Beutel, Marc S-1514
 Bezalel, Shira T-209
 Bezudnov, Igor T-148
 Bhattacharya, Prosun M-95
 Bi, Xiangyang R-7
 Bianchi, Angelo W-47
 Bickham, John T-87
 Bidone, Edson R-111, R-112, T-145, T-173,
 W-127, W-32, W-15
 Bieber, Elke R-99
 Biester, Harald S-1150, S-1156
 Bigham, Gary S-363, T-139
 Bigler, Jeffrey R-35, T-153
 Bilgili, Ata S-1194
 Billaud, Pierre R-92
 Bindler, Richard S-1156
 Biro, Peter M-196
 Bishop, Kevin S-804, W-121
 Biswas, Abir R-47, S-1297, S-1330, T-125
 Bittrich, David S-1503
 Black, Frank R-203, W-209
 Blackwell, J. Lloyd R-206
 Blais, Jules S-1263, S-1395, W-82
 Blanchard, Pierrette S-1093, S-751
 Blanchfield, Paul M-195, M-196, R-153,
 S-447, S-553, S-647, S-888, W-114
 Bleam, William M-182
 Bloch, Dorete W-39
 Bloom, Nicolas R-80, S-1011, S-348, S-789,
 T-15, W-20, W-95
 Bloom, Paul R-74
 Blum, Joel R-47, S-1297, S-1330, T-125,
 W-76
 Blum, Paul W-96
 Blythe, Gary W-50
 Bodaly, Drew M-56, S-647, S-892
 Bodaly, Richard S-888
 Bodek, Tamar S-1263
 Boertmann, David T-104
 Boese-O'Reilly, Stephan S-877, S-890,
 S-906, R-40
 Böhme, Frank T-20
 Bollen, Anne S-1011, S-1150
 Bona, Ralph R-81
 Bonnell, Eddie T-109
 Bonzongo, Jean-Claude R-114, T-138,
 W-112
 Bookman, Revital S-714
 Born, Erik T-121
 Bortolazzo, William M-139
 Boss, Emmanuel R-73
 Bossart, Gregory T-96
 Bosworth, Weldon S-228
 Boucher de Grosbois, Sylvie T-159, T-42,
 T-43, W-86
 Bouffard, Ariane R-41
 Bousserrhine, M-187, S-911, W-207
 Boutron, Claude M-10, R-42, R-43, W-189
 Bowerman, William M-67, T-166, T-210
 Branco, Christina Wyss Castelo R-13, R-14,
 R-15, R-16, W-133, W-136, W-137
 Branco, Vasco R-205, S-179
 Brandenberger, Jill T-66
 Branfireun, Brian R-125, R-157, S-1079,
 S-888, S-976, T-50, T-56, T-62, T-63,
 W-197
 Brasso, Rebecka M-60, M-61
 Braune, B.M. T-89
 Braverman, Thomas M-158, T-182
 Brenninkmeijer, Carl S-422
 Bresnahan, Patricia M-73
 Brezonik, Patrick R-74
 Brickett, Lynn S-1291
 Brigham, Mark R-156, S-1038, S-1259,
 T-191
 Bringmark, Ewa T-211
 Bringmark, Lage T-211
 Briscoe, Michelle S-1011
 Briski, Alenka S-904
 Brockman, John R-209, R-210
 Brodberg, Robert T-209
 Brooks, Ned S-771
 Brooks, Steve R-132, R-55, S-1598
 Brooks, William E. S-1204
 Broschart, Michael S-551
 Brown, Charles M-199
 Brown, Larry R. R-140
 Brown, Peter W-1, W-2
 Brown, Jr., Gordon W-202
 Brumbaugh, William S-1259
 Brunette, Robert M-33, R-101, R-98,
 T-208, T-73
 Brunke, Ernst T-80
 Bruno, Meurer R-112
 Budtz-Jørgensen, Esben S-1378, S-990,
 W-179, T-34
 Bugas, Paul R-142
 Bullock, Russ T-182
 Bullock, Russell M-160
 Bunker, Greg T-56
 Bureau, Jon W-168
 Burbano, Rommel M-148
 Burger, Joanna T-210
 Burgess, Neil R-155, S-818, S-889
 Burkholder, Martin M-27
 Burlage, Robert W-8
 Burniston, D. W-174
 Burr, Mark M-208, W-93
 Bushey, Joseph M-180, T-64
 Bustard, C. Jean S-1393
 Butcher, Jason M-121
 Byington, Amy M-103
 Byrne, Heather S-813
 Cabral, Cibelle Mendes R-173, R-184
 Cabrera, Julio R-78, R-84
 Cachada, Anabela R-171
 Čadež, Jurij R-118
 Caetano, Miguel M-181
 Caffrey, Jane M-71
 Cai, Yong M-16, R-78, R-84
 Cain, Alexis M-89, S-782, W-58
 Cairns, Warren R-42
 Cakir, Janet M-162, M-164, S-1562
 Callahan Jr., Mac T-60
 Calle, Adriana M-124
 Campbell, Donald H. T-189, T-195, T-196
 Campbell, Linda M-193, S-1263, S-1370, T-
 99, W-111, W-117, W-199
 Campbell, Tom S-1393
 Campfield, Patrick W-31
 Canário, João M-181, R-205, S-1263,
 S-179, W-22, W-81, W-82
 Cannon, William R-156, T-59
 Cantone, MC W-187
 Canuel, René T-159, T-170, W-86
 Cao, Peijuan W-55, W-56
 Cao, Thuy-Lin R-40
 Cardona, Ana R-95, S-1295
 Cardoso, Daniele W-65
 Carignan, Richard S-474
 Carmona, Manuel T-97
 Carnell, Peter S-294
 Caron, Sébastien T-197
 Carpena, Ramon S-1295
 Carpi, Anthony T-21, T-22, T-23
 Carrasquero, Armando R-113
 Carreau, Jean M-179, S-799
 Carrie, Jesse S-731
 Carter, Annie W-6
 Carvalho, Dario Pires de R-173, R-183,
 T-108, W-37
 Carvalho, Eduardo M-139
 Carvalho Filho, Carlos Alberto R-115
 Carvan, Michael M-143, M-144, S-1384
 Casasus, Anna M-134, R-147
 Case, Charles S-950
 Castilhos, Zuleica R-111, R-112, R-90,
 T-145, T-173, W-127, W-128, W-129,
 W-32, W-66, W-15
 Castro, Aline Machado R-112, W-129
 Castro, Antonio de Oliveira M-149
 Castro, Mark M-37, W-166, W-173, W-72
 Castro-Caldas, A. S-1620
 Catharino, Marília G. M. W-16
 Cavalcante Oliveira, Ronaldo T-108
 Centeno, Jose W-84
 Cesário, Rute M-181
 Cetina, Matjaz M-108, M-109, M-127,
 S-1153, T-186
 Chadwick, Shawn R-179, R-180, S-1503,
 T-199, T-47, T-48, W-167, W-25
 Chai, Zhifang R-120
 Chalmers, Ann S-1262, T-189, T-67
 Chan, Laurie S-1057, T-31, T-37, T-41,
 W-144
 Chan, Melissa R-168
 Chand, Duli S-1307
 Chang, Cheng-Fen M-166, R-131
 Chapman, Lauren W-111
 Charlet, Laurent S-844
 Chasar, Lia S-1259, T-17
 Chassot, Celso Alberto M-151
 Chattopadhyay, Sandip T-134
 Chatziefthimiou, Aspasia W-95
 Chaves Beato, Décio Antônio R-115
 Chemerys, Ruth M-27
 Chen, Carl W. M-100, M-21
 Chen, Celia R-155, S-1194, S-982

- Chen, Chunying R-120
 Chen, Meng-Hsien M-49
 Chen, Shu-Yun M-32
 Chen, Yu-Wei M-47, M-48
 Chesney, Edward S-1076, W-126
 Chipps, Steven W-34
 Chiriboga, Esteban T-45
 Choe, Key-Young M-103, M-78, S-453,
 W-168, W-169, W-170
 Choi, Anna L. S-1378
 Choi, Hyun-Deok S-914, W-54
 Christianson, Emily R-57
 Christianson, Michael S-1436, W-51
 Christopher, Steven W-151
 Chumchal, Matthew S-289
 Cid de Souza, Terezinha R-116
 Cigale, Marko R-118
 Cinnirella, Sergio M-123, M-75
 Clair, Thomas S-818, S-982
 Claire, Vanier T-37
 Clarisse, Olivier M-18, M-6, R-200, S-303,
 W-71
 Clarkson, Thomas R-107
 Cleveland, Sara M-71
 Clow, David T-189, T-196
 Coale, Kenneth M-103, M-31, M-78, T-54,
 W-168, W-169, W-170
 Cobbett, Frank R-128, T-26
 Cocris, Daniel T-22
 Coelho, João Pedro S-1466
 Coelho Souza, Sergio Augusto M-112
 Cofone, Franco S-691, T-81, W-73
 Cohen, Mark S-1614
 Coleman Wasik, Jill T-63
 Colich, Frank W-5
 Collins, Joshua N. M-20
 Colombo, A. W-186
 Colwell, Arthur S-581, W-113, W-176
 Conaway, Christopher R-203
 Conko, Kathryn W-84
 Connaughton, Victoria M-143
 Connelly, Tara S-787
 Conner, Lisa M-164, S-1562
 Constant, Philippe R-45, R-48, S-287, W-82
 Cooper, Mark W-205
 Copan, Lori R-36, T-115
 Corbett, Carlos Eduardo Pereira M-151
 Corbett, Julieta França M-151
 Côrtes, Maria Izabel Tentes M-149
 Cossa, Daniel M-8, S-844, W-172, W-81
 Costa, André Nathan M-151
 Costa, Genilma Matos M-155
 Costa, Marcelo Fernandes M-153
 Costa, Marcelo Trulha Valente M-153
 Costa, Mariana Badini R-109, R-110, W-130
 Costa, Maycira W-65
 Couture, Nicole R-195
 Covelli, Stefano R-177, R-178
 Craig, Brad W-1
 Craig-Schmidt, Margaret T-119, T-33
 Crane, Sharron M-54
 Crane, Stacy R-211
 Crecelius, Eric R-193
 Cremona, Fabien M-53
 Crespo-López, Maria Elena M-148, M-150,
 M-152
 Crespo-Medina, Melitza W-95
 Crilley, Dianna W-21
 Cristol, Daniel M-60, M-61
 Crocker, Jeffrey S-1076, W-125
 Crosta, Alvaro W-65
 Croteau, Marie-Noële T-12
 Cunha, Haydée W-134, W-138
 Cunjak, Richard M-191
 Currens, Christopher W-125
 Custer, Christine M-62, T-165
 Custer, Thomas M-62, T-165
 da Silva, Vera W-140
 da Silva Filho, Manoel M-155
 Dae-Seon, Kim R-38, T-176
 Dahl, Amy L. R-77, S-1291
 Dai, Qianjin W-61
 Dai, Ting T-181
 Dalziel, John S-795, T-178, T-179, T-27
 Dames, Jerusa T-140
 Danilchik, Paul T-152
 Danner, G. Russell M-41
 Dario, Paolo W-177
 Daris, Fulvio T-203
 Dastoor, Ashu R-55, R-67, S-751, T-126
 Davée Guimarães, Jean Rémy M-111,
 M-112, S-471, T-155
 Davidson, Robert S-1492, S-194, S-471,
 W-69
 Davies, Colin T-152
 Davignon, Didier R-67, T-126
 Davis, Gillian W-68
 Davis, Jay M-20, T-115, T-209
 Day, Jeremy T-119
 Day, Rusty W-151
 de Albuquerque, C. W-129, W-15
 de Freitas Junior, José Aglair Barbosa
 M-154
 De La Cruz, Susan S-1115, T-94
 de Oliveira, Débora R-1, W-99
 de Sá, Andrea Lima M-148
 de Sousa, E. Ceci P. M. W-16
 de Souza, John Manuel M-153
 De Vittor, Cinzia R-177, R-178, T-203
 De Wild, John T-192
 Dean, David M-25, T-177
 DeBerry, David W-50
 Decorte, Enio T-203
 DeGreeff, Lauryn R-80
 Dellinger, John M-143, S-1384, S-646, W-8
 Dellinger, Matthew S-1384
 DeLong, Eric T-99
 Delongchamp, Tania S-1263, T-137, W-82
 Demers, Jason W-165
 Demers, Marc S-1395
 Demoucron, Marieke W-207
 Dent, Stephen S-1514
 Derenne, Steven W-41
 DeRouen, Timothy S-1620
 Deshpande, Vasanti T-70
 DeSorbo, Christopher T-105, W-146
 DeWeese, Adam S-1397, S-1484
 DeWild, John M-113, T-193, W-124, W-21
 Di Benedito, Ana Paula W-130, W-132
 di Bona, Sergio R-170
 Di Giulio, Richard T-170
 Diamond, Miriam W-197
 Dias, João M-188
 Dick, Terry S-1582
 DiCosty, Ralph T-60
 Diener, Lynn M-182
 Dietz, Rune T-104, T-121
 Dighton, John M-54
 Dimock, Brian M-18, R-200
 Dionísio, Isabel W-70
 Dionne, Michele S-1194
 Diosana, Joseph A.L. M-92
 DiPasquale, Christopher M-210
 Dirceu, Teixeira R-111
 Disney, Doug R-98
 Dittman, Jason W-30
 Dixon, George W-111
 Dizdarevič, Tatjana R-118, S-660
 do Canto, Otavio W-69
 do Nascimento, José Luiz Martins M-148,
 M-152
 Dobrin, Michelle M-45
 Doetzel, Lyndsay W-29
 Dommergue, Aurélien W-189
 Donald, David S-1395
 Donkor, Augustine R-114, W-112
 Donlin, Wendy D. S-325, S-1241
 Donohoue, Deanna S-1078, T-144
 Dórea, José Garrofe M-142, W-36
 Dorneles, Paulo R-185, R-186, W-134,
 W-135, W-138, W-139, W-140
 Dorsey, Jason M-141
 Dorvar, Pourya T-46
 dos Anjos, Laiza Medeiros M-155
 Douglas, Marianne S-1533
 Douglas, Thomas R-47, S-1330
 Dove, A. W-174
 Downing, Bryan R-73, W-19
 Drasch, Gustav R-40, R-92, S-877, S-890,
 S-906
 Drenner, Ray S-289
 Drevnick, Paul M-144, T-171
 Drew, Bodaly R-153
 Driscoll, Charles M-102, M-118, M-180,
 R-155, S-714, S-818, S-1079, S-982,
 T-136, T-64, W-145, W-165, W-30
 Drobne, Damjana M-42, S-429, T-175
 Drummond, James W-103
 Drury, David M-20, T-139
 Duan, Qingbo R-174
 Duarte, Armando M-136, M-188, R-171,
 S-1466, W-108
 Dube', AL W-157
 Duffy, Lawrence K. S-160
 Düker, Anders W-204
 Dupre, Bernard M-30
 Durham, Mike S-1393
 Durkee, Stanley B. T-202
 Duron, Melissa S-818, W-145
 Dutra Maia, Poliana S-1181
 Dvonch, J. Timothy M-165, R-57
 Dzurko, Mark S-668
 Eadie, John W-152

- Eagles-Smith, Collin S-581, S-1115, T-91, T-92, T-93, T-94, T-98, W-113, W-147, W-148, W-149, W-150, W-176
- Ebinghaus, Ralf R-99, S-1345, S-1461, S-422, S-620, T-128
- Eckley, Chris R-125, S-1490, W-197
- Eckley Selin, Noelle R-61, R-68, S-1307
- Edgerton, Eric S. R-66, W-3
- Effler, Steven T-136
- Egler, Silvia R-90, W-66
- Eguchi, Tomomi R-192
- Eichmiller, Frederick S-591
- Einsalo, Klaus W-122
- Ekblom, Petra W-162
- Ekstrom, Eileen M-202, S-797
- El Khouri, Marcelo M-151
- Elskus, Adria M-197
- Emery, Neil R-81
- Emmanuel, Yumvihoze S-1263
- England, Randy M-124
- Engle, Marilyn T-202
- Engle, Mark M-113, S-610, W-193, W-87
- Engstrom, Daniel R. M-29, S-714, R-156, T-63
- Enright, Chris W-168
- Ericksen, Jody M-96, T-24, W-45
- Ernst, Dieter W-200
- Esbri, José Maria R-5, T-135, T-97, W-59, W-206
- Eslami, Marzieh T-46
- Esmaili Sari, Abbas M-43, R-23, R-24, R-25, R-26, R-27, R-28, T-3, T-4, T-85, T-86, T-90, W-107, W-201, W-35, W-38
- Esteban, Elvira S-1295, W-106
- Eto, Komyo R-31, T-30, T-39, W-182
- Evans, David M-17
- Evans, Marlene M-192, S-1370, S-1533, S-1582, W-29, W-116
- Evans, R. Douglas W-144
- Evers, David M-50, M-59, R-155, S-818, S-982, T-105, T-122, T-210, W-145, W-146
- Fabricius-Lagging, Elisabeth T-6
- Faganeli, Jadran R-177, R-178
- Fain, Xavier M-10, R-43, W-189
- Fair, Patricia T-96
- Fajon, Vesna M-127, M-171, M-8, R-159, R-170, S-1097, S-358, T-110, T-132, T-52
- Fallacara, Dawn T-167
- Fallon-Lambert, Kathy R-155, S-982
- Fan, P. L. S-547
- Faria, Marcília de Araujo Medrado M-153
- Farias, Luciana R-122
- Fávaro, Déborah R-122, W-16
- Fay, Laura M-40
- Feeley, Thomas S-1186, W-43
- Feitosa Santana, Claudia M-153
- Fekete, Frank M-41, W-159
- Fellers, Gary W-125
- Feng, Xinbin M-128, M-129, R-162, R-7, R-8, R-119, S-1049, T-131, T-200, T-75, T-76, T-83, T-84, W-183, W-184, W-191, W-195, W-53, W-61
- Ferguson, Steven S-787
- Ferm, Martin T-146
- Fernandes, André R-1, W-99
- Ferrari, Christophe M-10, R-42, R-43, R-46, S-1345, S-1596, S-759, W-189
- Ferreira, José Roberto M-5
- Ferreira da Silva, Eduardo R-171
- Ferruzzi, Mario T-163
- Fesquet, Vincent M-10
- Filippelli, Gabriel M-19
- Fillion, Myriam S-471, T-155
- Fillmann, Gilberto W-130, W-131
- Fink, Larry R-17, R-18, R-19, R-20, R-21
- Finkelman, Robert B. M-168
- Fisher, Nicholas S-1542
- Fitzgerald, William M-29, M-194, R-191, R-197, R-198, R-49, S-366, S-372, S-875
- Fjeldså, Jon T-104
- Flanders, John R. S-404
- Fleck, Jacob R-73, W-19
- Flegal, A.R. R-203, T-15, W-209
- Fleming, Emily J. S-1473
- Foe, Chris M-31, M-78, W-169
- Fonseca, Márlon de M-142, M-146
- Freitas
- Foran, Jeffery S-1397
- Foran, Jeffery A. S-1484
- Formichi, O. W-185
- Formoso, Milton T-140
- Foroughi, Somayeh R-25
- Fortin, Danielle S-562
- Foster, Andrea M-204, R-82, S-294
- Fostier, Anne Hélène M-176, R-126
- Foucher, Delphine M-183, R-130
- Fournier, Francois T-87
- Fowle, David R-157
- Fowlie, Adrienne S-1263, T-101, T-101
- Fox, Matthew T-65
- Fragoso, Ana W-134, W-138
- Francisco-Rivera, Ana R-86, W-63
- Frédéric, Mertens S-194
- Frederick, Peter S-704
- Fredrickson, Herbert M-18
- Frei, Allan T-22
- Freire, MM W-15
- Freitas, Maria do Carmo W-70
- French, Charles T-202
- French, John T-167, W-143
- Freret, Nilo R-111, R-112, T-173, W-127, W-32, W-15
- Freyssinet, Philippe R-92
- Friedli, Hans M-184, M-69, S-1517
- Frisk, Peter S-1211, W-158
- Fritsche, Johannes T-57, W-196
- Frizzarini, Ronaldo M-151
- Frontiera, Renee W-88
- Fry, Brian S-289
- Fu, Xuewu S-1049, T-83, T-84
- Fujimura, Masatake T-39, T-40, W-178
- Fukui, Kazuki R-166, S-1601
- Furevik, Dag R-141
- Gabriel, Mark M-121
- Gabrielli, Paolo R-42
- Gahnberg, Lars M-138, S-1208
- Gamarra, Roberto S-1295
- Ganong, Amanda L. W-159
- Gantner, Nikolaus S-1582, T-11
- Gao, Ning W-119
- Gaona, Xavier W-206
- Garceau, Steve T-197, W-18, W-33
- García-Moreno, Ana R-5
- Gard, Nicholas T-139
- Gårdfeldt, Katarina M-108, M-7, R-181, R-182, R-53, R-54, S-1173, W-89
- Garetano, Gary R-175
- Garnier-Zarli, Evelyne M-187, S-911
- Garrison, Mark M-37
- Gaspar, Jose Carlos W-97
- Gaspar, Jarrod R-69
- Gaston, A.J. T-89
- Gauchard, Pierre Alexis W-189
- Gault, Melanie R-203
- Gay, David M-33, R-100, R-101, R-98, T-207, T-208
- Gebhardt, Ken M-121
- Gendron-Fitzpatrick, Annette T-87
- Georgopoulos, Panos T-184
- Gerbig, Chase R-76
- Ghadri, Vahid M-43
- Gharaei, Ahmad R-26
- Ghasempouri, Seyed Mahmoud M-43, R-23, R-24, R-25, R-27, R-28, T-3, T-4, T-85, T-86, T-90, W-107, W-35, W-38, W-201
- Ghasemzadeh, Gholamreza W-35
- Giammanco, Salvatore M-172
- Gibb, Herman W-84
- Gibičar, Darija M-8, M-127, R-159, R-170, S-358, S-904, S-1097, T-110, T-120, T-141
- Gibson, Jennifer K. R-140
- Gibson, Lori M-199
- Giesy, John P. M-35
- Gilchrist, H.G. T-89
- Gildemeister, Amy T-72
- Gill, Gary M-103, M-31, M-78, S-453, T-66, W-168, W-169, W-170, W-23
- Gillam, Richard T-202
- Gilmour, Cynthia M-200, M-201, R-153, R-158, S-1382, S-647, S-888, S-965, T-50, W-203, W-26
- Giussani, A. W-187
- Glaza, Edward S-551
- Glennon, Michale W-145
- Gliori, Gemma M-147
- Gluckman, Matt M-86
- Gochfeld, Michael R-175
- Godarzi Nik, Mohamad M-189
- Golding, George S-1335
- Goldstein, Robert A. M-100, M-21
- Gomes, Andreza de M-154
- Lourdes Souza
- Gomes, Bruno Duarte M-155
- Gomes, João Paulo de Oliveira R-183, T-108, W-17, W-37
- Gonçalves, Mariana R-111, R-112, T-173, W-15, W-127, W-32
- Goodale, Morgan S-818
- Goodale, Wing R-155
- Goodrich-Mahoney, John M-25
- Goodsite, Michael E. R-29, R-29
- Goonan, Thomas Goonan S-766

- Gor, Christopher R-121
 Gorky, Andrey R-96
 Gorski, Patrick W-123
 Goulet, Richard S-1532
 Grabeklis, Andrei R-208
 Graber-Neufeld, Doug W-20
 Graham, John T-127
 Grandjean, Philippe S-1378, S-1052, T-121,
 W-179, W-39
 Grangeons, Sylvain W-189
 Granke, Leah M-120
 Grasman, Keith T-87
 Gratz, Lynne R-64
 Graydon, Jennifer S-1320, S-1507, S-888
 Green, John W. R-142
 Greene, Shannon R-100
 Greer, Linda S-1056
 Gremyachikh, Vera M-63
 Grenier, Letitia M-20, T-209
 Grieb, Thomas M-110, S-1336
 Griesz-Brisson, Margareta T-160
 Griffiths, Charles S-784
 Grimaldi, Michel S-844, S-911
 Grimberg, Stefan R-76, T-65
 Grimes, William W-1
 Grochowina, Nicole W-144
 Gross, Deborah W-88
 Grove, Robert S-496
 Guallar, Eliseo S-1612
 Guedes Seixas, Tércia W-39
 Guedron, Stéphane S-844
 Guen-Bae, KIM R-38, T-176
 Guentzel, Jane R-71, W-83
 Guildford, Stephanie M-192
 Guillet de Chatellus, Hugues M-10
 Guimarães, Jean-Rémy S-1492
 Gunchenko, Veronika W-84
 Gunn, John M-47, M-48
 Guo, Junfang T-200
 Guo, Yannan T-200
 Gupta, Rajender R-123, T-102, T-168
 Gussani, A. W-187
 Gustin, Mae Sexauer M-96, R-58, S-347,
 S-702, T-24, T-25, W-45, W-190,
 W-193, W-194, W-87
 Guyricza, Janos Valery M-151
 Guzzi, Gianpaolo R-103, R-104, R-105,
 W-185, W-186, W-187
 Hachiya, Noriyuki R-37, W-180
 Hagelberg, Erik W-204
 Hageström, Ulla M-186, S-295, T-146
 Halbach, Stefan T-2, W-200
 Halbrook, Richard T-167
 Haley, Boyd S-1018
 Hall, Britt M-101, M-74, S-324, S-404,
 T-191, W-88
 Hall, Gwendy S-1011
 Halonen, Riikka M-94
 Hambright, K. David S-289
 Hamelin, Stéphanie M-46
 Hames, Ralph S. M-66
 Hammar, Tommy S-377
 Hammerschmidt, Chad M-194, M-52,
 R-191, R-197, R-198, R-49, S-366,
 S-372, S-875
 Hammitt, James S-1483
 Han, Seunghee S-453, W-23
 Han, Young-Ji M-118, M-81, S-1093, S-982
 Hanford, Katy R-79
 Hansen, Erik S-549
 Hanson, Keith M-100, M-21
 Hanson, William T-105, W-146
 Haraldsson, Conny M-186
 Harding, Gareth S-795, T-178, T-179
 Hare, Alex M-105, M-44
 Harner, E. James S-581, T-98, W-176
 Haro, Roger M-57, S-1357, T-13
 Harper, Barbara S-665
 Harris, Jennifer M-187, S-911, W-207
 Harris, Reed M-27, M-45, S-888, W-114,
 W-124
 Harris, Stuart S-665
 Harwardt, Lena M-11
 Harwood, Lois S-1582
 Hasegawa, Ryo T-149
 Hassanzadeh Kiabi, Bahram T-86, T-90
 Hawkins, Lucas R-152
 Hayton, Al T-99
 He, Lei T-129, T-55
 He, Tianrong W-171
 Heath, John C. S-325, S-1241
 Hecky, Robert S-1370, W-111
 Hedgecock, Ian M. M-75, M-170
 Hedin-Pereira, Cecilia R-108, R-109, R-110
 Heffinger, Gale M-68
 Heft, Alan W-166
 Heim, Wesley M-78, W-168, W-169, W-170
 Heinz, Gary S-261
 Helgée, Anders S-377
 Hennebelle, Raphaëlle R-50, W-189
 Henneck, Jerry T-190
 Henny, Charles S-496
 Henry, Betsy S-363
 Henshaw, Paul S-1435
 Hensman, Carl E. R-77, S-1291
 Herculanó, Anderson Manoel M-148,
 M-152
 Herr, Joel W. M-100, M-21
 Heyes, Andrew M-104, R-196, S-1079,
 S-888, S-976, T-12, T-50, T-61, T-62,
 W-203, W-26
 Hickey, Brian S-1263, T-101
 Hiderbrand, Robert W-166
 Higgins, Karen T-12
 Higuera, Pablo R-5, T-135, T-97, W-206,
 W-59
 Hill, Elwood M-62, S-496
 Hill, Wade R-34
 Hillström, Lars R-85
 Hines, Mark M-209, S-1235
 Hines, Neal M-177
 Hines, Randy T-87
 Hintelmann, Holger M-18, M-183, M-195,
 M-205, M-206, M-45, M-6, R-130,
 R-153, R-200, R-81, S-1320, S-1386,
 S-1490, S-303, S-447, S-553, S-647,
 S-888, S-980, W-114, W-71
 Hmeljak, Julija R-178
 Ho, Thomas M-70
 Hobson, K.A. T-89
 Hodgman, Thomas T-122
 Hodson, Peter M-193, S-1263, T-101
 Hoffman, David S-261, S-496, T-87
 Hoffmann, Jeffrey W-43
 Högbom, Lars W-121
 Hollweg, Terill R-202, S-965
 Holmes, Chris R-61
 Holmes, Jonathan S-1532
 Holmes, Michael R-149
 Holoka, Morris H. S-789
 Holsen, Thomas M-118, M-81, R-155,
 S-914, S-982, S-1093, W-54
 Honda, Shun'ichi W-182
 Hopke, Philip K. S-1093
 Hopkins, Dan J. T-202
 Horai, Sawako T-123
 Horvat, Milena M-108, M-109, M-127, M-
 171, M-3, M-42, M-8, R-118, R-159,
 R-170, R-177, S-1011, S-1097, S-358,
 S-429, S-441, S-660, S-904, T-110, T-
 111, T-120, T-132, T-141, T-175,
 T-186, T-52, W-57, W-79, W-80, W-89
 Horvat, Nusa S-358
 Hoshino, Munehiro T-149
 Hosokawa, Toru T-35
 Host, George T-190
 Hothem, Roger R-140, R-161, W-125
 Houel, Stéphane M-179
 Hovsepyan, Anna T-138
 Hsu, S.C. W-78
 Hsu-Kim, Heileen S-283
 Huang, Wen-Sheng T-161
 Hudson, Matt S-1397
 Hudson, Paula R-62
 Hudson, Robert M-19, S-1386, T-174, W-
 103, W-115, W-4, W-71
 Hufancia, Andres M-93, S-1171
 Huggins, Frank R-204
 Huh, C.A. W-78
 Huh, Jong-Bae M-116, M-81
 Huidobro, Pablo W-62
 Hultberg, Hans S-860, T-51
 Hulting, Melissa L. T-202
 Hummer, Jennifer T-70
 Humphries, Murray T-41
 Hunt, Jennifer T-209
 Hunt, Randy J. T-189
 Huremovic, Jasna W-57
 Hurley, James R-139, R-179, R-180, S-888,
 T-47, T-48, W-123, W-167, W-25
 Hurley, Ryan W-103
 Husby, Peter S-1336, T-71
 Hutcheson, Michael M-119, R-154, T-127
 Hwa, Mei-Yin M-166
 Hyde, Molly R. M-41
 Hylander, Lars D. M-55, M-93, R-160, R-85,
 W-155, W-63, M-138, M-92, M-94,
 R-29, R-86, R-88, S-1208, S-549
 Hynes, Anthony S-1078, T-144
 Ignácio, Áurea Regina R-108, R-109, R-110
 Ikingura, Justinian M-3
 Illig, Sven S-906
 Ilyin, Ilia R-63
 Ilyushchenko, Mikhail R-3, R-137, S-285
 Imm, Pamela M-147
 Imura, Ryusuke R-159
 Inácio, A.F. W-15, W-129
 Iniguez, Volga M-111

Iraci, Jessica R-157
 Irina, Golovanova T-172
 Isukapalli, Sastry T-184
 Ivanov, Maxim T-82
 Ivicic, Nikola R-208
 Iwata, Toyoto R-119
 Jačimovič, Radojko T-132, T-141
 Jackson, Anne S-771
 Jackson, Togwell A. S-1533, W-116
 Jacob, Daniel M-157, R-68, S-1307, S-297
 Jacobsson-Hunt, Ulla S-586
 Jaeglé, Lyatt M-157, R-61, R-68, S-297, S-1307
 Jaffe, Dan R-61, R-68, S-1307, W-3
 Jagoe, Charles T-166
 Jain, Krishan Lal T-103
 Janež, Jože R-118
 Jang, Carey M-156, M-70
 Jankura, Bryan S-1441
 Janle, Elsa T-163
 Jansen, Wolfgang S-169
 Jardine, Timothy M-191
 Jarosinska, Dorota T-7
 Jassby, Alan R-136
 Jay, Jennifer M-211, R-202, S-1076, S-395
 Jayaprakash, Muthmanickam M-190
 Jeff, Linkenbach R-34
 Jefferson-George, Ravi M-60, M-61
 Jennings, Gerard T-128
 Jensen, Richard W-20
 Jeran, Zvonka T-132
 Jereb, Vesna S-429
 Jeremiason, Jeffrey R-156, S-1357, T-63
 Jew, Adam R-83
 Jin, Yongqing R-174, R-6
 Jin Ping, Cheng T-198, T-198
 Joachim-Brisson, Gabriel A. T-160
 Johansson, Kjell T-211
 Johnson, Dale S-347, W-193
 Johnson, Keith A. M-41, W-159
 Johnson, Ken S-494
 Johnson, Marcus S-1297, W-76
 Johnson, Matthew S. R-97
 Johnston, John M. T-185
 Johnston, Robert T-66
 Johnston, Thomas M-56
 Jones, Andrew W-43
 Jones, Stephen T-14
 Jong-Ha, Lee T-176
 Jordan-Hillier, Ginger W-160
 Jørgensen, Poul J. S-1378
 Josef, Carla M-5
 Josue, Rosemarie D.R. M-133
 Juckem, Paul J. T-189
 Julshamn, Kaare R-141
 Jun, Sakong R-38
 Kahl, Steve S-1559
 Kainz, Martin S-1452
 Kaiser, James S-496
 Kakita, Akihoshi R-31
 Kalla, Peter M-16, T-109
 Kallos, George M-109, W-89
 Kamberov, R. I. S-285
 Kameo, Satomi T-35
 Kamman, Neil R-155, S-818, S-982
 Kanduč, Tjaša T-175
 Kang, Shichang S-588
 Kantola, Marjatta W-122
 Karamchandani, Prakash M-32, M-79
 Karasov, William T-87
 Karimpour, Maryam W-107
 Kaslow, Jessica R-36, T-115
 Kasper, Daniele R-13, R-14, R-15, W-133, W-136, W-137
 Kawakami, Yoshinobu R-32, T-29
 Keating, Jonathan S-1582
 Keeler, Gerald M-120, M-165, M-169, R-47, R-64, R-133, R-57, R-65, S-1599, S-1330, S-1436, T-72, T-125, W-51
 Kehrig, Helena R-108, R-109, R-110, S-611, W-39, W-130, W-131, W-132, W-134
 Keith, Edward W-83
 Kelly, Carol S-788, S-789, S-1335, S-888
 Kelly, Erin S-1395
 Kenow, Kevin S-889, T-87, T-88
 Kent, Angela S-1490
 Ker, Dave M-72
 Kerfoot, W.Charles S-1242
 Kerin, Elizabeth M-200, M-201
 Khwaja, Abdul R-74
 Kida, Akiko M-173
 Kidd, Karen M-191, M-192, S-1370, W-29
 Kieu, Le H. S-404
 Kilner, Philip I. W-3
 Kim, Christopher R-80, S-814, S-1011
 Kim, Eun-Hee M-72, M-104, R-196, R-199
 Kim, Jonathan S-154
 Kim, Seung-Hee M-116, M-81
 Kim, Young-Cheul T-163
 King, Susan M-208, W-92, W-93, W-94
 Kinghorn, April T-41
 Kirk, Jane S-1507, S-980
 Kitchainukul, W. R-146
 Klaper, Rebecca M-144
 Kleeman, Patrick W-125
 Klein, Stephen W-101
 Klenavic, Kate W-144
 Klimstra, Jon S-261
 Kling, Hedy S-1533
 Klungsøyr, Jarle R-141
 Kmiecik, Neil S-1397, S-1484
 Knightes, Christopher S-717, S-718, T-180
 Knights, Brent R-156, S-1357
 Knobeloch, Lynda M-147
 Knoll, Pat M-102
 Knuth, Barbara S-628
 Koba, Kazuo W-180
 Kobal, Alfred B. S-904
 Kobal, Ivan W-80
 Kock, Hans Herbert R-131, R-56
 Köck, Günter T-11
 Kocman, David M-127, S-660, T-141, T-175, T-52, W-57
 Koebley, Sean M-60, M-61
 Köhler, Wolfgang T-2
 Kolb, Catherine M-74
 Kolka, Randall M-121, M-122, T-56, T-62, T-63
 Kolker, Allan S-610, W-84
 Komov, Viktor R-124
 Konoplev, Alexei R-55
 Kontić, Davor S-660
 Kopec, Dianne M-197
 Korchemagin, Viktor W-84
 Korell, Jens S-1195, T-147
 Korhonen, Markku M-106
 Koshle, Anubhuti R-172
 Koslov, Kostj W-84
 Kostka, Joel S-562
 Kotchenruther, Robert M-34
 Koterba, Michael W-143, W-21
 Kotnik, Jože M-8, M-108, M-127, M-172, R-118, R-159, S-358, S-660, S-1097, T-52, T-111, T-132, W-57, W-79, W-80, W-89
 Krabbenhoft, David M-113, M-117, M-208, R-134, R-135, R-157, S-1259, S-1320, S-1382, S-324, S-463, S-494, S-567, S-610, S-888, S-976, T-189, T-191, T-192, T-193, T-195, T-196, T-199, T-24, T-47, T-48, W-123, W-124, W-25, W-88, W-90, W-92, W-93, W-94
 Kraft, J. W-174
 Krauel, Robert M-89, S-782
 Kreisel, Sybille T-5
 Kremers, Leo T-2
 Krezoski, Susan M-145
 Kritee, K. W-76
 Krsnik, Mladen S-904
 Kubota, Machi S-678, T-32
 Kuiken, Todd W-190, W-194
 Kuntz, Sandra R-34
 Kuo, Tien-Ho M-166, R-131
 Kurokawa, Naoyuki T-35
 Kuwabara, James S. M-198
 Kuzmack, Arnold M. T-202
 Kvietkus, Kestutis M-166, R-131
 Kwan, Michael S-1582
 Kwon, Guim T-158
 Labiosa, William M-22
 Labuschagne, Casper T-80
 Ladizinski, Nicolas S-404
 Ladwig, Kenneth W-45
 Lago, Marcos M-153
 Lai, Soon-Onn S-1093
 Lailson-Brito, José R-185, R-186, W-134, W-135, W-138, W-139, W-140
 Lake, James M-199, W-13
 Lambert, Kathleen S-818
 Lamborg, Carl M-29, R-197, R-198, R-49, R-72, S-875
 Lammers, Andrew R-47, S-1330
 Lande, Gary R-34
 Landing, William M-71
 Landis, Matthew M-169, M-36, R-57, R-65, R-97, S-1436, T-68, W-51
 Landis, Richard W-20
 Lane, Oksana T-122
 Lange, Ted M-15, M-17, T-183
 Lapanje, Aleš M-42, T-175
 Laperdina, Tatiana G. M-130
 Larose, Catherine T-159, T-170
 Larribe, Fabrice T-155
 Larson, Bob M-33
 Larson, Kenneth M-169
 Lasorsa, Brenda R-193, S-1011
 Latch, Douglas W-28

- Latysh, Natalie R-100, R-101
 Laumb, Jason R-149
 Laura, Atikessé T-159
 Laurier, Fabien R-59
 Lavigne, Mélyssa T-10, W-33
 Lawler, David S-814
 Lawrence, Angelique R-78
 Lawson, Greg S-759
 Layshock, Julie T-21
 Leaitch, Richard S-759
 Lean, David M-105, M-185, R-48, S-1263, S-1532, S-474, S-562, S-731, T-137, W-82
 Leaner, Joy R-176
 Leblanc, Jean-Charles S-1611
 Leckie, James M-22
 Lee, Chia-Hua S-634
 Lee, David R-150
 Lee, Diana R-36
 Lee, H. Felix T-158
 Lee, Sun T-115, R-36
 Lehman, Ronald M-78, S-453, T-169, W-170
 Lehmann, Christopher R-100, R-101
 Lehnerr, Igor S-750, S-980
 Leino, Olli T-116
 Leitão, J. S-1620
 Leitch, Dan R-195, S-731
 Lemes, Marcos S-1532, W-205
 Lemire, Mélanie S-471, T-155, T-169
 Leonard, Theo W-102
 Leonhardt Palmieri, Helena R-115
 Leopold, Kerstin M-11
 Leroux, Brian S-1620
 Lettmeier, Beate R-40, S-877, S-890
 Leutner, Josie M-115
 Levin, Leonard R-148
 Li, Dong R-102
 Li, Guanghui R-7
 Li, Ping R-119, W-183, W-184
 Li, Yufeng R-120
 Li, Zhonggen W-53
 Libby, Alan W-13
 Likar, Jakob R-118
 Lillebø, Ana Isabel W-108
 Lima, Cristina Andrade R-112, W-129
 Lima, Renata W-99
 Lima, Silene Maria M-152
 Lin, Che-Jen M-156, M-70
 Lin, Chien-Chih S-634
 Lin, Chin-Tsun M-166
 Lin, Chu-Ching M-211
 Lin, Neng-Huei S-634
 Lin, Tao W-55
 Lin, Zhi M-136
 Lincoff, Andy T-71
 Lindberg, Steve M-156, M-70, R-132, R-55, S-1320, S-1598, T-24, T-25, W-190, W-194, S-888
 Linde, AR W-129, W-15
 Lindh, Ulf M-138, S-1134
 Lindqvist, Oliver R-181, S-1173
 Lindvall, Anders M-138, S-1208, W-155
 Lionberger, Megan W-19
 Liousse, Catherine M-30
 Littrell, James T-201
 Liu, Bian M-165
 Liu, Guangliang R-84
 Liu, Ruhai M-114, W-77
 Liu, Xiaojie R-119, T-117
 Liya, Qu M-125
 Ljubič Mlakar, Tanja T-132
 Loewen, Mark S-588
 Loftin, Cynthia S-494
 Logar, Martina S-358
 Lohman, Kristen T-25
 Lok, Eric T-31
 Long, David T. M-35
 Long, Stephen W-49
 Longo, Michele R-111, T-173, W-127, W-32, W-15
 Lopes, Cláudia M-136
 Loredo, Jorge W-59
 Loseto, Lisa S-787
 Löthgren, Carl-Johan T-133
 Lotufo, Gui M-18, M-6
 Loukmas, Jefferey M-64, W-40
 Loukola-Ruskeeniemi, Kirsti W-122
 Loux, Nicholas W-24
 Love, David R-93, S-652
 Lowe, James D. M-66
 Lu, Julia M-167, R-174, R-6, T-75, T-79, W-171
 Luce, Darryl M-119
 Lücke, Sofie W-63
 Lucotte, Marc M-112, M-179, M-53, R-70, S-1492, S-194, S-471, S-799, T-159, T-169, T-170, T-197, W-118, W-18, W-69, T-10, W-33
 Ludtke, Amy T-205
 Luengen, Allison T-15
 Luis, H. S-1620
 Lundh, Thomas T-6
 Lutz, Michelle A. T-191
 Lutz-Carrillo, Dijar S-289
 Luz, Adao Benvindo R-90
 Lye, Ellen T-31
 Lyle, Lyle W-29
 Lyman, Seth R-58
 Lynam, Mary T-68
 Lysiak, Nadine M-52
 Lyvén, Benny M-186
 Maag, Jakob S-549
 Maage, Amund R-141
 Macalady, Donald L. S-1271
 Macchi, Barbarella M-150
 Macdonald, Robbie M-105, S-731
 Maciel, Patricia W-128, W-15
 Mack, E. Erin R-142
 MacKenzie, Richard S-1194
 Mackie, Trina R-36
 Madej, Mary Ann W-125
 Madsen, Eric T-44
 Mafra, Jose Roberto M-139
 Magarelli, Gabriella R-126
 Maggie, Miller S-784
 Mahadevan, Kathya M-90
 Mahaffey, Kathryn S-1613, T-118
 Maihara, Vera Akiko R-122
 Mailman, Mariah S-892
 Major, Andrew T-122
 Mäkilä, Markku W-122
 Malcolm, Elizabeth M-131, M-175, M-202
 Malila, Toni W-122
 Mallory, M.L. T-89
 Malm, Olaf M-142, M-55, R-108, R-109, R-110, R-13, R-14, R-15, R-16, R-185, R-186, S-1147, S-611, W-130, W-131, W-132, W-133, W-134, W-135, W-136, W-137, W-138, W-139, W-140, W-39
 Manigrasso, Maurizio M-77
 Manion, Nathan R-94
 Mann, Gary S-828
 Manna, Gianluca W-73
 Manolopoulos, Helen R-139, T-48
 Manzano, Felipe R-111, R-112, T-173, W-127, W-32, W-15
 Maramba, Nelia R-117
 Marcus, Matthew R-80
 Maria da Conceição M-154
 Nascimento, Pinheiro
 Mario, Montesdeoca M-180
 Markham, Nicholas O. M-41, W-159
 Markus, Howard S-771
 Marn, Carloyn T-93, W-148
 Marques, Rejane Corrêa M-142, M-146
 Marshall Fleming, Peter R-115
 Marsik, Frank M-165, R-133, R-57, S-702, W-196
 Marteel, Alexandrine R-42
 Martin, Anthony W-140
 Martin, Michael S-1620
 Martins, I. S-1620
 Marumoto, Kohji R-192, T-142, W-175, W-192
 Marvin-DiPasquale, M-104, M-198, M-20, M-204, R-83, S-1011, S-1262, S-324, S-404, S-567, T-189, T-191
 Mashyanov, Nikolay R-96, T-151, W-192
 Mason, Richard M-159
 Mason, Robert M-104, M-200, M-201, M-72, R-196, R-199, R-202, R-59, S-621, S-888, S-965, W-203, W-26
 Mast, M. Alisa T-189, T-195, T-196
 Matos, Grecia R. S-1204
 Matschullat, Jörg M-95
 Matsuyama, Akito M-125, M-3, R-159, R-192, T-142, W-192
 Mattassi, Giorgio T-203
 Matthews, David T-136
 Mattoli, Virgilio W-177
 Mauclair, Conrad T-21
 Maurice Bourgoïn, Laurence S-1181
 Maxson, Peter M-140, M-91, S-1154, S-549
 May, Chris T-66
 May, Jason R-161, W-125, R-140
 Mayasich, Joesph T-190
 Mayer, Marilyn T-65
 Mayes, Brandon S-1194
 Mazloomi, Sohrab T-85
 Mazumder, Asit S-1452
 Mazyck, David M-134, R-147, S-813
 Mazzolai, Barbara R-170, T-7, W-177
 McClain, William S-289
 McCleskey, Blaine W-90
 McCloskey, Rachel T-23
 McCrea, R 4A6Robert S-468
 McCulley, Bryan R-138
 McCurdy, Thomas T-184

McDonald, Cory S-1242
 McFarland, Kent M-50
 McGinnis, Steven S-920
 McGuinn, David W-151
 McHale, Patrick T-64
 McKee, Lester J. M-23
 McKinlay, Sonja S-1619
 McMahon, Katherine S-1490
 McPherson, Ann S-610
 Megquire, A.M. M-41
 Mehta, Rekha T-31
 Meier, David R-207, R-209
 Meij, Ruud R-143, T-130
 Meili, Markus S-1458, W-121
 Meire, Rodrigo R-185, R-186
 Melamed, Ricardo W-97
 Melchart, Dieter T-2
 Melwani, Aroon T-209
 Meng, Dan R-167
 Meredith, Matthew M. M-41
 Mergler, Donna M-112, S-1492, S-194,
 S-471, S-987, S-1057, T-155, T-37
 Merritt, Karen R-190
 Mertens, Frédéric S-1492
 Metcalf, Stephen R-90, S-1311
 Meurer, Bruno R-111, R-90, T-173, W-127,
 W-15, W-32
 Meyer, Jacob T-150
 Meyer, Michael S-889, T-87, T-88
 Miambi, Edouard M-187
 Michaud, David W-41
 Michel, Tim W-10, W-9
 Michelazzo, Paula A.M. M-176
 Michele, Longo R-112
 Miero, Claudia R-171
 Mierle, Greg T-99, W-199
 Mierzykowski, Steven T-105, W-146
 Miles, A. Keith S-1115, T-94, W-152
 Millán, Rocio R-95, S-1295, W-106
 Miller, Carrie M-104, R-158, W-203, W-26
 Miller, David M-73, S-971
 Miller, Eric M-50
 Milligan, Michael S. S-1093
 Mills, Heath S-562
 Minoia, Claudio R-103, R-104, R-105, W-
 185, W-186, W-187
 Miranda, Conrado M-93, S-1171
 Miskolczi, Jozsef S-1311
 Mitchell, Carl R-157, S-976, T-50, T-56,
 T-62, T-63
 Mitchell, Gerald W-49
 Mitchell, Myron T-64
 Miyai, Roberto Keidi T-108
 Miyamoto, Junko R-159
 Miyamoto, Ken-ichiro T-36
 Moldan, Filip M-186, S-295
 Moldovan, Ioana M-10
 Molina, Jose Antonio T-97
 Momcilovic, Berislav R-208
 Mondini, Alessio W-177
 Mondoh, Ndatenda R-93
 Mongeau, Pierre S-1492, S-194
 Monperrus, Mathilde M-8, S-358, T-52
 Monroe, Larry S-672
 Monson, Bruce S-771, T-63
 Moore, Johnnie N. R-140
 Moore, Michael M-52
 Mora, Philippe M-187
 Moran, Patrick S-1259
 Moreira, Edson G. W-16
 Moreira, Isabel W-130
 Moreira-Turcq, Patricia S-1181
 Morel, Francois M-202, S-797
 Morgan, Ray W-72
 Morović, Jadran R-208
 Morris, J. Steven R-210
 Mortazavi, Samar R-23
 Mothes, Sibylle T-20
 Mousavi, Majid R-24
 Moyle, Peter W-113
 Mrak, Tanja T-132
 Mugan, Thomas M-88
 Muir, Derek M-192, S-1370, S-1533, S-1582,
 T-11, W-116, W-29
 Mukherjee, Arun B. M-95
 Muniz, Karen R-111, R-112, T-145, T-173,
 W-127, W-129, W-15, W-32
 Munson, Ron M-102, M-110, S-982
 Munteanu, Vera T-100
 Munthe, John M-106, M-186, S-1596,
 S-295, T-146, T-49, T-51, W-120
 Murao, Koji T-36
 Murata, Katsuyuki S-678, T-35, W-181
 Muresan, Bogdan W-172
 Murphy, Daniel R-62
 Murphy, James W-43
 Murphy, Tom S-1148
 Murray, James R-198
 Murray, Michael S-1027, T-210
 Muscet, Barbara M-42
 Myers, Gary R-107
 Myers, Tom M-27
 Naglič, Miha S-1097
 Nagy, Kathryn L. S-1096, W-27
 Naigaga, Irene W-110
 Nakai, Kunihiro S-678, T-35, W-181
 Nakamura, Tomoyuki T-35
 Nakou, Sheena T-120
 Namayandeh, Fateme alsadat R-23
 Nartey, Vincent Kodzo W-109, W-109
 Narukawa, Masahiro W-175
 Narvaez Mauro, Jane Beatriz M-112
 Nascimento, Elisabete Lourdes do R-183,
 T-108, W-17, W-37
 Nascimento, José Luiz Martins do M-150
 Naseri, Mahmood W-7
 Nater, Edward M-121, M-122
 Nathaniel, Booth S-463
 Nazari, Rajab R-26
 Nelson, Douglas C. S-1473
 Nelson, Ryan R-98
 Nelson, Sarah S-494
 Neudahl, Lowell R-157
 Neue, Heinz-Ulrich T-20
 Neves dos Santos, R-205
 Newland, Leo S-289
 Newland, M. Christopher S-1241, S-325,
 T-119, T-33
 Newton, Robert M-102
 Niemeyer, Nicole M-14
 Nieminen, Mika W-122
 Nieminen, Tiina W-122
 Nik Godazi, Mohammad T-46
 Niklasson, Terese M-55
 Nilles, Mark T-205
 Nilsson, Mats W-121
 Ninomiya, Tadashi R-86
 Nogueira, Marta M-181, W-22, W-81
 Nolde, Nataša M-42, S-429, T-175
 Nollet, Yabing T-187
 Nordstrom, Kirk W-90
 Normand, Gabrielle T-169, W-18
 Norris, Gary R-57
 Novembrino, Cristina R-103
 Novo, L. A. W-129
 Nowicki, Thomas M-83
 Nowka, Rene M-12
 Nozari, Mahboubeh R-28
 Nunes, Denise G. S-1311
 OAR, EPA S-737
 Oberst, Erica R-151
 O'Brien, Kathleen T-122
 O'Brien, Mike W-144
 Obrist, Daniel S-347, S-702, T-57, W-196
 O'Connor, Joel R-197
 O'Donnell, Arleen W-160
 O'Driscoll, Nelson M-185, S-474, W-82
 Ogorek, Jacob M-57, T-13
 Ogrinc, Nives M-108, M-127, M-171, M-8,
 R-177, R-178, S-358, T-52
 Oh, Sehee W-74
 Ohba, Takeshi T-35
 Öhlander, Jenny W-63
 Oikawa, Teiichi M-150
 Okamura, Kunihiro T-35
 Oki, Kimihiko R-192
 Okuda, Kazuhisa T-29
 Olaf, Malm M-146
 Oliveira, Angelo Marcos R-89
 Oliveira, Ronaldo Cavalcante de R-173, R-
 183, R-184, W-17, W-37
 Oliveira, Valeria de M-146
 Olsen, Morten T-104
 Olson, Edwin W-46
 Olson, Mark M-1, M-113, M-117, S-610,
 T-192, T-193, T-199, W-124, W-88
 Olson, Wendy M-145
 Olund, Shane R-134, S-567, T-193, T-24,
 W-124
 Omotani, Ken R-151
 Ondoy, John M-36
 O'Neill, Catherine S-607
 O'Reilly, Stephan Boose R-92
 Orem, William S-1382
 Oreshkin, Valentin T-148
 Orihel, Diane M-196, R-153, S-447, S-647
 Oris, James T-171
 Osano, Odipo W-111
 Osleger, David S-581
 Osredkar, Josko S-904
 Ouellet, Jean-François R-70
 Otridge, Peter T-41
 Owens, Nicole S-784
 Oyarzun, Roberto W-59
 Ozard, John W-145
 Ozkaynak, Haluk T-184
 Paatero, Jussi T-77
 Pabon, Cecilia M-205, M-206

- Pacheco, Adriano W-70
 Padovan, Ingrid S-429
 Pagano, James J. S-1093
 Page, Bryan S-1532
 Palermo, Elisabete Fernandes Albuquerque R-13, R-14, R-15, R-16, S-611, W-133, W-136, W-137
 Paletz, Elliott T-119
 Paller, Michael T-201
 Paloheimo, Anna S-865, M-106
 Pancras, Joseph Patrick M-36
 Panichkin, Vladimir R-3
 Panov, Boris W-84
 Panov, Yuri W-84
 Pant, Anjana W-98
 Pant, Prabhakar R-78
 Papakyriakou, Tim M-105
 Paquet, Serge S-799, T-169, W-18
 Pardal, Miguel Angelo S-1466, W-108
 Park, Jong-Sung W-74
 Park, Rokjin M-157, R-61, R-68, S-297
 Parker, Jennifer S-1011, S-348
 Parry, Erin M. M-41
 Parsons, Matthew J. M-35
 Parsons, Michael S-562
 Passoni, Manuela R-104
 Paterson, Michael R-153, S-447, S-647, S-888
 Pato, Pedro M-188
 Paur, Hanns-Rudolf S-1195, T-147
 Pavlish, John S-622
 Payne, Nicholas M-184
 Pazerniuk, Monica M-44
 Peak, Derek S-474
 Pedroso, Luiz Roberto R-111, R-112, R-90, T-145, T-173, W-127, W-129, W-15, W-32
 Pehkonen, Simo M-156, M-70
 Pekar, Zachary M-161, M-164, S-1562
 Penashue, Basile T-43
 Pennington, J.T. R-203
 Pennuto, Christopher M-58
 Pepin, Robert M-86
 Peplow, Daniel R-39
 Perämäki, Paavo W-122
 Pereira, Debora M-139
 Pereira, Eduarda M-136, M-188, R-171
 Pereira, Maria Eduarda S-1466, W-108
 Pérez Catán, Soledad S-441
 Perovich, Donald S-1330
 Persell, John S-698
 Pestana, Maria Heloisa T-140
 Petering, David M-145
 Peters, Andrew M-72
 Peters, Norman E. T-189
 Peters, Stephen M-39, R-75
 Petersen, Dan R-33
 Peterson, Mark S-281
 Petit, Stephane W-118
 Petkovsek, Gregor M-108, M-109, T-186, T-186
 Pfeifer, David S-1180
 Pfeil, David W-1, W-2
 Pflughoeft-Hassett, Debra W-45
 Philibert, Aline S-1057
 Phounsavan, Sayfone T-161
 Picanço-Diniz, Domingos Luiz Wanderley M-152
 Pick, Frances S-1395
 Pickhardt, Paul, C. S-1542, T-12
 Pienitz, Reinhard S-1533
 Pietarinen, Charles M-124
 Pigatto, Paolo R-103, R-104, R-105
 Piispanen, Juha W-122
 Pilote, Martin M-38, R-45, R-48, S-287, T-28, W-82
 Pinheiro, Maria da Conceição Nascimento M-149, M-150, M-151
 Pique, Jean-Paul M-10
 Pirrone, Nicola M-170, M-75, M-8, R-181, S-358, S-691, T-111, T-72, T-81, W-73, W-80, W-89
 Pitirimov, Pavel W-192
 Planas, Dolors M-46, M-53
 Plante, Michel S-1010
 Plath, David R-160, R-88
 Podemski, Cheryl M-45, S-447, S-888
 Pogarev, Sergey R-96, T-151, W-48
 Poirier, Hugo M-112, T-169, W-18
 Poissant, Laurier M-38, R-45, R-48, S-1263, S-1435, S-287, S-751, T-28, W-82
 Pollard, Wayne R-195
 Pollman, Curtis M-110, M-115, M-27, T-183
 Pomerleau, Corinne M-51
 Pongprueksa, Pruek M-156, M-70
 Pope, Anne M-159
 Porvari, Petri M-106, S-865
 Postolov, Leonid R-3
 Poulain, Alexandre R-41
 Pouloupoulos, John W-117
 Powell, Maria S-891
 Power, Mike T-11
 Prather, Kimberly M-76
 Predonzani, Sergio R-177, R-178, T-203
 Prego, Ricardo S-179
 Prestbo, Eric M-115, M-33, R-152, R-58, R-68, S-1291, S-1307, S-620, T-206, T-207, T-208, W-3
 Prezelj, Marija S-904
 Puzon, Juliana Janet M. M-133
 Pyy, Katriina T-77
 Qian, Xiaoli R-8
 Qin, Xueying M-76
 Qiu, Guangle R-162, R-7, W-183, W-184, W-195, W-61
 Qu, Liya R-120
 Quick, Jeffrey M-98
 Quintanar, Arturo R-67
 Rabalais, Nancy R-202, S-1076
 Rabl, Ari R-30
 Radke, Lawrence M-184, M-69, S-1517, W-52
 Raffa, Vittoria W-177
 Rafferty, Steven R-81
 Rafii, Maryam W-38
 Rajar, Rudi M-108, M-109, M-127, S-1153, W-89
 Ralston, Carla R-206, R-207, R-209, R-210, R-211, S-1042, T-154
 Ralston, Nicholas R-106, R-107, R-204, R-206, R-207, R-209, R-210, R-211, S-1042, S-1272, T-154
 Ramach, Sean M-86
 Ramos, Alinne R-111, R-112, T-145, T-173, W-127, W-129, W-15, W-32
 Ramsak, Vanja M-108, M-127
 Randall, Paul R-165, S-285
 Range, Julie W-50
 Rasmussen, Paul W-31
 Ravichandran, Mahalingam M-25, S-1096, S-1385
 Raymond, Laura R-107, R-207, R-210, S-1042, T-154
 Rearick, Michael R-158
 Reash, Robin M-26, M-80, T-204
 Redding, Tara M-175
 Reddy, Michael M. S-1262, T-193
 Redinger, Kevin S-1441
 Reed, Miranda N. S-1241, S-325
 Rees, Christopher M-144
 Reese, Margaret M-131
 Regnell, Olof S-1490, S-377
 Reindl, John M-85
 Reinfelder, John R-127, R-201, W-95
 Reks, Imants S-551
 Remnant, Richard S-169
 Renninger, Scot S-1441
 Repinc, Urška S-441, W-80
 Reyes-Pardo, Betzaida W-21
 Rezaei, Masoud W-7
 Rezaeinejad, Yahya W-107
 Režun, Bojan R-118
 Rhéault, Isabelle S-1181, T-169, W-18
 Riahi Bakhtiari, Alireza R-28
 Ribeiro, Carlos Antonio R-89, W-65
 Ribeiro, Daniele Regina Gomes M-154
 Ribeiro Guevara, Sergio S-441
 Ricci, Carlo Alberto R-42
 Rice, Deborah T-118
 Rice, Glenn S-1483
 Richard, Sandrine W-172
 Richardson, Mandi W-50
 Richerson, Peter S-581
 Ridal, Jeff S-1263, W-82
 Ridley, W. Ian S-1271
 Riedel, Georgia R-158, S-965
 Riget, Frank T-104, T-121
 Rimmer, Christopher M-50
 Rinklebe, Jörg T-20
 Ripamonti, D. W-187
 Risch, Martin T-206
 Rise, Matthew S-1384
 Rivera, Ana Trinidad S-632, T-162
 Rivero, Gilda C. M-133
 Robertson, J. David R-207, R-209, R-210, R-211
 Rocha, João M-136
 Rochford, Timothy S-154
 Rockne, Karl W-103
 Roden, Eric M-107, T-53
 Rodger, Bruce T-207
 Rodrigues, S. W-129
 Rodrigues, Ana Paula R-111, R-112, T-145, T-173, W-127, W-129, W-15, W-32
 Rodrigues, Anderson Raiol M-149
 Rodrigues Filho, Saulo W-66
 Rodrigues Miranda, Marcio M-111
 Rodriguez, Danilo M-93, S-1171

- Rodríguez Martín-Doimeadios, Rosa del Carmen M-148
- Roegge, Cindy S-1270
- Rolfhus, Kristofer M-57, S-1357, T-13, W-14
- Romanek, Christopher T-166
- Ronchi, Anna R-104, R-105, W-185, W-186
- Rose, Jane M-119, R-154
- Rosenbaum, G. S-1620
- Rosset, Robert M-30
- Rossmann, Ronald S-1242, T-88, W-143
- Rothenberg, Sarah S-395
- Roulet, Marc M-111, M-205, M-206
- Rouvinen-Watt, Kirsti W-144
- Roux, Marie-Julie T-10
- Rowan-West, Carol M-119, R-154, T-127
- Roy, Sujoy M-110, S-1336
- Roy, Virginie R-41
- Rozumalski, Laura L. T-191
- Rudd, John S-788, S-789, S-888, W-114
- Rumbold, Darren M-14, M-15, M-17
- Rupnik, Maja M-42
- Rutter, Andrew R-79, T-69, W-88
- Ruzycski, Elaine T-190
- Ryan, Joseph R-69, S-1096, W-27, W-28
- Ryan, Joy M-68
- Ryba, Stephan M-199, W-13
- Rytuba, James M-204, M-22, R-140, S-814
- Ryzhov, Vladimir R-96, T-151, W-192, W-48
- Sabin, Thomas G. M-1, S-567
- Sable, Helen S-1270
- Sacco, Paolo R-97
- Sadati Pour, Syd T-46
- Mohammad Taghi
- Saiki, Michael K. M-198
- Saint-Charles, Johanne S-1492, S-194
- Saito, Cézár Akiyoshi M-155
- Saito, Mak M-52
- Sajwan, Kenneth S. M-95
- Sakai, Sin-ichi R-166, S-1601
- Sakai, Takeo T-35
- Sakamoto, Mineshi R-119, S-678, T-32, T-35, W-181, W-182
- Sakata, Masahiro W-175
- Sakomato, Meneshi W-184
- Sakuma, Mio W-180
- Sällsten, Gerd R-170, S-317, T-6, T-7
- Salomao, Solange Rios M-153
- Saltikov, Chad W-209
- Saltman, Tamara S-463
- Sampaio da Silva, T-169, W-18
- Sanders, Rhea M-31, M-78
- Sandheinrich, Mark M-144, R-156, S-1040, S-1357, T-171, W-14
- Sandilands, Ken M-45, R-158, S-1320, S-447, S-888
- Sandin Sokolik, Adrian R-85
- Santerre, Charles T-163
- Santos, Janeide Paiva R-173, R-184
- Santos, José Osman R-122
- Santos, Ronaldo R-1, W-66
- Sarafidou, Jasmin T-120
- Sasso, Alan T-184
- Sassone, Elizabeth T-54
- Satoh, Hiroshi S-678, T-35, W-181
- Sauer, Amy W-145
- Savelli, Emily T-127
- Savina, Gail W-156
- Savornin, Olivier W-64
- Sawada, Masumi R-31, T-30, T-39, T-40, W-178
- Schadt, Tom R-138
- Schaefer, Jeffra M-202
- Schaidler, Laurel R-202
- Schantz, Susan S-1270
- Schauer, James M-74, M-76, R-79, S-1503, T-69, W-88
- Schaus, Maynard M-131
- Scheider, Wolfgang T-99
- Scheidt, Daniel M-16
- Scherz, Tina S-759
- Schetagne, Roger S-1010
- Scheuhammer, Tony W-142, W-144
- Schindler, David M-56, S-1395
- Schmeltz, David S-1445
- Schmerfeld, John M-68
- Schmid, Thomas R-95, S-1295
- Schoch, Nina W-145
- Schoellhamer, David W-19
- Schoen, Katie S-261
- Schoeny, Rita T-118
- Schrank, Candy W-31
- Schuster, Michael M-11
- Schuster, Paul F. S-1262, T-189, T-193
- Schwarzbach, Steven E. S-1115
- Schwenter, Jeffrey W-151
- Schwerin, Andreas R-99
- Scoble, Jemma R-91
- Scott, Susannah R-148
- Scudder, Barbara S-1259, T-16, T-17
- Secchi, Eduardo W-139
- Sedinger, Ben W-194
- Sedlak, Meg T-71
- Sedo, Eva T-53
- Segreto, M. Kate T-191
- Seifabadi, Seyed Jafar M-43
- Seifert, Helmut S-1195, T-147
- Seigneur, Christian M-32, M-79, T-25
- Seixas, Tércia S-611, W-130, W-131, W-132, W-134
- Selch, Trevor W-34
- Selin, Noelle M-157, S-297
- Sell, Rachel M-89
- Selvendiran, Pranesh M-180, T-64
- Senn, David R-202, S-1076, W-126
- Seo, Yong-Seok M-116
- Serbst, Jonathan M-199, W-13
- Serge, Paquet W-33
- Severi, Gianluca R-104, R-105, W-186
- Severinghaus, Jeffrey R-43
- Sevryukov, Vladimir T-148
- Seyfabadi, Seyed Jafar W-38
- Sforza, C. W-185
- Shade, Christopher M-19, S-1386, T-174, W-103, W-4, W-71
- Shafer, Kristina R-160
- Shafer, Martin J. T-189
- Shahriari, Mohsen R-26
- Shahsavaripour, Nahid W-201
- Shamlaye, Conrad R-107
- Shan, Changqing M-114
- Shan, Hongxian M-114
- Shang, Lihai M-186, S-295
- Shanley, James B. M-117, S-1262, T-189
- Shao, Zhiguo R-10
- Sharac, Timothy S-914, W-54
- Shea, John T-127
- Sheldon, Linda T-184
- Shendrik, Tatiana W-84
- Shepherd, Joan T-158
- Sheridan, Patrick R-62
- Sherrell, Jerry T-66
- Sherwell, John M-37
- Sheshin, Leonid W-48
- Sheu, Guey-Rong S-634
- Shi, Xiaojun W-55
- Shibahara, Takashi R-2
- Shim, Soon-Mi T-163
- Shimada, Miyuki T-35
- Shimazu, T. W-161
- Shimek, Robert S-1363
- Shine, James R-202, S-1076, W-126
- Shkvar, Anna W-84
- Shoko, Dennis R-92, R-93, S-652, W-64
- Sholupov, Sergey T-151, W-192, W-48
- Shull, David R-194
- Siciliano, Steven M-185, S-474
- Sidonio de Barros Evangelista, Fabio M-111
- Siegel, Shefa S-835
- Sierra, Maria Jose R-95, S-1295, W-106
- Sillman, Sandy S-1599
- Silva, Cláudio Eduardo de Azevedo e M-146
- Silva, Edinaldo de Castro e M-55
- Silva, LCCP W-15
- Silva, Luiz W-128
- Silva Correia, Raquel Rose M-111
- Silveira, Ene Glória da T-108
- Silveira, Luiz Carlos de Lima M-149, M-150, M-153, M-154, M-155
- Silver, Elana R-36, T-115
- Simmonds, Peter T-128
- Simoes, Ana Luiza M-153
- Simoneau, Michel W-33
- Simonin, Howard W-145, W-40
- Simpson, William S-1330
- Sin, Mi-Yeon W-74
- Siperstein, Joseph W-48
- Sirnink, Natasa M-109, T-186
- Siwik, Eden W-199
- Sjostrom, Sharon R-152, S-1393
- Skalny, Anatoly R-208
- Skalny, Margarite R-208
- Skinner, Larry W-40
- Skov, Henrik R-97
- Skyllberg, Ulf R-74, S-341, W-121
- Slack, Kim M-208, W-93, W-94
- Slemr, Franz S-422, T-128, T-80
- Sloss, Lesley S-133
- Slotton, Darell M-13, R-136, S-230, S-581, W-176
- Slowey, Aaron R-82, S-814, W-202
- Smith, Brian R-136
- Smith, C. Mark M-119, R-154, T-127, W-160
- Smith, Christopher S-1297
- Smith, Dennis W-43
- Smith, Jeremy R-68
- Smith, Leigh M-141
- Smith, Lora R-127
- Smith, Marley M-58

- Smith, Pamela K. T-191
 Smol, John S-1533
 Snyder, Craig M-178
 Snyder, David M-76
 Sobral, Luis R-1, W-99
 Solomon, Keith T-11
 Sommar, Jonas R-182, R-52, R-53, R-54, S-1173
 Sonia, Rodrigues R-171
 Sonke, Jeroen M-30
 Sonne, Christian T-104, T-121
 Soorinejad, Iman W-7
 Sorensen, Britt T. R-97
 Sorensen, Rasmus W-121
 Sousa Passos, Carlos José S-471, T-155
 Southworth, George M-120, R-132, S-1598, S-281, S-888
 Souza, Caroline W-134, W-139
 Souza, Cristina W-130, W-132
 Souza, Dárlly de Oliveira R-173, R-184
 Souza, Givago da Silva M-155
 Spalding, Marilyn S-704, T-87
 Sparling, Richard S-1335
 Spear, Philip T-170
 Spiegel, Samuel R-89, S-652, W-64
 Sprovieri, Francesca M-170, M-75, R-181, S-691, T-81, W-73
 St. Louis, Vincent S-1320, S-1395, S-1507, S-750, S-888, S-980
 Staeudinger, Max T-5
 Stahl, Leanne T-114
 Stamenkovic, Jelena S-347
 Stamler, Christopher T-37
 Stanturf, John T-60
 Stärk, Hans-Joachim T-20
 Starns, Travis S-1393
 Starr, Michael W-122
 Stavros, Hui-Chen T-96
 Steele, Jennifer N. M-41
 Steffen, Alexandra R-55, S-1596, S-1598, S-751, S-759, T-26
 Steinnes, Eiliv R-44
 Stephenson, Mark M-31, T-54, W-168, W-169, W-170
 Stergaršek, Jošt S-1097
 Stern, Alan R-175, S-992
 Stern, Gary M-105, M-44, M-51, R-195, S-731, S-787
 Stetson, Sarah S-1271
 Stevens, David R-87, W-65
 Stevens, Robert K. M-169, M-36, R-65
 Stewart, A. Robin M-198, T-12, T-17
 St-Jean, Mélissa T-42, T-43, W-86
 Stokke, Jennifer M-134, R-147
 Stone, Mark T-9, W-104
 Stoor, Richard W-167
 Stravogiannis, Andréas M-151
 Streets, David S-1049
 Striegl, Robert R-135, T-193
 Strode, Sarah M-157, R-61, R-68, S-1307, S-297
 Stroganov, Alexander W-48
 Strum, Madeleine M-159
 Stubbe, Anja T-20
 Sturm, Matthew S-1330
 Suchanek, Thomas S-1115, S-230, S-581, T-98, W-113, W-176
 Sugawara, Norio T-35
 Suliaman, Rini S-1283, W-60
 Summers, Karen M-110, S-1336
 Sunderland, Elsie S-795, T-178, T-179
 Surette, Céline T-10
 Susan, King R-34
 Susilorini, Budi S-1283
 Suzuki, Keita T-35
 Suzuki, Marcelino M-200, M-201
 Svensson, Margareta W-204
 Svensson, Thomas S-377
 Swain, Edward M-120, M-29, S-771, T-187, T-63, W-45
 Swanson, Heidi M-56
 Swartzendruber, Phil R-61, R-68, S-1307
 Swarzenski, Christopher S-324
 Sweet, Clyde T-208
 Szabo, Zoltan W-21
 Tack-Sin, Kang T-176
 Taguchi, Masashi T-149
 Taheriazad, Leila W-35
 Takahashi, Fumitake M-173
 Takahashi, Hitoshi R-31
 Takaoka, Shigeru R-32, S-730, T-29
 Takashima, Akihiko T-40, W-178
 Takekawa, John S-1115, S-567, T-93, T-94, W-148, W-152
 Tan, May Lynn R-36, T-115
 Tanaka, Yasuhiro R-2
 Tang, Shunlin T-131
 Tanton, Trevor S-285
 Tate, Kerry T-143
 Tate, Michael M-113, S-1320, S-888, S-976, T-199, T-48, W-124
 Tatsy, Yury M-130, R-144, T-148
 Taylor, Howard W-90
 Taylor, Robert M-50, M-68
 Taylor-Morgan, Joy M-120, M-165
 Te Winkel, Henk R-143, T-130
 Teisserenc, Roman M-179, R-70, T-10
 Teixeira, Dirceu R-112, T-173, W-127, W-15, W-32
 Telmer, Kevin M-183, M-203, R-87, R-89, S-1418, W-65
 Temme, Christian R-131, R-46, R-55, R-99, S-1596, S-751
 Teodorescu, Carmen T-33
 ter Schure, Arnout R-148
 Tessa, Aloyce S-1117, S-652
 Tessier, André S-1532
 Tessier, Emmanuel M-8, S-1181, S-358
 Thacker, Allison M-41
 Thomas, Amy M-89, M-90
 Thomaz, José R-185, R-186
 Thompson, Brian S-1180
 Thompson, Diane M-84
 Thompson, Joseph W-173, W-72
 Thomsen, Jennifer T-166
 Thomson, David R-62
 Tim, Wool T-181
 Todd, Charles T-105, W-146
 Todorova, Svetoslava T-136
 Toft, Brandy T-212
 Tokunaga, Hidehiro R-31, T-30
 Toman, Mihael J. S-1097, T-110
 Tomaz, Sandra M-153
 Tomilina, Irina M-63
 Tomiyasu, Takashi M-3, R-159, R-192
 Tomy, Gregg S-588
 Toole O'Neil, Barbara M-97
 Tooly, Lee M-159
 Tordon, Robert S-751, T-27
 Torres, João M-146, R-185, R-186
 Townes, Brenda S-1620
 Toyoguchi, Toshiyuki T-149
 Trachtenberg, Isaac W-84
 Travnikov, Oleg R-63
 Trefrey, John R-193
 Tremain, Derek M-17
 Trindade, Mauro Campos R-115
 Troedsson, Bo S-377
 Troester, Joseph W. M-117
 Trunfio, Giuseppe M-170, M-75
 Tseng, Chun-Mao S-277
 Tseng, Mao R-49
 Tsiros, Ioannis S-717, T-181
 Tucker, John T-174
 Tun, Mya Than R-136
 Tun, Tint R-136
 Tuominen, Tim W-153
 Tuomola, Leena M-55
 Turner, Ralph S-228, W-20
 Turner, Robert R-142
 Turner, Ted W-20
 Ucran, Lynne R-194
 Udvadia, Ava M-143
 Uhrberg, Roland M-138
 Ujihara, Alyce R-36, T-115, T-209
 Ukonmaanaho, Liisa W-122
 Ullrich, Susanne M. R-137, R-146
 Umehara, Hideyuki S-1601
 Urashima, Mitsuyoshi W-180
 Urba, Andrius M-166, R-131
 Urban, Noel R. S-1242
 Urbancic, Michael M-9, S-492
 Uskov, Grigoriy A. R-137
 Vacelet, Thibault M-10
 Vahabzaderodsari, Habib W-201
 Valant, Janez M-42, S-429, T-175
 Vale, Carlos M-181, M-188, R-205, S-179, W-22, W-81
 Válega, Mónica M-188, W-108
 Valentine-Thon, T-5
 Valiente, Manuel W-206
 Van Beneden, Rebecca M-197
 Van der Jagt, Gerard M-33, R-101, R-98, T-73
 Van Heyst, Bill R-128, T-26
 Van Walleghem, Jill M-195, S-553
 Vandeven, Jay S-920
 Vanier, Claire S-987, S-1057
 Vasconcellos, Marina Beatriz R-122, W-16
 Vaupotič, Janja W-79, W-80
 Veiga, Marcello R-87, R-89, R-90, R-91, S-1117, S-1283, S-1311, S-1418, S-652, S-835, W-60, W-62, W-64, W-66, W-67, W-129
 Velasquez, Patricio Colon W-67
 Vemuri, L. Narasimham W-78
 Ventura, Dora Fix M-149, M-153

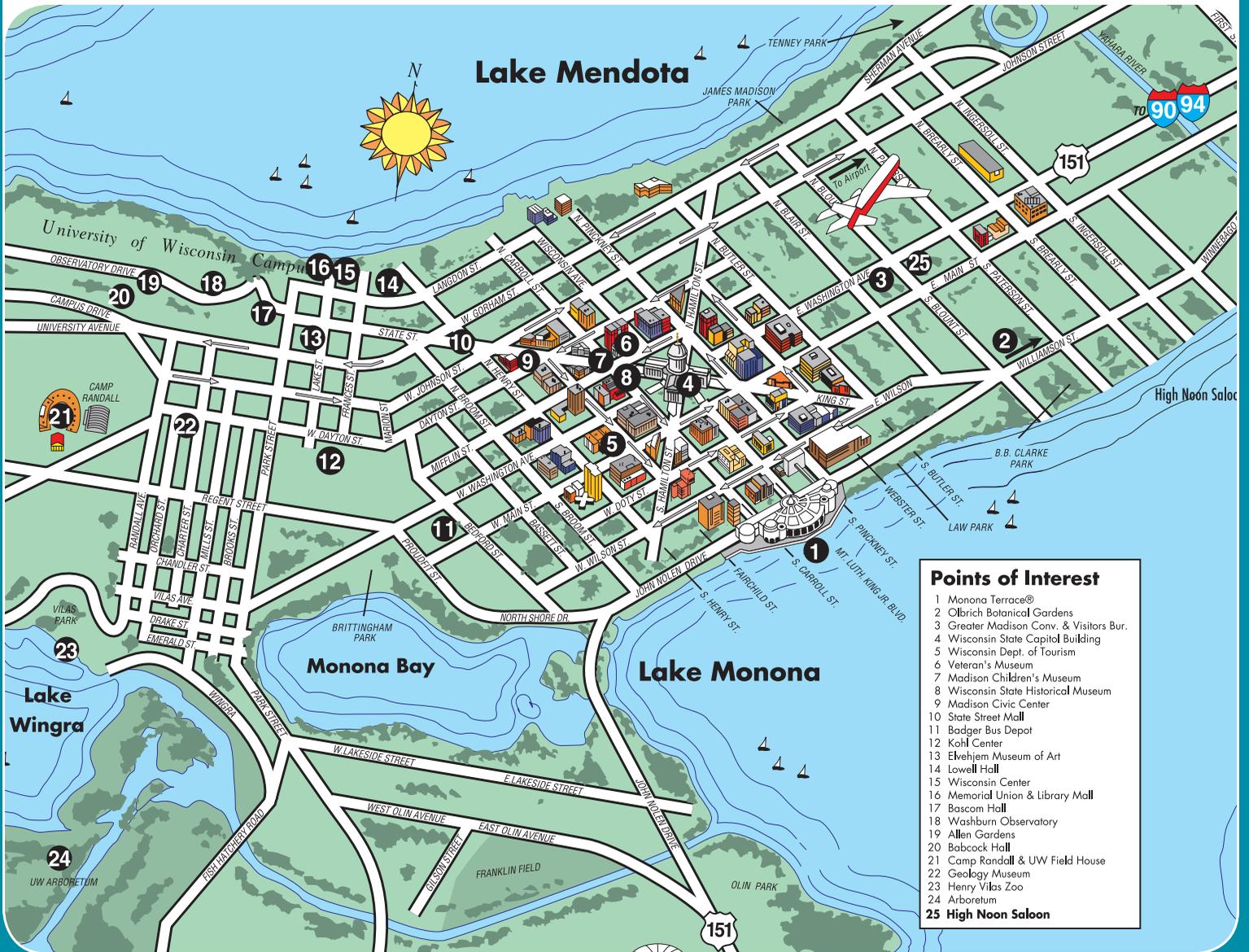
- Verburg, Paul S-347
 Vermillion, Brian M-19, S-1386, W-71
 Veronese, I. W-187
 Verta, Matti M-106, S-865, T-49, W-122
 Vetriani, Costantino W-95
 Vette, Alan S-1436, W-51
 Viana, T.A.P. W-15, W-129
 Vidal, Lara W-135, W-138, W-140
 Vidal, Mario Cesar M-139
 Vidjak, Olja T-111
 Vieira, José Luiz Fernandes M-149, M-150, M-154
 Vijayaraghavan, Krish M-32, M-79
 Villanueva, James A. M-133
 Villas-Bôas, Roberto R-90, W-66, W-129
 Villemur, Richard R-48
 Voegborlo, Ray Bright T-112, W-141
 Vogt, Sandra T-2
 Voudouri, Antigoni M-109, W-89
 Vrabel, Joseph W-21
 Vuk, Tomaž T-132
 Wachtl, Jennifer W-125
 Wainwright-De La Cruz, Susan W-152
 Waite, Randy M-27
 Walamiya, Junji T-36
 Wallace, Gordon M-119
 Walvoord, Michelle R-135
 Wan, Qi S-1049, T-75
 Wandera, SB W-111
 Wang, Bo M-135
 Wang, Chunxiao T-129
 Wang, Dingyong T-129, T-55, W-55, W-56
 Wang, Feiyue M-105, R-195, S-1532, S-588, S-731, W-205
 Wang, Junxia M-167
 Wang, Ligang W-42
 Wang, Ning R-167
 Wang, Qichao R-10, R-11, R-12, R-169, R-9, W-75, W-77
 Wang, Shaofeng S-1049, W-191, W-195
 Wang, Sheng-Wei T-184
 Wang, Xiaojuan R-174, R-6
 Wang, Xiaowa S-1533, S-1582, T-11
 Wang, Yan W-77
 Wängberg, Ingvar M-106, M-7, M-82, R-181, S-1233, T-146
 Wanigaratne, Susitha T-56, W-197
 Wanty, Richard B. S-1271
 Waples, Jacob W-27
 Warner, Kimberly T-107
 Watanabe, Chiho S-848
 Watkins, Timothy H. T-202
 Watras, Carl S-1490
 Weathers, Kathleen S-494
 Webb, Rick M-178
 Weber, Daniel M-141, M-143, M-144, S-1384
 Weddell, Ron R-138
 Weech, Shari W-142
 Weihe, Pál S-1378, S-990, W-179, T-34
 Weinstein, Sarah W-160
 Weis, Erica R-36
 Weisbein, J.L. M-41
 Weiss-Penzias, Peter R-68, S-1307, S-507
 Welzl, Gerhard T-2
 Wen Hua, Wang T-198
 Wenke, Axel S-1150
 Wennrich, Rainer T-20
 Wentz, Dennis S-1259, T-194
 Werner, Sarah M-201
 Wetherbee, Gregory R-100, R-101
 Weyand, Ronald M-13
 Whalin, Lindsay R-199, R-59
 White, Ariel M-60, M-61
 Whitman, Luke M-197
 Whittle, Michael M-192, W-29, W-116
 Wiatrowski, Heather M-207
 Wickland, Kimberly R-134
 Wickman, Trent M-121
 Widener, Colin E. W-159
 Widholm, John S-1270
 Wiener, James M-57, R-156, S-1357, T-13, W-14
 Wiens, Brian S-751
 Williams, Frederick M-141
 Wilson, Cody S-1393
 Wilson, Matthew W-152
 Wimer, Wade T-174, W-4
 Winch, Susan S-562
 Windham-Myers, Lisamarie R-83, S-404, S-567
 Windmoller, Claudia Carvalhinho R-115
 Winters, Dwain T-202
 Wise, John W-125
 Witt, Emma M-122
 Witzig, Friedrich T-5
 Wolf, Ruth E. S-1271
 Wolfe, Marti T-210
 Wollenberg, Jennifer M-39, R-75
 Woo, Jung-Hun T-127
 Woodruff, Laurel R-156, T-59
 Woods, James S-1620
 Wool, Tim T-180
 Wright, Derek R-201
 Wu, Dan R-145
 Xavier, Priscila R-1
 Xiaodong, Jian M-137
 Xin, Mei W-45
 Xu, Xiaohong M-38, S-1435
 Xue, Jianping T-184
 Yager, Janice T-120
 Yakovleva, Lyudmila S-285
 Yallouz, Allegra M-139, R-90, W-11, W-12, W-66
 Yamamoto, Megumi T-38
 Yan, Haiyu M-128, T-200
 Yanch, L. Elizabeth M-193, S-1263
 Yang, Dan M-47, M-48
 Yang, Fan S-1533
 Yang, Yongkui W-56
 Yang, Yu-Ching T-184
 Yanin, Evgeny R-144
 Yantosca, Robert M-157, R-61, S-297
 Yao, Tandong M-167
 Yasuda, Yoshiaki M-125
 Yasutake, Akira R-31, R-37, T-30, T-39, W-180, W-192
 Yates, David M-68
 Yavitt, Joseph M-102, W-165
 Yazdani Nasab, Leila R-27
 Ye, Xibiao T-157
 Ye, Xu M-47, M-48
 Yee, Donald S-567, T-71
 Yee, Julie W-149
 Yegnan, Anand M-37
 Yi, Seung-Muk M-116, M-81, S-1093, W-74
 Yigiterhan, Oğuz R-198
 Yohn, Sharon S. M-35
 Yoshida, Minoru R-119
 Young-Ji, Han R-155
 Yu, Riqing M-210
 Yumang, Annabelle R-86
 Yuyama, Lucia R-122
 Žagar, Dušan M-108, M-109, M-127, R-181, S-660, S-1153, T-186, W-89
 Zahn, Andreas S-422
 Zanello, Antonella T-203
 Zartarian, Valarie T-184
 Zelelow, Biniamw T-152
 Zetterberg, Therese M-186
 Zevenhoven, Ron M-95
 Zhang, Cheng W-55, W-56
 Zhang, Chengxiao R-174, R-6
 Zhang, Hong M-38, R-45, S-287, T-28, W-190, W-194
 Zhang, Jinyang T-55
 Zhang, Junfang M-126
 Zhang, Lei R-10
 Zhang, Shaoqing R-11, R-169, W-75
 Zhang, Shiqiu R-145
 Zhang, Xiaoshan T-74
 Zhao, Xiuhong W-103
 Zheng, Baoshan M-168
 Zheng, Dongmei R-10, R-11, R-12, R-169, R-9, W-75
 Zheng, Na R-10, R-11, R-12, R-169, R-9, W-75
 Zheng, Wang T-78
 Zheng, Wei S-1049, T-75, T-76
 Zhu, Tong R-145
 Zhu, Yan-ming R-167
 Zidar, Primož T-175
 Zierenberg, Robert S-581
 Zilker, Thomas T-2
 Zillioux, Ed T-210
 Zimmerman, John S-920
 Žižek, Suzana M-127, S-358, S-1097, S-441, T-52, T-110, T-111
 Zoh, Kyung-Duk M-116, M-81, W-74
 Zolfaghari, Gholamreza T-3, T-4, T-86, T-90
 Zsolway, Rudy M-124
 Zvonarić, Tomislav T-111
 Zwiers, Jaime R-79

PLATFORM SESSION CODE CONVERSION

Platform presentations codes all begin with the letter “S” followed by the numerical designation of the abstract. The chart below converts each code into the day, time and location for individual platform presentations. As an example, “S-133. . . F-9:40-LH” below means that platform S-133 occurs on Friday (M=Monday; T=Tuesday; R=Thursday; F=Friday) at 9:40 AM in the Lecture Hall (A=Ballroom A; B=Ballroom B; C=Ballroom C; D=Ballroom D; KQ=Rooms K-Q; LH=Lecture Hall). All poster presentation codes are already listed by their day and position (ex. M-121 is displayed on Monday on board 121).

S-133 F-9:40-LH	S-611 R-2:20-D	S-911 F-9:00-D	S-1283 R-1:40-KQ
S-154 R-1:20-D	S-620 R-4:00-LH	S-914 M-4:40-B	S-1291 M-4:40-D
S-160 R-4:40-C	S-621 T-2:40-C	S-920 T-4:20-LH	S-1295 T-2:00-KQ
S-169 R-1:40-D	S-622 F-8:00-LH	S-950 M-2:40-D	S-1297 T-5:00-D
S-179 F-9:40-KQ	S-628 T-4:20-C	S-965 F-9:00-KQ	S-1307 R-5:00-LH
S-194 T-4:00-C	S-632 R-3:00-A	S-971 M-5:00-B	S-1311 F-8:40-D
S-228 T-3:00-KQ	S-634 M-1:20-B	S-976 T-2:20-A	S-1320 T-1:40-A
S-230 F-9:20-B	S-646 M-1:00-LH	S-980 F-8:00-A	S-1330 R-5:00-KQ
S-261 T-3:00-B	S-647 R-2:40-LH	S-982 R-1:40-LH	S-1335 M-4:00-LH
S-277 M-2:20-A	S-652 R-1:20-KQ	S-987 R-1:40-A	S-1336 F-8:00-B
S-281 F-9:00-B	S-660 T-1:40-KQ	S-992 R-5:20-A	S-1345 R-2:00-B
S-283 F-9:20-C	S-665 T-1:20-D	S-1010 T-5:00-C	S-1357 M-1:40-C
S-285 T-2:20-KQ	S-668 M-3:40-A	S-1011 R-4:00-B	S-1363 T-1:40-D
S-287 R-2:20-B	S-669 M-4:00-C	S-1018 T-4:00-LH	S-1370 R-2:40-D
S-289 R-4:00-D	S-672 F-9:00-LH	S-1027 M-2:00-D	S-1378 R-2:00-A
S-294 M-2:20-KQ	S-678 M-3:40-C	S-1038 T-5:20-A	S-1382 R-3:00-LH
S-295 M-1:00-A	S-691 M-1:40-B	S-1040 M-2:20-LH	S-1384 M-2:40-LH
S-297 R-5:20-LH	S-698 T-2:00-D	S-1042 R-1:20-C	S-1385 F-8:00-C
S-303 T-4:00-D	S-702 R-1:20-B	S-1049 R-4:20-LH	S-1386 T-4:20-D
S-317 T-2:00-LH	S-704 T-1:40-B	S-1052 M-1:20-LH	S-1393 F-10:00-LH
S-324 F-8:20-KQ	S-714 T-5:20-B	S-1056 M-3:40-KQ	S-1395 M-2:00-C
S-325 R-2:00-C	S-717 T-2:00-C	S-1057 R-4:00-A	S-1397 T-2:20-D
S-341 F-8:20-C	S-718 T-1:20-C	S-1076 M-2:40-C	S-1418 R-2:40-KQ
S-347 R-3:00-B	S-730 R-1:20-A	S-1078 R-4:40-KQ	S-1435 T-4:00-B
S-348 R-4:20-B	S-731 T-5:00-A	S-1079 T-1:20-A	S-1436 T-4:20-B
S-358 M-4:40-A	S-737 F-8:40-LH	S-1093 M-2:00-B	S-1441 F-9:20-LH
S-363 T-1:20-KQ	S-750 F-9:20-A	S-1096 F-9:00-C	S-1445 T-4:00-KQ
S-366 F-9:20-KQ	S-751 T-4:20-KQ	S-1097 F-8:20-B	S-1452 M-1:20-C
S-372 R-2:00-LH	S-759 R-4:00-KQ	S-1115 T-2:40-B	S-1458 R-1:20-LH
S-377 T-4:20-A	S-760 F-9:40-C	S-1117 R-3:00-KQ	S-1461 R-1:40-B
S-395 F-8:40-KQ	S-766 M-1:00-KQ	S-1134 T-3:00-LH	S-1466 R-3:00-D
S-404 R-4:40-B	S-771 M-1:40-D	S-1147 M-5:00-A	S-1473 M-5:00-LH
S-422 R-4:40-LH	S-782 M-1:00-D	S-1148 F-9:20-D	S-1483 T-5:20-KQ
S-429 R-5:00-D	S-784 T-3:00-C	S-1150 M-4:20-D	S-1484 T-2:40-D
S-436 M-4:00-KQ	S-787 F-8:40-A	S-1153 M-2:00-A	S-1490 M-4:00-A
S-441 T-4:40-D	S-788 M-3:40-LH	S-1154 M-2:00-KQ	S-1492 T-5:20-C
S-447 R-2:00-D	S-789 R-5:20-B	S-1156 M-2:20-B	S-1503 M-3:40-B
S-453 F-8:40-C	S-795 T-2:20-C	S-1161 M-4:00-D	S-1507 R-2:40-B
S-463 T-4:40-KQ	S-797 M-4:20-LH	S-1171 M-4:20-KQ	S-1514 R-4:40-D
S-468 R-5:00-C	S-799 R-4:20-C	S-1173 F-8:20-A	S-1517 T-4:40-B
S-471 R-4:20-A	S-804 T-4:00-A	S-1180 M-1:20-D	S-1532 M-1:20-A
S-474 M-1:40-A	S-813 M-3:40-D	S-1181 T-4:40-A	S-1533 F-9:00-A
S-492 R-5:20-C	S-814 F-8:00-D	S-1186 F-8:20-LH	S-1542 M-1:00-C
S-494 T-2:00-A	S-818 T-1:20-B	S-1194 M-2:20-C	S-1559 T-5:00-KQ
S-496 T-2:00-B	S-828 F-8:40-B	S-1195 M-5:00-D	S-1562 M-2:20-D
S-507 M-1:00-B	S-835 R-2:20-KQ	S-1204 M-5:00-KQ	S-1582 F-9:40-A
S-547 T-4:40-LH	S-844 R-2:00-KQ	S-1208 M-1:40-KQ	S-1596 R-4:20-KQ
S-549 M-2:40-KQ	S-848 R-1:40-C	S-1211 T-5:00-LH	S-1598 R-5:20-KQ
S-551 T-2:40-KQ	S-860 M-2:40-A	S-1233 M-4:00-B	S-1599 M-4:20-B
S-553 R-4:20-D	S-865 T-3:00-A	S-1235 M-4:40-LH	S-1601 M-4:40-KQ
S-562 F-9:40-D	S-875 R-5:00-B	S-1241 R-2:20-C	S-1611 M-4:40-C
S-567 F-8:00-KQ	S-877 R-2:40-A	S-1242 F-8:20-D	S-1612 M-4:20-C
S-581 R-5:20-D	S-888 R-2:20-LH	S-1255 M-2:00-LH	S-1613 M-5:00-C
S-586 M-1:20-KQ	S-889 T-2:20-B	S-1259 R-4:00-C	S-1614 T-1:40-C
S-588 M-2:40-B	S-890 R-2:20-A	S-1262 T-2:40-A	S-1619 T-2:20-LH
S-591 T-1:40-LH	S-891 T-4:40-C	S-1263 M-4:20-A	S-1620 T-2:40-LH
S-597 T-1:20-LH	S-892 R-2:40-C	S-1270 M-1:40-LH	
S-607 T-3:00-D	S-904 R-4:40-A	S-1271 T-5:20-D	
S-610 T-5:00-B	S-906 R-5:00-A	S-1272 R-3:00-C	

DOWNTOWN MADISON • POINTS OF INTEREST



- ### Points of Interest
- 1 Monona Terrace®
 - 2 Olbrich Botanical Gardens
 - 3 Greater Madison Conv. & Visitors Bur.
 - 4 Wisconsin State Capitol Building
 - 5 Wisconsin Dept. of Tourism
 - 6 Veteran's Museum
 - 7 Madison Children's Museum
 - 8 Wisconsin State Historical Museum
 - 9 Madison Civic Center
 - 10 State Street Mall
 - 11 Badger Bus Depot
 - 12 Kohl Center
 - 13 Elvehjem Museum of Art
 - 14 Lowell Hall
 - 15 Wisconsin Center
 - 16 Memorial Union & Library Mall
 - 17 Bascom Hall
 - 18 Washburn Observatory
 - 19 Allen Gardens
 - 20 Babcock Hall
 - 21 Camp Randall & UW Field House
 - 22 Geology Museum
 - 23 Henry Vilas Zoo
 - 24 Arboretum
 - 25 High Noon Saloon

WALKING MAP • DOWNTOWN MADISON

