



CONFERENCE OBJECTIVES AND GOALS

This Eco-Informa conference is designed for individuals interested in gaining insights about a range of environmental risks and joining together to develop solutions. Participants include project managers, scientists, engineers, and communicators from government, commercial, academic, and public sectors.

A central focus of Eco-Informa 2001 is the use of modern technology to share new information and develop integrated strategies to solve environmental problems. The goal is to identify interdisciplinary, multi-organizational approaches and establish partnerships to define and implement sustainable decisions for the global community. The four conference themes – integrated environmental management, communication and partnerships, information management, and shared science and technology – are cornerstones of the US Department of Energy Environmental Management Program.

The same advances in information technology that have led to greater awareness of environmental issues have also enhanced our ability to work together to solve them. The purpose of this international conference is to share creative strategies for dealing with emerging risk problems, highlighting how new science and technology are being used to solve a range of challenges with global impacts.

The aim is to gain insights from a variety of successful applications, in an intimate setting that encourages discussions – recognizing not only interrelationships in the environment but also the importance of interactions among people.

SPONSORS

Co-hosts and sponsors:

US Department of Energy (DOE) Center for Risk Excellence / Chicago Operations Office
Argonne National Laboratory

Additional sponsors:

US Environmental Protection Agency (EPA) Office of International Activities
Pacific Northwest National Laboratory
Texas Christian University / Eco-Informa Foundation
Farm Foundation
US DOE Environmental Measurements Laboratory
US EPA Superfund Community Involvement & Outreach Center
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Advanced Engineering International Association
Society for Risk Analysis

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THE PAST: A BRIEF HISTORY OF ECO-INFORMA

Dr. Otto Hutzinger, currently professor emeritus of environmental chemistry at the University of Bayreuth, translated his lifelong interest and extensive experience in shared environmental research into the founding of Eco-Informa in 1989. He was joined by Drs. Leo Newland and Ken Morgan of Texas Christian University through an association that began several years earlier when Dr. Newland was on sabbatical with Dr. Hutzinger in Germany. These three scientists organized the *World Conference on Remote Sensing* held in the Bayreuth opera house in 1984 (with speakers including Harrison Schmidt, Senator from New Mexico and the last person to walk on the moon). This meeting was a precursor to the first Eco-Informa conference held in Bayreuth in 1989.

Subsequent Eco-Informa conferences were held in Bayreuth (1992), Vienna (1994), EPCOT Florida (1996), and Munich (1997). The broad range of international participants in these meetings includes environmental specialists, technology experts, researchers, planners, information managers, and educators from government agencies and private organizations, academia, and industry. Eco-Informa 2001 is the sixth in this international conference series.

Drs. Hutzinger, Newland, and Morgan established the non-profit Eco-Informa Foundation to support the organization and hosting of educational and scientific conferences, workshops, and seminars that focus on the use of science and technology to develop and share environmental information on a global scale. The Foundation's goals are:

- * Establish Eco-Informa as the premier environmental information conference in the world, and develop conference programs that address current and future scientific, technical, and environmental topics.
- * Provide a forum for interaction among scientists, educators, and other professionals about today's and tomorrow's technology for information exchange, and encourage the exchange of data and use of remote databases.
- * Stimulate the global exchange of scientific ideas through the use of computers and the Internet, promote communication (through wireless, satellite, and other means), and utilize special tools (such as video conferencing and satellite tracking).

Building on this strong history, Eco-Informa 2001 brings together multiple organizations and disciplines to highlight innovative strategies and technologies being applied to address key issues with global impacts. The emphasis is on constructive approaches for dealing with our shared risk issues.

This conference honors the vision and dedication of Eco-Informa founding father Dr. Otto Hutzinger. On the occasion of Eco-Informa 2001 we offer special recognition to Dr. Hutzinger for his lifetime achievements in the field of environmental science. A pioneer in pesticide and dioxin research and one of the first to recognize the importance of linking different disciplines dealing with environmental contamination, exposure assessment, toxicology, risk characterization, and communication, Dr. Hutzinger's significant contributions to integrated environmental understanding and partnerships serve as a strong example of how we can work together to solve our world's environmental challenges.

THE FUTURE

An open planning meeting to discuss options for future Eco-Informa activities will be held at **11:00 a.m. Friday 18 May** in the Advanced Photon Source (APS) facility auditorium. All are welcome.

DIRECTIONS TO ARGONNE NATIONAL LABORATORY

From O'Hare Airport: Take I-190 East (toward Chicago) about 1 mile to I-294 South (tollway); stay right to exit onto I-294. Go south 15 miles until just past the Hinsdale Oasis; stay in the two right lanes to exit to I-55 South (toward St. Louis) at about mile marker 25. Follow I-55 South 4 miles to Exit 273A, South Cass Avenue, and exit to the right. Follow Cass Avenue south 0.3 miles, past Frontage Road to Northgate Road, and turn right. Follow Northgate Road 0.7 miles to the main entry of the Laboratory.

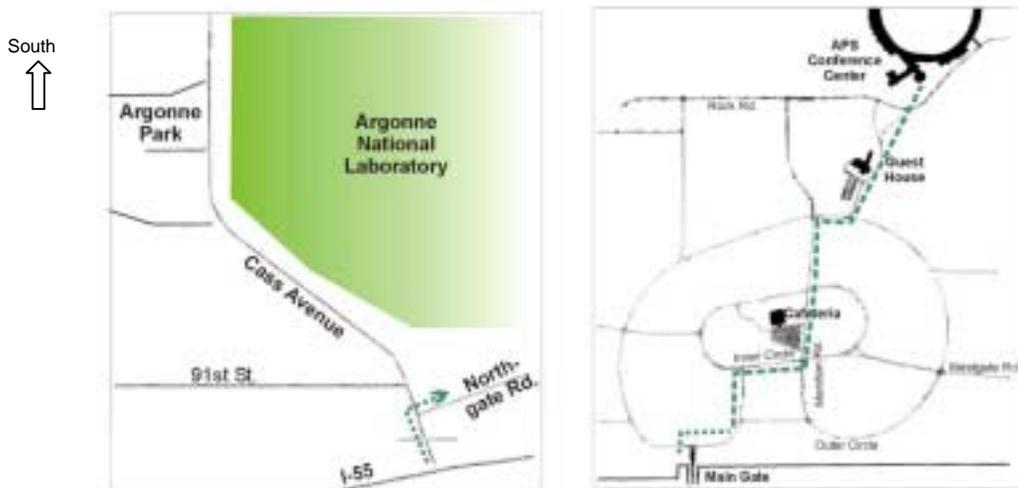
Tell the guard at the entry gate that you are attending the Eco-Infirma meeting at APS/going to the Guest House (the guard house will have a list of registrants).

Entering the site, turn right at the stop sign and follow Northgate Road to the stop sign at Inner Circle; turn right. Go to the first stop sign and turn left onto Meridian. Follow Meridian 0.3 miles to Outer Circle (just before the gas station) and turn right. The Guest House is on your left. Total distance from the entry gate is about 1 mile. The APS facility is just beyond the Guest House, straight ahead on the access road.

(From Midway Airport: Take Cicero Avenue north to I-55 South and follow I-55 to Exit 273A as above.)

MAP OF ARGONNE SITE

Note: Conference participants are only authorized to access the following on-site buildings: the APS conference facility, Guest House/lodging, and Argonne cafeteria.



TRANSPORTATION

The following limousine services can be contacted for transportation to and from the airport:

United Livery Service: (630) 969-3865, or 1-800-331-9037

Hinsdale Transport: (630) 455-1111

REGISTRATION AND MEETING AREAS

(APS FACILITY)

The registration booth is located just inside the main entry to the Advanced Photon Source building, on the right. Monday registration will be in the entryway; the booth will be used Tuesday through Friday. Registration hours are 8 a.m.-5 p.m. daily.

Plenary sessions and poster-platform presentations will be in the auditorium, inside the main entry on the right, just beyond the registration booth. Concurrent sessions will be held in the auditorium and Rooms E-1100 and E-1200, which are located just behind the auditorium. Several sessions on Wednesday and Thursday afternoon will also be held in Room A-1100, located to the left of the main entry and around to the right. Posters will be in the gallery (lower level), just beneath the auditorium. Break refreshments will also be served in the gallery.

MESSAGES

Messages can be left for conference participants between 8 a.m. and 5 p.m. by calling 630-252-9580. All messages will be posted on a message board next to the registration booth.

RECEPTION AND MEALS

Included in the conference registration fee:

Monday, 6-8 p.m. **Welcome reception** in the Guest House restaurant
Tuesday, 7-9:30 p.m. **Dinner** in the Guest House restaurant
Reception (cash bar) begins at 7:00, dinner at 7:30
Guest speaker: Dr. Martina McGloughlin, UC-Davis

Available for separate purchase:

Wednesday, 6:30-9 p.m. **Chicago barbeque & jazz band (“Limited Edition”)** in the APS gallery level
Lunch, noon-1:15 p.m. Guest House restaurant or Argonne cafeteria

The Guest House restaurant hours are: breakfast 6:45-8:30 a.m., lunch 11 a.m.-2 p.m, dinner 5-9 p.m. (A light breakfast is included in the room rate for those staying at the Guest House.)

The Argonne cafeteria is about a ten-minute walk from the APS facility. A shuttle bus will operate between the APS and the cafeteria from noon-2 p.m. Lunch hours are 11:15 a.m.-1:30 p.m. The cafeteria also serves breakfast 7-8:30 a.m. (No dinner service is available.)

In the evening, the “5 to 9 Grill” in the lower level of the APS facility serves sandwiches and snacks from 5-9 p.m. (Elevators are to the left of the main entry.)

SITE TOUR

Meeting participants can visit several facilities at Argonne National Laboratory by signing up at the registration booth (no charge). Space is limited to 34 per tour, so those interested are encouraged to sign up early. Facilities visited: Information Center, Advanced Photon Source, ATLAS (Argonne Tandem Linear Accelerator System), and Engineering Research Exhibit. Current schedule for the 2-hour tour: Monday, 2:00 p.m. and 4:00 p.m. (If needed, another tour may be added Friday afternoon.)

RECREATION

Argonne National Laboratory is surrounded by the Waterfall Glen Nature Preserve, with hiking trails accessible outside the north (main) and west gates. All are invited to meet for a **moonlight nature hike and campfire** at 8:00 p.m. **Thursday** at Argonne Park, south of the main site entry on the east side of Cass Avenue. Leaving the Laboratory, turn right from Northgate Road onto Cass Avenue. The park is 0.9 mile on the left. The pavilion, where the post-hike campfire will be, is to the right and behind the red brick building. (Spring nights in the Chicago area can be cool, so a jacket or sweater is recommended.)

AREA ATTRACTIONS

Chicago is home to some of the world's finest museums, theaters, restaurants, shops, architecture, and lakefront attractions, including the Magnificent Mile, John Hancock Observatory, and Navy Pier. Information can be found at: What's Happening Around Chicago – <http://www.anl.gov/OPA/chihap.html>
City of Chicago Home Page – <http://www.ci.chi.il.us/tourism/>
(Selected materials will be available at the registration desk).

To visit downtown Chicago, you can contact a limousine service (see *Transportation*) or a taxi service (check the yellow pages or ask the Guest House front desk). (Note: you may need to meet your driver at the main gate.) Chicago can also be accessed via Metra train by taking a taxi to the Westmont station 5 miles north of the Laboratory. One-way costs: \$10 taxi to train station, \$3.15 train to downtown. A Metra schedule is available at the registration desk. (The first morning train leaves Westmont at 4:57 a.m. and arrives at Union Station in downtown Chicago at 6:25 a.m. The last two returning trains leave Union Station at 11:40 and 12:40 a.m. and arrive in Westmont at 12:18 and 1:21 a.m.) Additional transportation information can be obtained through the Transit Information Center at 836-7000, open 5 a.m.-1 a.m.

TECHNICAL PROGRAM

This program contains a brief summary of training courses and the plenary, technical, poster platform, and poster sessions, as well as an overview *program at a glance*. Following are the presentations and abstracts by session/day, poster session and abstracts by theme, and biographical sketches (alphabetical).

TRAINING COURSES

Five courses are being offered in conjunction with Eco-Informa 2001. Those interested in attending who have not pre-registered must sign up at the registration booth. Course schedule:

- | | |
|---|---|
| Monday, 9:30-noon
(Room E-1100/1200) | I. Remote sensing and geographic information systems (GIS) data integration
<i>William Sharp, Research Systems, Inc.</i> |
| Monday, 9:30-noon
(Auditorium) | II. Ecological risk assessment
<i>Drs. Ihor Hlohowskyj and John Hayse, ANL</i> |
| Monday, 1:00-5:00
(Auditorium) | III. Environmental epidemiology
<i>Drs. John Dunbar, David Hoel, Dan Lackland, Lawrence Mohr, MUSC</i> |
| Friday, 1:00-5:00
(Auditorium) | IV. Multi-criteria decision analysis for ecological applications
<i>Dr. Stefan Pudenz, Criterion</i> |
| Friday, 1:00-5:00
(Room E-1100/1200) | V. Mixtures risk assessment
<i>Dr. Richard Hertzberg, US EPA NCEA</i> |

COURSE DESCRIPTIONS

I. Remote Sensing and Geographic Information System (GIS) Data Integration

Instructor: William Sharp, Research Systems Inc., Boulder, CO

Course objectives: Provide an overview and basic introduction to remote sensing data, its sources, uses, and integration with raster and vector GIS data. This will be accomplished through the use of example data, applications and specific processing techniques.

Target audience: Those new to remote sensing, but with a need or desire to apply it in their work. This includes scientists who are not specialists in remote sensing, students and practitioners interested in learning the basics of satellite or aircraft-based optical or radar image analysis and sources of data, and integration of these with GIS data.

Course description: The course will provide an overview of remote sensing and GIS, describe different types and sources of data, and explain tools and techniques such as reading and display, radiometric and geometric correction, information extraction, and data integration. Several applications will be described.

II. Introduction to Ecological Risk Assessment

Instructors: Dr. Ihor Hlohowskyj and Dr. John Hayse, Argonne National Laboratory, IL

Course objectives: Provide an introduction to ecological risk assessment, including problem formulation, development of the conceptual site model and risk hypotheses, risk characterization methods, and field and laboratory methods for evaluating exposure and effects.

Target audience: Scientists, students, and project managers interested in ecological risk assessment but with little or no experience in designing and conducting such assessments.

Course description: This short course will provide a basic overview of ecological risk assessment. It will define ecological risk assessment and present a process for designing and conducting these assessments. Specific topics to be discussed include problem formulation, development of a conceptual site model and associated risk hypotheses, identification of assessment and measurement endpoints, development of a study design using the data quality objectives process, and methods for risk characterization. An overview of methods for assessing exposure and effects will also be provided.

III. Introduction to Environmental Epidemiology

Instructors: Dr. John Dunbar, Dr. David Hoel, Dr. Daniel Lackland, and Dr. Lawrence Mohr,
Medical University of South Carolina, Charleston, SC

Course objectives: Provide an introduction to the use of epidemiology in identifying potential hazardous exposures, and the process by which exposures may be associated/linked with adverse health effects.

Target audience: This introductory course could aptly be called “epidemiology for the non-epidemiologist.” The audience is expected to be those who have an interest in health effects and their identification, but who do not have a background in the health sciences.

Course description: This short course will provide a basic review of the use of epidemiology in the study of environmental health. It will begin with a definition and brief history of epidemiology. The postulates for determining cause and effect, and the different types of studies used to evaluate environmental exposure and risk will then be described. This will lead into an overview of the fundamentals of environmental risk assessment, and the use of biomarkers in risk assessment. The course will conclude with summaries of the interpretations and significance of several epidemiological case studies. The case reports will include epidemiological studies and the interpretation of the results with a focus on what can and cannot be concluded from the study, based on the limitations of the methodology and the type of study undertaken. The descriptive study presentation will include the use of Geographic Information Systems (GIS) in the evaluation of disease and exposure in the population. Participation and discussion is encouraged.

IV. Evaluation and Decision Tools: Comparison and Introduction to Multi-Criteria Decision Analysis for Ecological Applications

Instructor: Dr. Stefan Pudenz, Criterion - Evaluation and Information Management, Berlin, Germany

Course objectives: Describe and apply tools for evaluation and decision analysis that can be used to address ecological risk issues. This will be done by comparing different methods for multi-criteria evaluation and decision support and illustrating their application through practical demonstrations using data for various environmental problems.

Target audience: Scientists, students and practitioners interested in data analysis, risk assessment, and risk management tools, and those generally interested in multi-criteria evaluation and decision analysis.

Course description: One consequence of our information society is an enormous increase in available data, with many people attempting to glean as much information as possible from these data, especially for environmental evaluations and related decision processes. Various tools are available to support these activities. However, a common difficulty with the evaluation step is that many of the methods mask and aggregate the data, and therefore both valuable information and transparency are lost. This translates to potential impacts on acceptance of the final decision as well as concerns about what becomes of the participation principle. In this course, different methods for multi-criteria evaluation and decision support will be described and compared (such as the basics of AHP, PROMETHEE, ELECTRE and MAUT). This course will also introduce a rather new approach (HDT) that can be used to avoid the merging of data and thus preserve important elements of the evaluation and decision-making processes. An overview of methods will be followed by an HDT evaluation of a simple data matrix and a discussion of evaluation elements such as sensitivity analysis, stability, robustness, dimension, and p-algorithms. A complex data matrix will also be evaluated by HDT.

V. Mixtures Risk Assessment

Instructor: Dr. Richard Hertzberg, US EPA National Center for Environmental Assessment, Atlanta, GA

Course objectives: Provide training on EPA procedures for health risk assessment of exposure to chemical mixtures, their range of application, and their main assumptions and uncertainties.

Target audience: Risk practitioners and others interested in methods for assessing mixtures risks, including evaluating mixture dose-response information and interpreting the resulting risk characterization. Some familiarity with methods for assessing health risks of single chemicals (e.g., US EPA or ATSDR methods) and basic toxicological concepts is helpful but not required.

Course description: This workshop will provide a general overview of the new EPA mixtures risk guidance and its suggested procedures, a description of several new methods, and hands-on exercises during which participants will apply assessment procedures to test data sets. The US EPA has recently authored supplementary guidance for the 1986 *Guidelines for Health Risk Assessment of Chemical Mixtures*. These two documents represent the primary US EPA methodology for assessing cumulative health risks from exposure to multiple chemicals. The recent guidance contains descriptions of current methods and approaches for addressing chemical mixtures risk. Included are procedures and definitions for selecting among risk assessment methods; methods for using whole mixture data on a toxicologically similar mixture; development of an interaction-based hazard index using binary data on toxicologic interactions; a procedure for considering environmental transformations; a generalized relative potency factors procedure for mixtures involving classes of similar chemicals; and expanded discussions that clarify the uses of dose-addition and response-addition approaches.

PLENARY SESSIONS**(AUDITORIUM)**

Tuesday	9:00 a.m.-noon	Conference Opening and Keynote Addresses
	3:15-4:00 p.m.	Poster Platforms
	4:30-6:30 p.m.	Masters' Roundtable
Wednesday	8:00-8:30 a.m.	Recommendations from Day 1
	3:30-4:30 p.m.	Nobel Laureate Address
	4:45-6:15 p.m.	Cold War Legacy Colloquium
Thursday	8:00-8:30 a.m.	Recommendations from Day 2
	1:30-2:30 p.m.	Poster Platforms
Friday	9:30-10:45 a.m.	Panel Recommendations and Conference Closing

Highlights

Keynote Addresses

Dr. Carolyn Huntoon (US DOE Assistant Secretary for Environmental Management), will present DOE's cleanup challenges and the importance of science and technology research, risk analysis, and partnerships. Dr. Yacov Haimés (Lawrence R. Quarles professor, University of Virginia) will describe the science and art of risk assessment and risk management. Dr. Lorenz Hilty (EMPA, Federal Laboratories for Materials Testing and Research) will discuss opportunities for shared environmental data and strategies for sustainable development offered by new information technology.

Masters' Roundtable

Six master risk practitioners from the US, England, and Italy will describe their experiences in addressing key environmental issues in recent decades, identifying lessons from the past that can guide our future path. Masters: Dr. David Ayres (University of London), Dr. Elizabeth Anderson (Sciences International), Bruce Church (Desert Research Institute), Dr. Umberto Fortunati, Dr. Curtis Travis (Quest Technology), and Dr. Alvin Young (US DOE Center for Risk Excellence). Topics include addressing risk perceptions of radiation, dioxin, and herbicides; regulating trivial risks at the expense of addressing global problems; sustainability; and opportunities for the evolving process of risk assessment.

Nobel Laureate Address

In a joint activity with the Director of Argonne National Laboratory, Nobel Laureate Dr. F. Sherwood Rowland will speak on "Earth's atmosphere in the 21st century" at a special Director's Colloquium. Dr. Rowland (Donald Bren research professor, University of California-Irvine) shared the 1995 Nobel Prize in chemistry and has received several international awards for his pioneering research on ozone formation and decomposition and the sensitivity of the ozone layer to certain anthropogenic emissions.

Cold War Legacy Colloquium

An international panel of science and policy experts will share constructive approaches for dealing with wastes and environmental contamination resulting from the Cold War. Co-Chairs: Dr. Alvin Young (US DOE Center for Risk Excellence) and Dr. Vitaly Eremenko (Kurchatov Institute, Russia). Panelists: Dr. James Turner (US DOE National Nuclear Safety Administration), Paata Shevardnadze (UNESCO, Republic of Georgia), Petre Metreveli (UNESCO, France), and representatives of the International Risk Assessment Network (twelve Eastern European countries).

TECHNICAL SESSIONS

(AUDITORIUM, E-1100, E-1200, A-1100)

Three concurrent sessions on topics within the four conference themes will be conducted Tuesday afternoon through Thursday afternoon. The *Technical Session Summary* identifies the sessions, speakers, and presentation titles by day and time. Only presenters are identified in this summary, with coauthors listed on the accompanying abstracts. The abstracts are provided in the *Session Abstracts* section immediately following the *Technical Session Summary* (also by day and session time).

POSTER PLATFORM SESSIONS

(AUDITORIUM)

A number of posters will be highlighted in brief oral presentations (3-5 minutes each) during plenary poster platform sessions Tuesday and Thursday afternoon, as indicated above. The speakers and their presentation titles are included in the *Technical Session Summary*. The abstracts for these poster platform presentations are in the *Poster Abstracts* section following the *Poster Summary*.

POSTERS AND EXHIBITS

(GALLERY)

Poster displays and exhibits are in the lower level gallery of the APS facility. Posters will remain up through Friday morning. One-on-one poster discussions will occur throughout the conference, as the gallery is the general gathering place for participants. (Morning and afternoon breaks will be held here each day, as will the Chicago barbeque and jazz band Wednesday evening.)

Titles and authors of posters are provided in the *Poster Summary*. Poster abstracts are provided in the program following the *Poster Summary*. They are organized according to the four general conference theme areas, with a final section dedicated to the International Risk Assessment Network posters.

JOINT MEETING OF THE INTERNATIONAL RISK ASSESSMENT NETWORK

Eco-Informa 2001 serves as a special meeting opportunity for the International Risk Assessment Network (RAN), a partnership of scientists addressing Cold War environmental legacy issues in the United States and twelve other countries: Armenia, Bulgaria, Czech Republic, Greece, Hungary, Kyrgyz Republic, Lithuania, Republic of Georgia, Romania, Russia, Turkey, and Ukraine. The Network was established through a Memorandum of Understanding (MOU) signed at a North Atlantic Treaty Organization workshop on *Risk Assessment Activities for the Cold War Facilities and Environmental Legacies* held in Bulgaria in May 2000. Eco-Informa 2001 marks the first formal scientific meeting of the Network's country coordinators following the MOU.

Co-Directors Dr. Alvin Young (US DOE Center for Risk Excellence) and Dr. Vitaly Eremenko (Director General of the Educational Center TRAOMD, Moscow, Russia) will lead various RAN activities during the week, including technical sessions Wednesday morning and the Cold War Legacy Colloquium that afternoon. On Friday, the Network will devote the afternoon to discussions at the on-site lodge, closing with a special dinner to celebrate the Network's first year of activities. (All conference participants are invited to join in the dinner celebration; please sign up at the registration desk.)

PROGRAM AT A GLANCE *Participants will share solutions and opportunities within four themes:*

I. Toward a sustainable environment: managing resources through integrated actions	III. Environmental information in the 21 st century: improving approaches & tools for decisions
II. Public policy and due process: involving stakeholders in developing solutions	IV. Engineering and biotechnology solutions: applying new technology to energy, food, health

Monday 14 May *Training courses*

9:30-noon	1:00-5:00	6:00-8:00
Remote sensing and GIS data integration (<i>RSI</i>)	Environmental epidemiology (<i>Medical University of South Carolina</i>)	Welcome reception
Ecological risk assessment (<i>Argonne National Lab</i>)		

Tuesday 15 May *Start of formal conference*

9:00-noon	1:15-3:00	3:15-4:30	4:30-6:30
Opening plenary addresses (<i>Huntoon, Haimes, Hilty</i>)	Global spread of persistent organic pollutants	Poster platform session & poster viewing	Masters' roundtable (<i>Young, Travis, Ayres, Fortunati, Anderson, Church</i>)
	Partnerships in emerging economies for community redevelopment		
	Sampling, analysis, monitoring, and data strategies		
7:00-9:30 (p.m.)	Dinner & speaker (<i>McGloughlin</i>)		

Wednesday 16 May

8:00-8:30	Initial plenary session: Summary recommendations from Day 1			
8:30-10:15	10:30-noon	1:30-3:15	3:30-4:30	4:45-6:15
Risk-based strategies for contamination	Cleanup of Cold War legacy sites	Land use dynamics and stewardship	Nobel Laureate address <i>Rowland</i>	Cold War legacy colloquium (<i>Young, Eremenko, Turner, Shevardnadze, Metreveli, Network</i>)
Partnerships, economics, and law	Visualization tools to guide decisions	Insights from global challenges: climate change and CFCs		
Responding to the global food crisis		Internet applications for integrated decisions		
6:30-9:00 (p.m.)	Chicago barbeque and jazz band			

Thursday 17 May

8:00-8:30	Initial plenary session: Summary recommendations from Day 2			
8:30-10:15	10:30-noon	1:30-3:30	3:30-5:00	
Multiple chemicals/exposures and cumulative risks	Sustainable resource management and health information	Poster platform session & poster viewing	Tackling the energy crisis	
Incorporating a mix of interests through communication			Data management and information technology	
Data mining and analysis for better solutions	Transfer of sustainable technology		Living with risk: the genetic frontier	
8:00-10:00 (p.m.)	Moonlight nature hike and campfire			

Friday 18 May *Conference wrap-up and training courses*

9:00-10:30	10:30	1:00-5:00	<i>Training courses</i>
Final plenary: Summary recommendations, next steps	Closing address	Multi-criteria decision analysis/ecological applications (<i>Criterion</i>)	
		Assessing health risks of chemical mixtures (<i>US EPA & Argonne</i>)	