

# RISK *newsletter*

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## SRA Enters Eighth Year

The transfer of authority from outgoing President Paul F. Deisler, Jr., to incoming President Vincent T. Covello at the 1987 annual business meeting of the Society for Risk Analysis marked the beginning of the Society's eighth year. The business session was held on Monday evening, November 2, in conjunction with SRA's 1987 Annual Conference, which was held at the Wyndham Hotel in Houston and was attended by approximately 300 persons.

### 1987-88 Officers Announced

New SRA officers elected to serve with President Vincent Covello during the 1987-88 year were announced by outgoing president Paul F. Deisler Jr., at the Society's 1987 business meeting held in Houston on November 2. The officers include the president-elect; the secretary and the treasurer, each beginning two-year terms; and three councilors, each serving three years.

#### Schwing Is President-Elect

Richard C. Schwing, a principal research engineer in the Operating Sciences Department of the General Motors Research Laboratories, is the Society's new president-elect. In that position he automatically assumes the chairmanship of the Annual Meetings Committee. In past years, he has served the Society as a member of the Steering Committee, as a fund raiser for the 1983 Annual Meeting in New York, and as session organizer for the 1985 Annual Meeting in Washington D.C.

At General Motors, Schwing's responsibilities include methods development for a variety of multidisciplinary research programs involving environmental impact, technological forecasting, and social change. In 1983, he was presented the John M. Campbell Award by General Motors for his contributions to science.

Schwing has authored numerous papers on such topics as epidemiology, benefit/cost analysis, cost effectiveness, and risk analysis. He also was editor, with W. A. Albers Jr., of the book *Societal Risk Assessment: How Safe is Safe Enough*, and editor, with L. Evans, of *Human Behavior and Traffic Safety*. His three degrees, B.S., M.S., and Ph.D., all in chemical engineering, are from the University of Michigan.

#### Lynn Is Secretary

Frances M. Lynn, a research assistant professor in the Department of Environmental Sciences

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Upon opening the business meeting, President Deisler presented the results of the Society's recent election (see story) and pointed out that SRA's membership has doubled since 1984. At the time of the meeting, the number of members in good standing (those who had paid their dues) was 1304. The Society now has eight chapters, three of which were added during 1987, and one section, SRA-Europe, which has about 100 members. Other individual members are distributed throughout the world, and the formation of at least three additional sections is now under consideration.

#### Treasurer's Report

Reporting for the outgoing treasurer, Steven M. Swanson, Deisler said that SRA's financial health is good. No account had yet been made of the income from the annual meeting, but going into the annual meeting the Society had a surplus of \$40,000. At the end of 1986, after an accounting for the annual meeting had been made, the Society had a surplus of \$95,000.

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**SRA Presidents Congratulate Each Other.** Incoming President Vincent T. Covello (left) presents outgoing President Paul F. Deisler, Jr., with an SRA plaque of appreciation at the 1987 annual business meeting.

## 1987 Business Meeting

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The attendees welcomed an announcement that the Society dues would remain at \$50 per year for a regular membership, \$30 for a student membership with the journal, and \$10 for a student membership without the journal.

### Publications Committee Report

The report submitted by the 1986-87 Publications Committee, chaired by Lester B. Lave, cited the continued success of the SRA journal *Risk Analysis*, which is edited by Curtis C. Travis and subscribed to by approximately 1000 institutions. The committee feels that the Society may be forced to increase the number of journal issues from four to six per year or to again increase the number of pages per issue. During the past year, the journal size increased to a nominal 150 pages, with some issues being larger by 20%.

By contrast, the number of issues of *Risk newsletter*, edited by Lorraine Swift Abbott, will be reduced from four to three per year, the months of issue being January, May, and September. This decision was made on the basis of a cost report prepared for the SRA Council by the editor. (Abbott, a 1986 retiree from Oak Ridge National Laboratory, was able to provide for the first time the unsubsidized costs of the newsletter over a full year.)

Progress on the backlog of annual meeting proceedings was also reported. The 1984 proceedings have been printed and the 1985 proceedings have been forwarded to the publisher (Plenum Press). The 1986 proceedings have been delayed, but procedures for expediting both the 1986 and the 1987 proceedings have been established.

### Bylaws Adoption

Deisler announced that the Society had discovered it had a constitution and two different sets

of bylaws (dating back to 1981), and to alleviate the confusion, SRA Council member Peter Barton Hutt, a Washington, D.C., attorney, had volunteered to combine the bylaws into a single set for presentation at the Houston meeting. (Hutt said a constitution was unnecessary.) However, both the earlier bylaws and the new bylaws stated that a quorum would consist of 10% of the active members of the Society, which at the time of the Houston meeting would have been 131 persons. A head count showed that approximately 65 persons were at the meeting and it was pointed out that the attendance was representative of previous business meetings. As a result, the wording of the bylaws was changed to read that a quorum would consist of 20% of the members attending the annual meeting at which the business meeting was being conducted.

### Awards Presentation

As his last act as president, Deisler announced that two members had been named to receive a Distinguished Service Award in 1987, Tony Buhl and Steven Swanson, both for their efforts in building the Society. (See story elsewhere in this newsletter.) Deisler was then presented an SRA service plaque from incoming President Covello, to whom he, in turn, gave the "president's ribbon."

### Covello's Remarks

As outgoing chairman of the Annual Meetings Committee, President Covello announced that the 1988 and 1989 SRA Annual Conferences would be in Washington, D.C., and San Francisco, respectively. The location of the 1990 Conference has not yet been

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## 1987 Business Meeting

*(Continued from page 2.)*

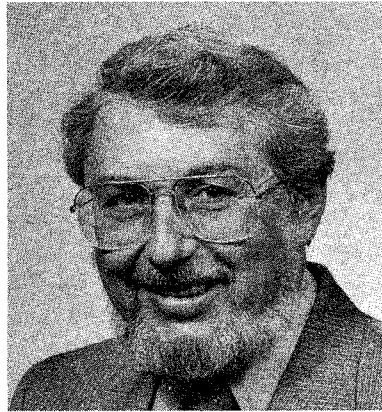
determined, but areas under consideration are Research Triangle Park, Philadelphia, and New Orleans. Other groups wishing to bid for the 1990 meeting should write to President-Elect Richard C. Schwing, who is chairman of the 1987-88 Annual Meetings Committee (see address under committee listings).

Covello also discussed his aspirations for SRA. First, he feels that as the Society grows, it will eventually need an executive director, as well as an executive secretary, and it should begin raising funds for that purpose.

Second, he said that SRA needs to develop and offer a greater number of training courses. The field of risk assessment and management is changing rapidly, and the Council needs the advice of the members on the types of courses that should be conducted.

Third, Covello urged the Society to continue its efforts to develop chapters and sections, and especially to meet the individual needs of groups attempting to organize chapters and sessions.

Finally, the president posed the imperative for working with people in developing nations and making SRA a truly international society, with the U.S. itself eventually becoming a section. He said that at its February 12 meeting the SRA Council would be considering specific suggestions for helping sections to organize in developing countries, including providing start-up expenses. He suggested an initial grant plus a second grant based on matching funds. A third step might be making a repayable loan to the section. The sections receiving the funds would be expected to provide documentation of their expenditures.



**President-Elect  
Richard E. Schwing**

## 1987-88 Officers

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and Engineering at the University of North Carolina, Chapel Hill, is SRA's new secretary, a position she will hold for two years. She obtained her B.A. in economics from Goucher College, her M.A. in international affairs from Columbia University, and her Ph.D. in health policy and administration from the University of North Carolina, Chapel Hill. Lynn's current activities at the University of North Carolina include directing a National Science Foundation grant that investigates the use of scientific and technological information in the federal government and private industry; directing the activities of the Environmental Resource Project, a program that provides technical assistance, training and interns for citizen groups and local governments; and advising theses and independent studies.

### Fiksel Is Treasurer

Joseph Fiksel, a principal scientist in the Research and Advanced Systems Division of Teknowledge, Inc., at Palo Alto, California, has been elected to a two-year term as SRA's treasurer.

As program manager for Risk and Decision Systems, he oversees the development of advanced knowledge system technology to support risk management and decision-making in both industry and government. Prior to joining Teknowledge, Fiksel organized and directed the Decision and Risk Management Unit at Arthur D. Little, Inc., in Cambridge, Massachusetts, and helped found the New England Chapter of the Society for Risk Analysis. He received his M.S. and Ph.D. in operations research from Stanford University, and his B.S. in electrical science and engineering from the Massachusetts Institute of Technology. He also received a Government of France fellowship for advanced research at the University of Paris.

### Three New Councilors

The newly elected councilors are George Apostolakis, W. Gary Flamm, and Richard Wilson. The positions are three-year terms that will end in 1990.

Apostolakis is a professor of engineering and applied science at the University of California, Los Angeles. He received a diploma in electrical engineering from the National Technical University, Athens, Greece, and his M.S. and Ph.D. degrees from the California Institute of Technology. His

*(Continued on page 4.)*

### NOTICE

Groups wishing to form SRA sections outside the U.S.A. should contact the appropriate committee chairs. For developed countries, the chair is Chris Whipple, and for developing countries it is Vlasta Molak. Their addresses are given elsewhere in this newsletter under "Committee Chairs."

## 1987-88 Officers

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research activities are in the development of methods for the assessment of risks from complex technological systems. He is a co-editor of the international journal *Reliability Engineering and System Safety* and president of SRA's Southern California Chapter.

Flamm is currently the director of the Office of Toxicological Sciences in the Center for Food Safety and Applied Nutrition of the Food and Drug Administration. He is also chairman of the Center's Cancer Assessment Committee and co-chairman of its Health Hazard Evaluation Board. Flamm, a co-founder of the Society for Risk Analysis, has 23 years of experience in the U.S. Public Health Service and is section editor of the *Journal of the American College of Toxicology and Toxicology and Industrial Health*. He received his B.S. in pharmacy, his M.S. in chemistry, and his Ph.D. in medical biochem-

istry, all from the University of Cincinnati.

Richard Wilson is the Malinckrodt Professor of Physics at Harvard University, where he is a member of the Executive Committee of Energy and Environmental Policy Center and past chairman of the Physics Department. He is currently a consultant to the Nuclear Regulatory Commission and to the Kuwait Institute of Scientific Research; from 1985 to 1987 he was a consultant to Kuwait University. In addition, he is a member of the Energy Engineering Board of the National Academy of Sciences and is the chairman of the Visiting Committee on Radiation Medicine at Massachusetts General Hospital. In 1987, he received a medal for his help in the cleanup operation of Chernobyl. Wilson has B.A., M.A. and D.Phil. degrees from Oxford University and is the author of dozens of papers on risks, safety, and analysis, many of them dealing with energy systems and chemicals.

Councilors continuing to serve the SRA with one year remaining are B. John Garrick, Peter Barton Hunt, and R. Talbot Page. Councilors with two years yet to serve are D. Warner North, Robert G. Tardiff, and Ola Svenson.

### Thank You

The Society for Risk Analysis expresses appreciation to the following outgoing officers:

*From the Executive Committee*

Lester B. Lave  
1985-86 President

Michael Gough  
Secretary

Steven M. Swanson  
Treasurer

*From the Council*

Samuel C. Morris

Pieter-Jan Stallen

M. Elisabeth Pate-Cornell

## 1987-88 SRA Committee Chairs

President Vincent T. Covello has announced the following committee chairs for the year 1987-88:

**Annual Meetings:** Richard (Dick) C. Schwing, Operating Sciences Department, General Motors Research Laboratories, 30500 Mound Road, Warren, Michigan, 48090-9055 (Phone: 313-851-9519).

**Awards:** Elizabeth (Betty) Anderson, ICF/Clement, 9300 Lee Highway, Fairfax, Virginia, 22031-1207 (Phone: 703-934-3500).

**Conferences and Workshops:** Elizabeth Anderson (see address above).

**Definitions:** Lawrence (Larry) B. Gratt, IWG Corp., 1940 Fifth Ave., Suite 200, San Diego, California, 92101 (Phone: 619-531-0092).

**Executive:** Vincent T. Covello, Center for Risk Communication, Division of Environmental Sciences, School of Public Health, Columbia University, Room B-1, 60 Haven Ave., New York, New York, 10032 (Phone 212-305-3464) *OR* Health Effects Institute, 215 First Street, Cambridge, Massachusetts, 02142 (Phone 617-491-2926).

**Finance:** Steven Swanson, ICF/Clement, 9300 Lee Highway, Fairfax, Virginia, 22031-1207 (Phone: 703-934-3110).

**Gifts and Grants:** Fred D. Hoerger, The Dow Chemical Company, 1803 Bldg., Midland, Michigan, 48674 (Phone: 517-636-0682).

**Liaison:** James (Jim) D. Wilson, Monsanto Company, 800 N. Lindbergh Boulevard, St. Louis, Missouri, 63167 (Phone: 314-694-8879).

**Membership:** W. Gary Flamm, Director, Office of Toxicological Sciences, U. S. Food and Drug Administration, HFF100, 200 C Street, SW, Washington, D. C. (Phone: 212-485-0046).

**Nominations:** Lester B. Lave, GSIA, Carnegie-Mellon University, Pittsburgh, Pennsylvania, 15213 (Phone: 412-268-8837).

**Publications:** Paul F. Deisler, Jr., 11215 Wilding Lane, Houston, Texas, 77024 (Phone: 713-467-3080).

**Publicity:** Herbert Inhaber, NUS Corporation, 910 Clopper Road, Gaithersburg, Maryland, 20878-1399 (Phone: 301-258-6000).

**Research Support:** Lester B. Lave (see address above).

**Sections and Chapters:** Chris G. Whipple, Electric Power and Research Institute, 3412 Hillview Avenue, Palo Alto, California, 94303 (Phone: 415-855-2443).

**Special Liaison for Section Development in Developing Coun-**

**tries:** Vlasta Molak, EGAO, U.S. Environmental Protection Agency, 26 W. St. Clair Street, Cincinnati, Ohio, 45268 (Phone: 513-569-7585).

**Training Programs:** Joseph Fiksel, Teknowledge Inc., P.O. Box 10119, Palo Alto, California, 94303 (Phone: 415-424-0500).

## 1987-88 Contact Councilors

For the second consecutive year, SRA will utilize the concept of "contact councilors" in which a council member serves as a specific contact on the SRA Council for one or more committee chairs and acts as a representative/advocate for the committees at Council meetings. The contact councilors for the 1987-88 year are listed below, along with the corresponding committee chairs (in parentheses):

**Vincent T. Covello:** Definitions (Gratt); Executive (Covello), Publications (Deisler), Research Support (Lave).

**Paul F. Deisler, Jr.:** Conferences and Workshops (Anderson), Liaison (Wilson).

**Joseph Fiksel:** Finance (Swanson), Gifts and Grants (Hoerger).

**W. Gary Flamm:** Membership (Flamm), Sections and Chapters (Whipple), Special Liaison for Section Development in Developing Countries.

**Richard C. Schwing:** Annual Meetings (Schwing), Publicity (Inhaber).

**Robert G. Tardiff:** Awards (Anderson), Nominations (Lave).

### PRESIDENT'S ADDRESS

As of March 1, 1988, SRA President Vincent T. Covello can be reached at the following addresses:

Health Effects Institute  
215 First Street  
Cambridge, MA 02142  
(Phone: 617-491-2916)

Center for Risk  
Communication  
Division of Environmental  
Sciences  
School of Public Health  
Columbia University  
Room B-1, 60 Haven Avenue  
New York, New York, 10032  
(Phone: 212-305-3464)

## SRA Announces Third Carcinogen Course

The Society for Risk Analysis will hold its third annual course, "Carcinogen Risk Assessment," on March 28-30, 1988, at the Capital Hilton in Washington, DC. The course will cover the risk assessment process, the use of scientific data in risk assessment, risk initiatives in federal agencies, and risk management. Special emphasis will be given to new developments in the areas of biologically based modeling, pharmacokinetics and biomarkers.

The lecturers for the course will be Roy Albert, Professor and Chairman, Department of Environmental Health, Kettering Laboratory, University of Cincinnati; Elizabeth Anderson, President, ICF/Clement; Mark Bashor, Office of Health Assessment, U.S. Agency for Toxic Substances and Disease Registry; Vincent Covello, Director of Risk Assessment Program, National Science Foundation; William Farland, Acting Director, Office of

Health and Environmental Assessment, Environmental Protection Agency; Bernie Goldstein, Professor and Chairman of Environmental and Community Medicine, Rutgers Medical School; Lester Lave, Department of Engineering and Public Policy, Carnegie-Mellon University; Don Mattison, National Center for Toxicological Research; Suresh Moolgavkar, Hutchinson Cancer Research Center; Curtis C. Travis, Director of the Office of Risk Analysis, Oak Ridge National Laboratory; Mimi Yu, Associate Professor of Research, Department of Preventive Medicine, University of Southern California; and Chris Whipple, Electric Power Research Institute.

For further information call Curtis C. Travis at FTS 626-2107 or (615)-576-2107; or Mary Oran at FTS 624-8438 or ORNL (615)-574-8438.

## SRA's 1987 Annual Meeting: A Report

*[Editor's Note: A comprehensive report of the Society's 1987 Annual Conference by one reporter is impossible, given the number of topics covered and the scheduling of concurrent meetings. However, the following report and other articles in this newsletter should reflect the successful planning for the meeting by General Chairman Donald E. Stevenson and other members of the Lone Star Chapter. No attempt is made here to cover the approximately 170 papers presented in the technical sessions, but Technical Program Chairman James J. Bonin and others are hard at work to ensure that the proceedings will be published before the 1988 meeting. (LSA)]*

Except for the Society's officers and councilors, who had attended an early afternoon meeting of the 1986-87 SRA Council, the 1987 Annual Conference began for many of the attendees on Sunday, November 1, at 5 PM with a Special Panel Discussion on "The Definition of Risk and Associated Terminology for Risk Analysis."

### "Risk" Still Undefined

The panel discussion, organized by Definitions Committee chairman Larry Gratt of IWG Corp., once again failed to arrive at a single definition of the word "risk." In fact, the first speaker, Jeffrey Roseman, an epidemiologist from the University of Alabama, began by asking "Does risk need to be defined?" Fritz Seiler, from Lovelace Biomedical and Environmental Research Institute in Albuquerque, pointed out that everyone defines risk according to his own discipline: for the insurance community it is in terms of dollars. Although some preferences of definitions were expressed by both the panelists and the audience, the consensus seemed to be "to agree not to agree" on a single definition but to insist that anyone using the term include a precise definition for that particular use. Discussion of the topic will obviously continue, however, and, as Elmer Offenbacher of Temple University concluded, "We need to find some way of increasing the efficiency of our discourse of risk."

### Post-Conservative Risk Assessment

At the Monday morning plenary session, Terry F. Yosie, Director of the Science Advisory Board of the U.S. Environmental Protection Agency, spoke on "Science and Sociology: The Transition to a Post-Conservative Risk Assessment Era." Defining risk assessment as "estimates of the probability that some effect will occur following exposure of individuals or populations to hazardous substances and situations," and stating that he was "using the term conservative as synonymous with the word *protective*," Yosie said that the issue of conservatism is

at the heart of the central question before the EPA and other agencies. "That question concerns our increased ability to substitute scientific data for assumptions, and the intellectual, institutional and societal difficulties encountered in making this substitution. The tensions among these factors comprise what I am calling the transition to a post-conservative era in risk assessment."

**Conservatism Challenged.** Yosie cited a number of conservative assumptions traditionally used in risk



Terry Yosie

assessment and gave the reasons they were originally established, the most defensible being that the absence of valid information mandated that a default position be adopted.

The first challenge to EPA's conservative assumptions occurred in 1980 by a Subcommittee of the EPA Science Advisory Board (chaired by Sidney Weinhouse), and since then the EPA has worked toward having risk assessment practices that reflect the latest scientific knowledge, although still with a conservative orientation. This process was accelerated during William Ruckelshaus' second term at the EPA, and Yosie cited several examples of EPA's application of revised guidelines to the assessment of the risks of cancer induced by exposure to chemical compounds.

**New Era Defined.** Yosie concluded that the post-conservative era can be characterized as follows: decision makers have less authority to act unilaterally; the composition of coalitions within EPA to support or change decisions is constantly changing;

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## Annual Meeting Report

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risk assessment and risk management will increasingly be viewed as a continuum; EPA has increased its reliance on the scientific community; post-conservative policy decisions will take longer; more scientific data bases are available; and "there is a tremendous challenge and need for EPA, the scientific community and the Society for Risk Analysis to convince the Congress and the public that substituting data for conservative risk assessment is a good idea."

### Ethics in Risk Assessment?

The special Monday evening session on "Risk Analysis and Ethics" was well attended in spite of the fact that it competed with the dinner hour after a long first day of the conference. The session was organized by T. R. Williams, a member of the Lone Star Chapter and Manager of Environmental Conservation for Shell Oil Company.

Paul Slovic of Decision Research served as moderator, and, in introducing the session, he pointed out that most persons interested in risk analysis see more than one ethical concern. They are, however, faced with the general question of whether risk analysis methods should treat ethical considerations or whether ethics should be addressed separately from the risk analysis process. Four invited speakers then expressed their view on the subject.

**Conceptual Shift Occurred.** The first speaker, Douglas MacLean of the Center for Philosophy and Public Policy at the University of Maryland, set the tone for the session by reminding the audience that in recent years a "conceptual shift" has caused the public to now view as risks various situations or events that were once accepted as inevitable consequences of progress (for example, pollution, toxic dumps, industrial accidents, and recombinant DNA research). As a result, new technologies that are known to be safer than old technologies still must be proven to be safe enough. But in the process of analyzing the associated risks, risk assessors are confronted with political concerns (whose interests are served?), questions about the accuracy of the data for measuring risk and uncertainty, deciding whether to use the traditional particularistic approach or a more general approach (i.e., whether to determine the risk to the most exposed population or to the larger population), and selecting the procedures to be followed.

**Let Managers Decide?** David E. Menotti, an attorney with the Washington law firm Verner, Liipfert, Bernhard, McPherson, and Hand, was the second speaker. Having specialized in environmental law and the regulation of hazardous substances for many years, part time in the office of the general counsel of the Environmental Protection Agency, he questioned whether risk assessment and ethics should be linked. He had always been taught that risk assessment should be kept separate from risk management and that risk managers would address the ethical questions.

The third speaker, Fred B. Hoerger, a chemist who works for the Dow Chemical Company as a regulatory and policy consultant for health and environmental sciences, said that risk assessors are dealing with "ruff"—release, uncertainties, fear, and facts. It is "appropriate for them to push their own discipline," but in applying ethics in the risk analysis process, certain lessons should be remembered. One is that the risk assessor should neither unduly build fear nor unduly build complacency. Also, he must "distinguish between apples and oranges and keep the needs of the audience in mind," especially in dealing with different cultures.

**Ethics Is Central.** The final speaker was Robert H. Harris, a principal and cofounder of Environ, Inc., which specializes in environmental science and engineering. Harris believes that ethical considerations are central to the risk assessment process and that risk assessors have an important responsibility to maximize the information given to risk managers. In particular, a fair and accurate representation of uncertainties is essential, especially since uncertainties show where studies can be performed to further understand risks.

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## Letter to the Editor

Dear Editor:

In regard to your article, "Defining 'Risk,'" in the September, 1987 newsletter, we would like to recommend the "Set of Triplets" definition given in Risk Analysis, Vol. 1, No. 1, March, 1981, pages 11-27. We have found it to work well in all the risk assessment applications we have encountered.

Stan Kaplan and B. John Garrick  
Pickard, Lowe and Garrick, Inc.

## Annual Meeting Report

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### Natural vs. Technological Hazards

Gilbert F. White, Gustavson Distinguished Professor of Geography, Emeritus, at the University of Colorado and recipient of SRA's 1987 Distinguished Contribution Award, was the Tuesday evening banquet speaker. An expert on natural hazards, he described the fields of technological hazard assessment and natural hazard assessment as two separate intellectual streams going in the same direction but never touching except possibly at high tide.

White said the government's awareness of the necessity for preparing for natural hazards dates back to 1927 when the Mississippi River flooded and levees were broken. Nearly a decade later, in 1936, a flood in New England and Pennsylvania resulted in the Flood Control Act, and other types of natural hazards have similarly initiated responses. By contrast, only since the Society for Risk Analysis was organized, during the last six years, have technological people become convinced that a major nuclear exchange would result in environmental changes. Now a series of efforts are under way to assess climate change due to human intervention.

**Two Disciplines Related.** White pointed out that Chauncey Starr, performing seminal work in 1969, was the first to ask how technical hazards and natural hazards are related. Nevertheless, risk assessments in the two disciplines have maintained a separateness when they could be learning from each other. Both disciplines have a major challenge to make adequate post audits and to ask questions about benefit-cost analysis. In addition, both have been much concerned with finding out how the public perceives risks and the means for coping with risks. He feels that natural hazard assessors have been very good at communicating with the public, especially in their earthquake damage mitigation programs.

**Which Type of Hazard?** In conclusion, White admitted that natural and technological hazards may not easily be distinguished from one another and he gave a humorous example. He and his wife Ann, who has worked with him extensively, were forced one evening to examine their beloved but cantankerous donkey Molly, who was ailing. They were simultaneously assessing the potential effects on Molly of giving her an un-prescribed dose of medicine and the possibility of being kicked out of the stall if they tried. After weighing the probability of Molly getting better without the medicine against the probability that they themselves would be worse off

if they gave her the medicine, they decided against any action and retired from the scene. They still are trying to decide whether their withdrawal was based on the assessment of a technological hazard or a natural hazard.

### Risk Stupidity

Neil Frank, a Houston KHOU weatherman who spent 35 years at the National Hurricane Center in Florida (13 years as head of the Center), gave an entertaining but serious talk entitled "Risk Stupidity" at the Wednesday luncheon. He reported that in general the public's response to hurricane warnings is poor, with over 50% delaying their response and many opting for "hurricane parties." A survey along the East Coast indicated that 80% of the people had never experienced a hurricane and thus apparently did not fully realize the hazards associated with one.

With the delayed responses and the traffic problems that would occur, it could be difficult to evacuate some areas in time to avoid danger. In fact, even with an immediate response, traffic engineers estimate that it would take 26 hours to evacuate Galveston.

The situation is complicated by errors in hurricane forecasting, which has not improved very much over the years in spite of improved technology. For example, in 1983 Hurricane Alicia was initially reported to be weak, but it doubled in force during the last 18 hours before it hit Galveston and Houston, killing 18 persons and causing \$1.6 billion in damages. Fortunately, many residents were protected by a sea wall that had been constructed after 6000 people had died in a hurricane that "put Galveston Island under water" in 1990 in the worst natural disaster ever to occur in the U.S.

**Storm Surge Ignored.** In hurricanes, the risk is due to wind, to heavy rains, and, most importantly, to the storm surge. Building codes do not address the storm surge. In fact, the Federal Flood Insurance Program has encouraged people to build where they shouldn't, near the waterfront.

Hurricane intensities are measured on a scale of 1 to 5, and the U.S. has experienced two "5's": Camille, which hit Louisiana and Mississippi coasts in 1969; and a 1935 hurricane which hit southern Florida. Frank says most emergency managers want a quick solution, which in hurricane forecasting is not going to happen, but it is crucial that they be given information with uncertainties expressed so that they can make good decisions on evacuating the population and also to convince people to protect themselves.

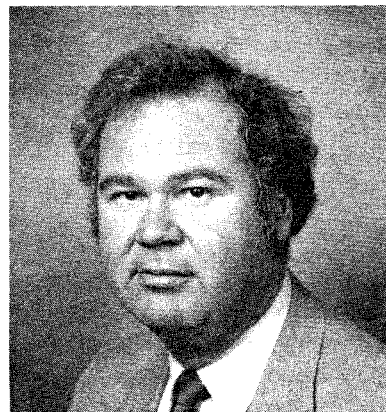


## Buhl and Swanson Honored by Society

Anthony R. (Tony) Buhl and Steven M. Swanson, both of whom have held offices and served on several committees in the Society for Risk Analysis, were each presented the Society's Distinguished Service Award at its Annual Meeting held in Houston last November 1-4. They were cited for being "strongly instrumental in building the society, especially in their successful efforts in fund raising over the years in the area of finding corporate sponsors for the society."



**Anthony R. (Tony) Buhl**



**Steven M. Swanson**

### Buhl on 1985 Council

Buhl, vice president of International Technology Corporation, Oak Ridge, Tennessee, has been a member of the SRA Council (in 1985), the Annual Meetings Committee (1984-87), and the Finance Committee (1984-85). He has also chaired the Gifts and Grants Committee (1986-87), as well as the Local Arrangements Committee for the 1984 SRA Annual Meeting held in Knoxville, Tennessee. He is a member of SRA's East Tennessee Chapter and served on its council in 1983.

As vice president of IT, Buhl is responsible for management of the Risk Control Services Group. Prior to his association with IT, he owned his own company—Energetex—which specialized in environmental and engineering consulting and risk management.

Buhl served as a member of the Industry Advisory Group to Three Mile Island and has represented the U.S. in several international exchanges, including some held with Japan, China, and Russia. Since the Chernobyl accident, he has participated in international

meetings dedicated to understanding what happened at Chernobyl and why. He is also involved in industry efforts in this country to determine what, if any, changes should be made in U.S. nuclear power plants as a result of the Chernobyl accident. He received his B.S. and M.S., both in nuclear engineering, from the University of Tennessee. His Ph.D., also from Tennessee, is in engineering science.

### Swanson Past Treasurer

Swanson, vice president and chief operating officer of ICF/Clement, is the immediate past treasurer of the Society, having just completed a two-year term that also placed him on the Executive Committee. He is currently chairman of the SRA Finance Committee. In the past he has been a member of the SRA Council (in 1985), the Liaison Committee (1984-85), the Finance Committee (1985-87), and the Gifts and Grants Committee (1985-86). He has also chaired the Sustaining Committee (1984-85) and the Management Committee (1985-86) and served as president of the National Capital Area Chapter (1986-87).

Swanson joined ICF/Clement in 1987, where he is responsible for the daily operations of the organization and management of the company's regional offices. The latter are engaged in a variety of environmental health projects, including risk assessment of Superfund sites, litigation support, and various risk management projects. Before joining ICF/Clement, Swanson was with the American Petroleum Institute (API), where he most recently served as the director of the Department of Health and Environmental Affairs. Under his direction the department was responsible for developing and analyzing scientific data as part of the petroleum industry's response to regulation and litigation, as well as for developing voluntary standards. Swanson has a B.S. in economics/international relations and a Ph.D. in economics, both from the University of Utah.

The Society's first Distinguished Service Award was presented in 1984 to Curtis Travis for his work as editor of the Society's journal; the second one was presented in 1986 to Vincent T. Covello, SRA's current president.

## Risk Center Activities Varied

*(Editor's Note: The June, 1987 issue of RISK newsletter featured articles on four "risk centers." In the same issue, other centers were invited to send in information on their organizations. The following article is based on the responses received.)*

What is the business of "risk centers?" Where are such centers located and how many exist? *RISK newsletter* still doesn't have complete answers to these questions, but the information it is receiving from its readers is providing partial answers. This issue features four centers which have a diversity of interests, including determining the effects of chemical agents on health and the environment, studying the possibility of low-probability, high-consequences events, and policy changes in law that recognized risks engender.

### Risk Science Research Center

The Risk Science Research Center (RSRC) was formed in May, 1987 as a combined effort of three research organizations: the ILSI Risk Science Institute, the National Center for Toxicological Research, and the University of Arkansas. Organized to enhance the quantity and quality of research devoted to improving risk assessment of chemical agents on human health, RSRC works to improve risk science by combining the resources and ideas of government, academe, and private institutions. It pursues its goal through such activities as laboratory and analytical research, workshops and symposia, sabbatical and visiting scientist programs, and educational activities for scientists in the field. Its administrative offices, including the office of the director, Joyce Wroten, are located in Little Rock, Arkansas. (Address: RSRC, P.O. Box 3017, Little Rock, Arkansas 72203. Phone: 501-371-1980.)

The Risk Science Institute (RSI), one of the sponsors of RSRC, is a component of the International Life Sciences Institute, which is supported by food, chemical, and pharmaceutical industries and associations. A nonprofit organization, RSI attempts to foster collaboration among government, the academic community, and the private sector in working to solve scientifically the generic methodological problems in risk assessment.

The National Center for Toxicological Research (NCTR), the second RSRC sponsor, is a component of the U.S. Food and Drug Administration and is primarily concerned with conducting research to improve methods of risk assessment. NCTR strives to enhance the scientific reliability and precision of

risk assessment methods and their utility for risk managers in the federal government and elsewhere. The organization provides laboratory space and research support services to visiting and sabbatical scientists and other researchers supported or sponsored by RSRC.

The University of Arkansas, the third participant in RSRC, is a multicampus, state-supported educational and research institution with major existing programs in biomedical sciences, including risk science. Through such programs it works to improve the scientific basis for addressing problems of risk assessment, especially those affecting agriculture, or contamination of the environment and food supply. The University has designated one of its senior officials to coordinate the University's involvement in the RSRC, and it also provides faculty appointments for visiting and sabbatical scientists sponsored by RSRC.

### Carnegie-Mellon's JQRA Program

Carnegie-Mellon University's JQRA program was developed by the university's Department of Engineering and Public Policy, which was established in the late 1960's and focuses on problems in technology and public policy in which technical issues are of central importance. The department has been active in risk assessment for over a decade and has successfully achieved a leadership role in this field with a highly interdisciplinary faculty having broad-based interests and skills. The JQRA program is designed to improve theory and practice in the field of integrated quantitative risk assessment. It involves the systematic study of all suspected exposure and effects processes associated with an activity, project or substance that may give rise to negative consequences on human health or the environment and hinges around four major elements:

- Performing high quality integrated quantitative risk assessments.
- Developing and demonstrating improved conceptual frameworks and analytical techniques.
- Developing powerful computer-based tools to support analysts in performing JQRA's.
- Training expert practitioners in JQRA to provide more professionals in the field.

## Risk Centers

(Continued from page 5.)

The head of the Department of Engineering and Public Policy is M. Granger Morgan, who can be contacted at the following address: Department of Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, Pennsylvania 15213-3890. Phone: 412-268-2670.

### Wharton's Risk and Decision Center

The Risk and Decision Processes Center at the Wharton School of the University of Pennsylvania conducts research on low-probability, high-consequence events as they affect the behavior of business, government, or individuals under various regulatory, environmental, and market conditions. The events fall under two classes: events such as floods, earthquakes, or automobile accidents, which individuals think "won't happen to me" and consequently tend not to protect themselves (for example, by purchasing insurance or wearing seatbelts); and events such as nuclear power-plant accidents and hazardous waste problems, which individuals believe "will happen to me."

Recent projects of the center have included an examination of the problems associated with the transport, storage, and disposal of hazardous materials, as well as the socioeconomic impacts and the role of compensation in siting noxious facilities such as the proposed high-level radioactive waste storage facility in Nevada. A Center conference examined the role of compensation and insurance in dealing with environmental pollution problems.

The director of the Wharton Center is Howard Kunreuther, whose address is as follows: Risk and Decision Processes Center, 1303 Steinberg Hall-Dietrich Hall, Philadelphia, Pennsylvania 19104-6366. Phone: 215-898-5688.

### Center for Law and Technology

The new Center for Law and Technology at Boston University Law School was established in recognition that scientific advances and their technological applications, while generally promoting human well-being, frequently impact individual rights and established interests and promote changes in law and policy. The Center's activities involve faculty and students in education research and public service with several activities focusing on risk analysis, communication and management. In March 1987, the Center held its inaugural symposium on "Major Industrial Hazards: Liability, Insurance and Risk Management." Speakers included several attorneys and professors, corporate and insurance company officials, risk analysts, and others. A second symposium was held in April 1987 on "Expert Systems: Liability and Regulations."

Several student projects are now under way at the Center on various risk-related subjects, such as the use of scientific evidence in proving disease causation, and the extent to which corporate risk assessments are subject to disclosure in toxic tort litigation. A new course has also been developed on corporate management of risk. Recent publications of the Center deal with "Use of Comparative Risk Methods in the Regulatory Agencies and Courts," "NRC Regulation of Reproductive Hazards in the Workplace," a series of short articles on risk analysis and management for the insurance industry journal *National Underwriter*, and a report to the European Community on "Comparative Analysis of Risk Communication Requirements and Corporate Responses in the U.S. and the European Community."

The director of the Center for Law and Technology is Michael Baram, whose address is as follows: Boston University, Center for Law and Technology, 765 Commonwealth Avenue, Boston, Massachusetts 02215. Phone: 617-353-5294.

## Calendar of Events

—March 24-25. SYMPOSIUM ON RESPONSIBILITIES OF MULTINATIONAL CORPORATIONS TO DISCLOSE AND COMMUNICATE RISK INFORMATION, Barrister's Hall, Boston University School of Law. (See story in this newsletter.)

—March 28-30. SRA's THIRD ANNUAL COURSE ON CARCINOGEN RISK ASSESSMENT, Capital Hilton, Washington, D.C. (See story in this newsletter.)

—April 8-9. SYMPOSIUM ON ASSESSING THE RISKS FROM TOXICS IN THE NORTHERN CALIFORNIA

ENVIRONMENT: WHAT CAN SCIENCE TELL US?, California Academy of Sciences, San Francisco. (See story in this newsletter.)

—May 24-27. SHORT COURSES ON RISK ASSESSMENT AND RISK MANAGEMENT OF LARGE ENGINEERED SYSTEMS, Arlington, Virginia. (See story in this newsletter.)

(Continued on page 20.)

## Chapter News

The anticipated approval of the Philadelphia Chapter's petition for formal recognition at the February 12 Council meeting will bring the total number of SRA chapters in the U.S. to nine. Reports to the newsletter from the various chapters are given below.

### National Capital Area Chapter

As hosts of the 1988 SRA Annual Meeting, the NCA Chapter has issued the call for papers (see in this newsletter) and is deep into plans to welcome Society members in Washington at the end of October. On February 10, the chapter will meet at the American Petroleum Company to hear Rebecca Klemm, director of Klemm Analysis Group in Washington, speak on "Rare Events and the Legal Environment."

Last November Jerry LR Chandler of the National Cancer Institute assumed the presidency of the chapter; Stephen L. Brown, Environ Corporation, was elected president-elect; and Lee Abramson, Nuclear Regulatory Commission, was re-elected for a second two-year term. Kathleen D. Knox, Environmental Protection Agency, is continuing in her second year as secretary. Benjamin Buchbinder, National Aeronautics and Space Administration, is the newest councilor, joining Paul Price, who is serving his second year, and Steve Swanson, who automatically becomes a councilor after serving in the presidency.

### East Tennessee Chapter

Traditionally, the East Tennessee Chapter participates in the February WATtec Annual Technical Conference and Exhibition held in Knoxville, Tennessee, and this year the chapter will be cosponsoring, with the local chapter of the Health Physics Society, a February 16 session on "Risk Communication." The speakers will include Milton Russell, ex-EPA assistant administrator who now has a dual appointment at the University of Tennessee and Oak Ridge National Laboratory; Barry Johnson, Agency for Toxic Substances and Disease Registry, Atlanta; Alvin Weinberg, Oak Ridge Associated Universities; and Maria Pavlova, U.S. Environmental Protection Agency, New York. The risks addressed will be those associated with hazardous waste sites and nuclear power.

Plans are also being made for the annual "Risk Analysis Methods Day," an event the chapter has sponsored since 1984.

The current officers of the East Tennessee Chapter are as follows: president, Curtis Travis, Oak Ridge National Laboratory; president-elect, William Colglazier, The University of Tennessee; secretary, Samantha Richter-Pack, ORNL; and treasurer, Dennis Parzyck, ORNL. Joe Minarick, Science Applications, Inc., has recently been elected to the council.

### New England Chapter

The New England Chapter will be meeting on March 8 to hear Sheila Jasanoff, head of the Science, Technology, and Policy Program at Cornell University, speak on "How Judges Assess Risks in Toxic Tort Decisions." The meeting will be held at the Faculty Club at Massachusetts Institute of Technology, with dinner at 6 PM and the program at 7 PM. Jasanoff has both a Ph.D. in linguistics and a law degree from Harvard University. (For more information on the meeting, call Barbara Beck, 617-576-1555.)

Other recent chapter programs have included a December 7 dinner meeting at which Barbara D. Beck of the Gradient Corporation, Cambridge, spoke on "Adverse Health Effects, Susceptible Populations, and Ozone: Implications for the Clean Air Act"; and a January 13 meeting at which Richard Wilson of Harvard University spoke on "Creating Incentives for Communicating Risks."

The current officers of the New England Chapter are as follows: president, Barbara Beck; president-elect, John Evans, Harvard School of Public Health; secretary, David Brown, Northeastern University; and treasurer, Yee Cho, BSC Group. Council members are Halina Brown of Clark University and John Ehrenfeld and Gregory Baecher, both of MIT.

### Northern California Chapter

The Northern California Chapter has accomplished a first and possibly two firsts, thanks to its secretary, Jeffrey Daniels of Lawrence Livermore Laboratory. Daniels has just distributed the first edition of the 1988 NCCSRA Membership List,

which he plans to update within 60 days, and he has published "a second issue of *NCCSRA NEWSLETTER* in the same volume." According to his reports, as of January 13, the chapter has 62 members, of which 20 are new in 1988.

The chapter is holding regular meetings, the most recent on January 13 with Chauncey Starr of the Electric Power Research Institute speaking on "Risk Dynamics in the 21st Century." It is also involved, as a cosponsor, in the planning of an April symposium on toxics to be held in San Francisco (see story elsewhere in this newsletter). In addition, the chapter has tentatively agreed on a joint meeting in the early spring with the Bay Area Chapter of the American Statistical Association and a one-day meeting with the local chapter of the Society of Toxicology at the Letterman Army Institute for Research on the Presidio in San Francisco. A future challenge for the chapter will be hosting the national meeting of the Society for Risk Analysis in 1989.

Current officers of the Northern California Chapter are as follows: president, M. Elizabeth Pate-Cornell, Stanford University; president-elect, Chris Whipple, Electric Power Research Institute; secretary, Jeffrey Daniels; and treasurer, M. W. (Lee) Merkhofer, Applied Decision Analysis, Inc. Councilors are D. Warner North (immediate past president) of Decision Focus, Inc., John Urquhart of Apex Corporation, and Robert Spear of the University of California.

### Lone Star Chapter

Following a well-earned recuperative period after serving as hosts of the 1987 SRA Annual Meeting, the Lone Star Chapter will soon be involved in local activities planned at a February meeting of the officers. The current chapter leaders are as follows: president, Tom Downs, University of Texas School of Public Health; president-elect, James Bonin, Shell Oil Company; secretary (second year), Hatice Cullingford, National Aeronautics and Space Administration; and treasurer, Stuart Cagen, Shell Oil Company. On the council, Chris Butler of Shell continues for a second year, Richard Dreith of Shell is a newly elected member, and Frank Weir of the University of Texas Health Science Center becomes a council member as immediate past president of the chapter. Jeff Brittain of the University of Texas Health Science Center is chairman of the Membership Committee.

### Southern California Chapter

The Southern California Chapter will sponsor a seminar on "Decision-Making under Uncertainty and Risk Management" at the Faculty Club of the University of California, Los Angeles, on April 8. Additional information on the seminar may be obtained from the chapter president, George Apostolakis, Phone 213-825-1300.

The chapter met with the San Diego and Los Angeles Sections of the American Nuclear Society in Carlsbad, California, on January 15 to hear Harold Lewis, professor of physics at the University of California, Santa Barbara, address the question "Are We Headed for a Major Accident like Chernobyl?" Lewis was chairman of the Risk Assessment Review Group for the Nuclear Regulatory Commission and a member of the President's Nuclear Safety Oversight Committee; he is currently a member of the Advisory Committee on Reactor Safeguards. Extending his remarks beyond nuclear power, he said several factors contribute to the probability that other catastrophic accidents like the Challenger, Bhopal, Chernobyl and Three Mile Island will occur, the primary one being the complacency of engineers, managers and decision makers.

Elections will be held in April following the chapter's first full year of activity. The current officers were announced in the June, 1987, issue of the newsletter.

### Metropolitan (CT-NJ-NY) Chapter

The newly formed Metropolitan (CT-NJ-NY) Chapter, whose officers were announced in the September, 1987, issue of the newsletter, will hear SRA President Vincent Covello speak on "Why Risk Communication Is Such a Hot Topic: Public Relations? Manipulation? Informing the Public?" at a March 21 meeting. The meeting will be held at 6 PM in the Faculty Dining Room, Tower Building, at Pace University. For more information, contact President-elect Peter Hofer, Phone 212-488-1908.

Chapter President Rae Zimmerman says that membership forms will be circulated soon, and persons wishing to inquire about the chapter should call her (at 212-998-7430) or Hofer.

*(Continued on page 14.)*

## Chapter News

(Continued from page 13.)

### Research Triangle Chapter

The Research Triangle Chapter, which recently elected Kenneth G. Brown to head its new slate of officers, is holding a series of meetings on topical issues approximately monthly, usually at the Chemical Industries Institute in Research Triangle Park immediately following the work day. Typically, a short social hour begins at 5:15 PM and the program begins at 5:45 PM.

The next program is scheduled for March 8, with James Crapo from the Duke University Medical Center speaking on "The Three-Dimensional Modeling of the Lung for Estimation of Microdosimetry: Extrapolation from Animals to Man."

At the April meeting (date to be announced), SRA President Vincent Covello will address the chapter. In May the chapter will join the Air Pollution Controllers Association and the Environmental Monitoring and Surveillance Laboratory (EPA) for a three-day symposium (May 2-4) on "Measuring Air Toxics." The symposium will include a May 3 dinner preceding a program entitled "Future Trends in Biotechnology," which will focus on the products of biotechnology as future air pollutants.

A June 7 meeting will feature Patrick Hamilton, North Carolina State University School of Poultry Science, who will speak on "Elements of Risk in Determining the Effective Dose of Alphatoxin in Poultry."

The chapter is also working on a one-day conference to be held in September. The conference theme will be "Burn vs. Bury: A Question of Risk?" (burning or burying garbage).

In a September 23 meeting, the chapter heard its president-elect, Carol M. Schiller, speak on "Roles of Risk Assessment in North Carolina State Environmental Protection Programs." Schiller has a Ph.D. in biochemistry from the University of Texas Medical School and a law degree from the University of North Carolina. Now with Anderson, Schiller, and Rutherford, P.A., of Raleigh, North Carolina, she is also a Board-certified toxicologist (American Board of Toxicology).

On December 8, the chapter considered the subject "Risk Analysis and Nuclear Power." Invited speakers were Jeff Jeffries of Carolina Power and Light Company and Raymond Murray, professor emeritus of nuclear engineering at North Carolina State University and vice-chairman of the state's Low-Level Radioactive Waste Authority. On February 3, James A. Swenberg, Head of the Department of Biochemical Toxicology and Pathobiology of the Chemical Industry Institute of Toxicology in Research Triangle Park, spoke on "Mechanisms of Carcinogenicity Involved in Dose-Response Relationships."

In addition to Brown and Schiller, current officers of the Research Triangle Park Chapter include Joseph Rieth as secretary; David McKee as treasurer; and Ila Cote, Josephine Mauskopf, and Harvey Richmond (the immediate past president) as councilors.

### Philadelphia Chapter

The Philadelphia Chapter submitted a petition containing 20 signatures for official recognition by the Society on January 21. In addition, it reported that it had elected the following slate of officers to lead it during its first year:

President: Bruce Molholt, U.S. Environmental Protection Agency, Philadelphia, PA.

President-Elect: Steven A. Anderson, Roy F. Weston, Inc., Westchester, PA.

Secretary: Susan Insetta, U.S. EPA, Philadelphia.

Treasurer: Linda Erdreich, ICF/Clement (Edison, N.J. office).

Councilors: Howard Kunreuther (two years), The Wharton School, University of Pennsylvania; Martin Needleman, Social Research Associates, Bryn Mawr, PA; and Paul L. Richter, NJDEP, Trenton, NJ.

Committee Chairs: Bylaws, Madalene Curie, NJDEP; Program, John Brasino, and Risk Communication, Denice Heller, both from Environmental Research Management, Inc., Exton, PA.

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**NOTICE: The schedule for *Risk newsletter* has been changed to three issues per year. Publication will be in January, May, and September. Contributions for the newsletter should be received during the month preceding publication.**

# CALL FOR PAPERS

## 1988 ANNUAL MEETING OF THE SOCIETY FOR RISK ANALYSIS

Mayflower Hotel, Washington, D.C.  
October 30–November 2, 1988

**Theme: Prospects and Opportunities for Risk Analysis**

**Program Categories:**

Engineering and Statistics  
Social and Policy Issues  
Health and Environment

**Topical Issues:**

Implications of NUREG-1150  
Oncogenetics in risk assessment  
Agenda for the new administration  
Issues emerging from California Proposition 65  
Ramifications of the Bork vinyl chloride decision  
Trends in risk assessment and risk management philosophy

Abstract forms and instructions will be mailed to every SRA member early in February. If you need extra forms or would like to pass material on to colleagues who are not members, contact the SRA Secretariat at 8000 Westpark Drive, Suite 400, McLean, VA 22102. (Phone 703-790-1745).

## Northern California Toxics Symposium in April

A symposium on "Assessing the Risks from Toxics in the Northern California Environment: What Can Science Tell Us?" will be held April 8–9 at the California Academy of Sciences in San Francisco. Sponsored by the U.S. Environmental Protection Agency, the California Academy of Sciences, and the Northern California Chapter of the Society for Risk Analysis, the symposium will include a number of presentations on individual toxic substances by scientists, many of whom are on the EPA Science Advisory Board. In addition, attendees will hear from Lee Thomas, EPA's administrator,

and Thomas Warner, the undersecretary of California's Health and Welfare Agency.

The symposium will include discussions on risk assessment guidelines and risk management, with respect to both EPA activities and the implementation of California's Proposition 65.

Warner North, the immediate past president of the Northern California SRA chapter, is serving on the planning committee for the symposium. Individuals seeking additional information should call the California Academy of Science, Phone 415-750-7217.

*SRA Annual Meetings Committee Report***1988 Annual Meeting in Washington, D.C.**

We all care about what goes on in Washington, D.C. This year is no exception with the spotlight on us, the SRA, as we pursue the theme "Prospects and Opportunities for Risk Analysis" at our 1988 Annual Conference, which will be held at the Mayflower Hotel, Washington, D.C. from Sunday, October 30, to Wednesday, November 2.

Our hosts will be the National Capital Area Chapter, whose current president is Jerry LR Chandler. Constatine Zervos will be general chairman of the 1988 Program Committee.

Topical issues such as those emerging from California Proposition 65, the implications of

NUREG-1150, the ramifications of the Bork vinyl chloride decision, trends in risk assessment and risk management philosophy, the agenda for the new administration, and oncogenetics in risk assessment will surely occupy the participants in corridor conversation as well as at the podium.

During the month of February a call for papers with abstract forms will go out to each member of SRA. With the meeting being held in the nation's capital, where risk assessment and management receive so much attention, attendance and participation are expected to be high and special efforts will be paid to program quality and format.

In addition to the traditional platform and poster sessions, a new format will be introduced. It will consist of clusters of posters for given subject categories; for these, chaired question and answer periods will be held during which the participating authors will take questions from the floor.

If you wish to organize a session on a specific subject that interests you or if you have ideas you would like to pass along to the organizers, please phone Constatine Zervos at (202) 245-1072 or Richard C. Schwing at (313) 986-1348.

Richard C. Schwing  
Chairman  
Annual Meetings Committee

### **Call for Nominations for SRA Officers**

The SRA Committee on Nominations solicits suggestions for nominees for the following positions in the Society's 1988 elections:

President-Elect

Three Councilors (three-year terms)

(The treasurer and secretary were each elected for two-year terms in the last election.)

Please submit the names of your suggested candidates and a brief paragraph supporting each by March 31 to:

Lester B. Lave  
GSIA  
Carnegie-Mellon University  
Pittsburgh, Pennsylvania, 15213

### **Second Book in SRA Series Published**

*De Minimus Risk*, edited by Chris Whipple, has recently been published by Plenum Press in New York as the second volume in a series of SRA-sponsored publications entitled "Contemporary Issues in Risk Analysis." The first volume, *Risk Evaluation and Management*, edited by Vincent T. Covello, Joshua Menkes, and Jeryl Mumpower, was published in 1986, and the third volume, *Carcinogen Risk Assessment*, edited by Curtis Travis, is scheduled for release in March.

Thus far, all the books consist of compilations of chapters contributed by participants in SRA-sponsored workshops or courses, with additional chapters added as needed. Volume 3 is based on the lectures delivered at the annual SRA course, Carcinogen Risk Assessment, and will be used as the text during the next course scheduled to be held in Washington, DC, March 28-30.



## European Toxicology Fellowships Available

The European Science Foundation Programme of Research Fellowships in Toxicology, established six years ago at the initiative of the European Medical Research Councils, is again offering both research fellowships (2 to 12 months) and short-term visiting fellowships (up to one month). The fellowships are offered to scientists of any nationality *already working in European (or Israeli) laboratories* to go to laboratories in other European countries.

Applications for a fellowship should specify a joint research project agreed upon by the applicant and the proposed supervisor in the receiving institute/department and should include a letter of recommendation from a senior scientist, a letter of acceptance from the institute where the work is to be performed, and reprints of publications.

Application forms may be obtained from: ESF Research Fellowships in Toxicology (PGT); Caroline Schneider, Secretariat; European Science Foundation; 1, quai Lezay-Marnesia; F-67000 Strasbourg; France (Phone: 88 35 30 63; Telex 890440).

## Call for Nominations for SRA Awards

The SRA Committee on Awards invites nominations for the two categories of awards presented annually by the Society. One category is the Distinguished Contribution Award, which honors an individual whose work has significantly advanced the scientific foundations or the applications of risk analysis. The other category is the Distinguished Service Award, which is presented to an SRA member who has performed meritorious services on behalf of the Society.

Please submit the names of your nominees and a brief paragraph supporting each by March 31 to:

Elizabeth Anderson  
ICF/Clement  
9300 Lee Highway  
Fairfax, Virginia, 22031-1207

## Liaison Committee Met in Houston

The SRA Liaison Committee, chaired by Jim Wilson of Monsanto Company, held a meeting in Houston on the evening of November 1 to discuss joint activities with other professional societies. Two joint programs that had already occurred were cited as examples to be emulated: the all-day symposium on Material Safety Data Sheets jointly sponsored by SRA and the American College of Toxicology (ACT) at the 1986 SRA Annual Meeting (organized by Daniel M. Byrd III); and a session entitled "Statistics in Nuclear Risk Analysis" that was organized by Lee Abramson for the annual meeting of the American Statistical Association in San Francisco in August 1987.

A question arose about the procedures for obtaining approval for sessions advertised as being jointly sponsored by SRA. It was later established by Wilson that if SRA has no financial obligation, approval can be obtained from the contact councilor to whom the Liaison Committee reports (Paul F. Deisler, Jr., this year). If a financial obligation is

involved, prior approval of the SRA Council must be obtained.

Following a suggestion at the meeting, Wilson has contacted the Scientist Institute for Public Information in New York City, which provides a media resource service. SIPI would like to have SRA members listed with them who are willing to talk with reporters on their topics of expertise. When reporters call for information (usually on short notice), SIPI staff members contact the individuals they think would be most likely to help before they release their names to the questioner(s). SIPI's address is as follows: 355 Lexington Ave., New York, New York, 10017 (Phone: 212-661-9110).

Currently plans are under way to hold a second joint meeting with ACT at the 1988 SRA Annual Meeting in Washington.

*CORRECTION: In the last article on the Liaison Committee, William A. Mills' affiliation was incorrectly given as Oak Ridge National Laboratory. He is with Oak Ridge Associated Universities (ORAU).*

## 1987 Corporate Contributors

During 1987 the Society for Risk Analysis had 14 corporate contributors: organizations which contributed \$500 or more to SRA or sponsored a specific project for the annual meeting. The list of corporate contributors, to whom the Society is indebted, includes the following:

**American General Corporation**  
**American Petroleum Institute**  
**Arco**  
**Burroughs Wellcome**  
**Chevron Environmental Health Center, Inc.**  
**Dow Chemical USA**  
**E. I. Dupont de Nemours and Company**

**Environ Corporation**  
**Ford Motor Company**  
**General Motors Corporation**  
**Mobil Oil Company**  
**Resources for the Future**  
**Shell Oil Company**  
**Stauffer Chemical Company**

In addition to the corporate contributors, the Society was honored with a generous contribution from **Gilbert F. White**, the recipient of SRA's 1987 Distinguished Contribution Award.

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### SRA Offers Risk Courses for Large Engineered Systems

SRA will offer four short courses on the risk assessment and risk management of large engineered systems May 24-27 in Arlington, Virginia. The four courses, which will run concurrently over the 3½-day period and will be taught by experts in risk analysis, will be entitled as follows:

- (1) Probabilistic Risk Assessment of Nuclear Power Plants (Including an Approach to Individual Plant Examinations).
- (2) Power Plant Availability Improvement.
- (3) Quantitative Risk Assessment and Risk Management of Space and Defense Systems.
- (4) Quantitative Risk Assessment and Risk Management in the Chemical and Petroleum Industries.

The quantitative risk models used will be models developed by Pickard, Lowe and Garrick, Inc. for a large variety of plants and technological systems in the space and defense, chemical and petroleum, and nuclear industries. Reservations for the courses should be made by May 13. Contact Roseann Wright: Pickard, Lowe, and Garrick, Inc., 2260 University Drive, Newport Beach, California, 92660 (Phone 714-650-8000).

### Risk Communication Laws Subject of Symposium

SRA is one of the cosponsors of a symposium on "Responsibilities of Multinational Corporations to Disclose and Communicate Risk Information," which will be held March 24-25 at the Boston University School of Law. The symposium will provide a forum for evaluating recently enacted laws and policies that require or promote risk communication by industrial firms conducting dangerous activities or selling hazardous products in the U.S., the European Community, and developing nations. Speakers from the U.S. and Europe will analyze risk communication doctrines, agency implementation, corporate compliance and voluntary initiatives, public perception and understanding of risk information, trade secret protection, liability considerations, corporate-community relationships, and other implications of risk communication laws and policies. Other cosponsors are Boston University's School of Law and the National Science Foundation.

For further information, contact Michael Baram, Center for Law and Technology, Boston University School of Law, Room 866, 765 Commonwealth Avenue, Boston, Massachusetts, 02215 (Phone: 617-353-5294).

# CALL FOR PAPERS

## FIRST CONFERENCE OF SRA-EUROPE (European Section of Society for Risk Analysis)

International Institute for Applied Systems Analysis (IIASA)  
Laxenburg, Austria  
November 10-11, 1988

### Theme: Utility of Risk Analysis in Decision-Making

The purpose of this meeting is to bring together people from business, government and academia to discuss the utility of risk analysis in decision-making as a topic that is of general interest.

Those interested in presenting a paper at the conference should submit a short abstract by April 15 to the following address: P.J. Stallen, SRA Europe, c/o Emmastratt 16, 1075 HT Amsterdam/The Netherlands (Telephone 31 20 620696).

## Journal Contents

The table of contents of Vol. 8, No. 1 of the SRA journal *Risk Analysis* is reprinted below.

### EDITORIAL

Gerald Poje, *Resources Need for New Risk Analysis Opportunities*

### LETTERS TO THE EDITOR

Suresh Moolgavkar and Anup Dewanji, *Biologically-Based Models for Cancer Risk Assessment: A Cautionary Note*

Timothy McDaniels, *Perceived Fairness in Risk Management: The AIDS Testing Example*

### COMMENTS

John M. Gleason, *Questionable Assumptions in Terrorist Risk Analysis*

Harry F. Martz and M. E. Johnson, *Response to "Questionable Assumptions in Terrorist Risk Analysis"*

### REPRODUCTIVE RISK ARTICLES

Carole A. Kimmel and David W. Gaylor, *Issues in Qualitative and Quantitative Risk Analysis for Developmental Toxicology*

James W. Overstreet, Steve J. Samuels, Patricia Day, Andrew G. Hendrickx, Srinivasa Prahalada, Terry Mast, David F. Katz, and Carol Sakai, *Early Indicators of Male Reproductive Toxicity*

Marvin L. Meistrich, *Estimation of Human Reproductive Risk from Animal Studies: Determination of Interspecies Extrapolation Factors for Steroid Hormone Effects on the Male*

E. Marshall Johnson, Lois M. Newman, and Richard R. Schmidt, *Postnatal Effects of Prenatal Insult*

U. H. Ehling, *Quantification of the Genetic Risk of Environmental Mutagens*

William L. Hart, Ralph C. Reynolds, Walter J. Krasavage, Thomas S. Ely, R. Hays Bell, Robert L. Raleigh, *Evaluation of Developmental Toxicity Data: A Discussion of Some Pertinent Factors and a Proposal*

### OTHER ARTICLES

Ronald L. Iman and Jon C. Helton, *An Investigation of Uncertainty and Sensitivity Analysis Techniques for Computer Models*

Ronald A. Howard, *Uncertainty about Probability: A Decision Analysis Perspective*

Troyce D. Jones, Phillip J. Walsh, Annetta P. Watson, Larry W. Barnhouse, and Dee A. Sanders, *Chemical Scoring by a Rapid Screening Hazard (RASH) Method*

Curtis C. Travis and Robin K. White, *Interspecific Scaling of Toxicity Data*

Richard C. Schwing and Dana B. Kamerud, *The Distribution of Risks: Vehicle Occupant Fatalities and Time of the Week*

L. Robin Keller and Rakesh K. Sarin, *Equity in Social Risk: Some Empirical Observations*

Helmut Jungermann, Holger Schutz, and Manfred Thuring, *Mental Models in Risk Assessment: Informing People about Drugs*

### SOFTWARE REVIEWS

Paul Moskowitz

### BOOK REVIEWS

Robin K. White



*RISK newsletter*  
is published by  
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Lorraine S. Abbott, *Editor*  
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*Society Secretariat:* Richard J. Burk, Jr., Executive Secretary, Society for Risk Analysis, 8000 Westpark Drive, Suite 400, McLean, VA, 22101 (Phone: 703-790-1745).

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1303 Wilson Road  
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## Calendar of Events

(Continued from page 11.)

—May 26–27. SECOND ANNUAL CONFERENCE OF THE NEW TECHNOLOGIES SAFETY AND HEALTH INSTITUTE, Worcester, Massachusetts. Cosponsored by CENED at Clark University, the Occupational Health Program and the Environmental Health Sciences Program at the University of Massachusetts Medical School, and the Division of Interdisciplinary Affairs at Worcester Polytechnic Institute. Theme: New Technologies in Established Industries: Lessons in Hazard Management. Focus will be on potential hazards encountered with the introduction of new products and processes such as new materials, new chemicals, robotics, lasers, low-frequency non-ionizing radiation, automated factories, and expert systems. Contact: Barbara Gushing, Worcester Consortium for Higher Education, 37 Fruit Street, Worcester, MA 01609 (Phone: 617-754-6829).

—June 27–30. SIXTH ANNUAL SUMMER INSTITUTE IN RISK MANAGEMENT IN ENVIRONMENTAL HEALTH AND PROTECTION, New York University, Graduate School of Public Administration. Covers risk management and risk assessment techniques and applications to hazardous waste generation, treatment and disposal. Includes financial, legal, economic, administrative and risk communication techniques and quantitative risk assessment. Contact: Rae Zimmerman, Graduate School of Public Administration, New York University, 4 Washington Square North, New York, NY 10003 (Phone: 212-998-7432 or -7430).

—October 30–November 2. ANNUAL MEETING OF SOCIETY FOR RISK ANALYSIS, Mayflower Hotel, Washington, D.C. (See story and Call for Papers in this newsletter.)

—November 10–11. FIRST CONFERENCE OF SRA-EUROPE, Laxenburg, Austria. (See Call for Papers in this newsletter.)

—November (date to be announced). INSTITUTE IN RISK MANAGEMENT IN ENVIRONMENTAL HEALTH AND PROTECTION, University of Southern California, Department of Safety and Systems Management. Same as the institute given June 27–30 at New York University, Graduate School of Public Administration (see above). Contact: Rae Zimmerman at New York University address.

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