

# RISK *newsletter*

Published by the SOCIETY for RISK ANALYSIS

Vol. 6, No. 1

March, 1986

## COURSE ON CARCINOGENIC RISKS OFFERED BY SRA APRIL 7-9

"Risk Assessment/Risk Management: Carcinogenesis" will be the subject of an SRA-sponsored course to be held at the National Academy of Sciences, Washington, DC, April 7-9. Organized by the society's Conferences and Meetings Committee (Elizabeth Anderson, Curtis Travis, and Chris Whipple), the course is offered to make the knowledge and experience of SRA members who deal with carcinogenic risks available to others. The course does not require a strong background in risk assessment. Instead, according to Anderson, "It is intended for individuals who have programmatic responsibilities for risk assessment and risk management. It will satisfy those who want general information, as well as specialists wanting to learn of the most recent developments."

### NEW ENGLAND CHAPTER IS NUMBER THREE

A New England Chapter of the Society for Risk Analysis, which had its first organizational meeting in June 1985, was officially recognized as the society's third chapter at the February 12 meeting of the SRA Council. John Bailar, Harvard School of Public Health, is the chapter's first president; Greg Baecher, Massachusetts Institute of Technology, is president-elect; Tony Cox, Arthur D. Little, Inc., is secretary; and Yee Cho, SEA Consultants, Inc., is treasurer. Michael Baram of Boston University School of Public Health, Roger Kasperson of Clark University, and Richard Wilson of Harvard University are councilors.

The motivation for the New England Chapter came from an awareness that the region has an unusual concentration and diversity of risk management and risk analysis professionals in its state governments (especially environmental and hazardous waste management agencies), industrial companies, consulting firms, academic institutions, and insurance and legal communities. The idea of an applied, interdisciplinary chapter to help bridge some of the gaps between these professionals grew out of the environmental risk management and liability insurance consulting experiences of Cox and Joseph Fiksel at Arthur D. Little, Inc., both founding members of the chapter. (Fiksel has subsequently moved to California.) During its organizational period, the group received help from Baram and Andrew Sivak at the national level. (Cont. on page 8)

The backgrounds of the 13 lecturers span the spectrum from laboratory experimentation designed to improve risk assessment methods through standard testing methods and their interpretation to consideration of costs in risk management (see program elsewhere in this newsletter). Coming from the federal government, the private sector, and academia, the speakers will each discuss a discrete part of current methods, the reliability of the data generated, and interpretation of the data, as well as methods changes currently being considered. They will also give an analysis of how those methods influence the final results of quantitative risk assessments. Several of the speakers have written major parts of recent federal documents on carcinogenic risks, and they will comment on possible changes in government risk assessment policies. In addition, the lecturers are contributing materials and bibliographic references to a notebook which will be given to each course participant.

The cost of the course is \$525. Persons who failed to receive the SRA flyer announcing the course and describing hotel accommodations may obtain information by contacting the SRA Secretariat at the address listed on the back page of this newsletter.

#### INSIDE

Program of SRA April Course  
Call for Papers, 1986 SRA Annual Meeting  
News from SRA-Europe  
Second Call for Nominations  
Finance, Membership Committee Reports  
Comings & Goings  
Chapter News

## PRESIDENT'S COLUMN

### The Problem with Risk Analysis and Management

- (1) There is no discipline of risk analysis and management (RAAM); there are no academic departments, and no professional degrees given.
- (2) Many professional groups and several professional journals deal with RAAM, but there is almost no communication among the groups.
- (3) Few decision makers take RAAM seriously in the sense of allowing RAAM considerations to shape their fundamental design, construction, and operation decisions. Instead, they make their decisions and then seek risk assessors to convince people that their decisions were right or to get them out of bad situations.

These are three symptoms of the disorganized, chaotic nature of RAAM. Our fledgling society has begun to bring rigor, peer review, and anticipation into the field, but the job is only started. Where are the textbooks-monographs that set out the analytic tools? How can we bring together the systems safety experts, the trauma-injury experts, the disease experts, and the financial risk experts?

The SRA has been the focus for professionals called upon to solve problems in RAAM. We have needed to talk with each other, personally and through our journal, to discover the commonalities among the specific cases we analyze and to be more systematic in our approaches. Our annual meetings have been established as one of the best intellectual games around, since they are attended by experts from many disciplines who are eager to share their insights, talk about the tough problems, and learn about other basic disciplines. All of this is kept bubbling by an insistent, growing demand from decision makers for help.

It is easy to predict that the ferment and excitement will continue. Every day the public and decision makers discover new problems that need RAAM expertise. If anything, we need to caution society that we know very little at this point and that many of the solutions cannot yet be based on scientific data and theory.

While we have no shortage of requests for our services, the requests seem to be overwhelmingly of the wrong sort. Like a surgeon who is called in for consultation after a patient is so weak that surgery is a high risk, we find ourselves being asked to comment on a case like Love Canal within a few days after the problem has been discovered. Both sides seek risk experts since the limited facts and short times for analysis mean that one group will say that the risks are trivial and should be ignored, while another will say that people must be moved. Or we find ourselves being asked to manage the risks of workers who have been exposed to high levels of carcinogen for decades.

As a profession, we must shift our focus to preventing problems rather than mopping up after they occur. We need to ask ourselves how products can be designed to avoid significant risk. How should processes involving toxic materials or dangerous machines be designed to eliminate significant risks? How should industrial facilities and highway traffic be operated to control risks? How can we help refine risk goals and communicate the implications of alternative decisions to decision makers and the public? How can we help put risks in perspective?

To make significant progress in managing risks, we need to go beyond the role of the SWAT team in readiness to clean up messes or to justify/attack current decisions. In doing so, we will naturally bring together the diverse disciplines that currently do not communicate in RAAM, which means that we must systematize our tools and methods. We must also gain the support of private and public decision makers, convincing them that we can help avoid future problems. This role is much more difficult and challenging than explaining after the fact that we are not sure we can help, but we will try. It means demonstrating that we are part of, indeed crucial to, the solution.

The recent over-subscribed workshop on risk communication in Washington (see story elsewhere in this newsletter) demonstrated the large reservoir of interest in RAAM. How can we shift that interest to the sponsorship of needed research and the use of RAAM in shaping decisions? This is a chicken and egg problem of needing resources to do the research that will be really helpful but needing to be helpful to get the resources. By changing our focus and committing ourselves to making RAAM a real discipline, the SRA and each of us as individuals can begin to be of real help to society in its risk management.

Lester B. Lave  
March, 1986

**SRA COURSE  
RISK ASSESSMENT/RISK MANAGEMENT:  
CARCINOGENESIS**

**PROGRAM**

**April 7, 1986**

**I. Overview of Risk Assessment**

**The Risk Analysis Process**

*Elizabeth L. Anderson, President, ICF-Clement*

**Quantitative Methods in Risk Assessment**

*Ronald Hart, Director, National Center for Toxicological Research*

**Uncertainties/Assumptions in Cancer Risk Assessment**

*Roy E. Albert, Director, Dept. of Environmental Health, Kettering Laboratory, Un. of Cincinnati*

**II. Use of Scientific Data in Risk Assessment**

**The Use of Short-term Test Data in Risk Assessment**

*W. Gary Flamm, Director, Office of Toxicological Sciences, Food and Drug Administration*

**The Use of Epidemiology Data in Risk Assessment**

*Herman Gibb, Environmental Protection Agency*

**April 8, 1986**

**The Use of Animal Bioassay Studies in Carcinogen Risk Assessment**

*Elizabeth Weisberger, National Cancer Institute*

**III. Exposure Analyses**

**Overview of Exposure Assessment**

*Curtis Travis, Office of Risk Analysis, Oak Ridge National Laboratory*

**Case Studies Illustrating Exposure Assessment in the Regulatory Process**

*James Falco, Deputy Director, Office of Environmental Processes and Effects Research, US EPA*

**IV. Special Issues in Risk Assessment**

**Low-Dose Extrapolation in Quantitative Risk Assessment**

*Todd Thorslund, Vice President for Quantitative Risk Assessment, ICF-Clement*

**The Use of Pharmacokinetics/Metabolism Data in Risk Assessment**

*Melvin Anderson, Wright-Patterson Air Force Base*

**April 9, 1986**

**Interspecies Extrapolation**

*Edward J. Calabrese, Div. of Public Health, University of Massachusetts*

**V. Risk Management**

**An Overview of Risk Management**

*Lester Lave, Carnegie-Mellon University*

**DeMinimus Risk, Acceptable Risk, and the Value of Life**

*Chris Whipple, Electric Power Research Institute*

**RISK COMMUNICATION CONFERENCE  
DRAWS LARGE CROWD**

Over 500 persons gathered at the Mayflower Hotel in Washington, D.C. on January 29-31 to participate in a National Conference on Risk Communication. The three organizers, Frederick Allen of the Environmental Protection Agency, Vince Covello of the National Science Foundation, and Terry Davies of the Conservation Foundation, had assembled an experienced group of risk communication practitioners who throughout the conference made it clear that much of their experience had been painfully gained.

The conference was structured around four themes in risk communication: message—the complexity of a risk issue; source—the general lack of institutional trust and credibility; channel—the sensational and usually incompetent media coverage; and receiver—the public's subjective desire for certainty and reluctance to make tradeoffs. Unlike most similar conferences, this conference emphasized the first two themes rather than the latter two. The speakers generally viewed "channel" and "receiver" as givens and placed their emphasis on clarifying the message and improving the credibility of the source.

**Kindergarten of Risks**

The speakers warned that lists of risks without a tremendous number of caveats have a "black eye" in the opinion of some in the risk communicating community. Referred to as the "kindergarten of risks," such lists include noncomparable items because they do not consider the dimensions of dread, controllability, and delay; the chronic versus catastrophic character of risks; etc. When the dimensions or character of the risks are comparable, such as on lists of food hazards or transportation hazards, then comparisons seem to become more acceptable.

**Macro vs. Micro Terminology**

The speakers also repeatedly stated that industry and government tended to express risk in macro dimensions, but the public wants risks expressed in personal or micro dimensions. The public wants to hear that "this action doubles your chances of dying due to a particular cancer," not that "this action increases a particular cancer rate by one in 10<sup>6</sup> population." Without defining terms, the speakers urged communicators to interpret risk but not to try to educate the public.

**Signal Events**

Many celebrated risky events have been exaggerated in the public mind because of some unusual action by an authority figure (industrial or government) or by a vivid image in the public's mind. The televised space launch explosion, the smoldering remains of the DC-10 after its engine fell off, the chemical cloud at Bhopal, and the Florida State Police seizure of foodstuff from the supermarket shelves all qualify as "signal" events.

(Cont. on page 9)

## MEMBERSHIP: IT'S TIME TO GROW!

### A Report from the Membership Committee

SRA President Lester Lave has set a high goal for membership: double it! This is a major challenge for the Membership Committee, but with the help of everyone and the implementation of several interlocking approaches, the goal can be met.

Current membership is slightly more than 1,000. The SRA is, therefore, a "small" society, and doubling its number will find it still a small society. However, it is important to recognize that even now the SRA is at a size where it is feasible to form local chapters and gain all the benefits of intellectual interaction that such groups bring. Three chapters exist: the National Capital Area Chapter, the East Tennessee Chapter, and the newly formed New England Chapter. Doubling the membership will accelerate the formation of other chapters; moreover, it will greatly enrich the SRA's annual meetings, its special sessions and workshops, its publications, and its individual members.

While the Membership Committee has been assigned the goal for doubling the membership, it obviously cannot achieve the goal by itself. If each member of the SRA becomes a member of the "membership committee of the whole" and acts accordingly, the doubling of membership lies within reach. By now each member should have received a letter from the committee asking for help in recruiting new members and including a tear-off, return-mail card on which names and addresses of potential

members can be listed. If you haven't yet responded, do it today. List as many names as possible, since even those lists consisting only of highly interested candidates will not result in a 100% yield. Also, please call, write, or speak to the candidates to spark their interest. If by chance you have not received the letter, contact the SRA Secretariat at the address on the back page of this newsletter.

In the meantime, the Membership Committee itself will not be taking it easy and waiting for the names to roll in. Each committee member (Tony Buhl, John Garrick, and Ram Uppuluri) has joined with me in assuming special tasks in a grid of membership-raising activities aimed at making contacts through different types of institutions, across disciplines, in different geographic regions, and with other appropriate societies. These kinds of activities are needed to build a solid base for ongoing growth. When we learn of SRA members with positions enabling them to participate in contacting particular segments of the grid, we will call on those members for their help.

These special activities will require long-term efforts, and they will have long-term results. For now, however, the Membership Committee asks each member to help us gain short-term results through the individual campaign to bring in new members. It's time to grow! Let's see what we can do right now and let's hear the results in November at the 1986 SRA Annual meeting in Boston.

Paul Deisler, Chairman  
SRA Membership Committee

## GOAL: DOUBLE NUMBER OF SUSTAINING MEMBERS

### A Report from the Finance Committee

In an effort to improve the financial position of the society, the Finance Committee is concentrating on doubling the number of SRA sustaining members during the 1985-86 year. The society currently has nine sustaining members.

A sustaining member is a company or government agency which contributes at least \$500 to the society. Each sustaining member receives a subscription to the journal *Risk Analysis* and one or more free registrations to the society's annual meetings. Depending on the amount of the contribution, reduced annual meeting registration fees (members' rates) may also be available to all employees of the firm or agency, and representatives will have the opportunity to meet with the society's officers and councilors during the annual meetings.

Efforts are also being made to contact companies or agencies preferring to make direct contributions of \$500 or more to the annual meetings instead of becoming sustaining members. The contributions may be made as general support for a meeting or as a sponsorship of a specific activity, e.g., a reception, printing costs for announcements and programs, etc. Such contributors will receive benefits

similar to those enjoyed by sustaining members. The idea of specific sponsorships was included in a set of suggestions for improving the fee structure of the annual meetings that was prepared by Anthony Buhl and has been forwarded to the Annual Meetings Committee.

Michael Gough, Peter Hutt, and Steven Swanson are coordinating the effort for increasing the number of sustaining members and contributors, and they request that persons with suggestions of candidate companies or agencies please contact Richard Burk at the SRA Secretariat (see address on back page).

The Finance Committee has also asked Talbot Page to examine the SRA annual dues structure. To encourage student memberships, the SRA Council voted at its February 12 meeting to reduce student dues to \$25 per year, which would include a subscription to *Risk Analysis*.

The committee will also seek other ways to find increased operating funds, and committee members will welcome any suggestions that the members at large might have. Other members of the committee are Paul Deisler, Page, and Swanson.

Howard Kunreuther, Chairman  
SRA Finance Committee

# CALL FOR PAPERS

**1986 ANNUAL MEETING OF THE SOCIETY FOR RISK ANALYSIS**  
**Park Plaza Hotel, Boston, Massachusetts**  
**November 9-12, 1986**

**Theme: New Risks: Issues and Management**

**Topics:** Issues in Public Health: Nutrition, Infections and Toxic Agents  
 Risks in New Technologies  
 Communication of Risk and Uncertainty  
 Risk and Liability  
 Risk Management: Congress, Agencies and Corporations  
 New Methods in Risk Assessment  
 Global Issues: Terrorism, Natural Disasters, and Nuclear Winter  
 European Outlook on Risks

You are invited to send a 250-word abstract by May 1 to: Dr. Paolo Ricci, Arthur D. Little, Inc., Acorn Park, Cambridge, MA 02140.

## SRA ANNUAL MEETING COMMITTEE NAMED

Roger Kasperson of Clark University has been named general program chairman of the 1986 SRA Annual Meeting, replacing Joe Fiksel, who has moved from Massachusetts to California (see "Comings & Goings"). Paul Deisler, SRA's president-elect, is general chairman of the meeting.

Other members of the 1986 Annual Meeting Committee are Paolo Ricci, Arthur D. Little, Inc., Cambridge, who is program chairman; Halina Brown, Clark University, who is in charge of arrangements and publicity, the latter being handled by Gerald Lanson and Claire Erickson of Boston University; and Michael Huguenin, Industrial Economics, Inc., Cambridge, who is the administrative chairman. In addition, Michael Baram and Richard Burk are assisting with the plans for the meeting.

The 1986 Annual Meeting will be held November 9-12 in Boston's recently renovated Park Plaza Hotel, which is located in downtown Boston and has easy access to historical sights, museums, and shops. (See "Call for Papers.")

## NATIONAL CAPITAL AREA CHAPTER SETS SLATE OF OFFICERS

Jerry LR Chandler of the Food and Drug Administration and Tim O'Leary of the Chemical Manufacturers Association are nominees for president-elect of the National Capital Area Chapter of SRA. Also on the ballot are two nominees for secretary, Kathleen Knox and Sue Perlin, both from the Environmental Protection Agency. Ben Buckbinder of the Nuclear Regulatory Commission and Paul Price of EPA are running unopposed for two councilor positions. Lee Abrahamson, NRC, will continue as the chapter's treasurer, a position he has held several years; and Penelope Fenner-Crist, EPA, will serve her second year as a councilor.

Outgoing officers will be Steven Swanson of the American Petroleum Association, who is currently president; Janice Longstreth of ICF, who is immediate past president; Jerry Chandler, who is secretary; and Lori Ramonas and Alan Moghissi, who are councilors.

## EUROPEAN NEWS

### SRA-EUROPE VERSUS ESRA: HOW DIFFERENT WILL THEY BE?

At present the Society for Risk Analysis has about 6% of its membership in Europe. Clearly, the small number of people represented by that percentage contrasts sharply with the importance given to issues of risk assessment in European countries. Therefore it is fortunate that the SRA Council at its October 1985 meeting decided to stimulate and support the organization of a European chapter of SRA. The first step in that direction occurred on December 10, when a steering group of European SRA members met in Brussels, Belgium. Those attending were John Chicken, United Kingdom; Philippe Hubert, France; Harald Ibrekk, Norway; Ortwin Renn, Federal Republic of Germany; and Pieter Jan Stallen, The Netherlands. Also present were Bill Vinck and Ed van Reijen of the European Safety and Reliability Association (ESRA), and one of the topics of discussion was how the SRA chapter, which was to be identified as SRA-Europe, would differ from ESRA.

#### ESRA Scope

ESRA, closely related to the Commission of the European Communities (CEC), has as its major objective the promotion and coordination of scientific activities in the fields of safety and reliability engineering within high-technology industries in the ten European Community member states. In particular, ESRA focuses on opportunities for academic and technical training, promotes R&D activities in the relevant areas of risk analysis (through ESRDA), and supports the collection and processing of safety and reliability data (through EUREDATA). In advance of its formal establishment this year, ESRA had already begun distributing its own newsletter through national chapters.

#### Loss Prevention Working Party

Also focusing on risk assessment and management in Europe is the Institution of Chemical Engineers with its active Loss Prevention Working Party. This working party, with strong connections to industry and major research institutes, organizes a well-attended symposium on loss prevention and safety promotion every three years. Also, it has an International Study Group on Risk Analysis, which recently released a report, and a Study Group on Human Factors, which is currently at work.

#### Role of SRA-Europe

The steering group took as its first task establishing SRA-Europe as a chapter of the existing SRA. Like SRA in general, SRA-Europe will offer an interdisciplinary home to all professionals from the physical and engineering sciences, biomedical sciences and social sciences who have an interest in questions of risks to health, safety, and the environment.

Second, the group felt that SRA-Europe should establish good and permanent liaisons with existing related organizations, in particular, ESRA. Although there will be clear differences between the two organizations, there is no value in duplicating work or dismissing available information. The engineers, in particular, would benefit from cooperative programs. As viewed by the steering group, the focus of ESRA will be on problems of reliability in industry, while SRA-Europe will be concerned with all types of risk assessment and management. The membership of ESRA will consist of institutions (groups) from the European Community, whereas the membership of SRA-Europe will consist of individual professionals. The organizational structure of ESRA will be representational with financing through European Community support, while SRA-Europe will follow the organizational pattern of SRA in general and largely rely on membership dues. Both groups will promote information dissemination and encouragement and recognition of quality research, with SRA-Europe focusing on more disciplines and ESRA giving more emphasis to training.

As its third objective, the steering group decided to approach professionals of high reputation in the various European countries to serve on an advisory board. With the help of their names, a letter could be sent to potential European members to raise interest in the society and to obtain subscriptions to the journal *Risk Analysis*. The letter is scheduled to be mailed by April 1986.

The second meeting of the steering group will be March 4. Persons interested in obtaining more information about SRA-Europe should write to me at the following address: Centre for Technology and Policy Studies, TNO, PO Box 541, 7300 AM Apeldoorn, The Netherlands; Telephone (0)55-773344.

Pieter Jan Stallen  
SRA Councilor, Europe



SRA's East Tennessee Chapter sponsored a panel discussion on "Ethics and Technology" at the February WATtec Conference in Knoxville, TN, with **Joseph Minarick**, Science Applications International, Inc., serving as the moderator. The panelists were **Frederick B. Fields**, a Knoxville attorney who has worked in the area of risk communication with the Office of Policy, Planning, and Evaluation of the U.S. Environmental Protection Agency; **Frank Munger**, a *Knoxville News-Sentinel* reporter covering the activities of the U.S. Department of Energy in the Oak Ridge, TN, region; **Jean Porter**, an assistant professor of theological ethics at Vanderbilt Divinity School; **Victor Rashkovsky**, a rabbi who was born and educated in the Soviet Union before emigrating to the U.S.; and **James Wilson**, an organic chemist who is director of planning and information for the Monsanto Company's Environmental Policy Staff.

## FEDERAL AGENCIES, INDUSTRY SPONSOR NATIONAL RISK ASSESSMENT WORKSHOP

A unique combination of public and private sector organizations is sponsoring a National Risk Assessment Workshop in San Antonio, Texas, April 1-2. The Center for Environmental Health of the Centers for Disease Control, the Environmental Protection Agency, and the Food and Drug Administration are joining with the American Industrial Health Council, the Grocery Manufacturers of America, the International Life Sciences Institute-Nutrition Foundation, the National Governors' Association, and the Public Health Foundation to hold a workshop aimed at helping state health and environmental protection agencies respond to public concerns about health risks. They will address topics such as localized hazards, e.g., the release of a dangerous chemical that requires a response by a single state or a few contiguous states, and the demands of citizens for an independent state response to a risk that has already been addressed by the federal government.

The workshop cochairmen are Ronald Hart, director of the Food and Drug Administration's National Center for Toxicological Research, and Donald O. Lyman, chief of the Health Protection Division of the California Department of Health Services. Attendees will consist of two or three health or environmental department experts from each state, with travel expenses reimbursed by the sponsors. Scientists from federal agencies, universities, and industry serving as lecturers or leaders will increase the total attendance to 150 to 200 persons.

The focus of the course will be a case study developed and used by the Environmental Protection Agency, one of foremost practitioners of health risk assessment, to introduce its employees to risk assessment. Almost a full day will be spent in small groups (about 10 persons) discussing the case study, and the remaining time will be spent in lecture sessions and in discussion of the findings of the small groups.

## MISCELLANY

**Dr. Alexander Hollaender**, recipient of SRA's 1985 Distinguished Contribution Award, is currently sponsoring and promoting a series of 11 centers for risk assessment in developing countries. Because of his efforts, developing countries are gaining a better understanding of the risks they assume as they develop.

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**Marina Whitman's** 1985 SRA address, which we reported in the last newsletter had been reprinted in December in *Vital Speeches of the Day*, has since been selected by General Motors Corporation as one of the important speeches given by its officers in 1985. GM has distributed the speech as a public affairs document, which is clear evidence of the great interest in risk and its assessment and management. It also shows that SRA is a vehicle for bringing informed discourse to bear on these subjects.

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**The American Air Pollution Control Association (APCA)** has produced a video tape on risk assessment. The tape is intended as a training film and addresses methods in use for risk assessment, case studies in risk assessment, and applications of risk assessment to risk management. It was taken from a lecture presented by Elizabeth Anderson, formerly of the Office of Health and Environmental Assessment at the U.S. Environmental Protection Agency and currently president of ICF-Clement, a private health and environmental assessment firm. The tape may be obtained from APCA by writing to: American Air Pollution Control Association, PO Box 2861, Pittsburgh, Pennsylvania 15230.

## CANCER RISK ASSESSMENT METHOD EVALUATED

A peer review workshop held January 8 to examine recent, novel approaches by Todd Thorslund, ICF-Clement, for quantitatively estimating low-dose cancer risks generated considerable enthusiasm for his methodology and resulted in recommendations that its further development be encouraged and supported. The reviewers included Charles Brown, National Cancer Institute; John Van Ryzin, Columbia University; Marvin Schneiderman, National Academy of Sciences; Curtis Travis, Oak Ridge National Laboratory; and scientists from every major program office at the U.S. Environmental Protection Agency. A paper describing this work has been accepted for publication in SRA's journal *Risk Analysis*.

## NEW ENGLAND CHAPTER

(Cont. from page 1)

At a February 5 dinner meeting, the chapter heard James Rogers, Corporate Manager for Energy and Environmental Affairs for Digital Equipment Corporation, speak on "Managing Environmental Risks: A Corporate Perspective." Its first major project will be hosting the 1986 SRA Annual Meeting in Boston next November.

Tony Cox, Secretary  
New England Chapter

## COMINGS & GOINGS

**Elizabeth Anderson**, SRA's immediate past president, left her position as director of the Office of Health and Environmental Assessment, U. S. Environmental Protection Agency, in December 1985. She is now president of ICF-Clement, a Washington-based consulting firm. Her new address is 1515 Wilson Blvd., Suite 700, Arlington, VA 22209, Phone (703) 276-7700.

\* \* \* \* \*

**Joseph Fiksel**, formerly the manager of Decision and Risk Management at Arthur D. Little, Inc., Cambridge, MA, has joined Teknowledge, Inc., 525 University Ave., Palo Alto, CA 94301, Phone (415)327-6600. His new firm is a leader in artificial intelligence, and he directs its program in new product development for decision and risk management applications.

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**Michael Gough** became the director of the ILSI Risk Science Institute in November. Before taking his new position, he had been the director of Special Projects, Health and Life Sciences Division, Office of Technology Assessment, U.S. Congress. His current address is 1126 16th St., NW, Washington, DC 20036, Phone (202)659-3306.

\* \* \* \* \*

**Paolo F. Ricci**, formerly a project manager at the Electric Power Research Institute, Palo Alto, CA, has joined Arthur D. Little, Inc. as a senior consultant in the Environmental Management Section. His new address is Acorn Park, Cambridge, MA 02140, Phone (617)864-5770.

*EDITOR'S NOTE: Comings & Goings will be a regular feature of this newsletter. If you have changed jobs recently or have other news of interest to the society, please send the information to Lorraine Abbott or Michael Gough at the addresses shown on the back page.*



**RISK COMMUNICATION**

(Cont. from page 3)

**Background Document Available**

The insights provided at the conference were enthusiastically welcomed by the attendees who have struggled with communicating risks to the public. The organizers and sponsors are to be commended for a well-designed program, and the Conservation Foundation should be thanked for providing excellent organizational and logistical assistance. For those who want to know more, copies of a document prepared as background to the conference are available from Vincent T. Covello, Risk Analysis Program, National Science Foundation, 1800 G Street, NW, Washington, D.C., 20550.

Richard C. Schwing  
General Motors Research Laboratories

**JOURNAL CONTENTS (cont.)**

The table of contents of Vol. 6, No. 2 of the SRA journal *Risk Analysis* is reprinted below. Manuscripts submitted to the journal should be mailed to: Curtis Travis, Editor, *Risk Analysis*, Bldg. 4500S, S204, Oak Ridge National Laboratory, PO Box X, Oak Ridge, TN, 37831.

Vol. 6, No. 2

Author(s)	Title
<b>GUEST EDITORIAL</b>	
James D. Wilson	Time for a Change
<b>ARTICLES</b>	
Kenneth G. Brown David G. Hoel	Statistical Modeling of Animal Bioassay Data with Variable Dosing Regimens: Example — Vinyl Chloride
Herman J. Gibb Chao W. Chen	Multistage Model Interpretation of Additive and Multiplicative Carcinogenic Effects
James N. Rowe Janet Springer	Asbestos Lung Cancer Risks: Comparison of Animal and Human Extrapolations
Dale Hattis	The Promise of Molecular Epidemiology for Quantitative Risk Assessment
Frederica Perera	New Approaches in Risk Assessment for Carcinogens
J. H. Pickles	Health Risks and Air Pollution — Error Analysis for a Cross-Sectional Mortality Study
Alan Q. Eschenroeder Colleen P. Doyle Edward J. Faeder	Health Risks of PCB Spills
M. Elisabeth Paté-Cornell	Warning Systems in Risk Management
Julius Goodman	On Criteria of Insignificant Difference Between Two Risks
Donald MacGregor Paul Slovic	Perceived Acceptability of Risk Analysis as a Decision-Making Approach
Alexander Hollaender	Acceptance Speech on the Occasion of Receiving SRA's 1985 Distinguished Contribution Award
<b>ANNOUNCEMENTS</b>	
S. Chrystal Cook	On Recent Books
Paul Moskowitz	On Software Reviews

**SECOND  
CALL FOR NOMINATIONS**

The office of president-elect and three council positions will be up for election this coming year. The outgoing councilors are Granger Morgan, Arthur Upton, and Pieter Jan Stallen. (Stallen is the European representative to the Council.) The Nominating Committee is requesting suggestions from the membership for candidates for these positions. Please send your nominations and a brief paragraph supporting each to:

Paul Slovic  
Decision Research  
1201 Oak Street  
Eugene, Oregon 97401

**CALENDAR OF EVENTS**

—April 1-2. NATIONAL RISK ASSESSMENT WORKSHOP. Sponsored by federal agencies and private organizations. See story in this newsletter.

—April 2. SYMPOSIUM ON RADIATION AND WOMEN, Tremont Plaza Hotel, Baltimore, Maryland. Sponsored by Center for the Advancement of Radiation Education and Research (CAREER), Johns Hopkins University. Contact: Kate Prendergast (Phone 301-955-3350).

—April 7-9. COURSE ON RISK ASSESSMENT/RISK MANAGEMENT: CARCINOGENESIS. Sponsored by Society for Risk Analysis. See story on page 1, this newsletter.

—April 9-11. FIFTH EuReData CONFERENCE ON RELIABILITY DATA COLLECTION AND USE IN RISK AND AVAILABILITY ASSESSMENT, Heidelberg, Federal Republic of Germany. Contact: H. J. Wingender, NUKEM GmbH, D-6450 Hanau, PO Box 110080, Federal Republic of Germany.

—May 5-9. 32nd ANNUAL TECHNICAL MEETING: ENVIRONMENTAL TECHNOLOGY—COMING OF AGE, Amfac Hotel and Resort, Dallas/Fort Worth Airport, Texas. Sponsored by the Institute of Environmental Sciences. Contact: IES, 940 E. Northwest Hwy., Mount Prospect, Ill. 60056 (Phone 312-255-1561).

—May 19-23. INTERNATIONAL SYMPOSIUM ON THE TOTAL RISK AND BENEFIT IMPACT OF ENERGY ALTERNATIVES, Waterloo, Ontario, Canada. Sponsored by the Institute for Risk Research, University of Waterloo, Ontario. Contact: H. D. Sharma, Department of Chemistry, University of Waterloo, Waterloo, Ont., Canada N2L 3G1 (Phone 519-885-1211).

—June 16-20. PACKAGING AND TRANSPORT OF RADIOACTIVE MATERIALS (Patram 86), Vienna International Centre, A-1400 Vienna, Austria. Sponsored by International Atomic Energy Agency.

—June 16-20. INTRODUCTORY WORKSHOP ON DECISION ANALYSIS, Massachusetts Institute of Technology. A self-contained, interactive introduction to the concepts and practical application of decision analysis, including an introduction to the multiattribute case. Professors: A. W. Drake (MIT) and R. L. Keeney (USC). Contact: Director of the Summer Session, Room E19-356, MIT, Cambridge, Massachusetts 02139 (Phone 617-253-2101). (Cont. on page 10)



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## CALENDAR OF EVENTS

(Cont. from page 9)

—June 17-20. **FOURTH ANNUAL SUMMER INSTITUTE IN RISK MANAGEMENT IN ENVIRONMENTAL HEALTH AND PROTECTION.** Sponsored by New York University's Graduate School of Public Administration. Topics include the legal and administrative framework for risk management, financial liability and insurance issues, risk perception and decision making, the medical and scientific basis for risk management, and risk assessment procedures. The major area of application is toxic and hazardous substance issues. Available for graduate course credit (fee of \$924) or for noncredit (\$575 for June 17-19; \$725 for June 17-20). Write: Summer Institute in Risk Management in Environmental Health and Protection, Graduate School of Public Administration, New York University, 4 Washington Square North, New York, NY 10003; or call Charles Nicolson (Phone 212-598-3133) or Rae Zimmerman (Course Director) (Phone 212-598-3725, -6, or -7).

—June 23-27. **ADVANCED WORKSHOP ON DECISION ANALYSIS.** Interactive program on the ideas, methodology, and application of decision analysis to problems with multiple objectives. Risk analysis and group decision problems. Case studies from the private and public sectors. Professors: R. L. Keeny (US) and A. W. Drake. Contact: See similar MIT announcement above.

—September 22-26. **FIRST INTERNATIONAL CONFERENCE ON RISK ASSESSMENT OF CHEMICALS AND NUCLEAR MATERIALS,** University of Surrey, Guildford, United Kingdom. Organized by the university's Robens Institute of Industrial and Environmental Health and Safety in conjunction with the Department of Psychology and J.C. Consultancy Ltd. Conference goal is to bring together risk assessors and managers from various fields to identify common problems, critically assess risk assessment methodologies, and examine how findings of risk assessments can be presented to decision makers and the public. Contact: J. Williams, Robens Institute, University of Surrey, Guildford GU2 5XH.

—September 22-26. **FOURTH DECENNIAL REVIEW—CELL AND TISSUE CULTURE INTERNATIONAL CONFERENCE: MOLECULAR MECHANISM IN THE REGULATION OF CELL BEHAVIOR,** Hershey, Pennsylvania. Convened by the Tissue Culture Association. Preregistration required by July 22. Contact: Executive Director, Tissue Culture Association, 19110 Montgomery Village Avenue, Suite 300, Gaithersburg, Maryland 20879 (Phone 301-869-2900).

—November 9-12. **1986 ANNUAL MEETING OF THE SOCIETY FOR RISK ANALYSIS,** Park Plaza Hotel, Boston, Massachusetts. See story in this newsletter.

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