



Annual Meeting
Washington
3-8 January 1982

Preliminary Program

Building Knowledge and Understanding: Enduring Assets of Society

Public Lectures

(Topics to be announced)

- **AAAS Keynote Lecture (3 Jan., 8:30 p.m., WH).**
Speaker to be announced.
- **AAAS Public Lecture (4 Jan., 1:30 p.m., WH).**
Ian M. Ross (President, Bell Laboratories).
- **AAAS Public Lecture (4 Jan., 8:30 p.m., WH).**
The Honorable James B. Hunt (Governor, State of North Carolina).
- **AAAS Public Lecture (5 Jan., 1:30 p.m., WH).**
James G. March (Fred H. Merrill Professor of Management, Graduate School of Business, Stanford University).
- **AAAS Public Lecture (5 Jan., 8:30 p.m., WH).**
Robert L. Hohlfelder (Professor of History, University of Colorado).
- **Phi Beta Kappa Public Lecture (6 Jan., 1:30 p.m., WH).**
J. Tuzo Wilson (Director General, Ontario Science Centre).
- **AAAS President's Public Lecture (6 Jan., 8:30 p.m., WH).**
D. Allan Bromley (Henry Ford II Professor and Director, A. W. Wright Nuclear Laboratory, Yale University).
- **George Sarton Memorial Public Lecture (7 Jan., 1:30 p.m., WH).**
Henry Guerlac (Goldwin Smith Professor Emeritus of History of Science, Cornell University).
- **AAAS Public Lecture (7 Jan., 8:30 p.m., WH).**
Speaker to be announced.

1. General Interest

- **AAAS Annual Youth Symposium (3 Jan., WH).**
Arranged by Richard Berendzen (American University, Washington, D.C.).

- **Space Science and Technology and Its Impact, Present and Future (4 Jan., WH).**
Arranged by Joseph V. Charyk and Delbert D. Smith (COMSAT, Washington, D.C.).
- **Frontiers of the Social Sciences (5 Jan., WH).**
Arranged by Nancie L. Gonzalez (University of Maryland, College Park) and Meredith P. Crawford (American Psychological Association, Washington, D.C.).
- **Science—The Beginning of a Great Adventure (5 Jan., WH).**
Arranged by Rolf M. Sinclair (National Science Foundation) and Jerry Pournelle (Jerry Pournelle Associates, Studio City, Calif.).
- **The Frontiers of the Natural Sciences (7 Jan., WH).**
Arranged by Rolf M. Sinclair.
- **Human Learning and the Optimum Utilization of Knowledge (8 Jan., WH).**
Arranged by Lawrence Senesh (Academy of Independent Scholars, Boulder, Colo.) and Kenneth E. Boulding (University of Colorado, Boulder).

2. Physical Sciences

- **Special Issues in Laboratory Safety (4 Jan., WH).**
Arranged by Anne B. Swanson (Edgewood College, Madison, Wis.).
- **Chemically Solvable Problems (4 Jan., WH).**
Arranged by Helen M. Free (Miles Laboratories, Elkhart, Ind.).
- **Grand Unification in Elementary Particle Physics and Cosmology (5 Jan., WH).**
Arranged by George A. Snow (University of Maryland, College Park).
- **Solar Flares: A Key to the Physics of Cosmic Magnetic Explosions (6 Jan., WH).**

HOTEL CODES: Washington Hilton . . . (WH); Capital Hilton . . . (CH)

Arranged by James A. Ionson (NASA, Goddard Space Center, Greenbelt, Md.).

- **Science for the Naked Eye; Or, the Physics of Everyday Experience, IX (6 Jan., CH).**
Arranged by Rolf M. Sinclair (National Science Foundation).
- **Quasars Large and Small (6 Jan., WH).**
Arranged by Virginia Trimble (University of California, Irvine).
- **Chemistry is Fun (8 Jan., WH).**
Arranged by Lois A. Nicholson (Fairfax County Schools, Fairfax, Va.), Richard S. Nicholson (National Science Foundation), and Robert W. Parry (University of Utah, Salt Lake City).

3. Earth and Planetary Sciences

- **The Weather of Other Planets (4 Jan., WH).**
Arranged by Andrew P. Ingersoll (California Institute of Technology, Pasadena) and Julius London (University of Colorado, Boulder).
- **Paradoxes of Western Energy Development: How Can We Maintain the Land and the People if We Develop? (4 and 5 Jan., WH).**
Arranged by Cyrus M. McKell (Native Plants, Inc., Salt Lake City, Utah).
- **The Global Concerns of Stratospheric Modification (6 Jan., WH).**
Arranged by Julius London.
- **Drought in the United States: History, Causes, and Impact (The Dust Bowl Revisited) (6 Jan., WH).**
Arranged by Kenneth H. Bergman and Alan D. Hecht (National Science Foundation) and Robert S. Chen (National Academy of Sciences).
- **Planet Earth (7 Jan., WH).**
Arranged by Lynn Margulis (Boston University) and Tobias Owen (SUNY, Stony Brook).
- **Looking Into the Earth—Nonconventional Imaging Methods (7 Jan., WH).**
Arranged by Franklyn K. Levin (Exxon Production Research Company, Houston, Tex.).
- **International Minerals—A National Perspective (8 Jan., WH).**
Arranged by Allen F. Agnew (Library of Congress) and A. G. Unklesbay (U.S. Geological Survey, Reston, Va.).
- **The Appalachians—New Frontiers in Old Mountains (8 Jan., WH).**
Arranged by Robert B. Neuman (U.S. Geological Survey, Washington, D.C.).

4. Engineering and Technology

- **Computer-Based Sciences: Policy and Performance Issues (4 Jan., WH).**

Arranged by Melvyn Ciment (Committee on Communications, Science, and Transportation, U.S. Senate) and Lawrence Lee (National Science Foundation).

- **The Software Explosion: Issues of Software Technology, Measurement, and Evaluation Through Human Engineering and Management Perspectives (5 Jan., WH).**
Arranged by K. O. Bowman (Union Carbide Corporation, Oak Ridge, Tenn.), R. L. Chaddha and J. Zolnowski (Bell Laboratories, Holmdel, N.J.).
- **Innovations in Manufacturing (5 Jan., WH).**
Arranged by Joel D. Goldhar and Janice Greene (National Research Council) and M. Eugene Merchant (Cincinnati Milacron, Inc., Cincinnati, Ohio).
- **The Potential of Space: Developing Science and Applications Policies (6 Jan., WH).**
Arranged by Randolph J. Steer (EG&G, Inc., Alexandria, Va.), Richard C. Hart (National Academy of Sciences), and Leonard W. David (National Space Institute, Washington, D.C.).
- **Space Industrialization—Who's Doing What Today? (7 Jan., WH).**
Arranged by Morrie Schneiderman (Wester' Shore R&D Centre, Toronto, Ont.) and Norris M. Mendoza (Spectrolab, Sylmar, Calif.).
- **Ceramics for 21st Century Society (7 Jan., WH).**
Arranged by Roy W. Rice (Naval Research Laboratory, Washington, D.C.) and Murray A. Swartz (Bureau of Mines, Washington, D.C.).

5. Energy

- **Nuclear Power and the Public: Are There Critical Masses? (4 Jan., WH).**
Arranged by William R. Freudenburg and Eugene Rosa (Washington State University, Pullman, Wash.).
- **Progress in More Efficient Energy Use Worldwide (5 Jan., WH).**
Arranged by Lee Schipper (Lawrence Berkeley Laboratory, Berkeley, Calif.).
- **Fuels and Chemicals From Oilseeds: Technology and Policy Issues (5 Jan., WH).**
Arranged by Robert P. Morgan and Eugene B. Shultz, Jr. (Washington University, St. Louis, Mo.).
- **Fuels From Biomass: Patterns of Development in Latin America and the Caribbean (6 Jan., WH).**
Arranged by Juan Valera-Lema (Solar America, Inc., Austin, Tex.), Ingemar Falkehag (Renewing Systems, Inc., Mt. Pleasant, S.C.), and James Rowe (American Association for the Advancement of Science).
- **Fusion Energy: Science and Policy (7 Jan., WH).**
Arranged by John F. Clarke (U.S. Department of Energy, Washington, D.C.).
- **Synthetic Fuels From Nonfossil Sources (7 Jan., WH).**
Arranged by James R. Powell and Frank J. Salzano (Brookhaven National Laboratory).

- **Behavioral Approaches to Energy Conservation (8 Jan., WH).**
Arranged by Paul C. Stern (National Academy of Sciences) and Elliot Aronson (Stevenson College, Santa Cruz, Calif.).
- **Energy R&D Strategies and National Energy Policy (8 Jan., WH).**
Arranged by Albert H. Teich (American Association for the Advancement of Science), Thomas J. Wilbanks (Oak Ridge National Laboratory), and Ezra D. Heitowit (Committee on Science and Technology, U.S. House of Representatives).
- **Traditional Fuels and Forestry Policy in Asia and Africa (8 Jan., CH).**
Arranged by Irene Tinker (Equity Policy Center, Washington, D.C.) and Norman L. Brown (Consultant, Washington, D.C.).

6. Biological Sciences

- **Biological Detection and Generation of Magnetic Fields (4 Jan., WH).**
Arranged by Saul Krasner (U.S. Coast Guard Academy, New London, Conn.).
- **Biological Processes at Deep Sea Hydrothermal Vents (4 Jan., WH).**
Arranged by Holger W. Jannasch (Woods Hole Oceanographic Institute, Woods Hole, Mass.).
- **International Cooperation in Ecological Research: Strengths, Weaknesses, and Future Needs (5 Jan., WH).**
Arranged by Mohan K. Wali (University of North Dakota, Grand Forks) and Harold L. Mooney (Stanford University).
- **Mutualism: New Ecological Theories (5 Jan., WH).**
Arranged by Douglas H. Boucher (McGill University).
- **Biocommunication: New Discoveries and Ideas (6 Jan., WH).**
Arranged by Thomas Eisner (Cornell University).
- **Biology of the Connective Tissue (7 Jan., WH).**
Arranged by George R. Martin (National Institutes of Health, Bethesda, Md.).
- **Bioactive Marine Products (8 Jan., WH).**
Arranged by Paul J. Scheuer (University of Hawaii at Manoa).
- **The Adrenal Chromaffin Vesicle as a Biological Model (8 Jan., WH).**
Arranged by Stephen W. Carmichael (West Virginia University, Morgantown) and Harvey B. Pollard (National Institutes of Health, Bethesda, Md.).

7. Cell Biology and Genetics

- **Human Genetic Manipulation: State of the Art, Ethics, and Public Policy (4 Jan., WH).**
Arranged by R. Daniel Benz (Brookhaven National Laboratory) and Joseph F. Rautenberg (Georgetown University).
- **The Genetics of Mitosis and Meiosis (4 Jan., WH).**
Arranged by William P. Hanratty (University of California,

Irvine) and Adelaide Carpenter (University of California at San Diego, La Jolla).

- **Reflections on the Recombinant DNA Controversy (5 Jan., WH).**
Arranged by Raymond A. Zilinskas (University of Southern California, Los Angeles) and Clifford Grobstein (University of California at San Diego, La Jolla).
- **Commercial Genetic Engineering: Impacts on Universities and Nonprofit Institutions (6 Jan., WH).**
Arranged by Sheldon Krinsky (Tufts University, Medford, Mass.).
- **The Human Genome (6 Jan., WH).**
Arranged by Kenneth K. Kidd (Yale University).
- **Molecular and Cellular Biology of the Lens (7 Jan., WH).**
Arranged by Joram Piatigorsky (National Institutes of Health, Bethesda, Md.).
- **Protein Folding (7 Jan., WH).**
Arranged by Jonathan King (Massachusetts Institute of Technology).
- **Transition: Applications of Genetic Engineering to Agriculture (8 Jan., WH).**
Arranged by H. O. Kunkel (Texas A&M University, College Station) and Joe L. Key (University of Georgia, Athens).
- **Plant Biology and Biotechnology in the '80s (8 Jan., WH).**
Arranged by Jerome P. Miksche (North Carolina State University, Raleigh) and A. Carl Leopold (Boyce Thompson Institute at Cornell University).

8. Evolution

- **Mechanisms of Major Evolutionary Change (4 Jan., WH).**
Arranged by Jeffrey S. Levinton (SUNY, Stony Brook) and Lynn Margulis (Boston University).
- **Terminal Cretaceous Extinction: A Comparative Assessment of Causes (5 Jan., WH).**
Arranged by Roger D. K. Thomas (Franklin and Marshall College, Lancaster, Pa.) and Erle G. Kauffman (University of Colorado, Boulder).
- **The Biology of Sex: Controversies Over the Evolution of Sex and in the History of Sex Research (6 Jan., WH).**
Arranged by Gina D. Feldberg (Harvard University) and Diana Long Hall (Boston University).
- **Sexual Differentiation: Brain and Behavior (6 Jan., WH).**
Arranged by Bruce S. McEwen (Rockefeller University).
- **The Functions and Management of Aggression and Cooperation in Biocultural Evolution (7 Jan., WH).**
Arranged by Garrett Hardin (University of California, Santa Barbara) and John W. Bowker (Lancaster University, Lancaster, England).
- **What Happened to Darwinism Between the Two Darwin Centennials, 1959-1982? (7 Jan., WH).**
Arranged by William B. Provine (Cornell University).

- **The Evolution of Human Diet: New Lines of Evidence (8 Jan., WH).**
Arranged by Glynn Isaac (University of California, Berkeley) and Alan C. Walker (Johns Hopkins University).

- **The Human Knowledge Process: An Evolutionary Dilemma (8 Jan., WH).**
Arranged by William Gray (Massachusetts Department of Mental Health) and Aristide H. Esser (Association for the Study of Man-Environment Relations, Inc., Orangeburg, N.Y.).

9. Environment

- **The Global 2000 Report to the President: The Authors Update Their Work (4 Jan., CH).**
Arranged by Gerald O. Barney (Gerald O. Barney & Associates, Inc., Arlington, Va.).
- **Human Impacts on Global Resources: Disciplinary Approaches and Research (4 Jan., CH).**
Arranged by Kenneth A. Dahlberg (Western Michigan University, Kalamazoo) and John W. Bennett (Washington University, St. Louis, Mo.).
- **Life on Earth is Getting Better—Or Is It? (5 Jan., CH).**
Arranged by Julian L. Simon (University of Illinois, Champaign) and S. Fred Singer (University of Virginia, Charlottesville).
- **The Global 2000 Report on Population, Resources, and Environment: Implications for American Education (5 Jan., CH).**
Arranged by Martha G. Jenner (North Carolina Academy of Science, Carrboro) and Charles E. Jenner (University of North Carolina, Chapel Hill).
- **Toxic Substance Control and the Environment: Policy Implications for Society (6 Jan., CH).**
Arranged by S. Phyllis Stearner (Argonne National Laboratory).
- **Applied Toxicology: Environmental Toxicology in the Poison Control Center (6 Jan., CH).**
Arranged by Eugene V. D. K. Perrin (Children's Hospital of Michigan, Detroit).
- **Transboundary Transport of Air Pollutants (7 Jan., CH).**
Arranged by William E. Wilson, Jr. (U.S. Environmental Protection Agency, Research Triangle Park, N.C.).
- **Environmetrics 82 (7 Jan., CH).**
Arranged by Donald L. Thomsen, Jr. (SIAM Institute for Mathematics and Society, New Canaan, Conn.).
- **Groundwater Pollution—An Emerging Threat to a Natural Resource (7 Jan., CH).**
Arranged by C. C. Travis and E. L. Etnier (Oak Ridge National Laboratory).
- **External Threats to Ecosystems of the National Parks (8 Jan., CH).**
Arranged by J. Robert Stottlemeyer (National Park Service, Houghton, Mich.).

- **Environmental Assaults on the Nervous System and Human Behavior: A New Health Challenge (8 Jan., CH).**
Arranged by Bambi Batts Young (Center for Science in the Public Interest, Washington, D.C.).

10. Food and Agriculture

- **Estimating the Value of Endangered Species of Plants: Responsibilities and Role of Scientific Community (4 Jan., CH).**
Arranged by Rolf Martin (Brooklyn College, Brooklyn, N.Y.) and Paul R. Ehrlich (Stanford University).
- **Technical and Policy Aspects of Water Use in Agriculture (4 Jan., CH).**
Arranged by William L. Powers (University of Nebraska, Lincoln).
- **Agricultural Land Use: Emerging Pressures (5 Jan., CH).**
Arranged by Grant F. Walton (Rutgers University, New Brunswick, N.J.).
- **The Urban-Rural Connection: New Links Between Food Producers and Consumers (5 Jan., CH).**
Arranged by William Lockeretz (Tufts University, Medford, Mass.).
- **Political Ecology of Food (6 Jan., CH).**
Arranged by Frank C. Miller (University of Minnesota, Minneapolis) and John W. Bennett (Washington University, St. Louis, Mo.).
- **Plant Responses to Environmental Stress (8 Jan., CH).**
Arranged by John F. Kelly (Michigan State University, East Lansing).

11. Medical Sciences

- **Medical Frontiers: Substitute Organs (4 Jan., WH).**
Arranged by Leah M. Lowenstein (Boston University).
- **Can We Prevent Organ Grafts From Failing? Studies on Large Populations as Guides to Policy and Practice (4 Jan., WH).**
Arranged by Henry Krakauer (National Institutes of Health, Bethesda, Md.) and R. Clifton Bailey (U.S. Environmental Protection Agency, Washington, D.C.).
- **Advances in Control of Dental Caries (5 Jan., WH).**
Arranged by William H. Bowen (National Institutes of Health, Bethesda, Md.) and R. J. Fitzgerald (Veterans Administration Hospital, Miami, Fla.).
- **Research Advances in Sickle-Cell Disease (5 Jan., WH).**
Arranged by Gertrude C. Ridgel (Kentucky State University, Frankfort) and Clarice D. Reid (National Institutes of Health, Bethesda, Md.).
- **Role of Gamete Surface Components in Fertilization, Contraception, and Fertility (6 Jan., WH).**
Arranged by Eli D. Schmell (Office of Naval Research, Arlington, Va.) and William J. Lennarz (Johns Hopkins University).

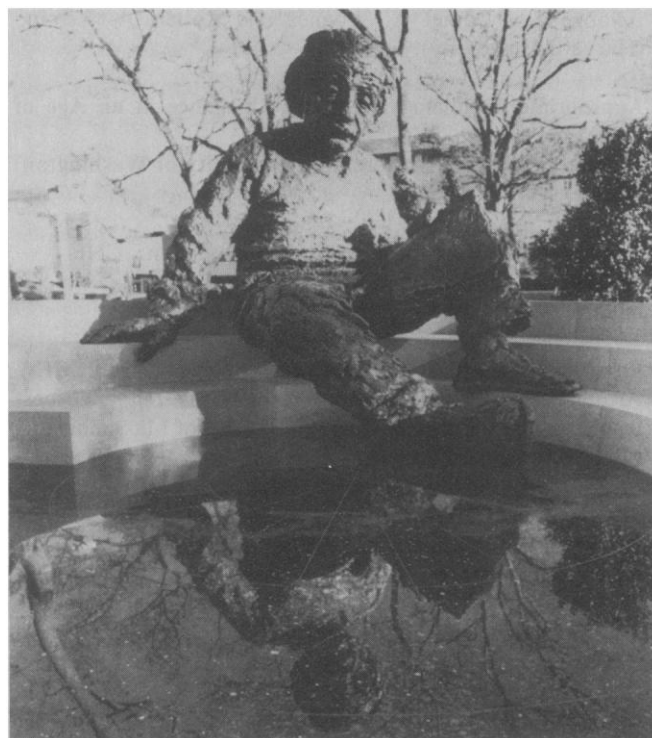
- **Human Research and Its Regulation: An Evaluation of the New Federal Rules (6 Jan., WH).**
Arranged by LeRoy Walters (Georgetown University).
- **Frontiers in the Management of Cardiovascular Disease (6 Jan., WH).**
Arranged by George D. Zuidema (Johns Hopkins University).
- **Communication With Patients Leading to Health Enhancement (7 Jan., WH).**
Arranged by Mark N. Ozer (George Washington University) and Arthur Kohrman (University of Chicago).
- **Torture, Medical Practice, and Medical Ethics (8 Jan., WH).**
Arranged by Michael Nelson (Harvard University) and Ellen Lutz (Amnesty International USA, San Francisco, Calif.).

12. Biomedical Technology

- **Risk Estimates for Medical Diagnostic Radiation Procedures (4 Jan., WH).**
Arranged by M. Güven Yalcintas (Oak Ridge National Laboratory) and Rana Yalcintas (Institute of Energy Analysis, Oak Ridge, Tenn.).
- **The End of Isolation: Speech Prostheses (4 Jan., WH).**
Arranged by Macalyne Fristoe (Purdue University, West Lafayette, Ind.).
- **The Applications of NMR to Biology and Medicine (5 Jan., WH).**
Arranged by Robert S. Balaban (National Institutes of Health, Bethesda, Md.).
- **Some Mathematical Questions in Biology (7 Jan., WH).**
Arranged by Robert Miura (American Mathematical Society, Providence, R.I.).
- **Medical Decision-making: The Contemporary Viewpoint (8 Jan., WH).**
Arranged by Judith M. S. Prewitt (National Institutes of Health, Bethesda, Md.) and Lee B. Lusted (Scripps Clinic and Research Foundation, La Jolla, Calif.).
- **High Technology in the Frontiers of Medicine: Too Expensive or Lifesaving? (8 Jan., WH).**
Arranged by Robert S. Ledley (Pattern Recognition Society, Washington, D.C.).

13. Behavioral Science

- **The Brain Sciences and Education (4 Jan., CH).**
Arranged by Rita W. Peterson and Joseph I. Lipson (National Science Foundation).
- **Enduring and Reversible Effects of Early Experience (4 Jan., CH).**
Arranged by Lewis P. Lipsitt (Brown University, Providence, R.I.) and Gilbert Gottlieb (Dorothea Dix Hospital, Raleigh N.C.).



Albert Einstein Memorial, National Academy of Sciences. [National Academy of Sciences]

- **Beyond Cerebral Laterality: New Methods Reveal the Interaction of Many Areas of the Brain During Mental Activities (5 Jan., CH).**
Arranged by Alan S. Gevins (EEG Systems Laboratory, San Francisco, Calif.).
- **Aspects of Mathematical Performance by Males and Females (5 Jan., CH).**
Arranged by Sheila M. Pfafflin (American Telephone and Telegraph, Morristown, N.J.) and Ann C. Howe (Syracuse University, Syracuse, N.Y.).
- **Alcohol Use in Different Populations: Treatment and Prevention at the Crossroads (6 Jan., CH).**
Arranged by James M. Schaefer (University of Minnesota, Minneapolis).
- **Influence of Hypnosis and Related States on Memory: Forensic Implications (6 Jan., CH).**
Arranged by Martin T. Orne (University of Pennsylvania).
- **Management of Pain and Symptom Control in Terminally Ill Patients (7 Jan., CH).**
Arranged by Arthur G. Lipman (University of Utah, Salt Lake City) and Robert S. Beardsley (University of Maryland, Baltimore).
- **Measurement of Pain in Animals and Man (8 Jan., WH).**
Arranged by Richard H. Gracely and Ronald Dubner (National Institutes of Health, Bethesda, Md.).

14. Anthropology and Development

- **Child Development and International Development: Research-Policy Interfaces (4 Jan., CH).**

Arranged by Daniel A. Wagner and Robert A. LeVine (Harvard University).

- **Appropriate Technology: The New Elegance in an Age of Constraints (4 Jan., CH).**
Arranged by Philip L. Bereano (University of Washington, Seattle).
- **The Ecosystem Concept in Anthropology (5 Jan., CH).**
Arranged by Emilio F. Moran (Indiana University, Bloomington).
- **Environment and Development in East Africa (7 Jan., CH).**
Arranged by Barbara P. Thomas (Clark University, Worcester, Mass.) and Charles Hays (University of Massachusetts Medical School, Worcester, Mass.).
- **The Impact of Development on Peoples Who Occupy Land at Relatively Low Population Densities (7 Jan., CH).**
Arranged by John E. Yellen (National Science Foundation).
- **Conflict, Resolution, and Revolution (8 Jan., CH).**
Arranged by June Nash (City College of New York) and Frances Rothstein (Towson State University, Towson, Md.).
- **Therapeutic Epistemologies: Latin American Spiritual and Biomedical Healing (8 Jan., CH).**
Arranged by Marlene Dobkin de Rios (California State University, Fullerton).

15. Sociology and Political Science

- **Aging From Birth to Death: Biosocial Perspectives (4 Jan., CH).**
Arranged by Matilda White Riley (National Institutes of Health, Bethesda, Md.) and David Glass (City University of New York).
- **Quality of Federal Statistics: Research, Programmatic, and Policy Implications (4 Jan., CH).**
Arranged by Charles B. Nam (Florida State University, Tallahassee).
- **Organizational Demography and Labor (5 Jan., CH).**
Arranged by Shelby Stewman (Carnegie-Mellon University, Pittsburgh, Pa.).
- **Comparison of Voting Systems (5 Jan., CH).**
Arranged by Stephen J. Brams (New York University).
- **Ethological Approaches to the Study of Politics (6 Jan., CH).**
Arranged by Roger D. Masters (Dartmouth College, Hanover, N.H.) and Albert Somit (Southern Illinois University, Carbondale).
- **Organizational Evolution: External Selection versus Internal Adaptation (6 Jan., CH).**
Arranged by Marshall W. Meyer (University of California, Riverside).
- **The Policy Implications of Changing Household and Family Patterns (7 Jan., CH).**

Arranged by Harold C. Wallach (General Accounting Office, Rockville, Md.).

- **Critical Issues in Crime Control Policy (7 Jan., CH).**
Arranged by Edith E. Flynn (Northeastern University, Boston, Mass.).
- **Social Power and Dominance in Women: Cultural and Developmental Perspectives (8 Jan., CH).**
Arranged by Liesa Stamm Auerbach (University of Wisconsin, Milwaukee) and Carol D. Ryff (Fordham University, Bronx, N.Y.).
- **If Japan Can, Why Don't We? New Managerial and Methodological Issues in Quality and Productivity (4 Jan., WH).**
Arranged by R. L. Chaddha (Bell Laboratories, Holmdel, N.J.), K. O. Bowman (Oak Ridge National Laboratory), and D. Muster (University of Houston).
- **Environmental Consequences of the Clean Air Act Reauthorization (5 Jan., WH).**
Arranged by Averett S. Tombes (George Mason University, Fairfax, Va.) and Paul Gilman (Committee on Energy, U.S. Senate).
- **The Changing Regulatory Climate: Implications for Environmental Research (5 Jan., WH).**
Arranged by Steven C. Ballard and Michael D. Devine (University of Oklahoma, Norman).

16. Economics, Industry, and Regulations

- **Regulatory Reform as It Affects Science and Technology (6 Jan., WH).**
Arranged by Daniel W. Fulmer (U.S. Department of Commerce) and Michael Baram (Boston University).
- **Industrial Policy: National Strategies to Promote Specific Industrial Sectors (6 Jan., WH).**
Arranged by Theodore W. Schlie and Robert Parsons (U.S. Department of Commerce).
- **Impact of Governmental Regulations on Developing Drugs From New Technologies (6 Jan., WH).**
Arranged by Robert Pinco (Perito, Duerk, Carlson & Pinco, Washington, D.C.) and David A. Knapp (University of Maryland, Baltimore).
- **Risk Analysis, Risk Assessment, Risk Regulation (7 Jan., WH).**
Arranged by Hans Gottinger (Center for Environmental Research, Munich, Germany, and W. Krelle (University of Bonn, Germany).
- **Statistical Modeling for Risk Assessment (7 Jan., WH).**
Arranged by Turkan K. Gardenier (George Washington University).
- **Common Foundations of Economics and Ecology (7 Jan., WH).**
Arranged by David J. Rapport (Statistics Canada, Ottawa) and Kenneth E. Boulding (University of Colorado, Boulder).

- **Verification and the Assessment of Forecasting Uncertainty (8 Jan., WH).**
Arranged by John H. Herbert (U.S. Department of Energy).

17. History and Philosophy of Science

- **Science and Belief (I): The Interface (4 Jan., WH).**
Arranged by Rolf M. Sinclair (National Science Foundation) and Joseph Dasbach (American Association for the Advancement of Science).
- **Science and Belief (II): Problems for Science Education (4 Jan., WH).**
Arranged by Robert Hanson (University of Northern Iowa, Cedar Falls).
- **Science and the Humanities (5 Jan., WH).**
Arranged by Gaines Post, Jr. (University of Texas, Austin).
- **Multiple Criteria Decision-making (5 Jan., WH).**
Arranged by Milan Zeleny (Fordham University, Bronx, N.Y.).
- **Science, Art, and Archeology (6 Jan., WH).**
Arranged by Saul Krasner (U.S. Coast Guard Academy, New London, Conn.).
- **Subjective Science? (6 Jan., WH).**
Arranged by Shirley M. Malcolm and Michele L. Aldrich (American Association for the Advancement of Science).
- **What Happened to the Idea of Moving Continents After Wegener Proposed It? (7 Jan., WH).**
Arranged by Harold L. Burstyn (U.S. Geological Survey, Reston, Va.) and Henry Frankel (University of Missouri, Kansas City).
- **The Laboratories of Alexander Graham Bell (7 Jan., WH).**
Arranged by J. William McGowan (University of Western Ontario, London).
- **Systems Methodology in Modern Science (7 Jan., International Inn)**
Arranged by Milan Zeleny.
- **Saving and Using Our Human Scientific Resources (5 Jan., CH).**
Arranged by Esther A. H. Hopkins (Polaroid Corporation, Waltham, Mass.).
- **Science and Engineering Education for Minorities: An Agenda for the '80s (5 Jan., CH).**
Arranged by Arlene P. Maclin (U.S. Department of Education) and Leroy Colquitt (National Academy of Sciences).
- **Science and Policy—Science and Culture: Science in General Education (6 Jan., WH).**
Arranged by Ezra Shahn (Hunter College, New York, N.Y.) and Stanley Goldberg (Hampshire College, Amherst, Mass.).
- **Talk With the Public: Expanding Opportunities for Scientists and Engineers in Science-Technology Centers (6 Jan., WH).**
Arranged by Sheila Grinell (Association of Science-Technology Centers, Washington, D.C.) and William G. Wells, Jr. (American Association for the Advancement of Science).
- **A Challenge for American Education: Scientific Literacy in the Germanies, Japan, and the Soviet Union (7 Jan., CH).**
Arranged by Joseph I. Lipson and Margrete Siebert Klein (National Science Foundation).
- **The Current Status and Alternative Futures of Science Education in the United States (7 Jan., CH).**
Arranged by Donald W. McCurdy (University of Nebraska, Lincoln).
- **Engineering Manpower and Education Needs in the '80s (8 Jan., CH).**
Arranged by Stephen J. Kahne (National Science Foundation) and Donald F. Marlowe (American Society for Engineering Education, Washington, D.C.).
- **The Changing Environment for Science Communication (8 Jan., WH).**
Arranged by Carol L. Rogers (American Association for the Advancement of Science), Sharon Dunwoody (Ohio State University), Sharon M. Friedman (Lehigh University, Bethlehem, Pa.), and Norman Metzger (National Academy of Sciences).

18. Science Education and Understanding

- **Workshop: Communicating Science to the Public (3 Jan., WH).**
Arranged by Sharon Dunwoody (Ohio State University, Columbus) and Sharon M. Friedman (Lehigh University, Bethlehem, Pa.).
- **The Changing Role of the Mathematical and Computer Sciences in Pre-College Education (4 Jan., CH).**
Arranged by Truman A. Botts (Conference Board of the Mathematical Sciences, Washington, D.C.).
- **The Developing Crisis in the Mathematics Classroom: Causes and Some Cures (4 Jan., CH).**
Arranged by Henry L. Alder (University of California, Davis).

19. Science and Technology Policy

- **The Support of Scientific Research in the '80s (3 Jan., CH).**
Arranged by Rolf M. Sinclair (National Science Foundation).
- **The Politics of Science and the Role of Strategic Planning (4 Jan., CH).**
Arranged by Phyllis L. Kahn (Minnesota House of Representatives, St. Paul), Rhett Speer (National Conference of State Legislatures, Denver, Colo.), William G. Wells, Jr. (American Association for the Advancement of Science), and Charles Steger (Virginia Polytechnic Institute, Blacksburg).
- **Who Controls Scientific Data? (5 Jan., CH).**
Arranged by Rosemary Chalk (American Association for

the Advancement of Science) and Stephen E. Fienberg (Carnegie-Mellon University, Pittsburgh, Pa.).

- **Managing Peaceful Change: Whether Seen East/West or North/South, It's One World! (6 Jan., CH).**

Arranged by Rodney Nichols (Rockefeller University), Herman Pollack (George Washington University), and J. William McGowan (University of Western Ontario, London).

- **International Science Programs: Issues, Constraints, and Opportunities (7 Jan., CH).**

Arranged by Dorothy S. Zinberg (Harvard University) and Jean M. Johnson (National Science Foundation).

- **Policy Outlook for Science and Technology (7 Jan., CH).**

Arranged by Susan G. Hadden (University of Texas, Austin) and John Logsdon (George Washington University).

- **Science and the Career Public Service (8 Jan., CH).**

Arranged by Albert H. Teich (American Association for the Advancement of Science) and Thomas J. Wilbanks (Oak Ridge National Laboratory).

- **Arctic Science Policy for the Next Two Decades (8 Jan., CH).**

Arranged by J. Thomas Dutro, Jr. (U.S. Geological Survey, Washington, D.C.) and Louis DeGoes (Polar Research Board, Washington, D.C.).

20. Arms Control and Security

- **The Biological and Health Effects of the Nuclear Industry and Nuclear Weapons: A Current Evaluation (4 Jan., CH).**

Arranged by Carl J. Johnson (University of Colorado, Denver).

- **Chemical and Biological Warfare: Past, Present, and Future (5 Jan., CH).**

Arranged by Arthur H. Westing (Hampshire College, Amherst, Mass.).

- **Soviet Policies and U.S. Response on Arms Control and National Security (5 Jan., CH).**

Arranged by Everett Mendelsohn (Harvard University).

- **Do ABMs Have a Future? (6 Jan., CH).**

Arranged by Herbert Scoville, Jr. (Arms Control Association, Falls Church, Va.).

- **The Relevance of Military Capability: What It Can and Cannot Do (6 Jan., CH).**

Arranged by Lloyd J. Dumas (University of Texas, Dallas).

- **Striking a Balance: Scientific Freedom and National Security (7 Jan., CH).**

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- **Scientists and the Arms Race (7 Jan., CH).**

Arranged by Harold A. Feiveson (Princeton University).

- **Paucity or Plenty: Natural Resource Availability, Global Security, and U.S. National Interests (8 Jan., CH).**

Arranged by Bill L. Long and Donald R. King (U.S. Department of State).

- **Public Understanding of Defense Decision-making (8 Jan., CH).**

Arranged by Patricia McFate (American Scandinavian Foundation, New York, N.Y.) and Rodney W. Nichols (Rockefeller University).



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