

# PROGRAM

SOCIETY FOR SOCIAL STUDIES OF SCIENCE

8th Annual Meeting

3 - 6 November 1983

Blacksburg, Virginia

Hosted by

Virginia Polytechnic Institute  
and  
State University

# Society for Social Studies of Science

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## OFFICERS

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**President:** Arnold Thackray, University of Pennsylvania

**Secretary-Treasurer:** Lowell Hargens, Indiana University

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Rae Goodell, Massachusetts Institute of Technology  
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John Ziman, Imperial College of Science and Technology (UK)  
Bernard Barber, ex-officio, Columbia University

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## SOCIETY FOR SOCIAL STUDIES OF SCIENCE

## 8TH ANNUAL MEETING

3-6 NOVEMBER

BLACKSBURG, VIRGINIA

\*\*\*Synoptic Schedule\*\*\*

## Thursday, 3 November

7:30 pm 4S Council Meeting (dinner)

## Friday, 4 November

8:00 am - 3:00 pm Registration &amp; Limousine Reservations

9:00 am - 9:30 am Welcome--Dean Henry Bauer, College of Arts and Sciences, Virginia Polytechnic Institute &amp; State University

Announcements--4S President Arnold Thackray; Program Committee; Local Arrangements Committee

9:30 am - 11:30 am Session I: Taking Scientific Practice Seriously

President: Karin Knorr, Wesleyan University

Session II: The Institutional Support of Science

President: Thomas Gieryn, Indiana University

11:30 am - 1:00 pm Lunch

1:00 pm - 3:00 pm Session III: Current Research in the Psychology of Science

President: Ryan Tweney, Bowling Green State University

Session IV: Kept Science: Institutional Influences on Scientific Research

President: Daryl Chubin, Georgia Institute of Technology

3:00 pm - 3:30 pm Coffee Break

(Sponsored by Department of Philosophy, VPI &amp; SU)

4:30 pm - 5:30 pm Session V: Career Contingencies and Problem Choice in Science

President: John Ziman, Imperial College of Science and Technology

Session VI: Toward a Naturalistic Philosophy of Science

President: Thomas Nickles, University of Nevada-Reno

4:30 pm - 6:30 pm Cocktail Hour

(Sponsored by Center for the Study of Science in Society, VPI &amp; SU)

6:30 pm - 8:00 pm Break for Dinner (Individuals Free Choice)

Session VII: The Generation and Use of Scientific Literature

President: William Shizak, VPI &amp; SU

Session VIII: Are Theories of Scientific Change Relevant to Technology

President: Susan Cozzens, National Science Foundation

## Saturday, 5 November

7:00 am - 9:00 am 4S REVIEW Editorial Board Breakfast Meeting

8:00 am - 12:00 am Registration &amp; Limousine Reservations

9:00 am - 11:00 am Session IX: Studies of Technology -A [Poster Session]

President: Ron Westrum, Eastern Michigan University

11:00 am - 12:00 am Session X: Nuclear Weapons and Public Policy

President: Linda Lubrano, American University

12:00 am - 1:00 pm Film: "How Much is Enough?" [also shown at 5:30 pm]

1:00 pm - 3:00 pm Lunch

3:00 pm - 3:30 pm Session XI: Studies of Technology -B [Poster Session]

President: Ron Westrum, Eastern Michigan University

3:30 pm - 5:30 pm Session XII: Funding and the Growth of Scientific Specialties

President: John C. James, National Institutes of Health

5:30 pm - 6:30 pm Coffee Break

(Sponsored by Department of History, VPI &amp; SU)

6:30 pm - 7:30 pm Session XIII: Issues in the Comparative Analysis of Science-Related Controversies

President: James Peterson, Western Michigan University

7:30 pm - 10:30 pm Session XIV: Behavioral Technology and Social Control

President: James Capobianco, University of Pennsylvania

8:00 am - 9:00 am Film: "How Much is Enough?" [Repeat showing of 11:00 am]

(Sponsored by Graduate School, VPI &amp; SU)

9:00 am - 10:30 am Coffee Break

(Sponsored by Sociology Department, VPI &amp; SU)

10:30 am - 10:45 am Session XV: The Evolution of a Scientific Field as Shown in Three Decades of Systematic Zoology

President: Thomas Nickles, University of Nevada-Reno

10:45 am - 12:30 pm Coffee Break

(Sponsored by Sociology Department, VPI &amp; SU)

12:30 pm Retrospective on the Development of Science Studies

President: Arnold Thackray, University of Pennsylvania

Panel: Thomas Kuhn, Massachusetts Institute of Technology

Bernard Barber, Columbia University

John Ziman, Imperial College of Science and Technology

Meetings Concluded

[The Complete Program with Session Papers Listed Begins on Next Page]

## SOCIETY FOR SOCIAL STUDIES OF SCIENCE

8th Annual Meeting, 3-6 November 1983

Hacksburg, Virginia

7:30 pm Thursday, 3 November  
45 Council Meeting (dinner)-----Smithfield Room

8:00 am - 3:00 pm Friday, 4 November  
Registration & Limousine Reservations-----Marriott Lobby

9:00 am - 9:30 am Welcome-----Olin-Preston Room  
Dean Henry Bauer  
College of Arts and Sciences  
Virginia Polytechnic Institute &  
State University

Announcements  
45 President Arnold Thackeray  
Program Committee;  
Local Arrangements Committee

9:30 - 11:30 am -----Montgomery Room  
Session I-----

## TAKING SCIENTIFIC PRACTICE SERIOUSLY

President: Karin Knorr-Cetina, Department of Sociology, Wesleyan University

Sharon Traweek, Program in Anthropology and Archeology and Program in  
Science, Technology and Society, Massachusetts Institute of Technology

"Laboratory Practice in High Energy Physics"

Joe Rouse, Department of Philosophy, Wesleyan University

"Science as Social Practice: A Philosophical Interpretation"

Karin Knorr-Cetina, Department of Sociology, Wesleyan University

"Studying the Laboratory"

## Discussants:

Deborah C. Mayo, Department of Philosophy, VPI & SU

Nicholas Mullins, Department of Sociology, Indiana University

9:30 - 11:30 am

Session II-----Smithfield Room

## THE INSTITUTIONAL SUPPORT OF SCIENCE

President: Thomas F. Gieryn, Department of Sociology, Indiana University

Stephen Turner, Department of Sociology, University of South Florida  
"Patronage and Trust in Science"

Harry Collins, Science Studies Centre, University of Bath  
"Scientific Knowledge and Science Policy: Some Foreseeable Implications"

Donald Fisher, Department of Social and Educational Studies, University of  
British Columbia  
"The Development of the Social Science Research Council: Integration as Science"

Thomas F. Gieryn, Department of Sociology, Indiana University  
"Political Ecology of the National Science Foundation: Do the Social Sciences Belong?"

11:30 am - 1:00 pm -----Lunch-----

1:00 - 3:00 pm

Session III-----Montgomery Room

## CURRENT RESEARCH IN THE PSYCHOLOGY OF SCIENCE

President: Ryan Tweney, Department of Psychology, Bowling Green State University

Joshua Klayman, Graduate School of Business, University of Chicago  
"Processes of Discovery and Learning in a Probabilistic Environment"

Michael Doherty, Department of Psychology, Bowling Green State University  
"Toward a Psychological Demarcation Rule"

Hillel J. Einhorn and Robin M. Hogarth, Graduate School of Business,  
University of Chicago  
"A Theory of Diagnostic Inference: Judging Causality"

Leslie Kern, Department of Psychology, The Ohio State University  
"The Role of Data Error in Inducing Confirmatory Inference Strategies in  
Scientific Hypothesis Testing"

James F. Voss, Learning Research and Development Center, University of Pittsburgh  
"Social Science Problem Solving: Similarities and Differences to Problem  
Solving in Other Disciplines"

1:00 - 1:40 pm  
Session IV-----Smithfield Room

**KEPT SCIENCE: INSTITUTIONAL INFLUENCES ON SCIENTIFIC RESEARCH**

President: Huryl Chubin, Department of Social Sciences, Georgia Institute of Technology

Gary Bowden, University of Calgary

"The Structural Basis of a Scientific Controversy: The Case of U. S. Crude Oil Estimates"

Ron Johnston, University of Wollongong

"Kept Science: Credit Ratings in the Knowledge Business"

Dhirendra Sharma, Jawaharlal Nehru University

"India's Nuclear Estate: Nuclear Weapons and Public Policy"

**Discusants:**

Elisworth Fuhrman, Department of Sociology, VPI & SU

3:00 pm - 3:15 pm

-----Coffee Break-----  
Sponsored by Department of Philosophy, VPI & SU

3:30 - 5:30 pm

Session V-----Montgomery Room

**CAREER CONTINGENCIES AND PROBLEM CHOICE IN SCIENCE**

President: John Ziman, Department of Social and Economic Studies, Imperial College of Science and Technology

Susan K. Cozzens, National Science Foundation

"The Internal Structure of Problem Sets: A Closer Look"

Stewart Gillmer, Department of History, Wesleyan University

"Geographic, Intellectual, and Social Mobility in the History of a Scientific Community"

Ian Lubek, Psychology Department, University of Guelph

"Social Psychology Applied to the History of Science: Publish or Perish in 'fin de siècle' France—the Case of Augustin Hamon and George Bernard Shaw"

John Ziman, Department of Social and Economic Studies, Imperial College of Science and Technology

"Problem Choice in Quasi-Academic Science"

3:30 - 5:30 pm  
Session VI-----Smithfield Room

**TOWARD A NATURALISTIC PHILOSOPHY OF SCIENCE**

President: Thomas Nickles, Department of Philosophy, University of Nevada-Reno

Andrew Lange, Department of Philosophy, University of Ottawa

"Well-Reasoned Belief and Its Social Explanation"

Ronald Giere, Department of History and Philosophy of Science, Indiana University

"Toward a Unified Theory of Science"

Sal Restivo, Science and Technology Studies Division, Renaissance Polytechnic Institute

"The End of Epistemology"

Howard Smoker, University of Colorado

"The Complex Norms of Science"

5:40 - 6:30 pm

-----Cocktail Hour-----  
Olin-Preston Room  
Sponsored by Center for the Study of Science in Society, VPI & SU

6:30 - 8:00 pm

-----Break for Dinner (Individual Free Choice)-----

8:00 - 10:00 pm  
Session VII-----Montgomery Room

**THE GENERATOR AND USE OF SCIENTIFIC LITERATURE**

President: William Saizick, Department of Sociology, VPI & SU

Charles Bazerman, English Department, Harvard College, GUNY

"Physicists Reading Physics: Purposes and Schema in Selection, Understanding, and Evaluation"

Katherine W. McCain, School of Library and Information Science, Drexel University

"Mapping the Dynamic Structure of Macroeconomics"

Greg Myers, English Department, University of Texas-Austin

"The Uses and Limits of Rhetoric: Two Case Studies of the Composing Processes of Biologists"

F. C. H. D. Van Den Beemt, Foundation for the Technical Sciences, Utrecht

"Peer Review and Evaluation"

8:00 - 10:00 pm  
 Session VIII-----Smithfield Room

ARE THEORIES OF SCIENTIFIC CHANGE RELEVANT TO TECHNOLOGY

President: Susan Cozzani, National Science Foundation

Rachel Laudin, Center for the Study of Science in Society, VPI & SU

"Cognitive Change and Social Structure in Science and Technology"

Peter Weingart, Department of Sociology, University of Bielefeld

"The Structure of Technological Change: Reflections on a Sociological Analysis of Technology"

Edward Constant, Department of History, Carnegie-Mellon University

"Kubian Communities and External Social Structure and Dissemination of Petroleum Engineering Knowledge"

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Saturday, 5 November

7:00 am - 9:00 am 4S REVIEW Editorial Board -----Stane Room

(Breakfast Meeting)

8:00 am - 12:00 am Registration & Immediate Reservations-----Marriott Lobby

9:00 - 11:00 am

Session IX-----Montgomery Room

STUDIES OF TECHNOLOGY--A [POSTER SESSION]

President: Ron Westrum, Department of Sociology, Eastern Michigan University

Trevor Pinch, Department of Sociology, University of York (UK)

"A Unified Approach Towards the Sociology of Science and Technology--The Sociology of Facts"

Wiebe Bijker, Technische Hogeschool Twente

"A Unified Approach to the Sociology of Science and Technology--The Sociology of Artefacts"

Donald Mackenzie, University of Edinburgh

"Technology, the State and the Strategic Missile"

Peter Koofed, Netherlands Universities' Joint Social Research Center

"Interdisciplinary Research: Problems and Solutions"

Ron Westrum, Department of Sociology, Eastern Michigan University

"What Happened to the Old Sociology of Technology?"

9:00 - 11:00 am

Session X-----Smithfield Room

NUCLEAR WEAPONS AND PUBLIC POLICY

President: Linda Lubiano, School of International Service, The American University

Frances McCrea and Jerry Markle, Department of Sociology, Western Michigan University

"Minutes to Midnight: Four Decades of Scientific Opposition to the Bomb"

Michael Altmore, Division of Social Sciences, Mount Mercy College

"Policy Perspectives in Nuclear Weapons Decisionmaking: Justifications From Within"

John Dowling, Department of Physics, Mansfield University of Pennsylvania

"Influence or Impotence? Scientists and Nuclear Weapons Policy"

Discussants:

Judy Reppy, Center of International Studies Peace Studies Program, Cornell University

Spencer Weart, Center for History of Physics, American Institute of Physics

11:00 - 12:00 am

FILM: "NOW MUCH IS ENOUGH?" [A Film on nuclear weapons and foreign policy; also shown at 5:30 pm]-----Board Room

12:00 am - 1:00 pm

-----Lunch-----

1:00 - 3:00 pm

Session XI-----Montgomery Room

STUDIES OF TECHNOLOGY--B [POSTER SESSION]

President: Ron Westrum, Department of Sociology, Eastern Michigan University

William L. Zagar, Eastern College

"The Moon Race: Why the U. S. Won"

Wesley Struam, Department of Sociology, Louisiana State University

"Participation, Elite Status, and the Evaluation of Technical Subfields"

Joop Schepman, Department of Philosophy of Science, Utrecht

Semiconductor Development in the Netherlands--1955: A Study of Its Determinants"

Edward J. Woodhouse, Rensselaer Polytechnic Institute

"The Speed of Technological Change: A Policy Analysis"

[List of papers for Session XI cont'd--]

[Session XI, continued]

John Wilkes, Social Science and Policy Studies, Worcester Polytechnic Institute  
 "NASAs Great Computer Debate or Technology and the Politics of Space Science"

Berlita Fischer, Emmanuel College

"Engineers at the Center or Periphery of Technological Progress?"

H. Gill Pevch, Hood River Project

"The Hood River Conservation Project: A Model for Consensus-Building in Applied and Energy Research"

1:00 - 3:00 pm

Session XII

Smithfield Room

**FUNDING AND THE GROWTH OF SCIENTIFIC SPECIALTIES**

President: John C. James, National Institutes of Health

Steven P. Cohn, Department of Sociology, University of Maine

"The Effects of Funding Changes upon the Rate of Knowledge Growth in Algebraic and Differential Topology"

Thomas F. Gieryn, Department of Sociology, Indiana University

Joseph N. Tatarewicz, National Air and Space Museum

"Federal Funding and Planetary Astronomy, 1950-1975"

C. Stewart Gillmer, Department of History, Wesleyan University

"Federal Funding and Knowledge Growth in Ionospheric Physics, 1945-1981"

Carl D. Douglass, John C. James, Donald T. Disque, and Janet J. Bartich, Division of Research Grants, National Institutes of Health

"NIH Support of Research Investigations by the 'Phage Group,' Forerunner of Molecular Biology"

Charles Upton Lower, National Institutes of Health

"Measuring the Growth of Knowledge in the Biomedical Sciences"

Henry Small and Edwin Greenlee, Institute for Scientific Information

3:00 - 3:30 pm

-----Coffee Break-----

Sponsored by Department of History, VPI & SU

3:30 - 5:30 pm

Session XIII

Montgomery Room

**ISSUES IN THE COMPARATIVE ANALYSIS OF SCIENCE-RELATED CONTROVERSIES: PANEL DISCUSSION**

President: James Peterson, Department of Sociology, Western Michigan University

Panelists:

Diana Dutton, Health Services Research, Stanford University

Gerald Markle, Department of Sociology, Western Michigan University

Allan Mazur, Department of Sociology, Syracuse University

Arte Rip, Chemistry and Society Program, State University of Leiden (The Netherlands)

3:30 - 5:30 pm

Session XIV

Smithfield Room

**BEHAVIORAL TECHNOLOGY AND SOCIAL CONTROL**

President: James Capshaw, Department of the History and Sociology of Science, University of Pennsylvania

Stephen J. Croon, Johns Hopkins University

"Discipline and Disciplines: Social Interests and Professional Strategies in American Social Science, 1918-1940"

Richard Gillespie, University of Pennsylvania

"The Psychopathology of Industrial Life: Elton Mayo and the Prehistory of the Hawthorne Experiments"

James H. Capshaw, University of Pennsylvania

"Mezak for the Masses: Psychology in Industrial Culture"

Jack D. Pressman, University of Pennsylvania

"The Salvaged Soul: The Use of Psychosurgery to Return the Nation's Mentally Ill to active Employment, 1942-1959"

5:30 - 6:30 pm

**FILM: "HOW MUCH IS ENOUGH?"** [A Film on nuclear weapons and foreign policy; also shown at 1:30 am]-----Board Room

6:30 - 7:30 pm

-----Cocktail Hour-----

Marriott Patio

7:30 - 10:30 pm

**45 AWARDS BANQUET AND BUSINESS MEETING**

-----Jacob's Lantern

Sunday, 6 November

8:00 am - 9:00 am Social Psychology of Science Subgroup ----- Stone Room  
Breakfast Meeting

9:00 - 10:30 am

Session XV-----Smithfield room

THE EVOLUTION OF A SCIENTIFIC FIELD AS SHOWN IN  
THREE DECADES OF SYSTEMATIC ZOOLOGY

President: Thomas Nickles, University of Nevada-Reno

David Hull, Department of Philosophy, University of Wisconsin-Milwaukee  
"Thirty-One Years of Systematic Zoology"

Discussants:

Richard E. Blackwelder, former editor of Systematic Zoology  
William B. Lacey, Department of Sociology, University of Kentucky

10:30 - 10:45 am

-----Coffee Break-----  
Sponsored by Department of Sociology, VPI & SU

10:45 am - 12:30 pm

General Session-----Smithfield Room

RETROSPECTIVE ON THE DEVELOPMENT OF SCIENCE STUDIES

President: Arnold Thackray, University of Pennsylvania

Panelists:

Thomas Kuhn, Massachusetts Institute of Technology  
Bernard Barber, Columbia University  
John Ziman, Imperial College of Science and Technology

12:30 pm

-----Meetings Concluded-----



