
CASW

COUNCIL FOR THE ADVANCEMENT OF SCIENCE WRITING, INC.

NEW HORIZONS IN SCIENCE

Twenty-First Annual Briefing

November 6 through November 10, 1983

Center for Continuing Education

Virginia Polytechnic Institute and State University
Blacksburg, Virginia

Co-Chairmen:

Jerry Bishop Ben Patrusky

Supported by:

W. Alton Jones Foundation
NASA Langley Research Center
Virginia Division of Industrial Development
William Randolph Hearst Foundation
TRW., Inc.

SUNDAY, NOVEMBER 6

6:00 P.M. to 8:00 P.M.

Registration and Cocktail Reception ,University Club
Hosted by Virginia Tech College of Engineering

MONDAY, NOVEMBER 7

8:30 A.M. to 11:30 A.M.

INFANT CRIES

Philip S. Zeskind, Ph.D., Assistant Professor of Psychology,
Virginia Polytechnic Institute & State University, Blacksburg

A baby's cry may signal something far more serious than hunger or a soiled diaper. Properly diagnosed, it could serve as an early warning of developmental problems and a spur to corrective intervention.

IN VITRO EVOLUTION AND RECOMBINANT RNA

Fred Russell Kramer, Ph.D., Research Scientist, Institute of
Cancer Research, Columbia University School of Physicians and
Surgeons, New York

With the advent of recombinant RNA technology, the way is open to better understanding of gene-splicing mechanisms, large-scale synthesis of hard-to-obtain proteins, and the evolution of genetic material with new biological properties.

2:30 P.M. to 5:30 P.M.

EMBRYO TECHNOLOGY

Gary Anderson, Ph.D., Professor of Animal Science and
Physiology, University of California, Davis

Technology for manipulating mammalian embryos outside the maternal environment promises production of sets of identical animals through splitting of preimplantation embryos, transfer of new genes, sexing of days-old livestock embryos, production of animals conceived of two fathers and no mother.

CHEMISTRY: THE NEW FRONTIERS

George M. Whitesides, Ph.D., Professor of Chemistry, Harvard
University, Cambridge, Mass.

Among the recent advances of high potential: new, powerful catalytic agents; genetically tailored proteins; computer-designed, disease-damping enzyme reception inhibitors.

6:30 P.M.

Cocktail Party at the Continuing Education Center. Hosted by the Institute of Electrical and Electronics Engineers.

TUESDAY, NOVEMBER 8

8:30 A.M. to 11:30 A.M.

PROSPECTS FOR MALARIA VACCINES

Louis H. Miller, M.D., Head, Malaria Section, Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, Md.

With recombinant DNA technology, and new knowledge about the antigens present at each stage of the malaria parasite's complex life cycle, scientists may finally have the capability to develop protection against one of the world's major health scourges.

ON CHICKENS

Paul B. Siegel, Ph.D., University Distinguished Professor of Poultry Science, Virginia Polytechnic Institute and State University

The chicken has contributed mightily to science and medicine. Current research aims at breeding hardy, fast-growing, meat-rich varieties as a way of increasing the world's diminishing supply of animal protein.

2:30 P.M. to 5:30 P.M.

ANIMAL MIMICRY

Lincoln P. Brower, Ph.D., Distinguished Professor of Zoology, University of Florida, Gainesville

There are many copycats in nature. Why the scams? Usually to find a meal — or to avoid becoming one.

NEW WINDOWS INTO THE EARTH

Robin Brett, Ph.D., U.S. Geological Survey, Reston, Va.

With whole-earth computed tomography plus a variety of other new techniques, earth scientists can probe deeper into the earth in an intensified effort to delineate the forces that drive earth's wandering plates, locate mineral deposits, and predict earthquakes.

6:30 P.M.

BANQUET

Continuing Education Center. Hosted by the Media General Foundation and BDM Corporation.

Address: *Promise or Peril? Images of Science in Journalism* by Dorothy Nelkin, Professor in the Program of Science, Technology and Society, Cornell University, and Visiting Scholar, Russell Sage Foundation.

Presentation of the National Association of Science Writers' Science-in-Society Journalism Awards.

WEDNESDAY, NOVEMBER 9

8:30 A.M. to 11:30 A.M.

THE ATMOSPHERE: PAST, PRESENT, FUTURE

Joel S. Levine, Ph.D., Senior Research Scientist, Atmospheric Sciences Division, NASA Langley Research Center, Hampton, Va.

The recipe for the earth's primordial soup may have to be rewritten, along with a new scenario for the origin of life. Recent studies also raise serious concern about what's in store for the planet's atmosphere.

THE EARLY UNIVERSE

Michael S. Turner, Ph.D., Associate Professor of Physics and Astronomy and Astrophysics, University of Chicago

A unifying look at the inflationary universe, galaxy formation, proton decay, magnetic monopoles, and neutron stars.

2:30 P.M. to 5:30 P.M.

EXTRAGALACTIC RADIO ASTRONOMY: THE COMING DECADES

John J. Broderick, Ph.D., Associate Professor of Physics,
Virginia Polytechnic Institute and State University

A radio telescope with dimensions comparable to the size of the earth promises scientists the power to resolve some of the most tantalizing riddles of astronomy.

IT'S A SMALL, SMALL, SMALL WORLD

Michael Isaacson, Ph.D., Associate Professor of Applied and
Engineering Physics, Cornell University, Ithaca, N.Y.

New technology allows researchers to see things never before seen
and to build things never before built.

6:30 P.M.

**Cocktail Party at the Continuing Education Center. Hosted by the
Media General Foundation.**

THURSDAY, NOVEMBER 10

8:30 A.M. to 11:30 A.M.

ORGAN ELECTRONIC MATERIAL

Aaron Bloch, Ph.D., Senior Research Associate and Head,
Condensed Matter Group, Component Research Laboratories,
Exxon Research and Engineering Co., Annandale, N.J.

An up-to-the minute report on the latest efforts to fashion conductors — and superconductors — out of organic substances.

PREDICTING ENVIRONMENTAL HAZARDS

John Cairns, Jr., Ph.D., University Distinguished Professor of
Biology and Director, University Center for Environmental
Studies, Virginia Polytechnic Institute and State University.

A new way to prefigure the risk posed to the environment by various pollutants and for determining a habitat's potential for recovering from catastrophic spills.

ADJOURNMENT

CASW

COUNCIL FOR THE ADVANCEMENT OF SCIENCE WRITING, INC.

President
GEORGE ALEXANDER
Los Angeles Times

Vice Presidents

BARBARA J. CULLITON
Science Magazine

ROBERT F. MURRAY, JR., M.D.
Howard University

Treasurer
WILLIAM T. GOLDEN
Trustee, Carnegie Institute

JERRY BISHOP
Wall Street Journal

GLENN PAULSON, Ph.D.
National Audubon Society

VICTOR COHN
Washington Post

DAVID PERLMAN
San Francisco Chronicle

ROY M. FISHER
University of Missouri

JUDITH RANDAL
New York News

RICHARD S. FISKE, Ph.D.
Smithsonian Institution

MICHELA REICHMAN
University of California,
San Francisco

PIERRE C. FRALEY
Agenda Magazine

JOANN RODGERS
Hearst Newspapers

J. JACK GEIGER, M.D.
City University of New York

CAROL L. ROGERS
American Association for
the Advancement of Science

C.P. GILMORE
Popular Science Magazine

ALBERT ROSENFELD
Science/83

RAE GODDELL, Ph.D.
Massachusetts Institute of
Technology

RICHARD SMYSER
The Oak Ridger

DAVID HENDIN
United Media Enterprises

LEWIS THOMAS, M.D.
Memorial Sloan-Kettering
Cancer Center

HOWARD H. HIATT, M.D.
Harvard School of Public Health

EARL UBELL
WCBS-TV News

WARREN E. LEARY
Associated Press

Executive Director
WILLIAM J. CROMIE

STUART H. LOORY
Cable News Network

DOROTHY NELKIN
Cornell University