
CASW

COUNCIL FOR THE ADVANCEMENT OF SCIENCE WRITING, INC.

NEW HORIZONS IN SCIENCE

Fifteenth Annual Briefing

November 13 through 18, 1977

The Rockefeller University
New York City

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SUNDAY, NOVEMBER 13

Registration and Cocktail Party

6:00 to 9:00 P.M.

Abby Aldrich Rockefeller Hall
(66th Street and York Avenue)

(All science sessions will be held on the third floor of
the Tower Building at 64th Street and York Avenue)

MONDAY, NOVEMBER 14

9:00 A.M. to 12:00 NOON

GENES AND GENDER

STEPHEN S. WACHTEL, *Ph.D., Associate, Division of Immunogenetics,
Memorial Sloan-Kettering Cancer Center, New York*

JOHN MONEY, *Ph.D., Professor of Medical Psychology and Associate
Professor of Pediatrics, The Johns Hopkins University and Hospital,
Baltimore*

The presence of the so-called male or H-Y antigen, recently discovered by Dr. Wachtel, appears to be the primary determinant of maleness. Many clinical applications may be in the offing — but Dr. Money, a leading authority on human sexuality, offers some important caveats.

TRIACONTANOL — THE PLANT-GROWTH STIMULATOR

STANLEY K. RIES, *Ph.D., Professor of Horticulture and Acting Director,
Pesticide Research Center, Michigan State University, East Lansing*

Early this year, greenhouse studies showed a potent extract of alfalfa hay to be capable of speeding up plant growth significantly. The substance was put to field test this summer, and the results are very encouraging.

2:00 P.M. to 5:00 P.M.

ENERGY PLANTATIONS

MELVIN CALVIN, *Ph.D., University Professor of Chemistry and Director,
Laboratory of Chemical Biodynamics, University of California, Berkeley*

Photosynthesis may provide an alternative to fossil fuel by using the photochemical process either to produce hydrogen or to grow plants for burnable hydrocarbons.

INSECTS AS CHEMISTS

THOMAS EISNER, *Ph.D., Jacob Gould Schurman Professor of Biology,
Cornell University, Ithaca*

Chemical ecology, an emerging branch of science, looks to identify the ways in which organisms affect each other chemically. From this effort comes newly-discovered, fascinating facts about insects.

6:00 P.M.

COCKTAILS AND BANQUET

Co-sponsored by New York Hospital-Cornell Medical Center, Memorial Sloan-Kettering Cancer Center, and The Rockefeller University, Tower Building, 17th floor.

TUESDAY, NOVEMBER 15

9:00 A.M. to 12:00 Noon

NEW DRUGS FOR "ORPHAN DISEASES"

ANTHONY CERAMI, *Ph.D.*, Associate Professor and Head, Laboratory of Medical Biochemistry, The Rockefeller University, New York

Left to drug companies alone, a number of serious human ills would probably remain unvanquished because the cost of research is high, but the potential payoff isn't. A multidisciplinary Rockefeller team has taken up the slack and produced several highly promising drugs to combat these "orphan diseases."

CRYPTOGRAPHY -- A SECURITY BLANKET FOR COMPUTERS?

MARTIN E. HEILMAN, *Ph.D.*, Associate Professor of Electrical Engineering, Stanford University, Stanford

Theft of confidential computer data poses a serious threat to many federal agencies and private corporations. New advances in cryptographic science could go a lot further toward preventing computer crime than the national encryption standard now coming on line.

2:00 P.M. to 5:00 P.M.

THE HAZARDS OF TRACE METALS

ATTALLAH KAPPAS, *M.D.*, Physician-in-Chief, The Rockefeller University Hospital

MAHIN D. MAINES, *Associate Professor, The Rockefeller University*

Trace metals can be toxic to body organs or interfere with the metabolism of drugs. The implications are troubling, considering the fact that ingestion of such metals is on the increase through diet and pollution.

LASER CHEMISTRY

KENNETH B. EISENTHAL, *Ph.D.*, Professor of Chemistry, Columbia University, New York

Lasers that generate super-fast (10^{-12} second) light pulses make it possible to "freeze frame" the steps in a chemical process that takes place in billionths or trillionths of a second. This gives scientists a new powerful tool for examining many physical, chemical and biological events at the most fundamental level.

6:00 P.M.

COCKTAIL PARTY

Hosted by The Research Corporation, Tower Building, 17th floor.

WEDNESDAY, NOVEMBER 16

9:00 A.M. to 12:00 Noon

THE EFFECTS OF MATERNAL DEPRESSION ON OFFSPRING

BERTRAM J. COHLER, *Ph.D.*, Associate Professor, Department of Behavioral Sciences, The University of Chicago

The stress of parenthood can lead to a bad case of long-term blues. New studies indicate that the offspring of depressed mothers may suffer serious impairment of cognitive skills.

A UNIFIED VIEW OF THE FUNDAMENTAL FORCES

STEVEN WEINBERG, *Ph.D., Higgins Professor of Physics, Harvard University, Cambridge*

Substantial progress has been made toward a theory for unifying the basic forces of nature and the elementary particles on which they act.

2:00 P.M. to 4:00 P.M.

ROCKEFELLER UNIVERSITY LABORATORY TOUR

An opportunity to visit with several RU investigators in their laboratories.

5:00 P.M. to 7:00 P.M.

Hospitality Suite Open
Suite 1B, Abby Aldrich Rockefeller Hall

THURSDAY, NOVEMBER 17

9:00 A.M. to 12:00 Noon

SYNCHROTRON RADIATION

PETER M. EISENBERGER, *Ph.D., Head, Department of Electromagnetic Phenomena, Bell Laboratories, Murray Hill, N.J.*

Once merely a waste product of high-energy synchrotron collisions, synchrotron radiation is now being harnessed for a host of scientific and technological applications.

RECOMBINANT DNA RESEARCH

ROY CURTISS, III, *Ph.D., Professor of Microbiology and Senior Scientist, University of Alabama, Birmingham*

JONATHAN KING, *Ph.D., Associate Professor of Biology, Massachusetts Institute of Technology, Cambridge*

Until recently, it looked as if Congress was going to put tight restrictions on recombinant research. No more. The pressure seems to be off. Have a safe *E. coli* and current guidelines lulled us into a false sense of security about other, little-discussed potential perils? Two views.

2:00 P.M. to 5:00 P.M.

THE BENEVOLENT NUCLEUS

D. ALLAN BROMLEY, *Ph.D., Henry Ford II Professor of Physics and Director, A.W. Wright Nuclear Structure Laboratory, Yale University, New Haven*

As researchers dig deeper into the heart of the atom, new practical applications in medicine, chemistry and electronics continue to surface.

BEHAVIORAL MEDICINE

NEAL E. MILLER, *Ph.D., Professor, The Rockefeller University*

Stress increases susceptibility to many kinds of physical disorders, including chronic infection, malignancy and sudden death. But what exactly is stress

doing to the body to alter disease risk? A number of new studies are under-way to find out.

5:30 P.M. to 7:30 P.M.

Hospitality Suite Open

FRIDAY, NOVEMBER 18

9:00 A.M. to 12:00 Noon

NUTRITION, BRAIN FUNCTION AND BEHAVIOR

RICHARD J. WURTMAN, *M.D., Professor of Endocrinology and Metabolism, Massachusetts Institute of Technology, Cambridge*

Better understanding of how nutritional factors affect brain function and behavior has opened the way to using nutrients as drugs to treat previously untreatable brain disorders.

WEATHER AND CLIMATE EXTREMES – WHAT NEXT?

JEROME NAMIAS, *Research Meteorologist, Scripps Institution of Oceanography, University of California, San Diego*

Bone-chilling winters. Bone-dry summers. Drought. Are we in for more of the same? New research on the machinery of weather and climate manufacture are making the business of long-term prediction less an art and more a high-precision science.

12:00 Noon

Adjournment.

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