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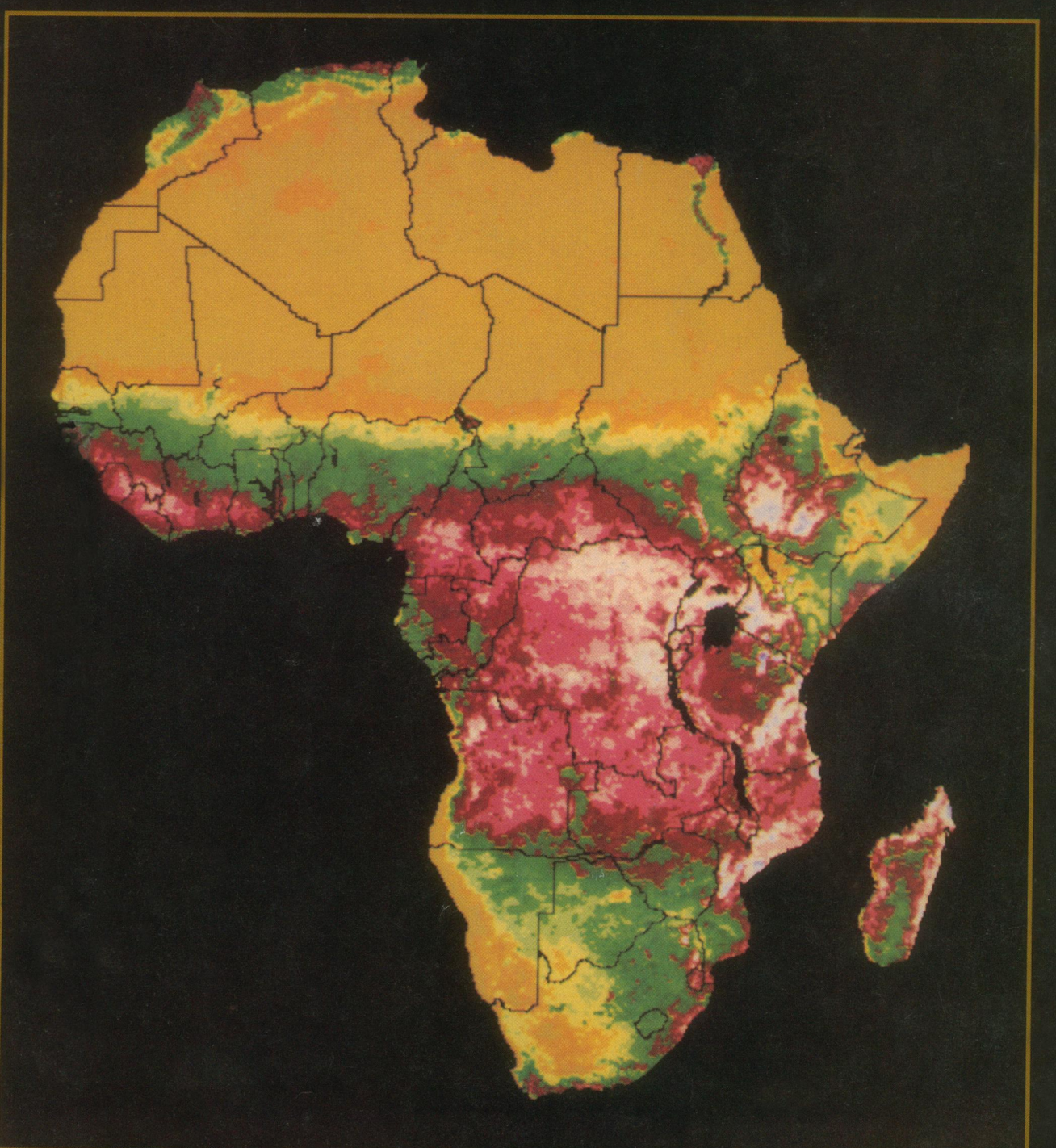

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Volume 227, No. 4685

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COVER

Integrated spectral vegetation index for Africa from April 1982 to April 1983 representing the integrated green leaf biomass or density for the period. The tan, brown, and tan-orange colors represent small amounts of cumulative green leaf activity, the gold colors represent modest amounts, the greens higher amounts, and the reds and purple the highest amounts. See page 369. [NASA/Goddard Space Flight Center, Greenbelt, Maryland 20771]

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Cell Bank Characterization for Recombinant DNA Mammalian Cell Lines: Implications for Process Development.

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Feasible and Optimal Retrofitting of Soluble Enzyme Batch Processes to Immobilized Enzyme Processes.

Considerations for the use of Genetically Engineered Mammalian Cell Cultures for the production of Biologicals.

Laboratory Automation and Robotics in Bio-Technology.

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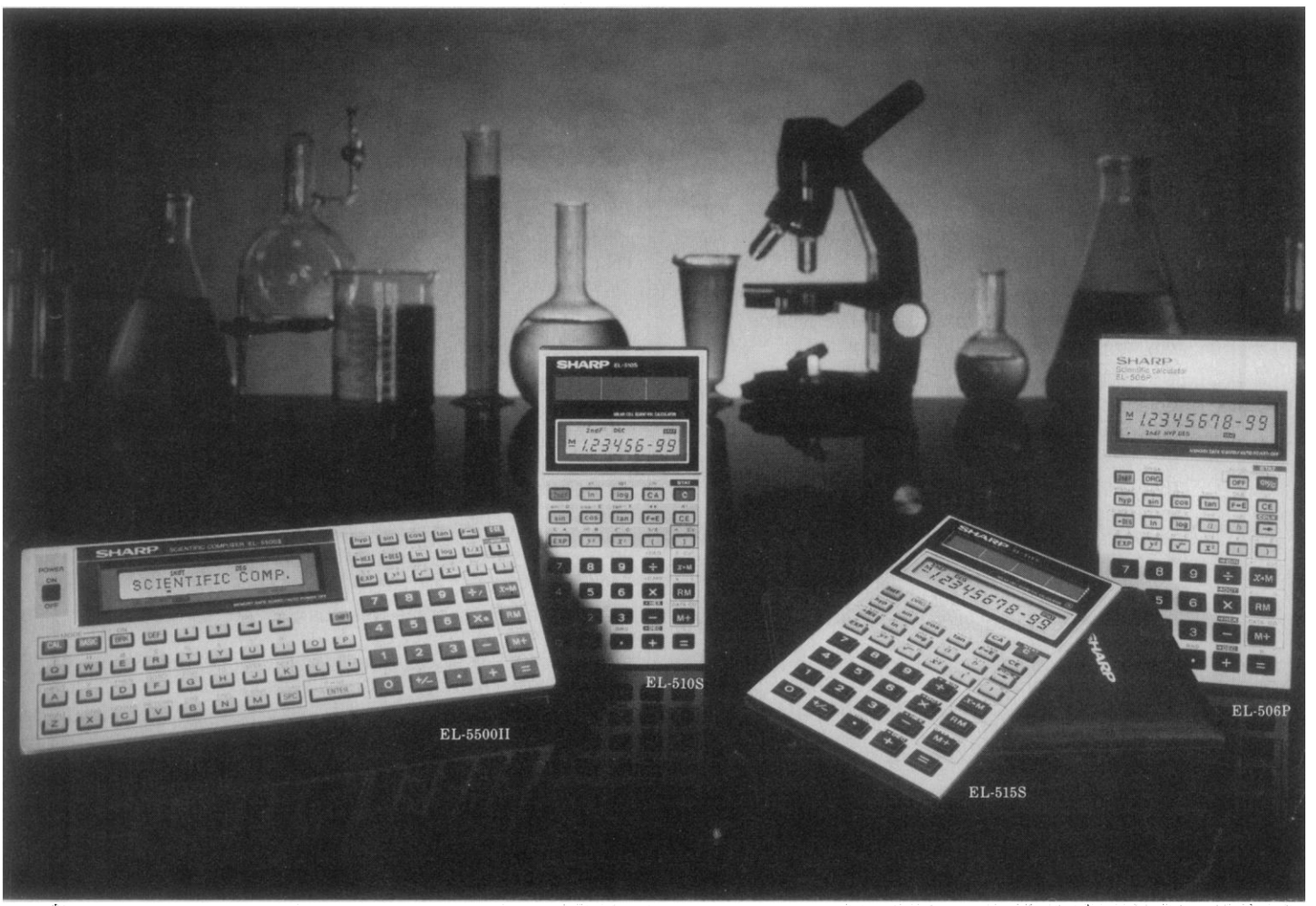

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1985 Cold Spring Harbor Laboratory

Meetings Schedule

Hepatitis B Viruses, May 2–5
Organizers: H. Varmus, *University of California, SF,* J. Summers, *Fox Chase.*

Chromosome Structure & Expression, May 8–12
Organizers: M. Grunstein, *University of California, LA,* G. Felsenfeld, *National Institutes of Health.*

C. elegans, May 15–19
Organizers: R. Horvitz, *MIT,* R. Waterston, *Washington University,* S. Emmons, *Albert Einstein,* D. Albertson, *Medical Research Council.*

RNA Tumor Viruses
10th CSH Meeting, May 21–26
Organizers: J. Brugge, *State University of New York, Stony Brook,* D. Lowy, *National Institutes of Health.*

Molecular Biology of Development
50th CSH Symposium on Quantitative Biology, May 29–June 5
Organizer: J. Sambrook, *CSH Lab.*

Molecular Biology of Yeast
6th CSH Meeting, August 13–18
Organizers: J. Hicks, A. Klar, D. Beach, *CSH Lab.*

Thirty-ninth Annual Molecular Genetics of Bacteria and Phages Meeting, August 20–25
Organizers: S. Adhya, *National Institutes of Health,* P. Scolnik, *CSH Lab.*

Heat Shock Protein, August 28–September 1
Organizers: E. Craig, *University of Wisconsin,* N. Petersen, *University of Wyoming.*

Gene Expression & Growth Control, September 4–8
Organizers: T. Grodzicker, *CSH Lab,* P. Sharp, *Massachusetts Institute of Technology,* M. Botchan, *University of California, Berkeley.*

Modern Approaches to Vaccines, September 11–15
Organizers: R. Lerner, *Scripps Clinic Research Institute,* R. Chanock, *National Institutes of Health,* F. Brown, *Wellcome Biotechnology.*

Centers of Cytoskeletal Organization, September 18–21
Organizers: G. Albrecht-Buehler, R. Goldman, *Northwestern University.*

* *

For information and applications write to:

Meetings Coordinator *OR* Course Registrar

Cold Spring Harbor Laboratory
Box 100
Cold Spring Harbor, New York 11724

Courses in Neurobiology

Molecular Neurobiology of Human Disease, June 7–17
Instructors: X. Breakefield, *E. K. Shriver Center,* I. Black, *Cornell University,* J. Gusella, *Massachusetts General Hospital.*

Immunoglobulins: Molecular Probes of the Nervous System, June 7–27
Instructors: S. Hockfield, *Cold Spring Harbor Lab,* C. Kintner, *MIT,* L. Silberstein & C. Evans, *Stanford University.*

Computational Neuroscience, June 20–July 3
Instructors: C. Atkeson, E. Bizzi, E. C. Hildreth, *Massachusetts Institute of Technology,* J. Anthony Movshon, *New York University.*

Neurobiology of Drosophila, June 30–July 20
Instructors: L. Jan, Y. Jan & P. O'Farrell, *University of California, San Francisco,* R. Greenspan, *Princeton University.*

Cellular & Molecular Biology of Behavior, July 12–26
Instructors: E. Kandel, *Columbia University,* K. Pearson, *University of Alberta,* J. Byrne, *University of Texas.*

Single Channel Methods: Expression, Reconstitution and Recording, July 22–August 11
Instructors: V. Dionne, *University of California, San Diego,* M. White, *California Institute of Technology,* R. Coronado, *University of North Carolina at Chapel Hill.*

Molecular Biology of the Nervous System, July 29–August 11
Instructors: R. Kelly, *University of California, San Francisco,* R. McKay, *Massachusetts Institute of Technology.*

Courses in Molecular Genetics

Molecular Biology of Plants, June 7–27
Instructors: I. Sussex, *Yale University,* J. Messing, *University of Minnesota.*

Advanced Techniques in Molecular Cloning, June 7–27
Instructors: M. Zoller, *Cold Spring Harbor Lab,* T. Atkinson, *University of British Columbia,* Jurgen Brosius, *Columbia University,* Ray MacDonald, *University of Texas, Dallas.*

Advanced Bacterial Genetics, June 30–July 20
Instructors: T. Silhavy, *Princeton University,* M. Berman, *Litton Institute of Applied Biotechnology,* L. Enquist, *DuPont Experimental Station.*

Molecular Embryology of the Mouse, June 30–July 20
Instructors: J. Rossant, *Brock University,* R. Pedersen, *University of California, San Francisco.*

Yeast Genetics, July 22–August 11
Instructors: F. Sherman, *University of Rochester,* G. Fink, *MIT, Whitehead Institute,* J. Hicks, *Cold Spring Harbor Laboratory.*

Molecular Cloning of Eukaryotic Genes, July 22–August 11
Instructors: F. Alt, *Columbia University,* A. Bothwell, *Yale University,* H. Lehrach, *EMBL, Heidelberg.*

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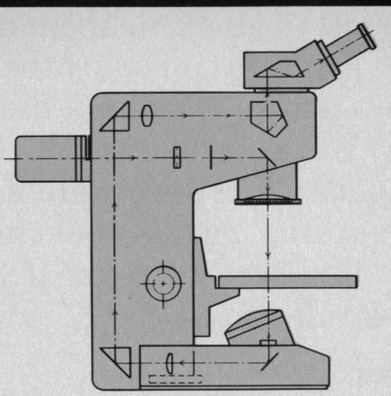

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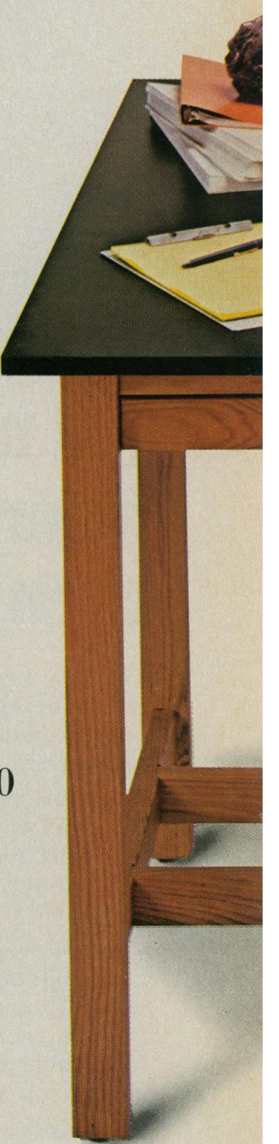

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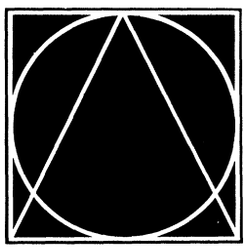

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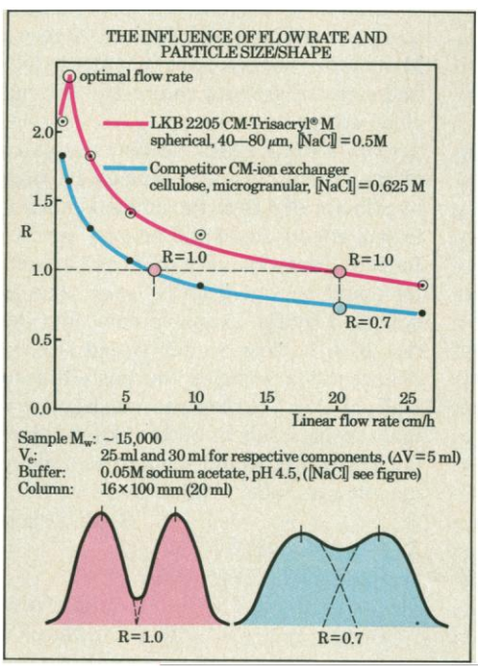

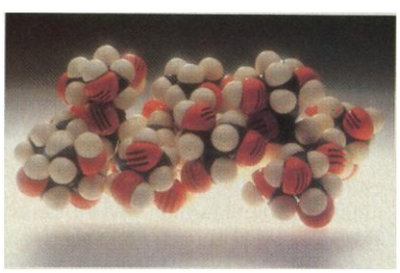

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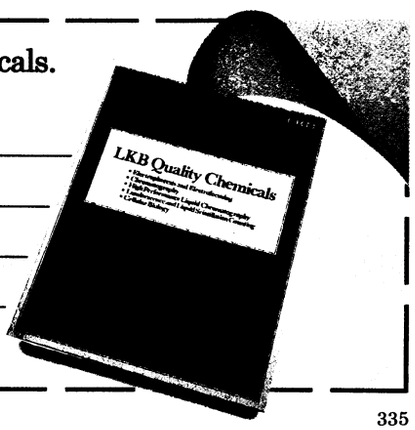

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DAMD17-85-R-0029

There is a need for immune response modifying compounds which are useful as prophylactic or therapeutic drugs with or without use of a drug-delivery system against viral diseases of military importance. Drug development program emphasis is on the development of prophylaxis or therapy for U.S. personnel considered to be at risk of exposure to natural infections and/or altered microorganisms. In order to evaluate such immunoenhancing drugs, appropriate *in vitro/ex vivo* test must be performed. Specific areas of interest are:

1. *Biology of Immunomodulators.* Evaluation of immunoenhancing drugs for their capacity to enhance T lymphocyte, peritoneal, alveolar and liver macrophage antiviral cytotoxicity; induction of lympho- and monokine activity, interferons, and T-dependent and T-independent primary and secondary B cell response.

2. *Targeted-Delivery of Antivirals.* Development of methods for carrier-mediated targeted delivery of antivirals and immunoenhancing compounds. Carriers should provide controlled and sustained release or daily pulse-release, with or without targeting ligands (i.e., antibody-mediated targeting). The proposal should be directed toward a general application rather than for a specific virus.

3. *Combination Chemotherapy.* Evaluation of combinations of immune modulators and/or antiviral drugs in treatment of model viral infections which should include viruses representing alpha-, flavi-, bunya-, and arena viridae. Such proposed viruses must include a minimum of two (2) families. Viruses ultimately selected for testing shall be with the consent of the Government contracting organization.

Proposals may be submitted for one or more of the above topics or a specific portion of one topic. A proposer may submit separate proposals on different topics or different proposals on the same topic.

In accordance with the Federal Acquisition Regulation (FAR) any contracts awarded under this solicitation may be of any type or combination of types which will promote the best interests of the Government. It is anticipated that multiple-year, incrementally-funded, level-of-effort type, cost reimbursement contracts will be awarded. Each increment will be approximately 12 months. Duration of the contract should be commensurate with the proposed scope of work but in no case shall exceed three years.

PROPOSAL PREPARATION INSTRUCTIONS AND REQUIREMENTS

Research proposals shall include a table of contents and should cover the points cited below, insofar as they are applicable.

a. *Name and Address of Organization.* At least one copy must carry the original signatures of an official authorized to legally bind the organization.

b. *Title of Proposed Research.*

c. *Description of Proposed Research.* Submit a detailed description of the research objectives, including a specific scope of work. The description will also include a biological rationale for a specific assay, drug-carrier and model system, and completed description of the procedure to be employed including control and validation methods.

d. *Research Involving Human Subjects.* No research involving human subjects is to be considered.

e. *Research Involving Animals.* Acknowledgement that conduct and report of the studies shall adhere to the "Guide for the Care and Use of Laboratory Animals," (NIH 78-23, 1978) must be included. Submit a detailed listing of the types and numbers of animals required.

f. *Personnel.* Qualifications of the principal investigator and other senior professional personnel and the time each will devote to the research. This information, to the extent that it is information about an individual, is subject to the requirements of the Privacy Act of 1974 (5 USC 552(a)). The principal purpose and routine use of the information are for the evaluation of the qualifications of those persons who will perform the research. Disclosure of the information is voluntary, but failure to provide such will prevent evaluation of the proposal. Related organizational experience in the research area may also be described.

g. *Facilities and Equipment Available.*

h. *Cost Estimate.* An estimate of the total research project cost with a breakdown of funds by category (direct labor cost, indirect cost, property or equipment cost, travel cost, publication cost, consultant cost, other direct costs, fee or profit) by year must accompany each proposal and must be submitted on SF 1411 with complete supporting information, which must be separate from the technical proposal. No cost information shall be included in the technical portion of the proposal.

Every effort will be made to protect the confidentiality of the proposal and any evaluations. The submitter may mark the proposal with a legend such as that provided in FAR 3-507.1(a). Proposals containing a more restrictive legend shall not be considered.

Unnecessarily elaborate brochures or presentations beyond that sufficient to present a complete and effective proposal are not desired.

Any proposal received after the exact time specified for submission of proposals will not be considered unless the circumstances described in FAR 52.215-10 apply.

CONSIDERATIONS

Source of Drugs. Compounds to be tested will be furnished by the Department of Antiviral Studies, U.S. Army Medical Research Institute of Infectious Diseases or by the offeror with prior approval of the COTR.

Biocontainment. Use of certain pathogenic microorganisms if proposed as test models may require facilities designed for high level microbiological containment (Class 3) in compliance with published guidelines.

Center for Disease Control. 1976. Classification of etiologic agents on the basis of hazard, 4th ed. Office of Biosafety, Centers for Disease Control, Atlanta, Georgia.

Subcommittee on Arbovirus Laboratory Safety of the American Committee on Arthropod-borne Viruses, 1980. Laboratory safety for arboviruses and certain other viruses of vertebrates. Am. J. Trop. Med. Hyg. 290:1359–1381.

Reports. Quarterly, annual and final progress reports shall be required in accordance with the schedule of any resultant contract. Reprints of any publications resulting from sponsored research shall also be provided to the USAMRDC. Testing data is to be reported essentially as it is obtained.

Contract Provisions. Contracts awarded shall contain, where appropriate, detailed special provisions concerning patent rights, rights in technical data and computer software, reporting requirements, equal employment opportunity, care of laboratory animals, use of human subjects, procedures for safeguarding proprietary information, acquisition and disposition of equipment, and other provisions required by the FAR.

METHODS OF SELECTION AND EVALUATION CRITERIA

Proposals will be evaluated first on their relevance to military and program requirements. Those found to be relevant will then be evaluated by a collective discussion conducted by Source Selection Board composed of scientists knowledgeable in the topic area. Scientific acceptability will be determined by using the criteria listed below:

a. *Technical Approach:* Are appropriate numbers of data points obtained, i.e., sufficient numbers of animals at each observation point and for the proposed duration of the observation period? Are proper standards and controls considered? Is procedure fully described and sufficiently well documented?

b. *Soundness of Biology:* Are the Laboratory model systems appropriate for the human condition under consideration? Are results in the test system with standard compounds consistent with clinical results so that the system can be considered predictive, i.e., are the results obtained with the test system subject to validation with a standard clinically active compound? Are the proposed testing system(s) relevant and reliable?

c. *Competency of Key Personnel:* Are the personnel proposed qualified to do the work? Does past experience and/or training indicate probable success?

d. *Quality of Available Facilities and Equipment:* Are they appropriate to accomplish the job? Are safety and biocontainment factors properly considered? If shared with other projects, what are the priorities established for use? If additional facilities and equipment are needed, are those proposed appropriate?

e. *Safety Considerations:* Is the investigator cognizant of the requirements for and capable of working with any hazardous materials involved? Has the organization agreed to allow storage and use of such materials in its facility?

f. *Animal Use Consideration:* Are the studies in which animal models are to be used to be conducted in accordance with all applicable regulations? Are all necessary assurances of compliance and certificates provided?

After determination of scientific acceptability, the Source Selection Board will determine the competitive range according to program requirements, scientific acceptability, and cost to complete contract. Although cost will be a factor in the selection, program relevance and scientific acceptability will be more significant factors in selection for contract award. Further, the proposed cost must be realistic, reasonable, and fully justified in all categories to be selected for contract award.

Negotiations will be conducted with those contractors in the competitive range, i.e., those who satisfactorily meet the above criteria. Final decisions for funding will be based upon these criteria and consideration of possible duplication of other research as well as program balance. The Government may elect to fund several or none of the proposed approaches to the same topic. There is no commitment by the Government to make any awards on any topic, to make a specific number of awards or to be responsible for any monies expended by the proposer before award of a contract. It should be noted that only a duly appointed Contracting Officer has the authority to enter into a contract on behalf of the US Government.

SUBMISSION OF PROPOSALS

Ten (10) copies of the complete technical and cost proposals are required for review and evaluation. Proposals must be received at the address below not later than 4:00 p.m. on March 11, 1985:

Director
U.S. Army Medical Research Acquisition Activity
ATTN: SGRD-RMA-RC/DAMD17-85-R-0029 (F. Stover)
Fort Detrick, Frederick, Maryland 21701-5014

THE FIFTH ANNUAL CONGRESS FOR

RECOMBINANT DNA RESEARCH

FEBRUARY 3-6, 1985

SAN FRANCISCO HILTON, SAN FRANCISCO, CALIFORNIA

Co-Chairmen:

John D. Baxter
Univ. of California
San Francisco, CA

Walter Miller
Univ. of California
San Francisco, CA

Thomas Shenk
State Univ. of New York
Stony Brook, NY

The Annual Congress for Recombinant DNA Research, now in its fifth year, is recognized as the premier symposium on the subject, and presents the important developments that impact on current and future work.

Keynote Speakers: Walter Gehring, Biozentrum, Basil, Switzerland
HOMEOTIC GENES AND THE CONTROL OF DEVELOPMENT

Thomas Maniatis, Harvard University, Cambridge, MA
MECHANISMS OF RNA SPLICING

Session Chairman

CONTROL OF GENE EXPRESSION
Thomas Shenk, Princeton University, Princeton, NJ

MOLECULAR BIOLOGY OF HUMAN DISEASE
Walter Miller, University of California, San Francisco, CA

PROTEIN STRUCTURE AND FUNCTION
Robert Sauer, Massachusetts Institute of Technology, Cambridge, MA

MOVABLE DNA ELEMENTS
Gerard Rubin, University of California, Berkley, CA

PLANT MOLECULAR BIOLOGY
Robert Goldberg, University of Californ[illegible] Berkley, CA

MECHANISMS OF PROTEIN SECRETION
Randy Schekman, University of California, Berkley, CA

RETROVIRUSES AND ONCOGENES
Arnold Levine, Princeton University, Princeton, NJ

INDUCIBLE SYSTEMS
John Baxter, University of California, San Francisco, CA

Poster Sessions: ADVANCES IN RECOMBINANT DNA RESEARCH

Participants are invited to submit abstracts for the poster sessions. These abstracts will be reviewed up until the time of the meeting; however, only those accepted by Dec. 15 will be published in the journal, DNA. Contact Edward Ruffing, Scherago Associates, Inc., (212) 730-1050.

Organized by Scherago Associates, Inc., in conjunction with the journal, DNA, and Genetic Engineering News, published by Mary Ann Liebert, Inc.

REGISTRATION FEES:
$400 On-site registration – includes a one year subscription or renewal to the journal, DNA.
$350 ADVANCE REGISTRATION – (Received by Dec. 1) – Includes a one year subscription or renewal to the journal, DNA.
$175 STUDENT REGISTRATION – Student status must be confirmed in writing by department chairman.
4-7 registrations received together from same organization $300 each. Includes 4 journal subscriptions only.
8-10 registrations received together from same organization $200 each. Includes 4 journal subscriptions only.
Larger group rates available upon request.
Cancellations must be received in writing by Jan. 9, 1985.

Attendance will be limited. Make checks payable to: **Scherago Assoc., Inc., DNA/HYBRIDOMA**

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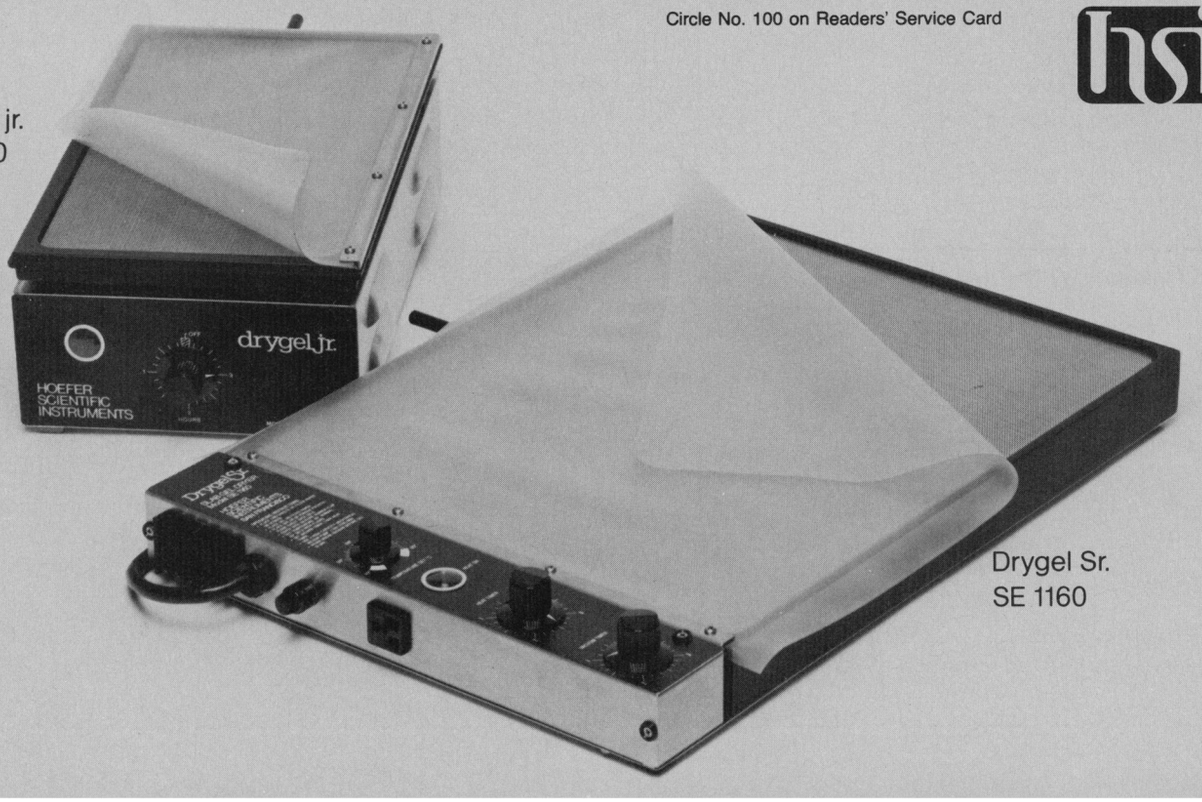

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25 January 1985, Volume 227, Number 4685 SCIENCE

Mission to Planet Earth

In some ways we know more about our neighboring planets than we do about the earth. For decades scientists have peered at Venus and Mars through telescopes, and in the last decade they have had radar images of the planet surfaces made from the earth and from orbiting satellites. They have probed the atmospheres of these planets and measured and sampled their surfaces with instruments of the space age. Of course, through the centuries we have accumulated a mountain of detailed data points and much phenomenological knowledge about the earth and the constituents of its geosphere and biosphere. However, we lack synoptic, systematic, and temporal knowledge of our own planet and an understanding of the mechanisms underlying the global processes that affect it.

Modern technology has given us the tools of measurement and of computation to study the earth as a system. We can now gain comprehensive knowledge, not only of the state of the earth system and of global processes, but also of changes in state and processes. We have become uncomfortably aware that changes are indeed taking place, and we know that our own species is responsible for some of the changes.

Economic developments over large portions of the earth have required dramatic changes in traditional patterns of land and water use. There has been large-scale extraction of energy from fossil fuels and widespread application of man-made chemicals to control plant and animal disease and to foster production. These activities are believed to be related to alterations in the global cycles of essential nutrients—carbon, nitrogen, sulfur, phosphorus, and water. Atmospheric concentrations of carbon dioxide, methane, and nitrous oxide have increased. There are indications of increases in carbon monoxide and other oxides of nitrogen. The uptake of sulfur has resulted in enhanced sulfate levels in precipitation in many areas. There is hardly a major river that has not been affected by phosphate runoff, and there are numerous examples of altered precipitation patterns and extended drought.

A concept for an international cooperative research program, termed Global Habitability and aimed at gaining a broad understanding of the earth as a system, was first proposed by the United States at the United Nations Conference on Peaceful Uses of Outer Space in Vienna in 1982. Since then, there has been substantial progress in turning the concept into a viable set of research activities for investigating long-term physical, chemical, and biological changes on a global scale.

The research will be interdisciplinary and will involve many organizations and countries. It will require bases for making observations from space, air, land, and sea. It will include investigations of specific ecosystems, studies of estuarine and coastal systems, measurements of horizontal and vertical motions in the oceans, and studies of the chemistry, physics, and motions of the upper and lower atmospheres. Interdisciplinary models will be needed to synthesize and correlate subsystem dynamics and to predict changes.

The National Academy of Sciences is reviewing the scientific merits of the Global Habitability concept and looking at how it might be coordinated with the broader efforts of the proposed International Geosphere Biosphere Program to be coordinated by the International Council of Scientific Unions (*Science*, 5 October 1984, p. 33).

We now have the technology and the incentive to move forward on this "mission to planet Earth," as the Academy's Space Science Board has suggested. To quote Lewis Thomas on the subject,* "I cannot think of a better work for the international scientific community, on the ground or out in space, and I hope we will get on with it."—BURTON I. EDELSON, *Associate Administrator for Space Science and Applications, National Aeronautics and Space Administration, Washington, D.C. 20546*

*L. Thomas, *Discover* **4**, 65 (1983).

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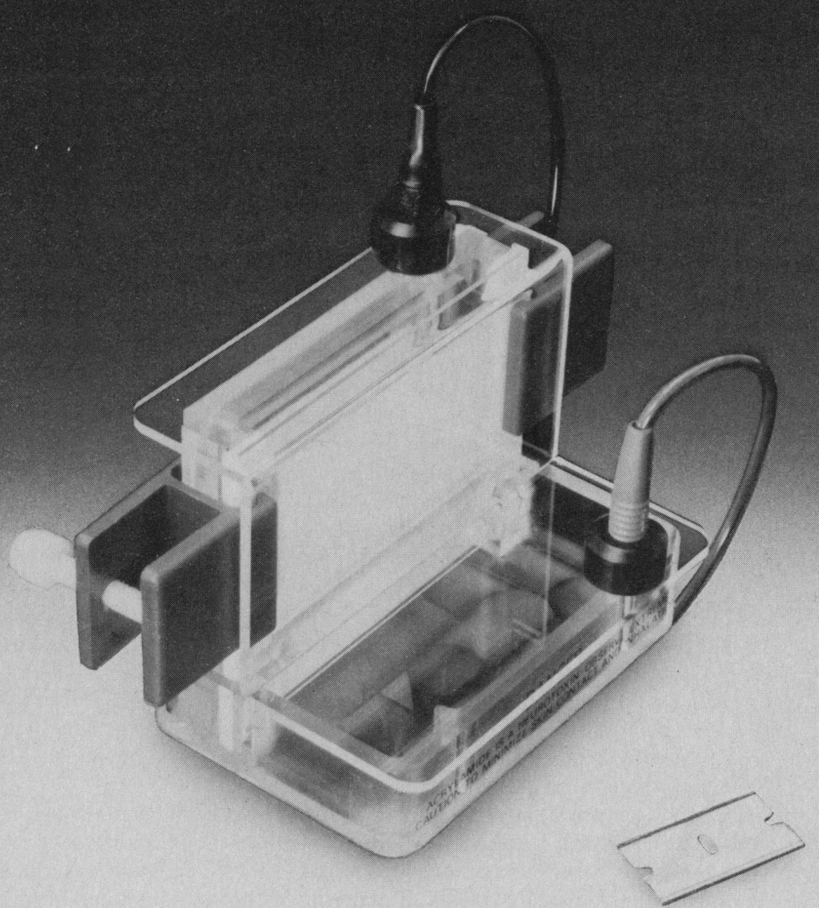

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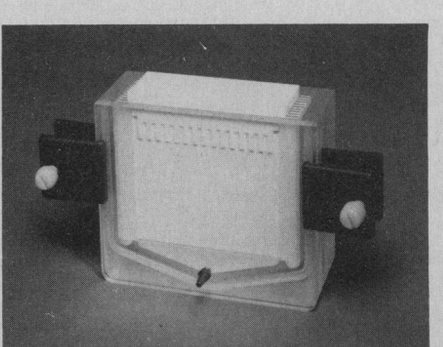

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NATO International Scientific Exchange Programmes

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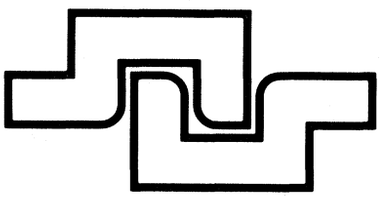
60 tutorial meetings a year on advanced topics not in regular university course. International faculty. Two weeks' duration.		30 working meetings a year for intense exchanges between senior scientists to review progress in a given field and recommend future research.

Research Fellowships	Collaborative Research Grants	Double-Jump	Special Programmes
800 fellowships per year at post-graduate level and higher in support of research and study abroad.	400 awards each year in support of cooperation on specific projects carried out jointly by research teams in different countries.	Fellowships, collaborative research grants, ASIs, ARWs on projects of industrial interest, to promote closer international cooperation between universities and industry.	Intense international cooperation in a few innovative fields at the frontier of disciplines.

Advanced Study Institutes
1985
Advanced Research Workshops

The Advanced Study Institutes and Advanced Research Workshops to be held in 1985 are given in the following pages. The two distinct types of meeting are described briefly below.

Participation or tuition fees are not usually requested from participants, some of whom may obtain small grants from the meeting director to assist with travel and living expenses. The meetings marked ● are of particular industrial interest. Locations and dates may change. Titles and addresses have been abridged. Many meetings are of an interdisciplinary nature : please check all subject areas. **Each meeting is held under the responsibility of its director, to whom all requests for information, attendance or support should be addressed.**

The meetings are supported under either the general NATO Advanced Study Institutes/Advanced Research Workshops Programme, or the Special Programmes - Marine Sciences (Mar.Sc), Materials Science (Mat.Sc), Global Transport Mechanisms (GTM), Selective Activation of Molecules (SAM), Cell to Cell Signals in Plants and Animals (C-CS), and Sensory Systems for Robotic Control (Rob.).

PUBLICATION - The papers and discussions are published in the NATO ASI Series by : Plenum - Reidel -Nijhoff - Springer Verlag.

ADVANCED STUDY INSTITUTES

ASIs are tutorial courses of two weeks' duration on new, important topics for up to 100 scientists and research students. They aim at the dissemination of advanced scientific knowledge and the promotion of international contacts among scientists. Attendance is by application to course director.

ADVANCED RESEARCH WORKSHOPS

ARWs are working meetings which enable leading researchers scientists and engineers to review the state-of-the-art in specific topics in fast moving fields and to formulate recommendations for the future. They are of about five days' duration. Attendance is limited and usually by invitation only.

NATO Scientific Affairs Division, B–1110 Brussels, Belgium. Tel. (02)241.44.00

1985
Advanced Study Institutes

LIFE SCIENCES

NMR IN THE LIFE SCIENCES ●
Prof. EM BRADBURY, Dept. Biological Chem., School of Medicine, Univ. California, Davis, CA 95616 USA
17 - 29 June 1985 : Erice, Italy 0647/84

NEW EXPERIMENTAL MODALITIES IN THE CONTROL OF NEOPLASIA
Prof. P CHANDRA, Molec. Biology Dept., Theodor-Stern-Kai 7, 6000 Frankfurt 70, Germany
28 September - 8 October 1985 : Corfu, Greece 0763/84

MATURATION AND MIGRATION OF PROTEINS
Prof. BFC CLARK, Dept. of Chem. Aarhus Univ., Langelandsgade 140, 8000 Aarhus C., Denmark
1 - 14 September 1985 : Spetsai, Greece 0265/84

- BIOSTATISTICS FOR EXPERIMENTAL AND CLINICAL ATHEROSCLEROSIS RESEARCH
- BIOSTATISTIQUES DANS LA RECHERCHE CLINIQUE EXPERIMENTALE SUR L'ATHEROSCLEROSE
Dr. PL DUCIMETIERE, INSERM Epidem. cardiovasc., 15 rue de l'école de médecine, 75006 Paris, France
2 - 13 September 1985 : Les Arcs, France 0546/84

THE MOLECULAR BASIS OF B LYMPHOCYTE DIFFERENTIATION AND FUNCTION
Dr. M FERRARINI, Ist. Naz. per la Ric. sul Cancro (INRC), Viale Benedetto XV, 10, 16132 Genova, Italy
1 - 15 October 1985 : Santa Margherita Ligure, Italy 0779/84

TARGETING OF DRUGS WITH SYNTHETIC SYSTEMS ●
Dr. G GREGORIADIS, Acad. Dept. of Medicine, Royal Free Hosp. School, Pond Street, London NW3 2QG, UK
24 June - 5 July 1985 : Cape Sounion, Greece 0592/84

THE MOLECULAR BASIS FOR THE CENTRAL AND PERIPHERAL REGULATION OF VASCULAR RESISTANCE
Dr. AM MAGRO, Wadsworth Ctr., State Dept. Health, Rockefeller Emp. State Plaza, Albany, NY 12201, USA
29 April - 10 May 1985 : Altavilla Milicia, Sicily, Italy 0251/84

- CRYSTALLOGRAPHY IN MOLECULAR BIOLOGY
- LA CRISTALLOGRAPHIE EN BIOLOGIE MOLECULAIRE
Dr. D MORAS, Inst. de Biol. Molécul. et Cellulaire, 15, rue Descartes, 67084 Strasbourg Cedex, France
12 - 21 September 1985 : Bischenberg, Alsace, France 0306/84

OXYGEN RADICALS IN BIOLOGICAL SYSTEMS - RECENT PROGRESS AND NEW METHODS FOR STUDY
Dr. AT QUINTANILHA, Applied Science Div., Lawrence Berkeley Lab., U.C., Berkeley, CA 94720, USA
1 - 14 September 1985 : Braga, Portugal 0105/84

ECOLOGY

CYST NEMATODES
Prof. F LAMBERTI, Ist. di Nematologia Agraria del C.N.R., Via G. Amendola 165/A, 70126 Bari, Italy
21 September - 3 October 1985 : Martina Franca (Taranto), Italy 0649/84

BIOLOGY OF THE PHOTOSYNTHETIC PICOPLANKTON IN THE SEA
Dr. T PLATT, Marine Ecology Lab., P.O.B. 1006, Dartmouth, NS B2Y 4A2, Canada
30 September - 7 October 1985 : San Miniato, Italy 1015/83

SOCIAL, BEHAVIOURAL AND POLITICAL SCIENCES

COGNITIVE PROCESSES AND SPATIAL ORIENTATION IN ANIMAL AND MAN
Prof. P ELLEN, Dept. of Psychology, Georgia State Univ., University Plaza, Atlanta, GA 30303, USA
27 June - 7 July 1985 : La Baume Les Aix, France 0260/84

INSURANCE AND RISK THEORY ●
Prof. M GOOVAERTS, K.U. Leuven, Dekenstraat 2, 3000 Leuven, Belgium
15 - 25 July 1985 : Maratea, Italy 0530/84

INTELLIGENT DECISION AIDS IN PROCESS ENVIRONMENTS ●
Dr. E HOLLNAGEL, Inst. for Energeteknikk, OECD Reactor Project, P.O.B. 173, 1751 Halden, Norway
16 - 27 September 1985 : San Miniato, Italy 0571/84

MOTOR SKILL ACQUISITION IN CHILDREN - ASPECTS OF COORDINATION AND CONTROL
Dr. MG WADE, Dept. of Physical Educ., Sthn. Illinois Univ., Carbondale, IL 62901, USA
14 - 27 July 1985 : Maastricht, Netherlands 0539/84

THE ROLE OF PSYCHOLOGY IN SELECTING AND TRAINING POLICE
Dr. JC YUILLE, Dept. of Psychology, Univ. of British Columbia, Vancouver, B.C. V6T 1Y7, Canada
7 - 18 May 1985 : Skiathos, Greece 0219/84

PHYSICS AND CHEMISTRY

HYDROGEN IN DISORDERED AND AMORPHOUS SOLIDS ●
Dr. G BAMBAKIDIS, Dept. of Physics, Wright State Univ., Dayton, OH 45435, USA
9 - 19 September 1985 : Rhodes, Greece 0612/84

TOPOLOGICAL PROPERTIES AND GLOBAL STRUCTURE OF SPACE-TIME
Prof. PG BERGMANN, Dept. of Physics, NY Univ., 4 Washington Place, New York, NY 10003, USA
12 - 22 May 1985 : Erice, Italy 0650/84

- ATOMS IN UNUSUAL SITUATION
- ATOMES DANS DES SITUATIONS INHABITUELLES
Prof. JP BRIAND, Lab. de Phys. Atom. Nucl., Univ.,11 rue P&M Curie, 75231 Paris Cedex 05, France
17 - 29 June 1985 : Cargèse, Corsica, France 0545/84

- PHYSICS OF ELECTRON-ION AND ION-ION COLLISIONS
- PHYSIQUE DES COLLISIONS ELECTRO-IONS ET IONS-IONS
Prof. F BROUILLARD, Dept. of Physics, Univ., Chemin du Cyclotron, 2, 1348 Louvain-La-Neuve, Belgium
29 September - 12 October 1985 : Han-Sur-Lesse, Belgium 0807/84

FRONTIERS IN NUCLEAR DYNAMICS
Prof. PJ BRUSSAARD, Fysisch Lab., Rijksuniv., P.O.B. 80.000, 3508 TA Utrecht, Netherlands
4 - 17 August 1985 : Dronten, Netherlands 0529/84

DEFECTS IN SOLIDS - MODERN TECHNIQUES
Dr. AV CHADWICK, Chemical Lab., Univ. of Kent, Canterbury, Kent, CT2 7NH, UK
16 - 27 September 1985 : Cetraro, Calabria, Italy 0320/84

SIMULATION OF STATISTICAL MECHANICAL SYSTEMS
Dr. G CICCOTTI, Dept. of Physics "G Marconi", Ple. A. Moro 5, 00185 Roma, Italy
23 July - 2 August 1985 : Varenna, Italy 0764/84

CHEMICAL TRANSPORT IN METASOMATIC PROCESSES
Prof. HC HELGESON, Dept. of Geology & Geophysics, Univ. of California, Berkeley, CA 94720, USA
3 - 16 June 1985 : Attica, Greece (GTM) 0328/84

SUPERSYMMETRY AND SUPERGRAVITY
Prof. PW HIGGS, Physics Dept., Univ., Clerk Maxwell Bldg, Mayfield Rd., Edinburgh EH9 3JZ, UK
28 July - 17 August 1985 : Edinburgh, UK 0531/84

EROSION AND GROWTH OF SOLIDS STIMULATED BY ATOM AND ION BEAMS ●
Dr. G KIRIAKIDIS, Physics Dept., Univ. of Crete, Heraklion, Crete, Greece
16 - 27 September 1985 : Heraklion, Crete, Greece 0537/84

- PARTICLE PHYSICS
- PHYSIQUE DES PARTICULES
Prof. M LEVY, Musée Nat'l des Sc., des Techn. et des Industries, 211 Av. J. Jaures, 75019 Paris, France
15 - 31 July 1985 : Cargèse, Corsica, France 0516/84

RADIATIVE PROCESSES IN DISCHARGE PLASMAS ●
Dr. LH LUESSEN, Naval Surface Weapons Ctr. Directed Energy Branch (F12), Dahlgren, VA 22448, USA
23 June - 5 July 1985 : Pitlochry, Scotland, UK 0532/84

AMORPHOUS AND LIQUID MATERIALS ●
Prof. E LUSCHER, Physik Dept., Techn. Univ. München, 8046 Garching, Germany
26 August - 7 September 1985 : Trentino, Italy 0635/84

- ON GROWTH AND FORMS ●
- CROISSANCE ET FORMES ●
Dr. N OSTROWSKY, Phys. de la mat. condensée (LA190), Univ., Parc Valrose, 06034 Nice Cedex France
27 June - 6 July 1985 : Cargèse, Corsica, France 0819/84

- SCALING PHENOMENA IN DISORDERED SYSTEMS
- PHENOMENES D'ECHELLE DANS LES SYSTEMES DESORDONNES
Dr. R PYNN, Inst. Laue-Langevin, 156X Centre de Tri, 38042 Grenoble Cedex France
8 - 19 April 1985 : Geilo, Norway 0538/84

ADVANCES IN CHEMICAL REACTION DYNAMICS
Dr. PM RENTZEPIS, Phys. Inorg. Res. Dept., Bell Labs., 600 Mount. Av. Murray Hill, NJ 07974, USA
Date & Location to be announced 0948/83

- ARCHITECTURE OF FUNDAMENTAL INTERACTIONS AT SHORT DISTANCES
- ARCHITECTURE DES INTERACTIONS FONDAMENTALES A COURTE DISTANCE
Mr. R STORA, Div. Théorique, CERN, 1211 Geneva 23, Switzerland
1 July - 8 August 1985 : Les Houches, France 0806/84

NEW VISTAS IN ELECTRO-NUCLEAR PHYSICS
Dr. EL TOMUSIAK, Div. of Physics, Univ. of Saskatchewan, Saskatoon, Sask S7N 0W0, Canada
22 August - 4 September 1985 : Banff, Canada 0515/84

FUNDAMENTAL PROBLEMS OF GAUGE FIELD THEORY
Prof. G VELO, Dip. di Fisica, Univ., of Bologna, Via Irnerio 46, 40126 Bologna, Italy
1 - 14 July 1985 : Erice (Trapani), Italy 0772/84

GEOPHYSICS AND ASTROPHYSICS

- THE ROLE OF AIR-SEA EXCHANGE IN GEOCHEMICAL CYCLING
- LE ROLE DES ECHANGES AIR-MER DANS LES CYCLES GEOCHIMIQUES
Dr. P BUAT-MENARD, Ctr. des Faibles Radioact., Domaine du CNRS., B.P. 1, 91190 Gif-Sur-Yvette, France
16 - 27 September 1985 : Bombannes, France 1021/83

TECTONIC EVOLUTION OF TETHYAN REGIONS
Prof. BC BURCHFIEL, 54-1010, Dept. of Geology, M.I.T., Cambridge, MA 02139, USA
3 September - 2 October 1985 : Istanbul, Turkey 0226/84

STRONG GROUND MOTION SEISMOLOGY ●
Dr. M ERDIK, Earthquake Engineering Res. Ctr., Middle East Techn. Univ., Ankara, Turkey
10 - 22 June 1985 : Ankara, Turkey 0528/84

AIR-SEA TRANSFER PROCESS (TRAINING COURSE)
Dr. K KATSAROS, Dept. Atmospheric Sc. AK-40, Univ. of Washington, Seattle, WA 98195, USA
1985 : Seattle, Washington, USA (GTM) 0835/84

PHYSICAL AND CHEMICAL WEATHERING IN GEOCHEMICAL CYCLES
Prof. A LERMAN, Dept. of Geological Sc., Northwestern Univ., Evanston, IL 60201, USA
5 - 15 September 1985 : Aussois, Nr. Modane, France 0314/84

- IRREVERSIBLE PHENOMENA AND DYNAMICAL SYSTEMS ANALYSIS IN GEOPHYSICAL SCIENCES
- PHENOMENES IRREVERSIBLES ET ANALYSE DYNAMIQUE DES SYSTEMES DANS LES SCIENCES GEOPHYSIQUES
Dr. G NICOLIS, Serv. Chimie Phys. II, CP No 231, U.L.B., Bd du Triomphe, 1050 Bruxelles, Belgium
14 - 25 July 1985 : Heraklion, Crete, Greece (GTM) 1002/83

HIGH ENERGY PHENOMA AROUND COLLAPSED STARS
Dr. F PACINI, Osservatorio Astrofisico di Arcetri, Largo e Fermi 5, 50125 Firenze, Italy
2 - 13 September 1985 : Cargèse, Corsica, France 0525/84

THE PHYSICS OF PLANETS : THEIR ORIGIN, EVOLUTION AND STRUCTURE
Prof. SK RUNCORN, School of Physics, University, Newcastle-upon-Tyne NE1 7RU, UK
9 - 20 April 1985 : Newcastle-upon-Tyne, UK 1013/83

IRON IN SOIL AND CLAY MINERALS
Prof. JW STUCKI, Dept. Agron., Un., Illinois, S-510 Turner Hall, 1102 S. Goodwin Av., Urbana, IL 61801, USA
1 - 13 July 1985 : Bad Windsheim, Germany 0579/84

LARGE-SCALE TRANSPORT PROCESSES IN OCEANS AND ATMOSPHERE
Prof. J WILLEBRAND, Theor. Ozeano., Inst. f. Meereskunde, Düsternbroker Weg 20, 2300 Kiel 1, Germany
11 - 22 February 1985 : Les Houches, France (GTM) 0266/84

MATHEMATICS

- NONLINEAR DYNAMICAL SYSTEMS - INTEGRABILITY AND QUALITATIVE BEHAVIOUR
- SYSTEMES DYNAMIQUES NON LINEAIRES - INTEGRABILITE ET COMPORTEMENT QUALITATIF
Prof. A DAIGNEAULT, Dep. Math. et Statist., Univ., CP 6128, Succ. A, Montreal, PQ H3C 3J7, Canada
29 July - 16 August 1985 : Montreal, Canada 0544/84

- ADVANCES IN MICROLOCAL ANALYSIS
- AVANCES EN ANALYSE MICROLOCALE
Prof. HG GARNIR, Inst. de Math., Univ. de Liège, 15 Av. des Tilleuls, 4000 Liège, Belgium
2 - 12 September 1985 : Il Ciocco, Toscana, Italy 0356/84

- FUZZY SUBSETS THEORY
- THEORIE DES SOUS-ENSEMBLES FLOUS
Prof. A JONES, Ctr. IMAGO, Univ. Cath. de Louvain, rue du Compas, 1348 Louvain-La-Neuve, Belgium
8 - 20 July 1985 : Louvain-La-Neuve, Belgium 0620/84

NONLINEAR ANALYSIS AND ITS APPLICATIONS
Prof. SP SINGH, Dept. of Maths., Memorial Univ., St Johns, Newfoundland A1C 5S7, Canada
22 April - 3 May 1985 : Maratea, Italy 0778/84

INFORMATICS

FUNDAMENTAL ALGORITHMS FOR COMPUTER GRAPHICS ●
Dr. RA EARNSHAW, Ctr. for Computer Studies, Univ. of Leeds, Leeds LS2 9JT, UK
30 March - 12 April 1985 : Ikley, Yorkshire, UK 0257/84

THE CHALLENGE OF ADVANCED COMPUTING TECHNOLOGY TO SYSTEM DESIGN METHODS ●
Dr. JK SKWIRZYNSKI, Marconi Res. Ctr., W. Hanningfield Rd., Great Baddow, Chelmsford, Essex CM2 8HN, UK
29 July - 10 August 1985 : Durham, UK 0514/84

RELATIONAL DATABASE MACHINE ARCHITECTURE ●
Dr. AK SOOD, Dept. of Electr. Computer Eng., Wayne State Univ., Detroit, MI 48202, USA
14 - 27 July 1985 : Les Arcs, France 0523/84

LEARNING PHYSICS AND MATHEMATICS VIA COMPUTERS
Prof. H WEINSTOCK, 5901 Mt. Eagle Drive, No 917, Alexandria, VA 22303, USA
15 - 26 July 1985 : San Miniato, Italy 0541/84

APPLIED SCIENCES AND ENGINEERING

ULTRASONIC METHODS IN EVALUATION OF INHOMOGENEOUS MATERIALS ●
Prof. A ALIPPI, Inst. of Acoustics, CNR, Via Cassia 1216, 00189 Rome, Italy
15 - 25 October 1985 : Erice, Italy 0540/84

RECENT DEVELOPMENTS IN BIOTECHNOLOGY ●
Dr. M CARDOSO DUARTE, DTIQ/LNETI, Estrada das Palmeiras, Queluz de Baixo, 2745 Queluz, Portugal
17 - 29 March 1985 : Troia, Portugal 0524/84

FUNDAMENTALS OF TRANSPORT PHENOMENA IN POROUS MEDIA
Prof. MY CORAPCIOGLU, Dept. of Civil Eng., Univ. of Delaware, Newark, DE 19716, USA
14 - 23 July 1985 : Newark, Delaware, USA 0249/84

CHEMICAL REACTOR DESIGN AND TECHNOLOGY ●
Dr. H DE LASA, Eng. Sc. Faculty, Univ. of Western Ontario, London, Ontario N6A 5B9, Canada
2 - 12 June 1985 : London, Ontario, Canada 0294/84

LASER SURFACE TREATMENT OF METALS ●
Dr. CW DRAPER, Eng. Res. Ctr. AT&T-Technologies Inc., P.O.B. 900, Princeton, NJ 08540, USA
2 - 13 September 1985 : San Miniato, Italy 0263/84

ENGINEERING RELIABILITY AND RISK IN WATER RESOURCES
Dr. L DUCKSTEIN, Dept. of Systems and Indust. Eng., Univ. of Arizona, Tucson, AZ 85721, USA
19 May - 1 June 1985 : Tucson, Arizona, USA 0383/84

CARBON AND COAL GASIFICATION - SCIENCE AND TECHNOLOGY ●
Prof. JLC FIGUEIREDO, Chem. Eng. Dept., Faculdade de Engenharia, Univ. Porto, 4099 Porto Cedex, Portugal
20 - 31 May 1985 : Alvor (Algarve), Portugal 0527/84

TRANSFORMATIONS THROUGH SPACE & TIME, ANALYSIS OF NONLINEAR STRUCTURES, BIFURCATION POINTS & AUTOREGRESSIVE DEPENDENCIES
Dr. DA GRIFFITH, Dept. of Geography, State Univ. of New York, Buffalo, NY 14260, USA
4 - 17 August 1985 : Braunlage, Germany 0749/84

ADVANCED PHYSICAL OCEANOGRAPHIC NUMERICAL MODELLING
Prof. JJ O'BRIEN, Florida State Univ., Tallahassee, FL 32306, USA
2 - 15 June 1985 : Banyuls-sur-mer, France 0280/84

ION EXCHANGE - SCIENCE AND TECHNOLOGY
Prof. AE RODRIGUES, Engen. Quimica, Fac. de Engenharia, Rua dos Bragas, 4099 Porto Codex, Portugal
14 - 26 July 1985 : Troia, Portugal 0245/84

SOLID-STATE DEVICES IN COMMUNICATIONS ●
Dr. M SCHNEIDER, AT&T Bell Labs., P.O.B. 400, Holmdel, New Jersey 07733, USA
15 - 27 July 1985 : Erice, Italy 0317/84

- SIGNAL PROCESSING ●
- TRAITEMENT DU SIGNAL ●
Mr. R STORA, Division Théorique, CERN, 1211 Geneva 23, Switzerland
12 August - 6 September 1985 : Les Houches, France 0279/84

DECISION SUPPORT SYSTEMS - THEORY AND APPLICATION ●
Prof. AB WHINSTON, Krannert School of Management, Purdue Univ., West Lafayette, IN 47907, USA
3 - 14 June 1985 : Maratea, Italy 0784/84

PHOTOPHYSICAL AND PHOTOCHEMICAL TOOLS IN POLYMER SCIENCE ●
Prof. MA WINNIK, Dept. of Chemistry, Univ. of Toronto, Toronto M5S 1A1, Canada
13 - 26 October 1985 : San Miniato, Italy 0307/84

Advanced Research Workshops

LIFE SCIENCES

GLIAL - NEURONAL COMMUNICATION IN DEVELOPMENT AND REGENERATION
Dr. HH ALTHAUS, Abt. Neurochem., Max-Planck-Inst., 3, Hermann-Rienstr., 3400-Göttingen, Germany
10 - 15 June 1985 : Ringberg, Germany (C-CS) 0834/84

BIOLOGY AND MOLECULAR BIOLOGY OF PLANT-PATHOGEN INTERACTIONS
Dr. JA BAILEY, Dept. Agriculture & Horticult., Long Ashton Res. Stn., Long Ashton, Bristol BS18 9AF, UK
1 - 6 September 1985 : Bristol, UK (C-CS) 0751/84

MOLECULAR MECHANISMS IN MAMMALIAN OLFACTION
Dr. GH DODD, Chemistry Dept., University of Warwick, Coventry CV4 7AL, UK
1985 : Coventry, UK 0572/84

THE MOLECULAR BIOLOGY OF PHYSARUM POLYCEPHALUM
Prof. WF DOVE, McArdle Lab., Univ. of Wisconsin, Madison WI 53706, USA
9 - 14 July 1985 : Madison, Wisconsin, USA 0597/84

EVOLUTIONARY BIOLOGY OF PRIMITIVE FISHES
Dr. RE FOREMAN, Bamfield Marine Station, Bamfield, B.C. V0S 1B0, Canada
14 - 18 April 1985 : Bamfield, B.C., Canada 0304/84

- ENZYMES OF LIPID METABOLISM
- ENZYMES DU METABOLISME DES LIPIDES
Dr. L FREYSZ, Ctr. de Neurochimie du CNRS, 5 rue Blaise Pascal, 67084 Strasbourg Cedex, France
14 - 18 October 1985 : Strasbourg, France 0961/83

- BIOLOGICAL INCIDENCES OF Co-Cr-Ni ALLOYS USED IN ORTHOPAEDIC SURGERY AND STOMATOLOGY ●
- INCIDENCES BIOLOGIQUES DES ALLIAGES Co-Cr-Ni UTILISES EN CHIRURGIE ORTHOPEDIQUE ET EN STOMATOLOGIE ●
Dr. HF HILDEBRAND, Inst. de Médecine du Travail, Place de Verdun, 59045 Lille Cedex, France
30 September - 4 October 1985 : Bischenberg, Alsace, France 0798/84

NEURONAL SURFACES AND DEVELOPMENT
Dr. M SCHACHNER, Dept. of Neurobiology, Univ., Im Neuenheimer Feld 504, 6900 Heidelberg 1, Germany
14 - 19 May 1985 : Cargèse, Corsica, France (C-CS) 0533/84

CHRONOBIOLOGICAL ENGINEERING
Prof. LE SCHEVING, Dept. of Anatomy, Univ., 4301 West Markham, Little Rock, AK 72201, USA
22 - 25 April 1985 : Cardiff, UK 0331/84

HUMAN APOLIPROTEIN MUTANTS - IMPACT ON ATHEROSCLEROSIS AND LONGEVITY ●
Dr. C SIRTORI, Ist. de Farmacologie e Farmacognosia, Via del Sarto 21, 20129 Milan, Italie
21 - 24 March 1985 : Italy 0677/84

IRON, SIDEROPHORES AND PLANT DISEASES ●
Dr. TR SWINBURNE, Crop Protection Div., Research Station, East Malling, Maidstone, Kent, UK
1 - 5 July 1985 : Wye, Kent, UK 0558/84

- GH PITUITARY CELL STRAINS AS TOOLS IN MOLECULAR AND CELLULAR BIOLOGY
- LES LIGNEES CELLULAIRES HYPOPHYSAIRES "GH" COMME MODELES EN BIOLOGIE MOLECULAIRE ET CELLULAIRE
Dr. A TIXIER-VIDAL, Collège de France, 11 Place Marcelin Berthelot, 75231 Paris Cedex 05, France
4 - 8 November 1985 : Fondation Royaumont, France 0554/84

MOLECULAR AND CELLULAR ASPECTS OF CALCIUM IN PLANTS
Dr. A TREWAVAS, Botany Dept., Univ., Mayfield Road, Edinburgh EH9 3JH, UK
15 - 20 July 1985 : Edinburgh, UK 0481/84

3D STRUCTURES OF RNA
Dr. PH VAN KNIPPENBERG, Dept. Biochemistry, Univ., Wassenaarseweg, 64, 2333 AL Leiden, Netherlands
21 - 24 August 1985 : Renesse, Netherlands 0634/84

- DISORDERED SYSTEMS AND BIOLOGICAL ORGANIZATIONS
- SYSTEMES DESORDONNES ET ORGANISATIONS BIOLOGIQUES
Prof. G WEISBUCH, Grp de Phys. des Solides de l'E.N.S, 24 rue Lhomond, 75231 Paris Cedex 5, France
25 February - 7 March 1985 : Les Houches, France 0588/84

MESENCHYMAL-EPITHELIAL INTERACTIONS IN NEURAL DEVELOPMENT
Prof. JR WOLFF, Zentr. Anatomie, Univ. Göttingen, Kreuzbergring 36, 3400 Göttingen, Germany
October 1985 : Göttingen, Germany (C-CS) 0815/84

ECOLOGY

PLANT RESPONSE TO STRESS - FUNCTIONAL ANALYSIS IN MEDITERRANEAN ECOSYSTEMS
Prof. F CATARINO, Dept. of Biology, Fac. of Sciences, Univ. of Lisbon, 1200 Lisbon, Portugal
13 - 19 October 1985 : Sesimbra, Portugal 0250/84

GRAZING RESEARCH AT NORTHERN LATITUDES ●
Dr. O GUDMUNDSSON, Agricultural Research Inst., Keldnaholt, 110 Reykjavik, Iceland
5 - 11 August 1985 : Hvanneyri, Iceland 0601/84

SCIENTIFIC BASIS FOR THE ROLE OF THE OCEANS AS A WASTE DISPOSAL OPTION
Prof. G KULLENBERG, Inst. f. Fysisk Oceanografi, Univ., Haraldsgade 6, 2200 Copenhagen, Denmark
24 - 30 April 1985 : Vilamoura (Algarve), Portugal (Mar.Sc) 0076/82

PEST CONTROL : OPERATIONS AND SYSTEMS ANALYSIS IN FRUIT FLY MANAGEMENT
Prof. M. MANGEL, Dept. of Mathematics, University of California, Davis, CA 95616, USA
5 - 9 August 1985 : Bad Windsheim, Germany 0305/84

THE ROLE OF FRESHWATER OUTFLOW IN COASTAL MARINE ECOSYSTEMS ●
Mr. S SKRESLET, Fisheries Div., Nordland Regional College, P.O.B. 309, 8001 Bodø, Norway
21 - 25 May 1985 : Bodø, Norway 0551/84

URBAN RUNOFF POLLUTION - CHARACTERIZATION, IMPACT AND CONTROL ●
Dr. HC TORNO, E.P.A., Science Advisory Board (A101-F), Washington, DC 20460, USA
26 - 30 August 1985 : Montpellier, France 0480/84

SOCIAL, BEHAVIOURAL AND POLITICAL SCIENCES

MODELLING AND ANALYSIS OF ARMS CONTROL PROBLEMS
Dr. R AVENHAUS, Informatik, Hochsch. der Bundeswehr, W. Heisenbergweg 39, 8014 Neubiberg, Germany
20 - 25 October 1985 : Nr. Munich, Germany 0805/83

ETHICAL ISSUES IN PREVENTIVE MEDICINE
Dr. S DOXIADIS, Foundation for Research in Childhood, 42 Amalias Str., Athens 105 58, Greece
10 - 12 January 1985 : Athens, Greece 0316/84

ASPECTS OF FACE PROCESSING
Dr. HD ELLIS, Dept. of Psychology, Univ. of Aberdeen, King's College, Old Aberdeen AB9 2UB, UK
30 June - 4 July 1985 : Aberdeen, UK 0960/83

ADAPTATION TO STRESS AND TASK DEMANDS - ENERGETICAL ASPECTS OF HUMAN INFORMATION PROCESSING
Dr. GRJ HOCKEY, Univ. of Durham, Dept. of Psychology, South Rd., Durham DH1 5YN, UK
25 - 27 August 1985 : Les Arcs, France 0587/84

PHYSICS AND CHEMISTRY

INSTABILITIES AND DYNAMICS OF LASERS AND NONLINEAR OPTICAL SYSTEMS ●
Dr. NB ABRAHAM, Dept. of Physics, Bryn Mawr College, Bryn Mawr, PA 19010, USA
18 - 21 June 1985 : Rochester, NY, USA 0327/84

CARBONYLATION REACTIONS
Dr. H ALPER, Dept. of Chemistry, University, Ottawa, Ontario K1N 9B4, Canada
26 - 29 August 1985 : Montebello, Quebec, Canada (SAM) 0838/84

- NUCLEOSYNTHESIS - ITS IMPLICATIONS ON NUCLEAR AND PARTICLE PHYSICS
- SYNTHESE NUCLEIQUE - SIGNIFICATIONS POUR LES NOYAUX ET LES PARTICULES
Dr. J AUDOUZE, Inst. d'Astrophysique, 98Bis Bd. Arago, 75014 Paris, France
18 - 23 March 1985 : Les Arcs, France 0800/84

THEORY OF CHEMICAL REACTION DYNAMICS
Dr. DC CLARY, Univ. Chemical Lab., Lensfield Road, Cambridge CB2 1EW, UK
17 - 30 June 1985 : Orsay, France 0762/84

- CHEMICAL REACTIONS IN ORGANIC AND INORGANIC CONSTRAINED SYSTEMS
- REACTIONS CHIMIQUES DANS LES SYSTEMES ORGANIQUES ET INORGANIQUES A CONTRAINTE ELEVEE
Prof. JJ FRIPIAT, C.R.S.O.C.I., C.N.R.S., 18, rue de la Férollerie, 45045 Orléans Cedex, France
23 - 28 June 1985 : Val de Loire, France (SAM) 0627/84

FUNDAMENTAL ASPECTS OF QUANTUM THEORY
Prof. V GORINI, Dip. di Fisica, Sez. Fisica Teorica, Via Celoria 16, 20133 Milano, Italy
2 - 7 September 1985 : Como, Italy 0556/84

GEOMETRICAL DERIVATIVES OF ENERGY SURFACES AND MOLECULAR PROPERTIES
Dr. P JORGENSEN, Chemistry Dept., Aarhus Univ., 8000 Aarhus-C, Denmark
20 - 23 June 1985 : Sandbjerg (Aarhus), Denmark 0636/84

HOMOGENEOUS AND HETEROGENEOUS PHOTOCATALYSIS
Prof. E PELIZZETI, Ist. di Chimica Analit., Universita, Via Giuria 5, 10125 Torino, Italy
29 September - 4 October 1985 : Maratea, Italy (SAM) 0534/84

ENZYMES AS CATALYSTS IN ORGANIC SYNTHESIS
Prof. MP SCHNEIDER, FB-9, Bergische Univ.-GH-Wuppertal, 5600 Wuppertal 1, Germany
9 - 15 June 1985 : Elmau, Germany (SAM) 0580/84

- QUANTUM CHEMISTRY : THE CALLENGE OF TRANSITION METALS AND COORDINATION CHEMISTRY ●
- CHIMIE QUANTIQUE : LE DEFI DES METAUX DE TRANSITION ●
Dr. A VEILLARD, Chimie Quant., Inst. Le Bel, Univ. Pasteur, 4 rue B. Pascal, 67000 Strasbourg, France
15 - 20 September 1985 : Strasbourg, France 0586/84

GEOPHYSICS AND ASTROPHYSICS

COMPOSITION OF THE ARCHEAN MANTLE
Dr. N. ARNDT, Max-Planck-Inst., Postfach 3060, 6500 Mainz, Germany
22 - 26 August 1985 : Rudesheim, Germany 0783/84

ABRUPT CLIMATIC CHANGES
Dr. WH BERGER, Scripps Inst. of Oceanography, Mail Stop A-015, La Jolla, CA 92093, USA
October 1985 : Diviers, Nr. Grenoble, France (GTM) 1012/83

EARTH ROTATION, SOLVED AND UNSOLVED PROBLEMS
Dr. A CAZENAVE, Grp. de Rech. de Géod. Spatiale, 18 Av. E. Belin, 31400 Toulouse Cedex, France
10 - 16 June 1985 : Bonas, France (GTM) 0978/83

SEISMOLOGY OF THE SUN AND OTHER STARS
Dr. D GOUGH, Inst. of Astronomy, Madingley Road, Cambridge, CB3 0HA, UK
24 - 28 June 1985 : Cambridge, UK 0766/84

WORKSHOP ON HEAT EXCHANGE OVER THE SEA (HEXOS)
Dr. WA OOST, Royal Netherlands Meteorological Inst. (KNMI), P.B. 201, 3730 AE De Bilt, Netherlands
14 - 18 October 1985 : De Bilt, Netherlands (GTM) 0814/84

EVOLUTION OF GALACTIC X-RAY BINARIES
Prof. J TRUMPER, MPI f. Extraterrestrische Physik, 8046 Garching, Germany
17 - 22 June 1985 : Garching, Germany 0822/84

MATHEMATICS

CLIFFORD ALGEBRAS AND THEIR APPLICATION IN MATHEMATICAL PHYSICS
Dr. AK COMMON, Mathematical Inst., Univ. of Kent, Canterbury, Kent CT2 7NF, UK
15 - 27 September 1985 : Canterbury, UK 0552/84

ANALYTIC AND COMPUTATIONAL TRANSPORT THEORY
Dr. P NELSON, Inst. for Numerical Transport Theory, Texas Tech. Univ., P.O.B. 4319, Lubbock, TX 79409, USA
9 - 15 June 1985 : Montecatini Terme, Italy 0573/84

APPLIED SCIENCES AND ENGINEERING

SEMICONDUCTOR DEVICE RELIABILITY
Dr. RE KERWIN, Comp. Qual. & Reliab. Dept., Bell Labs., Whippany Rd., Whippany, NJ 07981, USA
17 - 21 June 1985 : Helsingfors Denmark (Mat.Sc) 0534/83

- ANALYSE DES OEUVRES D'ART ET DES OBJETS ARCHEOLOGIQUES PAR FAISCEAUX D'IONS ENERGETIQUES
- EXAMINATION OF WORKS OF ART AND ARCHEOLOGICAL OBJECTS BY ION BEAM ANALYSIS
Dr. J LIGOT, Lab. de Rech. des Musées de France, Palais du Louvre, 75041 Paris Cedex 01, France
18 - 20 February 1985 : Pont-à-Mousson, France 0816/84

RAPID SOLIDIFICATION MATERIALS TECHNOLOGY
Dr. PR SAHM, Foundry Inst., Aachen Inst. of Technology, Intzestr. 5, 5100 Aachen, Germany
18 - 22 March 1985 : Schloss Theuern, Germany (Mat.Sc) 0029/84

MARINE MINERALS - RESOURCE ASSESSMENT STRATEGIES
Dr. P TELEKI, Office of Intern. Geology, US Geological Survey, 917 National Ctr., Reston, VA 22092, USA
10 - 16 June 1985 : Newtown, Wales, UK (Mar.Sc) 1014/83

MACHINE INTELLIGENCE AND KNOWLEDGE ENGINEERING FOR ROBOTIC APPLICATIONS
Dr. AKC WONG, Systems Design Eng. Dept., Univ., Waterloo, Ontario N2L 3G1, Canada
May 1985 : Thonon, France (Rob.) 0018/85

Further information on a particular meeting should be obtained from the meeting Director named above.

Further information on the NATO Science Programmes may be obtained from : NATO Scientific Affairs Division, B-1110 Brussels, Belgium.