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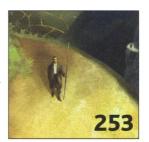
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COVER In this issue, Science begins its "Pathways of Discovery" feature—a yearlong series of monthly essays examining the complex routes by which science and scientists uncover knowledge about the world. In the cover image by artist Michael Gibbs, human figures traverse a mysterious and seemingly endless landscape of winding, intersecting, and splitting pathways. They have covered much territory, but their present positions suggest little about the ultimate lengths and destinations of their journeys.





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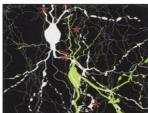
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SCIENCE (ISSN 0036-8075) is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1200 New York Avenue, NW, Washington, DC 20005. Periodicals Mail postage (publication No. 484460) paid at Washington, DC, and additional mailing offices. Copyright © 2000 by the American Association for the Advancement of Science. The title SCIENCE is a registered trademark of the AAAS. Domestic individual membership and subscription (51 issues): \$112 (\$62 allocated to subscription). Domestic institutional subscription (51 issues): \$340; Foreign postage extra: Mexico, Caribbean (surface mail) \$55; other countries (air assist delivery) \$90. First class, airmail, student, and emeritus rates on request. Canadian rates with GST available upon request, GST #1254 88122. Publications Mail Agreement Number 1069624. Printed in the U.S.A.

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THIS WEEK IN SCIENCE

edited by PHIL SZUROMI

CHILLING DOWN DEEP

During the past 100 million years, Earth's climate has evolved from the warm "greenhouse" conditions of the Cretaceous period in the late Mesozoic to the cold "icehouse" conditions of the late Cenozoic when large amounts of permanent polar ice formed. Understanding when ice began to accumulate requires a detailed record of global temperature. Lear et al. (p. 269; see the Perspective by Dwyer) have applied a technique that has been used for the Quaternary period, magnesium-calcium paleothermometry, to determine the temperature history of the deep ocean for the last 50 million years and interpret the existing oxygen isotopic record of benthic foraminifera in terms of ice sheet growth. They find that ice sheet growth began 34 million years ago, and that the deep ocean cooled in four major steps by 12°C since then.

RICE GETS AN A

Vitamin A deficiency exacerbates many health problems and in extreme cases is a common cause of blindness in certain areas of the world. Provision of adequate supplies of vitamin A through commonly available staples could alleviate considerable suffering. Ye et al. (p. 303; see the Perspective by Guerinot)





have now bioengineered rice to synthesize the precursors to vitamin A. It is hoped that these yellow-tinged rice grains may serve to bring adequate amounts of vitamin A to those with diets highly dependent on rice.

WATERED DOWN

Many toxic metals enter food chains through intake by benthic filter-feeding animals such as clams and oysters. It has been thought that porewater concentrations of many metals in sediments are controlled in a form known as acid volatile sulfides (AVS), and that most of the metals in benthic organisms were from uptake of these species. Their characterization has thus been used in devel-

oping regulations on metal pollution of sediments. Lee *et al.* (p. 282) show instead that uptake of metals by several benthic species primarily reflects the metal concentration in the sediment, not that of the AVS in the porewater.

BUSIER SIGNALS?

There are currently 400 million mobile telephones in use globally and that number is projected to increase by 250,000 daily and overtake landline connections by 2004. With landlines, connections between callers are made directly and so interference between callers is not a problem. In contrast, interference effects are expected to increase as the number of mobile units increase, especially in densely populated areas. Moustakas et al. (p. 287) combine ideas from information theory with those from electromagnetic wave propagation theory and show that multiple scattering may actually increase, rather than decrease, the information capacity carried between transmitter and receiver.

OXIDIZING PLUTONIUM

In air, plutonium forms an oxide that affects its reactivity in the environment. Haschke et~al. (p. 285; see the Perspective by Madic) now show that the stable binary oxide in air is not PuO_2 as long believed but actually the more oxidized $\text{PuO}_2 + x~(x~\text{is typically} \leq 0.27)$ that forms through reaction with water. This result has implications for all aspects of plutonium chemistry—from environmental safety to its stability in reactors.

MAKING CUTS THROUGH A GLASS

When liquids cool and form glassy states instead of crystals, the relaxation processes of their components become nonexponential. Theoretical studies and indirect experimental evidence suggest that particle motions become heterogeneous, with some particles moving much more slowly than expected for diffusion and other much faster particles moving together in clusters. Kegel and van Blaaderen (p. 290) now provide direct evidence for such "dynamical heterogeneity" through confocal microscopy studies of glasses made of colloidal particles. They followed particle motions in optical two-dimensional slices and show that particle displacements do not follow a Gaussian distribution.

COLD CONTROL OF WATER CLUSTERS

One way to isolate a less stable chemical species is to trap it under cold conditions. Nauta and Miller (p. 293) have taken this approach to extremes in order to isolate cyclic clusters of six water molecules which have been predicted theoretically but have been elusive in experiments. They formed the higher energy cyclic hexamer by sending liquid helium droplets through water vapor. Infrared spectroscopy revealed that the cyclic isomer formed by insertion of water molecules into smaller cyclic species. The ultracold superfluid environment of the droplet quenched the cyclic hexamers and prevented rearrangement into the more compact and stable "cage" structure.

RERUNNING EVOLUTION

Natural tests of some central tenets of evolution are the subject of two reports (see the news story by Pennisi). Speciation should result from divergent natural selection, but direct field evidence has been lacking until now. Rundle et al. (p. 306) show that in replicate populations of threespine sticklebacks in western Canadian lakes, reproductive isolation between populations in individual lakes has evolved in correlation with the environment. The outcome is that independently evolved populations in the same environment, but in different lakes, show no reproductive isolation, whereas populations in different environments within the same lake show substantial isolation. The introduction of the fly Drosophila subobscura from Europe to the New World in the 1970s has been called a "grand experiment in evolution" because it offers the opportunity to study the rates and predictability of evolution on a continental scale. Huey et al. (p. 308) show that the invading flies have quickly evolved a gradation in wing size that is remarkably convergent on that seen in the ancestral European populations; on both continents, wing size increases with increasing latitude.

INTERNEURON ANATOMY AND ACTIVITY

Small groups of inhibitory interneurons can exert enormous influence over large numbers of excitatory nerve cells in the neocortex (see the Perspective by Miles). By using triple and sometimes quadruple recordings of synaptically connected neurons, Gupta *et al.* (p. 273) have unraveled some of the complexity and diversity of

CONTINUED ON PAGE 191

Need enzymes?









THIS WEEK IN SCIENCE

CONTINUED FROM PAGE 189

synaptic inhibition in the cortex. On the basis of axonal morphology, synaptic dynamics, and general firing properties, they find a number of distinct cell classes and clearly defined groups of synaptic connections. In their connections with pyramidal cells, each defined inhibitory cell group shows one of the distinct patterns of temporal depression or facilitation. However, when the same interneuron makes connections with one of the other inhibitory cell types, a different temporal dynamic may emerge. Martina et al. (p. 295) have analyzed the mechanisms that underlie the remarkable speed and efficacy of interneuron activation. By simultaneously recording from dendritic and somatic membranes from unambiguously identified somatostatin-containing hippocampal interneurons, they show that these dendrites have high densities of voltage-gated sodium and potassium channels. Active conductance opens the possibility that action potentials may be initiated near the synaptic input instead of only at the axon hillock. Once initiated, these action potentials propagate rapidly and reliably through the dendrite and the soma of the cell, even during high-frequency trains.

BINDING DIRECTLY

Two related nonclassical major histocompatibility complex (MHC) class I molecules, T22 and T10, bind to $\gamma\delta$ T cell receptor (TCR) in the absence of any peptide ligand. Wingren *et al.* (p. 310) have determined the structure of T22 at 3.1 angstroms. The overall fold is similar to that of MHC class I molecules, but the peptide-binding groove is severely truncated, which exposes surfaces on T22 that may bind directly to $\gamma\delta$ TCRs. The structure indicates that $\gamma\delta$ and $\alpha\beta$ TCRs bind differently to their respective MHC ligands and provides a basis for their differ-

ent functions in the immune system. Crowley *et al.* (p. 314) investigated the functional relevance of the interaction of T22 and T10 interaction with $\gamma\delta$ T cells. They provide evidence that T22 is a physiological ligand for murine $\gamma\delta$ T cells by identifying a population of $\gamma\delta$ T cells that bind T22 in normal mice and show that this population is activated by T22 or the closely related molecule T10.

PRIMATE CLONES THROUGH EMBRYO SPLITTING

The ability to produce genetically identical nonhuman primates would be a significant advantage for medical research. Chan et al. (p. 317) have dissected embryos at the 8-cell stage into components containing two blastomeres and, after culture in vitro, transferred these into surrogate mothers. This procedure has been performed on 107 rhesus embryos, with resultant "multiples" showing varying developmental capacities. Apoptosis occurred at a higher rate in the inner cell masses of the split embryos than in controls. One live birth has been achieved.

CD9 AND FEMALE FERTILITY

The tetraspanin CD9 is an integral membrane protein that associates with other membrane proteins. Miyado et al. (p. 321) and Le Naour et al. (p. 319) have independently examined CD9 knockout mice. When CD9 was eliminated by homologous recombination, the mice developed normally, and CD9-/- males were fertile when mated to wild-type mice. CD9-/females, on the other hand, were infertile. This infertility is not due to defects in ovulation or oocyte maturation, but instead resulted from the failure of sperm and oocyte to fuse. It is plausible that the role of mouse CD9 in oocyte-sperm fusion may be related to incidents of infertility in human females.

TECHNICAL COMMENT SUMMARIES

Control of Autoimmune Diabetes

The full text of these comments can be seen at www.sciencemag.org/cgi/content/full/287/5451/191a

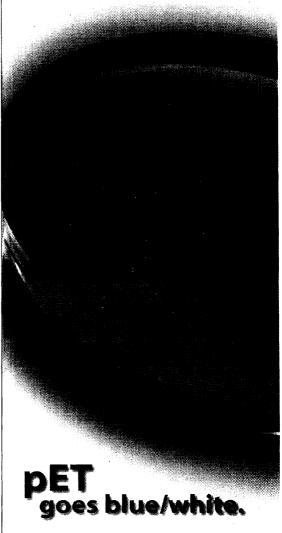
Destruction of pancreatic β cells is involved in autoimmune diabetes, although the specific causes of the destruction have been unclear. Yoon *et al.* (Reports, 14 May, p. 1183) presented experiments in mice in which the β cell suppression of glutamic acid decarboxylase (GAD) expression seemed to prevent the development of autoimmune diabetes. They concluded that modulation of GAD might have therapeutic value.

Separately, Atkinson *et al.* and Tian and Kaufman question whether other factors involved in their experiments could have suppressed diabetes in the mice. Yoon *et al.* provide additional details of their experiments, analysis, and controls, but agree with Atkinson *et al.* and Tian and Kaufman that "caution must still be exercised about the relative importance of GAD in diabetes."

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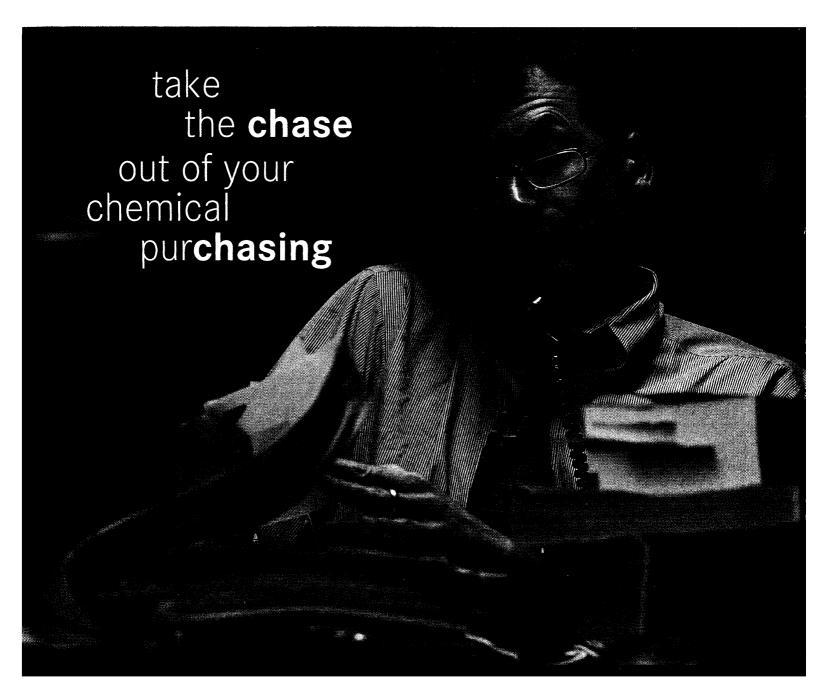
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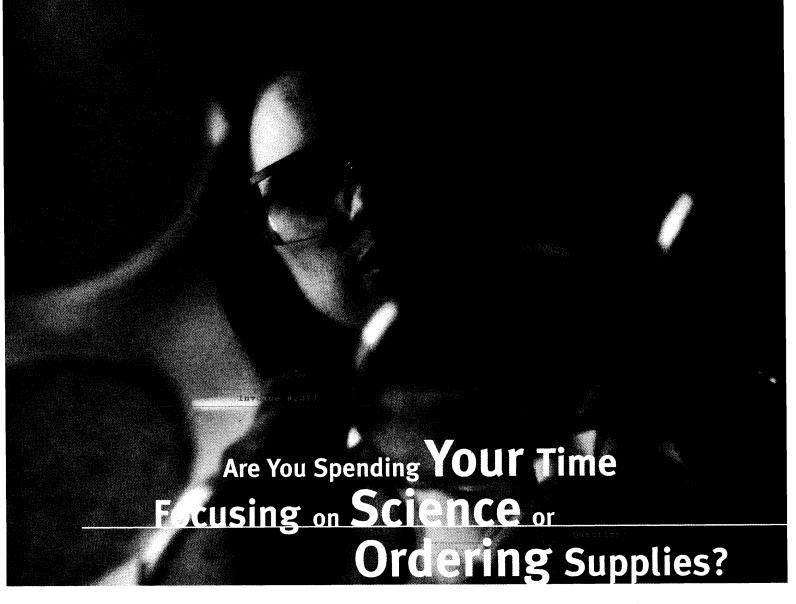
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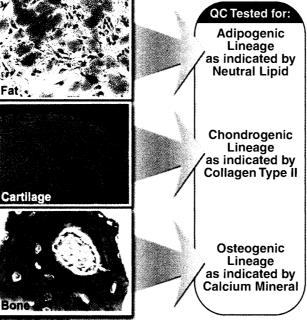
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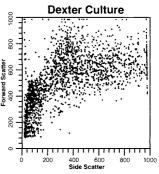
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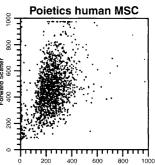
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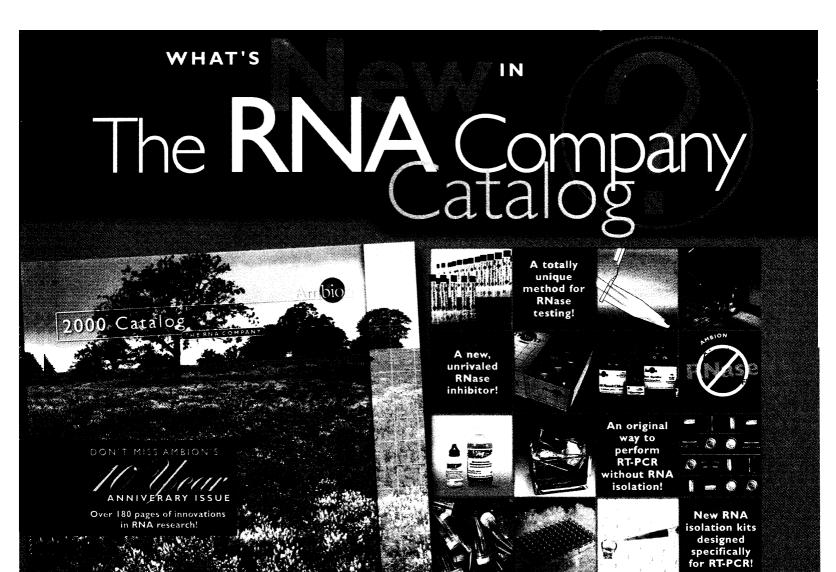
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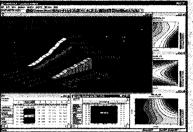
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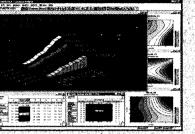
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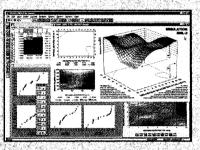
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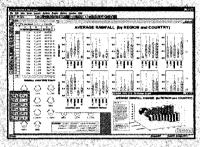


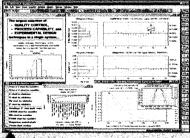
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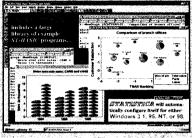


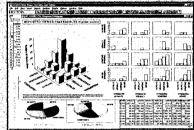


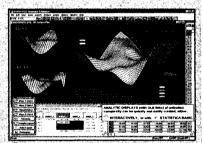


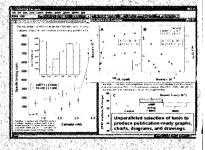














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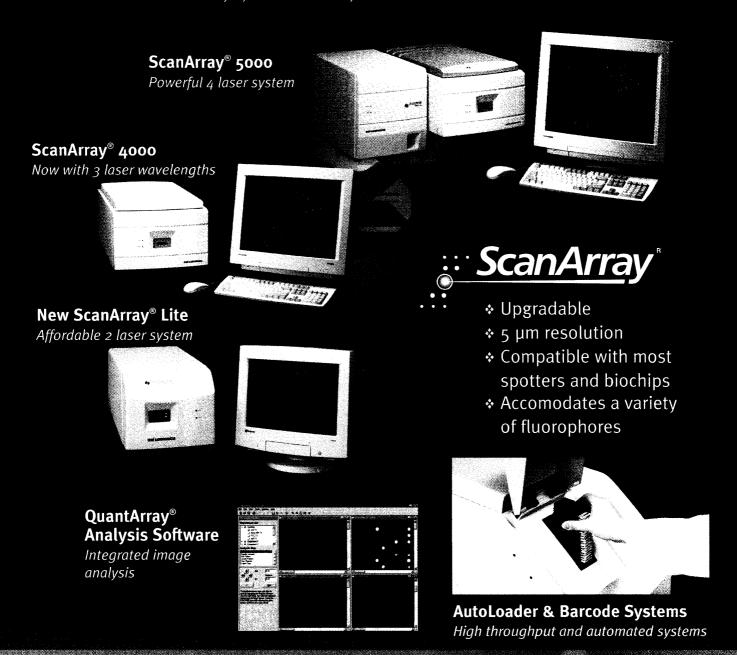
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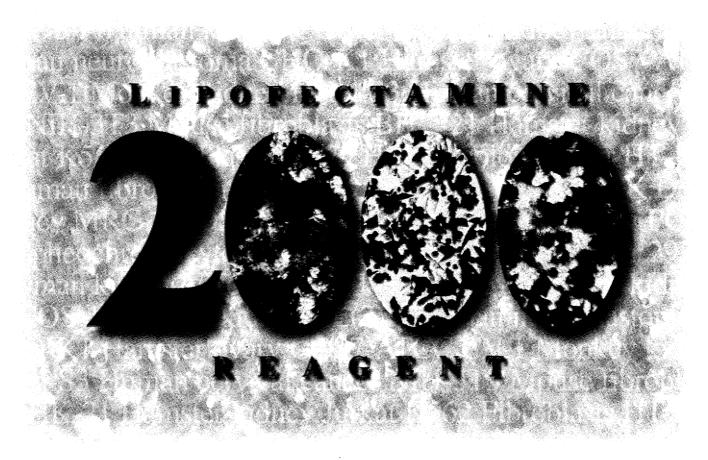


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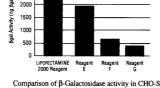
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Science and Technology at the Millennium:

Retrospect & Prospect

25th Anniversary AAAS Colloquium on Science and Technology Policy

April 11–13, 2000 Omni Shoreham Hotel Washington, DC

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ISTRATION: Budget discussions will be supplemented by AAAS Report XXV: Research and Development, FY 2001, a comprehensive analysis of the proposals for the FY 2001 budget, prepared by AAAS and a group of its affiliated scientific, engineering, and higher education associations. Registrants will receive this report at the Colloquium; the 2001 AAAS Science and Technology Policy Yearbook (containing most of the Colloquium address, plus other significant items) in the fall; and Congressional Action on R&D in the FY 2001 Budget later in the fall.

The AAAS Science & Technology Policy Colloquium provides a forum in which federal and industrial policymakers and members of the scientific, engineering, and academic communities can participate in an open discussion of issues relating to science and technology policy.

The Colloquium occurs after the release of the President's budget but before final congressional action, thus allowing for the timely exchange of information about the budget and the consequences of various policy issues involving science and technology.

WHO SHOULD ATTEND: Scientists, administrators, industrial R&D managers, policymakers, academicians, association officials, federal grant recipients, students, science attachés, government affairs specialists, public affairs officers, and others with an interest in science and technology policy.

PROGRAM OVERVIEW

TUESDAY, APRIL 11

(Registration opens 12 noon; program starts at 2 p.m.)

KEYNOTE

Neal Lane, Assistant to the President for Science and Technology, and Director, OSTP (confirmed)

BUDGETARY AND POLICY CONTEXT FOR R&D IN 2001 (Plenary Symposium)

- A Congressional Perspective on S&T Issues for FY 2001
- AAAS Overview of Federal Budget Proposals for R&D in 2001
- A Retrospective Look at S&T in the Clinton Administration and A Look Ahead

THE WILLIAM D. CAREY LECTURE (public invited) Rita R. Colwell, Director, NSF (confirmed)

25TH ANNIVERSARY RECEPTION

WEDNESDAY, APRIL 12

SOCIAL, ECONOMIC, AND POLITICAL IMPLICA-TIONS OF INFORMATION TECHNOLOGIES (Plenary Session)

Impacts of e-commerce, privacy issues, intellectual property, antitrust issues, encryption, differential access by class, geography, etc.

LUNCHEON AND ADDRESS

(Speaker to be announced)

CONCURRENT SYMPOSIA

- Technology Transfer and Academic Capitalism
- Medical S&T Advances and the Quality of Health Care Delivery
- Globalizing R&D

THE YEAR 2000 ± 25: RETROSPECTIVE & PROSPECTIVE VIEWS OF S&T POLICY (Plenary Symposium)

THURSDAY, APRIL 13

BREAKFAST AND ADDRESS

(Speaker to be announced)

GENETIC MODIFICATION OF FOODS: The Public's Mistrust of Science and Science's Misunderstanding of the Public (Plenary Session)

Perspectives of biotech/food industries, European nations, university researchers, farmers, consumers, Congress.

LUNCHEON AND ADDRESS

(Speaker to be announced)

Details and updated program information may be obtained by visiting the Colloquium Website, http://www.aaas.org/spp/r&d

REGISTER NOW by completing and returning the enclosed form. For further information, contact: Directorate for Science and Policy Programs, AAAS, 1200 New York Ave., NW, Washington, DC 20005. Fax: 202-289-4950. Email: snelson or slita@aaas.org. Phone: 202-326-6600 (for information). A more detailed version of the Colloquium program can be found on the AAAS homepage on the World Wide Web: http://www.aaas.org/spp/r&d. Online registration is also available at that site.



25th Anniversary AAAS Colloquium on Science and Technology Policy

April 11-13, 2000 • Omni Shoreham Hotel • Washington, DC

ADVANCE REGISTRATION FORM **SPECIAL 25TH ANNIVERSARY REGISTRATION OFFER:** Please print or type If you were a registrant at the original 1976 Colloquium, you will receive Name a 25% discount from the rate for which you would normally qualify. See details below. Organization ____ **REGISTRATION FEES AAAS Member** Non-member \$248 Regular \$275 Street Address Nonprofit² \$225 \$202 \$75 \$67 Student² City/State/Zip Original 1976 Colloquium Fax____ \$206 \$186 Registrant - Regular Original 1976 Colloquium ☐ Check here if you will be staying at the Omni Shoreham hotel. **\$168** \$151 Registrant – Nonprofit² ☐ Check here if you need special services due to disability. Original 1976 Colloquium Please describe:___ \$50 Registrant - Retiree² \$56 **AAAS Membership Number: MEAL TICKETS** TO REGISTER BY MAIL, send this registration form with payment to: **38** Lunch (Wed. April 12) Registration, AAAS S&T Policy Colloquium, Science and Policy Programs **1** \$19 Breakfast (Thurs. April 13) AAAS **38** Lunch (Thurs. April 13) 1200 New York Avenue, NW Washington, DC 20005 **Total Amount Due:** PAYMENT3 TO REGISTER BY FAX, fax this registration to 202-289-4950 ☐ Check enclosed ☐ Visa Credit card information must accompany faxed registrations. ☐ American Express ☐ MasterCard Original institutional purchase order attached (by mail only) TO REGISTER ONLINE, go to http://www.aaas.org/spp/r&d Card number: Cancellations must be faxed by April 1, 2000 Expiration Date:

[1] After April I, register in person at the Omni Shoreham Hotel beginning at 12:00 p.m., April II. On-site registration fees are \$15 higher than advance registration fees.

Signature:

- [2] Nonprofit rates apply only to employees of government, academic, and nonprofit organizations. Student rates apply only to full-time undergraduate and graduate students, postdocs, and retirees.
- [3] Refund requests for registration fees and meal tickets must be submitted in writing (to the address or fax number above) by April 1, 2000, and will be processed after the Colloquium. No refunds will be made for cancellations received after April 1, 2000.

Publications: All registrants receive AAAS Report XXV: Research & Development, FY 2001 at the meeting and the 2001 AAAS Science and Technology Policy Yearbook in the fall and Congressional Action on R&D in the FY 2001 Budget later in the fall.

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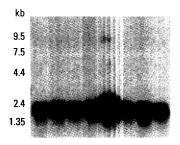
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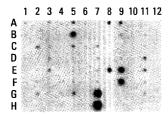


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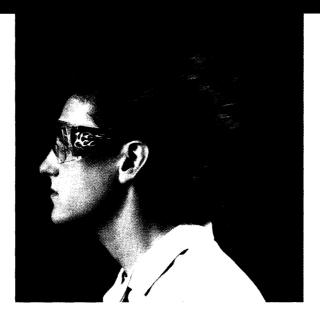
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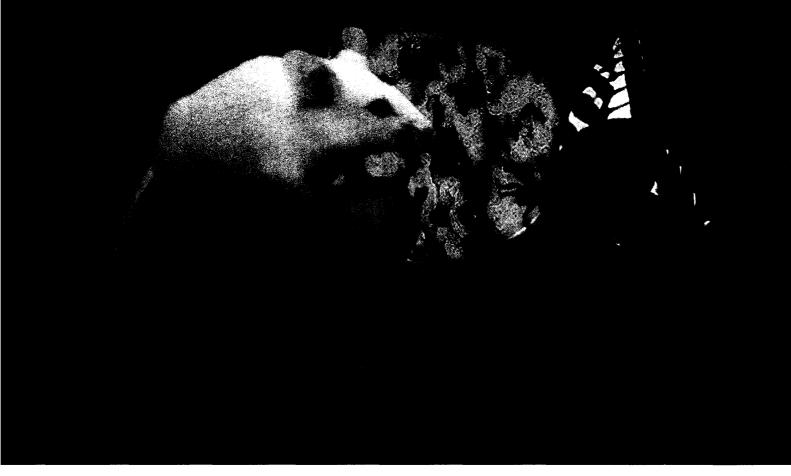
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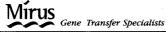
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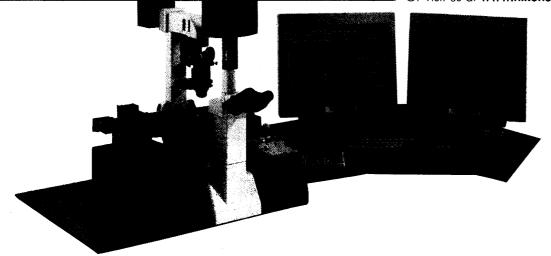
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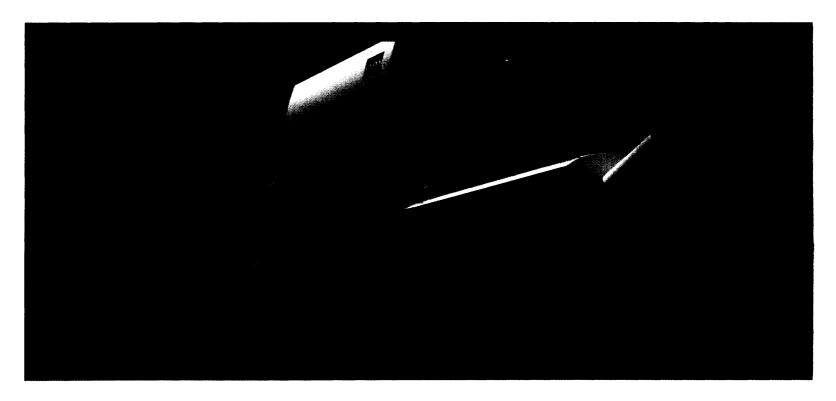




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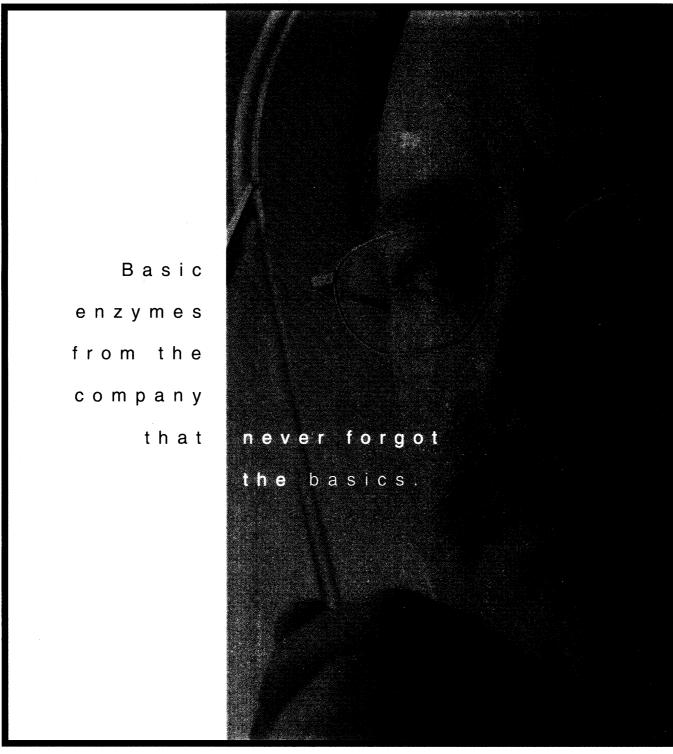
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2000 - GRANT OPPORTUNITIES AND CALENDAR OF MEETINGS - 2000

The NATO Science Programme offers support for collaboration in civil science between scientists of countries of the Euro-Atlantic Partnership Council. The purpose of the Programme is to stimulate the cooperation which is essential to progress in science, to create enduring links between researchers, and to help sustain the scientific communities in transition in NATO's "Partner" countries - the newly-independent states of Central and Eastern Europe and Central Asia.

The Programme is structured in four sub-programmes, encompassing a variety of collaborative support mechanisms to achieve different objectives:

Science Fellowships

to train young scientists

Cooperative Science & Technology

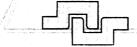
to initiate cooperation and create enduring links

Research Infrastructure Support

to provide basic infrastructure and guide organization of research

Science for Peace

to strengthen industrial R&D



Scientists from NATO's Mediterranean Dialogue countries are also eligible to participate in the support activities of the Cooperative Science & Technology sub-programme. All the participating countries are listed on page 4.

Grant Opportunities

Joint applications in all fields of science are invited from researchers in participating countries for Collaborative Linkage Grants or Expert Visits, or to organize Advanced Study Institutes or Advanced Research Workshops - the activities supported under the sub-programme Cooperative Science & Technology. Application criteria, and application forms, are available at the NATO science web site. To be eligible for funding, collaboration must be between scientists in "Partner" or Mediterranean Dialogue countries and scientists in NATO countries. Collaboration between NATO-country scientists exclusively is no longer supported.

Details of other grants available are also specified at the web site, including - Science Fellowships and Networking Infrastructure Grants.

New criteria for the 2000 call for proposals for Science for Peace will be available from March 1 2000, and will also be found at the web site.

Calendar of Meetings

Overleaf is a Calendar of Advanced Study Institutes, and Advanced Research Workshops which will take place in 2000. Locations and dates may change. Further information on any meeting, as well as requests to attend, should be addressed to the co-directors listed for the individual meetings. Some grants are available from the meeting directors for participation of Partner-country or NATO-country scientists.

Further meetings will be selected for support during the year, and the Calendar appearing on the web site will be updated with newly-awarded meetings in May and September.

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LIFE SCIENCES AND BEHAVIOURAL SCIENCES

Plant Responses to Biotic and Abiotic Stress: Molecular Mechanisms and Implications for Agriculture

15 May 2000 - 27 May 2000 : Roscoff, France

Co-Directors: Prof. S. Lazarowitz, Cornell University, Dept. Plant Pathology, 334 Plant Sc. Bldg., Ithaca, NY 14853-4203, USA (Fax: 607 255 4471 Email: SGL5@Cornell.edu)

Prof. J. Atabekov, Moscow State University, Russia

(Email: atabekov@genebee.msu.su) LST.975550

Methods in Macromolecular Crystallography

25 May 2000 - 4 Jun 2000 : Erice, Sicily, Italy

Co-Directors: Prof. L.N. Johnson, Oxford Univ., Molecular Bioph. Lab., Rex Richards Bldg, Sth Parks Rd., Oxford OX1 3QU, UK (Fax:+44 1865 510454 Email: Louise@biop.ox.ac.uk) Dr. D. Turk, Institute Josef Stefan, Ljubljana, Slovenia (Email: Dusan.turk@ijs.si)

Vascular Endothelium: "Source and Target of Inflammatory Mediators"

24 Jun 2000 - 3 Jul 2000 : Limin Hersonissou, Crete

Co-Directors: Prof. John Catravas, Georgia Med. College, Vascular Biology Ctr, 1120 15th St., Augusta, GA 30912-2500, USA (Fax: 1-706 721 9799 Email: jcatrava@mail.mcg.edu) Dr. M. Simionescu, N. Simionescu Inst. of Cellular Biology & Patholog, Bucharest, Romania (Email: Simionescum@Simionescu.instcellbiopath.ro) LST.975847

Etiology and Treatment of Acute Lung Injury

27 Jun 2000 - 5 Jul 2000 : Corfu, Greece

Director, Prof. Sadis Matalon, Univ. of Alabama, Department of Anesthesiology,

619 South 19th Street, Birmingham, AL 35233-6810, USA

(Fax: 205 934 7437 Email: sadis.matalon@ccc.uab.edu) ASI.973856

Modulation of Neuronal Signaling: Implications for Visual Perception

1 Aug 2000 - 10 Aug 2000 : Lithuania

Co-Directors: Dr. G. Buracas, Howard Hughes Med. Inst., SNL Vision Center, 10010 North Torrey Pines Rd., La Jolla, CA 92037, USA (Fax: 619 546 8526 Email: giedrius@salk.edu) Prof. O. Ruksenas, Vilnius Univ., Lithuania (Email: osvaldas.ruksenas@gf.vu.lt)

Nitric Oxide: Basic Research and Clinical Applications

7 Sep 2000 - 17 Sep 2000 : Erice, Italy

Co-Directors: Dr. Pietro Minuz, Univ. di Verona, Biomed. & Surgical Sc., Via delle Menegone 10, 37134 Verona, Italy (Fax: 39 045 508815 Email:minuz@borgoroma.univr.it)

Prof. R. Gryglewski, Jaglellonian Univ., Cracow, Poland

(Email: mfgrygle@kinga.cyf-kr.edu.pl) LST.976267

Protein Modules in Cellular Signalling

13 Sep 2000 - 22 Sep 2000 : St. Martin de Londres, France

Co-Directors: Prof. L.Heilmeyer, Ruhr-Univ., Inst. f. Physiolog.Chemie,

Universitatsstr 150, D-44780 Bochum, Germany

(Fax:+49 234 32 14193 Email: ludwig.heilmeyer@ruhr-uni-bochum.de)

Prof. P.Friedrich, Hungarian Acad. of Sc., Budapest (Email: friedric@hanga.enzim.hu)

LST.975524 URL: http://www.physiolchem.ruhr-uni-bochum.de/summerschool.htm

MATHEMATICS, PHYSICS AND ASTRONOMY

Solid State Astrochemistry

7 Apr 2000 - 18 Apr 2000 : Erice, Sicily, Italy

Co-Directors: Prof. V. Pirronello, Univ. di Catania, Dip. di Metodologie Fis. e Chim.

Viale A. Doria 6, 95125 Catania, Italy (Fax: 39 095 333231 Email: vpirrone@dmfci.ing.unict.it)

Prof. J. Krelowski, N. Copernicus Univ., Torun, Poland (Email: jacek@astri.uni.torun.pl)

New Theoretical Approaches to Strongly Correlated Systems

10 Apr 2000 - 20 Apr 2000 : Cambridge, UK

Co-Directors: Prof. A.M. Tsvelik, University of Oxford, Dept of Physics, 1 Keble Road, Oxford

OX1 3NP, UK (Fax: 44 1 865 273 947 Email: a.tsvelik1@physics.ox.ac.uk)

Prof. A. Zawadowski, Technical Univ. of Budapest, Hungary (Email: zawa@phy.bme.hu) URL: http://www.newton.cam.ac.uk/programs/scew03.html PST.975656

Modern Trends in Magnetostriction Study and Application

22 May 2000 - 2 Jun 2000 : Partenit, Crimea, Ukraine

Co-Directors: Prof. M.R.J. Gibbs, The University of Sheffield, Department of Physics and

Astronomy, Sheffield S3 7 RH, UK (Fax: 0114 272 80 Email: m.r.gibbs@sheffield.ac.uk)

Prof. V. Eremenko, National Academy of Sciences of Ukraine, Kharkov

(Email: eremenko@ilt.kharkov.ua)

URL: http://www.ilt.kharkov.ua/resources/asi-2000/ms.htm

PST.975527

PST.975649

Trapped Particles and Fundamental Physics

23 May 2000 - 2 Jun 2000 : Les Houches, France

Co-Directors: Prof. L. Moi, University of Siena, Department of Physics.

Via Bianchi Di Sotto, 55, 53100 Siena, Italy (Fax: 39 577 232297 Email: moi@unisi.it)

Dr. S. Atutov, Siberian Div of Russian Acad. of Science, Russia (Email: atutov@axpfe.fe.infn.it)

PST.976118

Special Functions 2000

29 May 2000 - 9 Jun 2000 : Tempe, Arizona, USA

Co-Directors: Prof. S. Suslov, Arizona State University, Department of Mathematics, Tempe, AZ 85287-1804, USA (Fax: 602 965 8119 Email: sks@asu.edu)

Dr. V. Spiridonov, Joint Institute for Nuclear Research, Dubna, Moscow Region, Russia

(Email: svp@thsun1.jinr.ru) URL: http://math.la.asu.edu/~sf2000/ PST.975673

Techniques and Concepts of High Energy Physics

15 Jun 2000 - 26 Jun 2000 : St. Croix, Virgin Islands, USA

Co-Directors: Prof. Harrison Prosper, Florida State University, Department of Physics, 4350, Tallahassee, FL 32306, USA (Fax: 1 850 644 6735 Email: harry@hep.fsu.edu) Prof. Mikhail Danilov, Institute for Theoretical and Experimental Physics, Moscow, Russia

(Email: danilov@mail.desy.de)

URL: http://www.pas.rochester.edu/ASIinfo/html PST.975424 **Photonic Crystals and Light Localization**

19 Jun 2000 - 30 Jun 2000 : Heraklion, Greece

Director. Prof. C. Soukoulis, Iowa State University, Department of Physics and Astronomy, Ames, IOWA 50011-3160, USA (Fax: 1-515-294-0689 Email: soukoulis@ameslab.gov)

Space Storms and Space Weather Hazards

19 Jun 2000 - 29 Jun 2000 : Hersonissos, Crete, Greece

Co-Directors: Dr. I. Daglis, Nat. Observatory, Inst. of Ionospheric & Space Res., Metaxa & Vas.Pavlou Str., 15236 Penteli, Greece (Fax: 30 1 6138343 : Email: daglis@creator.space.noa.gr)

Dr. Y. Galperin, Russian Academy of Sciences, Moscow (Email: ygalperin@iki.rssi.ru) URL: http://sat2.space.noa.gr/~daglis/asi2000.html PST.975607

Recent Developments in Particle Physics and Cosmology

26 Jun 2000 - 7 Jul 2000 : Cascais, Portugal

Director. Prof. Q. Shafi, Univ. of Delaware, Bartol Res. Institute, 217 Sharp Lab., Newark, DE 19716, USA (Fax: 302 831 1843 Email: shafi@bartol.udel.edu) ASI,972861

Approximation, Complex Analysis, and Potential Theory

3 Jul 2000 - 14 Jul 2000 : Montreal, Canada

Co-Directors: Prof. A.Daigneault, Montreal, Dep.Math. & Statistique, CP 6128, Succ Centre-Ville, Montreal H3C 3J7, Canada (Fax: 1-514 343 5700 Email: daigneau@dms.umontreal.ca)

PST.975635

PST.975721

PST.975978

PST.975397

PST.975529

Prof. Norair Arakelian, National Academy of Science of Armenia, Yerevan (Email: arakel@instmath.sci.am)

Nanostructured Carbon for Advanced Applications

19 Jul 2000 - 31 Jul 2000 : Erice, Sicily, Italy

Co-Directors: Prof. G. Benedek, Univ. Milano-Bicocca, Dip. Scienza dei Materiali, via Cozzi 53, 20125 Milano, Italy (Fax: 39 02 6448 5403 Email: giorgio.benedek@mater.unimib.it)

Prof. Victor Ralchenko, Russian Academy of Sciences, Moscow

(Email: ralchen@ran.gpi.ru) PST.976191 The Restless Universe: Applications of Gravitational N-Body Dynamics to Planetary,

Stellar and Galactic Systems

23 Jul 2000 - 5 Aug 2000 : Blair Atholl, UK

Co-Directors: Dr. Bonita Alice Steves, Glasgow Caledonian University, Department of Mathematics, Glasgow G4 0BA, UK (Fax: 44 0 141 331 3608 Email: bst@gcal.ac.uk)

Dr. A.J. Maciejewski, N. Copernicus Univ., Torun, Poland (Email: macieika@astri.uni.torun.pl)

New Developments in Singularity Theory

31 Jul 2000 - 11 Aug 2000 : Cambridge, UK

Co-Directors: Prof. D. Siersma, Univ. of Utrecht, Math. Institute, P.O. Box 80.010, 3508 TA Utrecht, The Netherlands (Fax: 31 30 251 8394 Email: siersma@math.uu.nl) Prof. V. Zakalyunkin, Moscow State Institute, Russia (Email: vladimir@zakal.mccme.ru) URL: http://newton.cam.ac.uk/programs/sgtw01.html PST.975659

Algebra - Representation Theory

2 Aug 2000 - 12 Aug 2000 : Constanta, Romania

Co-Directors: Prof. KW Roggenkamp, Univ. Stuttgart, Math. Institut B/3, Pfaffenwaldring 57, Vaihingen, 70550 Stuttgart, Germany

(Fax: 49 711 685 5322 Email: Roggenkamp@mathematik.uni-stuttgart.de)

Prof. M. Stefanescu, Ovidius Univ., Constanta, Romania (Email: isj-cta@mamaia.datanet.ro) URL: http://web.mathematik.uni-stuttgart.de/~ovid PST.975564 **Nuclei Far From Stability and Astrophysics**

28 Aug 2000 - 8 Sep 2000 : Predeal, Romania

Co-Directors: Prof. H. Rebel, Forschungsz. Karlsruhe, Institut f. Kernphysik III, POB 3640, D76021 Karlsruhe, Germany (Fax: 0049-7247-824045 Email: Rebel@ik3.fzk.de) Prof. D.N. Poenaru, Inst. of Atomic Physics, Bucharest, Romania

(Email: poenaru@ifa.ro)

Phase Transitions in the Early Universe: Theory and Observations 6 Dec 2000 - 17 Dec 2000 : Erice, Sicily, Italy

Co-Directors: Prof. H.J. De Vega, Univ. Paris VI, LPTHE, UA280, Tour 16, 4 Pl. Jussieu, 75252 Paris Cedex 05, France (Fax: 33 1 4427 7088 Email: devega@lpthe.jussieu.fr)

Prof. I.M. Khalatnikov, Russian Academy of Sciences, Moscow (Email: khalat@landau.ac.ru)

PST.975936

CHEMISTRY AND MATERIALS

Defects in SiO2 and Related Dielectrics : Science and Technology

8 Apr 2000 - 20 Apr 2000 : Erice, Sicily, Italy

Co-Directors: Prof. G. Pacchioni, Univ. di Milano-Bicocca, Dip. Sc. dei Materiali, V.Cozzi 53, 20125 Milano, Italy (Fax: 39 02 6448 5403 (Email: gianfranco.pacchioni@mater.unimi.it) Dr. L. Skuja, University of Latvia, Riga, Latvia (Email: skuja@acad.latnet.lv)

URL: http://www.mater.unimib.it/natosio2/

Chemical Prospectives in Crystallography of Molecular Biology 25 May 2000 - 4 Jun 2000 : Erice, Sicily, Italy

Co-Directors: Dr. D. Stuart, Oxford Univ., Molecular Bioph. Lab., Rex Richards Bldg, Sth Parks Rd., Oxford OX1 3QU, UK (Fax: 44 1865 510454 Email: dave@biop.ox.ac.uk) Prof. M. Jaskolski, A. Mickiewicz Univ., Poznan, Poland

(Email: mariuszj@amu.edu.pl) PST.976033 Functional Gradient Materials and Surface Layers Prepared by Fine Particles Technology

June 2000 : Kyiv, Ukraine Co-Directors: Dr. M.I. Baraton, Univ. of Limoges, SPCTS-UMR 6638, 123 Avenue Albert Thomas, F-87060 Limoges, France (Fax: 33 555 77 8100 Email: baraton@unilim.fr) Prof. I. Uvarova, Institute for Problems of Materials Science, Kyiv, Ukraine

(Email: uvar@ipms.kiev.ua) **Physical Aspects of Fracture**

5 Jun 2000 - 17 Jun 2000 : Cargese, Corsica, France

Co-Directors: Dr. E. Bouchaud, CEA/SACLAY, Gif-sur-Yvette, SRSIM, 91191 Gif-sur-Yvette

Cedex, France (Fax: +33 1 69 08 84 46 Email: bouchaud@drecam.cea.fr)

Mr. R. Goldstein, Russian Academy of Sciences, Moscow, Russia

(Email: goldst@ipmnet.ru) PST.975714

ADVANCED STUDY INSTITUTES - continued

Carbon Filaments and Nanotubes: Common Origins, Differing Applications? 19 Jun 2000 - 30 Jun 2000 : Budapest, Hungary

Co-Directors: Dr. L.P. Biro, Research. Inst. for Techn. Physics & Materials Science, P.O. Box 49, H-1525 Budapest, Hungary (Fax: 36 1 3959284 Email: biro@mfa.kfki.hu) Dr. Carlos Bernardo, Universidade do Minho, Portugal (Email: cbernardo@eng.uminho.pt) ASI 973853 URL: http://www.mfa.kfki.hu/natoasi2000/

Magnetic Storage Systems Beyond 2000 25 Jun 2000 - 7 Jul 2000 : Rhodes, Greece

Co-Directors: Prof. G. Hadjipanayis, Univ. Delaware, Dept. of Physics & Astronomy, 223 Sharp Lab, Newark, DE 19716-2570, USA (Fax: 1-302-831.1637 Email: hadji@udel.edu)

Prof. G.Horia-Catalin Gavrila, University Politechnica Bucharest, Romania

(Email: gavrila@temp.eltech.pub.ro)

Properties and Applications of Amorphous Materials

25 Jun 2000 - 7 Jul 2000 : Sec, Czech Republic

Co-Directors: Dr. M.F. Thorpe, Michigan State University, Physics and Astronomy Dept., East Lansing, MI 48824-1116, USA, (Fax: 517 353 06 90 Email: thorpe@pa.msu.edu)

Dr. L. Tichy, University of Pardubice, Czech Republic

(Email: ladislav.tichy@upce.cz)

PST.975605

PST.975548

Atomic and Molecular Clusters and Nanoparticles 3 Jul 2000 - 28 Jul 2000 : Les Houches, France

Co-Directors: Dr. C. Guet, Commis. l'Energie Atomique, CEN Grenoble, 17 rue des Martyrs, Bat. 10 05, 38054 Grenoble Cedex 9, France (Fax: 33 4 76 88 5223 Email: cguet@cea.fr)

Prof. P. Hobza, Acad. of Sciences of Czech Rep, Prague

(Email: hobza@indy.jh-inst.cas.cz) PST.976166

Electrostatic Effects in Soft Matter and Biophysics 2 Oct 2000 - 13 Oct 2000 : Les Houches, France

Co-Directors: Dr. Christian Holm, MPI fur Polymerforschung, Ackermannweg 10, 55128 Mainz, Germany (Fax: 49 6131 379100 Email: holm@mpip-mainz.mpg.de)

Prof. Rudolf Podgornik, Univ. of Ljubljana, Slovenia

(Email: rudolf.podgornik@ijs.si) PST.976196

ENVIRONMENTAL SCIENCES

Environmentally-Acceptable Reclamation and Pollution Endpoints : Scientific Issues and **Policy Development**

4 Sep 2000 - 15 Sep 2000 : Visegrad, Hungary

Co-Directors: Prof. P. Baveye, Cornell Univ., Lab. of Environmental Geophysics,

6 Eagles Head Rd, Ithaca, New York 14850, USA

(Fax: 607 255 8165 Email: pcb2@cornell.edu) Dr. V.V. Goncharuk, National Academy of Sc. of Ukraine, Kyiv

(Email: gvv@iccw.freenet.kiev.ua)

APPLIED SCIENCES AND ENGINEERING

Nonlinear Dynamics in Life and Social Sciences

25 Apr 2000 - 6 May 2000 : Moscow, Russia

Co-Directors: Prof. W. Sulis, McMaster Univ, Dept Computer Sc. & Psychol., 1280 Main St. W.Hamilton, Ontario, L8S 6M4, Canada (Fax: 905 521 7948 Email: sulisw@mcmaster.ca)

Dr. S. Kurdyumov, Institute for Applied Maths, Moscow, Russia (Email: kurdyumov@applmat.msk.su)

URL: http://www.cas.mcmaster.ca/~sulisw/asi.html

LST.975874

Twentieth Century Pure and Applied Harmonic Analysis

2 Jul 2000 - 15 Jul 2000 : Il Ciocco, Italy

Co-Directors: Dr. James Byrnes, Prometheus Inc., 21 Arnold Avenue, Newport, RI 02840, USA (Fax: 1 401 848 7293 Email: jbyrnes@cs.umb.edu)

Prof. V. Havin, St. Petersburg State University, Russia (Email: havin@havin.usr.pu.ru)

PST 975399 URL: http://www.cs.umb.edu/~asi/analysis2000

Language Engineering for Lesser-Studied Languages

3 Jul 2000 - 14 Jul 2000 : Ankara, Turkey Co-Directors: Prof. Kemal Oflazer, Bilkent Univ., Dept. of Computer Eng., & Information Sc.,

Bilkent, Ankara 06533, Turkey (Fax: 1 90 312 266 4126 Email: ko@cs.bilkent.edu.tr) PST.976209 Prof. O. Kapanadze, Tbilisi State University, Georgia (Email: giit@iberiapac.ge)

Engineering Theories of Software Construction 25 Jul 2000 - 6 Aug 2000 : Marktoberdorf, Germany

Co-Directors: Prof. C.A.R. Hoare, Oxford Univ., Computing Lab., Wolfson Bldg, Parks Rd, Oxford

OX1 3QD, UK (Fax: 44 1865 273839 Email: Tony.Hoare@comlab.ox.ac.uk) Prof. W. Turski, Warsaw University, Poland (Email: W.Turski@mimuw.edu.pl)

URL: http://www4.informatik.tu-muenchen.de/div/summerschool

PST.975628

New Trends in Turbulence

1 Aug 2000 - 1 Sep 2000 : Les Houches, France

Co-Directors: Prof. M. Lesieur, Inst. Nat. Polytechnique de Grenoble, BP 53, 38041 Grenoble Cedex 9, France (Fax: 33 4 76825271 Email: Marcel.Lesieur@hmq.inpq.fr)

Prof. A. Yaglom, Russian Academy of Sciences, Moscow (Email: akiva@mit.edu) URL: http://w3houches.ujf-grenoble.fr/poster-summer-74.html

PST.975571

SECURITY-RELATED CIVIL SCIENCE

Risk Assessment Activities for the Cold War Facilities and Environmental Legacies 1 May 2000 - 10 May 2000 : Bourgas, Bulgaria

Co-Directors: Dr. D. Bley, Buttonwood Consulting, Inc., 11738 English Mill Court, Oakton, VA 22124, USA (Fax: 800 732 9244 Email: bley@compuserve.com)

Prof. Vitaly Eremenko, Education Centre, Moscow, Russia (Email: vitaly@vitaly.msk.ru)

SST.975954

ADVANCED RESEARCH WORKSHOPS

EST 976257

LST.975854

Advanced Research Workshops (ARWs) are working meetings of about four days' duration, where scientists and engineers researching at the frontiers of a subject are able to engage in an intense but informal exchange of views, aiming at a critical assessment of existing knowledge and identification of directions for future action. Attendance at ARWs is mainly by invitation, but a few places are available for particularly well-qualified scientists of all nationalities upon application to the Co-Directors listed below.

LIFE AND BEHAVIOURAL SCIENCES

Calcium Signaling and Cross-Talk in Excitable Tissue

1 Apr 2000 - 4 Apr 2000 : Italy

Co-Directors: Prof. Martin Morad, Georgetown Univ.Med. Ctr., Pharmacology Dept,

3900 Reservoir Rd., NW, Washington, D.C. 20007, USA

(Fax: 202 687 8458 Email: moradm@gunet.georgetown.edu)

Prof. Platon Kostyuk, National Academy of Science of Ukraine, Kyiv

(Email: pkostyuk@serv.biph.kiev.ua) Increase in Coronary Heart Disease Mortality in Central and Eastern Europe:

Stress- and Gender-related Factors

20 May 2000 - 24 May 2000 : Budapest, Hungary Co-Directors: Prof. G. Weidner, State Univ. of New York, Stony Brook, Dept of Psychology,

Stony Brook, NY 11794-2500, USA (Email: gweidner@sunysb.edu)

Dr. S.M. Kopp, Inst. of Behavioural Science, Budapest, Hungary

ARW 972419 (Fmail: kopmar@net sote hu)

Economics of the Dairy Industry in Central and Eastern Europe

5 Jun 2000 - 9 Jun 2000 : Poznan, Poland

Co-Directors: Prof. Loren Tauer, Cornell Univ., 451 Warren Hall, Ithaca, NY 14850, USA (Fax: 607 255 6696 Email: LWTL@cornell.edu)

Prof. Michal Sznajder, Poznan Univ., Poland (Email: misznajd@av.poznan.pl)

LST.976220

Cell Biology of Plant and Fungal Tip Growth

1 Aug 2000 - 2 Aug 2000 : Siena, Italy

Co-Directors: Dr. A. Geitmann, Wageningen Univ, Exp. Plant Morphology & Cell Biol, Arboretumlaan 4, 6703 BD Wageningen, Netherlands (Fax: 31 317 485005 Email: anja.geitmann@guest.pcm.wau.nl) Prof. J. Hasek, Czech Academy of Science, Praha. (Email: hasek@biomed.cas.cz) LST.975567

URL: http://www.dpw.wageningen-ur.nl/epc/nato-tipgrowth Multi-Problem Violent Youth: A Foundation for Comparative Research on Needs,

Interventions and Outcomes

30 Aug 2000 - 2 Sep 2000 : Cracow, Poland

Co-Directors: Prof. R. Corrado, Simon Fraser Univ., Dept. of Criminology, 8888 University Drive, Burnaby BC V5A 1S6, Canada (Fax: 604 291 4140 Email: rcorrado@sfu.ca)

Prof. J. Gierowski, Institute of Forensic Research, Cracow, Poland LST.974658

Tapeworm Zoonoses - An Emergent and Global Problem

12 Sep 2000 - 14 Sep 2000 : Poznan, Poland

Co-Directors: Prof. P.S. Craig, Univ. of Salford, Dept of Biological Sc., The Crescent, Salford M5 4WT, UK (Fax: 0161-295-5210 Email: p.s.craig@biosci.salford.ac.uk)

(Email: zpawlows@eucalyptus.usoms.poznan.pl)

Prof. Zbigniew Pawlowski, Univ. of Medical Sciences, Poznan, Poland LST.975950 **Antibiotic Transport and Drug Resistance**

9 Oct 2000 - 12 Oct 2000 : Rhodes, Greece Co-Directors: Prof. H. Giamarellou, National & Kapodistrian Univ., 4th Dept of Internal Medicine,

Sismanoglio General Hospital, 151 26 Maroussi Attikis, Greece (Fax: 301 8039543 Email: hgiama@ath.forthnet.gr)

Prof. I.G. Ivanov, Bulgarian Academy of Sciences, Sofia (Email: iviv@obzor.bio21.bas.bg)

Sensorimotor Control

12 Oct 2000 - 14 Oct 2000 : Varna, Bulgaria

Co-Directors: Prof. Reinhard Dengler, Medical School Hannover, Dept. Neurology, D-30623 Hannover, Germany (Fax: 49 511 532 3115 Email: reinhard@mh-hannover.de) Prof. Andon Kossev, Bulgarian Academy of Sciences, Sofia

(Email: kossev@iph.bio.bas.bg)

LST.976249

LST.976256

MATHEMATICS, PHYSICS AND ASTRONOMY

Open Problems in Strongly Correlated Electron Systems

4 May 2000 - 7 May 2000 : Bled, Slovenia

Co-Directors: Prof. Sarben Sarkar, King's College London, Department of Physics, Strand, London WC2R 2LS, UK (Fax: 171 873 2420 Email: ss2@maxwell.ph.kcl.ac.uk)

PST.975691 Prof. P. Prelovsek, Univ. of Ljubljana, Slovenia (Email: peter.prelovsek@ijs.si) Frontiers of Nano-Optoelectronics Systems: Molecular-Scale Engineering and Processes

22 May 2000 - 26 May 2000 : Kyiv, Ukraine Co-Directors: Dr. L. Pavesi, Univ. of Trento, Dept of Physics, Via Sommarive, 14, 38050 Povo (Trento), Italy (Fax: 0039 461 881696 Email: pavesi@science.unitn.it)

Prof. E. Buzaneva, Kyiv Taras Shevchenko Univ., Ukraine (Email: evb@boy.rpd.univ.kiev.ua)

PST.975678

Collective Surface Diffusion Coefficients Under Non-Equilibrium Conditions 25 May 2000 - 2 Jun 2000 : Prague, Czech Republic

Co-Directors: Prof. M.C. Tringides, Iowa State Univ., Ames, Ames Laboratory, Physics Department, Ames, Iowa 50011, USA (Fax: 515 294 0689 Email: tringides@ameslab.gov) Dr. Z. Chvoj, Academy of Sciences of the Czech Republic, Praha (Email: chvoj@fzu.cz)

Size Dependent Magnetic Scattering

29 May 2000 - 1 Jun 2000 : Pecs, Hungary

Co-Directors: Prof. C. Van Haesendonck, KUL, Lab Voor Vaste Stof-Fysika & Magnetisme, Celestijnenlaan 200 D, 3001 Leuven, Belgium

(Fax: 32 16 327983 Email: chris.vanhaesendonck@fys.kuleuven.ac.be) Prof. A. Zawadowski, Technical Univ. of Budapest, Hungary

(Email: zawa@phy.bme.hu)

PST.975705

ADVANCED RESEARCH WORKSHOPS - continued

Integrable Hierarchies and Modern Physical Theories

June 2000 : Chicago, USA

Co-Directors. Prof. H. Aratyn, Univ, of Illinois, Dept of Physics (M/C 273), 845 W. Taylor Street, Room 2236, Chicago, Illinois 60607-7059, USA (Email: aratyn@uic.edu)

Dr. A. Sonn, Joint Institute for Nuclear Research, Dubna, Moscow Region, Russia

PST.975615 (Email: sorin@thsunl.jinr.dubna.su)

Rare Earth Transition Metal Borocarbides (Nitrides): Superconducting, Magnetic and Normal State Properties.

12 Jun 2000 - 15 Jun 2000 : Dresden, Germany

Co-Directors. Dr. Karl-Hartmut Muller, Inst. f. Festkorper- und Werkstofforschung, Postfach 270016, D-01171 Dresden, Germany (Fax: 49 351 4659 537 Email: khm@ifw-dresden.de) Dr. V. Narozhnyi, Russian Academy of Sciences, Troitsk, Russia

(Email: narozh@ns.hppi.troitsk.ru) PST 976040

Decoherence and its Implications in Quantum Computing and Information Transfer 2 Jul 2000 - 7 Jul 2000 : Heraklion, Crete, Greece

Co-Directors: Dr. A. Gonis, Lawrence Livermore Nat.Lab., Dept. of Chemistry & Materials Sc., POBox 808, L-353, Livermore, CA 94551, USA (Fax: 925 423 7040 Email: gonis1@llnl.gov) Prof. Ryszard Horodecki, Univ. of Gdansk, Poland (Email: fizrh@univ.gda.pl)

Dynamo and Dynamics, a Mathematical Challenge

21 Aug 2000 - 26 Aug 2000 : Cargese, Corsica, France

Co-Directors: Dr. P. Chossat, Univ. de Nice, Inst. Non Linéaire, CNRS-UMR 6618, 1361,

Rte des Lucioles, Sophia-Antipolis, 06560 Valbonne, France (Fax: 33 4 93652517 Email: chossat@inln.cnrs.fr)

Prof. I. Oprea, Univ. of Bucharest, Romania

(Email: juliana@mecanica.math.unibuc.ro)

PST.975581

Super-Intense Laser Atom Physics - SILAP

23 Sep 2000 - 28 Sep 2000 : Hanne sur Lesse, Belgium

Co-Directors: Dr. B. Piraux, UCL, Dept de Physique (Unité Fyam), Chemin du Cyclotron, 2, 1348 Louvain la Neuve, Belgium (Fax: 32 10 472431 Email: piraux@fyam.ucl.ac.be)

Prof. K. Rzazewski, Polish Academy of Sciences, Warsaw. (Email: kazik@cft.edu.pl)PST.976143

Nonlinearity and Disorder: Theory and Applications

2 Oct 2000 - 6 Oct 2000 : Tashkent, Uzbekistan

Co-Directors: Prof. P.L. Christiansen, Techn. Univ. of Denmark, Lab. of Applied Math. Physics, B;dg 303, DK-2800 Lyngby, Denmark (Fax: 45 4593 1235 Email: plc@imm.dtu.dk)

Dr. F.K. Abdullaev, Uzbek Academy of Sciences, Tashkent, Uzbekistan

(Email: fatkh@physic.uzsci.net) PST.976116

Clifford Analysis and its Applications

30 Oct 2000 - 3 Nov 2000 : Prague, Czech Republic

Co-Directors: Prof. F. Brackx, Univ. of Gent, Department of Mathematical Analysis, Galglaan 2, B-9000 Gent, Belgium (Fax: 32 9 2644987 Email: fb@cage.rug.ac.be)

Prof. Vladimir Soucek, Charles University, Praha, Czech Republic

(Email: soucek@karlin.mff.cuni.cz) PST.976052

CHEMISTRY AND MATERIALS

Green Industrial Applications of Ionic Liquids

February 2000 : Crete, Greece

Co-Directors: Prof. R.D. Rogers, Univ. of Alabama, Dept. of Chemistry, Box 870336, Tuscaloosa, AL 35487-0336, USA (Fax: 205 348 9104 Email: RDRogers@Bama.ua.edu) Prof. Sergiy Volkov, Ukrainian National Academy of Sciences, Kyiv (Email: root@ionc.kar.net)

Catalysis by Unique Metal Ion Structures in Solid Matrices. From Science to Application. 4 Jul 2000 - 7 Jul 2000 : Cesky Krumlov, Czech Rep.

Co-Directors: Prof. Gabriele Centi, Univ. of Messina, Dept. Industrial Chemistry & Materials Eng., Salita Sperone 31, 98166 Messina, Italy

(Fax: 39 090 391518 Email: centi@scirocco.unime.it)

Dr. Blanka Wichtertova, Academy of Sciences of the Czech Republic, Prague

(Email: wichterl@ih-inst.cas.cz)

ENVIRONMENTAL SCIENCES

Effective Environment and Health Communication: Evaluating the Impact of the London 99 Communication Strategy

1 Apr 2000 - 4 Apr 2000 : Chisinau, Moldova

Co-Directors: Dr. Tim Tinker, Communications & Research Agency for Toxic Substances and Disease Registry, 1276 Mayfair Drive NE, Atlanta, Georgia 30324, USA

(Fax: 001 404 639 0560 Email: tx2@cdc.gov)

Prof. Irina Zatushevsky, Moldovan State Univ., Chisinau, Moldova

(Fmail: zatush@mednet.md) EST.976294 Green Engineering and Management Methods and Tools for Central and Eastern Europe

28 May 2000 - 30 May 2000 : Budapest, Hungary Co-Directors: Prof. Arpad Horvath, Univ. of California, Dept of Civil & Environmental Eng.,

215B McLaughlin Hall, Berkeley, CA 94720-1712, USA

(Fax: 510 643 8919 Email: horvath@ce.berkeley.edu)

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The Louis-Jeantet Foundation for medicine awards the three laureates the global sum of CHF 2'100'000, equally divided between them.

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Application forms and further information are obtainable from the Secretary of the Science Committee The Louis-Jeanter Foundation for medicine, P.O. Box 277, CH - 1211 GENEVA 17, Switzerland Tel. ++4122 704 36 36; Fax ++4122 704 36 37; Email: info@jeanter.ch; Home page: www.jeanter.ch Only original signed application forms will be considered.

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