

ANNOUNCEMENTS

INDIAN ACADEMY OF SCIENCES, BANGALORE 49TH ANNUAL MEETING PUNE 7-9 NOVEMBER 1983

At the invitation of the National Chemical Laboratory the 49th Annual Meeting of the Academy will be held at Pune from Monday 7 to Wednesday 9 November 1983.

The tentative scientific program consists of two symposia, on "Tissue culture" (Convener: H. Y. Mohan Ram, University of Delhi, Delhi) and on "Frontiers in organic synthesis" (Convener: A. V. Rama Rao, National Chemical Laboratory, Pune). There will be a series of lectures on the "Indian Antarctic expedition" by S. Z. Qasim, (Department of Ocean Development, New Delhi), V. K. Raina (Geological Survey of India, Lucknow), R. Sen Gupta and A. H. Parulekar (National Institute of Oceanography, Dona Paula).

The popular Evening Lectures are by B. Nag, Jadavpur University, Calcutta on "Microprocessors" and M. G. Deo, Cancer Research Institute, Bombay, on "Anti-leprosy vaccine—the global scene".

The lecture presentations by Fellows will be (a) R. Cowsik, Tata Institute of Fundamental Research, Bombay, on "Neutrinos in the universe" (b) K. Gopalan, Physical Research Laboratory, Ahmedabad, on "Correlation of tectonic belts in Kumaun Lesser Himalaya—a geochronological approach" (c) M. M. Johri, Tata Institute of Fundamental Research,

Bombay, on "Development and differentiation in plants", (d) R. A. Mashelkar, National Chemical Laboratory, Pune, on "Modelling and simulation in polymer engineering" (e) K. B. Misra, Indian Institute of Technology, Kharagpur, on "Research in reliability engineering during seventies" (f) N. S. Narasimhan, University of Poona, Pune, on "Energy conservation—An organic chemist's attempts" (g) G. Rajasekaran, University of Madras, Madras on "Unification of the forces of nature" (h) K. J. Rao, Indian Institute of Science, Bangalore on "Glass transition: A veritable clue to the nature of glassy state". (i) P. N. Tandon, All India Institute of Medical Sciences, New Delhi; on "Intracranial vascular malformations" (j) M. Vijayan, Indian Institute of Science, Bangalore, on "Non-covalent interactions and molecular association involving biomolecules". C. R. Sreedharan, Meteorological Office, Pune on "Meteorological aspects of Antarctica".

The Council of the Academy has decided that all Fellows, attending the meeting and who are not able to obtain travel support from other sources, will be paid first class return train fare from their place of residence to Pune and back.

FIFTH INTERNATIONAL CONFERENCE ON RAPIDLY QUENCHED METALS, WURZBURG (WEST GERMANY)

The Fifth International conference on Rapidly Quenched metals, RQ 5, will be held from 3-7 September 1984 in Wurzburg, Federal Republic of Germany. The topics to be included in the conference are: General features of rapid Solidification Technology; Solidification at large undercooling; rapid solidification processes; Phases and microstructures formed by rapid solidification and by subsequent treatment; Glass-forming ability and crystallization of amorphous alloys; Amorphous structures; Atomic motion and structural changes in amorphous alloys; Electronic properties and low temperature effects in amor-

phous solids; Electrical properties and applications; Magnetic properties and applications; Mechanical properties and applications; Chemical properties and applications; Hydrogen in rapidly solidified alloys; Relationships between metallic and non-metallic amorphous materials.

Those who wish to contribute papers are asked to submit one page abstracts by 15 January 1984. Participants should not co-author more than two papers. Further details can be had from Professor H. Warlimont, Conference Chairman, RQ 5, Postfach 2253; D-6450 HANAU, Federal Republic of Germany.

NATIONAL RESEARCH DEVELOPMENT CORPORATION, INDEPENDENCE DAY AWARDS

The Independence Day Awards for Meritorious inventions has been awarded to twenty one scientists. The total amount of the awards is Rs. 1,72,000/-. Besides a financial assistance of Rs. 20,000/- has been given to the developer of portable biodetector strips.

The details of the awards are as follows: S. V. Kothari and N. A. Subramanian of M/s. Paramount Sinters (Pvt.) Ltd., Nagpur, are jointly awarded Rs. 25,000 for developing technology of sintering waste manganese ore fines for production of ferromanganese.

Mr. S. J. Chandran and Mr. M. M. Sanzgiri of M/s. Larsen and Toubro Limited, Bombay have been jointly awarded Rs. 25,000/- for development of 'Power factor level indicator'.

Mr. J. R. Bellare and Dr A. P. Kudchadker of IIT, Bombay have been jointly awarded Rs. 20,000/- for development of 'Continuous and automatic refractive index sensor'.

Mr. B. N. Bandyopadhyay of Bombay Textile Research Association, Bombay, has been awarded Rs. 20,000 for developing 'textile printing by foam application'.

Mr. M. N. Lunkad and Mr. D. N. Mody of Ahmedabad Textile Industries Research Association, Ahmedabad, have been jointly awarded Rs. 15,000 for their invention 'improved computer-aided design of cam for higher yarn content on textile ring frames'.

Dr D. Mukhopadhyay of Durgapur Steel Plant Hospital, Durgapur, has been awarded Rs. 15,000 for the development of 'bone stapler and staple carrier'.

Mr. P. R. Shinde of M/s. Cyclo Enterprises, Stana, is awarded Rs. 15,000/- for his invention 'cyclo speed reducer'.

Dr P. L. Sankaranarayanan Sarvashri P. Sudhakar Rao and R. Sridhar of Central Electronic Engineering Research Institute Extension Centre, Madras, have been jointly awarded Rs. 15,000 for developing a new electronic non-destructive vacuum measuring instrument for canned food products.

Mr. A. V. Bhat, Mr. A. George Varkey, Mr. Satyarti K Kutty, Mr. M. Gopalakrishnan and Dr. J. S. Pruthi of Regional Research Laboratory, Trivandrum, have been jointly awarded Rs. 12,000 for their invention 'canning of green pepper'.

Mr. S. Govindarajan and Mr. S. Pradeep Kumar Badami of South India Textile Research Association, Coimbatore, are jointly awarded Rs. 10,000 for development of 'process and equipment for manufacture of siliconised silk suture threads'.

Dr. M. R. Deodhar, Mr. S. D. Baqat, Prof. B. D. Kelkar, Prof. A. B. Kulkarni, Mr. N. K. Gune, Mr. N. P. Raste, Mr. D. S. Gadgil, Mr. S. H. Limaye, Mr. R. G. Todkar, Mr. S. P. Gurjar and Prof. M. G. Bhat of School of Applied Research, Sangli have been awarded certificates of merit for development of 'bearing testing rig machine'.

IMPORT SUBSTITUTION AWARDS (GOLD SILVER AND BRONZE SHIELDS)

On the occasion of the Independence Day, the import substitution awards (gold shields) have been awarded to the Defence Research and Development Laboratory, Hyderabad and M/s. Indian Hydraulics Industries Ltd., New Delhi. The Hyderabad Laboratory has been given the award for developing propellant for solid fuel booster. It finds application in surface-to-air missile for rocket propulsion and helps the country save foreign exchange.

The silver shields have been awarded to five institutions: M/s. Wiper India, Hyderabad, Aerial Delivery Research and Development Establishment, Agra; Naval Physical and Oceanographic Laboratory, Cochin, M/s. Jyoti Ltd., Vadodara and M/s. Bharat Earth Movers Ltd., Kolar Gold Fields.

A bronze shield has been awarded to Mr. Dhanjibhai Anandjibhai Patel, Surendranagar (Gujarat).

NOEL DEER GOLD MEDAL

The Noel Deer Gold Medal for 1982 has been awarded to Dr K. S. G. Doss, a noted sugar technologist of India. Dr Doss's concept of the Transient Heating came up by the application of Einstein's concept of Diffusion length to the dissolution of sugar. Dr Doss claims that over 20 sugar factories in India have

adopted the same and when all the factories adopt it, it may lead to a saving of 15 to 20 crores of rupees worth of sugar every year. The Medal will be awarded to Dr Doss at the Convention of the Sugar Technologists Association of India, to be held at Pune on 12th October 1983.

VACUUM 84

The Vacuum Group of The Institute of Physics is holding its biennial conference of Technological aspects of surface treatment and analysis. The meeting is being organised jointly with the Atomic Collisions in Solids Group and will take place at the University of York from 1-4 April 1984.

Concurrently with the conference the thin films and surface group will be organising ECOSS-6 (6th European conference on Surface Science) also at York. A joint exhibition of manufacturers equipment will serve both conferences and discussions are under way to allow registered delegates to attend either of the parallel sessions.

The aim of the 'Vacuum 84' conference is to bring together specialists in the important area of surface treatment and analysis. The conference will discuss equipment for producing thin films and surface modification by sputting, ion implantation, ion beam etching, plasma processing and laser and electron beam processing. Equal prominence will be given to papers describing the preparation, procedures and conditions for obtaining specified surface properties and to the technological properties of those surfaces (e.g. optical, electrical and mechanical). Papers on the analysis of films or modified surfaces (structural or chemical) which clearly fall outside the scope of ECOSS-6 will also be welcome. A session on Molecular Beam Epitaxy is to be shared with ECOSS-6.

Contributions to the conference of 16 min. presentation time are invited in the following areas: *Sputting-theory* and application; *Ion*

implantation-modification of properties of semiconductors, metals or polymers; *Ion Beam etching*-special ion beam sources. Lithography, ion etching. Etching with reactive and inert gases; *Plasma processing*-etching, cleaning, production of thin films; *Chemical vapour deposition and ion plating*-techniques for production of films; *Electron beam and laser annealing*-for modification of material properties; *Techniques for surface analysis* Sims, Auger, Rutherford backscattering. Ion scattering. Photon emission. Electron microscopy.

Abstracts, typed in 1 1/2-line spacing on one side of an A4 sheet suitable for photolitho reproduction should be sent to: Dr J. S. Colligon, Department of Electronic and Electrical Engineering, University of Salford, Salford M5 4WT, UK, to be received by 2 December 1983. Abstracts will be acknowledged on receipt and authors will be notified in mid-January of acceptance, or otherwise, of their papers.

All accepted papers will be published by Pergamon Press as a special issue of 'Vacuum' Authors will be required to submit their completed papers on the first day of the conference for refereeing during the conference, to ensure early publication. Maximum length of manuscripts will be restricted to 4000 words or equivalent where 1 diagram is taken to replace 250 words (e.g. 3000 words plus 4 diagrams or 2000 words plus 8 diagrams would be acceptable.)

Further details on registration may be obtained from the Meeting Office, the Institute of Physics, 47 Belgrave Square, London SW1X 8QX.

BIRTH CENTENARY OF LATE DR D. N. WADIA

Wadia Institute of Himalayan Geology, Dehra Dun will be Celebrating the birth Centenary Year of Late Dr D. N. Wadia, F. R. S. during the year 1983-84. The centenary year programme will begin with the celebration of birth centenary of Late Dr D. N. Wadia on 23rd October, 1983. In this programme Shri S. K. Mukherjee, Director General, Geological Survey of India will deliver the Wadia Centenary Lecture, fol-

lowed by a lecture series by Professor K. J. Muller, Fridrichwilhense University, Bonn. F. R. Germany and Professor Peter Molnar, Massachusetts Institute of Technology, Cambridge, Massachusetts, USA. In continuation to the centenary celebration, a workshop on Krol-Tal Stratigraphic problem of Lesser Himalaya will be organised from 24th to 27th October, 1983.

SYSTEM FOR INFORMATION ON GREY LITERATURE IN EUROPE (SIGLE)

An up-to-date System for Information on Grey Literature produced in Europe. The Term 'grey' or 'non-conventional' literature refers to documents which are issued informally in limited amounts and which are not available through normal bookselling channels. Therefore they are difficult to identify and to obtain. Examples of grey literature are scientific and research reports, theses, proceedings, translations, technical notes, internal reports, private communications, recommendations, official documents, etc. which are not published commercially.

The literature references are regrouped by subject categories according to the Sigle subject category list. Fields covered by this list are: Aeronautics,

Agriculture, plant and veterinary sciences, Humanities, psychology and social sciences, Biological and medical sciences, Chemistry, Earth sciences, Electronics and electrical engineering, Computer science, Energy, Materials, Mathematical sciences, Mechanical, industrial, civil and marine engineering, Methods and equipment, Military sciences, Missile technology, Navigation communications detection and countermeasures, Ordnance, Physics, Propulsion and fuels, Space technology.

For details please contact: Mr. R. H. A. Wessels, Koninklijke Nederlandse Akademie voor Wetenschappen (KNAW) Kloveniersburgwal 29, Amsterdam (Nederland).

INTERKAMA '83-W. GERMANY AUTOMATION AND INSTRUMENTATION TRADE FAIR, 9-11 NOVEMBER 1983

More than one thousand exhibitors from 27 countries will display and demonstrate their latest machines, materials and technology in actual working condition. The visitors (1,25,000) from 55 countries will participate. Over 900 exhibitors occupying an area of 65,000 sq. m. will offer the latest equipment and materials for the production of solid state devices and hybrids, for printed circuit manufacture, for general plant engineering coil winding technology and measuring equipments for quality assurance and inspection. Over 50,000 visitors will meet and set future trends.

A special group visit sponsored by Indo-German Chamber of Commerce is arranged with the co-operation of leading Associations and Chambers of Commerce for the benefit of small and medium scale industrialists, businessmen, technical experts, professionals and specialists. The group will depart on 9th November 1983 and visit important commercial centres in Europe. Factory visits are arranged by Indo-German Chamber of Commerce. Interested members can have details from Indo-German Chamber of Commerce, C-3 Unity Building, J. C. Road, Bangalore-560 002.

6TH EUROPEAN CONFERENCE OF SURFACE SCIENCE (ECOSS-6)

The 6th European conference on surface Sciences (ECOSS-6) will be held at the University of York, UK from 1-5 April 1984. The conference is organised by the thin films and surface group of the Institute of Physics and is sponsored by the European Physical Society and the International Union of Vacuum Science, Technology and its applications.

The conference will cover all aspects of pure and applied surface and interface science, two dimensional physics, adsorption and catalysis. It will not include instrumentation or aspects of a purely technical nature.

Invited papers will be presented on the following topics. Scanning tunnelling microscopy, Two-dimensional x-ray diffraction, Promoters and poisons in catalytic reactions, Two dimensional electron gas systems at semiconductor interfaces,

Defects on semiconductor surfaces, Interaction of atoms with surfaces, Electronic structure from photoemission, Electron structure of semiconductor surfaces and interfaces, Surface phonon dispersion using eels and Molecular dynamics and surface phase transitions.

Contributed papers related to the scope of the conference are invited. Papers will be considered for either oral or poster presentation. Two copies of abstracts should be sent to: Dr J. E. Inglesfield, SERC, Daresbury Laboratory, Daresbury Warrington, Cheshire WA4 4AD, UK by or before 14 January 1984.

There will be an associated Exhibition of equipment. Further information may be obtained from the Meetings Officer, The Institute of Physics, 47 Belgrave Square, London SW1X 8QX.

NATIONAL SEMINAR ON THE PHYSICS OF SEMICONDUCTORS AND DEVICES

The Third National Seminar on Physics of Semiconductors and Devices will be held at the Indian Institute of Science from January 3 to 7, 1984. This is a part of the celebrations of the Platinum Jubilee of the Institute and also the Golden Jubilee of the Department of Physics.

The aim of the Seminar is to bring together active workers in the area of semiconductor physics, devices and technology to stimulate faster growth of related activities in the country. Emphasis will be on the

following topics: 1. Transport properties in crystalline, polycrystalline and amorphous semiconductors, 2. Device physics and modelling, 3. Semiconductor technology, 4. Characterization of materials and devices, 5. New materials and technologies.

Details can be had from: Prof. G. Suryan, or Dr. Vikram Kumar, Department of Physics, Indian Institute of Science, Bangalore 560 012.

QUANTUM MOLECULAR MOTION IN CRYSTALS AND INTERCALATES AND ON SURFACES

The Neutron Scattering Group of The Institute of Physics and The Royal Society of Chemistry is arranging a conference on Quantum molecular motion in crystals and intercalates and on surfaces, to be held at the University of Nottingham from 26-28 March 1984.

Developments in high resolution inelastic neutron scattering and new techniques in magnetic resonance, along with the exploitation of low temperature and high pressures, have led in the last few years to an enormous increase in the amount of very small detailed information on the quantum motions of small

molecules and molecular groups in various environments molecular crystals, surface layers, intercalates etc. In all these systems this new quantum motion data provides the most subtle and detailed information available. Molecular crystals have been studied primarily as well characterised model systems. Other environments have attracted attention for their novelty, technical importance (catalysis etc) and richness of phenomena.

Further details can be had from the Conference Secretary, Professor S. Clough, Department of Physics, University of Nottingham NG7 2RD. U.K.

SCIENCE ACADEMY AWARDS

The Indian National Science Academy has selected seventeen scientists for presentation of the 1983 Science Academy Medals for young scientists.

The award for scientists below the age of 32 are given to the following: Mr. P. K. Agarwal, Dr. Ram Boojh, Dr. Deepak Khar, Dr. Chandana Halder

Misra, Dr. Sumita Jha, Dr. H. R. Krishna Murthy, Dr. Virendra Jeet Lamba, Dr. Michael, L. R. Lobo, Dr. G. Malakondaiah, Dr. B. V. Venkataraman Prasad, Mr. H. V. Rambabu, Dr. N. C. Rana, Dr. D. D. Sarma, Dr. D. C. Sastri, Mr. Anil K. Saxena, Dr. A. K. Srivastav and Mr. Rakesh Tuli.

NATIONAL SEMINAR ON USE OF TRAPS IN VECTOR RESEARCH AND CONTROL

The National Seminar on use of traps in vector research and control will be held at the Faculty of Agriculture, Bidhan Chandra Krishi Viswavidyalaya, Kalyani-741 235, West Bengal, during March 10-11, 1984. The Seminar is to generate information on the use and development of traps for research and control

of vectors and control of pests as well.

Further information may be had from The Convener, Dr. S. Mukhopadhyay, Professor of Plant Pathology and Dean, Faculty of Agriculture, B. C. K. V. Kalyani-741 235, West Bengal.

VII INTERNATIONAL BIOTECHNOLOGY SYMPOSIUM, NEW DELHI, INDIA

The Seventh International Biotechnology Symposium, will be held at Hotel Tajpalace, Diplomatic Enclave, New Delhi-110 021 during 19-25 February 1984. Further details may be had from the Symposium

Secretariat, Biochemical Engineering Research Centre, Indian Institute of Technology, New Delhi 110 016, India.