

turer in chemistry, University of Calcutta, to enable him to carry out research in quantum chemistry at the Mathematical Institute, University of Oxford, for six months from October 1963; Prof. J. N. Chatterjea, professor of organic chemistry, Patna University, to enable him to study fungal metabolites at the School of Pharmacy, London, for six months from September 1963; Dr. E. U. Emovon, lecturer in chemistry, University of Ibadan, to assist him to learn further techniques in gas phase kinetics and photochemistry at the University College of Wales, Aberystwyth, for six months in 1963; Dr. D. M. Moore, lecturer in botany, University of Leicester, to assist him to visit the Falkland Islands and possibly South Georgia for about three months from January 1964 to collect flowering plants there, in connexion with a study of evolutionary and phytogeographical relationships of circum-Atlantic floras; Dr. H. M. Pantin, geologist at the New Zealand Oceanographic Institute, Wellington, to assist him to investigate the small-scale internal structures of marine sediments from the New Zealand area and from the region of the British Isles, at Bristol, for a year from October 1963; Prof. W. G. Spector, professor of pathology, St. Bartholomew's Hospital Medical College, to enable him to carry out an electron microscopic study of certain aspects of the inflammatory reaction, at the University of Melbourne, for three months from December 1963; Dr. C. W. Stearn, associate professor of geological sciences, McGill University, Montreal, to assist him to visit the United Kingdom during February–April 1964, for an examination of Nicholson's collection of Stromatoporoids in the British Museum; Dr. J. R. Turvey, lecturer in chemistry, University College of North Wales, Bangor, to enable him to study new techniques for investigating the structures of glycoproteins at Queen's University, Kingston, Ontario, from July to September 1963; Dr. E. H. Wright, lecturer in chemistry, Fourah Bay College, University College of Sierra Leone, to enable him to study recent developments in surface chemistry at the University of Bristol for three months from September 1963.

#### The Paul Instrument Fund Award

THE Paul Instrument Fund Committee has made grants as follows: £7,485 and £7,836 to Prof. H. M. Barlow, Pender professor of electrical engineering, University College, London, (i) for the development of a microwave electrostatic wattmeter, and (ii) for the construction of instruments for the measurement of electrical power at very high frequencies by the absorption of the angular momentum of a circularly polarized wave; £4,970 to Prof. P. B. Moon, Poynting professor of physics in the University of Birmingham, for the construction of a linear motion gamma-ray spectrometer; £3,000 to Dr. G. Munday, lecturer in chemical engineering and chemical technology, Imperial College of Science and Technology, London, for the design and construction of a camera having frame rates up to 200,000 p.p.s., capable of synchronization and being a true framing device having automatic shutter facilities, to be used for further experiments on the dynamic deflexion of disks; £950 to Mr. K. G. Nichols, lecturer in electronics, University of Southampton, for the construction of apparatus giving an improved method for the vacuum deposition of thin films of high melting-point materials; £1,800 to Dr. E. E. Schneider, reader in solid state physics, King's College, Newcastle upon Tyne, for the development of superconducting cavities for use in magnetic resonance spectrometers; £730, as a supplementary grant, to Dr. P. M. B. Walker, lecturer in zoology, University of Edinburgh, for the improvement of the microspectrophotometer which he constructed by means of previous grants amounting to £9,730. The Paul Instrument Fund Committee, composed of representatives of the Royal Society, the Institute of Physics and the Physical Society and the Institution of Electrical Engineers, was set up in 1945

“to receive applications from British subjects who are research workers in Great Britain for grants for the design, construction and maintenance of novel, unusual or much improved types of physical instruments and apparatus for investigations in pure or applied physical science”.

#### The Australian Marine Sciences Association

THE inaugural meeting of the Australian Marine Sciences Association was held at Cronulla, New South Wales, on May 18 and was attended by 43 of the 127 founder members. The objects of the Association are “to promote the marine sciences in Australia and to provide for the exchange of ideas and information between those concerned with marine science”. It was agreed that ordinary membership should consist of “persons who are or have been engaged in research in a branch of marine science and such other persons who seek membership whom the Council deems could contribute to the objects of the Association”. The first Council of the Association consists of: *President*, Dr. G. L. Kesteven; *Vice-President*, Prof. W. Stephenson; *Secretary*, Dr. J. M. Thomson; *Treasurer*, Dr. J. C. Yaldwyn; *Councillors*, Miss J. Hope MacPherson, Dr. E. P. Hodgkin and Dr. H. B. S. Womersley.

At the associated congress held on May 19 the following papers were presented: G. F. Humphrey, “The Organization of the C.S.I.R.O. Division of Fisheries and Oceanography”; H. B. Wisely, “Fouling Tests and the Rearing of Pelagic Larvae”; D. J. Tranter, “Zooplankton Abundance in Australian Waters”; D. Vaux, “Fisheries Hydrology in South-eastern Australia”; J. P. Robins, “Water Type Preference of Tuna”; G. L. Kesteven, “Marine Stock Assessment”; J. M. Thomson, “Counting Salmon”; W. G. H. Maxwell, “A Review of Marine Geological Research in Australia”; H. B. S. Womersley, “A Review of Marine Botanical Research in Australia”; J. T. Baker, “The Chemistry of Some Marine Purple Pigments”; D. F. McMichael, “The Australian Museum's Swains Reef Expedition”.

Further information concerning the Association can be obtained from the Secretary at P.O. Box 21, Cronulla, New South Wales.

#### The Arthur D. Little Research Institute

THE annual report for 1962 of the Arthur D. Little Research Institute records a broadening of activities in physics, including initiation of a basic study of the interface between metals and molten glass, and re-orientation of the work of the High Polymer Group, whose work has been primarily concerned with the crystallization behaviour of polymers with the view of obtaining control of the structure and properties of the final product (Pp. 44. Inveresk, Midlothian: Arthur D. Little Research Institute, 1963). Reduction in spherulite size in a given sample of polyethylene on cooling from the melt has been achieved through the discovery of the process of ‘seeded’ crystallization. An investigation has also been initiated into the mechano-chemical modification of co-polymers. The biochemical and biophysical work on glutens has pointed to interesting properties of gluten-based films, and work has commenced on the utilization of humic acids from peat and anti-tubercular factors in milk whey. New techniques have been devised for preparing ‘tailor-made’ polyamides and an investigation commenced on carrageenan, the mixture of water-extractable polysaccharide sulphates of certain species of red seaweeds. Investigations continued on the chemical modification of wood and the emission of corrosive volatiles from wood, as well as the chemical modification of cotton fabric to give increased crease-resistance. The nature of the impurities which cause spontaneous polymerization of ethylene sulphide has been determined, and when these impurities are avoided ethylene sulphide has been kept at room temperature for six weeks without deterioration. Work