

Partnership research success

Kumamoto

THE first of several new research institutes designed to promote collaborative research between Japanese universities and industry has opened in Kumamoto in the southern island of Kyushu.

The Cooperative Research Center of Kumamoto University is in a techno-research park that forms the nucleus of the Kumamoto 'technopolis'. Technopolises are being established in dozens of communities around Japan under the authorization of the Ministry of International Trade and Industry (MITI) in an attempt to promote research and development activities and high-technology industry in local regions.

The cooperative research centre, established by the Ministry of Education, Science and Culture (MESC), accepts contracts for joint research between Kumamoto University and industry. Twenty-one research projects are under way on subjects ranging from development of plasma chemical vapour deposition techniques for making thin films of high-temperature superconductors (a collaborative project with Dojin Chemical Company and Denki Kagaku Kogyo) to the design of skirts for hovercraft. MESC is establishing seven other cooperative research centres around the country and more are planned in fiscal year 1989.

The contracts are small — a few thousand to a few tens of thousands of dollars a year — but the companies also provide researchers and equipment. Patents arising from the research are held jointly by industry and the central government. Such collaborative industry/university research has increased dramatically since 1983 when MESC introduced a new system to encourage joint research. In 1988 about 400 projects were supported with funds of ¥2,600 million (about \$20 million).

Donations from private industry to national universities have also increased substantially to about ¥25,000 million (\$200 million) in 1986. But the prime motive of companies for making such donations is to obtain a steady supply of top graduate students.

Several big high-technology facilities are already established in the area. NEC has the world's largest integrated chip factory, the Chemo-Sero-Therapeutic Institute has established a new research laboratory nearby (see page 106), and Tokai University built a space information centre next to the park. Kumamoto government officials are confident that many more high-technology companies and research institutes will soon come to the area.

David Swinbanks

Nature's East-West exchange

The following have endorsed *Nature's* East-West exchange described in last week's issue (page 1). Those appearing on this list are those whom it was possible to reach by telephone or telefax over the recent holiday; the absence of names has no significance. Those wishing to participate in the exchange scheme should write to the Editor of *Nature*, not to those whose names appear below, who may not be in a position to help directly.

Professor Eduardo Amaldi, president, Accademia Nazionale dei Lincei, Rome, Italy. Professor Bruce Alberts, Department of Biochemistry and Biophysics, University of California, San Francisco, USA. Professor Eric Ash, rector, Imperial College, London, UK. Professor John Cairns, Department of Cancer Biology, Harvard School of Public Health, Cambridge, Massachusetts, USA. Professor C Thomas Caskey, Department of Medicine, Baylor College of Medicine, Houston, Texas, USA. Professor Umberto Colombo, chairman, ENEA (Italian National Agency for Nuclear and Alternative Energy Sources), Rome, Italy. Dr George A Cowan, president, Santa Fe Institute, Santa Fe, New Mexico, USA. Dr Nina Federoff, Carnegie Institution, Baltimore, Maryland, USA. Dr Donald S Fredrickson, former director, National Institutes of Health, USA. Professor emeritus S. Fukui, Kyoto University, Japan. Dr Koji Fushimi, past president of Science Council of Japan. Dr Robert C Gallo, chief of Laboratory of Tumor Cell Biology, National Cancer Institute, USA. Dr Richard Garwin, IBM, Yorktown Heights, New York, USA. Professor Vitaly Ginzburg, P N Lebedev Institute, Academy of Sciences of the USSR. Professor Stephen Jay Gould, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, USA. Professor D Hempel, director, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, West Germany. Professor Ira Herskowitz, Department of Biochemistry and Biophysics, University of California, San Francisco, USA. Sir Alan Hodgkin,

past president of Royal Society, London, UK. Professor David Hogness, Department of Biochemistry, Stanford University, Palo Alto, California, USA. Sir Andrew Huxley, past president of Royal Society, London, master of Trinity College, Cambridge, UK. Professor Thomas H Jukes, University of California, Berkeley, USA. Professor John W Kappler, University of Colorado Health Sciences Center, Denver, USA. Professor John Knill, chairman, Natural Environment Research Council, UK. Dr Joshua Lederberg, president, Rockefeller University, New York, USA. Professor Victor McKusick, Department of Medical Genetics, Johns Hopkins University, Baltimore, Maryland, USA. Professor Philippa Marrack, University of Colorado Health Sciences Center, Denver, USA. Professor Shosaku Numa, Departments of Industrial Chemistry and Molecular Genetics, Kyoto University, Japan. Dr Minoru Oda, president, Institute of Physical and Chemical Research, Japan. Professor emeritus Toshitsugu Oda, director, National Medical Center, Japan. Dr T S Okada, director-general, National Institute for Basic Biology, Okazaki, Japan. Professor Martin Rees, Institute of Astronomy, University of Cambridge, UK. Professor Frank H T Rhodes, president, Cornell University, Ithaca, New York, USA. Sir Mark Richmond, vice-chancellor, University of Manchester, UK. Professor Jonas Salk, Salk Institute, La Jolla, California, USA. Dr Maxine Singer, president, Carnegie Institution, Washington, DC, USA. Sir Peter Swinnerton-Dyer, chairman, University Grants Committee, London, UK. Professor Howard Temin, Department of Oncology, University of Wisconsin, Madison, USA. Professor Susumu Tonegawa, Center for Cancer Biology, Massachusetts Institute of Technology, Cambridge, USA. Lord Todd, past president of Royal Society, master of Christ's College, Cambridge, UK. Dr Alexander Varshavsky, Department of Biology, Massachusetts Institute of Technology, Cambridge, USA. Professor A Wada, Department of Physics, Tokyo University, Japan. Professor emeritus Itaru Watanabe, Keio University, Japan. □

Giant eye on the sky to reopen

Washington

THE Carnegie Institution of Washington, which has operated an astronomical observatory on Mount Wilson, outside Los Angeles, since 1904, last week handed over the site to the Mount Wilson Institute. This private non-profit organization will continue the current programme of solar observations, and also intends to restore to working order the 100-inch Hooker telescope, out of use since 1985.

The Carnegie Institution decided five years ago to spend more money on Las Campanas, Chile, a high-altitude, dark-sky site especially suited for cosmological studies of distant galaxies, by closing down the 100-inch telescope at Mount Wilson, whose capabilities had been limited by light pollution and smog in the Los Angeles basin. But Mount Wilson is an excellent

site for bright-star astronomy. Arthur Vaughan, head of the Institute, says the refurbished and reinstrumented telescope will be used for long-term projects on Sun-like activity and variability in nearby stars.

Vaughan expects it will cost about \$750,000 a year to operate the observatory. Initially, much of this money is expected to come from the National Science Foundation and other agencies. But Vaughan hopes to give the new observatory some independence by seeking funds from private foundations, local government and industries. He intends the Institute to work in educational programmes, and to be available to the local community. Before the advent of the National Science Foundation in the 1950s, astronomers were adept in attracting private grants and gifts and, says Vaughan, they must "relearn that talent". David Lindley