
Science Policy News

France: The 1988 Annual Report of the Centre National de la Recherche Scientifique (French National Center for Scientific Research)

The 1988 CNRS budget of 9,089 million FF (increase of 2.1% over 1987) covered salaries of 6,803 million FF (+ 3.1%), scientific funding of 2,001 million FF (+ 5.3%) and administrative and general costs of 284 million FF (– 29%). This budget was covered by a government subsidy of 9,005 million FF and 84 million FF from various other sources.

The budget of the *Life Sciences Section* of 1,726 million FF (23.2% of the CNRS total) showed an increase of 1.3% over 1987 and served to support 69 (1987: 69) own units, 224 (1987: 221) associated units and 52 research units.

Some Life Sciences Highlights from the Annual Report:

– *Using chimeras to study behavior:* A team of the CNRS-Collège de France Institute of Cellular and Molecular Embryology has shown that certain grafts of quail cells on chicken embryos are accompanied by the transfer of behavioral traits characteristic of the quail species. Thus, a six-day-old chick carrying a quail encephalon graft, chirps like a quail. This method, known as chimera-marking, is now widely used in neurobiology. The development of such chimeras is monitored throughout their growth. This has made it possible to elucidate various evolutionary processes of peripheral nervous and immune systems, the genesis of malformations, and the possible origin of some diseases of the nervous system.

– *Public health research:* The CNRS-Institut Curie Joint Laboratory, working on the genetic determinism of colorectal cancer, has proposed a new mechanism to explain the appearance of certain cancers of this type. The CNRS Laboratory for Tumor Epidemiology and Im-

munovirology at the University of Lyon established that the HTLV-I retrovirus, involved in several forms of leukemia, is also responsible for certain neurological diseases.

– *An Institute dedicated to plant life:* The Plant Sciences Institute (ISV) was inaugurated in 1988 on the CNRS campus at Gif-sur-Yvette. Its creation forms part of the restructuring of plant biology research initiated several years ago by the CNRS Life Sciences Division. The changes are both geographical (concentration of facilities in two main centers, Strasbourg and Gif-sur-Yvette) and thematic (cellular and molecular approach to plant studies). The Institute's program will focus on plant responses to internal and external signals, such as those induced by microorganisms or stress.

– *A joint offensive against Bilharziasis:* Bilharziasis is a severe parasitic disease of tropical and subtropical regions transmitted by schistosomes (flatworms). It affects both man and animals. In 1987, a team at the Institut Pasteur in Lille (a joint INSERM-CNRS facility) announced the results of work carried out with the Transgène Company: the genetic engineering of the substance specifically needed for a vaccine, involving cloning the DNA sequence that codes for the P28 antigen protein and expressing it in *E. coli*. It was demonstrated that the vaccine does not require the entire protein. Further research has yielded active fragments (epitopes) that may allow the development of vaccines with reduced side effects.

For further information:

Centre National de la Recherche Scientifique 15, quai Anatole France, F-75 700 Paris, France

International Cooperation in Climate Research

From 11 to 15 September 1989, the 'International Conference on Modelling of Global Climate Change' was held in Hamburg, FRG. Invited by the Max-Planck-Institute for Meteorology and the University of Hamburg's Institute of Meteorology, 250 meteorologists, oceanographers and climatologists discussed mathematical climate models and their use in analyzing natural climate variations and in predicting anthropogenic climate changes (the greenhouse effect, the ozone hole, burning of tropical rainforests).

Immediately following this event the North American University Corporation for Atmospheric Research (UCAR) held its first joint meeting with non-American universities and research institutions in Hamburg (15 and 16 September). UCAR was founded in 1959 as a joint

venture of 57 American and Canadian universities to develop a common program for research on the atmosphere and on global climate. UCAR runs both the National Center for Atmospheric Research in Boulder, Colorado, and the Institute for Naval Oceanography. UCAR has long expressed strong interest in collaborating with research institutions outside North America. In Hamburg, therefore, an 'International Affiliate Program', to which representatives from the Federal Republic of Germany, Sweden and Japan were invited, was launched. In a pilot phase, UCAR will be expanded to include seven non-American institutions: from the Federal Republic the Max-Planck-Society, the Nuclear Research Institute in Jülich, and the universities of Hamburg, Cologne and Mainz; from Sweden the International Meteorological Institute in Stockholm, and from Japan the University of Tokyo.