



**INTERNATIONAL AGENCY FOR RESEARCH ON CANCER  
CENTRE INTERNATIONAL DE RECHERCHE SUR LE CANCER**

**Governing Council  
Fifty-first Session**

**GC/51/18  
21/04/2009**

*Lyon, 14–15 May 2009  
Auditorium*

**ACCEPTANCE OF GRANTS AND CONTRACTS**

***Post facto reporting*** (grants accepted over US\$ 100 000 per annum, including sums passed to third parties):

**Genetic Epidemiology Group (GEP)**

1. Project title: **Genetics of tobacco and alcohol related cancers**

As part of a comprehensive investigation into the genetics of tobacco and alcohol related cancers (R01 CA092039) a genome-wide study of head and neck cancer is currently underway, based on the two European studies coordinated by IARC. Both studies have been genotyped using the Illumina platform, with the 317k chip. The genotyping was conducted in Centre National de Genotypage (CNG) in Paris, France. Quality control analyses have been completed and a combined statistical analysis of all 2300 cases and 3700 controls has taken place. We propose to identify the top 15 variants from our complete genome-wide analysis (GWA) for follow-up genotyping in a further seven studies. These include six US based studies as well as a Latin American study, and comprise a total of over 5000 case-control pairs. All studies have extensive topographical and histological information, and all studies have already extracted DNA for the purpose of genotyping. Extensive quality control criteria will be incorporated to ensure genotype comparability. A specific set of comparable information will be obtained from each study and a combined analysis will be conducted. This will include main effects analysis of all 15 variants as well as analysis of gene-gene and gene-environment interactions. A joint publication will be prepared based on the pooled analysis of all study results. All genome-wide results will be made publicly available on an IARC website.

Our proposal aims to build on a large genome-wide study of head and neck cancers by replicating the top 15 variants in a study population that is over twice the size of the initial phase I study. This initiative will bring together the only large GWA study of these cancers, with six large US based studies and a further Latin American study for replication. All collaborators are currently working together as part of the International head and neck cancer (INHANCE) consortium.

Donor: National Institutes of Health/National Cancer Institute (NIH), USA  
Duration: 12 months  
Funds for IARC: US\$ 100 000  
Funds for partners: US\$ 300 000  
Total: US\$ 400 000

**Partners:**

Fred Hutchinson Cancer Research Center, Seattle, USA US\$ 60 000  
University of Pittsburgh, USA US\$ 60 000  
Brown University, Boston, USA US\$ 60 000  
University of North Carolina, Chapel Hill, USA US\$ 60 000  
Pennsylvania University, Tampa, USA US\$ 60 000

**Radiation Group (RAD)**

2. Project title: **Agenda for Research on Chernobyl Health (ARCH) :  
to develop a Strategic Plan for Research on the Health  
Consequences of Radiation from the Chernobyl Accident**

The Chernobyl accident led to the most serious exposure of a human population to ionising radiation, apart from the atomic bombings in Japan. Unlike the bombing, the health impact of Chernobyl has not been comprehensively studied. In some areas (e.g. thyroid cancer), research has been intensive and informative; in others, little work has been conducted. The validity of extrapolating radiation risk estimates mainly based on atomic bomb studies to exposures of public health concern is controversial. Questions relate to the choice of models for transport of risk between populations; projection of risk over time; extrapolation of risks from external high dose-rate exposure to low dose and low dose-rate exposures from internal radiation. Questions also concern non-cancer risks and the importance of non-targeted effects following low levels of radiation. Chernobyl has a high profile in the public eye, and the accident provides a unique opportunity to answer these questions, to provide the authoritative studies needed to inform the nuclear debate, and to test novel hypotheses about radiation effects and biology/genetics in general.

Because the range of potential studies is so vast, this proposal is for the development of a strategic research agenda on the health consequences of radiation exposure from the Chernobyl accident. The modus operandi will be the assembly of a multidisciplinary group of experts, from within and outside the most affected states, who have considerable experience in the follow-up of the health consequences of the accident. The group will identify and prioritize (short and longer-term) the potential studies, assess their feasibility, cost effectiveness and likelihood of success, and provide a reasoned and comprehensive strategic agenda for future research.

Donor:	European Commission, Directorate General for Research (EC DG RTD), Belgium
Duration:	18 months
Funds for IARC:	US\$ 164 775 (Euro 127 206)
Funds for partners:	US\$ 102 525 (Euro 79 150)
Total:	US\$ 267 300 (Euro 206 356)

**Partners:**

Centre de Recerca en Epidemiologia Ambiental (CREAL), Spain US\$ 62 370 (Euro 48 150)  
Keith Baverstock, Germany US\$ 40 155 (Euro 31 000)

3. Project title: **Prospective cohort studies of children with substantial medical radiation exposure**

The growing use of diagnostic X-rays and of high-dose techniques (CT, interventions) in children and adolescents is a topic of concern in radiological protection. Studies of other populations indicate that children are generally more sensitive to health effects of radiation than adults. In addition, children have a longer life-span to express any radiation-related health effect and, because of their smaller mass, children may receive higher doses to specific organs from these procedures if examination protocols are not adapted. Procedures of particular concern include: the use of CT in children (which delivers doses that are substantially greater than those from conventional X-rays); interventional cardiology, in which fluoroscopy is used to guide small instruments such as catheters through blood vessels (which, if repeated, can deliver doses of several hundred mGy to specific organs); and the use of repeated X-rays for monitoring respiratory, cardiac and digestive pathologies in premature babies (for repeated procedures, cumulative doses range up to a few mGy – and premature babies could be particularly sensitive to radiation induced diseases).

Because the health effects of these low doses of radiation are expected to be relatively small, trans-national collaborative studies are needed to ensure sufficient statistical power to study these effects. In this project we seek support to assemble a critical mass of scientists involved in the study of medical radiation exposures and health effects of radiation dispersed throughout Europe with the aim of:

- Assessing the feasibility of establishing prospective trans-national cohorts suitable for long term follow-up (including evaluation of the statistical power of the study).

If the feasibility is demonstrated:

- Making recommendations for future research needs including suitability of various populations,

- Developing specific project proposals, including study protocols and procedures for follow-up.

Donor: European Commission, Directorate General for Research (EC DG RTD), Belgium

Duration: 15 months

Funds for IARC: US\$ 167 987 (Euro 114 735)

Funds for partners: US\$ 241 866 (Euro 165 196)

Total: US\$ 409 855 (Euro 279 931)

**Partners:**

Johannes Gutenberg-Universität Mainz (JOGU), Germany US\$ 14 641 (Euro 10 000)

Säteilyturvakeskus (STUK), Finland US\$ 14 641 (Euro 10 000)

Karolinska Institutet (KI), Sweden US\$ 14 641 (Euro 10 000)

University of Newcastle upon Tyne (UNEW), United Kingdom US\$ 14 641 (Euro 10 000)

Centre de Recerca en Epidemiologia Ambiental (CREAL), Spain US\$ 139 379 (Euro 95 196)

Institut Gustave Roussy (IGR), France US\$ 14 641 (Euro 10 000)

Kraeftens Bekaempelse (Danish Cancer Society), Denmark US\$ 14 641 (Euro 10 000)

Nederlands Kanker Instituut (NKI), The Netherlands US\$ 14 641 (Euro 10 000)

***Prior approval*** (grants submitted over US\$ 500 000 per annum, excluding sums passed to third parties):

**Office of the Director**

4. Project title: **IARC – DG SANCO cooperation action on policy and epidemiological support**

There are two equally important issues which IARC would like to prioritize in developing this agreement with the European Commission DG SANCO.

Firstly, IARC would like to engage with DG SANCO to develop a close working relationship on all cancer-related issues. There is a strong synergism between the strengths and needs of both organizations and such close collaboration is a priority for IARC in the short-term. This collaboration could benefit from regular meetings and the identification of clearly defined points of contact within each organization. On this basis, further direct agreements could be developed. Secondly, there are several areas which IARC can identify at present which would be mutually beneficial from the direct funding mechanism with DG SANCO.

There are currently a number of such issues identified including Cancer Registration in Europe, Cancer Screening, Cancer Risk Factors and Cancer Prevention strategies. It is proposed that funds will be committed to ensuring that the best information is available to the Commission, and to the Member States, on such key issues.

Specifically, the following activities are proposed:

- It is proposed to continue the development of the European Network of Cancer Registries (ENCR). In the foreseeable future there will be a requirement for National Cancer Registration schemes to be introduced in all Member States. IARC will have a key role to play in such development in working with government authorities to develop such programmes and to ensure that sufficient quality control standards and guidelines are developed and applied. IARC will also play a critical role in assessing the quality of the information achieved and using the data to further knowledge of cancer prevention in Europe. IARC currently and historically has developed and maintained guidelines for cancer registration world-wide. In developing national programmes of cancer incidence data throughout Europe a key issue will be in developing common standards and monitoring their implementation to assure comparable data of high quality. This can be achieved by using IARC expertise to develop and help maintain national standards in Cancer Registration which, in most Member States, will involve either developing cancer registration where none exists (e.g. Greece), expanding regional registries to national registries (e.g. France, Italy, Spain) and improving standards in poorly functioning registries (e.g. Belgium, Bulgaria and Romania).
- The *European Code Against Cancer* was originally drawn-up in 1987. A second version was adopted in November 1994 and a second revision produced a third version in 2003. There are three main reasons for a reassessment of the European Code Against Cancer at this time: (1) expansion of the European Union (by 12 Member States since the last revision) has brought a new dimension to the cancer scene in the EU with changes in the distribution of risk factors and priorities; (2) although Cancer Control has made undoubted progress, there are still great efforts needed; and (3) there have been findings in the past years which could usefully be considered for recommendations (e.g. EMF exposures (particularly effects of mobile telephones and phone masts); Breast Cancer Screening in young women (under 50) and women with a BRCA1 or BRCA2 mutation, Prostate Cancer Screening, use of Sunscreens, impact of climate change in changing patterns for skin cancers due to UVR). It is proposed to create a multidisciplinary Working Group to consider methodology for implementing the current Code and identifying priorities for future revision of the Code.

- A series of Cancer Atlases of Europe have been produced at NUTS III level, the most recent being for the European Union and the EEA Member States for the period 1993–1997 and then a second Atlas was produced incorporating mortality data from the former ten Candidate Member States. An effective Network has been established with those responsible for death certification at the Vital Statistics Offices of the 28 countries involved and it has been agreed to extend the collaboration to preparing Atlases of other causes of death at NUTS III level. In addition, this project has developed in close collaboration with a project implemented through EUROSTAT to examine the quality of Death Certificate Recording throughout Europe (Dr Eric Jouglu (France)). We aim to prepare an *Atlas of Cancer Mortality in the European Union* using most recent mortality data (probably initially for the period 1998–2002) and to allow a system to be put in place to produce such Atlases on a five-year cycle.

Donor: European Commission – Directorate General for Health and Consumers (EC DG SANCO), Belgium.

Duration: 12 months

Funds for IARC: US\$ 622 431 (Euro 470 558)

Funds for partners: -

Total: US\$ 622 431 (Euro 470 558)

**Partners: n/a**

5. The agreement for the IARC – DG SANCO cooperation action funded by the European Commission was approved by the Governing Council Chair.

6. The Governing Council is invited to note the *post facto* reporting of grants and contracts accepted by the Director for the period April 2008–March 2009 as detailed in paragraphs 1 to 4 above.