



François BRECHIGNAC

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Born on 27th May 1954, 64 years, married, 4 children
English, spanish, dutch

Main current responsibilities

- **Executive director of scientific assessment** at IRSN Direction General, managing the Institute's scientific excellence of research teams and programmes in radioprotection and nuclear safety.
- **General secretary** and **ex-President** of the International Union of Radioecology (IUR, www.iur-uir.org, since more than 10 years)
- **Chair** of the « ecosystem approach » task group of IUR
- **Editorial Board member** and **ex-associate editor** of Journal of Environmental Radioactivity since 17 years
- Member of the NATO « Nuclear Expert Group » (Science for Peace Programme)
- Member of the NEA/OECD-EGIS Expert Group
- Various responsibilities in University research scientific boards and committees

Academic and professional record

2018-2019	Executive director of scientific assessment (IRSN DGI, Fontenay aux Roses, France)
2003-2017	Director of Scientific Assessment and Scientific Director deputy, successively (IRSN Direction general, Cadarache, France)
1995-2003	Head of the Laboratory for Experimental Radioecology and Deputy head of the Division for radioecological research and studies, successively (CEA-IPSN Department for Environment Protection, Cadarache, France).
1988-1994	Head of the European research and technology programme in space biotechnology at the European Space Agency (ESA-ESTEC, European Space Research and Technology Center, Technology Department, Noordwijk, The Netherlands)
1986-1987	Associate researcher in the Professor W.J. Lucas' plant physiology Laboratory (Botany Department at UC Davis, California, USA)
1980-1985	PhD research at the Fundamental Research Institute of CEA (Biology Department, Radioagronomy Division, Cadarache, France)
1985	PhD « Doctorat d'Etat ès Sciences Naturelles » from University of Paris 7, with honor. Thesis directed by Professor R. Heller
1981	Engineer in Agronomy diploma, Plant physiology, ENSA Toulouse (France) DEA-DAA diploma, National Polytechnic Institute (Toulouse, France).

Scientific production, awards, patents

150 research articles, book chapters, reports (80 in international peer reviewed journals). Awardee of the Alexander von Humboldt Foundation (1987), recipient of the N.V. Timofeev-Resovsky "Biosphere and humanity" Medal of the Russian Academy of Science, Doctor honoris causa from McMaster University, Hamilton, Canada). Patent on zero gravity gas-water separation (ESA patent, 1994).

F. Bréchignac's professional achievements

Professional experience and domains of activity

He starts off in 1980 at CEA (Cadarache, France) a fundamental research career on the physiology of photosynthesis and the associated trans-membrane transport mechanisms, an experience that he follows up next at the University of California, at Davis, up to 1986. After this date, he is recruited at the European Space Agency in its Space Research and Technology Centre located in Noordwijk, the Netherlands, where he endorses for 7 years responsibility over development and coordination of technology research programmes for space biology. He gains there a solid experience on the construction and the management of international projects, and particularly contributes to the development of the artificial ecosystem concept that emerges as a unique solution to sustaining life of astronauts during future long duration missions. Realising the pertinence of such a concept as a contribution to understand terrestrial ecological perturbations, he next moves his attention towards environmental issues that brings him back in 1994 to the Life Science Direction of CEA, and the Institute of Protection and Nuclear Safety (IPSN) the next year, where he takes the direction of a European project aimed at simulating experimentally the consequences of a nuclear accident on the environment. Appointed Head of the Experimental Radioecology Laboratory located in Cadarache (France) upon its creation in 1997, he follows up coordination of such research by taking the management of a cluster of European environmental projects «Long-term environmental behaviour of radionuclides », the responsibility of which was given by the commission to IPSN during the 4th Framework Programme. As manager at the Division for Laboratory Radioecological Research and Studies next, he promotes activities towards scientific projects of international dimension, within various frameworks such as European projects, the International Union of Radioecology and the International Commission of Radiological Protection, notably, where after 5 years contribution to a foundation working group he is finally co-opted member of the "Environment" Committee in 2005. During this period, he dedicates efforts to promote a strategic evolution within the radioecology community such as to expand its expertise towards environmental and ecological risk assessment. In charge finally of promoting the IRSN policy for scientific excellence under the leadership of the Scientific direction, where he is appointed in 2003, he conceives and develops the Institute's programme for scientific and technical evaluation. In this context, he is also in charge of preparing the Institute national assessments carried out by the High Council for assessment of research and university level teaching (HCERES). All along his career, he took part in PhD examination boards in marine biology, agronomy, plant physiology, space biology, radioecology and coached a number of students at various levels, master, PhD and postdoctoral fellowships.

Current national and international responsibilities

He carries out assessments of research projects for various national (CNRS, Ministries,...) and international institutions (NERC UK, European Commission,...) and evaluation of foreign research Institutes (SCK-CEN, Belgium; McMaster University, Canada...). He undertakes various expert missions abroad (IAEA, NATO...). As a Board member of the International Union of Radioecology since 2002 (1200 members in 58 countries, www.iur-uir.org), he has been elected as President in 2007 for 2 successive terms and launched various international initiatives such as most recently the "ecosystem approach" Task Group dedicated to the development of an "ecosystem approach" for the radiological protection of the environment, and the IUR FORUM dedicated to worldwide harmonization and consensus development in radioecology. He has been co-opted as a member of various international expert committees: Committee 5 on « protection of the environment » of the International Commission of Radiological Protection, NATO nuclear expert group ("science for peace" programme), OECD prospective expertise (implications of science for radiological protection). He sits in numerous scientific committees (Natural and artificial ecosystems of COSPAR F4 Commission, Doctorate schools and ECCOREV Research federation on natural and industrial risks in Aix-Marseille University, etc...). For 15 years, he has acted as associate editor of the « Journal of Environmental Radioactivity » and takes part in various scientific Committees and reviewing Boards of specialized scientific journals.