

# Lisbon Strategy Seminar: Excellence and Partnerships for an Innovative Europe

Lisbon, 6 October 2006

**2nd panel: International university and research cooperation to foster excellence**

**Portugal – Spain  
International R&D Institute**

**Luis Magalhães**

*President of Knowledge Society Agency  
Ministry of Science, Technology and Higher Education  
Portugal*

# Concentration on Nano Science and Technology

A Natural Area of S&T for Innovative International Cooperation Ventures

## Iberian International Nanotechnology Laboratory

***“Nanotechnology is  
the builder’s final frontier”***

Richard Smalley, Nobel laureate 1996

In June 2005, the European Commission adopted the Communication Nano-sciences and Nanotechnologies (N&N): An action plan for Europe 2005-2009

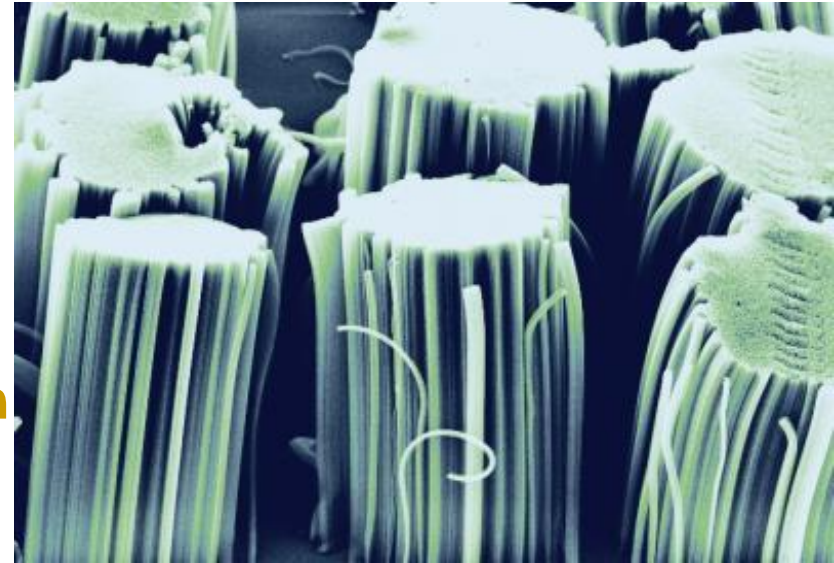


Figure: Carbon nanotubes

***“Advances across a wide range of sectors are being enabled through R&D and innovation in N&N. These advances can address the needs of citizens and contribute to the Union’s competitiveness and sustainable development objectives and many of its policies including public health, employment and occupational safety and health, information society, energy, transport, security and space.”***

# Concentration on Nano Science and Technology

A Natural Area of S&T for Innovative International Cooperation Ventures

## Iberian International Nanotechnology Laboratory

The Laboratory is conceived to:

- Assure world class research excellence in all areas of activity
- Develop partnerships with the industry and foster the transfer of knowledge into economic value and jobs
- Train researchers and contribute to the development of a skilled workforce for the nanotechnology industry
- Prevent and mitigate nanotechnology risks

*“The ambition of both countries is to create a research site of world scale relevance, capable of attracting scientists and technicians from all points of the world”*

*José Mariano Gago, Minister of Science, Technology and Higher Education, Portugal*

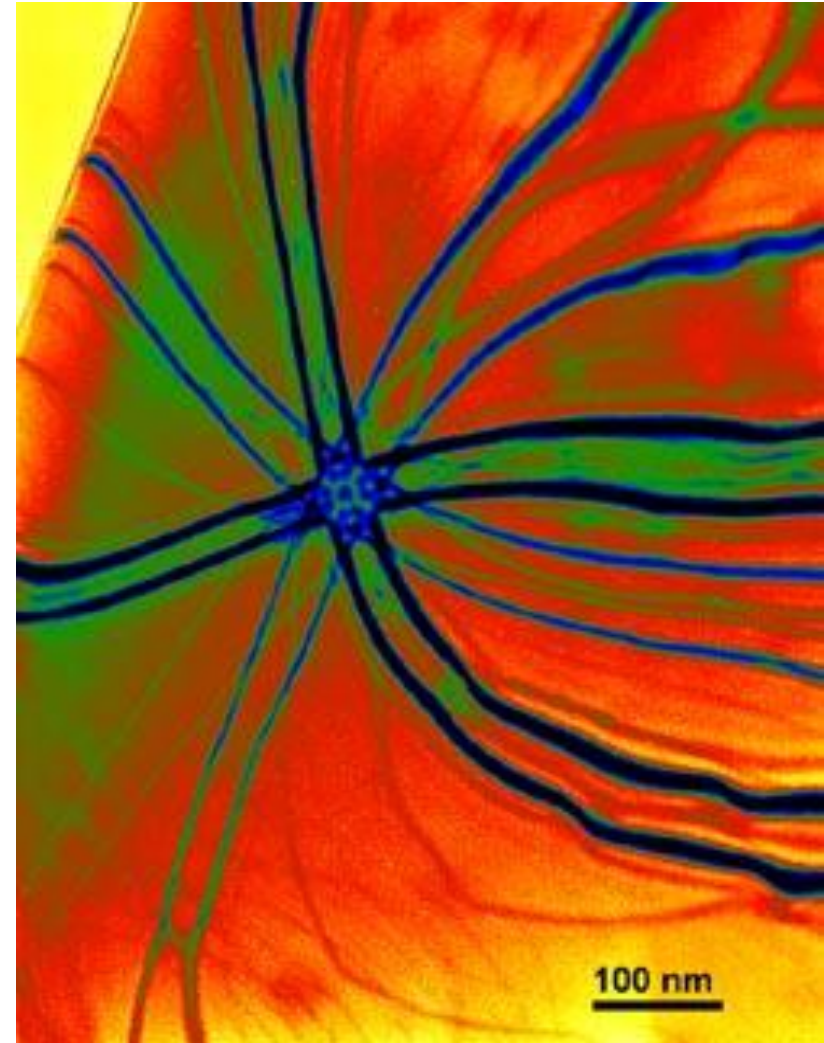


Figure: germanium/silicon quantum dot

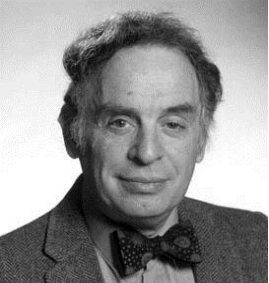
# International Advisory Board

## Knowledgeable and Credible Advice



### **Roberto G.M. Caciuffo**

Head Actinide Research, JRC, Institute for Transuranium Elements, Karlsruhe, Germany



### **Thomas Jovin**

Head of Department of Molecular Biology, Max-Planck Institute for Biophysical Chemistry, Göttingen, Germany



### **Emilio Mendez**

Prize *Príncipe de Asturias* of Scientific and Technical Research 1998, Department of Physics and Astronomy, SUNY at Stony Brook, NY, USA

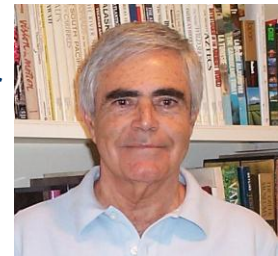


### **Christopher B. Murray**

American Chemical Society's Nobel Laureate Signature Award in 1997, Manager, Nanoscale Materials and Devices, IBM, T.J. Watson Research Ctr., Yorktown Heights NY, USA

### **Aristides A. G. Requicha**

Gordon Marshall Professor of Computer Science and Electrical Engineering, Director of the Laboratory for Molecular Robotics, USC, Los Angeles, USA



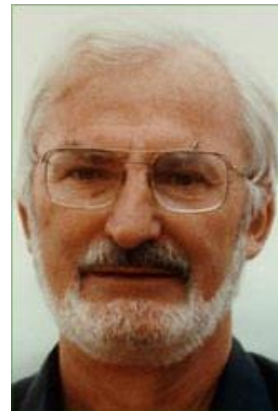
### **Mihail C. Roco**

Carl Duisberg Award, Burgers Professorship Award, Engineer of the Year Award (1999, 2004), Chair of US NSTC Subcommittee on Nanoscale Science, Engineering and Technology, Coordinator of the NSF initiative Grant Opportunities for Academic Liaison with Industry, Senior Advisor for Nanotechnology, NSF, Arlington, Virginia, USA



### **Heinrich Rohrer**

Nobel Prize in Physics 1986 for the invention, with Gerd Binnig, of the Scanning Tunneling Microscope while working at the IBM Zürich Research Laboratory, Wollerau, Switzerland



# Legal, Governance and Administrative Matters

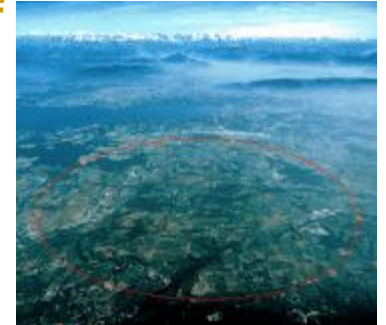
## Building on the Experience Obtained in Other International Laboratories

### Legal Framework and Governance

Jean-Marie Dufour, Professor at University of Geneva Law School, President of the Geneva International Academic Network, was a legal advisor of

*CERN – European Organization for Nuclear Research* at Geneva, Switzerland, founded in 1956,

and was involved in the creation of the main international research laboratories in Europe, namely:



*ESO – European Southern Observatory* with headquarters at Garching, Germany, where it also houses the joint *ESO/ESA European Coordination Facility for the Hubble Space Telescope* and with facilities also in the *La Silla Paranal Observatory* in Chile, created in 1962,

*EMBL – European Molecular Biology Laboratory* at Heidelberg, inaugurated in 1978,

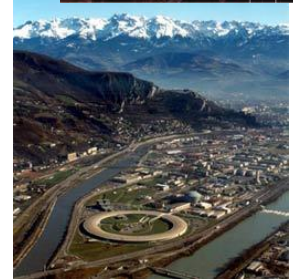
*ESRF – European Synchrotron Radiation Facility* at Grenoble, France, created in 1988.



### Administrative Issues

Helmut Krech, Head of Administration of the

*ESRF – European Synchrotron Radiation Facility* at Grenoble, France, which was created in 1988.



# Internationally Attractive Conditions

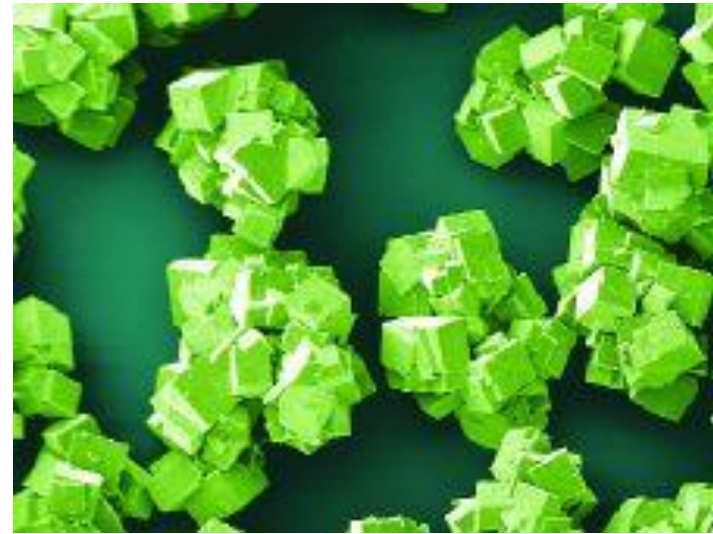
## A Favorable Setting for Working at the Forefront of Knowledge

- The openness, special visibility, stability and flexibility brought by the statute of an international research organization
- The commitment to recruit the scientific staff globally, based on merit, and to assure internationally competitive salaries and benefits
- The facilitation of immigration and family regrouping provided by the international organization status
- The challenge of working competitively in a highly interdisciplinary area of research, at the frontier of knowledge, in an international setting
- The facilitated framework for a close relationship with industry provided by the flexibility inherent to the international organization status, allowing for innovative networking with other actors
- The possibility of directly establishing international relations with other States and other International Organizations, most valuable to strengthen international scientific cooperation at the forefront of knowledge
- The guarantee of oversight of strategy and activities by an international committee of the highest standing

# Decision to Create the Portugal-Spain R&D Institute

## Leading on New Institutional Partnerships in Science and Technology in Europe

- **Announced by the heads of Government of both countries at the 21st Portugal-Spain Summit 19 Nov 2005**
- **Laboratory located at Braga, Portugal**
- **A Spanish first Director – José Rivas**
- **For about 200 researchers from Spain, Portugal and other countries**
- **An annual operational budget of 30M€**
- **Clear commitment to a strong cooperation of both countries in ambitious S&T joint ventures for the future in the construction of knowledge based economies**
- **An example of a joint research laboratory to work together for the future of modern international science**



*Figure: hydrogen-storage metal-organic nanocubes*

# A Platform of Excellence for International Cooperation

Leading on New Institutional Partnerships in Science and Technology in Europe

*“Nowadays it is clear that nations most actively participating in the international effort to harness nano science and technology by developing innovative platforms of excellence for international cooperation, open an attractive to the leading researchers in the world as international laboratories can be, will benefit earlier and to a greater extent from their benefits, and will be able to play a leading role on the scientific, technical and economic cooperation with other advanced regions as well as with less developed regions in Latin America and Asia.”*

Technical Committee Progress Report, July 2006

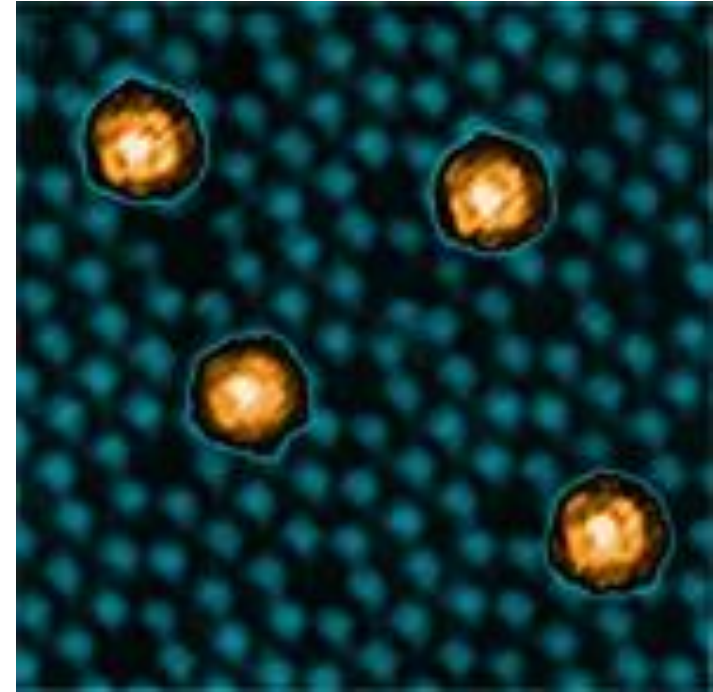


Figure: carbon-60 buckyballs on a silicon surface