

IDS-FUNMAT
International Doctoral School in Functional Materials
for Energy, Information Technology, and Health

Duration: 3 – 4 years

Programme description:

IDS-FunMat is an International joint Doctoral School in Materials Science, specialising in **Functional Materials for Energy, Information Technology and Health**.

IDS-FunMat combines a well-structured, interdisciplinary training programme with high quality research work in leading laboratories from **nine universities in five countries**: University Louvain, University Liege (both Belgium), University Waterloo (Canada), University Bordeaux 1, Grenoble INP, UPCM Paris, University Caen (all France), TU Darmstadt (Germany) and IST Lisbon (Portugal).

IDS-FunMat intends to become a permanent reference model for **international doctoral studies in Materials Science** and beyond. Students will carry out their research work over three years in two universities from different countries, with additional mobility to industry in most projects. Joint training schools will cover both scientific topics and transferable skills, such as project management, communication, and negotiation techniques. *IDS-FunMat* will initially award double degrees; however, a '**Joint Degrees Task Force**' will study pathways to implementation of Joint Degrees.

The **research projects** will address the field of materials *-from nano to macro-scale-* dealing with some of the key technological challenges of our time, namely:

- **Energy and environment:** production, storage and conversion (e.g. batteries, solar cells, thermoelectrics, fuel-cells, CO₂ conversion, etc....)
- **Information Technology:** integrated components (e.g. information processing, agile devices, optoelectronics, multiferroics, etc.....)
- **Health:** e.g. tissue engineering, implants/prosthesis, imaging, diagnosis, therapy and drug delivery, etc....)

The **consortium partners** assembled in *IDS-FunMat* have a high international reputation in the research fields described above. They complement each other very well in their specialisation fields of research, and in the corresponding training offers. The first language of all training and research activities will be English, but students will receive free tuition in local languages.

Our Consortium has a **strong track record** of participation in international projects for research and education, in particular with each other. Five consortium members already collaborate in the ERASMUS MUNDUS FAME-Master Programme www.fame-master.com

The majority of partners were also participants in the European Network of Excellence FAME (2004-8), its successor EMMI, the European Multifunctional Materials Institute, and several spin-off EU Research Projects. Around 15 jointly supervised PhD projects have already been created since 2005 www.emmi-materials.eu.

IDS-FunMat is supported financially and organisationally by 17 Associated Members: Five Regional Governments (Aquitaine, Basse-Normandie, Rhone-Alpes, Hessen, Wallonie), five large European **industry** companies (Bosch, Corning, Merck, Schneider, Rhodia) who already collaborate in the EMMI Industry Support Group, as well as the Canadian CMC Industry Group and the medium-sized enterprises Physiol, Kitosyme. The list of Associated Members is completed by MDP Consulting, EMMI, the CNRS and the Fraunhofer Society.

Website: <http://www.IDSFUNMAT.u-bordeaux1.fr>

Partners:

UNIVERSITY OF BORDEAUX 1, France (Co-ordinating institution)

HIGHER TECHNICAL INSTITUTE, Portugal

TECHNICAL UNIVERSITY OF DARMSTADT, Germany

UNIVERSITY OF PARIS 6 PIERRE ET MARIE CURIE, France

UNIVERSITY OF CAEN - LOWER NORMANDY, France

GRENOBLE INSTITUTE OF TECHNOLOGY, France

UNIVERSITY OF WATERLOO, Canada

UNIVERSITY OF LIEGE, Belgium

CATHOLIC UNIVERSITY OF LOUVAIN, Belgium

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