



## What is BMBS?

# Biomedicine and Molecular Biosciences

BMBS covers all areas of medicine as practiced in Europe and basic, preclinical and clinical medical research developed to materialise the “bench to bedside” concept.

## In Detail

The following examples illustrate actual research within this Domain. The scope of the Domain is not restricted to these activities.

- **Molecular biosciences** covers all areas of genomics, proteomics and metabolomics. They are not limited to research in humans, but may also concern research in plants, viruses, micro-organisms, and animals. Basic and applied biomolecular research is addressed, issues connected with forestry and agriculture included.

BMBS research also includes issues of genome, proteins (structures and functions), lipids, study of the central nervous system and neuronal connections, cognitive neuroscience, immune system, cell migration, cell dysfunctions (cancer), cellular mechanisms of diseases, contagious diseases (animals to humans transmissible diseases included), tropical diseases.

- **Biomedicine and specific technologies:** some of the related BMBS research areas include advanced imaging and treatment techniques (basic research, diagnosis and treatment procedures), medical devices and new medicines, advanced medical research on biomaterials.
- **Micro and nanomedicine** (including nanotechnologies), biomedicine/molecular bioscience and pharmacology in extreme conditions such as climate change, and outer space conditions.
- **Interdisciplinary issues** includes research in fields such as bioinformatics, biomedical engineering, medical physics and chemistry, mathematical models in medicine. Therefore, new ideas and initiatives are welcome as well as those with high interdisciplinary elements, a high degree of innovation and close links and overlaps with other Domains

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## Current COST Actions within the BMBS Domain:

- **BM0701** Antibiotic Transport and Efflux: New Strategies to Combat Bacterial Resistance (ATENS)
- **BM0702** Urine and Kidney Proteomics
- **BM0703** Cancer and Control of Genomic Integrity (CANGENIN)
- **BM0704** Emerging EMF Technologies and Health Risk Management
- **BM0801** Translating Genomic and Epigenetic Studies of MDS and AML (EuGESMA)
- **BM0802** Life or Death of Protozoan Parasites
- **BM0803** A European Network of the HLA Diversity for Histocompatibility, Clinical Transplantation, Epidemiology and Population Genetics (HLA-NET)
- **BM0804** European Network on Fish Biomedical Models (EuFishBioMed)
- **BM0805** HOX and TALE Transcription Factors in Development and Disease
- **BM0806** Recent Advances in Histamine Receptor H4R Research
- **BM0901** SYSGENET – European Systems Genetics Network for the Study of Complex Genetic Human Diseases Using Mouse Genetic Reference Populations
- **BM0902** Network of Experts in the Diagnosis of Myeloproliferative disorders (MPD)
- **BM0903** Skin Barrier and Atopic Diseases (SKINBAD)
- **BM0904** HDL - From Biological Understanding to Clinical Exploitation
- **BM0905** European Network for the Study of Gilles de la Tourette Syndrome
- **BM0906** Regulatory RNAs in Bacterial Pathogenicity: New Targets for Alternative Therapies
- **BM0907** European Network for Transnational Immunology Research and Education (ENTIRE): From Immunomonitoring to Personalized Immunotherapy
- **BM1001** ECMNet: Brain Extracellular Matrix in Health and Disease
- **BM1002** NANONET - Nanomechanics of intermediate filament networks
- **BM1003** Microbial cell surface determinants of virulence as targets for new therapeutics in Cystic Fibrosis
- **BM1004** ESSEA – Enhancing the Scientific Study of Early Autism
- **BM1005** ENOG – European Network on Gasotransmitters: from basic science to therapeutic applications
- **BM1006** Next Generation Sequencing Data Analysis Network
- **BM1007** Mast Cells and Basophils – Targets for Innovative Therapies
- **BM1101** European Network for the Study of Dystonia Syndromes
- **BM1102** Ciliates as Model Systems to Study Genome Evolution, Mechanisms of non-Mendelian
- **BM1103** Arterial spin labelling Initiative in Dementia (AID)
- **BM1104** Mass Spectrometry Imaging: New Tools for Healthcare Research
- inheritance, and their roles in environmental adaptation
- **TD0901** Hypoxia Sensing, Signaling and Adaption
- **TD1002** European network on applications of Atomic Force Microscopy to NanoMedicine and Life Sciences acronym: AFM4NanoMed&Bio
- **TD1006** European Network on Robotics for NeuroRehabilitation
- **TD1101** A Collaborative European Network on Rabbit Genome Biology (RGB-NET)

## Success Stories

**COST Action B26** has built a network of specialists to prepare guidelines for diagnosing and treating sleep apnoea. They have also defined recommendations for driving licences and road safety. This has led to the development of the European Union's Directorate of Transport agreement to address sleep apnoea in the regulations for Driving Licences Annex III.



## How to join a COST Action

Scientists interested in joining an ongoing COST Action should contact the Action Chair and the COST National Coordinator in their member country ([www.cost.eu/cnc](http://www.cost.eu/cnc)).

To propose a new Action, visit: [www.cost.eu/opencall](http://www.cost.eu/opencall). COST assesses new proposals two times a year.



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