



CBSB

CHEMISTRY AND BIOLOGY
APPLIED TO HEALTH
AND WELL-BEING

The CBSB centre is involved in internationally recognised research activities that include chemistry, translational biomedical research and biology.

SUBJECT AREAS

- Chemistry
- Biology, Health
- Health security
- Plant science, Agro-ecology
- Agronomy

CBSB CENTRE KEY FIGURES

- 360 PhD students
- 382 HDR
- 36 Laboratories
- 2 LABEX: SYNORG / IRON
- 2 EQUIPEX: REC-HADRON / MATRICE
- 2 CARNOT INSTITUTES: CALYM / GLOBAL CARE
- 1 TREMPLIN CARNOT INSTITUTE: I2C
- 2 RHU
- 3 Infrastructures: France-HADRON / F-CRIN / Bio-banks
- 3 Biotech-bioresources: RAPSODYN / POLYGON / GENESYS-PIVERT
- 3 IDEFIS: REMIS / TIL / ECOTROPHELIA



RESEARCH AREAS

Biomedical research

This area covers brain-body interactions, cardiovascular diseases, cancers, genomics, customised medicine, auto-immune diseases, biotherapies and equine Health.

Fine chemicals and pharmaceutical industry

This area covers all the Norman medicinal, molecular and macromolecular norman academic laboratories in chemistry. It is attached to regional clusters (Polepharma, Cosmetic Valley, Polymer and Plastics Cluster ...). The topics covered are: Chemistry for life sciences, Chemistry for sustainable development, Heteroelement chemistry, Chemistry for analysis, Polymer chemistry and physical chemistry.

Health security, well-being and sustainable Food

This area covers the Norman academic research laboratories and teams involved in the fields of microbiology, biology, toxicology applied to human or animal health, agro-industry and biotechnology. The activities of the public and private laboratories and technology transfer centres (CRITT, CRT and PFT, PFMI) are federated and form a continuum that is clearly identified between fundamental research, R&D and industrial innovations.

Plant biology and agricultural science

This area brings together Norman public and private laboratories involved in multidisciplinary research in agro-ecology, plant nutrition and health and plant biotechnology (extended to algae), focusing its activities on relationships between plants, soils and microorganisms. The purpose of this research is to develop innovative agricultural solutions that help to save on inputs that use biocontrol products and methods to provide integrated protection for crops and to develop plant and algal resources.



TRAINING

The members of the CBSB centre are involved in a common offer of four interregional Master's degree courses (14 specialities) in chemistry, biology and innovation and in the "Biotechnologies – Bioindustries" Professions and Qualifications Campus.

The centre is based on 3 Norman doctoral schools:

- ED 508 NC Norman Chemistry
- ED 497 NBISE Norman Integrative Biology, Health, Environment
- ED 556 HSRT Man, Society, Risks, Territory

The centre's laboratories are also partnering two IDEFI (initiatives of excellence in innovative training):

- REMIS "Health management and engineering schools network": This network offers training courses from Bachelor's to Master's degree level for students in "health" courses, leading to innovative jobs in the health management and engineering sector.
- TIL "Transdisciplinary interuniversity system of excellence applied to the Longevity and Autonomy professions": initial and continuous training global offer at Master's-level for new professions linked to gerontology.

PARTNERSHIPS

The laboratories involved in the CBSB centre work closely with the competitiveness clusters. They are also involved in innovation and transfer of knowledge towards SMEs and large industrial groups.

Competitiveness clusters

- PolePharma
- Cosmetic Valley
- Polymer and Plastics centre
- Valorial
- Aquimer
- Terralia
- Végépolys
- Hippolia

Federative research structures

- FR 3038 INC3M
- SF IRIB
- SF ICORE
- SF NORVEGE

Technology Platform

- "Normandie Sécurité" Health technology platform (PFT label)

Projects in collaboration with international laboratories 2015-2020

- Horizon 2020
- CEFIPRA Programme (India-France)
- Samuel de Champlain programme

Associated International Laboratories (LIA)

- Stellenbosch University (South Africa)
- Galway University (Ireland)
- Sherbrooke University (Canada)
- Purdue University (USA)

A number of start-ups have been set up in recent years: TFChem, VFP Therapies, Polyintell, Biosims, Bio-galénys, Bioadmétys, Toxem, Holodiag, Interactive Biosoftware, Robocath, Plugmed, ChemForAse, Aquistain, Adn'Tox, omicX, ...

The CBSB centre enjoys an environment conducive to the transfer of biomedical innovations towards the patient through its partnership with the Rouen Normandie and Caen Normandie University hospitals.

The centre also has long-lasting links with industry through the creation of common laboratories with large groups such as Total, Janssen and Servier and also with regional companies via the ANR LabCom call for proposals.

CONTACT

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Scientific Interest Group (GIS)

- National Chemistry Library

Technology Research Centres (CRT)

- CRT Agro-Hall
- CRT Analyses and surface

Common laboratories resulting from collaboration with industrial partners

- Total/COBRA
- Janssen/COBRA
- ORIL/COBRA
- Servier/CERMN

Industrial partners

- World Innovation Centre - Roullier Group
- Algaia
- Arexhor Seine Manche
- Terre de Lin
- SIPRE- Northern Committee, Potatoes
- SILEBAN
- ViaVégétal
- Arkema

Academic chairs

- André CHARETTE (Montreal University)
- Marc LAUTENS (Toronto University)
- Yoschinori KONDO (Sendai University)
- Paul WILLIARD (BROWN University)