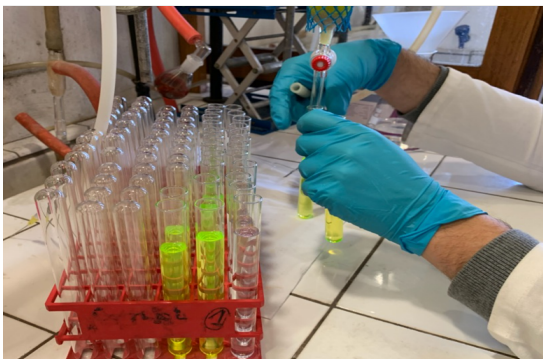
ChemBio GDR
Chemical Biology

GOALS

Chemical Biology can be defined as the design and the development of molecular tools to scan or modulate biological processes of interest so that they can be better understood or modified. It also consists in the observation and analysis of these molecular tools in interaction with their complex biological environment.

Mainly considered as a basic approach, Chemical Biology is nevertheless closely related to potential applications since molecular tools are able to respond to a target biological stimulus. Chemical Biology can then be applied in diverse fields such as health or environment and has strong interactions with the design of therapeutic strategies, diagnosis, Agrochemicals or Ecology.



Fluorescent probe synthesis
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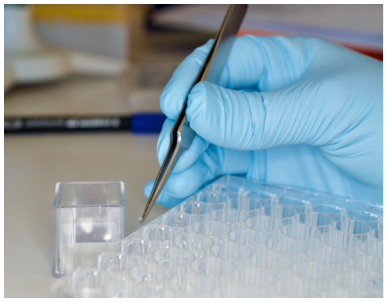

In vivo chemistry
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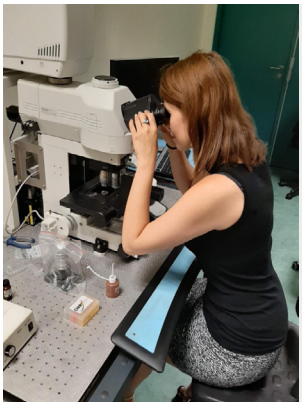

Dialog with cells
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ChemBio GDR aims to build balanced interactions between chemists and biologists to enable them to create and develop Chemical Biology projects in an integrated, ambitious and innovative approach. Supporting exchanges of scientific expertise and skills for chemists and biologists, ChemBio GDR is a fertile place for the emergence and discussion of new key questions.

3 THEMATIC AXES

ChemBio GDR is organised into 3 thematic axes focused on the design and the conception of new chemical tools and technologies to better understand biological processes. The thematic axes are highly inter-connected and exchanges between the themes and throughout the GDR will valorise the skills and knowledge of all members allowing them to undertake new challenges.

Axis 1 – Chemical targeting and modulation, understanding of biological processes
Elucidate or raise unexplored biological questions using well-described Chemical Biology methods or new chemical tools and technologies from axes 2 and 3.

Axis 2 – Chemical tools and molecular approaches
Develop and provide new chemical tools, chemical reactions and innovative strategies to address biological questions in vitro as well as in cells or in vivo.

Axis 3 – Physicochemical technologies
Develop and provide new analytical methods and technologies to identify, localise and quantify biomolecules, chemical probes or complexes in their biological environment

300 RESEARCHERS
WORKING IN
70 LABORATORIES

PERSPECTIVES

UNIFY CHEMICAL BIOLOGY RESEARCH IN FRANCE AND ENHANCE ITS VISIBILITY AND RECOGNITION

The first objective of the ChemBio GDR is to interconnect together French researchers and teams working in the field of Chemical Biology all over the country.
GDRs are valuable networks to gather researchers in order to share experiences and skills and to launch new research dynamics in France. The ChemBio GDR is one of these coordination structures focusing on Chemical Biology. It enhances the competitivity and visibility of French Chemical Biology research at an international level as is the case in other countries for several years.

EXCHANGE, SHARE

The ChemBio GDR organises a 2-3-day symposium every year in various French cities.
In addition, the introduction of new chemical tools requires validation by a well-established method. This is facilitated by ChemBio GDR-integrated platforms. **These platforms are strongly involved in the proof-of-concept and the promotion of newly developed chemical tools. In exchange, the platforms increase their expertise and attractivity via the use of these new tools.**

PROMOTE COLLABORATIVE PROJECTS

One strength of the ChemBio GDR is the complementary expertise and knowledge of the participating researchers and teams. **This contributes to the creation of fruitful collaborations and international projects**.

BE INVOLVED IN STUDENT TRAINING

The ChemBio GDR supports the organisation of scientific workshops and on-site formation thanks to its platforms.
Young researcher sessions are organised in parallel to GDR scientific meetings. Round tables about teaching methods enable members to share experiences and identify key teaching skill improvements to better prepare the younger generation to embrace topics related to Chemical Biology.
Finally, the ChemBio GDR supports short-term scientific missions for PhD students between partner laboratories to acquire specific expertise and/or technics.

TRANSFER TECHNOLOGIES

The ChemBio GDR raises the awareness of researchers, especially young ones, about transfer and valorisation, thanks to discussions with researchers who have created start-ups and companies. Valorisation departments (CNRS Innovation, SATT, INSERM transfer…) present the support services they provide. This greatly stimulates push forward discussions between their services and researchers.

OPEN THE WAY TOWARDS ARTS AND SCIENCES

The ChemBio GDR also aims at promoting creativity arising from interactions between national artists and ChemBio GDR researchers. This will encourage innovative methods for the progression of knowledge and subsequent transfer to the society. This initiative leads to a shift in practices, based on scientific challenges, towards the artistic community. This new environment enables members to explore the aesthetic dimensions of Chemical Biology and to evaluate the outcome from the non-scientific community thereby leading to improvements in media diffusion practices.

CONTACTS

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