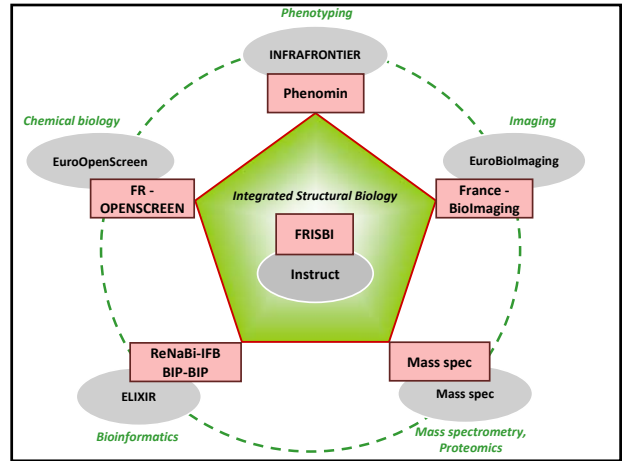


Instruct Access process

The screenshot shows the Instruct Access Process webpage with sections for 'Instruct Access Process', 'Latest jobs', and 'Latest news'. The flowchart on the right, titled 'Conducting research - Access', shows a sequence of steps: 'Submit your application', 'Review your application', 'Acceptance of your application', 'Access to the facility', 'Conduct your research', and 'Data analysis and reporting'.

- Application and review process: efficient, transparent and quick (target turnaround time of 2 weeks).
- Evaluation on scientific merit; innovative approaches within integrative structural biology.
- Applications for individual platforms are possible



Infrastructures Françaises et Européennes de Biologie Structurale Intégrative

Instruct: Infrastructure Européenne de Biologie Structurale Intégrative
 Démarrage phase opérationnelle Instruct: 1^{er} mars 2012

FRISBI: Infrastructure Française de Biologie Structurale Intégrative
 Démarrage: 1^{er} mai 2011

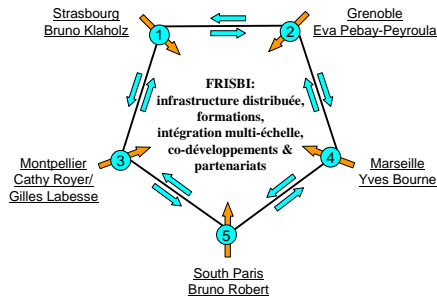
French Infrastructure for Integrated Structural Biology

The map shows the locations of research facilities across France, marked with red dots. The facilities are distributed across various regions, including Paris, Lyon, Marseille, and Strasbourg. The map is surrounded by the logos of Instruct Integrating Biology and FRISBI.

En lien avec Instruct: Infrastructure Européenne de Biologie Structurale Intégrative
 Démarrage phase opérationnelle Instruct: 1^{er} mars 2012



Organisation:



Organisation:

- Démarrage: 1^{er} mai 2011
- Signature de la convention ANR: avril 2012
- Ouverture à projets: depuis avril 2012 (annoncé lors du GTBio)
- Sélection de projet: via les comités des nœuds (national) ou Instruct (europ.)
- Executive committee: en place (1 représentant de chacun des 5 centres)
- Comité SAB et steering committee: en place
- Site web: <http://www.frisbi.eu>



Strategic aims of the infrastructure:

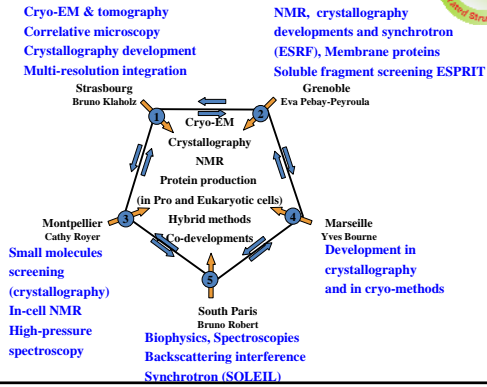
- be at the forefront 3D analysis, imaging, bioinformatics & integrative cellular structural biology
- promote recruitment of new research teams for integrated structural biology
- provide access to state-of-the-art integrated structural biology infrastructures and expertise
- define & use data standards for storage and integrated analysis of structural information
- stimulate exchange and co-development with industrial partners
- organise training and dissemination of expertise
- develop innovations in the field of biomedical targets involved in human diseases



Benefits to the scientific community:

- Project-based access & training
to state-of-the-art European structural biology infrastructures and expertise for the national and European scientific community <http://www.structuralbiology.eu/>
- Development
of the next-generation structural biology technologies and procedures
- Interactions
between structural, molecular and cellular biology communities
- Industrial partnerships
co-developments in electron & optical microscopy, crystallography, computing (FEI, Leica, NatX-ray, Xenocs, Bruker,...)

French Infrastructure for Integrated Structural Biology
Shared know-how and developments:



French Infrastructure for Integrated Structural Biology

Ouverture nationale et européenne des plateformes des 5 centres avec des technologies complémentaires de pointe:

- cristallographie, RMN, SAXS
- cryo-EM & tomographie
- microscopie corrélative et super résolutive
- systèmes d'expression pro- & eucaryotes
- production d'échantillons
- intégration multi-résolution
- interactions protéine-protéine
- caractérisation biophysique
- biophysique & molécules uniques
- interfaces avec imageries et bioinformatique

French Infrastructure for Integrated Structural Biology

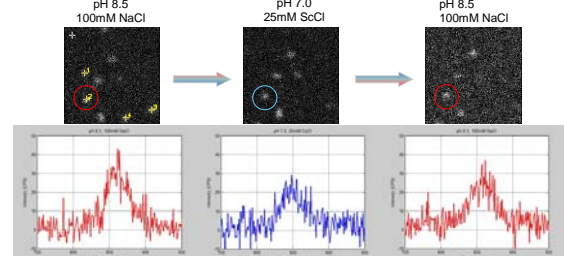
Exemples where integrative approaches have allowed key advances

Examples where integrative approaches have allowed key advances

node 5, South-Paris:
(LEBS, SB2SM, BiochX, IBBMC, ICSN)

Crystallography, NMR, non-linear super-resolution microscopy (Raman STED)
 Back Scattering Interferometry, PELDOR
 In vivo difference FTIR spectroscopy

Changements de conformations sur molécule unique:



Examples where integrative approaches have allowed key advances

node 4, Marseille:

Lactococcal phage YP901-1, baseplate: EM and X-ray:

Veesler et al., PNAS, in press.

CD36: a multi-functional receptor linked to various diseases; imaging and X-ray:

Epi-fluorescence microscopy Confocal microscopy

FR|SBI
Integrative Structural Biology

Examples where integrative approaches have allowed key advances

node 3, Montpellier:

A structure ... some complexes ... a fine mapping ...

poster # 57

fragment screening

Towards automatic screening by X-ray crystallography:

Cartesian G-Rob

Collaboration CBS/IBS/FIP/NatXray
Le Maire et al., Acta D, 2011.

@TOME-2 PHENIX

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Integrative Structural Biology

Examples where integrative approaches have allowed key advances

node 2, Grenoble:

EMBL, IBS, ESRF & UVHCI

Influenza polymerase

- Crystal structures of domains
- Fluorescence microscopy
- SAXS of complexes
- NMR – structure & dynamics
- EM of RNP
- Recombinant (green!) viruses

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Integrative Structural Biology

Examples where integrative approaches have allowed key advances

node 1, Strasbourg:

IGBMC

Multi-resolution integration

protein synthesis regulation

mole Michel et al., EMBO J. 2009
Myasnikov et al., in prep.

single particles Simonetti et al., Nature 2008.

crystal structure Simonetti et al., submitted.

fluorescence microscopy cryo electron tomography cryo-EM SAXS crystallography

FR|SBI
Integrative Structural Biology



Description of the FRISBI node 1, Strasbourg:

Centre for Integrative Biology (CBI)

Jacobi Calmikiar architects
CELNIKIER & GRABLI ARCHITECTES

Key mission of the CBI:

Driving scientific projects:

Integrative structural biology of gene expression regulation

- transcription
- translation
- RNA

Will host French and European Infrastructures,
- allows strong investments into equipments and favours interdisciplinary developments

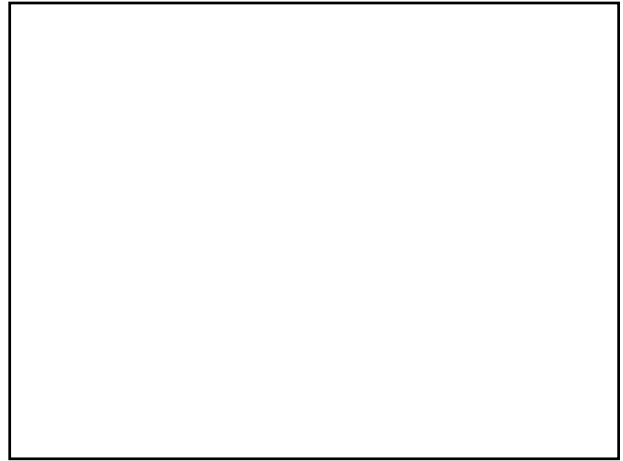
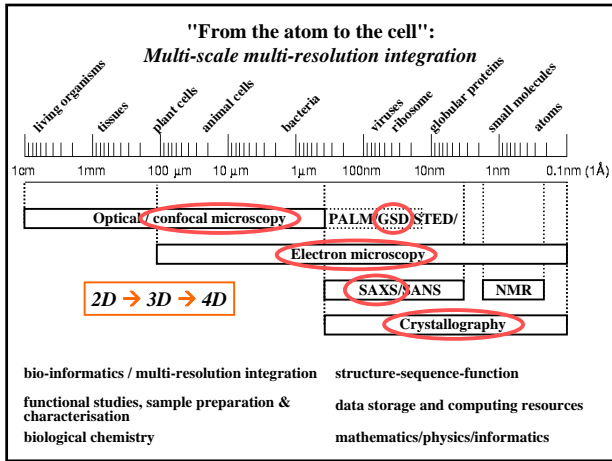
Integrative Structural Biology from the atomic to the cellular level

Specialities available within FRISBI node 1, Strasbourg:

Developments:

major investmests

- Cryo-EM / tomography
- Super-resolution
- Pro- and eukaryotic (incl. mammalian) expression systems, stable cell lines
- CEMOVIS
- FIB
- diffraction screening,
- in-house SAXS
- In-vivo NMR
- Multi-resolution Integration Bioinformatics



FRISBI node 2

PSB

FRISBI GRENOBLE

PSB
-The Partnership for Structural Biology –
350 Scientists within walking distances

4 Juin 2013: le PSB fête ses 10 ans

PSB

Les thématiques scientifiques du PSB

Host-Pathogen Interactions
Bacterial pathogens
Immunity
Virology & viral infection

DNA/RNA & Gene Regulation
Nucleic acid structure
Gene regulation

Cell Division
Eukaryotes
Prokaryotes

Stress Responses in Prokaryotes
Extremophilic bacteria
Heavy atom homeostasis

TECHNOLOGY DEVELOPMENT

Methodologies for Structural Biology
Protein Expression
Crystallisation
Functional Studies
Structural Methods (NMR, EM, correlative microscopy...)
Metalloproteins
Membrane Proteins

Instrumentation
Synchrotron
Neutron scattering

**Les enjeux futurs:
Du Nano vers le Micro et au delà...**

GRENOBLE

FRISBI → Création d'une UMS
mise en commun plateformes IBS et UVHCI

Centre du réseau Eu Instruct (ESFRI)

Les défis scientifiques: Labex GRAL (UVHCI, IBS, iRTSV)

Création de l'UMS3518 - ISBG

Directeur : Darren HART

Comité de Pilotage

Gestion : Yvette GAUDE Qualité : Auriane DENIS-MEYERE

Plateaux techniques

NMR
Included users: IBS and IBS
S. BRUTCHER

MICROSCOPIE
Electron Microscopy: S. SCHROEDER
Light Microscopy: J.P. KUSMAN

MEMBRANE PROTEINTECHOLOGIES
Crystallization mass spec: V. KROEMER
BioPhy. Analysis: L. EBEL
Membrane Prot. Purif.: F. PENOCH
Robotics: T. VERRET
Bioreactors: M. THEISS

BIOLOGICAL ANALYSIS
Biophysical Characterization: M. JARVIS

MICROSCOPIE
Electron Microscopy: S. SCHROEDER
Light Microscopy: J.P. KUSMAN

PROTEIN EXPRESSION
ESPRIT: D. KART
MultiSub: L. BENDER
Cell-Free Prot./RNA Expression: F. PENOCH

DIFFRACTION
Mass Spec. and 2-DE Tec.: L. JUNG, E. BODIN
Crystallization: A. ROYAKH, L. FERBER

CRYSTALLIZATION
Crystallization + CLEAN: L. MARQUEZ

User committees + common services group

Principes généraux de l'UMS

Écriture d'un texte basé sur les plateformes Européennes

Chaque utilisateur paie pour l'unité consommée
Le tarif de l'unité varie en fonction du type d'utilisateur

Tarification

- 1) Définir les unités d'accès pour chaque plateforme (temps, nbre manip,...)
- 2) Calculer l'unité de coût
- 3) Définir le type d'utilisateur
- 4) Définir le coût imputable par type d'utilisateur
- 5) Etablir une liste des tarifs

Au démarrage:
7 PF sont intégrées à l'UMS (UMS gère facturation, maintenance et fonctionnement)
Les autres entrent progressivement mais peuvent se faire assister par l'UMS pour la facturation

FRISBI - Grenoble

Investissements principaux à Grenoble (UMS-ISBG)

Upgrade et extension RMN: 3 nouveaux spectromètres 950, 800 et 700 MHz

RX Diffractomètre + détecteur

Microscopie électronique (upgrade)

Microscopie confocale + FACS

Caractérisations échantillons : Mass spec, upgrade AUC, SPR, SEC-MALS
Robotique pour production d'échantillons: production protéine et cristallisation

PSB

Un nouveau bâtiment pour l'IBS
Déménagement octobre 2013

Financement: CPER - Plan Campus
 Région/Metro/Ville de Grenoble/Département Isère

IBS

FRISBI

SHON ~5000 m² -----> 9340 m²

INTEGRATED STRUCTURAL CELL BIOLOGY

SUMMER SCHOOL
 July 7 - August 1 2014
 Les Houches, France

FRISBI **INSTRUCT** **GRAL**

Conférences et formations

Programme de 2012

- "Future challenges in integrative structural biology" (Strasbourg), 110 participants, 56 instituts, 16 pays
- "Production and characterization of macromolecular complexes" (Strasbourg), 84 participants, 48 instituts, 10 pays
- Formation: Production, purification and charact. of macromolecular complexes (Strasbourg), 16 participants, 16 instituts, 9 pays.
- Symposium on membrane protein crystallization (Grenoble)

Programme de 2013 établi:

- Cryo-coupe et Immuno-marquage (Strasbourg), national
- Getting the best from your structural data: beyond black boxes (Strasbourg), européen
- RMN (Montpellier; UMS Biocampus), national
- Diffraction *in situ* sur G-rob (Montpellier), national

Programme de 2014 en cours d'établissement:

- Current challenges in integrative structural biology (Strasbourg), européen
- Ecole d'été: biologie structurale et cellulaire intégrée, Les Houches (Grenoble)
- Practical workshop: "High-throughput methods for Protein Production and Crystallization", Marseille, européen.

Formation doctorale: Projet avancé de Mise en place d'un Réseau National de Formation en Biologie Structurale Intégrative Bio3D (coord. J. Cavarelli)

<http://frisbi.eu>

<http://frisbi.eu>

FRENCH INFRASTRUCTURE FOR INTEGRATED STRUCTURAL BIOLOGY

HOME | PURPOSE | COLLEGE | EVENTS | SUBMIT PROPOSAL

HOME

The French Infrastructure for Integrated Structural Biology (FRISBI) provides an infrastructure for integrative structural biology approaches, from the molecular to the cellular level, integrating multi-resolution data from X-ray crystallography, small angle X-ray scattering, NMR, Cryo-EM and functional data including development for protein expression and crystallization.

FRISBI is open to structural and molecular and cell biologists from both academia and industry from France and Europe. A unique, transparent peer-reviewed process will provide access based on merit and scientific priorities.

FRISBI will facilitate technology transfer between national and international academia and industry for technological developments and their practical application. FRISBI comprises strong components for training in integrative structural biology for the organization of congresses, workshops & practical courses, and national and international master degree programs.

Upcoming technologies

The infrastructure is involved in the experimentation and further development through industry partnerships of cutting-edge technologies in the field of molecular and cellular structural biology: third order of Bragg diffraction and development in 2012/2014 of a high-resolution electron microscopy and cryo-electron microscopy (Strasbourg Centre), nuclear magnetic resonance spectroscopy (Strasbourg Centre) and robotics in X-ray crystallography (Montpellier Centre).

LATEST NEWS

Getting the Best from your Structural Data: Beyond Black Boxes
 2014-11-13

IBS@IC 18-19 September 2013
 The Institut Européen de Chimie et Biologie (ICB) is pleased to announce that the participants from their European background will gain hands-on experience in the structure determination of "difficult" membrane proteins.

CENTERS

- Institut Curie - France 1 - ICBMC
- Institut Curie - France 2 - ICBM
- ICB
- ICM
- Institut Pasteur

ADMINISTRATIVE CONTACT

Dr Marie Chretien ICB@FRISBI.eu
 Contact us

<http://frisbi.eu>

The screenshot displays the FRISBI website interface. At the top, there is a navigation bar with the text "FRENCH INFRASTRUCTURE FOR INTEGRATED STRUCTURAL BIOLOGY" and a logo. Below the navigation bar is a large image showing laboratory equipment. The main content area is divided into two columns. The left column is titled "PLATFORMS CATALOGUE" and lists various research platforms such as "Sample Preparation", "Bacterial expression", "Cell-free production", "Mammalian expression", "Host expression", "Library based construct screening", "Purification", "Wetlab labeling", "Amino acid analysis/ NMR sequencing", "Mass spectrometry", and "Biophysical characterization". Each platform has a brief description and a small icon. The right column is titled "CENTERS" and lists five participating centers: "Institut Curie - France 1 - ICMC", "Institut Curie - France 2 - ICMC", "CNRS", "CEA", and "Sorbonne Paris".

Soumission de projets sur FRISBI

Mode d'accès:

- sélection de projets par les comités des nœuds sur une base de faisabilité
- comité de sélection Instruct dans le cas de projet européens / intégrés

<http://www.frisbi.eu>

Accessible aussi depuis le site Instruct www.structuralbiology.eu
et les sites web des 5 nœuds de FRISBI