



**COMPTE RENDU
REUNION DU BUREAU EXECUTIF**

Lundi 3 Avril 2017, 14 :00 – 16 :30

Institut Curie, 12 Rue Lhomond – Paris, Amphi C. Burg, Salle annexe 3

Présents : Sica Acapo, Ludovic Jullien, Jean Salamero, Corinne Tessier ; *par visio* : Didier Marguet, Nathalie Mesmer-Dudons, Marcelo Nollmann, Perrine Paul-Gilloteaux, Nadine Peyrieras, Christine Terryn, Caroline Thiriet. *Excusés* : Daniel Choquet, Charles Kervrann, Sandrine Lecart, Pierre François Lenne, Patrick Moreau, Jean-Christophe Olivo-Marin, Bruno Payre

1. PRESENTATION DES DELEGUES RTMFM ET RCCM (PRESENTS en VISIO)

Comme décidé antérieurement, des délégués du RTmfm et du RCCM seront désormais systématiquement conviés aux réunions du BE.

Pour le RCCM, le représentant sera Bruno Payre (bruno.payre@univ-tlse3.fr) et Nathalie Mesmer-Dudons (n.mesmer-dudons@epoc.u-bordeaux1.fr) en tant que suppléante (visio).

Le RTmfm sera représenté par Sandrine Lecart (sandrine.lecart@u-psud.fr) et Christine Terryn (christine.terrryn@univ-reims.fr) en tant que suppléante (visio).

Cette intégration permettra une officialisation des relations fortes existantes depuis plusieurs années entre ces réseaux et France BioImaging.

2. ANALYSE DES DEMANDES DE FINANCEMENT

i) AAP – User Access

- **Arthur Plassart** (Université de Nantes), “Vizualization of BTN3A1 with photonic and electron microscopy”, noeud d’accueil : Paris Centre **AVIS DU BE: FAVORABLE, montant : 1500 euros, noeud en charge du financement : Paris Centre.**

- **Philippe Rech** (Institut Jean-Pierre Bourgin), “Relationship between cell pluripotency, tissue differentiation and organ identity”, noeud d’accueil: Ile de France Sud (BioEmergences).

AVIS DU BE : FAVORABLE, montant : 1500 euros, noeud en charge du financement : Ile de France Sud.

ii) Support to event

- Projet Damien Schapman (RTmfm ; Metrology).

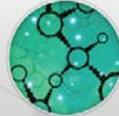


↳ AVIS DU BE : FAVORABLE, montant : 1000 euros ; Charge du financement : Coordination nationale.

3. FBI ANNUAL MEETING DU 14/04/2017

 FRANCE-BIOIMAGING		4TH ANNUAL MEETING	
		Future Challenges in BioImaging	
		FRIDAY APRIL 14, 2017	
		INSTITUT CURIE	
SCHEDULE			
		8:30-9:00am	Welcome and short FBI introduction - Jean Salamero (France BioImaging)
		9:00-9:30	Keynote Speech: Enrico Gratton (University of California)
New frontiers for imaging, sensing and controlling biomolecules <i>Chair: Ludovic Jullien (FBI Paris-Centre Node)</i>	9:30-9:40	Development of labels for AFM imaging of proteins: concept and the very first results - Sergii Rudiuk (ENS, Paris)	
	9:40-9:50	Labeling proteins on-demand with fluorogenic probes Arnaud Gautier (ENS, Paris)	
	9:50-10:00	Engineering Cyan fluorescent proteins with ultimate performances for live cell biosensors - Hélène Pasquier (Université Paris-Sud, Paris)	
	10:00-10:30	Round Table	
		10:30-11:00	Coffee Break
Quantification of the molecular dynamics and coordination in cells and small organisms, including at the nanometer scale <i>Chairs: Daniel Choquet (FBI Bordeaux Node), Marcelo Nollmann & Emmanuel Margeat (FBI Montpellier Node)</i>	11:00-11:30	Quantitative super-resolution imaging by dSTORM Keynote Speaker: Markus Sauer (University of Würzburg)	
	11:30-11:40	Joint reconstruction strategy for structured illumination microscopy with unknown illuminations - Marc Allain (Aix Marseille Univ, CNRS, Centrale Marseille, Institut Fresnel, Marseille)	
	11:40-11:50	The morphology of synapses with their dynamic molecular organization revealed by sted microscopy combined with single-molecule imaging - V V G Krishna (IINS UMR 5297, Bordeaux)	
	11:50-12:00	Cell specific epigenetically defined long-range low-frequency interactions regulate the higher-order genome architecture in Drosophila - Diego Cattoni (Centre de Biochimie Structurale, Montpellier)	
	12:00-12:30	Round Table	
		12:30-3:00pm	Lunch + Poster Session
Imaging architectures and processes of life, from molecular complexes to multi cellular systems <i>Chairs: Jean Salamero (FBI Coordination), Nadine Peyri��ras (FBI Ile de France Sud Node)</i>	3:00-3:30	Keynote Speaker: Teng-Leong Chew (Advanced Imaging Center, Janelia-Howard Hughes Medical Institute)	
	3:30-3:40	Deciphering protein organisation and dynamics at various scales using single-objective Selective Plane Illumination Microscope (soSPIM) R��mi Galland (Universit�� de Bordeaux - IINS, Bordeaux)	
	3:40-3:50	A cryo-CLEM approach for the investigation of cellular systems Anna Sartori-Rupp (Institut Pasteur, Paris)	
	3:50-4:00	eC-CLEM: flexible multidimensional registration software for correlative microscopies with refined accuracy mapping Xavier Heiligenstein (Institut Curie, Paris)	
	4:00-4:30	Round Table	
Bioimage informatics, image processing and microscopy data management <i>Chairs: Charles Kervann, Perrine Paul-Gilloteaux, Jean-Christophe Olivo-Marin (FBI IPDM Node)</i>	4:30-5:00	Keynote Speaker: Jean-Christophe Olivo-Marin, France BioImaging IPDM Node	
	5:00-5:10	Robust classification of particle tracks for characterization of diffusion and dynamics in fluorescence microscopy - Vincent Briane (INRIA Rennes - Bretagne Atlantique, Rennes)	
	5:10-5:20	Polygon-based colocalization analysis for multicolor single-molecule localization microscopy data - Florian Levet (Universit�� de Bordeaux)	
	5:20-5:30	Collaborative analysis of multi-gigapixel images using Cytomine Raphael Mar��e (University of Liege)	
	5:30-6:00	Round Table	
		6:00-6:30	What's next? (Europe, training, funding...); Concluding remarks

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4TH ANNUAL MEETING

Future Challenges in BioImaging

FRIDAY APRIL 14, 2017
INSTITUT CURIE
PARIS, FRANCE

POSTER SESSION PROGRAM

	Poster no.	Poster Title	Keywords	Name & Affiliation
Challenge 1: Quantification of the molecular dynamics and coordination in cells and small organisms, including at the nanometer scale	01-01	Super-resolution multicolor dSTORM microscopy reveals nuclear pore complex plasticity	super-resolution, multicolor dSTORM, nuclear pore	Orestis Faklaris, Institut Jacques Monod - ImagoSeine
	01-02	Contrasting mechanisms of growth in two model rod-shaped bacteria	Bacterial morphogenesis, cell size control, cell wall, MreB, single-particle tracking	Cyrille Billaudeau, Micalis Institute
	01-03	Plant Cell Imaging in FBI	Plant cell, multiphoton microscopy, spectral analysis, serial block face imaging	Geneviève Conjééro, INRA
	01-04	Joint reconstruction strategy for structured illumination microscopy with unknown illuminations	Super-resolution, fluorescence microscopy, speckle illumination imaging	Marc Allain, Aix Marseille Univ, CNRS, Centrale Marseille, Institut Fresnel
	01-05	The morphology of synapses with their dynamic molecular organization revealed by STED microscopy combined with single-molecule imaging	STED microscopy, SMLM, PALM, uPAINT, live-cell imaging, single-particle tracking, dendritic spines, glutamate receptors, GluA1/2, postsynaptic density, PSD-95.	V V G Krishna Inavalli, INS UMR 5297
	01-06	Cell specific epigenetically defined long-range low-frequency interactions regulate the higher-order genome architecture in Drosophila	DNA architecture, Super-resolution imaging, 3D-SIM, Two-color STORM, Chromosome conformation capture	Diego Cattoni, Centre de Biochimie Structurale
Challenge 2: Imaging architectures and processes of life, from molecular complexes to multi cellular systems	02-01	Time-resolved Anisotropy measurements on fluorescently tagged proteins: effect of EGFP rotation	time-resolved fluorescence, anisotropy, homo-FRET, GFP	François Waharte, CNRS - Institut Curie
	02-02	Multi-scale imaging of epithelial tissues	Spinning-disk, multivue imaging, drosophila, pattern formation, tissue dynamics	Philippe Girard, Institut Jacques Monod
	02-03	Optimizing Lattice light Sheet Microscope for Imaging Facility (PICT-IBISA)	Microscopy, Light sheet Microscope	Ludovic Leconte, Institut Curie - UMR 144
	02-04	Implication of submicrometric lipid domains for red blood cell membrane fragility diseases	lipid domains, membrane, electron microscopy, fluorescence microscopy, confocal microscopy	Hélène Pollet, Institut de Duve
	02-05	Understanding the fundamental mechanisms of biofilms development and dispersal: BIAM (Biofilm Intensity and Architecture Measurement)	Confocal, Image processing, Segmentation, Intensity Quantification, Micro-colony	Bertrand Cinquin, ENS Cachan
	02-06	Lipid domain mapping at the erythrocyte plasma membrane outer leaflet	Confocal microscopy, vital microscopy, atomic force microscopy, plasma membrane, lipid domains, erythrocytes	Louise Conrad, Institut de Duve
	02-07	Vitrified Tokuyasu-style immunolabelled sections for correlative cryo light- and cryo-electron microscopy.	Tokuyasu cryosections, CryoCLEM, CryoET	Anastasia Gazi, Ulpapole, Institut Pasteur
	02-08	Visualization of single endogenous polysomes reveals the dynamics of translation in live human cells	RNA Biology, Endogenous Translation imaging, single molecule FISH	Xavier Pichon, IGMM
	02-09	Super-resolution for everybody: An image processing workflow to obtain high-resolution images with a standard confocal microscope	Confocal microscopy, deconvolution, refractive index matching, 3D-SIM-like resolution improvement, meiotic spindle	Susanne Bolte, UPMC



	Poster no.	Poster Title	Keywords	Name & Affiliation
Challenge 2 (cont.)	02-10	eC-CLEM: flexible multidimensional registration software for correlative microscopies with refined accuracy mapping	Correlative Light Electron Microscopy, 3D image Processing, Image registration	Xavier Heiligenstein, Institut Curie
	02-11	A cryo-CLEM approach for the investigation of cellular systems	CLEM, cryo-correlative light/electron microscopy, cryo-electron tomography	Anna Sartori-Rupp, Institut Pasteur
	02-12	Deciphering protein organisation and dynamics at various scales using single-objective Selective Plane Illumination Microscope (soSPIM)	Light-sheet Microscopy, Fluorescence Correlation Spectroscopy, Adaptive Optics, Single Molecule Localization Microscopy	Rémi Galland, Université de Bordeaux - IINS
Challenge 3: New Frontiers for imaging, sensing and controlling biomolecules	03-01	DNA based monofunctionalized quantum dots for bioimaging of endocytic pathways	Quantum dots, live cell imaging, bioimaging, endocytosis, monofunctionalization, DNA nanotechnology, single particle tracking	Dhiraj Bhatia, Institut Curie
	03-02	Hotswitchable nanoassemblies and magnetofluorescent nanoassemblies toward drug release and targeted multimodal bioimaging	Fluorescent nanoparticles, multimodal nanoassemblies, photoswitching, targeted bioimaging	Eléna Ishow, Université de Nantes
	03-03	Kinase FRET biosensors: new tools and new approaches	FRET/FLIM, HCS/FLIM, multiplex FRET, fluorescence anisotropy	Marc Tramier, Université de Rennes 1
	03-04	In vivo FLIM-FRET FLIM-FRET measurements to molecularly characterize the mechanotransductive activation of beta-catenin signalling	FLIM-FRET, in-vivo, Drosophila embryo, Mechanotransduction	Jens-Christian Roeper, Institut Curie
	03-05	Labeling proteins on-demand with fluorogenic probes	Fluorescence imaging, protein tagging, biosensors	Arnaud Gautier, ENS
	03-06	Development of labels for AFM imaging of proteins: concept and the very first results	AFM, protein labeling, DNA-protein conjugates	Sergii Rudniuk, ENS
	03-07	Engineering Cyan fluorescent proteins with ultimate performances for live cell biosensors	Fluorescent Protein, FRET, Biosensors, rational design	Hélène Pasquier, Université Paris-Sud
Challenge 4: Unconventional imaging	04-01	Single Core Multimodal Probes for imaging (SCoMPis): classical fluorescence, IR-mappings and quantification, X-fluorescence	IR-imaging, X-fluorescence, classical fluorescence, multimodal probes, metal-CO	Clotilde Policar, ENS
	04-02	Raman microspectroscopy-based spectral signature of Endoplasmic Reticulum stress signaling status in glioblastoma	Vibrational spectroscopy, Raman and IRFT	Alain Fautrel, H2P2 Université Rennes 1
	04-03	Multicolor 3d single particle tracking using spectrally displaced localization	Single particle tracking, multicolor, dual-objective, super-resolution, optics	Corey Butler, Université de Bordeaux IINS
	04-04	Raman compressive detection: towards label-free sensitive probing of model membranes	Model membranes, Raman spectroscopy, compressive sensing	Hilton Barbosa de Aguiar, ENS
	04-05	Focusing through dynamic tissues using fast iterative wavefront shaping	Turbid media, wavefront shaping, microscopy	Baptiste Blochet, ENS

FRANCE BIOIMAGING 4TH ANNUAL MEETING - POSTER SESSION PROGRAM

	Poster no.	Poster Title	Keywords	Name & Affiliation
Challenge 5: Bioimage informatics, image processing and microscopy data management	05-01	Smax: accurate 3d detection of packed nuclei	Nuclei, spot, detection, 3d, high density	Felipe Delestro, IBENS
	05-02	Correlation-based method for membrane diffusion estimation in tirf microscopy	Temporal image correlation spectroscopy, diffusion, estimation, tirf	Anca Caranfil, INRIA Rennes - Bretagne Atlantique
	05-03	Flexible image processing and analysis pipeline in nikon nisl-elements software	Image processing, image analysis, pipeline, nisl-elements	Ondrej Prazsky, Laboratory Imaging s.r.o.
	05-04	Giving access to deep learning for the quantitative analysis of big histological images through the deployment of virtual machines	Big data, deep learning, virtual machine	Steven Nedelec, Micropicell
	05-05	Analysis framework for subcellular mrna localization	Gene expression, mrna localization, image analysis, machine learning	Aubin Samacois, Institut Pasteur
	05-06	FBI image data public repository and sharing	Big data, open data, image data base	Perrine Paul-Gilleteaux, FBI IPDM
	05-07	Quantifying the heterogeneity of cell responses to cancer drugs	High-content screening, clustering, phenotypes, cancer biology, drug discovery	France Rose, ENS
	05-08	Nuclei segmentation in histopathology images using deep neural networks	Segmentation, Deep Learning, Nuclei, Histopathology, Convolutional Neural Networks	Thomas Walter, Institut Curie
	05-09	Web-based image import within the open microscopy environment	Ome, omero, message-driven web applications, data transfer	Andrea Falconi, Institut de Génétique Humaine
	05-10	Robust classification of particle tracks for characterization of diffusion and dynamics in fluorescence microscopy	Diffusion, brownian motion, classification, trajectory, msd, tracking, statistical tests	Vincent Briane, INRIA Rennes - Bretagne Atlantique
	05-11	Polygon-based colocalization analysis for multicolor single-molecule localization microscopy data	Colocalization analysis, single-molecule localization microscopy, voronoi tessellation	Florian Levet, Université de Bordeaux
	05-12	Collaborative analysis of multi-gigapixel images using cytoline	Web, database, open source, machine learning, collaborative analysis, restful api, multigigapixel images, big imaging data	Raphael Marée, University of Liege
	05-13	An image-based automatic registration method for 2D-CLEM	CLEM, automatic registration	Bertha-Mayela Toledo-Acosta, INRIA Rennes - Bretagne Atlantique
Challenge 6: New biological models and approaches: how will they frame the next challenges in bioimaging?	06-01	A bioorthogonal dual labeling strategy to visualize lignification dynamics in plants	Bioorthogonal chemistry, click chemistry, dual labeling, metabolic labeling, plant cell wall, lignification	Clémence Simon, Université Lille 1
	06-02	NIR-II Multi-Harmonic Imaging of Nanoparticle-labeled Stem Cells in depth tissue: an effective monitoring tool to assess pre-clinically innovative therapeutic strategies	Cell tracking, nanoparticles, shg, thg, intravital microscopy, biphotonic	Laurence Dubreil, PANTher, INRA, École nationale vétérinaire, agro-alimentaire et de l'alimentation Nantes-Atlantique (Oniris)

FRANCE BIOIMAGING 4TH ANNUAL MEETING - POSTER SESSION PROGRAM

4. SYMPOSIUM “Next generation training in biological imaging” - FOM 2017



FRANCE-BIOIMAGING EURO-BIOIMAGING

Next Generation Training in Biological Imaging

Symposium

@ FOCUS ON MICROSCOPY
Bordeaux, France

Wednesday
April 12, 2017
Room D1/D2

France Bioimaging and its international partners organize a symposium focused on innovative trainings in biological imaging. The sessions will gather the main European actors in biological imaging training to discuss training strategies, innovative training models and training organization.

All FOM participants are welcome to attend.

Event followed by a **WINE & CHEESE TASTING GET-TOGETHER**

france-bioimaging.org

SCHEDULE ON BACK PAGE

FRANCE-BIOIMAGING EURO-BIOIMAGING

Next Generation Training in Biological Imaging

SCHEDULE

9:00 Welcome and Introductory Session - DANIEL CHOQUET - Bordeaux Imaging Center

9:20 1. Training in Biological Imaging in Europe: an overview from the Euro-Bioimaging Project (WPT Training) - FABRICE CORDELIÈRES - CNRS

9:40 2. Czech-Bioimaging, Euro-Bioimaging and Ri-Train: on the Track for Training - PAVEL HOZAK - Czech Bioimaging Node

10:00 KEYNOTE SPEECH 1
Global Bioimaging is Building New e-Learning Modules in MyScope™
ANTJE KEPPLER - EMBL

10:20 DISCUSSION

10:40 COFFEE BREAK

11:20 KEYNOTE SPEECH 2
France Bioimaging Advanced and Hands-on Trainings: FBIAT, FBI-CLEM
JEAN SALAMERO - France Bioimaging

11:40 KEYNOTE SPEECH 3
Continuous Education for Core Facility Scientists: the German Bioimaging Educational Program - ELISA FERRANDO-MAY - German Bioimaging

12:00 DISCUSSION

12:20 KEYNOTE SPEECH 4
Advanced Training in Bio-Image Analysis - GABY MARTINS - Instituto Gulbenkian de Ciência, NEUBIAS WIGZ Training

12:40 KEYNOTE SPEECH 5
Mifobio: an Interdisciplinary School around Functional Microscopy in Biology, Providing Lectures/Technical Workshops/Academic and Industrial Networking
SERGE MONNERET - GDR IMABIO CNRS

13:00 DISCUSSION & CLOSING SESSION

13:20 GET-TOGETHER – WINE AND CHEESE TASTING

france-bioimaging.org

5. **INDUSTRIAL BOARD MEETING DU 17/03/2017**

Retours très positifs de la réunion qui s’est tenue le 17/03 à l’Institut Curie. Les représentants présents ont exprimés leur intérêt pour constituer un corps unique et un travail en commun au sein de France Bioimaging. Ont été nommés par les participants le président et le vice-président de l’industrial board : Philippe Rideau de Nikon (Philippe.Rideau@nikon.com) en tant que président, Martin Belle de CryoCapCell (martin@cryocapcell.com) en tant que vice-président.

Un alias sera créé pour l’IB. La page « Governance » du site internet de France Bioimaging sera enrichie avec la création d’une page qui sera dédiée à l’IB.

6. **VISITES**

i) **Retour sur la visite d’Andreas Walter, CMI – Austria (23-24 Mars 2017)**



La communauté autrichienne est en train de se structurer sur un aspect plateformes et services. Jean Salamero est invité à présenter France BioImaging le **8 Juin prochain à Vienne lors du meeting**

Correlated Multimodal Imaging

Austrian Euro-BioImaging Node Initiative

ii) Point visite de la délégation chinoise à FBI (10 au 13 Mai)

PRELIMINARY PROGRAM

10th of May (Wednesday)

Welcome 9.30 Institut Curie

10.00-11.00 (Amphiteatre Marie Curie)

Presentations (Institutional + Cell and Tissue imaging facility Institut Curie)

11.00-11.30 Visite Marie Curie Museum

11.30-12.30 PICT-EM Lhomond + Equipe Graça (Ilse & Xavier)

12.30-13.30 Lunch

13.30-14.30

Visit of PICT-BDD (O. Renaud)

14.30- 15.30

Visit of PICT-Biophenics (E. Del Nery)

15.30-16.00 Coffee Break

16.00-17.00

Visite PICT-Lhomond (J. Salamero)

11th of May (Thursday)

Welcome ENS 9.30-11.00 ENS-Chimie (Ludovic Jullien)

11.00-12.30 IBENS (Antoine Thriller, Laurent Bourdieu, Stephane Dieudonné)

12.30-13.30 Lunch

13.30-15.00 Institut Curie:

UMR 168 Equipe Levy (+ PICT-EM. Daniel Levy)

UMR 168 Equipe Dahan (Hajj Bassam)

15.00-16.30

UMR 144 Equipe Salamero (Jean Salamero and Liu Zengzhen)

PICT-Lhomond LLSM (Cesar Valades Cruz and Ludovic Leconte)

May 12th (Friday)



FRANCE-BIOIMAGING

Bordeaux, visit of France BioImaging-Bordeaux node (Bordeaux Imaging Center, Interdisciplinary Institute in Neurosciences, strong in Super Res Microscopy)

13th of May (Saturday)

Institut Curie: 9.30-12.00 "France-BioImaging" and "National Imaging Center" Projects

COMPOSITION DE LA DELEGATION:

Prof. Hui Zhou - Head of the Research Department of Peking University;

Prof. Yanyi Huang - Deputy Director, Biodynamic Optical Imaging Center, Peking University;

Prof. Liangyi Chen - Lab of Cell secretion and metabolism, Institute of Molecular Medicine, Peking University;

Prof. Fei Sun - Lab of Biological electron microscopy and Structural Biology, Institute of Biophysics, Chinese Academy of Sciences;

Prof. Wei Ji - Single molecule detection and super-resolution correlative light and electron microscopy, Institute of Biophysics, Chinese Academy of Sciences;

Prof. Yujie Sun - Biodynamic Optical Imaging Center (BIOPIC), School of Life Sciences, Peking University;

Prof. Tao Xu - Director of the Institute of Biophysics, Chinese Academy of Sciences, co-director to the National Biomedical Imageomics Project;

Prof. Dong Li - Institute of Biophysics, Chinese Academy of Sciences.