

First ERC BIOMIM Meeting 2013

At the frontier between Materials and Biology

April 10-12, Grenoble, France

CONFERENCE LOCATION : Grenoble INP - Phelma MINATEC,
3, Parvis Louis Néel, GRENOBLE

SCIENTIFIC PROGRAM COMMITTEE

Dr Corinne Albigès-Rizo	IAB, Grenoble
Dr Jorge Almodóvar	LMGP, Grenoble
Dr Claire Monge	LMGP, Grenoble
Dr David Peyrade	LTM, Grenoble
Pr Catherine Picart	LMGP, Grenoble

LOCAL ORGANIZING COMMITTEE

Dr Jorge Almodóvar	LMGP, Grenoble
Mrs Virginie Charrière	"
Mrs Anne Fracchia	"
Dr Colette Lartigue	"
Dr Claire Monge	"
Pr Catherine Picart	"

The first ERC BIOMIM meeting will be continued by the
6th Workshop "Nano and Micro Environments for Cell Biology"
organized by the Nanosciences Foundation of Grenoble, France
(program included)

Scope of the Conference

The conference is organized by the LMGP laboratory of the Grenoble Institute of Technology and CNRS, within the framework of the ERC BIOMIM project.

The conference will take place on the MINATEC campus in Grenoble, a research center dedicated to Micro and Nanotechnologies.

12 invited lectures on interdisciplinary topics, which are at the heart of the ERC BIOMIM project, will be given by researchers from prestigious European research Institutes and Universities (from France, Germany, UK, Portugal, and Belgium).

4 young researchers working in the LMGP laboratory will present their most recent work and a poster session is opened to the participants.

4 talks have been selected from the submitted abstracts.

This workshop provides an opportunity for researchers and students working in the field of (bio)materials/tissue engineering, physical chemistry, microtechnologies, and cell biology to meet and exchange on exciting topics at the interface of materials science, microtechnologies, and cell biology.

All these aspects are important for designing the new generation of biomaterials and to elaborate platforms for *in vitro* diagnosis.

BIOMIM is funded by the EU grant agreement 259370 under FP7 (Ideas program)

CONFERENCE PROGRAM

Wednesday April 10th, 2013

- 3:00 - 4:00 pm** Registration
- 4:00 - 4:15 pm** **WELCOME & OPENING REMARKS**
Pr. Didier Bouvard
Vice-President for Research, Grenoble INP, Grenoble, France
- 4:15 - 4:30 pm** **BIOMIM OVERVIEW**
Pr. Catherine Picart
Grenoble INP/LMGP, Grenoble, France
- O1** **4:30 - 4:45 pm** ADVANCES IN ATOMIC FORCE MICROSCOPY FOR LIFE SCIENCE APPLICATIONS
Mickael Febvre
Bruker Nano, Surfaces Division, Palaiseau, France
- I1** **4:45 - 5:20 pm** **INVITED LECTURE**
MICRO/NANO-PATTERNED SURFACES TO CONTROL MAMMALIAN AND BACTERIAL CELL DEVELOPMENT
Dr. Karine Gline
Université Catholique, Louvain-La-Neuve, Belgium
- K1** **5:20 - 6:00 pm** **BIOMIM KEYNOTE LECTURE**
ULTRATHIN FILMS WITH REMOTE CONTROLLED AND STIMULATED RELEASE FOR BIOLOGICAL APPLICATIONS
Pr. Helmuth Möhwald
Max Plank Institute, Golm, Germany
- 6:00 - 9:00 pm** **POSTER SESSIONS & RECEPTION**
6:00 pm FLASH PRESENTATIONS OF FIRST SESSION
7:30 pm FLASH PRESENTATIONS OF SECOND SESSION

Posters will be displayed throughout conference.

At the end of the meeting, three prizes for the "Best Poster" will be awarded. Each of the three laureates will be offered an iPod nano as a gift for the quality of his/her presentation.

Thursday April 11th, 2013

	8:45 - 9:00 am	WELCOME
I2	9:00 - 9:35 am	INVITED LECTURE GEOMETRIC CONTROL OF TISSUE GROWTH AND ORGANISATION <u>Dr. Cécile Bidan</u> Max Plank Institute, Golm, Germany
I3	9:35 - 10:10 am	INVITED LECTURE THE ROLE OF VINCULIN IN CO-ORDINATING CELL ADHESION <u>Dr. Christoph Ballestrem</u> Welcome Trust center for Matrix Research, Manchester, United Kingdom
O2	10:10 - 10:30 am	INSIGHT INTO BMP-2 DISTRIBUTION AND SECONDARY STRUCTURE IN BIOMIMETIC FILMS <u>Flora Gilde</u> LMGP (Grenoble INP & CNRS), Grenoble, France
O3	10:30 - 10:50 am	HIGH ASPECT RATIO MICROSTRUCTURES FOR THE INVESTIGATION OF THE MECHANICS AND RHEOLOGY OF MULTI CELLULAR TUMOR SPHEROIDS <u>Laurene Aoun</u> LAAS/ITAV, CNRS, Toulouse, France
	<i>10:50 - 11:20 am</i>	<i>COFFE BREAK</i>
I4	11:20 - 11:55 am	INVITED LECTURE MICROFLUIDIC COLLOIDAL TECHNOLOGY: FROM HARD TO SOFT MATERIAL <u>Dr. David Peyrade</u> LTM, Grenoble, France
I5	11:55 - 12:30 pm	INVITED LECTURE MECHANISMS OF NUCLEAR POSITIONING IN MIGRATING CELLS AND MYOFIBERS <u>Dr. Edgar Gomes</u> Institute of Myology, Paris, France
O4	12:30 - 12:50 pm	CONTROL OF MUSCLE STEM CELL FATE BY BIOMIMETIC MATERIALS <u>Dr. Claire Monge</u> LMGP (Grenoble INP & CNRS), Grenoble, France
O5	12:50 - 13:10 pm	CONTROL AND MONITORING OF MAMMALIAN CELLS WITH ORGANIC ELECTRONICS <u>Pr. Roisin Owens</u> Ecole des Mines St. Etienne, Gardanne, France

	13:10 - 14:30 am	LUNCH
I6	2:30 - 3:05 pm	INVITED LECTURE DEFINITION OF TARGETED NANOVECTORS AND NEAR- INFRARED IMAGING DEVICES FOR THE DIAGNOSTIC AND THERAPY OF CANCER <u>Dr. Jean-Luc Coll</u> Institut Albert Bonniot, Grenoble, France
I7	3:05 - 3:40 pm	INVITED LECTURE CADHERINS AND RHO GTPASES IN SKELETAL MUSCLE CELL MIGRATION AND INVASION <u>Dr. Cécile Gauthier-Rouvière</u> CRBM, Montpellier, France
O6	3:40 - 4:00 pm	CONTROLLING CELLULAR PROCESSES OF SKELETAL MUSCLE PROGENITORS VIA BIOACTIVE PEPTIDES GRAFTED TO POLYELECTROLYTE MULTILAYER FILMS <u>Varvara Gribova</u> LMGP (Grenoble INP & CNRS) and CERMAV (CNRS), Grenoble, France
	4:00 - 4:30 am	COFFE BREAK
O7	4:30 - 4:50 pm	COMBINED EFFECTS OF SUBSTRATE ELASTICITY AND ECM PROTEIN COATING ON FIBROBLAST FUNCTIONS <u>Dr. Dimitris Missirlis</u> Heidelberg University & MPI Stuttgart, Heidelberg, Germany
O8	4:50 - 5:10 pm	SYNERGISTIC ACTION BETWEEN BMP RECEPTORS AND INTEGRINS ON SMAD SIGNALING AND MECHANOTRANSDUCTION <u>Dr. Laure Fourel</u> LMGP (Grenoble INP & CNRS) and IAB (INSERM & CNRS), Grenoble, France
O9	5:10 - 5:30 pm	CD44 RECEPTOR, A POTENTIAL TARGET FOR DRUG DELIVERY SYSTEM IN LUNG CANCER THERAPY <u>Victor Jeannot</u> INSERM U823, Grenoble, France
	5:30 pm	END OF SESSION
	6:30 pm	VISIT OF THE EXHIBITION LES ALPES DE DOISNEAU AT MUSEE DE L'ANCIEN EVECHE
	8:00 pm	CONFERENCE DINNER AT « LE 5 » RESTAURANT

Friday April 12th, 2013

- 8:45 - 9:00 am **WELCOME**
- I8** 9:00 - 9:35 am **INVITED LECTURE**
NEW ACTORS IN THE MECHANICAL LINK BETWEEN FIBRONECTIN
REMODELLING AND JUNCTIONAL FUNCTIONALITY
Dr. Corinne Albiges-Rizo
Institut Albert Bonniot (INSERM & CNRS), Grenoble, France
- I9** 9:35 - 10:10 am **INVITED LECTURE**
DIRECTED ACTIN ASSEMBLY AND CONTRACTILITY
Dr. Laurent Blanchoin
CEA, iRSTV, Grenoble, France
- I10** 10:10 - 10:45 am **INVITED LECTURE**
MECHANICAL CONTROL OF BIOLOGICAL PROPERTIES OF
MATERIALS
Dr. Philippe Laval
INSERM, Strasbourg, France

10:45 - 11:15 am

COFFEE BREAK

END OF THE FIRST ERC BIOMIM MEETING

CONTINUING WITH THE 6TH WORKSHOP

"NANO AND MICRO ENVIRONMENTS CELL BIOLOGY" (NAMICEB)

organized by the Nanosciences Foundation of Grenoble, France

11:15 - 12:30 am

ORAL PRESENTATIONS SELECTED FROM THE POSTER SESSION

12:30 - 14:00 am

LUNCH

K2 2:00 - 3:00 pm

NAMICEB KEYNOTE LECTURE

BIO-INSPIRED SURFACES FOR TISSUE ENGINEERING

Pr. João Mano

University of Minho, Braga, Portugal

3:00 pm

NANOSCIENCES FOUNDATION BEST POSTERS AWARD

END OF THE MEETING