



9th NAMIS WORKSHOP
Bourse de commerce de Paris
2 Rue Viarmes, 75001 Paris

France

<http://namis.iis.u-tokyo.ac.jp>



“Multiphysics sensors and nanodevices”

Co-organized by ESIEE Paris/université Paris est, IEF/CNRS-University Paris South and
 CIRMM/CNRS-University of Tokyo
 with the support of ESIEE, IEF, CCIP, CNRS, IIS/ University of Tokyo, JSPS
 and Fondation Franco-Japonaise Sasakawa



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Sunday, June the 26th

19:00-22:00 Get together dinner at Restaurant “Le bistrot Mazarin” in the center of Paris
Address: 44 Rue Mazarine, 75006 Paris, Tel: (+33) 1 43 29 99 01
Subway station : Odéon

Monday, June the 27th

Bourse de Commerce de Paris

Room “Baltard”

08:00 – 08:45 Registration

08:45 – 09:00 Welcome addresses

Pr. Geneviève BAUDOUIN (Director of Research, ESIEE-CCIP & Université Paris Est)
 Pr. Henri VAN DAMME (Scientific director of IFSTTAR, Université Paris Est)
 Pr. Alain BOSSEBOEUF (on behalf of Director of Institut d’Electronique Fondamentale)

09:00 – 09:15 ***The NAMIS international network***

Pr. Alain BOSSEBOEUF (NAMIS network coordinator)

09:15 – 09:30 ***Workshop program and practical information***

Tarik BOUROUINA (ESIEE Paris, Chairman of the workshop)

09:30 – 10:30 ***Presentations by ESIEE and IEF***

Chair: Dominique Collard (LIMMS, CNRS/IIS-University of Tokyo)

09:30 – 9:45 ***Analysis on a chip : Air, water and complex fluids***

Pr. Dan ANGELESCU, ESIEE Paris, Université Paris Est

09:45 – 10:00 ***The SENSE-CITY project***

Pr. Henri VANDAMME (Scientific director of IFSTTAR)

10:00 – 10:30 ***Presentation of IEF/CNRS-University Paris South and
 Research works on Micro and Nano Systems at IEF***

Pr. Alain BOSSEBOEUF, IEF, Nanobio and Microsystems Dept., France

10:30 – 11:00 Coffee break, Hall “espace Baltard”

Room “Baltard”

11:00 – 11:30 Invited Talk 1, Chair: Pr. Alain BOSSEBOEUF

Japan Nanotechnology Network and research topics

Pr. Hidetoshi KOTERA

Vice President, Head of president office, Professor,
iCeMS Adjunct Professor, Kyoto University, Japan

11:30 – 13:00 Presentation by NAMIS partners, Session 1

Chair: Pr. Harri KOPOLA (VTT)

11:30 – 12:00 ***Multiscale, multifunctional flexible sensors using bio-inspired mechanical interlocking***

Ass. Pr. Kahp Yang SUH, Seoul National University, Mechanical Engineering
Dept., Korea

12:00 – 12:30 ***VTT microsystems overview***

Dr. Philippe MONNOYER, VTT-Technical Research Center of Finland

Cryogenic nanosensors at VTT

Dr. David GUNNARSSON, VTT-Technical Research Center of Finland

12:30 – 13:00 ***Integrated ceramic microfluidic devices***

Pr. Thomas MAEDER, Laboratoire de Production Microtechnique/IMT-EPFL,
Switzerland

13:00 – 14:00 Group Picture & Lunch (Buffet), Hall “espace Baltard”

Room “Baltard”

14:00 – 14:30 Invited talk 2, Chair: Pr. Alain BOSSEBOEUF

Organic electronics and solar cells

Dr. Lionel HIRSCH, IMS/CNRS-University Bordeaux 1, France

Coordinator of organic electronics CNRS network

14:30 – 16:00 Presentation by NAMIS partners, Session 2

Chair: Dr. Danick BRIAND (EPFL-IMT)

14:30 – 15:00 ***CMOS Multisensors***

Pr. Oliver PAUL, IMTEK, University of Freiburg, Germany

15:00 – 15:15 ***Micro-optical sensors for advanced medical diagnosis***

Pr. Hans ZAPPE, IMTEK, University of Freiburg, Germany

15:15 – 15:45 ***CMOS-MEMS Integration***

Pr. Hiroshi TOSHIYOSHI, IIS/The University of Tokyo, Japan

15:45 – 16:00 ***New results on the implementation of a MEMS atomic clock***

Pr. Christophe GORECKI, FEMTO-ST/CNRS-University Franche Comté, France

16:00 – 16:30 Coffee Break, Hall “espace Baltard”

Room "Baltard"

16:30 – 17:45 Presentation by NAMIS partners, Session 3

Chair: Pr. Yves-Alain PETER (Ecole Polytechnique de Montreal)

16:30 – 16:45 ***Pyroelectric materials deposition, characterization and application to BioMEMS and inertial sensors***

B. CHARLOT, P. COMBETTE, A. GIANI, A. GARRAUD, S. GAUTHIER, IES/CNRS-University of Montpellier, France

16:45 – 17:15 ***Nanostructures for coloring without chemical colorant***

Dr. CHOI Doo-Sun, KIMM, Korea

17:15 – 17:45 ***Tactile sensors for 3D image control***

Ass. Pr. LO Chang-Yao; National Tsing Hua University, Taiwan

17 :45 –18:00 Next NAMIS Autumn School 2011

Pr. Ricardo PEREZ SUAREZ, Pr. Dannick BRIAND (EPFL/IMT) & Pr. Christophe GORECKI (FEMTO-ST/CNRS-Université Franche Comté),

Adjourn of the day for NAMIS Partners

Room "Medicis"

18:00 – 19:15 NAMIS Steering/Scientific committee meeting

Representative of NAMIS partners

19:30 – 21:30 Gala Dinner at Restaurant « Au Pied de Cochon », 6 Rue de Coquillière, 75001 Paris, Subway stations : Louvre (Line 1), les Halles (Line 4) or Châtelet les Halles (RER A,B or D)

Tuesday, June the 28th

Bourse de Commerce de Paris

Room "Baltard"

08:30 – 08:45 Welcome for the day

Pr. Tarik BOUROUINA and Pr. Alain BOSSEBOEUF

08:45 – 09:00 Status of NAMIS projects; Workgroups organization and purpose

Pr. Alain BOSSEBOEUF, NAMIS network coordinator

Rooms: "Chatelet-Les-halles" and "Louvre-Rivoli"

09:00 – 10:00 Workgroup session 1 (2 groups in parallel)

<u>Group 1</u> : Multiphysics sensors & actuators, integration technologies (3D, heterogeneous, large area,...)	<u>Group 2</u> : Bio, fluidic and medical devices
Chair: Tarik BOUROUINA (ESIEE/Univ Paris Est)	Chair: Dan ANGELSCU(ESIEE-Université Paris Est)
Secretary : Alexandra GARRAUD (CNRS/IES)	Secretary :Thomas MAEDERr (EPFL)

10:00 – 10:30 Coffee Break, Hall "espace Baltard"

Rooms: "Chatelet-Les-halles" and "Louvre-Rivoli"

10:30 – 11:30 Workgroup session 2 (2 groups in parallel)

<u>Group 3</u> : Advanced characterization techniques	<u>Group 4</u> : Nano devices (nanoprobe, nanosensors and NEMS)
Chair: Alain Bosseboeuf (CNRS/IEF)	Chair: Benoit CHARLOT (CNRS/IES)
Secretary : Christophe Gorecki (CNRS/FEMTO-ST)	Secretary : David GUNNARSSON (VTT)

Room "Baltard"

11:30 – 12:00 Invited Talk 3, Chair: Pr. Tarik BOUROUINA

Micromachined switchable metamaterials

Dr. ZHU Weiming, Nanyang Technological University, Singapore

12:00 – 12:30 Presentations by CNRS Labs

Chair: Pr. Kukjin CHUN (Seoul National University)

12:00 – 12:15 *Design and modeling of integrated magnetometers*

Jean-Baptiste KAMMERER, Morgan MADEC & Luc HEBRARD, Wilfried UHRING, CNRS/IneSS, France

12:15 – 12:30 *Wireless passive sensors with electromagnetic transduction*

Patrick PONS, Hervé AUBERT, Philippe MENINI, LAAS-CNRS, France

12:30 – 12:45 NAMIS Workshop and school 2012 information

12:45 – 13:40 Lunch (Buffet), Hall “espace Baltard”

13:40 – 19:00 Sightseeing: Visit of Versailles Castle (Castle of King Louis XIV)
2 hours castle visit and 45min royal gardens visit



Room “Baltard”

13:40 – 13h55 Presentation/information on the visit (M. Couty and P. Allain, PhD Students)

14:00 Departure by bus

18:00 Return to Paris by bus

19 :00 – 20 :00 Free time

20 :00 – 22 :00 Dinner

Restaurant « Bouillon Racine », 3 rue Racine 75006 Paris, Tél : (+33)1 44 32 15 60

Subway stations : Cluny-la Sorbonne or Odéon

Wednesday, June 29th

Bourse de Commerce de Paris

Room "Baltard"

08:45 – 09:00 Welcome for the day by Pr. Tarik BOUROUINA and Pr. Alain BOSSEBOEUF

09:00 – 9:35 Workgroup results synthesis (~8-9 min each group)

9:35– 10:20 Invited Talks 4:

Chair: Pr. Hiroyuki FUJITA (CIRMM-IIS-The University of Tokyo)

9:35 – 10:05 *Multi-scale modeling of Nanodevices*

Pr. Toshiro ITOH, AIST, Tsukuba, Japan

Leader of the Macro-BEANS center

10:05 – 10:20 *Deep-Sea Lab on a chip*

Ass. Pr. Tatsuhiro FUKUBA, IIS-University of Tokyo

10:20– 10:45 Coffee Break, Hall "espace Baltard"

Room "Baltard"

10:45 – 12:00 Presentation by NAMIS Partners, Session 4

Chair: Dr. Isabelle DUFOUR (CNRS/IMS)

10:45 – 11:15 *Multi-scale modeling of Nanodevices*

Pr. M.P. "Anant" ANATRAM, University of Washington, USA

11:15 – 11:30 *Measurement methods of small vibrations for atomic force microscopy and mass sensing*

Pr. Hideki KAWAKATSU, IIS/ The University of Tokyo, Japan

11:30 – 12:00 *Biosensors based on algae fluorescence induced by an organic light emitting diode in a microfluidic chip*

Pr. Ricardo IZQUIERDO, Québec University at Montreal, Canada

12: 00 – 12:30 Presentations by CNRS Labs

Chair: Pr. J. Andrew Yeh (National Tsing Hua University, Taiwan)

12:00 – 12:15 *Fluids rheological properties measurements by means of resonant cantilever beams*

Etienne LEMAIRE, Mohamed YOUSSEY, Benjamin CAILLARD, Cedric AYELA, Isabelle DUFOUR and Claude PELLET, IMS-University Bordeaux 1, France

12:15 – 12:30 *Fluidic microsystem gas sensor for ammonia detection*

Virginie MARTINI, IM2NP/CNRS-Universities Marseille, Aix and Toulon, France

12:30 – 14:00 Lunch (Buffet), Hall "espace Baltard"

14:00 – 17:00 Lab Tour on Demand

- ESIEE (<http://www.esiee-paris.fr/en/>)
Noisy Le Grand, (60min East of Paris by RER A Train)
- IEF <http://www.ief.u-psud.fr/IEF/iefuk.nsf/welcomeUK.html>
Orsay (60min South of Paris by RER B train)
- Others laboratories in Paris Area