



Workshop 2, Benchmarking of new Beyond CMOS device/design concepts

13-14 October 2011

Hotel Divani Caravel,

Vassileos Alexandrou Av. 2, Athens, Greece

Tentative Programme

Wednesday 12 October 2011

- 20.30** **Welcome reception and workshop introduction**
Clivia M Sotomayor Torres - Catalan Institute of Nanotechnology, Barcelona, Spain, Coordinator of NANOTEC, and Androula Nassiopoulou - National Centre for Scientific Research "Demokritos", Athens, Greece
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Thursday 13 October 2011

- 08.30-09.00** **Registration**
- 09.00-09.05** **Introduction to day 1**
Jouni Ahopelto - VTT Technical Research Centre of Finland, and Mart Graef - Technical University of Delft, The Netherlands
- 09.05-10.05** **Session 1 – Molecular Electronics**
Speaker: Dominique Vuillaume - CNRS, Lille, France (35 minutes)
Discussant: Clivia M Sotomayor Torres - Catalan Institute of Nanotechnology, Barcelona, Spain (5 minutes)
Rapporteur: Jouni Ahopelto - VTT Technical Research Centre of Finland
Group discussion (20 minutes)
- 10.05-11.05** **Session 2 – Mems**
Speaker: Lina Sarro - Technical University of Delft, The Netherlands (35 minutes)
Discussant: Piotr Grabiec - Institute of Electron Technology, Warsaw, Poland (5 minutes)
Rapporteur: Alain Cappy- Centre National de la Recherche Cientifique, Paris, France
Group discussion (20 minutes)
- 11.05-11.30** **Snapshot poster introduction**
Speakers: all attendants presenting a poster
- 11.30-12.00** **Coffee Break & Posters**
- 12.00-13.00** **Session 3 – Solid-State Quantum Computing**
Speaker: Jaw-Shen Tsai - NEC & The Riken Institute for Physical and Chemical Research, Ibaraki, Japan (35 minutes)
Discussant: Wolfgang Porod, University of Notre Dame, IN, U.S.A. (5 minutes)
Rapporteur: Isabelle Ferain, Tyndall National Institute-University College Cork, Ireland
Group discussion (20 minutes)
- 13.00-14.00** **Session 4 – Spintronics**
Speaker: Johan Åkerman - University of Gothenburg & NanoSC, Sweden (35 minutes)
Discussant: Christian Pithan - Forschungszentrum Juelich GmbH, Germany (5 minutes)
Rapporteur: Mart Graef - Technical University of Delft, The Netherlands
Group discussion (20 minutes)
- 14.00-15.20** **Lunch and networking**
- 15.20-16.20** **Session 5 – Nanowires**
Speaker: Heike Riel - IBM, Zurich, Switzerland (35 minutes)
Discussant: Isabelle Ferain- Tyndall National Institute at University College Cork, Ireland (5 minutes)
Rapporteur: Androula Nassiopoulou - National Centre for Scientific Research "Demokritos", Athens, Greece

Group discussion (20 minutes)

16.20-17.20 Session 6 – Memristors

Speaker: Julie Grollier - Centre National de la Recherche Cientifique-Thales, Palaiseau, France (35 minutes)

Discussant: Dag Winkler - Chalmers University of Technology, Gothenburg, Sweden (5 minutes)

Rapporteur: Adrian Ionescu, École Polytechnique Fédérale de Lausanne, Switzerland

Group discussion (20 minutes)

17.20-17.50 Coffee Break & Posters

17.50-18.00 "Guardian Angels" - a short introduction to the Flagship pilot coordination action

Speaker: Adrian Ionescu, École Polytechnique Fédérale de Lausanne, Switzerland

18.00-18.10 "Graphene-CA" - a short introduction to the Flagship pilot coordination action

Speaker: Jari Kinaret - Chalmers University of Technology, Gothenburg, Sweden

18.10-19.10 Session 7 – Graphene

Speaker: Jari Kinaret - Chalmers University of Technology, Gothenburg, Sweden (35 minutes)

Discussant: Alain Cappy- Centre National de la Recherche Cientifique, Paris, France (5 minutes)

Rapporteur: Wolfgang Rosenstiel - University of Tuebingen-Edacentrum GmbH, Hannover, Germany

Group discussion (20 minutes)

19.10-19.30 Wrap-up and conclusion of the day. All rapporteurs (5 minutes each)

20.30 Workshop Dinner

Friday 14 October 2011

09.00-10.30 Panel Discussion on Design

Chair person: Dan Herr - Semiconductor research Corporation, Palo Alto, CA, U.S.A

Panelists: Diederik Verkest, Interuniversity Microelectronics Center – Leuven, Belgium; Paolo Lugli – Technical University of Munich, Germany; Sandip Tiwari - University of Cornell, NY, U.S.A; Lars Hedrich – Johann Wolfgang Goethe-Universität, Frankfurt, Germany

10.30-11.30 Parallel working groups on Molecular Electronics, Mems, and Solid State Quantum Computing

Three separate rooms, maximum 20 participants per session, chair persons: Dominique Vuillaume - CNRS, Lille, France; Lina Sarro - Technical University of Delft, The Netherlands; Jaw-Shen Tsai - NEC & The Riken Institute for Physical and Chemical Research, Ibaraki, Japan

11.30-11.50 Coffee Break & Posters

11.50-12.50 Parallel working groups on Spintronics and Nanowires

Two separate rooms, maximum 20 participants per session, chair persons: Johan Åkerman - University of Gothenburg & NanoSC, Sweden; Heike Riel - IBM, Zurich, Switzerland

12.50-13.50 Parallel discussion on Memristors and graphene

Two separate rooms, maximum 20 participants per session, chair persons: Julie Grollier - Centre National de la Recherche Cientifique-Thales, Palaiseau, France; Jari Kinaret - Chalmers University of Technology, Gothenburg, Sweden

13.50-14.20 Conclusions of working groups by rapporteurs (5 minutes each)

14.20 Closing remarks of workshop 2, Next steps and announcement of Workshop 3

Jouni Ahopelto - VTT Technical Research Centre of Finland, and Mart Graef - Technical University of Delft

14.30 Lunch

15.30 Excursion