13th TECHNICAL & SCIENTIFIC MEETING
Manufacturing challenges in European semiconductor fabs

November 18th & 19th, 2010 // Rousset, France
The 13th Scientific and Technical Meeting of ARCSIS will be dedicated to «Manufacturing challenges in European semiconductor fabs» and will take place on November 18th & 19th 2010, at the Community Centre of Rousset (France).

The European semiconductor and microelectronic manufacturing industry is facing major challenges, made even more critical by the recent international financial crisis. These challenges are related to production costs, flexibility, reliability, technological advance and R&D for the future. From the ability of all involved partners, manufacturers, suppliers, academics, European and local institutions, to efficiently cooperate, the European industry will convert its differentiation into success. The scope of the Technical and Scientific meeting of ARCSIS is to emphasize players’ strengths and to participate in their increase.

OBJECTIVES

Building on its strong experience, the meeting is deeply attached to offer its attendees presentations of high quality in a convivial atmosphere.

It provides the opportunity for participants to:

- be informed of the latest technical developments and challenges,
- optimize the technological supply and demand,
- share information and discuss the latest development results in an informal environment,
- open new prospects for partnerships.

These two days will consist of scientific and technical conferences presented by local and worldwide experts from research centres and industry.

LOCATION OF THE EVENT

This Meeting will be held in Rousset at the foot of the «Sainte Victoire» mountain in Provence, in the heart of one of the major poles of microelectronics in France. The Rousset Community Centre is fully equipped with the standard Audio/Video media systems required for presentations.

The event will take place at 20km from Aix en Provence. It is an ideal base for visiting the rest of Provence and its beautiful countryside. For further information about Provence:

www.aixenprovencetourism.com
THURSDAY, 18th NOVEMBER

8.30 am Welcome - Registration

9.00 am Introduction by ARCSIS

SESSION 1 (PART 1): MANUFACTURING (DEFECT, DEVICE, COST, PROCESS)
Chairmen: L. Jeannerot (ARCSIS) and M. Dubeau (LFoundry)

9.15 am Keynote Speaker: Michael Lehnert, LFoundry (Landshut, Germany)
*Analog mixed signal Foundry... Today and tomorrow*

9.45 am Invited Speaker: Olivier Ardesi, STMicroelectronics (Rousset, France)
*Lean approach in semi-conductor fab*

10.05 am Diagnostics and troubleshooting of high density plasma process issue causing MIM-Capacitors electrical failures occurred in an automotive ASIC
A. Ilie, B. Bastien, D. Lootens, ON-Semiconductor (Oudenaarde, Belgium)

10.25 am Study and resist removal efficiency improvement in semiconductor manufacturing
M. Sanogo, G. Hardouin, P. Costaganna, Altis Semiconductor (Corbeil Essonnes, France)

10.45 am Uptime increase with a close management cycle
A. Lehner, LFoundry (Landshut, Germany)

11.05 am Break

SESSION 2 (PART 2): MANUFACTURING (DEFECT, DEVICE, COST, PROCESS)
Chairman: D. Goguenheim (IM2NP/ISEN-Toulon)

11.25 am Invited Speaker: Christophe Muller, IM2NP (Marseille, France)
*Emerging memory concepts based on resistance switching mechanisms: from materials to design*

11.45 am Silicon nanocrystals process integration in non-volatiles memories
J. Amouroux, V. Della Marca, STMicroelectronics (Rousset, France), IM2NP Aix-Marseille University (Marseille, France), CEA/LETI-MINATEC (Grenoble, France), P. Boivin, STMicroelectronics (Rousset, France), C. Muller, D. Deleruyelle, IM2NP Aix-Marseille University (Marseille, France), E. Jalaquier, CEA/LETI-MINATEC (Grenoble, France)

12.05 pm The use of high resolution haze for control of critical films surface roughness in a volume production environment
L. Ithier, D. Pepper, P. Morin, F. Chollet, R. Beneyton, P. Maury, STMicroelectronics (Crolles, France), G. Simpson, G. Bast, P. Dighe, KLA-Tencor (Milpitas, USA)
12.25 pm  **Pulsion HP: tunable, high productivity plasma doping. Application to 120nm and 90nm technology node devices**

12.45 pm  Lunch

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**SESSION 3: VIRTUAL METROLOGY**  
Chairman: J. F. Christaud (STMicroelectronics)

2.15 pm  **Keynote Speaker:** Stéphane Dauzère-Pérès, Ecole des Mines de Saint-Etienne (EMSE)/CMP (Gardonanne, France)  
*Industry and academic partnership in semiconductor manufacturing for fab competitiveness*

2.45 pm  **“Virtual Metrology” on plasma tools - Test cases and End user perspectives**
M. Tiernan, N. Mac Gearailt, G. Ennis, K. Brennan, Intel (Dublin, Ireland)

3.05 pm  **New data aggregation level for virtual metrology models for predicting overlay of photolithography process**
A. Ferreira, C. Kernafien, G. Pages, EMSE-CMP (Gardonanne, France), L. Bucelle, Q. Mathian, S. Decorme, STMicroelectronics (Rousset, France)

3.25 pm  **Manufacturing intelligence by Dassault Systèmes: a logic-based innovative yield improvement solution for semiconductors and photovoltaics**
R. Lavault, INTERCIM (Paris, France)

3.45 pm  Break

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**SESSION 4: CONTROL AND RISK MANAGEMENT**  
Chairman: S. Dauzère-Pérès (EMSE-CMP)

4.15 pm  **Computation of wafer-at-risk from theory to real life demonstration**
M. Sahnoun, S. Bassetto, M. Tollenaere, INP Grenoble - G-SCOP Laboratory (Grenoble, France), P. Vialletelle, S. Bastoini, STMicroelectronics (Crolles, France)

4.35 pm  **A novel approach to minimize the number of controls in defectivity area**
J. Nduhura, EMSE-CMP (Gardonanne, France), STMicroelectronics (Crolles, France), C. Yugma, S. Dauzère-Pérès, EMSE-CMP (Gardonanne, France), P. Vialletelle, STMicroelectronics (Crolles, France)

4.55 pm  **An approach for operational risk evaluation and its link to control plan**
B. Bettayeb, S. Bassetto, M. Tollenaere, G-SCOP Laboratory (Grenoble, France), P. Vialletelle, STMicroelectronics (Crolles, France)

5.15 pm  **R prototype for FDC nonparametric multivariate control charts based on k-nearest neighbor detection rule – Industrial application in the photolithography area**
A. Ferreira, G. Verdier, B. Vialle, EMSE-CMP (Gardonanne, France), L. Bucelle, STMicroelectronics (Rousset, France)

5.35 pm  Day 1 Conference closure

6.00 pm  Cocktail at Rousset Community Centre
FRIDAY, 19th NOVEMBER

8.30 am Welcome

SESSION 5 (PART 3): MANUFACTURING (DEFECT, DEVICE, COST, PROCESS)
Chairmen: P. Galand (CIM PACA Characterization Platform) and B. Laborie (Kemesys)

9.00 am Keynote Speaker: Philippe Brun, STMicroelectronics (Rousset, France)
Extending the value creation from 8” Fabs in Europe

9.30 am Edge of wafer (EOW) defectivity reduction using clamp etch tool for deep trench applications
S. Clément, C. Dacher, B. Gros, M. Nguyen, A. Terki, STMicroelectronics (Rousset, France)

9.50 am Wafer bevel protection during deep reactive ion etching
R. Charavel, P. Gassot, E. De Backer, ON-Semiconductor (Oudenaarde, Belgium), E.A.Sanchez, J. Van Aelst, K. Devriendt, K. Van Wichen, IMEC (Leuven, Belgium)

10.10 am Deep trench module optimization for a more robust technology with reduced defect density at lower cost
D. Lootens, E. Vancauter, B. Bastien, ON-Semiconductor (Oudenaarde, Belgium)

10.30 am Break

SESSION 6 (PART 4): MANUFACTURING (DEFECT, DEVICE, COST, PROCESS)
Chairman: M. Burle (MEDEA+/Catene)

11.00 am Invited Speaker: Ken Williamson, LFoundry (Rousset, France)
More than Moore

11.20 am Treatment and slurry reuse in microelectronic industry: case of silicium CMP
F. Testa, Paul Cézanne University, Mechanics Laboratory (Aix-en-Provence, France), KEMESYS (Peynier, France), C. Coetsier, E. Carretier, P. Moulin, Paul Cézanne University, Mechanics Laboratory (Aix-en-Provence, France), M. Ennahali, B. Laborie, KEMESYS (Peynier, France), C. Serafino, F. Bulgarelli, Rockwood Electronic Materials (Gréasque, France)
11.40 am **COMET project: bringing together industry and university experts to address metallic contamination**
P. Maillot, A. Planchais, C. Martin, R. Simola, STMicroelectronics (Rousset, France), E. Lattard, L’Foundry (Rousset, France), Y. De Puydt, Biophy Research (Rousset, France), D. Goguenheim, ISEN (Toulon, France), B. Pichaud, IM2NP (Marseille, France), H. Wortham, LCP (Marseille, France), F. Torregrossa, IBS (Peynier, France), C. Serafino, Rockwood Electronic Materials (Gréasque, France), C. Galvez, Tera Environnement (Fuveau, France), F. Michel, Vegatec (Rousset, France)

12.00 pm **Development and advantages of an integrated technology monitor**
D. Lootens, B. Bastien, ON-Semiconductor (Oudenaarde, Belgium)

12.20 pm Day 2 Conference closure

12.30 pm Lunch
ARCSIS, Association for the Research on Components and Secured Integrated Systems, is in charge of developing, strengthening and promoting the microelectronics and communicating objects in the Provence-Alpes-Côte d’Azur region. The association also manages a major collaborative research and development program: CIM PACA (PACA Integrated Microelectronics Center) which groups together the microelectronic community around three interconnected platforms: Design, Characterization and Micro-PackS.

Every year, ARCSIS is partner of various events, like SAME (Sophia Antipolis MicroElectronics forum) which took place on October 6th & 7th, 2010 in Sophia Antipolis (France).

www.same-conference.org
REGISTRATION FEES

13th Technical & Scientific Meeting of ARCSIS - November 18th & 19th, 2010
(lunches, breaks, proceedings and cocktail included):

ARCSIS members .................................................................................................. 230 € incl. VAT
(200 € incl. VAT for extra registrations)

Non-members ....................................................................................................... 280 € incl. VAT

Deadline for registration: Wednesday, November 3rd 2010

REGISTRATION FORM

To send back by fax to: +33 (0)4 42 53 81 51 or by e-mail to: contact@arcsis.org
Deadline for registration: Wednesday, November 3rd 2010

Company/ Organisation: ..............................................................................................................................

Last name, first name: ................................................................................................................................

Function: ......................................................................................................................................................

Activity:

- Manufacturer
- Supplier
- Research Center

Address: .........................................................................................................................................................

Zip code: .........................................................................................................................................................

Town: ...........................................................................................................................................................

Country: ...........................................................................................................................................................

Phone: ...........................................................................................................................................................

Fax: .................................................................................................................................................................

E-mail: ............................................................................................................................................................

I wish to attend:

- 13th Technical & Scientific Meeting of ARCSIS - November 18th & 19th 2010
    Rousset Community Centre (France)

I will pay by:

- Bank check to ARCSIS – BP 19 – Place Paul Borde – 13790 ROUSSET (France)
- Bank Swift to BNP PARIBAS – MEDITERRANEE OUEST ENTREPRISES (02478)
  Code banque: 30004 00601 00003239619 21 (France)
  Bank Code: FR76 3000 4006 0100 0032 3961 921

I wish to receive:

- The list of hotels selected by ARCSIS
- The acces map to the Rousset Community Centre (Address: bd de la Cairane, 13790 ROUSSET, France)

I participate in the cocktail on Thursday 18th November (6.00 pm):

- YES
- NO