

Microelectronics for Society: “More than Moore” expands “More Moore”

SUNDAY: June 10, 2012

- 05:00 pm Registration
- 07:00 pm Buffet Supper / Informal get together

MONDAY: June 11, 2012

- 08:00 am Breakfast*
- 08:40 am Welcome and opening*
T. Schroeder (IHP (Germany) & J. Fompeyrine (IBM Zürich (Switzerland))

Topic 1	Functional Materials Integration on Si
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- 09:00 – 10:00 am **Title 1: The MOSFET gate stack: Five decades of materials science**
M. Frank (IBM Yorktown Heights (USA))
– confirmed –
- 10:00 – 11:00 am **Title 2: Germanium on Silicon-Renaissance of an old semiconductor**
E. Kasper (University of Stuttgart (Germany))
– confirmed –
- 11:00 – 11:30 am Coffee Break*
- 11:30 am – 12:30 pm **Title 3: The promise of graphene from the perspective of Si VLSI: Basics**

Y.-H. Xie (UCLA, Los Angeles (USA))
– confirmed –

12:30 – 12:35 pm **Conference Photo**
(in front of the Physikzentrum)

12:35 pm **Lunch**

02:30 – 03:30 pm **Title 4: Materials Science of functional Nitrides on Si**
N. Grandjean (EPFL Lausanne (Switzerland))
– confirmed –

03:30 – 04:30 pm **Title 5: Overview of III-V Semiconductors for Optoelectronics**
T. Masselink (HU Berlin (Germany))
– confirmed –

04:30 – 05:00 pm **Coffee Break**

05:00 – 06:00 pm **Title 6: Functional oxides on silicon**
F. Sanchez (ICMAB Barcelona (Spain))
– confirmed –

06:00 pm **WE Heraeus Evening**

TUESDAY: June 12, 2012

08:00 am **Breakfast**

Topic 1	Functional Materials Integration on Si
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- 09:00 – 10:00 am **Title 1: The MOSFET gate stack: Toward ultimate scaling**
M. Frank (IBM Yorktown Heights (USA))
– confirmed –
- 10:00 – 11:00 am **Title 2: Ge/Si Heterostructures: Key to Photonics-Electronics Merger**
E. Kasper (University of Stuttgart (Germany))
– confirmed –
- 11:00 – 11:30 am* *Coffee Break*
- 11:30 am – 12:30 pm **Title 3: The promise of graphene from the perspective of Si VLSI: opportunities and challenges**
Y.-H. Xie (UCLA Los Angeles (USA))
– confirmed –
- 12:30 pm* *Lunch*
- 02:30 – 03:30 pm **Title 4: Device Physics of functional Nitrides on Si**
N. Grandjean (EPFL Lausanne (Switzerland))
– confirmed –
- 03:30 – 04:30 pm **Title 5: Optoelectronic Devices and their Integration with Si-based Electronics**
T. Masselink (HU Berlin (Germany))
– confirmed –
- 04:30 – 05:00 pm* *Coffee Break*
- 05:00 – 06:00 pm **Title 6: Functional oxides on silicon**
F. Sanchez (ICMAB Barcelona (Spain))
– confirmed –
- 06:00 pm* *Dinner*

08:00 pm

Poster session

WEDNESDAY: June 13, 2012

08:00 am

Breakfast

Topic 2

Fabrication method and materials science characterization

09:00 – 10:00 am

Title 7: Wafer scale integration of III-V's on silicon: Requirements and strategies

M. Richter (IBM Rüschlikon Zürich (Switzerland))

– confirmed –

10:00 – 11:00 am

Title 8: Power of synchrotron sources for the structural analysis of ultra thin layers and nanostructures

T. Schuelli (ESRF Grenoble (France))

– confirmed –

11:00 – 11:30 am

Coffee Break

11:30 am – 12:30 pm

Title 7: Towards VL-system-SI with III-V flavour

M. Richter (IBM Rüschlikon Zürich (Switzerland))

– confirmed –

12:30 pm

Lunch

02:00 – 03:00 pm

Title 8: Device structures imaged by modern x-ray techniques

T. Schuelli (ESRF Grenoble (France))

– confirmed –

03:00 pm **Excursion**

07:00 pm Dinner

THURSDAY: June 14, 2012

08:00 am Breakfast

Topic 3	Hybrid Si Device Applications
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09:00 – 10:00 am **Title 9: The Roadmap: Microelectronics evolution to the 22nm node**
C. Reita (Minatec / Leti Grenoble (France))
– confirmed –

10:00 – 11:00 am **Title 10: III-V Compounds and Silicon Technology: What Can We Learn from Each Other?**
C. Bolognesi (ETH Zuerich (Switzerland))
– confirmed –

11:00 – 11:30 am Coffee Break

11:30 am – 12:30 pm **Title 11: Silicon for high density photonic integration**
L. Zimmermann (TU Berlin; IHP Frankfurt/Oder (Germany))
– confirmed –

12:30 pm Lunch

02:30 – 03:30 pm **Title 12: Merging Silicon electronics & photonics technology for next generation communications**
L. Zimmermann (TU Berlin; IHP Frankfurt/Oder (Germany))
– confirmed –

03:30 – 04:30 pm **Title 13: Integration of new Materials onto the Silicon Manufacturing Platform: Concepts and Applications**
P. Storck (Siltronic AG (Germany))
– confirmed –

04:30 – 05:00 pm *Coffee Break*

05:00 – 06:00 pm **Title 14: Modern Microelectronics for Society - Technology Impact Assessment: Part I**
I. Vergara-Ogando (European Commission – Directorate General for Information Society and Media (Belgium))
– confirmed –

06:30 pm *Dinner*

FRIDAY: June 15, 2012

08:00 am *Breakfast*

Topic 3	Hybrid Si Device Applications
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09:00 – 10:00 am **Title 9: The roadmaps: digital, analog and memories beyond 22nm node**
C. Reita (Minatec / Leti Grenoble (France))
– confirmed –

10:00 – 11:00 am **Title 10: A Few Outstanding Challenges in III-V Compound Semiconductor Transistors**
C. Bolognesi (ETH Zuerich (Switzerland))
– confirmed –

11:00 – 11:30 am *Coffee Break*

11:30 am – 12:30 pm

Title 11: Energy Efficient Electronics Science; Searching for the Milli-Volt Switch
E. Yablonovitch (UC Berkley Electrical Engineering & Computer Sciences Dept. (USA))
– confirmed –

12:30 pm

Lunch

02:30 – 03:30 pm

Title 12: The Tunnelling Field Effect Transistor; What is the TFET?
E. Yablonovitch (UC Berkley Electrical Engineering & Computer Sciences Dept. (USA))
– confirmed –

03:30 – 04:30 pm

Title 13: Industrial Approach to Engineered Ge and GaN Substrates using Heteroepitaxy
P. Storck (Siltronic AG (Germany))
– confirmed –

04:30 – 05:00 pm

Coffee Break

05:00 – 06:00 pm

Open discussion: Impact of microelectronics on society
T. Schroeder (IHP (Germany) & *J. Fompeyrine* (IBM Zürich (Switzerland))
– confirmed –

End of the seminar and departure

06:30 pm

Dinner
for participants leaving on Saturday morning