**Session 1:** Session Chair – Joel Barnett

9:20 AM **INVITED: Selective etch requirements for the next generation of semiconductor devices – Frank Holsteyns, imec**

9:45 AM RMG Wet Process Challenges and the Patterning Knobs towards N5 and Beyond Logic Devices – Oniki Yusuke, imec

10:05 AM Wet and Siconi® cleaning sequences for SiGe epitaxial regrowth – Pierre-Edouard Raynal, CEA-Leti

10:55 AM Pre SiGe Wet Cleans Development for sub 14 nm Technology Node – Akshey Sehgal, GLOBALFOUNDRIES

11:15 AM GeSn surface preparation by wet cleaning and in-situ plasma treatments prior to

metallization – Pierre-Edouard Raynal, CEA-Leti

11:35 AM Selective isotropic etching of Group IV semiconductors to enable gate all around device architectures – Subhadeep Kal, TEL/imec

**Session 2:** Session Chairs – Akshey Sehgal, Evelyn Kennedy

1:30 PM **INVITED: Improving BEOL for sub-10nm nodes – Kevin Boyd, GLOBALFOUNDRIES**

1:55 PM Characterization of Post-etch Residue Clean By Chemical Bonding Transformation Mapping – Oliver Chyan, Univ. of North Texas

2:15 PM BEOL pre-metallization wet clean: post-etch residue removal and metal compatibility – QuocToan Le, imec

2:35 PM Selective Removal of Post-Etch Residues Formed by Patterning of High-K Materials Through Precise Control of Water during Cleaning – Jerome Daviot, Technic France

**Session 2 (Cont.):** Session Chairs – Matthew Thorum, Jagdish Prasad

3:15 PM Dry removal of a surface functionalization chemistry used for pattern collapse prevention – Guy Vereecke, imec

3:35 PM Cleaning Surfaces from Nanoparticles with Polymer Film: Impact of the Polymer Stripping – Adeline Lallart, STM

**Session 3: Panel Discussion Moderator: Mike Corbett**

4:05 PM Panel Discussion

5:20 PM: Wrap Up/Additional Questions/Adjourn Organizers

5:30 PM: Day 1 End

**Session 4:** Session Chairs – Rick Chen, Chris Sparks

9:15 AM **Invited: Process challenges associated with Nano-imprint masks**

**– Nobuyoshi Sato, Toshiba**

9:40 AM Etching of Silicon Nitride with High Temperature Water and Deuterium Oxide

– Joshua Barclay, Univ. of North Texas

10:00 AM Selective wet removal of the SiN ESL prior to contact formation – Antoine Pacco, imec

10:20 AM Novel EHS-Friendly Ru Select Etch and SPM Alternatives for 5nm Applications

– Chien-Pin Sherman Hsu, Avantor

10:40 AM Development of Wet-etch Chemistries for Tungsten Word-line Recess – CK Ge, Versum

**Session 4 (Cont.):** Session Chairs – Shariq Siddiqui, Thomas Phely-Bobin

11:25 AM Study of cobalt etch control by pH and oxidizer – Yuuichi Ogawa, Kurita

11:45 AM Developing Wet Cleans for a Cobalt Contact Integration Scheme

– Akshey Sehgal, GLOBALFOUNDRIES

12:05 PM Deposition of Volatile Chlorohydric Acid on Copper Wafer Depending on Humidity and HCl Airborne Concentration – Minh-Phuong Tran, CEA-Leti

12:25 PM Ammonia cross contamination: FOUP to wafer evaluation and their volatile acids comparison – Paola Gonzalez, Entegris

2:00 PM: **INVITED: The Business Cycle Upswing Impact on Semiconductors — Duncan Meldrum Ph.D., Chief Economist, Hilltop Economics LLC**

2:25 PM Acidic Cleaning Solutions for Post InGaAs CMP Cleaning – Jin-Goo Park, Hanyang University

2:45 PM Fundamentals of Post-CMP Cleaning of Dielectric Surface Contaminated with Ceria (Nano-to Micro) Particles – Atanu Das, Entegris

3:05 PM Characterization of incoming PVA brush for 10 nm below post CMP cleaning

Process – Jung-Hwan Lee, Hanyang University

3:25 PM Post Cleaning Chemical for Tungsten Chemical Mechanical Planarization

– Jun-Yong Kim, Samsung

Posters Skyline Suites

Post Etch Residue Removal on Cobalt Contact

– Wilson Yeh, Dupont

Improved post etch wet clean method for defectivity reduction in 14 nm BEOL process – Srishti Agrawal, GLOBALFOUNDRIES

Greener SC1 Process For Single Wafer Cleans – Dhiman Bhattacharyya, GLOBALFOUNDRIES

From fundamentals to application: one universal solution toward ceria PCMP cleaning for different demands in advanced FEOL processing – Jhih-Fong Lin, Dupont

The Last Puzzle toward Cost-Effective CMP Processing: New-generation PCMP Cleaner for Positive-charged Silica Slurry – Jhih-Fong Lin, Dupont

Polysilicon Post CMP Cleaning: Material Solution beyond the Emerging Technical Hurdle in FEOL Processing – Jhih-Fong Lin, Dupont

Post-CMP W Cleaners with Excellent Tungsten Compatibility for Both Buffing and Brush Clean – Zoey Chiang , Dupont

Characterization of High Purity Ultrasonic Final Cleaning of Metal Oxide Plasma Coated Parts – Osama Khalil, QuantumClean

Single Nanoparticle ICP-MS Analysis of Process Chemicals and UPW Used in Surface Cleaning and Preparation – Lisa Mey-Ami, Air Liquide - Balazs NanoAnalysis

Filter material cleanliness characterization by electrophoretic purification/analysis

– Makonnen Payne, Pall

Metrologies of Amine and Ammonium in Post Etch Residue Removal Formulations

– Jingjing Wang, ECI Technology