

The ICPT logo features the letters 'ICPT' in a bold, dark blue font. To the right of the text is a stylized graphic element consisting of a curved line with horizontal bars, transitioning from yellow at the top to blue at the bottom.

**ICPT**

**Program**

# **ICPT 2024**

**International Conference on  
Planarization / CMP Technology**

Kurhaus Wiesbaden • October 15–18, 2024  
[www.icpt2024.org](http://www.icpt2024.org)

**VDE VDI<sup>7</sup> GMM**

## Welcome to the ICPT 2024 – International Conference on Planarization / CMP Technology

The 19<sup>th</sup> International Conference on Planarization/CMP Technology 2024 – ICPT2024 – will be held in Wiesbaden, Germany. The European CMP User Groups kindly invite you to this amazing health resort city – one of Germany’s hidden champions. Following European venues such as Dresden, Grenoble and Leuven, we are proud to organize the ICPT Conference 2024 again in Europe, and hope that it will be a wonderful event.

Chemical Mechanical Planarization/Polishing (CMP), one of the most important processes in the manufacturing of semiconductor devices, has been developed and improved continuously year after year, it has maintained its position in related industries, and has increased its application areas. From the user’s point of view, technical demand is growing more and more, and fields of application beyond the semiconductor sector are increasing equally.

ICPT as an international symposium for Planarization/CMP offers magnificent opportunities for discussions on technologies including FEOL and BEOL CMP, 3D/TSV, Fundamentals of CMP, Polishing Processes, Consumables, Equipment, Green Devices, New Applications, Metrology, Cleaning, Defect Control, Process Control, CMP Alternatives, SiC, GaN, Sapphire and Diamond. The conference provides a place where researchers and engineers alike meet, discuss and share experiences in their field of knowledge. Enthusiastic presentations and discussions are expected to be on an equal footing, flat like the surface of wafer, no matter from which country or organization presenters come, which position they hold or in which technology area they have gained experience or are experts.

The organizing committee would like the ICPT2024 Conference to offer good opportunities for every attendee to learn something new or expand their networks through discussions or information exchange in the field of CMP.

Welcome to ICPT 2024 in Wiesbaden!

*Knut Gottfried, Viorel Balan,  
Patrick Ong, Catharina Rudolph,  
Eric Jacquinet, Cedric Perrot, Cathérine Euvrard*

# The ICPT 2024 Committees

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Ronald Schnabel, VDE/VDI GMM  
Balan Viorel, CEA-Leti

# ICPT 2024 Program Overview

Tuesday, October 15	
09:00–17:15	Tutorials
17:00–18:30	Wine & Cheese

Wednesday, October 16	
07:00–08:00	Registration
08:00–08:10	Opening Remarks
08:10–08:40	Keynote
08:40–10:05	SESSION 1 FEOL CMP
10:05–10:35	<i>Coffee Break &amp; Exhibiton</i>
10:35–12:00	SESSION 2 BEOL & 3D CMP (1)
12:00–13:30	<i>Lunch Break &amp; Exhibiton</i>
13:30–14:55	SESSION 3 CMP fundamentals, modeling and simulation (1)
14:55–15:25	<i>Coffee Break &amp; Exhibiton</i>
15:25–16:50	SESSION 4 Defects, defect control and Post CMP cleaning (1)
16:50–18:20	POSTER SESSION 1
18:30 – 18:50	Organ Prelude
18:20–20:00	Get-Together



The given times in the program schedule are according to the German Local Time (CEST)

# ICPT 2024 Program Overview

Thursday, October 17	
07:30–08:00	Registration
08:00–08:10	Presentation ICPT 2025
08:10–08:40	Keynote
08:40–10:05	SESSION 5 Equipment & CMP consumables
10:05–10:35	<i>Coffee Break &amp; Exhibiton</i>
10:35–12:00	SESSION 6 BEOL & 3D CMP (2)
12:00–12:15	Award Ceremony
12:15–13:30	<i>Lunch Break &amp; Exhibitons</i>
13:30–14:55	SESSION 7 Emerging technologies & Substrate polish
14:55–15:25	<i>Coffee Break &amp; Exhibiton</i>
15:25–16:50	SESSION 8 Extra SESSION
16:50–18:20	POSTER SESSION 2
19:30–22:30	Conference Dinner

Friday, October 18	
07:30–08:00	Registration
08:00–08:30	Keynote
08:30–09:55	SESSION 9 Defects, defect control and Post CMP cleaning (2)
09:55–10:25	<i>Coffee Break &amp; Exhibiton</i>
10:25–11:50	SESSION 10 CMP fundamentals, modeling and simulation (2)
11:50–12:10	STUDENT PAPER AWARD
12:10–12:20	Closing Remarks
12:20–13:20	<i>Lunch Break</i>
13:20	End of ICPT 2024
13:30–16:30	Social Event

## Tuesday, October 15, 2024

09:00 - 09:10 Opening Remarks

09:10 **Navigating the Evolution of CMP from Basics to Breakthroughs**  
*Prof. Jihoon Seo, Assistant Professor*  
*Department of Chemical and Biomolecular Engineering Clarkson University in NY, USA*

10:10 - 10:30 Coffee Break

10:30 **CMP challenges in advanced interconnect and 3D packaging**  
*Nancy Heylen, R&D team leader*  
*IMEC, Belgium*

11:30 **The CMP Consumables Ecosystem**  
*Mario Stella*  
*Fab Technology Engineering Director at Entegris, United Kingdom*

12:30 - 13:30 Lunch Break & Exhibiton

13:30 **Metrology Tutorial: Pad Microscopy for CMP**  
*Len Borucki*  
*Araca Inc. CTO (ret.), USA*

14:05 **CMP related metrology: Wafer characterization, etc.**  
*Dr. Jason J. Keleher*  
*Professor and Chair of Chemistry, Lewis University, USA*

14:40 **Metrology Tutorial: Big Data Analytics for CMP Tools**  
*Ara Philipossian*  
*Araca Inc. President and CEO, USA*

15:15 - 15:35 Coffee Break

15:35 **Challenges and Innovations for post-CMP Cleaning of Emerging Materials/Processes at Advanced Technology Nodes**  
**Part2: CMP Cleaning**  
*Dr. Jason J. Keleher*  
*Professor and Chair of Chemistry, Lewis University, USA*

16:35 **CMP for More-than-Moore**  
*Gerfried Zwicker*  
*zwickerconsult, Gemany*

17:10 - 17:15 Closing remarks

17:00 - 18:30 Wine & Cheese

## Wednesday, October 16, 2024

07:00 - 08:00	Registration
08:00 - 08:10	Opening Remarks
08:10 - 08:40	<b>Keynote</b> <b>Development and Implementation of a Data Ecosystem to enable End-to-End Advanced Predictive Manufacturing using AI</b> <i>Dr. Saifi Usmani, Merck</i>
08:40 - 10:05	<b>SESSION 1: FEOL CMP</b> <i>Chair: Kangchun Lee, Kyonggi University, South Korea</i>
08:40	<b>Invited</b> <b>CMP Challenges and Opportunities for FDSOI with 28nm-ePCM advanced technologies and beyond</b> <i>Aurore Durel, STMicroelectronics, France</i>
09:05	<b>Effect of sugar alcohols on removal rate and ceria contamination as a function of carbon number in STI-CMP</b> <i>Muskan Muskan, Jenasree Hazarika, Tae Hwan Kim, Tae Gon Kim, Jin Goo Park Hanyang University, Korea, Republic of (South Korea)</i>
	<b>Student</b>
09:25	<b>Smart Design of A Novel Low Selective W CMP Slurry</b> <i>Hongjun Zhou<sup>1</sup>, Joon-Yeon Cho<sup>2</sup>, Gary Lee<sup>2</sup>, Jimmy Chang<sup>2</sup></i> <sup>1</sup> Merck; <sup>2</sup> Merck
09:45	<b>Development of CMP slurry for carbon hard mask</b> <i>Rung-Je Yang<sup>1</sup>, Allison Hsu<sup>1</sup>, Leo Huang<sup>1</sup>, Nita Fan<sup>1</sup>, Ping Hsu<sup>1</sup>, Kenjiro Ogata<sup>2</sup>, Koichiro Hosokawa<sup>2</sup></i> <sup>1</sup> DuPont, Taiwan; <sup>2</sup> NITTA DuPont Incorporated
10:05 - 10:35	Coffee Break & Exhibiton
10:35 - 12:00	<b>SESSION 2: BEOL &amp; 3D CMP (1)</b> <i>Chair: Catharina Rudolph, Fraunhofer IZM-ASSID, Europe</i>
10:35	<b>Invited</b> <b>Chemical Mechanical Polishing: A Key Enabling Process for Hybrid Bonding</b> <i>Laura Mirkarimi, Adeia, USA</i>
11:00	<b>Study on environmentally sustainable corrosion inhibitor of Cu CMP</b> <i>Jongyeong Jeon, Seungjun Oh, Juyeol Lee, Taesung Kim Sungkyunkwan University, Korea, Republic of (South Korea)</i>
	<b>Student</b>
11:20	<b>Cu/SiCN CMP for enabling wafer to wafer hybrid bonding down to 400 nm pitch</b> <i>Sven Dewilde, Steven Deckers, Nancy Heylen, Katia Devriendt imec vzw, Belgium</i>
11:40	<b>The impact of temperature on copper slurry chemistry</b> <i>Pengzhan Liu, Hyeonjeong Lee, Chaerin Park, Taesung Kim Sungkyunkwan University, Korea, Republic of (South Korea)</i>
	<b>Student</b>
12:00 - 13:30	Lunch Break & Exhibiton

## Wednesday, October 16, 2024

13:30 - 14:55	<b>SESSION 3 – CMP fundamentals, modeling and simulation (1)</b> <i>Chair: Bradley Wood, Entegris, USA</i>
13:30	<b>Invited</b> <b>History and Future of CMP Process Monitoring Technology</b> <i>Yoichi Shiokawa, EBARA, Japan</i>
13:55	<b>Secrets of the Stribeck Curve</b> <i>Leonard Borucki</i> <i>Araca Inc., United States of America</i>
14:15	<b>Pad-Abrasive-Wafer Interaction at Micro-Scale in Chemical-Mechanical Polishing</b> <i>Hyun Jun Ryu<sup>1</sup>, Seounghee Yun<sup>1</sup>, Ji-hun Jeong<sup>2</sup>, Sanha Kim<sup>1</sup></i> <i><sup>1</sup>KAIST, Korea, Republic of (South Korea); <sup>2</sup>MIT, United States</i>
<b>Student</b>	
14:35	<b>Accelerating finite element simulations with machine learning to predict interfacial pressures in real-time</b> <i>Tom Rothe<sup>1,3</sup>, Andre Lauff<sup>2</sup>, Alexey Shaporin<sup>1,3</sup>, Peter Thieme<sup>2</sup>, Mudassir Ali Sayyed<sup>1,3</sup>, Knut Gottfried<sup>3</sup>, Jörg Schuster<sup>1,3</sup>, Jan Langer<sup>3</sup>, Martin Stoll<sup>1</sup>, Harald Kuhn<sup>1,3</sup></i> <i><sup>1</sup>University of Technology Chemnitz, Chemnitz, Germany; <sup>2</sup>Infineon Technologies Dresden GmbH &amp; Co. KG, Dresden, Germany; <sup>3</sup>Fraunhofer Institute for Electronic Nano Systems (ENAS), Chemnitz, Germany</i>
14:55 - 15:25	Coffee Break & Exhibiton
15:25 - 16:50	<b>SESSION 4 – Defects, defect control and Post CMP cleaning (1)</b> <i>Chair: Sanha Kim, KAIST, South Korea</i>
15:25	<b>Invited</b> <b>“Low Stress” Defect Activated p-CMP Cleaning Processes by Tuning the Molecular Structure of Additives</b> <i>Jason Keleher, Lewis University, USA</i>
15:50	<b>Scale Dependence of Particle Removal Efficiency in PVA Brush Scrubbing</b> <i>Somin Shin<sup>1</sup>, Ji-hun Jeong<sup>2</sup>, Hyun Jun Ryu<sup>1</sup>, Sanha Kim<sup>1</sup></i> <i><sup>1</sup>KAIST, Korea, Republic of (South Korea); <sup>2</sup>MIT, United States</i>
<b>Student</b>	
16:10	<b>Challenge for Tiny Defect Issues in Advanced Process</b> <i>Tetsuya Kamimura, Naoko Oouchi, Toru Tuchihashi, Akihiko Ohtsu, Atushi Mizutani</i> <i>FUJIFILM, Japan</i>
16:30	<b>Complete removal of positively-charged ceria particles by using alkaline sodium percarbonate aqueous cleaning solution</b> <i>Boao Ma, Wenlong Tang, Linyi Shen, Qiancheng Sun, Haijun Cheng, Xin-ping Qu</i> <i>School of Microelectronics, Fudan University, China, People’s Republic of China</i>
<b>Student</b>	
16:50 - 18:20	<b>POSTER SESSION 1</b>
18:30 - 18:50	<b>Organ Prelude</b>
18:20 - 20:00	<b>Get-Together</b>



## Thursday, October 17, 2024

07:30 - 08:00	Registration
08:00 - 08:10	Presentation ICPT 2025
08:10 - 08:40	<b>Keynote</b> <b>Lithography roadmaps</b> <i>Alberto Pirati, ASML, The Netherlands</i>
08:40 - 10:05	<b>SESSION 5 – Equipment &amp; CMP consumables</b> <i>Chair: Jeff McKinnis, Fujimi, USA</i>
08:40	<b>Invited</b> <b>Role of CMP in Enabling Heterogeneous Integration</b> <i>Brian Brown, Applied Materials, USA</i>
09:05	<b>Deep Learning Approaches to Predict Pad Durability in Copper Chemical Mechanical Planarization</b> <i>Seunghwan Lee, Jaewon Lee, Pengzhan Liu, Hosin Hwang, Hyunho Kim, Taesung Kim Sungkyunkwan University, Korea, Republic of (South Korea)</i>
09:25	<b>Effect of increased slurry dwell time on polishing performance</b> <i>Conrad Guhl, Felix Köhler, Benjamin Lilienthal-Uhlig, Fraunhofer IPMS CNT, Germany</i>
09:45	<b>Dishing Control for Nanotwinned Copper TSV Patterned Wafer CMP with Composite Soft Polishing Pad</b> <i>Yueh-Hsun Tsai<sup>1</sup>, Kai-Xiang Xiao<sup>1</sup>, An-Chieh Cheng<sup>1</sup>, Huy Le Nam Quoc<sup>1</sup>, Eyob Messele Sefene<sup>1</sup>, Chao-Chang A. Chen<sup>1,2</sup></i> <sup>1</sup> Department of Mechanical Engineering, National Taiwan University of Science and Technology, Taiwan; <sup>2</sup> CMP Innovation Center, National Taiwan University of Science and Technology, Taiwan
	<b>Student</b>
10:05 - 10:35	Coffee Break & Exhibiton
10:35 - 12:00	<b>SESSION 6 – BEOL &amp; 3D CMP (2)</b> <i>Chair: Chao-Cheng Arthur Chen, NTUST, Taiwan</i>
10:35	<b>Invited</b> <b>CMP: a key process for DTW Hybrid bonding integration</b> <i>Emilie Bourjot, CEA-Leti, France</i>
11:00	<b>Impact of CMP Slurry Additives on Copper Pad Corrosion and Surface Topography of Interest to Cu-Cu Hybrid Bonding</b> <i>Seonwoo Go<sup>1</sup>, Hazarika Jenasree<sup>1</sup>, Arim Woo<sup>1</sup>, Jum-Yong Park<sup>2</sup>, Tae-Gon Kim<sup>1</sup>, Jin-Goo Park<sup>1</sup></i> <sup>1</sup> Hanyang University, Republic of Korea; <sup>2</sup> Samsung Electronics Co., LTD, Republic of Korea
	<b>Student</b>
11:20	<b>Impact of Dissolved Oxygen on Metal Corrosion in Post-CMP Cleaning for Advanced Logic Structures</b> <i>Katrina Mikhaylichenko, Applied Materials, United States of America</i>
11:40	<b>Investigation on the removal mechanism of amorphous carbon chemical mechanical polishing</b> <i>Ziyang Wang, Pengzhan Liu, Seunghwan Lee, Jinhyoung Lee, Taesung Kim Sungkyunkwan University, Korea, Republic of (South Korea)</i>
	<b>Student</b>
12:00 - 12:15	<b>Award Ceremony</b>
12:15 - 13:30	Lunch Break & Exhibiton

## Thursday, October 17, 2024

13:30 - 14:55

### SESSION 7 – Emerging technologies & Substrate polish

Chair: Taesung Kim, Sungkyunkwan University, South Korea

13:30

#### Invited

#### Extreme wafer thinning process, and subsurface damage study for 3D integration

Rami Chukka, imec, Belgium

13:55

#### Novel Catalyst-Referred Etching Technology for Preparing Epi-Ready Silicon Carbide Substrates

Ara Philipossian<sup>1</sup>, Yasa Sampurno<sup>1</sup>, Tatsutoshi Suzuki<sup>2</sup>, Kazuto Yamauchi<sup>3</sup>

<sup>1</sup> Araca, Inc., Tucson AZ, USA; <sup>2</sup> Toho Koki Seisakusho Co., Ltd., Yokkaichi, Japan; <sup>3</sup> Osaka University, Osaka, Japan

14:15

#### High-efficiency GaN polishing by photoelectrochemical etching-assisted catalyst-referred etching

Daisetsu Toh<sup>1</sup>, Kiyoto Kayao<sup>1</sup>, Tatsuya Fukagawa<sup>1</sup>, Jumpei Yamada<sup>1</sup>, Kazuto Yamauchi<sup>2</sup>, Yasuhisa Sano<sup>1</sup>

<sup>1</sup> Department of Precision Science and Technology, Graduate School of Engineering, Osaka University, Osaka, Japan; <sup>2</sup> OSAKA UNIVERSITY-RIKEN Center for Science and Technology, Osaka University, Osaka, Japan

14:35

#### CMP steps to enable NbTiN-based Superconducting Digital Logic

Bart Kenens<sup>1</sup>, Ankit Pokhrel<sup>1</sup>, Benjamin Huet<sup>1</sup>, Daniel Perez Lozano<sup>1</sup>, Jean-Philippe Soulie<sup>1</sup>, Diziana Vangoidsenhoven<sup>1</sup>, Yann Canvel<sup>1</sup>, Vincent Renaud<sup>1</sup>, Amey M Walke<sup>1</sup>, Jasper Bizindavyi<sup>1</sup>, Sara Iraci<sup>1</sup>, Blake Hodges<sup>2</sup>, Seifallah Ibrahim<sup>2</sup>, Trent Josephson<sup>2</sup>, Min-Soo Kim<sup>2</sup>, Sabine O'Neal<sup>2</sup>, Kevin Vandersmissen<sup>1</sup>, Katia Devriendt<sup>1</sup>, Quentin Herr<sup>1,2</sup>, Zsolt Tokei<sup>1</sup>, Anna Herr<sup>1,2</sup>

<sup>1</sup> imec, Belgium; <sup>2</sup> imec Florida, USA

14:55 - 15:25

Coffee Break & Exhibiton

15:25 - 16:50

### SESSION 8 – Extra SESSION

Chair: Xin-Ping Qu, Fudan University, China

15:25

#### Invited

#### Innovative CMP technology for the next generation VNAND devices

KiHoon Jang, Samsung R&D Center, Korea

15:50

Student

#### Surface polishing of polycrystalline silicon carbide using catalyst-referred etching

Yusuke Yoshida<sup>1</sup>, Kiyoto Kayao<sup>1</sup>, Daisetsu Toh<sup>1</sup>, Jumpei Yamada<sup>1</sup>, Kazuto Yamauchi<sup>2</sup>, Yasuhisa Sano<sup>1</sup>

<sup>1</sup> Department of Precision Science and Technology, Graduate School of Engineering, Osaka University, Japan; <sup>2</sup> OSAKA UNIVERSITY-RIKEN Center for Science and Technology, Osaka University, Osaka, Japan

16:10

Student

#### Nanoscale Dishing and Selectivity Control in STI Pattern Wafer via Mechano-Structural Heterogeneity of CeO<sub>2</sub> Nano Particle

Chulwoo Bae, Jinhyoung Lee, Juyong Lee, Jaedo Nam, Taesung Kim  
Sungkyunkwan Univ., Korea, Republic of (South Korea)

16:30

#### Application of Neural Network Potential Molecular Dynamics Simulation to Atomic-scale understanding of silicon nitride CMP Process by Nano-sized ceria abrasive

Yoshishige Okuno, Ken Takahashi, AKIhiro Orita, Satoyuki Nomura, Resonac / Japan, Japan

16:50 - 18:20

### POSTER SESSION 2

19:30 - 22:30

### Conference Dinner

## Friday, October 18, 2024

07:30 - 08:00	Registration
08:00 - 08:30	<b>Keynote</b> <b>Challenges for hetero integration process technology, test and reliability</b> <i>Prof. Harald Kuhn, Fraunhofer ENAS, Germany</i>
08:30 - 09:55	<b>SESSION 9 – Defects, defect control and Post CMP cleaning (2)</b> <i>Chair: Norikazu Suzuki, Chuo University, Japan</i>
08:30	<b>Invited</b> <b>Evolution and progress of post CMP cleaning solution for defect reduction</b> <i>Yuchun Wang, Anji Microelectronics Technology Ltd., China</i>
08:55	<b>A Study on Evaluating Supercritical CO2 Cleaning with Pressure Pulse using Computational Fluid Dynamics</b> <i>JooHwan Ha<sup>1</sup>, Geumji Back<sup>1</sup>, Jongyeong Jeon<sup>2</sup>, Taesung Kim<sup>1,2,3</sup></i> <i><sup>1</sup>Department of Semiconductor Convergence Engineering, Sungkyunkwan University(SKKU), Suwon 16419, Republic of Korea; <sup>2</sup>School of Mechanical Engineering, Sungkyunkwan University(SKKU), Suwon 16419, Republic of Korea; <sup>3</sup>SKKU Advanced Institute of Nanotechnology(SAINT), Sungkyunkwan University(SKKU), Suwon 16419, Republic of Korea</i>
09:15	<b>Separate Distance Measurement of Moving Nano-Particle from Surface in Wet Process using Astigmatism Defocus above Evanescent Field Range</b> <i>Norita Kuroe<sup>1</sup>, Panart Khajornrungruang<sup>1</sup>, Yu Arima<sup>1</sup>, Satomi Hamada<sup>2</sup>, Yutaka Wada<sup>2</sup>, Hirokuni Hiyama<sup>2</sup>, Tomoya Nishi<sup>2</sup></i> <i><sup>1</sup>Kyushu Institute of Technology, Japan; <sup>2</sup>Ebara corporation, Japan</i>
09:35	<b>Investigation of the Cross-Contamination Mechanism by PVA Brush Scrubbing Process and Parameters during Post-CMP Cleaning</b> <i>Kwang-Min Han<sup>1</sup>, Sumit Kumar<sup>2</sup>, Mir Jalal Khan<sup>2</sup>, Jae-Hyeong Lee<sup>2</sup>, Tae-Gon Kim<sup>3</sup>, Jin-Goo Park<sup>2</sup></i> <i><sup>1</sup>Department of Bio-Nano Technology, Hanyang University ERICA, Republic of Korea; <sup>2</sup>Department of Materials Science and Chemical Engineering, Hanyang University ERICA, Republic of Korea; <sup>3</sup>Department of Smart Convergence Engineering, Hanyang University ERICA, Republic of Korea</i>
09:55 - 10:25	Coffee Break & Exhibiton

## Friday, October 18, 2024

10:25 - 11:50	<b>SESSION 10 – CMP fundamentals, modeling and simulation (2)</b> <i>Chair: Cedric Perrot, CEA/LETI, Europe</i>
10:25	<b>Invited</b> <b>First ten (of hundreds) ways to kill slurry quality</b> <i>Rob Rhoades, X-Trinsic, USA</i>
10:50	<b>Exploring the Potential of Machine Learning in Developing CMP Slurry Composition</b> <i>Akihiro Orita, Satoyuki Nomura, Resonac Corporation</i>
11:10	<b>Wafer Bonding Hotspots Detection by Chip-Scale CMP Simulation</b> <i>Ruben Ghulghazaryan<sup>1</sup>, Davit Piliposyan<sup>1</sup>, Jeff Wilson<sup>2</sup>, Ushasree Katakamsetty<sup>3</sup>, Yong Chau Ng<sup>3</sup>, Yudi Setiawan<sup>3</sup>, Anthony Villalon<sup>3</sup>, Sam Nakagawa<sup>3</sup>, Stefan Nikolaev Voykov<sup>3</sup></i> <i><sup>1</sup>Siemens Industry Software, Armenia; <sup>2</sup>Siemens EDA, USA; <sup>3</sup>GLOBALFOUNDRIES</i>
11:30	<b>Analysis of lower structures of asperities on pad surface</b> <i>Yohei Hashimoto<sup>1</sup>, Hozumi Yasuda<sup>2</sup>, Norikazu Suzuki<sup>3</sup></i> <i><sup>1</sup>Kanazawa University, Japan; <sup>2</sup>Ebara Company, Japan; <sup>3</sup>Chuo University, Japan</i>
11:50 - 12:10	<b>STUDENT PAPER AWARD</b>
12:10- 12:20	<b>Closing Remarks</b>
12:20 - 13:20	<i>Lunch Break &amp; Exhibiton</i>
13:20	<b>End of ICPT 2024</b>
13:30 - 16:30	<b>Social Event</b>

## Wednesday, October 16, 2024

16:50 - 18:20 **POSTER SESSION 1**

- |     |   |
|-----|---|
| P1  | <b>Cu-CMP Scratch reduction using by Temperature Control Rinse(TCR)</b><br><i>Taketo Sekine, Applied Materials, United States of America</i>  |
| P2  | <b>A Novel Data-Driven Modeling based on Pad Surface Recognition for Predicting Material Removal Rate in CMP</b><br><i>Jongmin Jeong<sup>1</sup>, Yeongil Shin<sup>1</sup>, Seunghun Jeong<sup>1</sup>, Seonho Jeong<sup>1</sup>, Masashi Kabasawa<sup>2</sup>, Yoichi Shiokawa<sup>2</sup>, Keita Yagi<sup>2</sup>, Hozumi Yasuda<sup>2</sup>, Jichul Yang<sup>2</sup>, Katsuhide Watanabe<sup>2</sup>, Yutaka Wada<sup>2</sup>, Hirokuni Hiyama<sup>2</sup>, Haedo Jeong<sup>1</sup></i><br><sup>1</sup> Pusan National University, Busan, Republic of Korea;<br><sup>2</sup> EBARA Corporation, Fujisawa, Kanagawa 251-8502, Japan |
| P3  | <b>Observation of liquid movement due to PVA brush nodule deformation and prediction of liquid transfer map</b><br><i>Makoto Miwa<sup>1</sup>, Shota Suzuki<sup>1</sup>, Satomi Hamada<sup>2</sup>, Toshiyuki Sanada<sup>1</sup></i><br><sup>1</sup> Shizuoka University; <sup>2</sup> Ebara Corporation  |
| P4  | <b>Study on the Effect of High Temperature on Defects in Tungsten Chemical Mechanical Planarization</b><br><i>Jeongyeol Yu<sup>1,2</sup>, Taesung Kim<sup>2</sup></i><br><sup>1</sup> Samsung Electronics, Korea, Republic of (South Korea); <sup>2</sup> Sungkyunkwan University, Korea, Republic of (South Korea)   |
| P5  | <b>Preparation of a highly smoothed Si surface via catalyst-referred etching</b><br><i>Yohei Miyaji<sup>1</sup>, Kiyoto Kayao<sup>1</sup>, Daisetsu Toh<sup>1</sup>, Jumpei Yamada<sup>1</sup>, Kazuto Yamauchi<sup>2</sup>, Yasuhisa Sano<sup>1</sup></i><br><sup>1</sup> Department of Precision Science and Technology, Graduate School of Engineering, Osaka University, 2-1 Yamadaoka, Suita, Osaka, Japan; <sup>2</sup> Osaka University-RIKEN Center for Science and Technology  |
| P6  | <b>A Novel Approach to Improve Cleaning Performance of High Oxide Rate CMP by Alkaline Ceria Slurry</b><br><i>Yang-Yao Lee, Ming-Che Ho, Vibrantz Technologies, United States of America</i>  |
| P7  | <b>Investigation of silica particle and Mo ion contamination on PVA brush during Mo post-CMP cleaning process</b><br><i>SUMIT KUMAR<sup>1</sup>, PALWASHA JALALZAI<sup>1</sup>, NAYOUNG KANG<sup>1</sup>, TAE-GON KIM<sup>2</sup>, JIN-GOO PARK<sup>1</sup></i><br><sup>1</sup> Department of Materials Science and Chemical Engineering Hanyang University ERICA, Korea;<br><sup>2</sup> Department of Smart Convergence Engineering, Hanyang University ERICA, Korea  |
| P8  | <b>Stagnation Time Effects on Through-Silicon Via (TSV) Mechanical Reliability: A Study on Cu Corrosion Standards</b><br><i>JINSOO YOON<sup>1</sup>, Taesung KIM<sup>2</sup></i><br><sup>1</sup> Samsung Electronics Semiconductor, Hwaseong, Republic of (South Korea);<br><sup>2</sup> Sungkyunkwan University, Korea, Republic of (South Korea)  |
| P9  | <b>High-Resolution Size Distribution Characterization of CMP Slurry Particles</b><br><i>Andrea Tiwari<sup>1</sup>, Daniel Troolin<sup>1</sup>, Torsten Tritscher<sup>2</sup>, Atul Patel<sup>1</sup>, Justin Koczak<sup>1</sup>, Nathan Birkeland<sup>1</sup>, Hee-Siew Han<sup>1</sup></i><br><sup>1</sup> TSI Incorporated, Shoreview, MN, United States of America; <sup>2</sup> TSI GmbH, Aachen, Germany   |
| P10 | <b>Performance of Novel DLC-Coated Conventional Gritted Diamond Discs in ILD CMP</b><br><i>Yasa Sampurno<sup>1</sup>, Len Borucki<sup>1</sup>, Akira Okabe<sup>2</sup>, Ara Phillipossian<sup>1</sup></i><br><sup>1</sup> Araca, Inc., Tucson AZ, USA; <sup>2</sup> Epicrew Corporation, Omura-city, Japan  |
| P11 | <b>Inline Real-Time Process Monitoring of CMP Slurries with Ultrasonic and Conductivity Measurements</b><br><i>Raymond Maas, Rhosonics, The Netherlands</i>   |

## Wednesday, October 16, 2024

- 
- P12 **Study on Property Changes Through Slurry Filtration**  
*Jongwoo Kwon<sup>1,2</sup>, Taesung Kim<sup>3</sup>*  
*<sup>1</sup> Samsung Electronics, Korea, Republic of (South Korea); <sup>2</sup> Department of Semiconductor and Display Engineering, Sungkyunkwan University, Suwon, Republic of Korea; <sup>3</sup> School of Mechanical Engineering, Sungkyunkwan University, Suwon, Republic of Korea*
- Student**
- 
- P13 **Planarization of substrate with metal wiring using catalyst-referred etching – Etching characteristic of wiring metal –**  
*Hiroto Yamasaki<sup>1</sup>, Kiyoto Kayao<sup>1</sup>, Daisetsu Toh<sup>1</sup>, Jumpei Yamada<sup>1</sup>, Kazuto Yamauchi<sup>2</sup>, Yasuhisa Sano<sup>1</sup>*  
*<sup>1</sup> Department of Precision Science and Technology, Graduate School of Engineering, Osaka University, Osaka, Japan; <sup>2</sup> OSAKA UNIVERSITY-RIKEN Center for Science and Technology, Osaka University, Osaka, Japan*
- Student**
- 
- P14 **Investigation of the root cause of the scratch formation during copper post-CMP brush scrubbing**  
*MAHEEPAL YADAV<sup>1</sup>, SANJAY BISHT<sup>1</sup>, SE-HOON PARK<sup>1</sup>, TAE-GON KIM<sup>2</sup>, SATOMI HAMADA<sup>3</sup>, JIN-GOO PARK<sup>1</sup>*  
*<sup>1</sup> Department of Materials Science and Chemical Engineering, Hanyang University, Ansan, 15588, Korea; <sup>2</sup> Department of Smart Convergence Engineering, Hanyang University, Ansan, 15588, Korea; <sup>3</sup> EBARA Corporation, Fujisawa, Kanagawa, 251-8502, Japan*
- Student**
- 
- P15 **Influence of a rolling brush on the fluid flow and concentration distribution of cleaning solutions on a rotating disk**  
*Yoshinori Jinbo<sup>1</sup>, Nao Okuma<sup>2</sup>, Eri Okubo<sup>2</sup>, Yasushi Hongo<sup>2</sup>, Toshimasa Mano<sup>2</sup>, Toshiyuki Sanada<sup>1</sup>*  
*<sup>1</sup> Shizuoka University, Japan; <sup>2</sup> AION Co., Ltd., Japan*
- 
- P16 **Reduction of Large Particles and Small Particles in Colloidal Silica Manufacturing Process**  
*Chiharu Nakano, Shunsuke Tanaka, Haruhiko Eki, Shun Arai, Shuta Ozawa*  
*FUSO Chemical CO. LTD., Japan*
- 
- P17 **Influence of Pad-Wafer-Silica based Slurry Interface on BSI Performances**  
*Victor Soty<sup>1</sup>, Cédric Perrot<sup>1</sup>, Aurore Bonnevalle<sup>2</sup>, Cassandre Maljournal<sup>2</sup>, Elodie Bêche<sup>2</sup>, Sébastien Mermoz<sup>2</sup>, Catherine Euvrad<sup>1</sup>*  
*<sup>1</sup> Univ. Grenoble Alpes, CEA, LETI, 38000 Grenoble, France; <sup>2</sup> ST Microelectronics, France*
- 
- P18 **Silicon Oxide and Tungsten Compatible Formulation for Ceria and Metal Ion Removal for Post-CMP Clean**  
*Ping Tzeng<sup>1</sup>, Katie M. Gramigna<sup>2</sup>, Yuwan Juan<sup>1</sup>, Ling Chang<sup>1</sup>, Ian Hung<sup>1</sup>, Ping Hsu<sup>1</sup>*  
*<sup>1</sup> DuPont, Hsinchu site 1 (TW); <sup>2</sup> DuPont, Newark (US)*
- 
- P19 **Investigating Foreign Materials in Post CMP Cleaning Modules with Total Holographic Characterization**  
*Laura A Phillips<sup>1</sup>, Fook Chiong Cheong<sup>1</sup>, Tiffany Markus<sup>1</sup>, Yongneng Wu<sup>2</sup>, Nai-Chieh Huang<sup>2</sup>, Max Gauge<sup>2</sup>, Jianshe Tang<sup>2</sup>*  
*<sup>1</sup> Spheryx, Inc., United States of America; <sup>2</sup> Applied Material, United States of America*
- 
- P20 **Quantitative measurement of emulsion droplets in silica CMP slurries with Total Holographic Characterization**  
*Laura Philips, Fook Chiong Cheong, Tiffany Markus, Spheryx, Inc., United States of America*
- 
- P21 **Development of model-based robot polishing system - Measurement of robot rigidity distribution and its application -**  
*Kotaro Totsuka<sup>1</sup>, Takamasa Yamamoto<sup>2</sup>, Michio Uneda<sup>1</sup>, Norikazu Suzuki<sup>3</sup>*  
*<sup>1</sup> Kanazawa Institute of Technology; <sup>2</sup> Yamamoto Metal Technos Co.,Ltd.; <sup>3</sup> Chuo University*
- Student**
- 
- P22 **Advanced Copper Post-CMP Cleaning Formulation Providing Superior Copper Compatibility and Ruthenium Residue Removal Capability**  
*Peter Sun, Jacky Cheng, Ping Hsu, DuPont, Taiwan*
-

## Wednesday, October 16, 2024

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- P23      **Functionalized Water Production Methods using Membrane Contactors and its effect on Particle Removal Efficiency post CMP**  
*Joel Cardona, Sang-Hyeon Park, Charlotte M Starnes, Solventum, United States of America*
- 
- P24      **Research on Bio-based CMP Pads to Reduce Carbon Dioxide Emissions**  
*Mingyeong Ji, Jongwook Yoon, Jangwon Seo, SK enpulse, Korea, Republic of (South Korea)*
- 
- P25      **Effect of Surface Oxidation on post-Chemical Mechanical Planarization Cleaning of Silicon Carbide**  
Student  
*Piper M. Smith, Jason J. Keleher, Lewis University, United States of America*
- 
- P26      **Oxide CMP Material Removal Rate Performance based on a smart material properties study**  
*Aurore Bonneville Durel<sup>1</sup>, Max Bastien<sup>1</sup>, Floriane Demeyer<sup>1</sup>, Valérie Dupuy<sup>1</sup>, Camille Sgrillo<sup>1</sup>, Jeanny Maurice<sup>1</sup>, Cédric Perrot<sup>2</sup>, Victor Soty<sup>2</sup>, Catherine Euvrard<sup>2</sup>, Daniel Benoit<sup>1</sup>, Sébastien Petitdidier<sup>1</sup>*  
<sup>1</sup> ST Microelectronics, France; <sup>2</sup> Univ. Grenoble Alpes, CEA, LETI, 38000 Grenoble, France
- 
- P27      **Extending the applicability of a novel cleanliness assessment method for CMP slurries**  
Student  
*Jochen Ruth, Oliver Baatz, Pall GmbH, Germany*
- 
- P28      **Post-CMP cleaning of silicon-germanium wafer surfaces**  
*Andreas Krüger, Awwal Adeniyi Adesunkanmi, Rasuole Lukose, Yuji Yamamoto, Wei-Chen Wen, Marco Lisker, IHP GmbH - Leibniz-Institut für innovative Mikroelektronik, Germany*
- 
- P29      **Enhanced Organic Residue Removal during Cu post-Chemical Mechanical Planarization (p-CMP) Cleaning via surface active non-covalent complexes**  
*Katey M. Sheets, Jason J. Keleher, Lewis University, United States of America*
- 
- P30      **Toward an optimized method to remove edge epi defects for GaN on Silicon growths**  
*IATOSTI Christophe<sup>1</sup>, BENSALÉM Salma<sup>2</sup>, ROY Emmanuel<sup>1</sup>, CHABOUREL Alain<sup>2</sup>, KODERA Kenji<sup>3</sup>, HONG Victor<sup>3</sup>, NAKANISHI Masayuki<sup>3</sup>*  
<sup>1</sup> STMicroelectronics, 153 rue des Douets 37100 Tours, France;  
<sup>2</sup> Ebara Precision Machinery Europe GmbH, 26 Av Jean Kuntzmann, 38330 Montbonnot St Martin, France;  
<sup>3</sup> Ebara Corporation, 4-2-1, Honfujisawa, Fujisawa-shi, 251-8502, Japan
- 
- P31      **Regulating molybdenum dissolution through controlled oxide phase formation in CMP with catalytic oxidation**  
*Bobae Lee, Memory CMP Technology Team, Samsung Electronics, Pyeongtaek, South Korea*
- 
- P32      **Advanced Filtration Solution for LPC Removal Efficiency Enhancement in CMP Applications**  
*Alan {Ling-Hsiang} Chao, Enzo Chen, Henry Wang, Entegris, Taiwan*
- 
- P33      **Optimizing Wafer Polishing: Innovations in CMP Techniques and Filtration**  
*Chloe {Ting Chen} Chen, Jason {Yu Chieh} Fu, Nathan Hou, Nate Chang, Elaine Wu, Alex Chuang Entegris, Inc.*
- 
- P34      **Exploring the Potential of Precision Engineering in Next-Generation CMP Consumables**  
*Yi He, 3M, United States of America*
- 
- P53      **Employing Small Molecule/Surface Active Chemistries for Enhanced STI post-CMP Cleaning**  
Student  
*Elizabeth M. McDonnell, Jason J. Keleher, Lewis University, United States of America*
-

## Thursday, October 17, 2024

16:50 - 18:20

### POSTER SESSION 2

- P35 **Application of Neural Network Potential Molecular Dynamics Simulation to Atomic-scale understanding of poly-Si CMP Process by Nano-sized ceria abrasive**  
Ken Takahashi, Yshishige Okuno, Akihiro Orita, Satoyuki Nomura, Resonac / Japan, Japan
- 
- P36 **Clarification of Polishing Mechanism Focusing on Polishing Pad in CMP**  
Syuhei Kurokawa<sup>1</sup>, Hirokuni Hiyama<sup>2</sup>, Yutaka Wada<sup>2</sup>, Hozumi Yasuda<sup>2</sup>, Shuntaro Hayashi<sup>2</sup>  
<sup>1</sup> Kyushu University, Japan; <sup>2</sup> EBARA CORPORATION
- 
- P37 **Maximizing Material Removal Efficiency of Micro-Structured Pads in Chemical Mechanical Polishing**  
Seounghee Yun, Hyun Jun Ryu, Sanha Kim, Korea Advanced Institute of Science and Technology, Korea, Republic of (South Korea)
- Student**
- 
- P38 **Enabling Fast Boron Doped Polysilicon Removal by the Advanced Oxidation and Enhanced Mechanical Approach for DRAM Scaling**  
Yang-Yao Lee, Ming-Che Ho, Vibrantz Technologies, United States of America
- 
- P39 **A prediction model of material removal rate distribution considering slurry supply position and relative motion**  
Takumi Sato<sup>1,3</sup>, Yuki Watanabe<sup>1</sup>, Yohei Hashimoto<sup>2</sup>, Norikazu Suzuki<sup>3</sup>  
<sup>1</sup> Ebara Corporation, Japan; <sup>2</sup> Kanazawa University, 9201192 ishikawa, Japan; <sup>3</sup> Chuo University, 1128551, Tokyo, Japan
- 
- P40 **Fundamentals in Polishing Scratch Reduction through Advanced CMP Pad Conditioning Processes**  
Yongsik Moon<sup>1</sup>, Kyoung-Kuk Kwack<sup>1</sup>, Joohan Lee<sup>1</sup>, Jongkuk Park<sup>1</sup>, Eunhwa Song<sup>1</sup>, Youngtae Jeon<sup>1</sup>, Joohee Lee<sup>1</sup>, Sungyu Park<sup>1</sup>, Yujeong Jin<sup>1</sup>, Jongjae Lee<sup>1</sup>, Yongik Whang<sup>2</sup>  
<sup>1</sup> EHWA Diamond, 374 Nambu-daero, Osan-si, Gyeonggi-do, Republic of Korea;  
<sup>2</sup> EHWA Europe GmbH, Rudolf-Diesel-Straße 7, 65760 Eschborn, Germany
- 
- P41 **Influence of Deposition Technique (ALD vs.PVD) on Surface Properties of Mo during Post-CMP Cleaning**  
Nayoung Kang<sup>1</sup>, Palwasha Jalalzai<sup>1</sup>, Tae-Gon Kim<sup>2</sup>, Jin-Goo Park<sup>1</sup>  
<sup>1</sup> Department of Materials Science and Chemical Engineering Hanyang University ERICA, Korea;  
<sup>2</sup> Department of Smart Convergence Engineering, Hanyang University ERICA, Korea
- Student**
- 
- P42 **Study of chemical reactions for development of a novel CMP process using a supercritical carbon dioxide as a solvent**  
Seokchan Lee<sup>1</sup>, Ju Yong Lee<sup>2</sup>, Chulwoo Bae<sup>1</sup>, Kihong Park<sup>2</sup>, Jeongyong Bae<sup>2</sup>, Taesung Kim<sup>1,2</sup>  
<sup>1</sup> SKKU Advanced Institute of Nano Technology (SAINT), Sungkyunkwan University (SKKU), Suwon, Republic of Korea; <sup>2</sup> School of Mechanical Engineering, Sungkyunkwan University (SKKU), Suwon, Republic of Korea
- Student**
- 
- P43 **A data driven approach for real-time estimation of material removal rate toward advanced CMP process control**  
Kodai Hirano<sup>1,3</sup>, Yuki Watanabe<sup>1</sup>, Yohei Hashimoto<sup>2</sup>, Norikazu Suzuki<sup>3</sup>  
<sup>1</sup> Ebara Corporation, 2518502 Kanagawa, Japan; <sup>2</sup> Kanazawa University, 9201192 Ishikawa, Japan;  
<sup>3</sup> Chuo University, 1128551, Tokyo, Japan
- 
- P44 **Copper Oxidation Mechanism by CMP Slurry Containing Ceria Abrasives**  
Hitomi Takahashi<sup>1</sup>, Shogo Arata<sup>2</sup>, Satoyuki Nomura<sup>2</sup>  
<sup>1</sup> Hitachi, Ltd.; <sup>2</sup> Resonac Corporation



## Thursday, October 17, 2024

- 
- P45 **Improvement of wafer yield through segmentation of mechanical force during CMP process**  
**Student**  
InJun Heo<sup>1,2</sup>, Taesung Kim<sup>1</sup>  
<sup>1</sup> Sungkyunkwan university, Korea, Republic of (South Korea);  
<sup>2</sup> Samsung Electronics, Korea, Republic of (South Korea)
- 
- P46 **Fast STI-CMP process characterization for diverse layouts by dedicated testchips and high throughput AFM-WLI metrology**  
Conrad Guhl<sup>1</sup>, Victor Bergmann<sup>2</sup>, Hongwei Ma<sup>3</sup>, Benjamin Lilienthal-Uhlig<sup>1</sup>  
<sup>1</sup> Fraunhofer IPMS CNT, Dresden, Germany; <sup>2</sup> Park Systems, Mannheim, Germany; <sup>3</sup> GlobalFoundries, Dresden, Germany
- 
- P47 **Polymer/Cu CMP using Ultrafine  $\alpha$ -alumina Slurry for Chiplet Applications**  
**Student**  
Yutetsu Kamiya<sup>1</sup>, Yuzo Nakamura<sup>1,2</sup>, Kohei Nakayama<sup>1</sup>, Kenta Hayama<sup>1</sup>, Fumihiro Inoue<sup>1</sup>  
<sup>1</sup> Yokohama National University, Japan; <sup>2</sup> Mitsui Chemicals, Inc., Japan
- 
- P48 **Development of monitoring function of fine particle unit of chemical mechanical polishing process**  
**Student**  
Chanho Park<sup>1,2</sup>, Changmin Kim<sup>1,2</sup>, Kihong Park<sup>2</sup>, Sanghyuck Jeon<sup>1,2</sup>, Hyunho Seok<sup>3</sup>, Taesung Kim<sup>2,3</sup>  
<sup>1</sup> Samsung Electronics, Korea, Republic of (South Korea); <sup>2</sup> School of Mechanical Engineering, Sungkyunkwan University; <sup>3</sup> SKKU Advanced Institute of Nanotechnology (SAINT), Sungkyunkwan University
- 
- P49 **CHARACTERIZING THE SURFACE CONTACT OF A CMP CONDITIONER BY ANALYZING A 3D IMAGE OF THE SURFACE**  
David Earl Slutz, DS Technical Consultant LLC, United States of America
- 
- P50 **Inhibition of Microbial Growth in Copper Chemical Mechanical Polishing Slurry through Organic Antimicrobial Agents**  
**Student**  
Jaewon Lee, Gyuyoung Lee, Seunghwan Lee, Taesung Kim  
School of Mechanical Engineering, Sungkyunkwan University, Suwon, South Korea
- 
- P51 **Silica particle contamination and removal mechanism in Molybdenum post-CMP cleaning**  
**Student**  
Hyeonjeong Lee<sup>1</sup>, Pengzhan Liu<sup>1</sup>, Yunhee Cho<sup>2</sup>, Minha Kim<sup>2</sup>, WonSeob Cho<sup>2</sup>, Andreas Klipp<sup>3</sup>, Taesung Kim<sup>1</sup>  
<sup>1</sup> Sungkyunkwan University, Korea, Republic of (South Korea); <sup>2</sup> BASF Company Ltd., Korea, Republic of (South Korea); <sup>3</sup> BASF SE, Germany
- 
- P52 **Emerging Stress-Free Ruthenium Removal Study in Advanced Node Interconnect Structure**  
Yinuo Jin, David Wang, Jian Wang, Minxu Li, ACM Research, Inc., People's Republic of China
- 
- P54 **The role of chemical reactions in oxide film polishing**  
**Student**  
Chaerin Park, Pengzhan Liu, Hyeonjeong Lee, Taesung Kim  
Sungkyunkwan University, Korea, Republic of (South Korea)
- 
- P55 **Effect of mixed abrasive particle size according to number concentration ratio on W CMP**  
Geumji Back<sup>1</sup>, Seungjun Oh<sup>2</sup>, Taesung Kim<sup>1,2</sup>  
<sup>1</sup> Department of Semiconductor Convergence Engineering, Sungkyunkwan University, Suwon-si, Gyeonggi-do, South Korea; <sup>2</sup> Department of Mechanical Engineering, Sungkyunkwan University, Suwon-si, Gyeonggi-do, South Korea
- 
- P56 **Uniformity-improved Chip Thinning by CMP for Failure Analysis**  
Gerfried Zwicker<sup>1</sup>, Christian Boit<sup>2</sup>, Awwal A. Adesunkanmi<sup>3</sup>, Norbert Herfurth<sup>3</sup>  
<sup>1</sup> zwickerconsult, Berlin, Germany; <sup>2</sup> TU Berlin, Germany; <sup>3</sup> IHP microelectronics, Frankfurt/Oder, Germany
- 
- P57 **High performance acidic slurry for gallium nitride with novel oxidant combination**  
junchao huo<sup>1,2</sup>, weili liu<sup>1,2</sup>  
<sup>1</sup> Shanghai Institute of Microsystem and Information Technology, People's Republic of China;  
<sup>2</sup> Zhejiang Xinchuangna Electronic Science & Technology Co. Ltd., Zhejiang, 314406, China
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## Thursday, October 17, 2024

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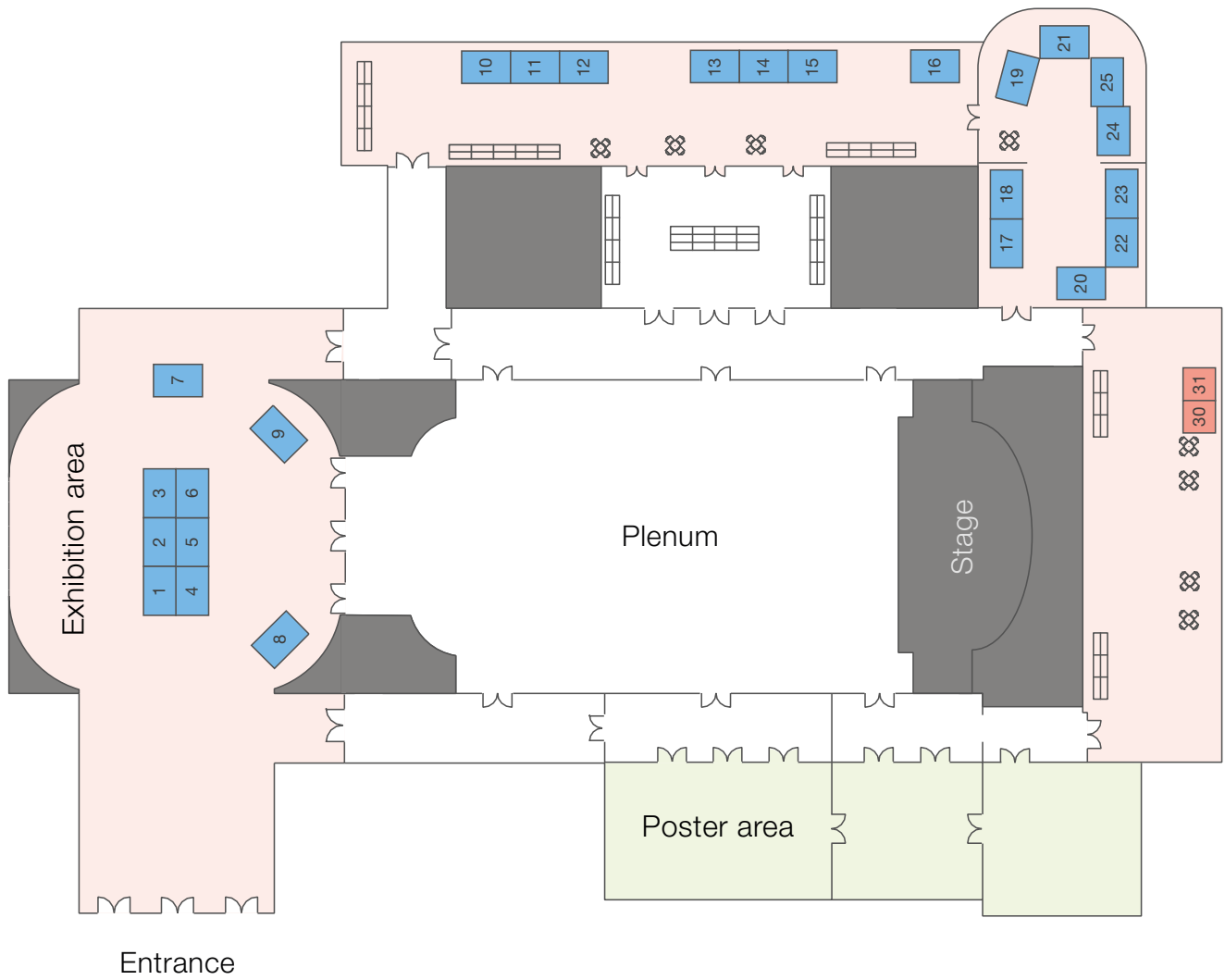
- P58 **Advances of Alkaline Oxide CMP Process: Efficiency, Versatility, and Synergy**  
Yi Guo<sup>1</sup>, Leo Hanus<sup>2</sup>, Geary Graham<sup>2</sup>, Matt Van Hanehem<sup>1</sup>, Rung Je Yang<sup>3</sup>, Eric Jacquinet<sup>2</sup>, Changzai Chi<sup>1</sup>, Nagella Nukuna<sup>1</sup>  
<sup>1</sup>Dupont Advanced Cleans and Slurry Technologies, Newark, DE USA; <sup>2</sup>Merck Performance Materials, Darmstadt, Germany; <sup>3</sup>Dupont Advanced Cleans and Slurry Technologies, Hsinchu, Taiwan
- 
- P59 **The Adsorption of Polyacrylic Acid and Polyvinylpyrrolidone on Calcined Ceria Nanoparticles using in Chemical Mechanical Polishing**  
Zhenyang Wang, Tongqing Wang, Xinchun Lu, State Key Laboratory of Tribology, Tsinghua University
- Student**
- 
- P60 **Developing a Post-CMP Cleaning Formulation for Advanced Cobalt Interconnects**  
Lifei Zhang, Tongqing Wang, Yuhong Liu, Xinchun Lu, Tsinghua University, China, People's Republic of
- 
- P61 **Investigation and Formulation of Chemicals of Post CMP Cleaner toward Effective Ceria Particle Removal**  
Hiroaki Iwamoto, Shota Yoshioka, AGC Inc., Japan
- 
- P62 **Superior Post-CMP Buffing Cleaner for Hump Defect Reduction**  
Eddie I-Chun Chang, Ying-Pei Huang, Ping Tzeng, Ling Chang, Hong-Yi Chiang, Ping Hsu  
DuPont Taiwan Limited, Taiwan
- 
- P63 **High-quality planarization of Cu/Ni heterogeneous microstructures using chemical mechanical polishing**  
Liang Jiang, Southwest Jiaotong University, China, People's Republic of
- 
- P64 **Introduction Of High Performance Ceria Slurry And Its Trend**  
Jaedong Lee, KCTech, Korea, Republic of (South Korea)
- 
- P65 **Efficient polishing of GaN substrates using direct UV irradiation assist and effects of polisher type**  
Shinsuke Matsui<sup>1</sup>, Haruki Kosuge<sup>1</sup>, Takahiko Mitsui<sup>2</sup>, Takahiro Shimada<sup>2</sup>, Toshiyasu Yajima<sup>3</sup>, Daisuke Ninomiya<sup>3</sup>, Dai Nadahara<sup>3</sup>  
<sup>1</sup>Chiba Institute of Technology /Japan; <sup>2</sup>Okamoto Machine Tool Works,Ltd./Japan;  
<sup>3</sup>Maruishi Industry/Japan
- 
- P67 **The effect of Membrane surface charge on filtration of Ceria CMP slurry**  
Majid Entezarian, John Morby, Pierre Alexandre Bourgeois, Solventum, United States of America
- 
- P68 **Designing Low-defect CMP Slurries with Colloidal Ceria in FEOL CMP**  
Kangchun Lee, Kyonggi University, Korea, Republic of (South Korea)
-



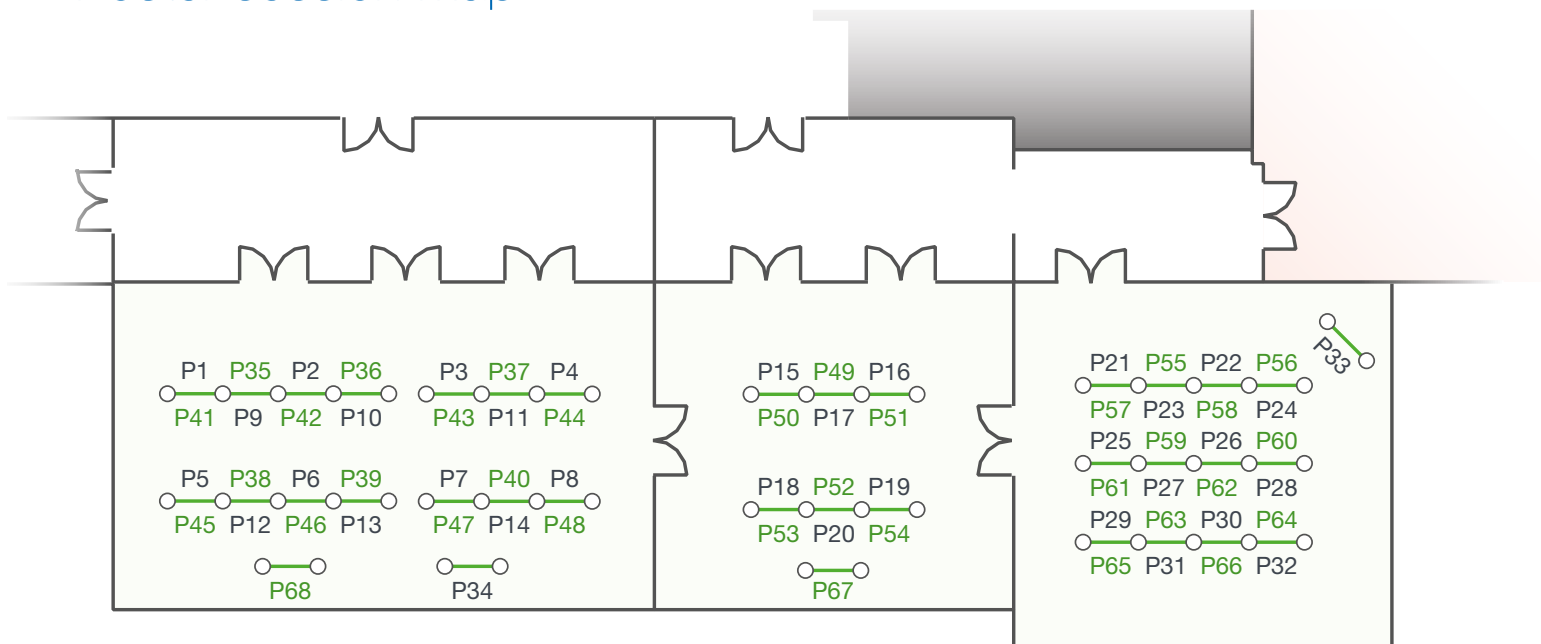
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