

International Conference on Planarization/CMP Technology

ICPT 2026

October 19-22, 2026

Science and Technology Convention Center,
Seoul, South Korea

Final Program

(as of October 12, 2026)

Organized by



ICPT 2026

October 19-22, 2026

Science and Technology Convention Center,
Seoul, South Korea

October 19 (Mon.), 2026

[Tutorials]

09:15-17:55

International Conference Hall (B1F)

08:30–09:15	Registration	
09:15–09:20	Opening Remarks (Tutorial Chair: Kangchun Lee)	
Session 1: The “M” in CMP: Mechanical Aspects of Planarization (Session Chair: Kangchun Lee)		
09:20–10:20	Fundamentals of CMP Mechanics	Hyunseop Lee (Dong-A Univ., Korea)
10:20–11:20	Introduction to CMP Equipment	Sukbae Joo (Applied Materials, Korea)
11:20–12:20	Fundamentals of Pads in CMP	Sanha Kim (KAIST, Korea)
12:20–13:30	Lunch	
Session 2: The “C” in CMP: Chemical Aspects of Planarization (Session Chair: Sanha Kim)		
13:30–14:30	Fundamentals of CMP Abrasives	Kangchun Lee (Kwangwoon Univ., Korea)
14:30–15:30	Fundamentals of CMP Chemistry	Jihoon Seo (Hanyang Univ., Korea)
15:30–15:50	Coffee Break	
Session 3: Beyond the “C” & “M”: Cleaning and Process Control (Session Chair: Jihoon Seo)		
15:50–16:50	Fundamentals of Post-CMP Cleaning	Taegon Kim (Hanyang Univ., Korea)
16:50–17:50	AI-assisted CMP: A Case-based Introduction	Hanchul Cho (KITECH, Korea)
17:50–17:55	Closing Remarks (Tutorial Chair: Kangchun Lee)	

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[Keynote Speech 1]

09:25-09:55

International Conference Hall (B1F)

● Session Chair: Sanha Kim (KAIST, Korea)

09:25-09:55 **HBM-HBF Memory Architecture and Interconnection Innovations for Next Generation Agentic AI with Token Economics**

Joungho Kim (KAIST, Korea)

[Oral 01] CMP for Advanced Interconnects (I)

09:55-11:20

International Conference Hall (B1F)

● Session Chair: Patrick Ong (imec, Belgium)

09:55-10:20 **[Invited] CMP Process Innovations, Growing Needs and Challenges Imposed by New Architectures, New Materials and Dimensional Scaling for Logic and Advanced Interconnects**

[Oral 01-1]

Nancy Heylen (imec, Belgium)

10:20-10:40 **Research on CMP Slurry for Removal Rate and Defect Control for Sub-10nm Node Semiconductors**

[Oral 01-2]

Jong-Young Cho (SK hynix Inc., Korea), Deok-Su Han (YCCChem Co., Ltd., Korea), Woojoo Kim, and Hyun-goo Kang (SK hynix Inc., Korea)

10:40-11:00 **Advanced Tungsten Slurry with Low Etching Rate, High W / Oxide Selectivity, and E-O-E Free Topography**

[Oral 01-3]

Sanghwan Kim, Guo Yi (Qnity Electronics, Inc., USA), Joseph Sung, Allison Hsu, and James Hsu (Qnity Electronics, Inc., Taiwan)

11:00-11:20 **Innovative Solution for High Throughput Density Tungsten CMP Through In-situ Conditioning Development**

[Oral 01-4]

Zhengqiu Sun, Wern Jun Mak (Micron SemiAsiaOP Pte Ltd, Singapore), and Arvin Chang (Micron Memory Taiwan Co., Taiwan)

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[Oral 02] CMP for Advanced Interconnects (II)

11:35-12:55

International Conference Hall (B1F)

● Session Chair: Rob Rhoades (Kothar Technologies, USA)

11:35-11:55

[Oral 02-1]

[Advanced Logic Dummy Gate Planarization Challenges](#)

Catarina Regra da Silva, Bart Kenens, and Kevin Vandersmissen (imec, Belgium)

11:55-12:15

[Oral 02-2]

[Development of ILD CMP for Enhanced Fence Removal Efficiency](#)

Jihyun An and Kihoon Jang (Samsung Electronics Co., Ltd., Korea)

12:15-12:35

★[Oral 02-3]

[STI CMP with Mesoporous Nano Ceria Particles](#)

Linyi Shen, Boao Ma, Wenlong Tang, Wei Yuan, Fan Zhang, and Xin-Ping Qu (Fudan Univ., China)

12:35-12:55

[Oral 02-4]

[Slurry Activation with Megasonics in Barrier CMP](#)

H. Hiyama, A. Manzonie, J.C. Yang, T. Kajikawa, M. Rahman (Ebara Corp., Japan), A. Philipossian, Y. Sampurno (Araca, Inc., USA), C. J. Keating, and J. J. Keleher (Lewis Univ., USA)

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[Oral 03] CMP for Advanced Packaging/3D Integration (I)

14:20-15:20

International Conference Hall (B1F)

● Session Chair: Bradley Wood (SPS International, USA)

14:20-14:40 [Panel-Level CMP Integration for Cu RDLs in Fine-Pitch Fan-Out Panel-Level Packaging](#)
[Oral 03-1]

Eungchul Kim, Suhyeon Jeon (Samsung Electronics Co., Ltd., Korea), Yuya Otsuka, Takehiro Yamazaki, Shinya Watanabe (DSRJ, Japan), Yongrae Kim, Dongjoon Oh, Juil Choi, and Minwoo Rhee (Samsung Electronics Co., Ltd., Korea)

14:40-15:00 [Process Optimization of Bulk Si Thinning for Advanced Logic Architectures](#)
[Oral 03-2]

Lea Di Donato, Bart Kenens, and Kevin Vandersmissen (imec, Belgium)

15:00-15:20 [Sub-10nm Cu/SiO₂ Dishing Control for 3D Heterogeneous Integration](#)
★[Oral 03-3]

Jinhyoung Lee, Junmin Ahn, and Taesung Kim (Sungkyunkwan Univ., Korea)

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[Oral 04] Metrology & Inspection / Equipment / Process Diagnostics

15:35-16:35

International Conference Hall (B1F)

● Session Chair: Catharina Rudolph Fraunhofer (IZM-ASSID, Germany)

15:35-15:55

[Oral 04-1]

[Robust CMP Topography Extraction via Adaptive Polynomial Selection](#)

Viorel Balan, Yorrick Exbrayat (Univ. Grenoble Alpes, France), and Sebastien Mermoz (STMicroelectronics, France)

15:55-16:15

[Oral 04-2]

[Surface-Enhanced Particle Sizing and Raman Fingerprinting for Nanoscale Abrasive and Residue Detection in Critical CMP Processes](#)

Harvey Tang and Ali Altun (UNISERS AG, Switzerland)

16:15-16:35

[Oral 04-3]

[Exploratory Data Analysis of Oscillatory Torque-Related Features in CMP Sensor Logs Associated with Slurry Formulation](#)

Kohei Noda and Hisashi Shinomura (JSR Corp., Japan)

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[Oral 05] AI & ML for CMP / Process Control

16:55-17:55

International Conference Hall (B1F)

● Session Chair: Chao-Cheng Arthur Chen (NTUST, Taiwan)

16:55-17:15 [AI-Enabled CMP Process Optimization in Advanced Semiconductor](#)
[Oral 05-1] [Manufacturing](#)

Cheng Zhongyao (Inst. for Infocomm Research (I2R), Singapore), [Su Myat Noe](#), Leong Lup San, Chen Gim Guan (Inst. for Microelectronics (IME), Singapore), Qian Peisheng, Ata Kircali Sezin, Gopinathan Arjunan, Ashish James (Inst. for Infocomm Research (I2R), Singapore), and Jun Hyunsu (Inst. for Microelectronics (IME), Singapore)

17:15-17:35 [Digital-Twin-Based Evaluation of Virtual Metrology for APC Performance in](#)
[Oral 05-2] [CMP](#)

[Seungchoun Choi](#), Yonghwan Yim, and Semyeong Oh (Amously Inc., Korea)

17:35-17:55 [Accelerating CMP Model Development Using Machine Learning for Early](#)
[Oral 05-3] [Manufacturability Risk Detection](#)

Ushasree Katakamsetty (Globalfoundries Singapore Pte. Ltd., Singapore), Henning Turnow, Boris Vasilev (Globalfoundries Dresden, Germany), Stefan Nikolaev Voykov (Globalfoundries, Bulgaria), [Ruben Ghulghazaryan](#), Davit Piliposyan (Siemens Industry Software, Armenia), and Jeff Wilson (Siemens EDA, USA)

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[Keynote Speech 2]

09:15-09:45

International Conference Hall (B1F)

● Session Chair: Tae-Gon Kim (Hanyang Univ., Korea)

09:15-09:45 **Memory Subsystems for AI: Bridging Performance and Energy from Cloud to Edge**

Dongkyun Kim (SK hynix, Korea)

[Oral 06] CMP for Advanced Packaging / 3D Integration (II)

09:45-11:10

International Conference Hall (B1F)

● Session Chair: Takashi Watanabe (KIOXIA Corp., Japan)

09:45-10:10 **[Invited] Considerations for Implementing CMP in Panel-Level Packaging**
[Oral 06-1]

Haedo Jeong, Heondeok Seo, Minjong Yuh, and Eunho Lee (G&P Tech., Korea)

10:10-10:30 **Die-to-Wafer CMP: Overcoming Millimetric Planarization Challenges Driven by Die Density**
[Oral 06-2]

Julian Sturm (Univ. Grenoble Alpes, France), Valentin Callier (EBARA Precision Machinery Europe GmbH – Branch Office France, France), Clément Castan (Univ. Grenoble Alpes, France), Lucie Safourcade (EBARA Precision Machinery Europe GmbH – Branch Office France, France), Cécile Candegabe, Stella-Audrey Yamgouet Njouom, and Catherine Euvrard (Univ. Grenoble Alpes, France)

10:30-10:50 **Effect of Slurry pH and Chelating Agent on Surface Roughness and Removal Rate of AlN in SiO₂ Slurry CMP**
[Oral 06-3]

Bo-Hyeok Cho, Jae-Ik Lee, Seung-Mahn Lee, and Jae-Dong Lee (KCTech, Korea)

10:50-11:10 **Polishing Material Impact on Silicon Wafer Processing**
[Oral 06-4]

Hui Wang (Zhonghuan Advanced Semiconductor Materials Co., Ltd., China)

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[Oral 07] Post-CMP Cleaning / Defect Engineering

11:25-12:50

International Conference Hall (B1F)

● Session Chair: Jin-Goo Park (Hanyang Univ., Korea)

11:25-11:50

[Oral 07-1]

[Invited] Evolution of Cu PCMP Technology from Mature to Advanced Nodes

Ping Hsu, Peter Sun, and Jacky Cheng (Qnity Electronics Inc., Taiwan)

11:50-12:10

★[Oral 07-2]

Comparative Evaluation of Ammonium- and QAC-Based Alkaline Cleaning
Chemistries for Molybdenum Post-CMP Cleaning

Gyeongwon Lee, Palwasha Jalalzai (Hanyang Univ., Korea), Junsang Lee,
Gayoung Kim, In-Kwon Kim, Sangkyun Kim (Samsung Electronics Co., Ltd.,
Korea), Tae-Gon Kim, Jihoon Seo, and Jin-Goo Park (Hanyang Univ., Korea)

12:10-12:30

★[Oral 07-3]

Additive-Free Post-CMP Cleaning for Fine Ceria Particle Removal with Gas-
Dissolved Water

Hyeonjeong Lee, Donghwan Choi, Jinhyoung Lee, Yechan Kim, and Taesung
Kim (Sungkyunkwan Univ., Korea)

12:30-12:50

★[Oral 07-4]

Effect of pH on Acoustic Bubble Dynamics, Particle Removal Efficiency, and
Pattern Damage During Megasonic Cleaning

Mir Jalal Khan (Hanyang Univ., Korea), Yunhee Cho, Wonseob Cho (BASF,
Korea), Andreas Klipp (BASF SE, Germany), Jihoon Seo, and Jin-Goo Park
(Hanyang Univ., Korea)

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[Oral 08] CMP Consumables (I)

15:10-16:35

International Conference Hall (B1F)

● Session Chair: Xinping Qu (Fudan Univ., China)

15:10-15:35 **[Invited]** Advanced Ceria Slurries for SiO₂ CMP: Polishing Mechanism of
[Oral 08-1] Nanoceria and Emerging Applications

Hisataka Minami (Resonac Corp., Japan)

15:35-15:55
★[Oral 08-2] W CMP Oxidants for Ultra-low Chemical Dissolution with High Removal Rate

Yearin Byun, Thanh Cuong Nguyen, Inkwon Kim, Nohjun Park, Doyoon Kim,
Yeonah Jeong, Heechul Moon, and Sangkyun Kim (Samsung Electronics Co.,
Ltd., Korea)

15:55-16:15 Advanced Soft Pad Conditioning Solutions for Improved Pad Life and
[Oral 08-3] Defectivity in Cu Barrier Applications

Uma Rames Krishna Lagudu, Chikai Chiu, Prasoon Gupta, Jiadi Fan (3M, USA),
Holden Lee, Chung I Ho, Jason Lin, Yuhsun Wang (3M, Taiwan), Changwan
Bea, Yoonghee Na (3M, Korea), Inki Kim (3M, USA), Benson Chen (3M,
Taiwan), and Yongsuk Yang (3M, Korea)

16:15-16:35
[Oral 08-4] CMP Process and Slurries for Memory Device Stacking

Yuchun Wang (Anji Microelectronics, China)

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[Oral 09] Sustainable CMP / Manufacturing Readiness

16:50-17:55

International Conference Hall (B1F)

● Session Chair: Knut Gottfried (Fraunhofer ENAS, Germany)

16:50-17:15

[Oral 09-1]

[Invited] CMP Challenges and Opportunities for 3D Silicon Photonics

Aurore Bonneville (STMicroelectronics, France), Catherine Euvrard, Clément Castan, Julian Sturm, Renan Bouis, Arnaud Cornelis (Univ. Grenoble Alpes, France), Elodie Beche, Sebastien Cremer, Sebastien Mermoz (STMicroelectronics, France), Carine Ladner, Stephane Nicolas, Sylvain Guerber, Amelie BellemineComte, Stephanie Garcia, Cédric Perrot (Univ. Grenoble Alpes, France), Frederic Boeuf, and Sébastien Petitdidier (STMicroelectronics, France)

17:15-17:35

[Oral 09-2]

CMP as a Key Enabling Process Step for SiGe BiCMOS, Silicon Photonics, and Quantum Technologies

Marco Lisker, Awwal Adeniyi Adesunkanmi, and Andreas Krüger (IHP GmbH - Leibniz Inst. for High Performance Microelectronics, Germany)

17:35-17:55

★[Oral 09-3]

Recyclability of Cu/Ta Barrier Slurry via Ultrafiltration

Max Constantin Klotzsche, Conrad Guhl (Fraunhofer IPMS, Germany), and Frank Babick (Technische Univ. Dresden, Germany)

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[Keynote Speech 3]

09:15-09:45

International Conference Hall (B1F)

● Session Chair: Taesung Kim (Sungkyunkwan Univ., Korea)

09:15-09:45 **CMP at the Inflection Point: Enabling Sub-2nm and Beyond**

Hoyoung Kim (Samsung Electronics Co., Ltd., Korea)

[Oral 10] CMP Fundamentals

09:45-11:10

International Conference Hall (B1F)

● Session Chair: Xinchun Lu (Tsinghua Univ., China)

09:45-10:10 **[Invited] Research on Atomic-scale Tribochemistry Underlying Wafer-Scale**

[Oral 10-1] **Global Planarization of Advanced Integrated Circuits**

Lifei Zhang, Xinchun Lu (Tsinghua Univ., China), Knut Christoph Gottfried, and Jinji Luo-Hofmann (Fraunhofer Inst. for Electronic Nano Systems ENAS, Germany)

10:10-10:30 **Clarification of Polishing Mechanism Focusing on Abrasive Particle Behavior**
★[Oral 10-2] **in CMP - Relationship between Abrasive Particle Behavior and Pad Surface Topography in Micro Replicated CMP Pad -**

Haruto Kurokawa, Yoji Oyama, Syuhei Kurokawa, Terutake Hayashi, Keisuke Osawa (Kyushu Univ., Japan), Hirokuni Hiyama, Yutaka Wada, Naoyuki Handa, and Syuntaro Hayashi (Ebara Corp., Japan)

10:30-10:50 **Micro-Structured Pads for High-MRR and Low-Damage Oxide Chemical**
★[Oral 10-3] **Mechanical Polishing**

Seounghee Yun, Hyun Jun Ryu, Hyeongmin Je, and Sanha Kim (KAIST, Korea)

10:50-11:10 **Physics-Informed Friction Coefficient Distribution Modeling for Material**
★[Oral 10-4] **Removal Rate Prediction in Chemical Mechanical Polishing**

Sho Hirono (Kobe Univ., Japan), Chihiro Mitani (Chuo Univ., Japan), Takumi Sato, Kodai Hirano (Ebara Corp., Japan), and Norikazu Suzuki (Kobe Univ., Japan)

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[Oral 11] CMP Consumables (II)

11:25-12:45

International Conference Hall (B1F)

● Session Chair: Andy Tuan (Linx Consulting Inc., Taiwan)

11:25-11:45

[Oral 11-1]

[The Interconnect Advantage: CMP Powering AI and HBM](#)

Ping Tzeng, Jingzhi Chen (Merck, Taiwan), and Hongjun Zhou (The Electronics Business of Merck KGaA, Germany)

11:45-12:05

[Oral 11-2]

[Study on the Mechanism of unCMP Caused by Plastic Deformation of the Head Membrane in CMP Equipment and Its Improvement](#)

KyongKyu Myong, Jubong Lee, Younggeun Lee, Yoo-Yong Lee, Ki Ho Bae, and Hoyoung Kim (Samsung Electronics Co., Ltd., Korea)

12:05-12:25

★[Oral 11-3]

[Identifying the Origin of Small Particle Defects in Oxide Chemical Mechanical Planarization](#)

Seungmoon Choi, Hyeonjeong Lee, Hyunho Kim, Junil Cho, and Taesung Kim (Sungkyunkwan Univ., Korea)

12:25-12:45

[Oral 11-4]

[New Particle and Chemistry Technology for Metals IC CMP Slurries](#)

Yu Yu Chou, Howl Hsu (Entegris Co., Ltd., Taiwan), Brian Reiss, and Na Zhang (Entegris Inc., USA)

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Poster Session

13:10-15:10

Gallery (1F)

● Session Chair: Brian J. Brown (AMAT, USA), Baoguo Zhang (Hebei Univ. of Tech., China)

■ 01. Advanced Interconnect CMP (Metal)

★[P-001] [Achieving High-Selectivity Tungsten Planarization at Neutral pH via Poly-L-Lysine Inhibition](#)

[Hyunho Kim](#), Chaerin Park, and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-002] [Copper CMP Slurry Tailored for Applications with Different Dimensions](#)

[Ping Tzeng](#), Jingzhi Chen (Merck Performance Materials Ltd. - Hsinchu Site, Taiwan), and Hongjun Zhou (Merck KGaA, Germany)

[P-003] [New Ceria CMP Slurry Designs for High-Throughput Selective Metal/Dielectric Applications](#)

[Wei Hisn \(Howl\) Hsu](#), Chien-Liang (Mason) Liu, and Long Dai Lu (Entegris Co., Ltd., Taiwan)

★[P-004] [Synergistic Effect of Azole and Polymer on Copper Chemical Mechanical Polishing](#)

[Jiaxin Zheng](#), Yongshun Zhang, Yuting Wei, Liao Zhou, Qiuyu Li, Hui Li (Southwest Jiaotong Univ., China), Liang Jiang (Southwest Jiaotong Univ. & Yanghua Zhizao (Sichuan) Innovation Technologies Co., Ltd., China), and Linmao Qian (Southwest Jiaotong Univ., China)

[P-005] [Multiple Synergistic Effects of a Novel PVP-Optimized Slurry System in Mediating Atomic-Scale Synchronous Polishing of Cobalt Interconnection Heterostructures](#)

[Zixin Gao](#) (Hwatsing Tech. Co., Ltd., China), Lifei Zhang, Xinchun Lu, and Jialei Zhang (Tsinghua Univ., China)

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■ 02. Dielectric & Hard materials CMP

[P-006] [Effect of Ceria Residue on STI Polishing](#)

Ying-Chieh Chao (Fujimi Taiwan Limited, Taiwan), Toshio Shinoda, Takahiro Umeda (Fujimi Inc., Japan), and Yasuto Ishida (Fujimi Taiwan Limited, Taiwan)

[P-007] [Precise Calculation Method for Oxide CMP APC Pressure Tuning](#)

Qidong Zhang, Hung-Chieh Chao, Chang Hung, Kung, and Kaiqiang Wang (Sien Integrated Circuit Co., Ltd., China)

★[P-008] [Selectivity Enhancement Mechanism in STI CMP Using Ceria Abrasives](#)

Chaerin Park, Jeongbin Kim, and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-009] [Next Generation HORS Slurry Development](#)

Yang-Yao Lee and Ming-Che Ho (Vibrantz Technology, USA)

[P-010] [Acceleration of GaN CMP Rate via Ion Implantation](#)

Akira Sada (Nissin Ion Equipment Co., Ltd., Japan), Sota Ueda (Kyushu Inst. of Tech., Japan), Yuya Uchida, Takeshi Matsumoto (Nissin Ion Equipment Co., Ltd., Japan), and Keisuke Suzuki (Kyushu Inst. of Tech., Japan)

★[P-011] [High-Efficiency Chemical Mechanical Polishing of Polycrystalline Diamond Substrates](#)

Yibo Zhou (Ludong Univ., China), Guanghong Luo (Ludong Univ. & Yantai Xianhua Polymer Materials Co., Ltd., China), and Tao Wang (Shenzhen Polytechnic Univ., China)

★[P-012] [Selective Adsorption of an Imidazole Polymer for Oxide-Stop Nitride CMP](#)

Donggeun Park, Ilhwa Hong, Ganghyeok Kim, Youngmin Kim, Gimok Lee, and Kangchun Lee (Kwangwoon Univ., Korea)

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[P-013] [Evaluation and Optimization of CMP Processes for Different GaN Applications](#)

Ahiliya Sen, Patrick Ong, Md Arif Khan, Edoardo Brezza, Ardeshir Esteki, and Karen Geens (imec, Belgium)

[P-014] [Surface Processing of Thin Diamond Samples](#)

Robert Rhoades (Kothar Technologies, USA), and John Ciraldo (WD Advanced Materials, USA)

■ 03. Advanced Packaging / 3D Integration CMP (Hybrid Cu Bonding, BSPDN, Wafer Thinning)

★[P-015] [Minimizing Selectivity of Cu/SiCN Using Micro-Replicated Pad for Hybrid Bonding CMP](#)

Ziyang Wang, Yin hao An, Janghyun Kim (Sungkyunkwan Univ., Korea), Yongsuk Yang, Changwan Bae (3M Korea, Korea), and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-016] [Asymmetrical Surface Characterization of Bulk Si after Extreme Wafer Thinning for Advanced 3D Integration](#)

Zouhair Ameghnas and Jakob Visker (imec, Belgium)

★[P-017] [Investigation of High Selectivity between Amorphous Carbon and Silicon Nitride of Application in 3D NAND Flash CMP](#)

Janghyun Kim, Ziyang Wang, and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-018] [CMOS-Compatible Tungsten Gate Integration for Graphene THz Plasmonic FET on Silicon](#)

Marco Lisker, Ketan Anand, Dirk Hagen, Awwal Adeniyi Adesunkanmi, Andreas Krüger (IHP GmbH - Leibniz Inst. for High Performance Microelectronics, Germany), and Andreas Mai (IHP GmbH - Leibniz Inst. for High Performance Microelectronics & Technical Univ. of Applied Sciences Wildau, Germany)

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[P-019] [Selectivity Control in IC Slurry Design for Advanced Packaging](#)

Francis Acquaye, Sudeep Kuttiaoor, Jay Chang, and [Alexander W. Hains](#)
(Entegris, Inc., USA)

★[P-020] [Study on the Effect of Fe-Based Fenton Reaction on Amorphous Carbon Removal in CMP](#)

[Yinhao An](#), Ziyang Wang, and Taesung Kim (Sungkyunkwan Univ., Korea)

★[P-021] [Grain Size Effects on Surface Reactions and Removal Behavior of Electroplated Cu during Chemical Mechanical Polishing for Low Temperature Bonding](#)

[Donghwan Choi](#), Hyeonjeong Lee, Hyunkyu Kim (Sungkyunkwan Univ., Korea),
Sungho Park, Yunhee Cho (BASF Company Ltd., Korea), Andreas Klipps (BASF
SE, Germany), and Taesung Kim (Sungkyunkwan Univ., Korea)

★[P-022] [Structural Optimization of Surface-Structured Pads for Reducing Pattern-to-Pattern Variation in Cu Dishing](#)

[Jeongseok Oh](#), Gunhoo Park, Sukkyung Kang, Dong Geun Kim, and Sanha Kim
(KAIST, Korea)

[P-023] [High-Selectivity, High-Rate Polyimide CMP Assisted by Functionalized Structured Pads for Cu/Polymer Hybrid Bonding](#)

[Il Ryu Jang](#), Seounghee Yun, Jiseung Lee, Joohyun Park, Hyunwoong Baek,
Sukkyung Kang, and Sanha Kim (KAIST, Korea)

★[P-024] [Diethylenetriamine-Induced Opposite Surface Responses of Cu and Borosilicate Glass for High-Selectivity TGV CMP](#)

[Hyunkyu Kim](#), Jongyeong Jeon, Janghyun Kim (Sungkyunkwan Univ., Korea),
Yoojin Son (Samsung Electronics Co., Ltd., Korea), and Taesung Kim
(Sungkyunkwan Univ., Korea)

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★[P-025] [Pressure-Driven Selectivity Inversion in Cu/SiCN CMP for Advanced Hybrid Bonding](#)

Jeongbin Kim, Chaerin Park, and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-026] [Die To Wafer CMP Process Exploration and Optimization](#)

Damien Hebras, Renan Bouis, Arnaud Cornelis, Catherine Euvrard, Carine Ladner, and Stéphane Nicolas (Univ. Grenoble Alpes, CEA-Leti, France)

[P-027] [Modeling of Cu Dishing based on Asperity-Level Micro-Contact Mechanics for Cu/SiO₂ Hybrid Bonding](#)

Seong Jae Kim, Yoon Sick Eom, Hyeonseo Han, Kyunghyun Kim, Jeongseok Oh, Gunhoo Park, Hyun Jun Ryu, and Sanha Kim (KAIST, Korea)

★[P-028] [Chemical Mechanical Polishing of Semi-Cured BCB for Cu/Polymer Hybrid Bonding with High Bonding Strength](#)

Joohyun Park, Sukkyung Kang, Il Ryu Jang, Hyunwoong Baek, Jiseung Lee, Chansu Jeon, Kyung Min Kim, and Sanha Kim (KAIST, Korea)

★[P-029] [Graphene-integrated Cu CMP for Cu/SiO₂ Hybrid Bonding](#)

Jumin Ahn, Jinhyoung Lee, Gunhyoung Kim, and Taesung Kim (Sungkyunkwan Univ., Korea)

★[P-030] [APTES-Modified SiO₂ Abrasives for Low-Defect AlN CMP](#)

Ganghyeok Kim, Donggeun Park, Ilhwa Hong, Youngmin Kim, Gimok Lee, and Kangchun Lee (Kwangwoon Univ., Korea)

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- ★[P-031] [Mechanistic Insights into Cu/Borosilicate Glass CMP and Selectivity Control for through-Glass via \(TGV\)](#)

Jonyeong Jeon, Chaerin Park, Juyeol Lee, and Taesung Kim (Sungkyunkwan Univ., Korea)

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- ★[P-032] [CMP Study of Redistribution Layer \(RDL\) Using Build-Up Films \(BUF\) and Photo-Imageable Dielectrics \(PID\) for Advanced Packaging](#)

Eunok Kim, Boyeong Hwang, Jinmyeong Hwang, Jaehak Lee, Seungmahn Lee, and Jaedong Lee (KCTech, Korea)

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- ★[P-033] [pH-Controlled ZrO₂ Slurry for Chemical Mechanical Polishing of Polyimide Film](#)

Yechan Kim, Jongyeong Jeon, and Taesung Kim (Sungkyunkwan Univ., Korea)

■ 04. Post-CMP Cleaning / Defect Engineering

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- ★[P-034] [Investigation on Silica Particle Cleaning Mechanism of Surfactants for Amorphous Carbon Post-CMP Cleaning](#)

Minha Kim, Ziyang Wang, and Taesung Kim (Sungkyunkwan Univ., Korea)

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- ★[P-035] [Visualization Method of Near Surface Liquid Replacement Induced by Deformation of a PVA Brush](#)

Makoto Miwa (Shizuoka Univ., Japan), Tomoya Nishi (Ebara Corp., Japan), and Toshiyuki Sanada (Shizuoka Univ., Japan)

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- [P-036] [A Comparative Evaluation of THEMAH as a Potential Alternative to TMAH in Cu Post-CMP Cleaning Solutions](#)

Yingshi Jin, Min Wu (Huntsman Chemistry R&D Center (Shanghai) Co., Ltd., China), Minseo Chae, Palwasha Jalalzai, Jihoon Seo, and Jin-Goo Park (Hanyang Univ., Korea)

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★[P-037] [Chemical and Mechanical Factors Contributing to Brush Nodule Mark Formation During Post-CMP Cleaning](#)

Sumit Kumar, Jae-Hyeong Lee, Yeon-Je Gye, Tae-Gon Kim, Jihoon Seo, and Jin-Goo Park (Hanyang Univ., Korea)

[P-038] [A Counter-Intuitive Strategy for Defect Control in Poly-Si CMP: Eliminating Wafer Rinse to Reduce Residue Defects](#)

Yinghao Bai, Mingkang Wang, Yixian Yao, Li Chieh Hsu, Hung-Chieh Chao, and Chang Hung Kung (Sien Integrated Circuit Co., Ltd., China)

[P-039] [Green Chemistry in Cu Post-CMP Cleaning : A Highly Efficient TMAH-Free and Azole-Free Formulation](#)

Kunhee Park, Yongho Jeong, Youngtaek Hong, and Jae-Dong Lee (KCTech Material R&D Center, Korea)

★[P-040] [Adsorption and Loading Mechanisms of Metal Ions on PVA Brushes during Post-CMP Cleaning: Experimental and DFT Insights](#)

Maheepal Yadav, Sanjay Bisht, Byung-Hyun Kim (Hanyang Univ., Korea), Hirokuni Hiyama (EBARA Corp., Japan), Jihoon Seo, Tae-Gon Kim, and Jin-Goo Park (Hanyang Univ., Korea)

★[P-041] [In-Situ Electrochemical Investigation of Cu Tribocorrosion during PVA Brush Scrubbing](#)

Sanjay Bisht, Jiho Seo, Maheepal Yadav, Hyounggeun Kang, Tae-Gon Kim, Jihoon Seo, and Jin-Goo Park (Hanyang Univ., Korea)

★[P-042] [Effects of Amino Acid Additives on Tungsten Surface Behavior during Post-CMP Cleaning](#)

Changshou Jin, Geumji Back, and Taesung Kim (Sungkyunkwan Univ., Korea)

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★[P-043] [In-situ Conditioning Optimization for Slurry Residue Contamination Control in CMP Wafer Rinse Step](#)

Hyun-jin Jeong (Sungkyunkwan Univ. and SK hynix, Korea), Minju Lee, Kyeongtae Hong (SK hynix, Korea), and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-044] [Metal Compatible Ceria Post-CMP Cleans](#)

Volley Wang, Fred Huang, and Ray Yang (Qnity Electronics Inc., Taiwan)

[P-045] [Suppressing Particle Contamination and Mechanical Damage in CMP via Uniformly Distributed Pad Asperities](#)

Hyun Jun Ryu, Seounghee Yun, Hyeongmin Je, and Sanha Kim (KAIST, Korea)

★[P-046] [Investigation of Abrasive Particle Size Effects on Mo CMP and GDW-Based Cleaning Performance](#)

Seoyul Geum, Woogyung Jeon, and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-047] [A Predictive AFM Adhesion Force Method for PCMP Cleaning Efficiency](#)

Ray Chen, Fred Huang, Jacky Cheng, Peter Sun, and Ping Hsu (Qnity Electronics Inc., Taiwan)

[P-048] [Investigation of Factors Affecting Brush Self-Cleaning Performance in Post-CMP Cleaning](#)

Masamitsu Kurashita, Natsuko Urushihara (EBARA Corp., Japan), Jin-Goo Park (Hanyang Univ., Korea), and Hirokuni Hiyama (EBARA Corp., Japan)

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[P-049] [Electrochemical and Q-Time Integrated Methodology for Screening Cu Surface Stability in Post-CMP Cleaning](#)

Fred Huang, Jacky Cheng, Peter Sun, and Ping Hsu (Qnity Electronics Inc., Taiwan)

★[P-050] [Influence of Chelating Agents on Mo Ion-Mediated Silica Adhesion to PVAc Brushes during Mo Post-CMP Cleaning](#)

Minjun Son, Sumit Kumar, Soonmin Lee, Gyeongwon Lee, Tae-Gon Kim (Hanyang Univ., Korea), Junsang Lee, Gayoung Kim, In-Kwon Kim, Sangkyun Kim (Samsung Electronics Co., Ltd., Korea), Jihoon Seo, and Jin-Goo Park (Hanyang Univ., Korea)

★[P-051] [Enhancing Cu Recess Controllability via Additive-Modulated Post-CMP Cleaning for Hybrid Copper Bonding](#)

Arim Woo, Jun-Hee Han, Jin-Goo Park, Jihoon Seo, and Tae-Gon Kim (Hanyang Univ., Korea)

[P-052] [Ceria-Induced Particle Defects Formation and a New Post-CMP Cleaning Strategy to Improve Yield](#)

Shu-Yi Meng, Ying-Pei Huang, Yu-Yun Cheng, Yu-Fang Yeh, Chia-Wei Wang, Wei-En Huang, and Ping Hsu (Qnity Electronics Inc., Taiwan)

[P-053] [Mechanism Study of pH Shock Effect for Organometallic Residue Formation in PCMP Process](#)

Jacky Cheng, Mi-Jen Kuo, Peter Sun, Shelly Yang, Steven Lee, and Ping Hsu (Qnity Electronics Inc., Taiwan)

★[P-054] [Impact of Megasonic-Assisted Hydrogen-Dissolved Deionized Water Cleaning in Hybrid Copper Bonding](#)

Jun-Hee Han, Arim Woo, Ji-An Lee, Jin-Goo Park, Jihoon Seo, and Tae-Gon Kim (Hanyang Univ., Korea)

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[P-055] [Cu Post CMP Cleaning Defect Control: Hillock Prevention and Surface State Control](#)

[Lily Jiang](#), Bing Liu, and Libbert Peng (Anji Microelectronics Co., Ltd., China)

★[P-056] [Effect of Post-CMP Cleaning Methods on Cu Pad Dishing and Cleaning Efficiency for Hybrid Cu Bonding](#)

[Seungjun Lee](#), Junhee Han, Arim Woo, Jin-Goo Park, Ji-Hoon Seo, and Tae-Gon Kim (Hanyang Univ., Korea)

★[P-057] [Evaluation of PVA Brush Cleaning for Improving Surface Cleanliness and Topography Uniformity of 4H-SiC Substrates](#)

[Ji-An Lee](#), Jun-Hee Han, Arim Woo, Jin-Goo Park, Jihoon Seo, and Tae-Gon Kim (Hanyang Univ., Korea)

★[P-058] [Decoupling Cu Protection and Residual Adhesion of Organic Inhibitors in TMAH-Based Cu Post-CMP Cleaning](#)

[Minseo Chae](#), Tae-Gon Kim, Ji-hoon Seo (Hanyang Univ., Korea), and Jin-Goo Park (Hanyang Univ. & JG Wet Solutions Co., Ltd., Korea)

★[P-059] [Post-CMP Cleaning of Ceria Abrasive particles Removal from 4H-SiC Surfaces](#)

[Jin Xu](#), Boao Ma, Bowen Luo, and Xin-Ping Qu (Fudan Univ., China)

★[P-060] [Hydrogen Nanobubble Water Assisted Post-CMP Cleaning of Mesoporous Ceria Particles on SiO₂](#)

[Boao Ma](#), Xuhao Cao, Bowen Luo, Jin Xu, Linyi Shen (Fudan Univ., China), Lijuan Zhang (CAS, China), and Xin-Ping Qu (Fudan Univ., China)

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★[P-061] [Three-Dimensional Position Tracking of 100 nm Silica Nano-Particles in Shear Flow Using Evanescent and Dark-Field](#)

Shin Tanihara, Panart Khajornrungruang, Ryunosuke Yamagata (Kyushu Inst. of Tech., Japan), Natsuko Urushihara, Tomoya Nishi, and Hirokuni Hiyama (EBARA Corp., Japan)

■ 05. AI & ML for CMP / Process Control

[P-062] [Semi-Automated Topography Analysis for Post-CMP Surface Planarity Assessment](#)

Daniel Chang, Syin Hsu, Sunny Chan, and Tracy Lin (Qnity Electronics Inc., Taiwan)

★[P-063] [Study on AI-Assisted CMP Removal Rate Prediction Using Integrated Process Data and Cerium Carbonate-Based Slurry](#)

Eunseo Woo, Sohee Hwang (Hannam Univ., Korea), Jaeyoung Jung (ETRI, Korea), and Woonjoong Kim (Hannam Univ., Korea)

★[P-064] [Performance Evaluation of Data-Driven Predictive Models for CMP Material Removal Rate](#)

Jaewook Lee, Incheol Ha, Bobin Kang, Gwanhun Song, Gitae Park, and Hyunseop Lee (Dong-A Univ., Korea)

[P-065] [Unconditional Spectral Latent Diffusion for CMP Sensor Time Series Augmentation and Material Removal Rate Prediction](#)

Taehyun Park, Donggi Yun, Sang-Jung Ra, Hakjong Shin (ETRI, Korea), Woonjung Kim (Hannam Univ., Korea), and Jaeyoung Jung (ETRI, Korea)

[P-066] [Digital-Twin-Assisted Evaluation of DOE Strategies for Zone-Wise Pressure-Removal Characterization in CMP](#)

Seungchoun Choi, Yonghwan Yim, and Semyeong Oh (Amously Inc., Korea)

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■ 06. Metrology & Inspection / Equipment / Process Diagnostics

- ★[P-067] [Real-Time CMP Monitoring Using Miniaturized Eddy Current Sensors Embedded in Additively Manufactured Pad](#)

[Gunhoo Park](#), [Dong Geun Kim](#), [Seong Jae Kim](#), and [Sanha Kim](#) (KAIST, Korea)

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- [P-068] [Inline Real-Time Monitoring of Hydrogen Peroxide Concentration in CMP Slurries Using Ultrasonic Technology for Advanced Process Control](#)

[Raymond Maas](#) and [Stefan Seuleanu](#) (Rhosonics Analytical B.V., The Netherlands)

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- [P-069] [The Role of Pump Technology in Maintaining CMP Slurry Health for Advanced Node Manufacturing](#)

[Gary Van Schooneveld](#), [Mark Litchy](#) (CT Associates, Inc., USA), and [Gabriel Jae Kwon Park](#) (Levitronix GmbH, Switzerland)

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- [P-070] [Challenges and Opportunities of Recycled Slurry Metrology](#)

[Rashid Mavliev](#) (Mavlipa LLC, USA), [Robert Rhoades](#) (Kothar Tech., USA), and [Knut Gottfried](#) (ErzM-Tech., Germany)

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- ★[P-071] [Estimation of Pad Uniformity by Diamond Conditioning with Overlapped Areas Method for Advanced CMP Process](#)

[Kai-Min Tian](#), [Chao-Chang A. Chen](#), [Wan-Hsiang Tseng](#) (Nat'l Taiwan Univ. of Science and Tech., Taiwan), [Hirokuni Hiyama](#), [Naoyuki Handa](#), [Yutaka Wada](#), and [Tadashi Obo](#) (EBARA Corp., Japan)

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- ★[P-072] [Study of 3D Pad Microstructure Models with Representative Volume Element and Micro-CT Reconstruction](#)

[Pai-Hsiang Chao](#), [Chao-Chang A. Chen](#), and [Le Nam Quoc Huy](#) (Nat'l Taiwan Univ. of Science and Tech., Taiwan)

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■ 07. CMP Consumables (Slurry, Abrasive, Pad, Conditioner, Filter etc.)

[P-073] [Precision Sintered Diamond Conditioners with Controlled Tip Coplanarity for Enhanced CMP Stability](#)

Felix Lin, Flora Chang, Ping-He Chen, Holden Lee, and [Jeffrey Yeh](#) (3M Company, Taiwan)

[P-074] [Next Generation of Fine Particle Count \(FPC\) Reduction Filter](#)

[Henry \(Yu-Heng\) Cheng](#) (Entegris, Inc., Taiwan), Yuxin Li (Entegris, Inc., USA), Alan Chao, Enzo Chen, Howard Shih, Aiden Chang (Entegris, Inc., Taiwan), Ying Qi (Entegris, Inc., USA), and Henry Wang (Entegris, Inc., Taiwan)

[P-075] [Impact of Material and Structural Properties of Silica Particle on SiO₂ Removal Rate](#)

[Yuichi Watanabe](#), Shota Suzuki, and Tsukuru Ohwaki (Fujimi Inc., Japan)

[P-076] [Research on Nano Ceria Slurry](#)

[Kaiqiang Wang](#), Qidong Zhang, Nannan Zhang, Wen Zheng, Hung-Chieh Chao, and Chang Hung Kung (Sien Integrated Circuit Co., Ltd., China)

[P-077] [From Lab to Fab: Comparative Study of CMP Filtration Requirements in FEOL and Advanced Packaging Processes](#)

[Chloe \(Ting-Chen\) Chen](#), Alex Chuang, Mott Chien, Hager Yeh, Jason Fu, and YiWei Lu (Entegris. Ltd., Taiwan)

[P-078] [Oxidation-Selective Chemically Controlled CMP Strategy for Molybdenum-Tungsten Integration in Advanced MOL Contacts](#)

[James Hsu](#) and Joseph Sung (Qnity Electronics, Inc., Taiwan)

★[P-079] [Effects of Pad Thermal Properties on CMP Behavior of Molybdenum: Difference between Soft Pad and Hard Pad](#)

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Wookyung Jeon and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-080] [Improving Wafer Defects and Enhancing Production Efficiency through Optimized Filter Design and Application \(CMP Consumable\)](#)

Jinhyuk Lim, Youna Kim, Donghyun Kim, and Jaehwan Kim (SK hynix Inc., Korea)

[P-081] [Radial Mapping of CMP Pad Conditioner Performance via Optical Haze Measurement on Sacrificial Polymer Films](#)

Ping Chuang (Nippon Alloy Co., Ltd., Taiwan)

[P-082] [Design for Silicon Stop System Using Anionic Silica System](#)

Moeka Ajiki, Sora Shirai (Fujimi Corp., Japan), Sunshine Wei (Fujimi Corp., Taiwan), Ryota Mae, Shogo Onishi, and Tatsuhiko Hirano (Fujimi Corp., Japan)

[P-083] [Particle Size Dependence of CeO₂ Slurry on Oxide Chemical Mechanical Planarization Material Removal Rate](#)

Haiying Yu, Yinghao Bai, Yixian Yao, and Chang Hung Kung (Sien Integrated Circuit Co., Ltd., China)

[P-084] [Filtration Technologies and Solutions for CMP Process Optimization](#)

Sanghyun Bae, Yunseo Jang, Jeongmok Cho, and Daniel Eumine Suk (SYNOPEX Inc., Korea)

[P-085] [New Method for Slurry Filter Selection to Secure Industrial Deployment](#)

Clément Castan, Victor Soty, Samson Toviho, Maryline Cordeau, Joseph Antoine (Univ. Grenoble Alpes, France), Paola Gonzalez Aguirre, Federico Barbieri, Günter Haas, Patrick O'Hagan (Entegris, France), Aurore Bonneval, Silvio Del Monaco (STMicroelectronics, France), and Catherine Euvrard (Univ. Grenoble Alpes, France)

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[P-086] [High Removal Rate Ceria Abrasives](#)

Manabu Yuasa, Eisaku Suda, Takao Sekimoto, Arihisa Matsumoto (Solvay Special Chem Japan, Ltd, Japan), François Gombault, and Réka Toth (Solvay - Rhodia Opérations, France)

★[P-087] [Structured Surface Pads for High-Efficiency STI Planarization](#)

Youngwook Park, Yeongjeong Kang, Taekyung Lee, Doyeon Kim, and Hanchul Cho (KITECH, Korea)

[P-088] [New CMP Pads for Advanced Technologies](#)

Jae Eung Koo, Ravichandra Palaparthi, Grant Hou, and Dave Hui (Qnity Electronics Inc., USA)

[P-089] [Investigation of Selective and Non-Selective Niobium CMP for Quantum Applications](#)

Floriane Baudin, Cassandre Beluffi, Sebastien Dominguez, Richard Souil, Candice Thomas, Pablo Renaud, Edouard Deschaseaux, and Catherine Euvrard (Univ. Grenoble Alpes, France)

[P-090] [Development of an Optimized Pad Conditioner Replacement Procedure for an EBARA FREX200 M2 CMP Tool](#)

Andreas Krüger, Awwal Adeniyi Adesunkanmi, and Marco Lisker (IHP - Leibniz Institute for High Performance Microelectronics, Germany)

[P-091] [Breakthrough CMP Pad Designs: New Surface Textures for Advanced IC](#)

Rui (Rachel) Ma, Jessica Lindsay, Weisi Li, Kevin P. Dockery, and Aaron Peterson (Entegris. Ltd., USA)

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- [P-092] [Improvement of Soft Pad Conditioning by Advanced Conditioner Design – FPC \(Flexible Pad Conditioner\)](#)

Changwan Bae (3M Company, Korea), Uma Rames Krishna Lagudu, Thomas Mooney (3M Company, USA), and Yongsuk Yang (3M Company, Korea)

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- ★[P-093] [Effect of Ultrafine Bubbles on Polishing Pad Lifetime in Silicon CMP](#)

Kota Takahashi (Gifu Univ. and Mitsubishi Chemical Engineering Corp., Japan) and Michio Uneda (Gifu Univ., Japan)

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- ★[P-094] [Aerosol Metrology-Based Inline Evaluation of CMP Slurry Filter](#)

Seongmin Cho (Seoul Nat'l Univ. of Science and Tech., Korea), Daniel R. Troolin, Andrea J. Tiwari (TSI Incorporated, Shoreview, USA), and Dong-Bin Kwak (Seoul Nat'l Univ. of Science and Tech., Korea)

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- ★[P-095] [Study on the Synthesis of Ceria Nanoparticles for Semiconductor CMP Using a Flow Reactor System](#)

Tao Lyu, Sohee Hwang (Hannam Univ., Korea), Jaeyeong Jung (ETRI, Korea), and Woonjung Kim (Hannam Univ., Korea)

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- ★[P-096] [Study on Ceria Slurry Using Modified Cerium Carbonate for Semiconductor CMP process](#)

Jaeyeong Cho, Seyoung Ahn, Sohee Hwang, and Woonjung Kim (Hannam Univ., Korea)

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- [P-097] [Innovative Microreplicated CMP Pad with Advanced Gel Subpad Architecture for Enhanced Edge Profile and Planarization Temperature Control](#)

Don Kim (3M Korea, Korea), Yi He, Duy K. LeHuu (3M USA, USA), YongSuk Yang, YoongHee Na, and Changwan Bae (3M Korea, Korea)

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★[P-098] [CMP Slurry Design for Controlling Surface Profiles in Cu/SiO₂ Co-CMP for Hybrid Bonding](#)

[Jihye Lim](#), Junhui Lee, Subin Son, and Jeong-Chul Kim (Hanbat Nat'l Univ., Korea)

★[P-099] [Stabilizer Ratio Dependent Surface Reaction of Fe\(NO₃\)₃ Based Tungsten CMP Slurry](#)

[Yeseung Choi](#), Hyunho Kim, Eun Cho, and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-100] [Material Paradigm Shift of Polyurethane CMP Pads: Transition from Petrochemical to Sustainable Bio- and CO₂-Based Materials](#)

[Jangwon Seo](#), Mingyoung Ji, Hajeong Kang, Jongwook Yun, and Seungchul Hong (Enpulse Co., Ltd., Korea)

★[P-101] [Study on the Synthesis of Anionic Polymer Dispersants for Improving Colloidal Stability of Ceria CMP Slurry](#)

[Chaeyeon Kim](#), Sohee Hwang (Hannam Univ., Korea), Jaeyeong Jung (ETRI, Korea), and Woonjung Kim (Hannam Univ., Korea)

★[P-102] [Design of Urchin-Like Composite Abrasives in CMP Slurry for High-Efficiency CMP](#)

[Junhui Lee](#), Jihye Lim, Subin Son, and Jeong-Chul Kim (Hanbat Nat'l Univ., Korea)

★[P-103] [Structure-Based MRR Modeling and Slurry Transport in SiO₂ CMP Using Micro-Patterned Pads](#)

[Geumji Back](#) and Taesung Kim (Sungkyunkwan Univ., Korea)

[P-104] [A Reactive Pad enabling Abrasive-free CMP: A Paradigm Shift in Planarization](#)

[Matthias Stender](#) (ChEmpower Corp., USA)

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[P-105] [Improving CMP Slurry Filtration Efficiency through Optimized Wetting Techniques and Hydrophilic Depth Filters](#)

Yuya Takashima, Kentaro Fujita (Rokitechno Marketing Co., Ltd., Japan), and
Minori Nishioka (Rokitechno Co., Ltd, Japan)

[P-106] [Improving CMP Slurry Defectivity Control through Membrane-Based Filtration: A Comparison with Conventional Depth Media Filters](#)

Majid Entezarian, John Morby, and Sandeep Singh (Thermo Fisher Scientific Inc., USA)

[P-107] [Inside CMP: Material Removal Mechanisms Empowered by CMP Pad Conditioning](#)

Yongsik Moon, Kyoung-Kuk Kwack, Joohan Lee, Jongjae Lee, Eunhwa Song, Youngtae Jeon, Johee Lee, Sungyu Park, and Yujeong Jin (EHWA Diamond, Korea)

★[P-108] [Low Contact Pressure CMP Using Surface-Structured Pads with Diverse 3D Asperity Architectures](#)

JunYoung Park, Seounghee Yun, Dong Geun Kim, Sukkyung Kang, Hyogun An, and Sanha Kim (KAIST, Korea)

★[P-109] [Effect of Molecular Structure of Amino Acid Inhibitor on Corrosion and Polishing Behavior in W CMP](#)

Haemin Jeong, Hyeonjeong Lee, Seungmoon Choi, and Taesung kim (Sungkyunkwan Univ., Korea)

★[P-110] [Development and Mechanistic Investigation of a Non-Azole Inhibitor System for Cu CMP Applications](#)

Eunseok Lee and Sangwoo Lim (Yonsei Univ., Korea)

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- ★[P-111] [Modeling and Experimental Validation of Soft-Pad Surface Evolution under Optimized Diamond-Disk Conditioning for Copper CMP](#)

Po-Shen Chen, Pai-Hsiang Chao, Chao-Sung Chang, Wan Hsiang Tseng (Nat'l Taiwan Univ. of Science and Tech., Taiwan), Jason Lin, Yi He, Kazuma Nuno, and Fay Salmon (3M Company, USA)

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- [P-112] [Enabling Next-Generation CMP Performance through Ultra-Pure Water-Soluble Polymers: The Critical Role of Molecular Weight Control, Process Consistency, and Trace Metal Reduction](#)

Eric S. Moyer (Polysciences, Inc., USA)

■ 08. CMP Fundamentals (Tribology, Multiphysics Modeling etc.)

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- ★[P-113] [Mechanism of SiO₂ Stopping in Silicon CMP Using an Inhibitor \(Chem-A\)](#)

Natsuko Oshima, Kazuki Yagi, Tatsuhiko Hirano, and Kazumi Sugai (Fujimi Inc., Japan)

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- [P-114] [Precision Benchtop Tribology: Achieving Wafer-Scale Uniformity for Accelerated CMP Process Development](#)

Damien Yiyuan Khoo (Bruker (Malaysia) Sdn Bhd, Malaysia)

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- [P-115] [Effects of Material Removal Rate on Scratch Defects in Bulk Cu CMP](#)

Te-Chun Wang, Lin-Chen Ho, Shang-Yuan Chen, and Ivan Li (Qnity™ Electronics Inc., Taiwan)

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- [P-116] [Full-Scale 3D CFD Simulation of Slurry Distribution at the Wafer Interface in XY-Grooved Pads](#)

Guinea Niku, Ishii Tsubasa, and Masuya Koichi (EBARA Corp., Japan)

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[P-117] [Physics-Based Modeling for CMP Pad Conditioning: Technologies and Case Studies](#)

Kazuma Nuno (3M Japan Innovation Ltd., Japan), Jiadi Fan, David Buckley, Jaimie Stomberg, Fay Salmon, Sreekanth Akarapu, Uma Rames Krishna Lagudu, Junqing Xie, Matt Fritz, Thomas Herdtle, Victor Ho, and Yi He (3M Company, USA)

[P-118] [Evaluation of Protective Effects and Corrosion Risks Induced by Complex Formation on Post-Cu-CMP Surfaces](#)

Toshiya Kon, Megumi Uno, and Yumiko Nakamura (EBARA Corp., Japan)

[P-119] [Control of Edge Profile Asymmetry During CMP](#)

Da-Shiuan Chiou (Qnity Electronics, Inc., Taiwan), Seda Aktas (Qnity Electronics, Inc., USA), Ivan Li (Qnity Electronics, Inc., Taiwan), and Ravi Palaparthi (Qnity Electronics, Inc., USA)

[P-120] [Interfacial Kinetics for Development of Structure-Activity Relationships](#)

Ali Jawaidd, Jason Seabold, and Kelvin Li (Entegris, Inc., USA)

★[P-121] [Study on Iron \(Fe\)-Complex Catalyst Accompanying Passivation Layer Formation and Hydroxyl Radical Generation in Tungsten\(W\) Chemical Mechanical Planarization\(CMP\)](#)

Eun Cho, Hyeonho Kim, Seunghwan Lee, Kyuyoung Lee, and Taesung Kim (Sungkyunkwan Univ., Korea)

★[P-122] [Investigation of Effect of Agent in Double-Sided Lapping Using Fixed Abrasive Pad](#)

Keisho Morita and Yohei Hashimoto (Kanazawa Univ., Japan)

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- ★[P-123] [Interfacial Kinetics of Molybdenum in Sulfuric Peroxide Mixtures: Oxidation–Inhibition–Dissolution Balance for Mo CMP Chemistry](#)

Junil Cho, Byungsu Kim, and Taesung Kim (Sungkyunkwan Univ., Korea)

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- ★[P-124] [Evaluation of Wafer-Level Uniformity and Material Removal Behavior in CMP](#)

Wonbin Ko, Geumji Back, and Taesung Kim (Sungkyunkwan Univ., Korea)

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- [P-125] [Investigation of Adsorption Behavior and Cu Corrosion Inhibitors Using DFT and Fukui Function Analysis](#)

Seulki Kim (KCTech Co., Ltd., Korea), Seok Gyu Ryu (Clarkson Univ., USA), Jihoon Seo (Hanyang Univ., Korea), Kyungmin Yoo, Youngjung Kim, Myunggoo Lee, Seungmahn Lee, and Jae-Dong Lee (KCTech Co., Ltd., Korea)

■ 09. Nanomaterials & Surface Engineering for CMP

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- ★[P-126] [Chemical Mechanical Polishing of Glass Using Fine Bubbles as an Alternative to Solid Abrasives](#)

Anji Tsunoda and Seiichi Suda (Shizuoka Univ., Japan)

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- ★[P-127] [Controlled Wet Etching of Molybdenum Using Oxidizing Agents with Different Oxidation Behaviors](#)

Chanwoo Jeon and Sangwoo Lim (Yonsei Univ., Korea)

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