

**Northern California Chapter of the American Vacuum Society (NCCA VS)  
CMP User Group (CMPUG) 2024 Winter Meeting – AGENDA**

**Topic: “CMP + Post-CMP Cleans: The Marriage, The Challenges, The Future”**

**Meeting Date:** December 4 & 5, 2024

**Dec. 4: 1:00 PM – 5:00 PM U.S. Eastern Time (10:00 AM - 2:00 PM Pacific Time)**

**Dec. 5: 10:30 AM – 2:00 PM U.S. Eastern Time (7:30 AM - 11:00 AM Pacific Time)**

**Platform:** Zoom

**Advance Registration Required**

**REGISTER FREE!** [\(need registration link – set up registration via Zoom\)](#)

*Login details provided upon registering!*

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**Co-Chairs:**

**Richard Vreeland**, Intel, [Richard.F.Vreeland@intel.com](mailto:Richard.F.Vreeland@intel.com)

**Bob Roberts**, X-trinsic, [BRoberts@X-trinsic.com](mailto:BRoberts@X-trinsic.com)

**Organizing Committee:**

**Katrina Mikhaylich**, Applied Materials, [Ekaterina\\_Mikhaylichenko@amat.com](mailto:Ekaterina_Mikhaylichenko@amat.com)

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**Bahar Basim**, Intel, [G.Bahar.Basim@intel.com](mailto:G.Bahar.Basim@intel.com)

**AGENDA – December 4, 2024**

**SESSION ONE – Richard Vreeland, Session Chair, Senior Staff Engineer, Intel Corporation**

**1:00 PM** – Welcome and Acknowledgment of Sponsors; Symposium Co-Chairs Bob Roberts, X-trinsic, and Richard Vreeland, Intel

**1:10 PM** – Welcome statement from the North America CMP User Group. Bob Roberts, Chair, CMP User Group PC; Senior Director Customer Operations, X-trinsic Inc.

**1:15 PM** – “The Inception of Chemical Mechanical Polishing for Device Applications,” Dr. Klaus Beyer, IBM Fellow (Retired)

**1:35 PM** – “How You Polish Determines How You Clean. The Need for a Holistic Approach to Post-CMP Clean,” Wei-Tsu Tseng, IBM Research Staff

**1:55 PM** – “Spectroscopic Analysis and Machine Learning to Expedite Oxide Planarization Development,” Shanmukh Kutagulla, Materials Engineering, INTEL Corporation

**2:15 PM** – “Exploring the Effect of Molecular Structure Enhanced Post-CMP Cleaning Chemistries for SiC and Oxide Surfaces,” Jason Keleher, Professor and Elizabeth M. McDonnell, Department of Chemistry, Lewis University

**2:35 PM** – “OptiQuiver: Novel Metrology Solution for in-situ Wafer Shape Measurements,” Robert Shelby, Engineering Manager, Peter Pilarz, Engineering Manager, Quartus Engineering

2:55 PM – Break Time

**SESSION TWO – Nagella Nukuna, Session Chair, North American ACST R&D Leader, DuPont Electronics and Industrial**

3:10 PM – Impact of Dissolved Oxygen on Metal Corrosion in Post-CMP Cleaning for Advanced Logic Structures,' Katrina Mikhaylichenko, Senior Director Technical Staff, Applied Materials Corporation

3:30 PM – “Development and Co-optimization of CMP Slurries and Cleans for Enhanced Performance,” Kathryn Gramigna, Research Scientist, and Yi Guo, CMP Slurry Formulation Leader, Dupont Electronics and Industrial Company

3:50 PM – “The Critical Importance of CMP for Hybrid Bonding,” Swetha Barkam, Product Manager, CMP Business Unit, Applied Materials Inc.

4:10 PM – “How the Evolution of the Supply Chain for CMP + Post-CMP Cleans Consumables has Overcome Challenges,” Mike Corbett, Linx Consulting

4:30 PM – “Megasonically Activated Post-CMP Cleaning,” Ara Philipossian, Founder, CEO Araca Inc.

4:50 PM – Conclusion of Day One, Richard Vreeland, Senior Staff Engineer, Intel

**AGENDA – December 5, 2024**

**SESSION THREE – Katrina Mikhaylichenko, Session Chair, Senior Director Technical Staff, Applied Materials Corporation**

10:30 AM – Brief Welcome and Acknowledgment of Sponsors; Symposium Co-Chairs Bob Roberts, Xtrinsic, and Richard Vreeland, Intel

10:35 AM – “The Early Adaptation of Double-Sided Brush Scrubbing in Post-CMP Cleaning,” Jerry Cutini, Co-Founder OnTrak Systems

10:55 AM – “Tailoring Cleaning Solutions for Advanced Packaging Needs,” Volley Wang, Senior Scientist, Dupont Electronics and Industrial

11:15 AM – “Process Issues in Micro via Fabrication and their Impact on CMP,” Knut Gottfried, Managing Director, ErzM Technologies, Senior Scientist, Fraunhofer ENAS, and Chair European CMP and WET Users Group

11:35 AM – “CMP Process Developments for Emerging Microelectronic Device Fabrication,” Serge Ecoffey, Professor Electrical and Computer Engineering, Universite de Sherbrooke

11:55 AM – “Investigating Ceria-Related Defects on SiO<sub>2</sub> Films from Nanoparticle Remnants and Tribofilms,” Van-Tuan Nguyen, Graduate Student, Clarkson University

12:15 PM – Break Time

**SESSION FOUR – Bahar Basim, Session Chair, Productivity & Selection EM Planar & Dry Etch, Intel, and Lead Professor of Materials Science and Engineering, University of Florida**

12:30 PM – “Optimizing Wafer Polishing: Innovation in CMP Techniques and Filtration,” Bradley Wood, Applications Engineering Manager, CMP Liquid Filtration, Entegris

**12:50 PM** – “Influence of Electric Field and Hydrodynamic Interactions in Removal of Uniformly Charged Abrasive Particles in Post-CMP Cleaning,” Abbas Khanmohammadi, PhD Candidate, Goodarz Ahmadi, Professor of Mechanical Engineering, Clarkson University

**1:10 PM** – “Model Verification Techniques for Analysis of Edge Roll Off Effects During the CMP Process,” Justin Isaacs, Engineering Manager, Kat Johnston, Technical Sales Engineer, Quartus Engineering.

**1:30 PM** – A Tribo-Electrochemical Approach for Performance Differentiation of CMP Slurry Inhibitors and Post-CMP Cleaning Formulations,’ Temidayo Afekare, Lead R&D Scientist, DuPont Electronics and Industrial

**1:50 PM** – Closing Statements, Richard Vreeland, Senior Staff Engineer, Intel

*All available presentations will be posted on the CMPUG Proceedings webpage approximately two weeks after the conference.*

*If you would like to sponsor this meeting or list a banner ad on the User Group website, please check out our "NCCA VS Marketing/ Sponsorship" opportunities at: [NCCA VS marketing opportunities](#)*