



Prof. Jihoon Seo

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Dr. Jihoon Seo is an Assistant Professor of Chemical and Biomolecular Engineering at Clarkson University, USA, and a leading researcher in the field of Chemical Mechanical Planarization (CMP). He leads Clarkson's CMP research team, focusing on next-generation planarization and cleaning technologies for semiconductor manufacturing. His work spans the development of novel CMP slurry formulations and post-CMP cleaning solutions to in-depth studies of nanoparticle behavior and surface chemistry during polishing. An advocate for eco-friendly processes, Dr. Seo is pioneering sustainable CMP approaches such as environmentally benign slurry additives and efficient waste treatment strategies aimed at reducing the environmental footprint of chip fabrication.

Dr. Seo's collaborative spirit has led to extensive partnerships with major semiconductor manufacturers and equipment suppliers. He works closely with industry leaders to tackle real-world CMP challenges. He has driven innovations that directly impact manufacturing. His research contributions have helped improve slurry performance for advanced materials and enhanced post-CMP cleaning efficiency, yielding solutions that are being evaluated by industry to boost device yield and process sustainability. He also engages with consortia such as the Semiconductor Research Corporation, contributing to programs that guide the adoption of more sustainable CMP consumables across the semiconductor industry.

Beyond his lab and industry projects, Dr. Seo plays a leadership role in the global CMP community. He is an organizer and session chair of the annual CAMP CMP Symposium, where academia and industry converge to share advances in planarization technology. As a thought leader in publications, he served as Lead Guest Editor for a CMP focus issue of the ECS Journal of Solid State Science and Technology, helping shape discourse on the past, present, and future of CMP. He also contributes to the international roadmap for microelectronics as a member of the Semiconductor Research Corporation's Microelectronic and Advanced Packaging Technologies (MAPT) technical roadmap committee. These roles underscore his commitment to advancing the field and connecting stakeholders across academia and industry.