

FOR IMMEDIATE RELEASE

RASIRC Research Partners to Present Cutting-Edge Studies at ALD/ALE 2024 Conference

Location: Helsinki, Finland

Conference: ALD/ALE 2024, AVS 24th International Conference on Atomic Layer Deposition

Dates: August 4-7, 2024

RASIRC is proud to announce that its research partners from the University of California San Diego (UCSD) and the University of Texas at Dallas (UTD) will present their latest technical studies at the upcoming ALD/ALE 2024 conference in Helsinki, Finland. This prestigious event brings together global experts to discuss the latest advancements in atomic layer deposition (ALD) technology.

Technical Presentations:

1. **Improved Crystallinity and Polarity Determination of Gallium Nitride on Si (111) Using Atomic Layer Annealing**

Poster Reference Number: EM-WeA-5

Authors: S.U. Yun, Ping-Chi Lee, University of California San Diego, USA; A. McLeod, University of California at San Diego, USA; J. Spiegelman, RASIRC, USA; A. Kummel, University of California at San Diego, USA

This study explores the enhancement of crystallinity and polarity in Gallium Nitride (GaN) on silicon substrates using atomic layer annealing techniques. The research demonstrates significant improvements in GaN quality, which is crucial for the development of high-performance semiconductor devices.

2. **Co Metal ALD on Cu with Cyclic Clean by Peroxide and Hydrazine for Inverse Hybrid Metal Bonding**

Poster Reference Number: AA-TuP-22

Authors: Cheng-Hsuan Kuo, A. Kummel, University of California at San Diego, USA

This research investigates the application of cobalt (Co) metal atomic layer deposition on copper (Cu) with cyclic cleaning using peroxide and hydrazine. The innovative process aims to achieve superior bonding for inverse hybrid metal bonding, a critical technology for advanced semiconductor manufacturing.

3. **ALD Student Award Finalist Talk: In-situ FTIR Study of Oxygen Source Mixing for Hafnium Oxide Atomic Layer Deposition on Titanium Nitride**

Poster Reference Number: ALDALE-MoA-7

Authors: Jin-Hyun Kim, D. Le, M. Lee, T. Chu, D. Kim, J. Veyan, University of Texas at Dallas, USA; M. Benham, J. Spiegelman, RASIRC, USA; S. Kim, Kangwon University, Republic of Korea; J. Kim, University of Texas at Dallas, USA

This finalist study delves into the in-situ FTIR analysis of oxygen source mixing for the atomic layer deposition of hafnium oxide on titanium nitride. The research compares the efficacy of ozone and hydrogen peroxide vapors, highlighting the superior performance of hydrogen peroxide gas in achieving high-quality dielectric films.

Jeffrey Spiegelman, CEO and Founder of RASIRC, emphasized the importance of these findings, stating, "These results solidify the need for Brute® Peroxide and Brute® Hydrazine to enable advanced semiconductor memory and logic devices. Our innovative solutions are essential for the future of semiconductor manufacturing, providing the high purity and performance required for next-generation technology."

About RASIRC:

RASIRC transforms liquids into dynamic gases that power process innovation in semiconductor and adjacent markets. By commercializing molecules for lower temperature processes, RASIRC's patented technology enables the manufacture of atomic-scale oxides, nitrides, and metals. Innovative products such as BRUTE® Peroxide, BRUTE® Hydrazine, and the Peroxidizer® are being used to develop solutions for 6G, AI, IoT, and advanced automation.

What makes RASIRC a unique industry leader is our commitment to solving complex challenges for our customers. Our team of industry experts has a proven track record of being first to market by delivering state-of-the-art technology that reduces cost, improves quality, and dramatically improves safety. With our customers at the forefront of all we do, we continue to research, develop, and design innovative products that purify and deliver ultra-pure gas from liquids for the semiconductor and related markets.

Contact Information:

For more information about RASIRC and our innovative products, please contact us:

- Phone: 858-259-1220
- Email: info@rasirc.com
- Visit: <http://www.rasirc.com>

About the ALD/ALE Conference:

The AVS 24th International Conference on Atomic Layer Deposition (ALD 2024) is a premier event that brings together researchers, scientists, and industry professionals from around the world to discuss the latest advancements in ALD technology. The conference provides a platform for sharing cutting-edge research, exploring new applications, and fostering collaborations that drive the field forward.

This press release highlights the significant contributions of RASIRC and its research partners, UCSD and UTD, to the field of atomic layer deposition and underscores the company's ongoing commitment to innovation and collaboration.