Seminar Announcement

Tokyo Electron: Company Overview

followed by

Modeling and Optimization of Silicon Nitride Etching in Phosphoric Acid

Presenters:

Dr. Jacques Faguet, Director, US Technology Development Center

Dr. Derek Bassett, Research Scientist, Advanced Technology Group

Location: Microelectronics and Engineering Research Center (MER 160), Room 2.114, 10100 Burnet Road, Austin TX 78758

Time: Friday, October 14th, 2016, at 3:30 PM CDT.

Abstract: Dr. Faguet will provide an overview of Tokyo Electron's (TEL) operations and position within the semiconductor manufacturing market place. Dr. Bassett will follow with his specific research in the etching of silicon nitride.

In semiconductor device fabrication, etching of silicon nitride using phosphoric acid has been an important process step in the industry for over 40 years. Despite this long history, in all that time there has been little research done into understanding the mechanisms of this process and how to best optimize this process. Derek Bassett will present his work at TEL on better understanding and modeling this process.

Derek Bassett received his PhD in Chemical Engineering at the University of Texas in 2010 under Professor Roger T. Bonnecaze. Since then he has worked for TEL as part of the Surface Preparation Systems team of the Advanced Technology Group: a team of researchers at TEL that works to help develop new processes and tools for future development as well as optimization of their current tools and processes. In that time Derek has worked on projects involving a wide range of subjects including pattern collapse, particle removal, diffusion in photoresist, heat management inside tools, thin film drying, supercritical CO2, and numerous projects involving process improvement and optimization of etch uniformity on both single-wafer and batch wafer tools.

Jacques Faguet completed his PhD in Physics of Gases and Plasmas at the University of Orleans, France, in 1980. He worked first on GaAs technology, from early R&D in France to successful start-up company in US, thus acquiring a broad knowledge and understanding of all aspects of semiconductor chip manufacturing. In 1990, he joined the CVD division of Materials Research Corp, working at Leti (Grenoble), demonstrating the first PECVD Ti process for contact application. Since TEL acquired MRC in 1998, he has held several BEOL process development management positions at different US locations. Mainly focused on metal interconnects processes such as iPVD Ta/TaN/Cu, Ru CVD and PEALD TaN. In his current position of Director, US Technology Development Center, in Austin, he leads a team of research scientists, involved in the key areas of innovative process development as well as advanced process and multi-physics simulations.