

Minnowbrook 2017

“Moisture in Microelectronics”



Minnowbrook.....A forested retreat at the University of Syracuse Conference Center in the Adirondack Mountains of New York where engineers, scientists and technologists meet to explore solutions to the deleterious effects of moisture in microelectronics. Moisture is ubiquitous, and an insidious threat to reliability of all types of microelectronics. It's the number one cause of early field failures and reliability issues in both cavity style and encapsulated microelectronic devices. Minnowbrook fosters open discussions of the physics/chemistry surrounding the damaging effects of moisture and moisture-related failure mechanisms. Since the 1980s, Minnowbrook has tackled the problem of moisture control in electronics. Early meetings focused exclusively on moisture control in hermetic packages for military and aerospace. Discussions at the Minnowbrook forum were a key factor in mitigating these problems and achieving dependable hermetic parts for the US military. Since then the conference has evolved to also address moisture control for non-hermetic packages used in a wide variety of industries. As depicted in the logo, we seek participation from industry, academia, and government to provide varying perspectives on this important topic.

Targeted Industries:

- ✓ Consumer Products
- ✓ Wearables
- ✓ Military and Aerospace
- ✓ COTS for Military
- ✓ Class III medical implants
- ✓ Oil and Gas Downhole
- ✓ MEMS and Sensors
- ✓ Optoelectronics
Photonics LEDs
- ✓ Emerging technologies

You are invited to attend and present on a variety of topics including, but not necessarily restricted to:

- Strategies and technical challenges for waterproofing commercial electronics
- 2D/2.5D/3D packaging technologies and encapsulation issues to inhibit moisture ingress
- Assessment of the Hermeticity and Residual Gas Analysis Test Methods MIL-STD-883
- TM 1014 Updates...tighter leak rates, definitions, etc.
- Challenges of Modifying Commercial Electronics for Space Applications
- Hermeticity testing and failure analysis of Class III Medical Implants
- Surface treatments, coatings, and encapsulants for inhibiting moisture access to devices
- Optoelectronics and commercial LED packaging to minimize moisture related problems
- Class Y non-hermetics for Mil and Aerospace
- Moisture related failures and testing of copper wirebond/metallization
- Moisture mitigation strategies for nano liter MEMS and Sensors



Why should I attend Minnowbrook?

Minnowbrook is quite different from the typical technical conference. It utilizes a casual workshop format where questions and discussions often take longer than presentations (which are informal with slides or just a “chalk talk”). The informality provides greater insight into problems and solutions, and encourages sidebar discussions and networking.