News from Plasma-Therm
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Cornell NanoScale Facility (CNF) and Plasma-Therm Collaborate on Atomic Layer Etching (ALE)

ST. PETERSBURG, Fla. October 16, 2019 — The **Cornell NanoScale Science and Technology Facility** (CNF), a leading university research facility at Cornell University, Ithaca, NY and Plasma-Therm LLC, an innovator in plasma processing technology, located in St. Petersburg, FL, announce a joint development agreement (JDA) to advance atomic layer etching (ALE) for nanoscale device fabrication. Under this agreement, Plasma-Therm will provide a state-of-the-art ALE system, while CNF will provide ALE process and device development on a wide range of materials serving a broad research community.

ALE is derived from its deposition counterpart atomic layer deposition (ALD) in that it is composed of sequential self-limiting chemical steps, essentially etching one atomic layer per cycle. This process thus provides the precise control and low damage etching required for the fabrication of advanced nanostructure devices.

Vince Genova, a research staff member leading the ALE effort at Cornell, states “Our acquisition of ALE and our collaboration with Plasma-Therm will ensure that CNF can meet the many challenges posed by the increasingly complex fabrication requirements of nanoscale photonics, advanced III-V devices, 2D electronics, magnetic, and quantum-based device applications.”

CNF operates as an open user facility for nanofabrication, open to academic, industrial, and government users, and is part of the National Nanotechnology Coordinated Infrastructure (NNCI) an NSF-sponsored network of 16 regional user facilities. CNF will be the first site within NNCI to acquire ALE, adding a tremendous asset to the fabrication capabilities of NNCI.

The CNF has had a long-term relationship with Plasma-Therm since the early 1980s and presently has 6 etch platforms including 4 inductively coupled plasma (ICP) chambers serving its extensive user community. CNF values Plasma-Therm’s sustained commitment to service and technical expertise in plasma processing solutions and looks forward to implementing the most advanced etching technique in the semiconductor industry to push the boundaries of nanofabrication.

Dwarakanath Geerpuram, Plasma-Therm’s Director of Product Development Engineering said “The joint development program with Cornell is another example of Plasma-Therm’s focus on partnering with our customers in developing next generation technologies. We are proud of our association with the CNF and look forward to enabling the growth and adoption of ALE technology.”

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Cornell NanoScale Science and Technology Facility (CNF)
CNF is a world-class facility for micro and nanofabrication. Operating as an open user facility we assist users from across the country and around the world. Over 500 different individuals use CNF facilities every year. They include undergraduates, graduate students, postdocs, and professionals, both those experienced in nanotechnology as well as novices. Projects range from pure university research to product development for small and large companies. Flexible equipment and policies allow CNF to undertake projects that would not be possible in many other nanofabrication environments.

About Plasma-Therm
Plasma-Therm LLC is a manufacturer of leading plasma etch, deposition, and advanced packaging equipment for specialty semiconductor and nanotechnology markets. Plasma-Therm's plasma-processing and advanced-packaging solutions are used in research, pilot manufacturing, and volume production of wireless, photonics, solid state lighting, MEMS/NEMS, data storage and other devices. Learn more at www.plasmatherm.com.

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