



# Microsystems Monthly

**FEAR THE TURTLE defends the Region at the HH2010 and takes the title in 2010 Microfeud –see page 2**

July 1, 2010  
Issue 16

### Mid-Atlantic Micro-Nano Alliance Mission Statement:

To network expertise, capabilities, and research to facilitate the development of new applications and commercialization of miniaturization technologies.

## Center for Nanoscale Science and Technology

From our colleagues at TEDCO:

National Institute of Standards and Technology (NIST) <<http://click.bsfransmit1.com/ClickThru.aspx?pubids=6803%7c933%7c6891&digest=P7eXutNCtjoX6O33ids8ZQ>> in Gaithersburg has opened the Center for Nanoscale Science and Technology (CNST), whose NanoFab is designed to support companies developing products and processes that use nanotechnology.

The NanoFab house is a multi-million dollar suite of state-of-the-art nanofabrication and nanomeasurement equipment. Their cleanroom is among the most advanced in the world. It provides companies and other users access to sophisticated nanofabrication and measurement instrumentation on a shared-use model at economical hourly rates, with the user only paying for the tools and processes needed.

As a Department of Commerce financed center, it operates with an experienced support team and price structure that can assist the smallest start-ups and the largest research driven companies.

For more information about the CNST, visit their website

<<http://click.bsfransmit1.com/ClickThru.aspx?pubids=6803%7c934%7c6891&digest=UTUdHdRxMV8p%2bNxo15oWIA>> .

To learn more about their NanoFab house, see <http://www.cnst.nist.gov/nanofab/nanofab.html>

<<http://click.bsfransmit1.com/ClickThru.aspx?pubids=6803%7c945%7c6891&digest=YU5yZqb6yPAFekv%2bAOCRpQ>> and

[http://www.cnst.nist.gov/nanofab/about\\_nanofab.html](http://www.cnst.nist.gov/nanofab/about_nanofab.html) <<http://click.bsfransmit1.com/ClickThru.aspx?pubids=6803%7c946%7c6891&digest=Vkgd4kYoCv%2b3MEgb9Db8oA>> .

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## Chairperson's Notes- Maryland on the MEMS Map



*Dear Alliance Members,*

*The Fear the Turtle team composed of Mid Atlantic Micro Nano Alliance members won the HH2010 "MicroFeud at Transducers. The thirteenth in the series of Hilton Head Workshops on the science and technology of solid-state sensors, actuators, and microsystems was held on June 6-10, 2010. Previous Workshops have provided a highly interactive forum for North, Central and South American researchers to present and discuss recent advances in microfabrication technologies for sensing and actuation devices and microsystems for physical, chemical, and biological applications.*



*This required beating a dozen teams formed for this contest. The questions ranged from qualitative to quantitative knowledge of the MEMS realm. It was their knowledge of toxic processing gases which took the team to the win!*

*Placing Maryland on the map as leaders in the MEMS world were Mid Atlantic Micro Nano Alliance members: Sarah Bergbreiter -UMD, Ann Darrin—JHUAPL, Don Devoe— UMD, Michael Gaiten –UMD, Reza Ghodssi-UMD, Robert Osiander— JHUAPL, Joe Schmid-Entrepreneur. Elizabeth Smela UMD, Sam Stavis—NIST*



*Congratulations to the team!*

Best regards,

Brian Jamieson

**Save the Date:** The next Mid Atlantic Micro-Nano-Alliance Symposium is scheduled for October 19th, 2010 at the Kossiakoff Center JHUAPL Laurel MD!



The Micro/Nano Alliance’s eleventh annual Special Topics Symposium will explore the commercialization of micro- and nano-technology and microsystems research. The symposium is intended for anyone interested in exploring how a research program might be better aligned with current market and customer needs, is interested in developing, marketing and transitioning a current technology, or wants to learn how to foster and nurture innovation for commercial adoption.

The symposium will bring together researchers and technologists, commercialization and tech transfer professionals, entrepreneurs and investors, working on or interested in commercializing miniaturization technology. The meeting will be both retrospective and prospective, including past commercialization success stories along with a look at how current cutting edge micro/nano technologies can be developed to find a role in the marketplace.

**Program:**

The single-day symposium will be informal, and will include plenty of time devoted to networking and interaction via a poster session and included lunch. The Mid-Atlantic Micro/Nano Alliance is dedicated to promoting collaboration and interaction among our participants, and our greatest success stories involve research partnerships that have been fostered at our events.

**Poster Session:**

We will be soliciting posters on all aspects of micro-/ nano-technology and microsystems ranging from basic research to commercialization efforts, i.e. from prototype to product. There will be a \$1000 cash award for the best poster submitted by a student (graduate or undergraduate.)

**Platform Talks:**

There will be a full program of short (20 minute) technical presentations focusing on technologies that have a potential for a substantial beneficial impact. Platform talks will be technical in nature; however, each speaker will present a clear and compelling vision of the unanswered market need that it is filling.

## Jobs in Micro and Nano in the Region

### **Electrical Engineer Job -Booz Allen Hamilton-McLean, VA -01090484**

Participate as a member of a collaborative, multidiscipline team and provide technical subject matter expertise in the field of radio frequency (RF) communications. Perform engineering tasks, research, studies, and analysis that provide engineering and technical direction for problem definition, analysis, requirement development, and implementation for complex systems in the engineering disciplines. Assist with the development or evaluation of custom RF communications systems that meet unique customer requirements on power, weight, size, modulation, and protocols while leveraging commercial technologies, where possible. Manage the design, planning, installation, and maintenance of wireless radio communications systems, including radio propagation modeling and prediction, microwave path analysis, interference analysis, frequency coordination, parameter definition, and ancillary equipment. Basic Qualifications:

- 5 years of experience in the field of electrical engineering related to RF communications
- Knowledge of personal communications systems, including WiFi, WiMAX, CDMA2000, LTE, and GSM and GPRS -TS/SCI with Polygraph required -BS degree

### **Senior Electrical Engineer Modern Technology Solutions – Northern VA**

MTSI is looking for a Senior Electrical Engineer to support weapons system development platforms. The candidate will support/initiate a reverse engineering study.

Required Skills:

- At least 10 years experience in electrical engineering
- ASIC/FPGA design or analysis background
- Excellent verbal and written communication skills

MSEE

### **Senior Electrochemist - Scientific Search - Wilmington, DE**

Senior Electrochemist Objective: The company is seeking a candidate with a minimum of ten years of experience developing and commercializing technology. The successful candidate will develop novel chemistries to customize the company's nano-scale electrodes to target specific analytes. Job responsibilities include the ability to conceive, formulate, and synthesize compounds and develop carbon nanotube functionalization methods. The successful candidate will possess an expert knowledge of electrochemistry, a deep toolbox of skills from which to craft new materials, and an ability to connect theoretical chemical parameters to measured characterization data. We are seeking a self-motivated, self-directed individual who will help establish their own work environment to support the overall...

### **Principal Engineer-Chemical/Lithium-ion/electrochemical -Thinkenergygroup.com-Baltimore MD**

Principal Engineer with lithium-ion process and product development experience.

Responsibilities: -> Serve as a leader on multiple development projects involving evaluation of new materials through designed experiments, proving out new cell designs, processing nano-materials into electrodes, and investigate/resolve problems MS in Chemical or Materials Engineering required. PhD preferred -> 5 to 10 years of high quality hands-on experience with lithium-ion process and product development required -> Must have experience with using advanced anode and cathode...

## UPCOMING EVENTS (continued)

July 1, 2010

### Commercialization of Micro-Nano Systems Conference

#### COMS 2010

*Hyatt Regency Tamaya Resort & Spa*

*Albuquerque , New Mexico*

*August 29 - September 2, 2010*

COMS brings together leaders from all over the world and every sector of industry; from high tech companies, national labs, regional development and government agencies, investment and consulting groups, market researchers, educators and students; all sharing, learning and creating partnerships in an open interactive setting. This is a powerful environment focused on accelerating commercialization activity among established and emerging micro and nano businesses. COMS focuses primarily on solutions, not just science and technology. It is a hands on, practical meeting to assist you in bringing your products to market, finding new customers, or the perfect development partner. Meet with decision makers & qualified buyers from every sector in an atmosphere designed for business development.

They are working on the finishing touches to the COMS 2010 program, it should be complete in the next few weeks. Until then, click here to view a few of the sessions they have [lined up](#).



<http://www.techconnectworld.com/Nanotech2010/>

**SEMICON<sup>®</sup>**  
**West2010**

#### **SEMICON West**

2010-07-13 - 2010-07-15

San Francisco, California

Annual event for the global microelectronics industry

For more information: <http://www.semiconwest.org/>

## News bites from the Region

Continued from page 1

Take a Quick Glance at the Nanocenter below.

The Nanocenter:

- \* makes fabrication and measurement tools available for use by business.
- \* operates on shared-use basis with economical hourly rates.
- \* has experienced support staff to help set up your processes or make measurements.
- \* is a business-friendly management with rapid user access to the facility.

For more, visit <http://www.nist.gov/cnst> <<http://click.bsfttransmit1.com/ClickThru.aspx?pubids=6803%7c947%7c6891&digest=tzNVJofcXQEJxv8%2bizdudw>>

or contact Vincent Luciani ([Vincent.luciani@nist.gov](mailto:Vincent.luciani@nist.gov) <<mailto:Vincent.luciani@nist.gov>> ; 301-975-2886)

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