

KYNN Overview

Editor: [Ana Sanchez Galiano](#)

The Kentucky nanoNET (KY nanoNET or simply KYNN) is a Kentucky NSF EPSCoR initiative for developing an "electronic parkway" within the Commonwealth for tying together all the various facilities, resources and people involved in micro/nanotechnology, advanced materials, and MEMS (micro-electro-mechanical systems). NSF projects the field of nanotechnology to explode from a \$400B industry today to a \$2.5T industry by 2020. To accommodate that tremendous level of growth, it is predicted that 2,000,000 nanotechnologists will need to be trained by 2020, a hundred fold increase in the number today (20,000). The NSF-supported KYNN initiative will help position the state of Kentucky to be an active participant in that economic opportunity. The KYNN presently consists of 14 distinct nodes and over 45 researchers and continues to grow each week. Please enjoy this newsletter and contact [Ana Sanchez Galiano](#) or [Dr. Kevin Walsh](#) to get involved with the KYNN.

Equipment Spotlight



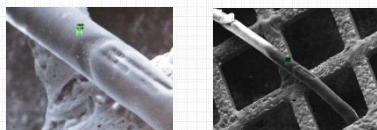
In each newsletter, a signature tool from one of the KYNN nodes is highlighted. Today we present the **Large Chamber SEM Mira VPX Ellcie** from WKU's Non-Destructive Analysis (NOVA) Center node.

Please contact [Ana Sanchez Galiano](#) to get your capability listed in a future newsletter edition.

Large Chamber SEM for Non-Destructive Analysis

The LC_SEM Mira VPX Ellcie provides non-destructive analysis and can accommodate a sample up to 40 inches in diameter, 40 inches tall and up to 650 pounds, eliminating the need to cut samples into small pieces for examination. The LC-SEM comes equipped with a suite of instrumentation that includes:

- High Resolution Imaging
- Surface characterization
- Metal microstructure
- Expanded Material Range



"For the University, the SEM is a unique instrument that places WKU at the forefront of scientific research" Dr. Edward Kintzel, assistant professor in the Department of Physics and Astronomy and WKU NOVA Center Director

On Oct. 18, a ribbon cutting ceremony sponsored by The Bowling Green Area Chamber of Commerce was held for the grand opening celebration of the NOVA center featuring the arrival of the Large Chamber SEM. U.S. Rep. Brett Guthrie gave thanks to those who had this unique research center vision for the NOVA Center and made it a reality, he addressed the Center as "a place that's going to change southcentral Kentucky"



How to access:

For information about the equipment and access to the NOVA Center, please contact Dr. Edward Kintzel @ ed.kintzel@wku.edu or visit the Nova Center's website : www.largechamber.com



KYNN News and Events

November 2011

Conferences, seminars, tutorials and other events hosted by KyNanonet Members are posted on kynanonet.org and sent to our Social Media friends ([Facebook](#) and [Twitter](#))

Recent Events and Presentations from KYNN members:

[UofL MNTC Client Pizza Party: "Fundamentals and Applications of Adsorption"](#)
Presented by: [Neville Pinto, Ph. D., Dean of UofL Engineering](#)

Event Date: November 2, 2011

[Conn Center for Renewable Energy Research: "The End of Engineering"](#)
Presented by: [Michael Peterson, Ph.D.](#)

Event Date: Nov 3, 2011

[Engineering Platforms Seminar Series: "Controlling Cellular Response and Wound Healing Through the Applications of Antioxidant and Affinity Based Polymers"](#) Presented by: [Thomas D. Dziubla, Ph.D.](#)

Event Date: Nov 9, 2011

[UofL Chemical Engineering: "Chemical and Electrochemical Synthesis of Metallic Nanostructures: Fundamental Properties and Applications in Catalysis, Sensing, and Nanoelectronics"](#) Presented by: [Frank Zamborini, Ph.D.](#)

Event Date: Nov 3, 2011

[Conn Center for Renewable Energy Research: "Ag Nanoparticles Attached to ITO as an Electrocatalyst for Oxygen Reduction Reaction / Nanoscale Diamond and Carbon Materials and Architectures for Field and Thermionic Energy Conversion"](#) Presented by: [Raphael Masitas / Rupa Dumpala](#)

Event Date: Nov 15, 2011

[Engineering Platforms Seminar Series: "Polymeric Magneto-Nano-Mechanical Systems"](#) Presented by: [Robert W. Cohn, Ph. D.](#)

Event Date: Nov 16, 2011

For Upcoming Events Visit Our [Event Calendar](#)

KYNN – Photomask Program

KORE (Kentucky Optical RESources) is KYNN's program for supplying high-quality photomasks and advanced lithographic processes such as e-beam lithography and greyscale lithography. KORE is available to both KYNN members and outside users. For more information, see details listed below or visit <http://kynanonet.org/kore1>



KORE News:

- New info flyer available: [Click here to download](#)
- Send a Mask Request: Fill out the [Request Form](#)

[KORE Flyer](#)

KYNN – Shared Software Program

KRUNCH (Kentucky Research Users of Nano CAD Hub) is KYNN's shared software program which offers commercial micro/nano/MEMS CAD tools to its academic KY members at no cost. Presently four commercial software packages are offered (Tanner Tools, Coventorware, Intelisense, Silvaco). For more information, see details listed below or visit <http://kynanonet.org/krunch/>

KRUNCH News:

- Sign up for KRUNCH Software: Fill out the [Krunch Access Request form](#)
- Lab View Users Group Meeting Sponsored by GE and National Instruments held Nov 18, 2011.

KY NANONET

Connecting Kentucky's Micro/Nano Community

Sign Up for Free Membership/ Add your profile to our researchers database, [click here](#)

List your Location as a Node, [click here](#)

The KyNN is operated out of the University of Louisville Shumaker Research Building, home to the nationally-recognized Micro/NanoTechnology Center (MNTC). The MNTC encompasses core facilities for micro and nano fabrication, packaging, metrology & testing. The center includes a 10,000 sq. ft, 7-bay, class 100/1000 cleanroom, the largest in the state of Kentucky

KyNN Participating Nodes:



Sullivan University College of Pharmacy
<http://www.sullivan.edu/pharmacy>



UK Catalyst Research and Testing Center
<http://www.caer.uky.edu>



Morehead RF Micro Characterization Lab
<http://www.moreheadstate.edu>



UK Mass Spectrometry Facility
<http://www.research.uky.edu/ukmsf>



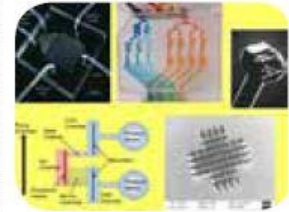
Murray State Microelectronics Lab
<http://www.murraystate.edu/gac/cos/phy/facilities.html>



UofL Micro/Nano Technology Center
<http://www.louisville.edu/micronano>



UofL Rapid Prototyping Center
<http://www.louisville.edu/speed/rpc/>



Bioengineering Initiatives UK and UofL
<http://www.louisville.edu/speed/engineeringplatforms>



UK Center for Advanced Materials (CAM)
<http://www.kvnsfepscor.org/cam>



UK Center for Nanoscale Science & Engineering
<http://www.engr.eky.edu/~cense>



UK Imaging Facility
<http://www.mc.uky.edu/Sharedresource/electron>



WKU Nova Center
www.largechamber.com



Eastern Kentucky University
<http://www.chemistry.eku.edu/>

Coming Soon:

WKU Advanced Materials Institute AMI
<http://www.wku.edu/ami/>



UofL Institute for Advanced Materials & Renewable Energy
<http://louisville.edu/iamre>

