

About Us

What we do

The Advanced Materials Engineering Research Institute (AMERI) mission is to facilitate research, education, and electronic device development in the fields of micro sensors and systems, nanotechnology, nanomaterials, ceramic packaging, and 3D printing.

How we do it

The AMERI is state-of-the-art open access MEMS/Nano fabrication, packaging and materials research facility with a 2000 ft² cleanroom and research laboratories; fully supported by a technical staff and faculty. We are a full or self service project facility.

Where we do it

AMERI is located at the FIU College of Engineering and Computing and is available to all researchers. We invite all to explore our facility to enable or enhance your research as well as to learn more of and participate in this rapidly moving field.

Contact Us

<http://ameri.fiu.edu>

Working with AMERI

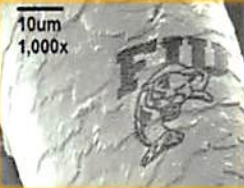
AMERI is an open access user facility that seeks to further research in micro device engineering and nanotechnology through providing the resources needed for this work at one easy access location. AMERI offers project consultation, device design, individual access, and tool training on an array of different research equipment. Visit us at <http://ameri.fiu.edu> to view our capabilities, equipment list, and basic user fees.



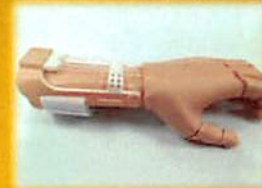
Carbon Nanotube Reinforced Composite



Graphene coated 3D Carbon Micropillar



FIB pattern of FIU logo on human hair



3D printed Elastomer Prosthetic hand

FLORIDA INTERNATIONAL UNIVERSITY

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AMERI

Advanced Materials Engineering Research Institute



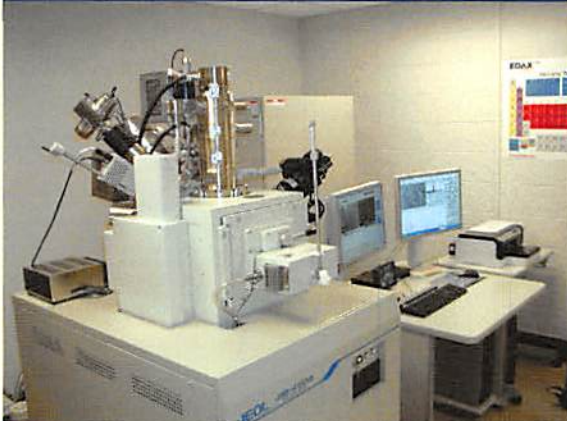
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“Advancing Micro devices, Nanotechnology, packaging, and materials research through open access user collaboration!”

MATERIAL CHARACTERIZATION AND ANALYSIS

- Electron Microscopy Equipment
SEM, TEM, FIB, Microprobe & AFM
- X-Ray Diffraction
- Thermal Analysis
- Mechanical Testing
- Optical Microscopy
- Elemental Analysis



Remotely Accessible Tools

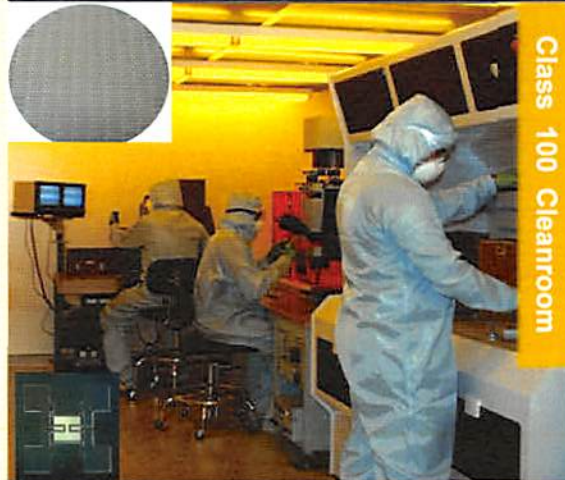
- Phenom Table top SEM
- JEOL SIB-4500 Multibeam SEM/FIB
 - JEOL 7000 SEM
- JEOL 6335F SEM with EDS
 - Atomic Force Microscopy
- Phillips CM-200kV TEM with EDS

You can view your sample in real time by accessing the computer desktop of our SEMs or FIBs. Add a phone call, and you are able to provide instant feedback to the operator while viewing your sample.

Just ship us your sample and schedule your session!

MICRO and NANO FABRICATION

- MEMS and Nano Sensor Design and Development to Application
- Nano pattern Ebeam lithography
- Wafer and Mask laser writing
- Thin Film Process development
- Multi-material DRIE, ALD, CVD, Evaporation, Sputtering, Wet chemistry



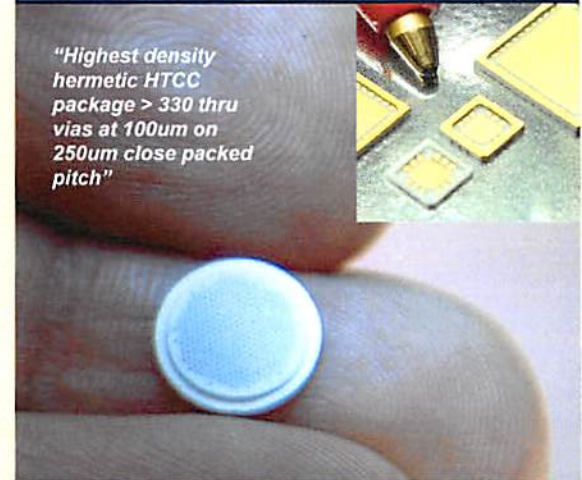
The **Motorola Nanofabrication Research Facility** is a fully functional MEMS/Nano device development cleanroom on the 4" wafer platform. Let us help you take your project from design to dicing, to prove your concept or run batch processes.

Cleanroom bays:

- Photolithography - ISO 5, Class 100
- Ebeam lithography - ISO 6, Class 1000
- Deposition and Etching - ISO 7, Class 10,000

ADVANCED PACKAGING TECHNOLOGY

- Custom device packaging solutions
- HTCC and LTCC materials systems
- Custom material systems development
- Thick film casting and processing
- 3D printable metal ink, ceramic paste, and sacrificial material systems development



“Highest density hermetic HTCC package > 330 thru vias at 100um on 250um close packed pitch”

The AMERI **Advanced Packaging Facility** is a comprehensive electronic packaging and ceramic systems processing facility. Package design and materials systems solutions are available for a wide range of project needs. Let us help you take your project from dicing to application with a custom engineered package.

Capabilities:

- Materials formulation and analysis
- Thick film shaping, metallization, and firing
- 50um thru via punching and 1um stack alignment

“Whether you come to AMERI to work or have us do it for you, let’s begin a partnership to realize your research goals today!”