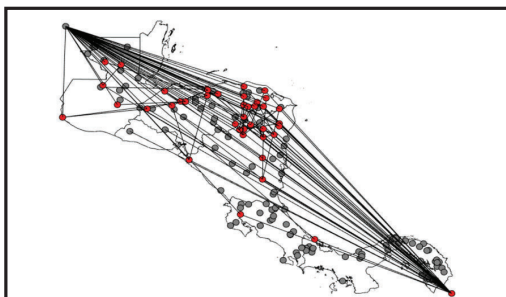
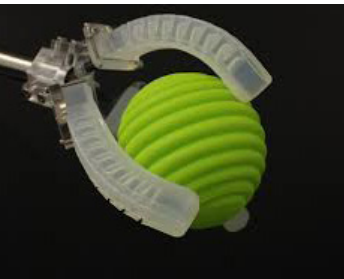


EPSCoR FUNDING IMPACT IN ALABAMA

Science and Engineering

- A UA NSF EPSCoR researcher is developing next-generation soft material exoskeletons to impact assistive robotics, rehabilitation robotics, and elder care which could lead to enhanced lifestyles and a reduction in paralysis, stroke or spinal cord rehabilitation costs.
- UA NSF EPSCoR researchers are studying the dormancy of breast cancer cells to understand signals related to cancer spreading in the body. This technology could be applied to applications in neural development, tissue regeneration, and stem cell engineering (stem cells stay in dormant stage until activated for tissue repair).



Trafficking routes from narcotic countries to consumer countries in Central America

- A UA NSF EPSCoR researcher is studying how drug trafficking networks change and evolve with changing security measures to inform effective drug policies.

Space

- UA NASA EPSCoR researchers along with Glenn Research Center are in the forefront of NASA's next generation (low-carbon) ultra-efficient aircraft readiness plan to develop a new class of materials. This research positions UA NASA as a formidable leader in nanocomposite magnetic material development through a closed loop interaction of modeling-processing-characterization.
- Researchers discovered that a 2D material called MXene is an excellent choice as the building block for the fabrication of 3D energy storage devices.

Agriculture

- A NSF EPSCoR UA researcher is working to develop one of the first underwater software network testbeds which could support robots cleaning up oil spills, monitoring aquatic life and surface wind speeds, or contribute to offshore wind farms.
- Researchers are using stem cell technology to improve artificial reproduction to rescue and grow a US catfish industry stressed by foreign imports.

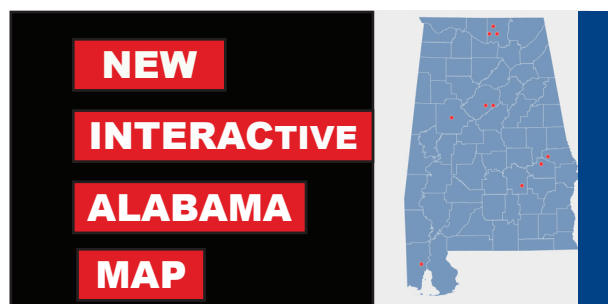


Energy

- Methane is a potent greenhouse gas and a major component of natural gas. AU DOE EPSCoR funded researchers are working on methane bioconversion methods to turn methane into liquid fuels and other high value chemicals.
- USA NSF EPSCoR researchers are investigating a future 5G (5th Generation) cellular system to meet the demand for high bandwidth-consumptive mobile devices.

Outreach

- On September 8, 2018, the Annual Science and Technology Open House was hosted by Tuskegee University and Alabama EPSCoR and included over 100 posters from graduate and undergraduate students. Young students (K-12) were also introduced to research activities and participated in hands-on demonstrations.
- Alabama EPSCoR hosted NSF Day at the University of Alabama at Birmingham in May 2018. Over 200 graduate students, postdoctoral researchers and faculty attended to learn how to compete for federal dollars.



AU professor, Dr. Ed Thomas (above) leads a plasma science hands on activity.



Commercialization

- Alabama EPSCoR developed and launched a searchable research capabilities map/database for the eight EPSCoR research institutions, Southern Research and HudsonAlpha on the Alabama EPSCoR site, see alepscor.org.

Workforce Development

- The state-funded Alabama EPSCoR Graduate Research Scholars Program (GRSP) supports graduate students pursuing both MS and PhD degrees doing EPSCoR related research. As of Dec. 2018, more than **280 students** have been recipients of **473 awards**. This has led to the achievement of **176 Ph.D.** and **58 Master's degrees** since its inception in 2006.

Alabama EPSCoR Award History FY2009-FY2018

Agency	Type of Award	QTY	Awards
NSF	Infrastructure (Tracks 1,2,3 and 4)	18	49.75M
NSF	Co-funding (EPSCoR and Directorate)	161	77.4M
DOE	Early Career	3	2.25M
DOE	Other	2	745K
DOE	Implementation Grant	2	2.2M
DOE	State Lab Partnership	3	1.55M
NASA	Cooperative Agreement Notice (CAN)	6	1.8M
NASA	Research Infrastructure Development (RID)	5	925k
USDA	Strengthening	35	\$15.4M
		235	\$152M

Alabama EPSCoR NSF RII Track 1 Outcomes

Period	Number of NSF Track 1 Awards	Award Total	New Non-EPSCoR Federal Funding Generated
2009-2016	2	\$17.25M	\$74M
2017	1	\$20M	

