

# KANSAS NSF EPSCoR

## BUILDING RESEARCH CAPACITY

**\$73 M**

NSF EPSCoR Track-1 awards since 1992 for scientific discovery & multi-user equipment

**24**

Faculty hires for HINU, KSU, KU, & WSU

**173**

Junior faculty careers jump-started with First Awards



National Science Foundation  
Established Program to  
Stimulate Competitive  
Research

## ECONOMIC & WORKFORCE DEVELOPMENT

We create learning opportunities that shape STEM careers.

Through the **Kansas Data Science Consortium** we link learners to employers, building skills for in-demand careers while gleaning data insights for businesses and other organizations.

**>200**  
students in data science course

**28**  
partners sharing data, spanning businesses, non-profits, cities, etc.

**9**  
colleges contributing to the consortium



**121**  
Native scholars

**764**  
Undergraduate & graduate students

**55**  
High school teachers



## 2.4 to 1 return on investment

For every federal dollar from NSF pumped into EPSCoR Track-1, Kansas got back more than double that in other grants, leveraging \$151M from a \$62M investment since 2006.



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learn more

## SUCCESS SNAPSHOTS

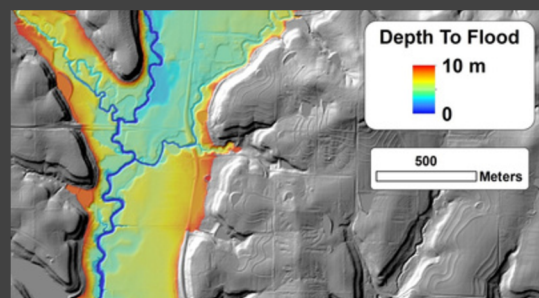
Extreme weather events and cyber attacks are on the rise. This is of concern to Kansas, ranking 9th in federal disaster declarations per capita. To help Kansans rebound faster and suffer less from disasters, we connect scientists from K-State, KU, and WSU with the residents in Ford, Finney, Seward, Johnson, & Wyandotte counties. Recently, the team advanced technology for making **real-time flood maps for emergency responders**.



To grow talent in Kansas, we partner with Saturday Academy at the Kansas City Kansas Community College. This long-running K-12 program **enriches the lives of hundreds of urban youth** with STEM learning opportunities.



Wichita State Assistant Professor Zelalem Demissie is discovering how satellite data and AI can **forecast early-stage drought**. The groundbreaking research was seeded with a \$50k First Award from Kansas NSF EPSCoR.



### Current NSF EPSCoR Projects in Kansas

			Cong. District	Amount
Understanding the effects of tunable media on mass transport during catalytic conversion of polyolefins (PI: Ana Colaco Morais, #OIA-2429771)	Research Fellows Univ. of Kansas	2024-2026	1	\$204,819
Data-Advanced Research and Education to improve weather intelligence and localized climate change assessment and resilience in agriculture-based communities (PI: Xiaomao Lin, #OIA-2420405)	RII FEC Kansas State Univ.	2024-2028	1	\$800,000
Developing 3D Models of Live-Endothelial Cell Dynamics with Application Appropriate Validation (PI: David Long, #OIA-2327466)	Track-4 Wichita State Univ.	2024-2026	4	\$231,032
Physics-Informed Machine Learning with Organ-on-a-Chip Data for Understanding of Disease Progression & Drug Delivery (PI: Davood Pourkargar, #OIA-2327473)	Track-4 Kansas State Univ.	2024-2026	1	\$245,403
Sustainable Engineering Infrastructures and Solutions for Tribal Energy Sovereignty (PI: Hongyu Wu, collaboration with University of North Dakota #OIA-2316355)	Track-2 FEC Kansas State Univ.	2023-2027	1	\$1,100,000
Assessing Dynamic Connectivity of Streams and Wetlands across Spatial and Human Gradients with Deep Learning (PI: Admin Husic, #OIA-2229616)	Track-4 Univ. of Kansas	2023-2025	1	\$259,515
Promoting N <sub>2</sub> O- and CO <sub>2</sub> -Relieved Nitrogen Fertilizers for Climate Change-Threatened Midwest Farming and Ranching (PI: Shuang Gu, #OIA: 2316482)	Track-2 FEC Wichita State Univ.	2023-2027	4	\$2,000,000
Supporting rural livelihoods in the water-stressed Central High Plains: Microbial innovations for climate-resilient agriculture (MICRA) (PI: Melanie Derby, #OIA-2316295)	Track-2 FEC Kansas State Univ.	2023-2027	1	\$2,896,478
Adaptive and Resilient Infrastructures driven by Social Equity (ARISE) (PI: Belinda Sturm, #OIA-2148878)	Track-1 Univ. of Kansas	2022-2027	1,2,3,4	\$20,000,000
RII-BEC: Mitigating COVID-19 Career Challenges with Research and Professional Development Training for Undergraduates & Mentors in Field-based Environmental Sciences (PI: Blair Schneider, #OIA-2225863)	RII-BEC Univ. of Kansas	2022-2027	1	\$999,835
Bioplastics With Regenerative Agricultural Properties (BioWRAP) (PI: Vaishali Sharda, #OIA-2119753)	Track-2 FEC Kansas State Univ.	2022-2026	1	\$5,999,428
Advanced Manufacturing of Renewable and Recyclable Polymers (PI: Bala Subramaniam, #OIA-2119754)	Track-2 FEC Univ. of Kansas	2021-2025	1,2	\$4,000,000
RII Track-2 FEC: Critical Resource Availability for the Future of the Renewable Energy Industry: Critical Minerals and Ground Water Resources in Iowa and Kansas (PI: Franciszek Hasiuk, collaboration with Univ. Of Iowa, #OIA-2119551)	Track-2 FEC Univ. of Kansas	2021-2025	1	\$2,190,146
Aquatic Intermittency Effects on Microbiomes in Streams (AIMS) (PI: Amy Burgin, #OIA-2019603)	Track-2 FEC Univ. of Kansas	2020-2025	1	\$5,998,875
Metrology and spectroscopy of individual nanomagnets dynamics using quantum sensor-based (NV- center) nano-magnetometry (PI: Kapildeb Ambal, #OIA-2033210)	Track-4 Wichita State Univ.	2021-2024	4	\$209,287
RII Track-2 FEC: The IceCube EPSCoR Initiative (IEI) - IceCube and the Data Revolution (PI: David Besson, collaboration with South Dakota School of Mines #OIA-2019597)	Track-2 FEC Univ. of Kansas	2020-2025	1	\$3,482,661
Marshalling Diverse Big Data Streams to Understand Risk of Tick-Borne Diseases in the Great Plains (PI: A. Townsend Peterson, #OIA-1920946)	Track-2 FEC Univ. of Kansas	2019-2024	1	\$3,921,229
RII Track-2 FEC: Consortium for Plant Invasion Genomics (CPING): Combining Big Data and Plant Collections to Understand Invasiveness (PI: James Beck, collaboration with Univ. Of Louisiana at Lafayette, #OIA-1920858)	Track-2 Wichita State Univ.	2019-2025	4	\$138,682

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Total = \$54.7 M