

**NSF CC\* Planning: Designing a Regional Science DMZ for Small Colleges and Universities in Pennsylvania**

NSF Proposal Award Number: 2201269

File: NSF-Planning-Grant-Science-Education-Drivers.xlsx

Last Update: 4/18/2023

Appendix A: Science and Education Drivers



Identified Science and Education Drivers

Institution	Educator/Researcher	Research & Education Topic	Application	CI Requirements
Lehigh Carbon Community College	Susan Miner, Dr. Sami Jo Eckhart, Robert J. Ritter	GenCyber Middle and High School Teacher Program	Canvas LMS	Robust WAN Connection
Lehigh Carbon Community College	Susan Miner, Kristen Gower	C++ Virtual Lab	Research Computer Lab Coursework	Robust WAN Connection, Solid Virtual Desktop Provider
Lehigh Carbon Community College		Early College Program	Apply information literacy skills	Robust WAN Connection, Stable Computer Lab environment
Lehigh Carbon Community College		Improving Undergraduate STEM Education (IUSE): Hispanic Serving Institutions (HSI) Program		
Indiana University at Pennsylvania	Dr. Frederick Adkins	Data Analytics, Geospatial Intelligence, AI, Robotics, STEAMSHOP Initiatives:		Big Data, GIS resources, Remote Visualization
Indiana University at Pennsylvania	Dr. Frederick Adkins and Dr. Soundarajan Ezekiel	IUP Data Analytics/Computer Science AI platforms and resources	Expand research capacity in AI and data analytical research through improvements to high-performance computing capabilities	Big Data, Remote Visualization
Indiana University at Pennsylvania	Dr. Frederick Adkins and Dr. Tracey Cekada	IUP Safety Science AI and Robotic Research	Short-term and long-term AI and robotic research with necessary computing infrastructure.	Big Data, Remote Visualization

Indiana University at Pennsylvania	Dr. Frederick Adkins and Dr. John Benhard	IUP Geological-Geospatial Intelligence	Remote sensing and mapping using unmanned aerial systems. Identifying and defining key security and geographical parameters with AI applications	Big Data, Remote Visualization
Indiana University at Pennsylvania	Dr. Frederick Adkins and Mr. Sean Derry	IUP STEAMSHOP	High-impact practices in design thinking and science, technology, engineering, art, and mathematics (STEAM) education	Big Data, Digital Design, Remote Visualization
Indiana University at Pennsylvania	Dr. Waleed Farag	Enhance Cybersecurity and STEM education in Pennsylvania: Institute for Cyber Security	A set of innovative initiatives and activities focusing on student recruitment, retention, and completion of STEM and cybersecurity programs	<a href="https://www.iup.edu/cybersecurity/index.html">https://www.iup.edu/cybersecurity/index.html</a>
Indiana University at Pennsylvania	Dr. Waleed Farag	GenCyber Program	Desire to Learn (D2L) LMS	Robust WAN Connection, Stable Computer Lab environment
Indiana University at Pennsylvania	Nicholas Deardorff	Scanning Electron Microscope	A training platform for undergraduate and graduate students to learn modern, state-of-the-art analytical techniques used in a large variety of science and technology disciplines	
Lafayette College	Jason Alley, Peter Good	Federated HPC Access Research Project	Secure Shared HPC Resource Access Mechanisms	Federated Identity Framework
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Lafayette College	Jim Dearworth	Confocal and Scanning Electron Microscopy		

Lafayette College	Chip Nataro, Markus Dubischar	EVO/SEM Microscope & XtaLAB mini II single crystal X-ray diffractometer	Research from biology, chemical and biomechanical engineering, civil engineering, environmental science, geology, neuroscience, and physics	Federated Identity Framework
Lafayette College	Heidi Hendrickson	Molecular Dynamics	HPC Cluster Applications	
Lafayette College	John O'Keefe, Jason Alley	Science DMZ	Science DMZ Build-out	Robust WAN Connection
Penn State University	Dr Joe Chuffi, Vincent Petrelli, Sherri McCleary, Stephen B. Leonard	Digital Foundry at New Kensington	Workforce Education Programs, EMETS Program	Robust Networking, Secure Remote IoT Access