



NSF Grant Supports Research Computing Infrastructure at FAU

Boca Raton, Fla. (June 9, 2016) – The Institute for Sensing and Embedded Network Systems Engineering (I-SENSE) at Florida Atlantic University has received a \$500,000, two-year grant from the National Science Foundation (NSF) to install intra- and inter-campus networking facilities to establish a 10-gigabit regional design for research computing that supports data-intensive research and education in science and engineering. The network design establishes high-performance data pathways among multiple campuses and research partners Max Planck Florida Institute for Neuroscience and Scripps Research Institute. It also addresses critical performance bottlenecks on the critical path to the sustained growth of data-intensive science and engineering at the University.

The network design supports collaborative research and education activities across FAU's campuses, strengthens its connections to statewide research computing resources, and solidifies new ties to regional partners. The merit of the project lies in the research and training activities that the network design enables. The benefits of the infrastructure span disciplines, including computer science, civil engineering, mechanical engineering, medicine, chemistry, genomics, ocean engineering and marine science. The network will enhance big data research and training, transportation logistics, nanomaterials, biomarker analysis, computational chemistry, marine mammal classification and undersea communication. The new network enables FAU to more effectively engage in data-intensive science and engineering activities that are critical in sustaining the nation's positions of technological and economic leadership.

This design network separates the University's research network from its academic and administrative infrastructure to support congestion-free network transfers among researchers working across multiple campuses in an increasingly data-intensive research environment. The infrastructure establishes three types of connections:

1. The network connects three of Florida Atlantic's campuses, linking its main campus in Boca Raton to its Jupiter and Harbor Branch Oceanographic campuses in Jupiter and Fort Pierce, respectively. The infrastructure federates access to data centers resident at each campus and provides bridge access to those resources.
2. The infrastructure extends the science and engineering design network to Florida's Scripps Research Institute and the Max Planck Institute for Neuroscience, building on new institutional agreements between the two research giants and FAU, focused on collaborations headquartered in Jupiter.
3. The infrastructure links all five sites to computation and storage capabilities provided through the Sunshine State Education and Research Computing Alliance via FAU's existing link to the Florida Lambda Rail. In aggregate, the networking infrastructure provides high-speed data pathways among distributed research teams, as well as to computational and storage resources on each campus and the broader community of institutions in the alliance.