

## ***Looking towards the computing horizon: A Northeast Cyberinfrastructure Lab***

Wayne Gilmore, Boston University

Scott Yokel, Harvard University

### **Abstract**

The foremost goal of the Northeast Cyberinfrastructure Laboratory (NECI Lab) is building a cohesive, sustainable partnership between domain scientists and advanced computing professionals with a large-scale multi-institutional cloud framework that is tailored for data-driven discovery. This partnership, which will set NECI Lab apart from today's public clouds, is critical to enable domain scientists to address the challenges of the disruptive technology changes effecting their research. We plan to build on the prior expertise of the MOC and the MGHPCC organizational framework, which has already delivered physical economies of scale, to create the NECI Lab to address the emerging needs of modern data-driven discovery. The NECI Lab will have three key components: (1) the Production Space will provide a multi-institutional large-scale cloud computing platform with shared operations and facilitation that enables researchers to "just get their research done" without the need to master the intricacies of deploying and managing the computational capabilities, (2) the Collaboration Space, will enable the aggregate human resources (CI Engineers, Facilitators, Industry partners, and researchers) from a broad set of institutions to be exploited in the support of radically expanding set of computational platforms, and (3) the Innovation Space, will enable new disruptive technologies to be introduced, evaluated, and used by researchers on a pilot basis, before being (possibly) integrated into full production use.

### **Speaker Bios**



**Wayne Gilmore** is the Director of the Research Computing Services (RCS) group within BU's Information Services & Technology department and a Co-Director for the Cyberinfrastructure Research & Innovation Lab at the Hariri Institute for Computing. The RCS group provides computing and visualization resources and services to support research that has specialized or highly intensive computation, storage, bandwidth, or graphics requirements. Typical applications include scientific and engineering simulation, data analysis, and visualization. With over 20 years of experience planning, implementing, and managing University-wide research computing solutions and projects, Wayne has been instrumental in coordinating with four other area universities to design and launch the Massachusetts Green High Performance Computing Center (MGHPCC).



**Scott Yokel**, PhD, joined Harvard Research Computing in February 2015 as Senior Team Lead of HPC and transitioned to the Director in 2017. He is actively involved in XSEDE Campus Champion as Region 7 Champion and NSF projects: ACI-REF (Research Education & Facilitation), CyberTeam at MGHPCC, DIBBS project NESE (North East Storage Exchange), and CI Workforce Development in CaRCC.

Prior to making the move from Dallas to Boston, he was Manager of HPC Services and Chemistry Faculty at University of North Texas. His research domain expertise is in Computational Chemistry with an overlap of Materials Science and Mechanical Engineering. Having been on both sides of HPC, as a researcher for 9 years and administrator for 16 years, he values the importance of providing efficient and streamlined computing resources that expedite the process of scientific breakthroughs. When not staring at the screen, he enjoys cycling and hiking through the New England countryside.

Follow: @compchemguy