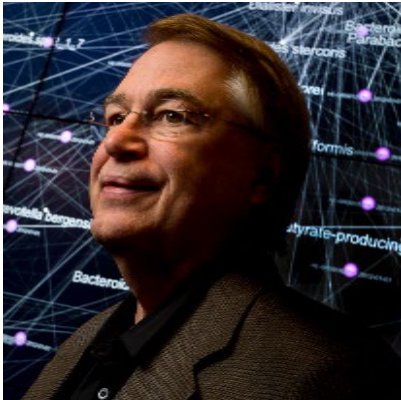


Data Science Seminar Series

Toward a National Research Platform to Enable Data-Intensive Computing



Larry Smarr, Ph.D.

**Distinguished Professor Emeritus
University of California, San Diego**

Date: Wednesday, October 27th, 2021

Time: 4:00 PM – 5:00 PM EDT

Location: Zoom Virtual Room

Web Link: <https://njit-institute-for-data-science.eventbrite.com>

Three current NSF grants [the Pacific Research Platform (PRP), the Cognitive Hardware and Software Ecosystem Community Infrastructure (CHASE-CI), and Toward a National Research Platform (TNRP)] create a regional, national, to global-scale cyberinfrastructure, optimized for machine learning research and data analysis of large scientific datasets. This integrated system, which is federated with the Open Science Grid and multiple supercomputer centers, uses 10 to 100Gbps optical fiber networks to interconnect, across 30 campuses, nearly 200 Science DMZ Data Transfer Nodes (DTNs). The DTNs are rack-mounted PCs optimized for high-speed data transfers, containing multicore-CPUs, two to eight GPUs, and up to 256TB of disk each. Users' containerized software applications are orchestrated across the highly instrumented PRP by open-source Kubernetes, enabling easy access to commercial clouds as needed. I will describe several of the most active of PRP's 400 user namespaces, which support a wide range of data-intensive disciplines.

Dr. Larry Smarr is a University of California San Diego Distinguished Professor Emeritus in UCSD's Department of Computer Science and Engineering. For the last 20 years he served as the founding Director of the California Institute for Telecommunications and Information Technology (Calit2), a UC San Diego/UC Irvine partnership. He was earlier the Founding Director of the National Center for Supercomputing Applications (NCSA). In 2006, he received the IEEE Computer Society Tsutomu Kanai Award for his lifetime achievements in distributed computing. Smarr continues to provide national leadership in advanced cyberinfrastructure, currently serving as Principal Investigator on three NSF CI research grants (PRP, CHASE-CI, and TNRP). He received his Physics PhD in 1975 from the University of Texas at Austin and did postdoctoral research at Princeton, Harvard, and Yale, before becoming a Professor of Physics and of Astronomy at UIUC in 1979. Smarr is a member of the National Academy of Engineering and a Fellow of the American Physical Society and has served on top level advisory committees to NIH, NASA, NSF, and DOE.