

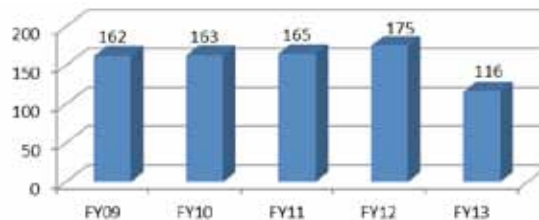
FACTS & FIGURES

Proposal Success Rate

	FY09	FY10	FY11	FY12	FY13
Proposals Submitted	81	119	92	116	94
Proposals Funded	43	44	44	51	40
Success Rate	53%	37%	48%	44%	43%

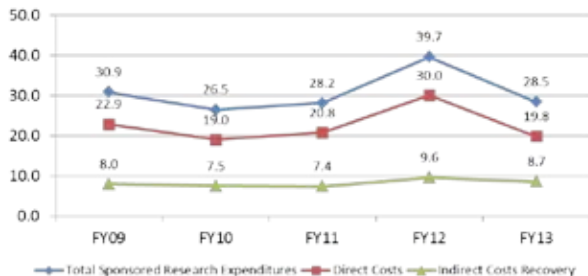
In perhaps the most competitive landscape for federal funding in the last two decades, SDSC's overall success rate on federal proposals is currently 45%, compared to a national average of roughly 15% for computer science and engineering proposals at the National Science Foundation.

Number of Sponsored Research Awards



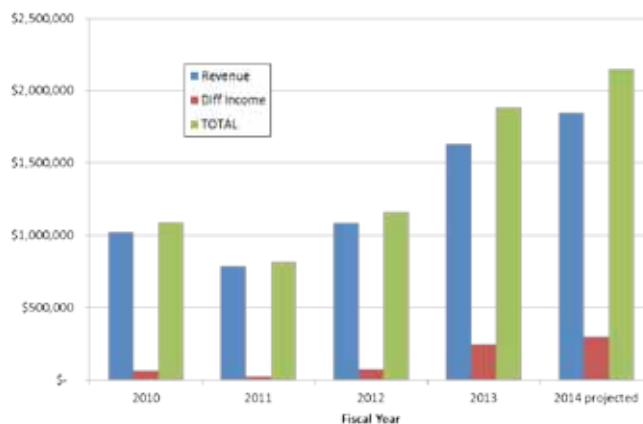
FY13 decline represents a shift to fewer awards with larger budgets.

Sponsored Project Expenditures (\$M)



Apart from the extraordinary research impact of SDSC collaborations and partnerships, a quick look at the fiscal impact of these collaborations is impressive. During its 27-year history, SDSC revenues have exceeded \$1 billion, a level of sustained funding matched by few academic research units in the country. In the above graph, FY12 expenses are higher due to a \$10M hardware purchase for NSF's *Gordon* Supercomputer. While the graph shows a decline in FY13 expenditures due to the FY12 acquisition, the SDSC award base has remained stable.

Industry Revenue Data 2010-2014 (projected)



Geographical Distribution of National Users of SDSC HPC Resources

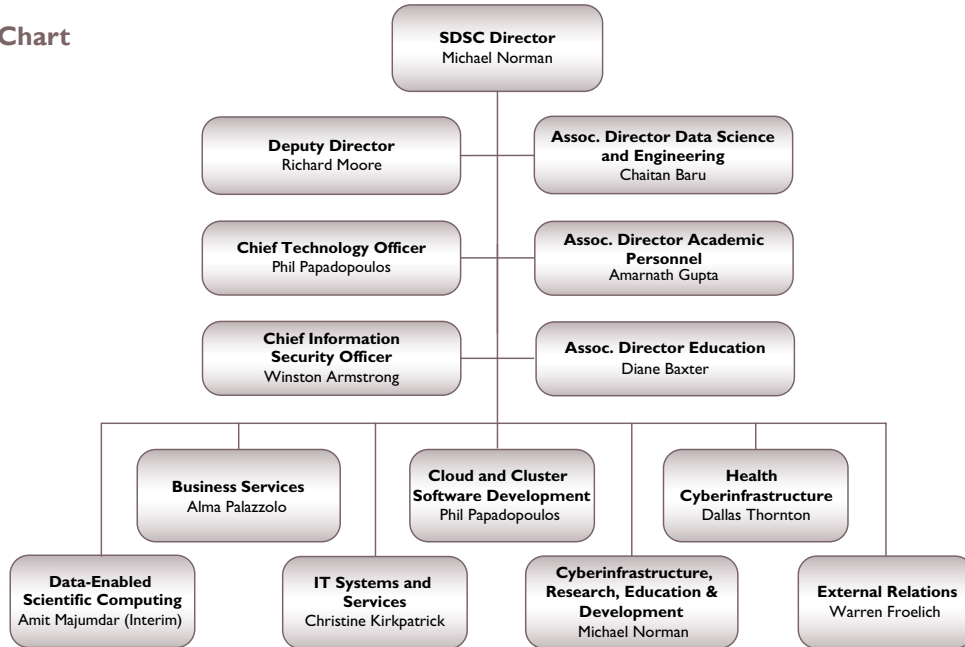


A total of 957 unique users from around the world accessed SDSC's HPC resources (*Gordon* and *Trestles*) during FY2013. Of these users, 916 were based in the United States. The adjacent map displays a geographic disbursement of users from different cities across the U.S.

On *Gordon*, a total of 85,423,681 service units (SUs) were used, 94% of which were charged against XSEDE accounts. On *Trestles*, a total of 58,740,999 SUs were used, 98% of which were charged against XSEDE accounts.

ORGANIZATION & LEADERSHIP

SDSC Org Chart



Executive Team

- Chaitanya Baru**
Assoc. Director Data Science and Engineering

- Warren Froelich**
Division Director External Relations

- Ronald Bruce Hawkins**
Director Industry Relations

- Christine Kirkpatrick**
Division Director IT Systems and Services

- Richard Moore**
Deputy Director

- Michael Norman**
SDSC Director

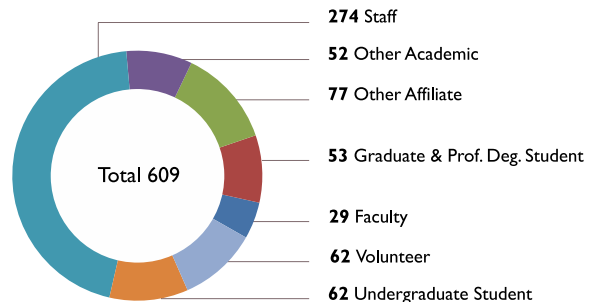
- Alma Palazzolo**
Division Director Business Services

- Philip M. Papadopoulos**
Division Director Cloud & Cluster Software Development

Executive Committee

- | | |
|---|--|
| <ul style="list-style-type: none"> UC SAN DIEGO Sandra Brown Mark Ellisman Michael Holst J. Andrew McCammon John Orcutt Tajana Rosing Nicholas Schork Brian Schottlaender Robert Sullivan Susan Taylor | <ul style="list-style-type: none"> SDSC Chaitanya Baru Philip Bourne Warren Froelich Ronald Bruce Hawkins Christine Kirkpatrick Richard Moore Michael Norman Alma Palazzolo Philip M Papadopoulos Dallas Thornton |
|---|--|

SDSC Census FY2013



RESEARCH EXPERTS

SDSC Computational Scientists

Laura Carrington, Ph.D.

Director, Performance, Modeling, and Characterization Lab, SDSC
Principal Investigator, Institute for Sustained Performance, Energy, and Resilience (DoE)
HPC benchmarking, workload analysis
Application performance modeling
Energy-efficient computing
Chemical engineering

Dong Ju Choi, Ph.D.

Senior Computational Scientist, SDSC
HPC software, programming, optimization
Visualization
Database and web programming
Finite element analysis

Yifeng Cui, Ph.D.

Director, High-performance GeoComputing Laboratory, SDSC
Principal Investigator, Southern California Earthquake Center
Senior Computational Scientist, SDSC
Adjunct Professor, San Diego State University
Earthquake simulations
Parallelization, optimization, and performance evaluation for HPC
Multimedia design and visualization

Andreas Goetz, Ph.D.

Co-Director, CUDA Teaching Center
Quantum Chemistry
Molecular Dynamics
ADF and AMBER developer
GPU accelerated computing

Glenn K. Lockwood, Ph.D.

SDSC User Services Consultant
High-performance computing
Materials science
Molecular dynamics
Large-scale genomic analysis
XSEDE

Amit Majumdar, Ph.D.

Interim Division Director, Data Enabled Scientific Computing, SDSC
Associate Professor, Department of Radiation Medicine and Applied Sciences, UCSD
Algorithm development
Code optimization
Code profiling/tuning
Science Gateways
Nuclear engineering

Michael Norman, Ph.D.

Director, San Diego Supercomputer Center
Distinguished Professor, Physics, UCSD
Director, Laboratory for Computational Astrophysics, UCSD
Computational astrophysics

Dmitri Pekurovsky, Ph.D.

Member, Scientific Computing Applications group, SDSC
Optimization of software for scientific applications
Performance evaluation of software for scientific applications
Parallel 3-D Fast Fourier Transforms
Elementary particle physics (lattice gauge theory)

Wayne Pfeiffer, Ph.D.

Distinguished Scientist, SDSC
Supercomputer performance analysis
Novel computer architectures
Bioinformatics

Bob Sinkovits, Ph.D.

Scientific Applications Lead
Gordon applications
Data-intensive high-performance computing
Computational physics and fluid dynamics
Bioinformatics
Relationship databases
Compute clusters systems administration

Mahidhar Tatineni, Ph.D.

User Support Group Lead, SDSC
Research Programmer Analyst
Optimization and parallelization for HPC systems
Aerospace engineering

Igor Tsigelny, Ph.D.

Research Scientist, SDSC
Research Scientist, Department of Neurosciences, UCSD
Computational drug design
Personalized cancer medicine
Gene networks analysis
Molecular modeling/molecular dynamics
Neuroscience

Rick Wagner, Ph.D. candidate

High-performance Computing Systems Manager
Large-scale Linux-based high-performance computing clusters
Cyberinfrastructure systems architecture and design
Computational astrophysics

Ross Walker, Ph.D.

Director, Walker Molecular Dynamics Lab
Co-Director, CUDA Teaching Center
Director, Intel Parallel Computing Center
Molecular dynamics
Quantum chemistry
GPU accelerated computing

Nancy Wilkins-Diehr, M.S.

Co-Principal Director, XSEDE at SDSC
Co-Director for Extended Collaborative Support, XSEDE
Science gateways
User services
Aerospace engineering

SDSC Data Scientists

Ilkay Altintas, Ph.D.

Director, Workflows for Data Science (WorDS) Center of Excellence
Director, Scientific Workflow Automation Technologies (SWAT) Laboratory
Lecturer, Computer Science and Engineering @ UCSD
Assistant Research Scientist, SDSC
Scientific workflows
Big Data applications
Distributed computing
Reproducible science
Kepler Scientific Workflow System

Michael Baitaluk, Ph.D.

Assistant Research Scientist, SDSC
Principal Investigator, Biological Networks, SDSC
Scientific data modeling and information integration
Gene networks
Systems and molecular biology
Bioinformatics

Natasha Balac, Ph.D.

*Director, Predictive Analytics Center of Excellence, SDSC
Director of Data Application and Services, SDSC*

Data mining and analysis
Machine learning
Predictive analytics
Data-intensive computing
Big Data analytics

Chaitan Baru, Ph.D.

*SDSC Distinguished Scientist
Director, Center for Large-scale Data Systems research (CLDS), SDSC
Associate Director, Data Science and Engineering, SDSC*

Data management
Large-scale data systems
Data analytics
Parallel database systems

Amit Chourasia, M.S.

Senior Visualization Scientist, SDSC

*Lead, Visualization Services Group
Principal Investigator, SEEDME.org*
Visualization and computer graphics
Ubiquitous Sharing Infrastructure

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Research Scientist, CAIDA (Cooperative Association for Internet Data Analysis)

Internet measurements
Traffic analysis
Network security
Large-scale internet events

Amogh Dhamdhere, Ph.D.

Assistant Research Scientist, CAIDA (Cooperative Association for Internet Data Analysis)

Internet topology and traffic
Internet economics
IPv6 topology and performance
Network monitoring and troubleshooting

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Director/Principal Investigator, CAIDA (Cooperative Association for Internet Data Analysis), SDSC

Adjunct Professor, Computer Science and Engineering, UCSD
Internet data collection, analysis, visualization
Internet infrastructure development of tools and analysis
Methodologies for scalable global Internet

Amarnath Gupta, Ph.D.

*Associate Director, Academic Personnel
Director of the Advanced Query Processing Lab, SDSC
Co-principal investigator, Neuroscience Information Framework (NIF) project, Calit2*

Bioinformatics
Scientific data modeling
Information integration and multimedia databases
Spatiotemporal data management

Mark Miller, Ph.D.

*Principal Investigator, Biology, SDSC
Principal Investigator, CIPRES gateway, SDSC/XSEDE
Principal investigator, Research, Education and Development group, SDSC*

Structural biology/crystallography
Bioinformatics
Next-generation tools for biology

Dave Nadeau, Ph.D.

Senior Visualization Researcher, SDSC

Data mining
Visualization techniques
User interface design
High-dimensionality data sets
Software development
Audio synthesis

Philip M. Papadopoulos, Ph.D.

*Chief Technology Officer, SDSC
Division Director, Cloud and Cluster Software Development, SDSC
Associate Research Professor (Adjunct), Computer Science, UCSD*

Rocks HPC cluster tool kit
Virtual and cloud computing
Data-intensive, high-speed networking
Optical networks/OptPuter
Prism@UCSD

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Senior Research Scientist, SDSC
Structural bioinformatics
Bioinformatics & systems biology
Immunoinformatics & Immune Epitope Database (IEDB)
Biological data integration & integrative analysis

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Senior Scientist / Associate Project Scientist, Protein Data Bank
Bioinformatics
Structural biology
Computational biology
Protein Data Bank

Peter Rose, Ph.D.

Scientific Lead, Protein Data Bank
Structure-based drug design
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Metadata

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Lecturer, Computer Science & Engineering, UCSD*
Scientific workflow automation
Data-intensive computing

Hans-Werner Braun

*Research Scientist, SDSC
Adjunct Professor, College of Sciences, SDSU
Director/PI, High Performance Wireless Research and Education Network (HPWREN)*
Internet infrastructure, measurement/analysis tools
Wireless and sensor networks
Internet pioneer (PI, NSFNET backbone project)
Multi-disciplinary and multi-institutional collaborations

Ilya Zaslavsky, Ph.D.

Director, Spatial Information Systems Laboratory, SDSC
Spatial and temporal data integration/analysis
Geographic information systems
Hydrology
Spatial management infrastructure

Andrea Zonca, Ph.D.

HPC Applications Specialist
Data-intensive computing
Data visualization
Cosmic microwave background
Python development