
OSG Research Facilitation

Engaging Researchers and Campuses

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Area Coordinator, Researcher Facilitation



Open Science Grid 1

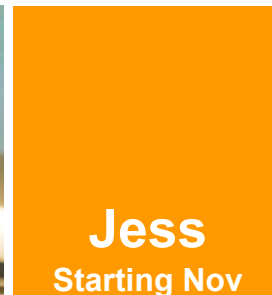
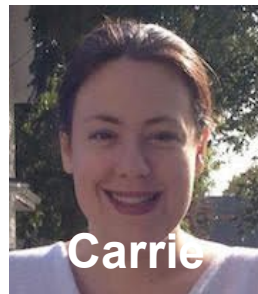
OSG Research Facilitation



Services & Resources

- HTC Facilitation
(*OSG Connect, XD allocations*)
- Campus Integration
Facilitation
- Education and Training

(*Multi-I Science Teams via U Chicago
"Collaboration Support"*)



+help from software, facOps, Ops teams!!

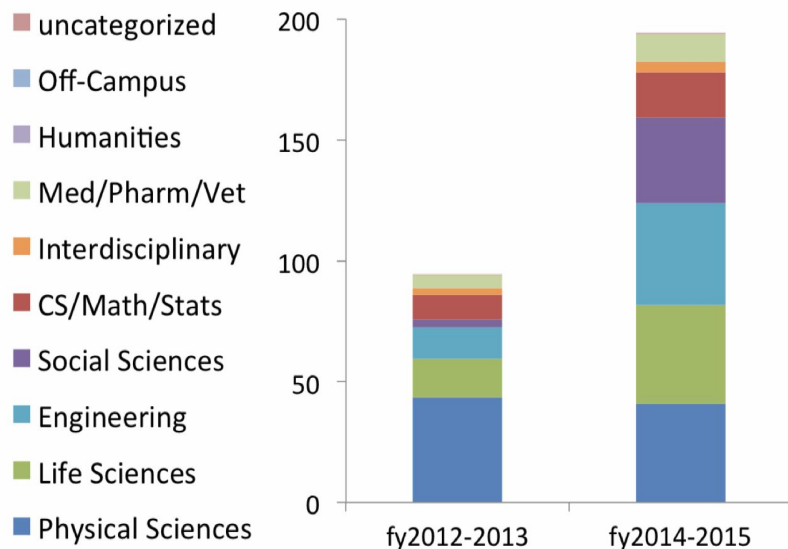
<http://support.opensciencegrid.org2>



Impact Across Domains



Millions of CPU Hours via CHTC



**Facilitators hired:
Jan 2013, Nov 2014**

Future Directions for **NSF ADVANCED COMPUTING INFRASTRUCTURE**

to Support U.S. Science
and Engineering
in 2017–2020

Future Directions for NSF ADVANCED

In the middle of page 10...

... well-established peer of theory and experimentation. Increased capability has historically enabled new science, and many fields increasingly rely on **high-throughput** computing....

In the middle of page 13...

... Many fields increasingly rely on **high-throughput** computing that requires a greater aggregate amount of computing than a typical university can be expected to provide. Such applications can be run ...

In the middle of page 15...

... require a single, large, tightly coupled parallel computer and (b) broaden the accessibility and utility of these large-scale platforms by allocating **high-throughput** as well as high-performance workflows to them....

in 2017–2020

OSG Research Facilitation



Proactive Engagement

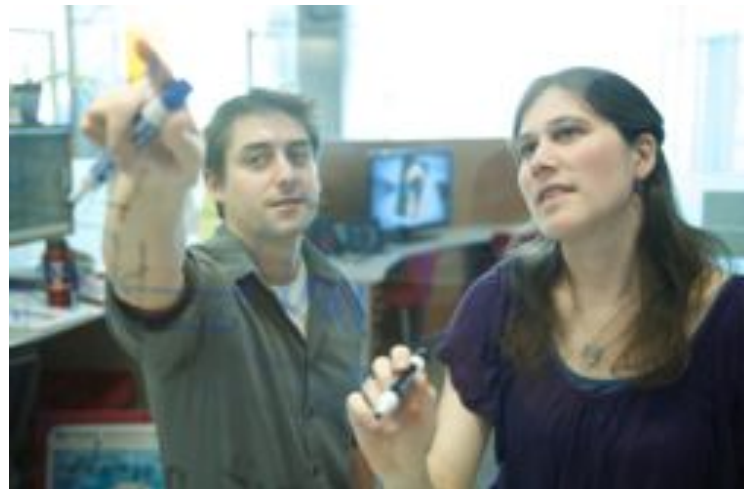
meet with every new participant

Personalized Guidance & Support

Teach-to-fish Training

Collaboration Liaising

Inward and Upward Advocacy

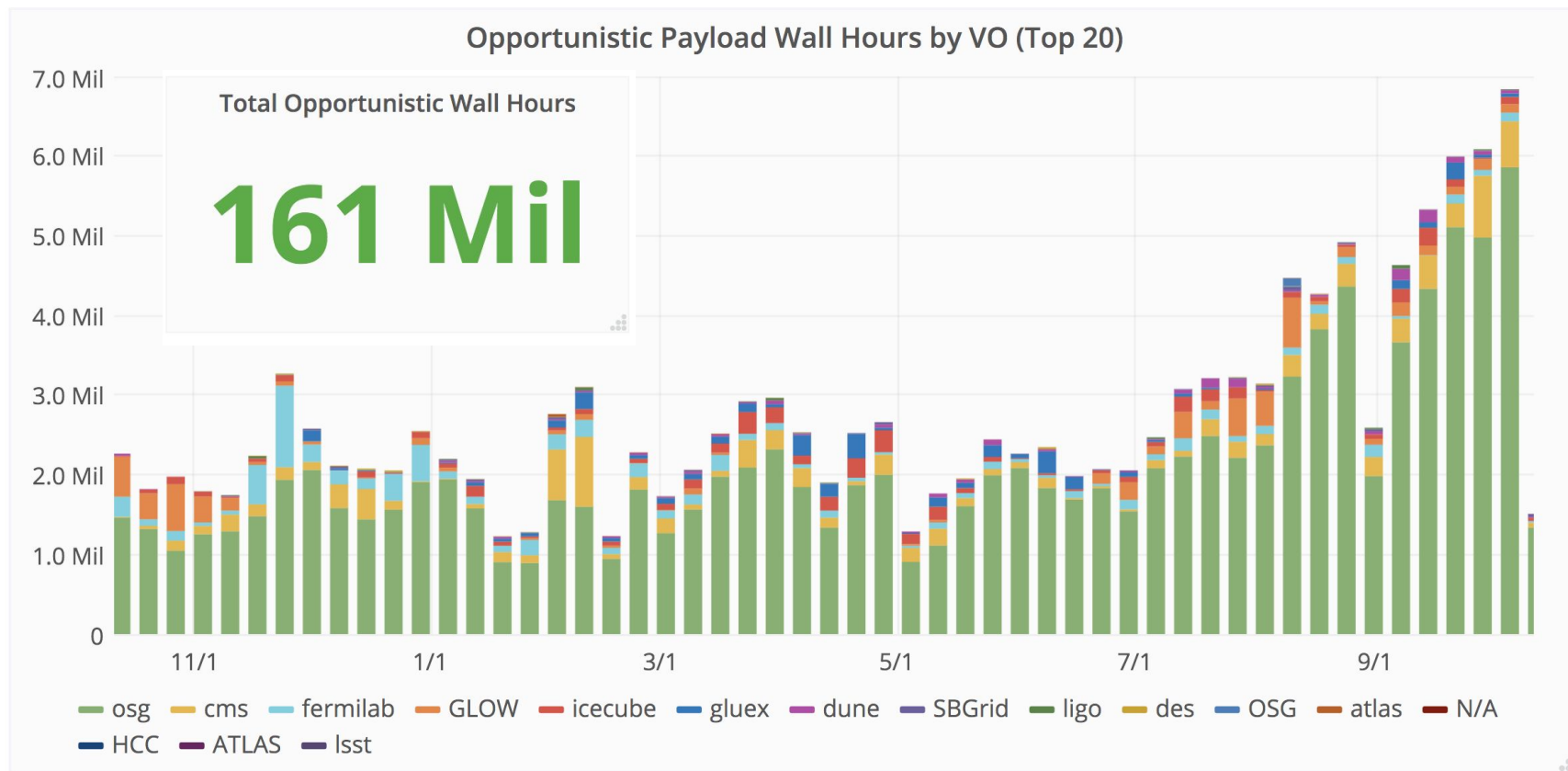


To Scale Out HTC/OSG Impacts...



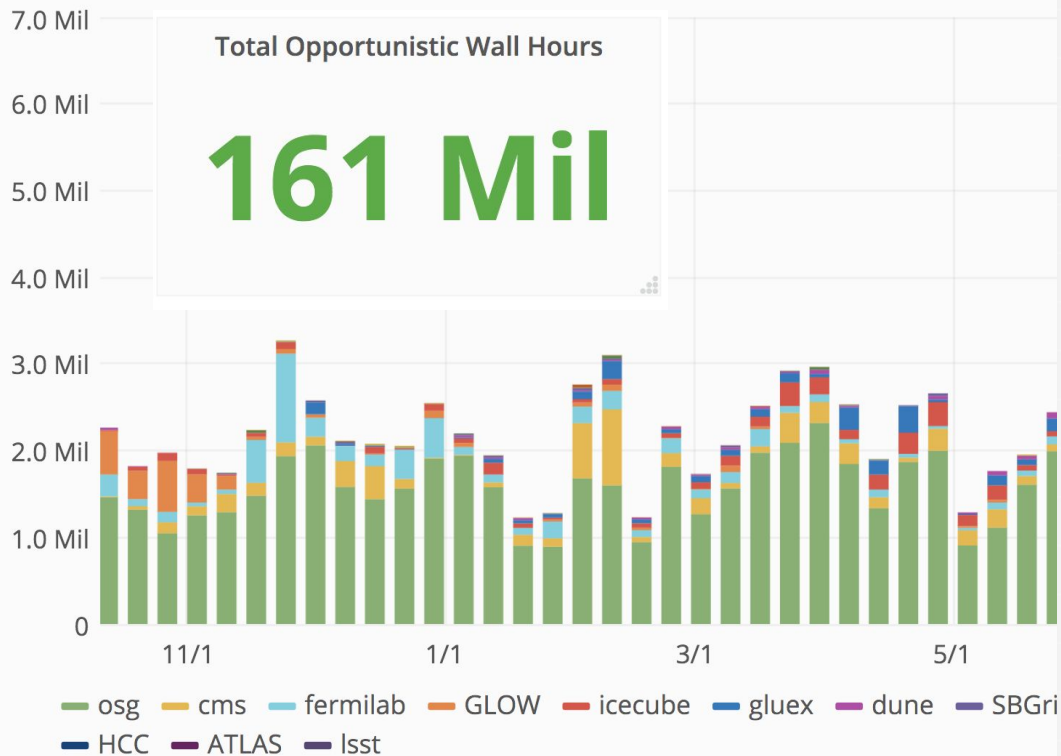
- Standardize and streamline **campus**- and **researcher**-centric processes, services, and support
 - **OSG Connect** onboarding experience, docs, ongoing support
 - **Hosted CEs** for campus resource sharing
 - **Submit Nodes** and **Data Federation** for campuses, with some amount of OSG administration
 - **Accounting** improvements
- Scale out **HTC** and **Facilitation** via **campuses** to reach more **researchers**!
 - Increase **Outreach** via campuses
 - Produce **Training Materials** for campuses to use/repurpose
 - Engage campus teams via an **HTC Facilitation Community**
- **Think more diversely!**

Opportunistic Usage *in the Last Year*



Opportunistic Usage *in t*

Opportunistic Payload Wall Hours by V



Top 20 Sites Providing Opportunistic Usage

Facility	Sum
Syracuse University	88.67 Mil
University of Chicago	16.76 Mil
Fermi National Accelerator Laboratory	12.80 Mil
University of Nebraska	7.60 Mil
University of Colorado	7.37 Mil
University of Wisconsin	4.85 Mil
Brookhaven National Laboratory	4.33 Mil
University of California San Diego	4.07 Mil
Bellarmino University	3.15 Mil
University of Michigan	2.52 Mil
California Institute of Technology	1.70 Mil
CancerComputer	1.59 Mil
Massachusetts Institute of Technology	1.26 Mil
Universidade Estadual Paulista	793.05 K
University of Utah	762.82 K
University of Florida	753.02 K
American Museum of Natural History	452.23 K
New Mexico State University	403.50 K
Louisiana State University	182.29 K
University of Puerto Rico - Mayaguez	133.81 K

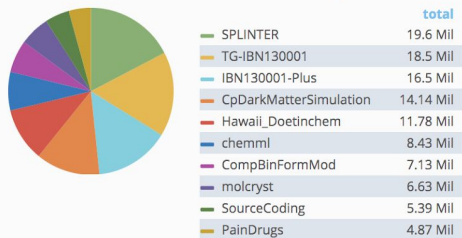
All OSG Connect/Campus Usage (including campus and XD - **60+ total campuses**)



Total Wall Hours

160 Mil

Total Wall Hours for Top 10 Projects



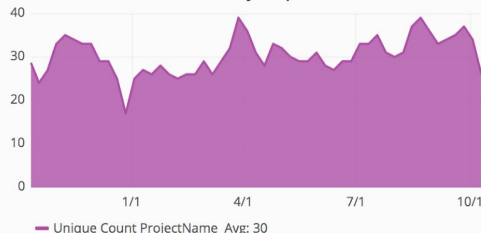
Total Jobs

134.7 Mil

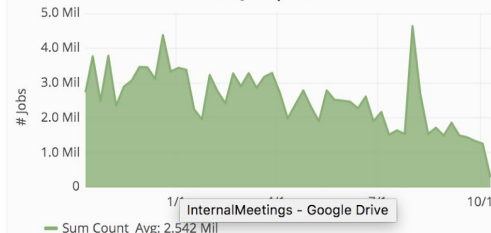
Wall Hours per 7d



Active Projects per 7d



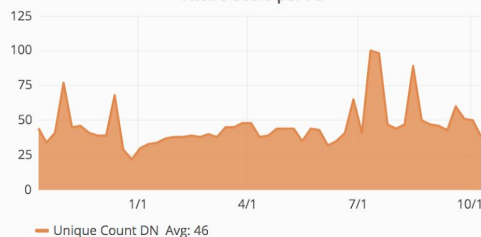
Total Jobs per 7d



Active Users

375

Active Users per 7d



Active Projects

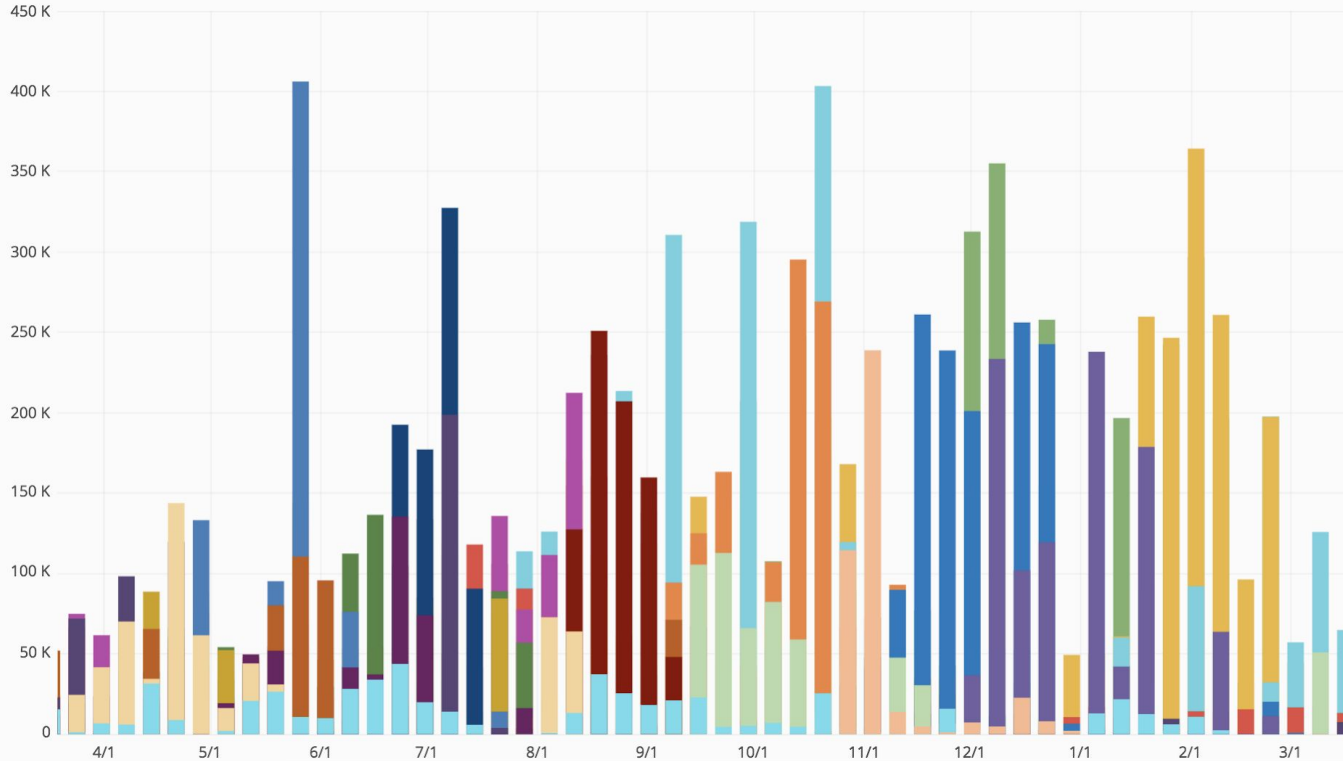
124

OSG Connect Usage Patterns

(OSG submit points)



WallHours by User



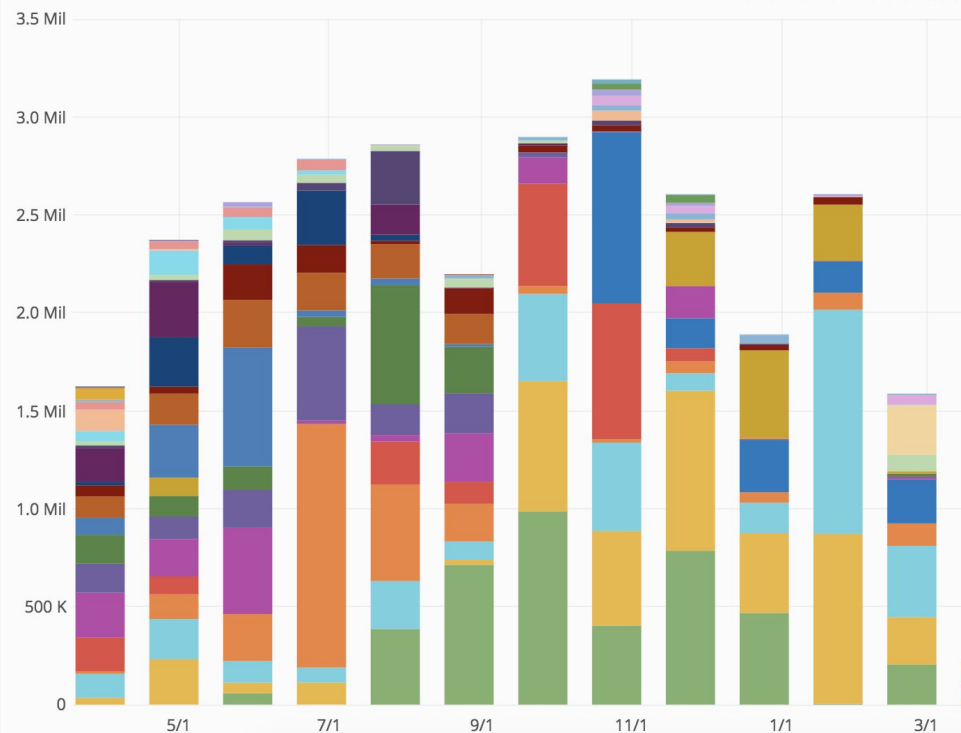
	total
/OU=LocalUser/CN=	3.9117 Mil
/OU=LocalUser/CN=	3.3985 Mil
/OU=LocalUser/CN=	3.1417 Mil
/OU=LocalUser/CN=	1.8867 Mil
/OU=LocalUser/CN=	1.7354 Mil
/OU=LocalUser/CN=	1.3900 Mil
/OU=LocalUser/CN=	1.2706 Mil
/OU=LocalUser/CN=	1.1213 Mil
/OU=LocalUser/CN=	1.0621 Mil
/OU=LocalUser/CN=	1.0332 Mil
/OU=LocalUser/CN=	1.0036 Mil
/OU=LocalUser/CN=	903.6 K
/OU=LocalUser/CN=	818.8 K
/OU=LocalUser/CN=	787.7 K
/OU=LocalUser/CN=	674.2 K
/OU=LocalUser/CN=	620.0 K
/OU=LocalUser/CN=	618.1 K
/OU=LocalUser/CN=	604.0 K
/OU=LocalUser/CN=	565.5 K
/OU=LocalUser/CN=	418.1 K

hiding usernames

OSG Connect Fields of Science



Walltime Per Field of Science



Non-PhysSci/Eng

	total
Training	4.020 Mil
Medical Sciences	3.937 Mil
High Energy Physics	3.503 Mil
Astrophysics	2.694 Mil
Engineering	1.887 Mil
Physical Chemistry	1.736 Mil
Biological Sciences	1.526 Mil
Economics	1.324 Mil
Biophysics	1.288 Mil
Evolutionary Sciences	1.121 Mil
Statistics	1.043 Mil
Physics and astronomy	1.033 Mil
Chemistry	733 K
Ecological and Environmental Sciences	674 K
Bioinformatics	635 K
Zoology	411 K
Physics	388 K
Fluid Dynamics	301 K
Computational Condensed Matter Physics	283 K
Neuroscience	200 K
Biological and Critical Systems	184 K
Computer and Information Science and Engineering	161 K
Chemical Engineering	138 K
Multi-Science Community	90 K

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CC* Support



Campus Cyberinfrastructure (CC*)

PROGRAM SOLICITATION

NSF 19-533

REPLACES DO
NSF 18-508



National
Directorate
Office
Division

Proposals should commit to a minimum of 20% shared time on the cluster and describe their approach to making the cluster available as a shared resource external to the campus, with access and authorization according to local administrative policy.

Conversely, the proposal should describe the approach to providing **on-demand** access to additional external computing resources to its targeted on-campus users and projects. One possible approach to implementing such a federated distributed computing solution is joining the **Open Science Grid**. Whatever opportunistic, federated, scalable, distributed

Full Proposal Deadline(s) (due by 5 p.m. submitter's local time):

February 20, 2019

CC* Solicitation Outcomes To-Date



Institutions (accepted 2019 CC* in bold)	Existing Partner	Contact Since	CC* PI Meeting	Prior Hosted CE	New Hosted CE	Users to OSG Connect	HTC Facilitation	OSG School	Local Submit
* American Museum Natural History		x	x		x	x	x	x	x
Clarkson University		x	x			x			
The College of New Jersey		x	x		x				
Franklin and Marshall College			x						
* Georgia Tech	(x)	x	x	x		x			
* University of California-San Diego	x		x	(x)				(x)	(x)
* University of Connecticut	x		x						(x)
University of Montana		x	x						
University of Notre Dame	(x)		x						
University of Tennessee Chattanooga			x						
* Wayne State University	x	x	x		x	x			
CalTech	x		x	x					
Claflin University		x	x						
* LSU Health Sciences Center		x	x			x	x		
* University of Central Florida		x	(x)			x			
University of Cincinnati		x	x						
Texas A&M		x	(x)			x	x		

HTC/OSG Outreach and Training



'Megaphone' Approach:

- Reach the most ***campus facilitators*** and ***gateway developers***
- Support campuses in executing their own ***campus trainings***



Support for Building & Running Gateways



Consulting
Services



Gateway Catalog with
Projects and Software Components



Hosting Services

OSG School 2019



July 15-19

55 learners, including 8 research CI staff

8 instructors, 4 helpers (2 returning/non-OSG CI staff)



New: HTC Facilitation Training

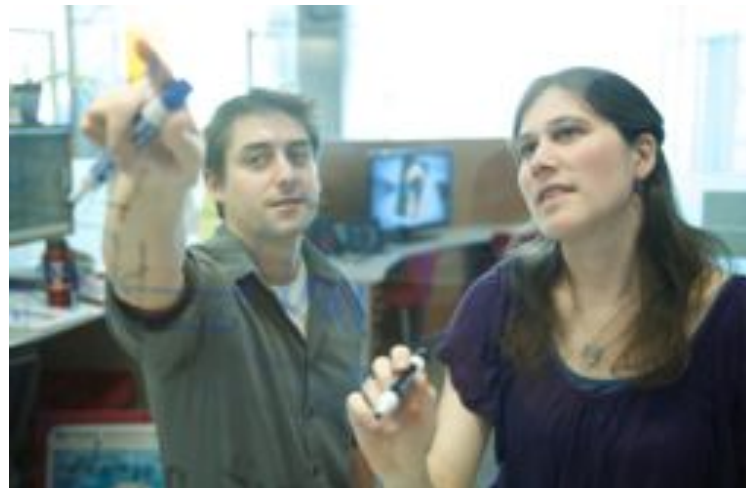


Shadowing

- Observe facilitation of OSG Connect users from your campus
- Send your team to shadow OSG Facilitators for a week!

HTC Facilitation Community

- email list, virtual community calls
- some training topics presented by OSG Facilitators



Hiring

- Consultation on job descriptions and hiring process for Facilitators

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