

Yale

Center for Research Computing

Y|CRC

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<http://research.computing.yale.edu>

CASC Beyond Hardware Working Group

Spring 2016

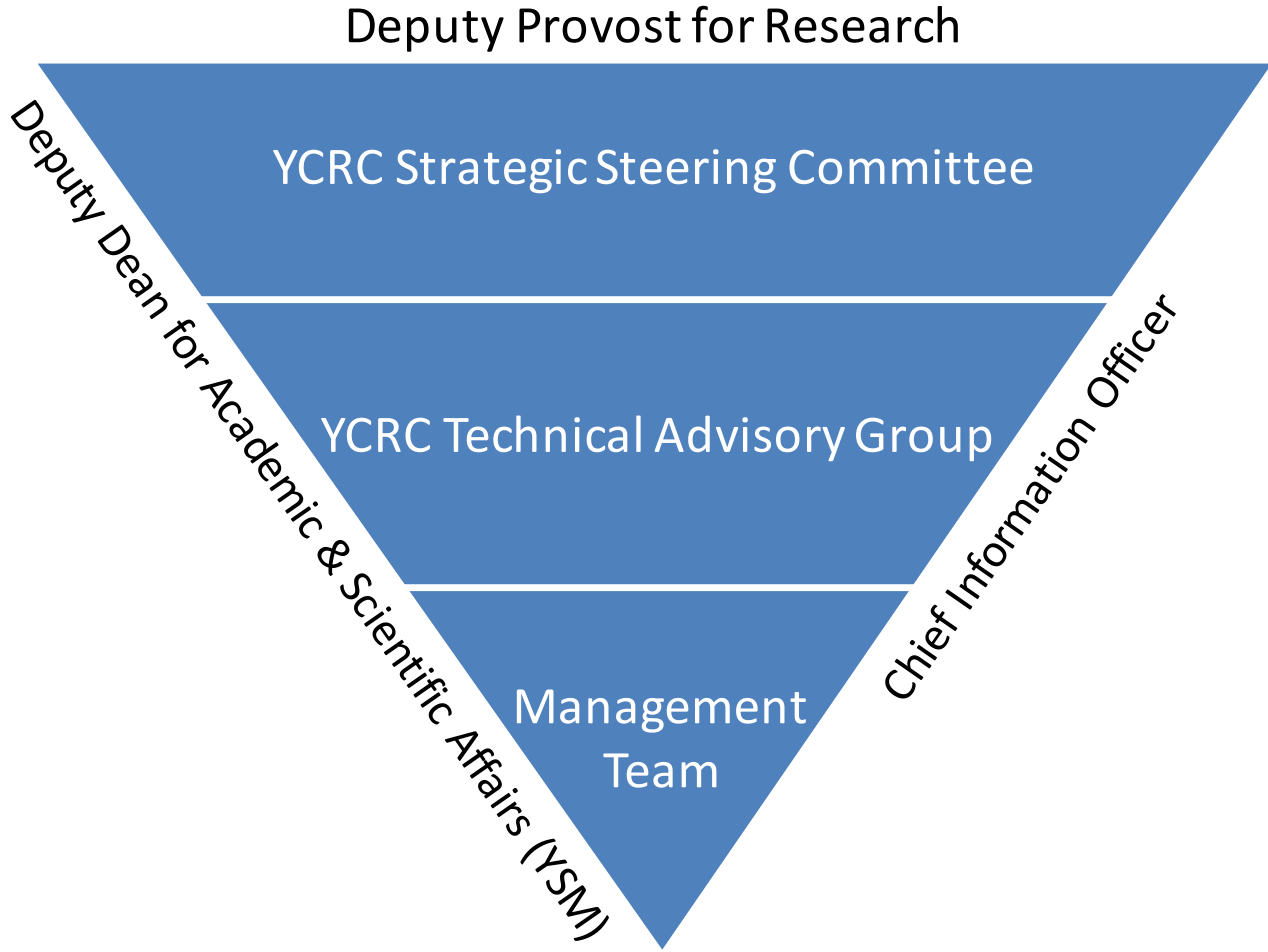
Yale Center for Research Computing

- **Organization**: Free-standing Center reporting to Deputy Provost for Research and the Deputy Dean for Academic & Scientific Affairs at the Yale School of Medicine
- **Faculty Co-Directors**
 - Daisuke Nagai (Associate Professor of Physics & Astronomy)
 - Harlan Krumholz (Harold H. Hines, Jr. Professor of Medicine)
- **Executive Director**: Kiran Keshav
- **Management Team**
 - Kiran Keshav, Executive Director
 - Andrew Sherman, Senior Research Scientist & Lecturer in Computer Science
 - Robert Bjornson, Senior Research Scientist in Computer Science;
Director of IT for Yale Center for Genome Analysis
- **Other YCRC Staff**
 - Engineering (Paul Gluhosky): 5 staff (incl. 2 open positions)
 - Faculty of Arts & Sciences Research Support (Sherman): 3 staff
 - Biomedical/YCGA Research Support (Bjornson): 2 staff (plus 1 opening)
 - Non-HPC Research Technologies: 3 staff

YCRC HPC Facilities

Cluster	Nodes	Cores	Mem/ Core	Network	Storage	Users
Grace	240+	4800+	6 GB	FDR IB	2 PB GPFS	FAS & Small Condos
Omega	1000+	8500+	4-6 GB	QDR IB	1.4 PB Lustre	Climatology; Energy Sciences; Astrophysics; High-Energy Physics; General FAS
Milgram	12	240	6 GB	10 GbE	275 TB	Psychology (HiPAA fMRI)
Louise	300+	3450+	4-8 GB	1/10 GbE	3 PB (shared)	Genomics; Biomedical
BulldogN	150	2350+	4-8 GB	1/10 GbE		YCGA (Genomics)
Ruddle	150	3000+	6 GB	10 GbE	2 PB GPFS	YCGA (Genomics) [replacing much of BulldogN]

YCRC Governance



YCRC Activities and Responsibilities

Cyberinfrastructure

- HPC clusters
- HPC data storage
 - Home & local 60-day scratch
 - Shared perm. project space
- Research data management
 - Integration with campus-wide “Storage@Yale” tiers
 - Integration with lab storage
- Science Network & DMZ

Research & Teaching Support

- Dedicated support (YCGA, G&G)
- HPC software & algorithm installations, tuning & consultation
- Support for science & engineering software applications
- National infrastructure assistance
- Grant preparation
- Faculty recruitment (startup pkgs)
- HPC support for classes

Education & Training

- Parallel Computing (credit class)
- Research Computing Workshops
 - Getting Started
 - Python
 - Parallel R
 - Vendor workshops

Community

- CASC
- XSEDE Campus Champions (2)
- ACI-REF, ACI-REF-VR
- Northeast BD Hub
- LCI