Parallel Computing Resources @ UMD

Overview of Available Clusters at UMD

Cluster Name	# Node	Access
Deepthought 2	488	CMNS/ENGR
MARCC/Bluecrab	846	All
BSWIFT	40	BSOS
Juggernaut	20	CMNS/ENGR

Deepthought 2

- UMD's premier high performance computing cluster
- Suitable for highly parallelized tasks, some gpu computing capability, excellent for simulation

WHO HAS ACCESS?

Department/College	Contact	E-Mail
School of Engineering	Jim Zahnsier	zahnsier@umd.edu
CMNS	Mike Landavere	mike@umd.edu
Astronomy	Derek Richardson	dcr@astro.umd.edu
Atmos/Oceanic Sciences	James Carton/Kayo Ide	carton@atmos.umd.edu / ide@umd.edu
IPST	Alfredo Nava-Tudela	ant@umd.edu
Physics	Jeff McKinney	mckinney@umd.edu

Specs

Newest Processor Generation	# Nodes	Cores/Node	Total Cores	Memory/Node (GB)	# GPU
2.8 GHz Intel Ivy Bridge	488	20 (some 40)	9840	128 (1024 for some nodes)	144

MARCC/Bluecrab

- Joint UMD/Hopkins cluster, largest compute facility accessible to UMD researchers
- Time is allocated in service units, no default access, application must be submitted by advisor (see here for details), small amount of free development allocation available per PI
- Broad suitability for **all** tasks, -very- high number of CPU nodes, GPU nodes recently installed

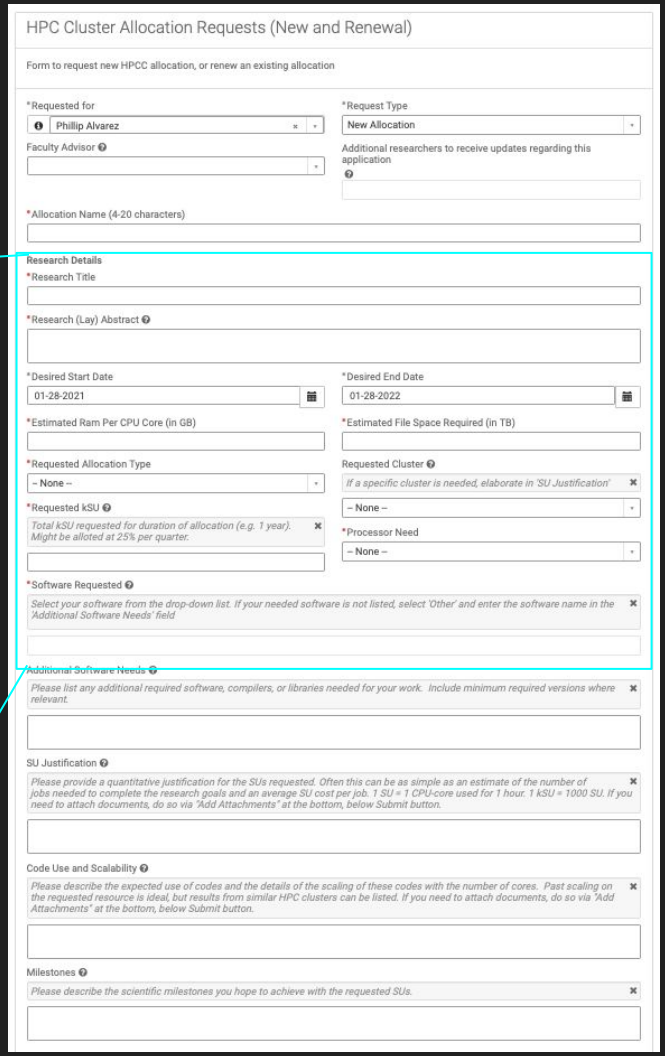
CONTACTS FOR INFO

Department/College	Contact	E-Mail
Chem/Bio ENG	Jeffrey Klauda	jbklauda@umd.edu
Mech ENG	Johan Larsson	jola@umd.edu
Astronomy	Derek Richardson	dcr@astro.umd.edu
IPST	Pratyush Tiwary	ptiwary@umd.edu

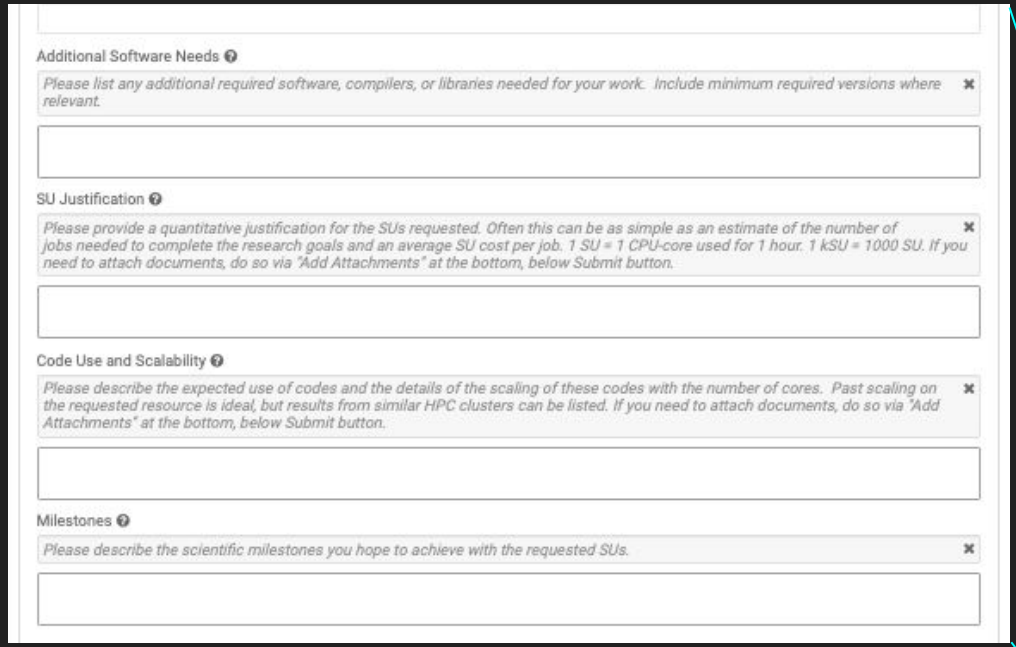
Specs

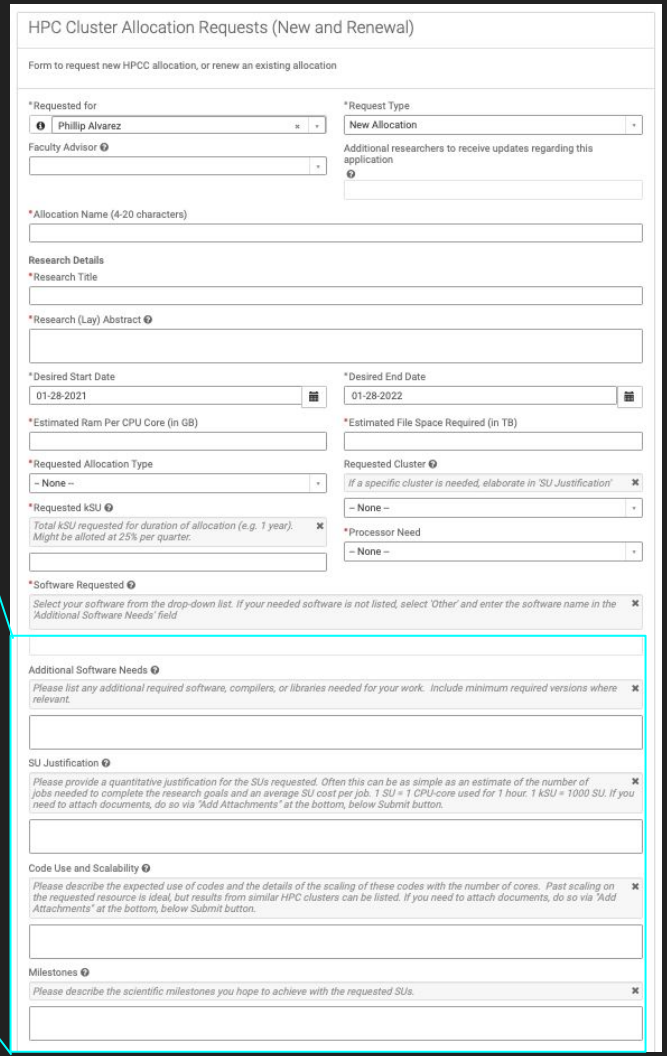
Newest Processor Generation	# Nodes	Cores/Node	Total Cores	Memory/Node (GB)	# GPU
2.6 GHz Broadwell	846	24-48	21120	5-21	672

Service Unit Application Process



Service Unit Application Process





BSWIFT

- Small compute cluster for BSOS researchers
- Access granted through OACS web interface, scheduling system less formal
- Good for data processing and analysis of large datasets, poor GPU performance

CONTACTS FOR INFO

Contact	E-Mail
OACS Help Desk	oacshelpdesk@umd.edu

Specs

Newest Processor Generation	# Nodes	Cores/Node	Total Cores	Memory/Node (GB)	# GPU
2.66 GHz Intel Nehalem	40	6	560	48	1

Juggernaut

- UMD’s newest cluster, small size but growing
- Grew out of high demand for Deepthought 2
- Excellent for high shared memory and small, high-speed GPU compute applications

CONTACTS FOR INFO

Contact	E-Mail
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Specs

Newest Processor Generation	# Nodes	Cores/Node	Total Cores	Memory/Node (GB)	# GPU
2.5 GHz Intel Cascade Lake	20	6	744	256-1536	6

Let’s Sign Up!

- Please enter the breakout room corresponding to the cluster most applicable to your research
- We will be guiding interested parties through the process of requesting access or filling out a development service unit application