

ROGER Allocations Request

The new CyberGIS supercomputer, **ROGER** (Resourcing Open Geospatial Education and Research), funded through National Science Foundation (NSF) Major Research Instrumentation (MRI) [grant](#), is now available for research allocation request. Located at the National Petascale Computing Facility next to Blue Waters, ROGER is designed especially for geospatial applications requiring advanced cyberinfrastructure. Each computing node has access to over 4 petabytes of high speed persistent storage, 256 gigabytes of local memory, and the connects to external networks at 40Gb/s. ROGER is a uniquely designed system that integrates subsystems dedicated to traditional batch high performance computing (HPC) (a number of which have Nvidia Tesla K40 Graphic Processing Units (GPUs)), data-intensive computing (e.g. Hadoop, Spark), and an OpenStack private cloud, enabling users to take advantage of the best computing paradigm for their needs. Complete technical summary of the system can be found [here](#). On the software side, ROGER now has a number of traditional scientific and geospatial software packages installed and the software capabilities on ROGER continuously evolve in response to the needs of the user community.

ROGER allocations are easy to request with fast approval time. The requests can be made anytime and the process requires a short proposal (maximum of 4 pages, excluding references and bios), in Times New Roman font with font size of 10.5 or greater) with the following information:

1. **Summary (1 page max):** Please provide a one-page summary of the research you plan to pursue using ROGER. Make sure to include a title and a list of PIs/CO-PIs with affiliations and email addresses. Also, highlight the intellectual merit and broader impact of this research work.
2. **Research (3 pages max):** Please describe the specific research problems that will be addressed on ROGER. For each of these research problems, please provide the following information.
 - a. **Experiments and Usage Estimate (~2 pages):** List of experiments planned and what are the expected outcomes of those experiments. Summarize collective usage from all these experiments and provide an estimate of the number of CPU hours needed by your project along with an estimated timeline. This can take the form of $N \text{ cores} * X \text{ hours}$. For estimating this please consider the expected scalability of the software, and provide details of any previous testing you've done with this software on other systems. You can see ROGER's [hardware description here](#). If you propose using data-intensive or OpenStack subsystems instead of (or in addition to) batch HPC, please include other relevant estimates of your usage of those systems (e.g. number of concurrent virtual machines needed and resource requirements of these). If the usage is linked to education activities, please clearly state the education goals or classes that would be taught along with an expected number of students who might be using ROGER resources
 - b. **Team Expertise (~1 page):** You are also expected to clearly address the readiness of your team to conduct the experiments specified above on each of the subsystems being requested. You could, for example, note that the usage is exploratory or code is under development /testing, or the software and data are ready for production use. If your team is in exploratory, development or testing phase, please explain how do you anticipate transitioning to production phase. If you anticipate being production ready immediately, please include past usage of similar resources. Additionally, if your research were data-intensive and you would require >50TB of storage, please clearly summarize the storage needs of your projects. Specifically, state if the project will either host or generate data that would be used by a significant research community.
3. **References (no page limit):** Please include a limited set of representative publications in the research area.
4. **Bio (2 page per PI):** Please include an NSF-style bio for each PI.

The submissions should be sent in a single PDF to help+roger@ncsa.illinois.edu with a subject "ROGER Allocation Request". The ROGER allocation team will meet on a monthly basis to decide on which proposals are to be accepted. If your proposal is accepted, your team will be provided access to ROGER resources for one year, with possibility of renewal.

Any questions on the allocation or proposal to be submitted may also be sent to help+roger@ncsa.illinois.edu with a subject "ROGER Allocation Help"