

POSTDOC MENTORING PLAN

One postdoctoral researcher (PR) at NCSA will be partially funded by this proposal. This PR will be working in the Computing and Data group at NCSA, with primary mentoring provided by Dr. Matthew Turk; the NCSA postdoctoral program also requires that a secondary mentor be identified, regular meetings between the PR and the mentors be maintained, and a personal development plan be developed. We intend for the PR to split their time between development of SSI-related goals and “pure” research goals. This mentoring plan provides guidelines for developing the scientific endeavors of the individual, and skills and reputation in the fields of scientific and data-intensive computing and visualization. **Orientation** will include in-depth conversations between Dr. Matthew Turk and the PR. Mutual expectations will be discussed and agreed upon in advance. Orientation topics will include (a) the amount of independence the PR requires, (b) interaction with coworkers, (c) productivity including the importance of scientific publications, (d) work habits and laboratory safety, and (e) documentation of research methodologies and experimental details so that the work can be continued by other researchers in the future. **Career Counseling** will be directed at providing the PR with the skills, knowledge, and experience needed to excel in his/her chosen career path. In addition to guidance provided by Dr. Matthew Turk, the PR will be encouraged to discuss career options with faculty and researchers at the University of Illinois, in departments as well as at NCSA. **Experience with Preparation of Grant Proposals** will be gained by direct involvement of the PR in funding proposals submitted to the NSF or other agencies, as well as computing proposals submitted to the NSF for XSEDE or Blue Waters computing resources. **Publications and Presentations** are expected to result from work supported by the grant. These will be prepared under the direction of Dr. Matthew Turk and in collaboration with researchers at the University of Illinois or the yt project as appropriate. The PR will receive guidance and training in the preparation of manuscripts for journals and presentations at conferences. **Teaching and Mentoring Skills** will be developed in the context of regular meetings of the yt group at NCSA, during which time researchers describe their difficulties, successes, and brainstorm future plans. The PR will also be encouraged to participate in meetings at the iSchool and with the Computing and Data Group at NCSA. **Instruction in Professional Practices** will be provided on a regular basis in the context of the research work and will include fundamentals of the scientific method, laboratory safety, and other standards of professional practice. In addition, the PR will be encouraged to affiliate with one or more professional societies in his/her chosen field. **Success of the Mentoring Plan** will be assessed by monitoring the progress of the Postdoctoral Researcher toward his/her career goals after finishing the postdoctoral program.

One PR will be supported at Lamont-Doherty Earth Observatory of Columbia University. LDEO has institutionalized a program for the mentoring and professional development of post doctoral researchers. A detailed plan is available at <http://ldeo.columbia.edu/postdoc/>, which provides guidance and protocols for both mentors and PRs for effective professional growth and preparation for a full time research/teaching career. Key aspects of the plan emphasize the role of mentors for providing intellectual leadership, fostering research skills, providing advice and oversight on publications and grant writing and helping promote and develop a wider network of contacts and collaborators through meeting/workshop attendance. In addition to providing guidance, the mentoring plan also provides a specific protocol for promoting interaction between PRs and their mentors, including a self-study survey for the PR, regular PR/mentor meetings along with formal review of both PR and mentor performance at least once a year. LDEO PI Dr. Ben Holtzman strongly supports this plan and will continue to hold both formal and informal discussions with the PR working on this project on a near daily basis. The postdoc will take a leadership role in much of the code development and exploration, to help prepare that person for eventual promotion into a permanent position.