

Postdoctoral Research Position in Holographic Microscopy

We seek highly motivated, qualified individuals who are interested in joining our research group in holographic microscopy, with an emphasis on observation of microbial motility in extreme environments and astrobiology. Our group is part of the Department of Aerospace in the Division of Engineering and Applied Sciences at Caltech.

Our research cuts across areas of optics, biology, and large volume data analysis. Research topics that the successful candidate will work on will be oriented toward processing and analysis of video rate (real-time and post-processing) digital holographic data for astrobiology, but may also involve optical system development and hands-on microbiology. The successful candidate will participate in development of a submersible holographic microscope, including development and implementation of improved algorithms and software for reconstruction of images from holograms, efficient detection (for real-time and offline processing) of interesting features in image space, fourier transform space, and hologram space, automation of the operation of instrument, laboratory and field use to observe and analyze motility of microorganisms.

Applicants must have a Ph.D. in science or engineering with strong analytical skills. Experience with numerical techniques in C/C++ as well as Python or Perl on unix/linux systems is required. Fluency in English is mandatory. Good interpersonal skills, willingness to work in a team of several researchers and students, and ability to present the work at international conferences are expected. Ability to participate in arctic fieldwork is desired.

Selection for the position will start immediately, and will continue until the position is filled. To apply, please send an email to lindensm@mail.jpl.nasa.gov with title *Re: Postdoctoral position application*; and attach your CV with list of publications, a statement of research interests, and the names and addresses of at least two referees. The package should preferably be in PDF format.

For more information on the positions, please contact Chris Lindensmith (lindensm@mail.jpl.nasa.gov)