

Title: Postdoctoral Research Associate – Computer science and applied psychology – to collaborate in improving human-robot interaction with NASA scientists

Job summary: The Department of Psychology at New Mexico State University (NMSU) invites applications for a postdoctoral researcher position in the Intergroup Human-Robot Interaction (iHRI) lab, directed by Dr. Marlena Fraune (<https://web.nmsu.edu/~mfraune/>). The position is available now and will remain open until filled. Funding is for approximately two years.

The position is funded by NMSU and New Mexico Space Grant Consortium. The primary field of interest for the postdoctoral researcher is computer science, and the secondary is psychology. The postdoctoral researcher will be involved collaborating with NASA researchers on psychological testing of human-robot teamwork, producing robot design recommendations, and especially programming robot behavior based on design recommendations. In collaboration with Dr. Terry Fong at NASA Ames, we are applying psychology and human factors concepts to improve robots that will be used on the International Space Station (ISS), such as Astrobees. For example, Astrobees can be controlled by a human user like a tool, teleoperated by another human at mission control, or act autonomously – and it will have different capabilities depending on the controller (e.g., monitor environment, assist in ship repair) – but research shows that mode-switching machines can be confusing and reduce efficiency and success of working with them. We encourage new approaches and ideas, as well as independent projects that relate to the project topic. The position requires working closely with the PI, as well as Dr. Fong, other investigators, and the NASA Guest Scientist Program. The postdoctoral researcher will program Astrobees robot simulations and may transfer the code to Astrobees itself.

The postdoctoral researcher will also have the opportunity to be involved with a project to develop an engineering research center. The postdoctoral researcher would work on human acceptance of technology such as smart grids and control of autonomous air and ground systems. For this project, the researcher will work closely with Engineering colleagues, including Dr. Liang Sun and a new postdoctoral researcher in the area. Tasks will include brainstorming, writing white papers, and beginning research project, programming, and network-building related to the topic.

Because the funding comes partially through the Vice President of Research (VPR) office, the postdoctoral researcher will also be enrolled in the Principle Investigator Academy, meant to give researchers more experience in grant-writing. The postdoctoral researcher will be expected to write 1-2 grant proposals on behalf of the party. Additionally, the postdoctoral researcher may elect to teach a class while at NMSU.

Educational Skills/Requirements. Requirements include (1) Ph.D. in computer science, (2) Experience in human factors or human-machine interaction studies, and (3) A promising publication record. Ideal candidates will have experience with psychology, human-robot, and/or human-computer interaction (HRI or HCI) studies, strong managerial skills, and professional experience securing external funding.

*****Applicants must be US citizens.*****

To apply. Interested applicants should email: (1) a CV, (2) a brief description of your research and computing interests, and how they match the directions of the lab, (3) a writing sample (e.g., a published manuscript), and (4) letters and/or contact information for three references to Marlena Fraune at mfraune@nmsu.edu. In addition, formal applications must be put through the official website –ad will be up shortly.

For questions about the position, you may contact Marlena Fraune at mfraune@nmsu.edu.