

Job Details

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Position Information	
Position Title	Optical Scientist
Job Number	49472
Department	0404-Steward Observatory
College/Division	College of Science
Posted Rate of Pay	\$75,000
Exempt / Non-Exempt	Exempt
Category	Appointed: Professional
Departmental Contact	Susan Warner
Departmental Contact Phone	621-6526
Departmental Contact Email	susan@as.arizona.edu
Job Open Date	02-07-2012
Job Close Date	Open Until Filled
Review begins on (Continues until position filled)	02-21-2012
Benefits Eligible	Yes
Full Time/Part Time	Full Time

Days and Schedule to be Worked	M - F, 9am-5pm
Number of Hours Worked per Week	40
Limited to current UA employees only	No
Documents required to be attached electronically with this application	Letter of Interest Curriculum Vitae
Documents that may be attached electronically or mailed directly to department per instructions below	
Additional application instructions (include instructions for submission)	Please submit up to 3 letters of recommendations as email attachments to Glenn Schneider at gschneider@as.arizona.edu
Position Summary	<p>The EXtrasolar Circumstellar Environments and Disk Explorer (EXCEDE) Project seeks creative and energetic applicants for the position of Optical Engineer to work at the NASA Ames Research Center's (ARC; Moffett Field, California) Coronagraph Experiment (ACE) laboratory. The EXCEDE project is a UA-lead NASA/EXPLORER mission concept that was recently selected by NASA as a Category III investigation for technology maturation in partnership with ARC and the Lockheed-Martin Corporation. EXCEDE will be a 0.7m coronagraphic space telescope with a Phase Induced Amplitude Apodization (PIAA) coronagraph capable of directly imaging circumstellar disks and giant exoplanets and is a precursor to a potential exo-Earth imaging flagship mission (see: http://soweb.as.arizona.edu/~gschneid/AAS_JAN2012_EXCEDE_AS_PRINTED.pdf). This is a two-year funded position to be carried out at the ARC/ACE work site (with the possibility of longer employment dependent upon future funding). The selected candidate will work under the technical supervision of Dr. Ruslan Belikov (ACE test facility manager at ARC) as directed by the EXCEDE Project PI (Dr. Glenn Schneider; UofA).</p> <p>The primary task for this position will be to implement a Low Order Wave Front Sensor (LOWFS), a critical part of the EXCEDE instrument's starlight suppression system. The LOWFS ensures sufficient wavefront stability in order to enable the PIAA coronagraph and a wavefront control system to reach the requisite image contrasts. The Optical Scientist will first work with members of our team to integrate the LOWFS hardware and software with the existing coronagraph system at ACE as well as receive training on its use. Afterwards he/she will have leading responsibility for the LOWFS testing, optimization, and ultimately demonstration of the LOWFS to the performance required by EXCEDE, first in air and then in a vacuum environment.</p> <p>In addition, the Optical Scientist is expected to be an active participant and contributor to the rest of the project and team, be aware of all the current challenges and priorities, and find new and innovative solutions and improvements in all areas of the project.</p>

<p>Duties and Responsibilities</p>	<ul style="list-style-type: none"> * Design and/or revise the optical architecture and components of the LOWFS as needed prior to the integration with the rest of the SSS testbed; find and obtain any necessary components. * Integrate the LOWFS hardware with the existing coronagraph system at ACE. * Integrate the LOWFS software with the rest of the software, tune, optimize, and maintain it. * Test, optimize, and demonstrate the LOWFS to the EXCEDE requirements in air and in vacuum. * Design and carry out experiments with the LOWFS, analyze experimental data and results, maintain records of all experiments and labwork; report on progress during weekly group meetings; and produce written reports and documentation as necessary. * Maintain awareness of other aspects of the project, work with the rest of the team to schedule experiments for maximally efficient timesharing of the lab resources. * Find new and innovative solutions and improvements to any challenges arising not just with the LOWFS but also in other areas of the project; participate in team problem-solving. * Present accomplishments in technical reports and publications. * Additional duties as assigned.
<p>Arizona Board of Regents Minimum Qualifications</p>	<p>Not applicable for this position.</p>
<p>Additional Minimum Qualifications</p>	<ul style="list-style-type: none"> * Bachelor's degree in Engineering, Optical Sciences or related field AND at least 2 years of experience in designing, developing, and testing optical astronomical instrumentation. A Ph.D. counts towards this experience (and is strongly preferred). * Ability and agility with setting up and conducting bench-top optical experiments. * Fluency with computer-based instrument control and data acquisition, and automation of control algorithms. * Fluency with image processing and data analysis and interpretation. * Demonstrated ability of oral and written communication. * Ability to share the lab (its time and resources) with others and working as a team with them.
<p>Preferred Qualifications</p>	<ul style="list-style-type: none"> * Deep knowledge and understanding of high contrast imaging and coronagraphs, both theoretical and experimental. * Ability to design and model optical layouts (e.g. either by personal or commercially available modeling software such as Zemax); understanding of Fourier Optics and the PIAA coronagraph. * Working knowledge of LabVIEW and MATLAB, Windows OS. * Understanding and appreciation of all the modern challenges, tall poles, and priorities in the field of space-based direct imaging of exoplanets.
<p>Pre-employment Screening Requirements</p>	<p>The University of Arizona conducts pre-employment screening for all positions, which includes a criminal background check, verification of academic credentials, licenses, certifications, and work history. In addition, a check of names and identification documents is conducted on all new employees to ensure they are legally authorized to work in the United States.</p>
<p>What kind of criminal background check is required for this position?</p>	<p>This position is non-security sensitive and requires a name-based criminal background check</p>
<p>Supplemental Pre-</p>	

Employment Screening	None
Job Category	Computer, Engineering and Technical Research
Departmental Home Page	Click Here
Quick Link	www.uacareertrack.com/applicants/Central?quickFind=203878

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