SOFTWARE DEVELOPER IN THE CENTER FOR QUANTUM MATERIALS ENGINEERING

Job Summary

Applications are invited for one Software Developer post in the Center for Quantum Materials Engineering within the Oden Institute for Computational and Engineering Sciences, University of Texas at Austin.

This position is sponsored by the U.S. Department of Energy within the context of a broader project aimed at enabling exascale calculations of electron-phonon couplings and materials properties at finite temperature, https://www.oden.utexas.edu/about/news/574.

The successful candidate will primarily work on the development and maintenance of the EPW code (http://epw.org.uk), a leading open-source software for the study of electron-phonon interactions and phonon-mediated quantum processes. EPW consists of approximately 42K lines of Fortran/MPI, and is distributed with the Quantum Espresso (QE) materials simulation suite.

The overarching aim of this project is to refactor EPW in preparation for future exascale computing architectures, and to enable efficient execution on leadership-class supercomputers of the U.S. Department of Energy. Additional tasks will include coordinating and facilitating the development of EPW as a community code, coordinating the periodic releases of EPW in conjunction with the QE suite, collaborating with QE developers, and providing user support through the user forum, online documentation, and training.

Applicants must have a Ph.D. in physics, chemistry, materials science, or computer science. Experience with electronic structure codes based on density functional theory, software development, and high-performance computing is essential. Familiarity with large-scale software projects, revision control, continuous integration, and code profiling are desirable. Prior experience with GPU architectures would be a plus.

The appointed candidate will join the Center for Quantum Materials Engineering, a research team led by Prof. Giustino within the Oden Institute for Computational Engineering and Sciences. He/She will will work closely with software engineers and HPC specialists at TACC, the Texas Advanced Computing Center. TACC is located minutes from the UT campus and hosts Frontera, the 5th most powerful supercomputer in the world.

This position is for up to four years, starting as soon as possible. The initial appointment will be for one year, and will be renewed based upon availability of funding, work performance, and progress toward research goals. The salary is competitive and commensurate with experience. It is anticipated that this project could lead to subsequent employment in a software engineering role at the Texas Advanced Computing Center, depending on performance and mutual interest.

For more information on this project, please feel free to contact:

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How to Apply

Interested applicants should apply via the University of Texas job board. <u>Please Note</u>: The university has two job boards for staff, one for candidates who do not currently have an affiliation with the university, and one for current employees and contingent workers. Please send your application by following the relevant

link:

Application link for candidates with no UT affiliations

Application link for current university employees and contingent workers

Additional information

Background Checks
A criminal history background check will be required for finalist(s) under consideration for this position.

Employment Eligibility Verification
If hired, you will be required to complete the federal Employment Eligibility Verification I-9 form. You will be required to present acceptable and original documents to prove your identity and authorization to work in the United States. Documents need to be presented no later than the third day of employment. Failure to do so will result in loss of employment at the university.

Equal Opportunities
The University of Texas at Austin, as an equal opportunity/affirmative action employer, complies with all applicable federal and state laws regarding nondiscrimination and affirmative action. The University is committed to a policy of equal opportunity for all persons and does not discriminate on the basis of race, color, national origin, age, marital status, sex, sexual orientation, gender identity, gender expression, disability, religion, or veteran status in employment, educational programs and activities, and admissions.