Postdoctoral position in exascale galaxy formation - Michigan State University

Applications are invited for a postdoctoral research position in computational structure formation at Michigan State University. The successful candidate will work in conjunction with Professor Brian O'Shea to study galaxy formation using the Enzo-E code, which is a complete rewrite of the Enzo AMR code that uses the Charm++ parallel programming system to take advantage of the design of exascale-class supercomputers.

The responsibilities of this position include performing research in theoretical galaxy formation and participating in Enzo-E code development within the Enzo-E collaboration in support of this research. In addition to working with researchers in MSU's Department of Computational Mathematics, Science, and Engineering and Department of Physics and Astronomy, the successful applicant will have the opportunity to lead projects or collaborate with other members of the Enzo-E code development team and users of the Enzo-E code on projects of mutual interest pertaining to galaxy formation, with the precise subject area depending on the candidate's interests (e.g., high redshift galaxy formation, the circumgalactic medium, quenching, dwarf galaxy evolution, etc.). There will also be opportunities to mentor undergraduate students in projects related to this work and to participate in other professional development activities such as teaching, grant-writing, and public outreach. Travel and research funds will be available, as will computing time on MSU's High Performance Computing Center, NSF XSEDE resources, and the new Frontera supercomputer at TACC.

Applicants are expected to have a PhD in astrophysics, astronomy, physics, or a closely related field, and have significant expertise in computation. In addition, applicants should either have experience in running and analyzing astrophysical simulations of any sort or experience in parallel code development. Knowledge of the C++ programming language is preferred. Experience with Enzo, Enzo-E, or adaptive mesh simulations is not required. We especially encourage applications from women, persons of color, veterans, and persons with disabilities.

The appointment is expected to start between March 15 - September 1, 2020. The position is initially for two years, with renewal for a third year subject to performance and availability of funding. The salary will be competitive and commensurate with experience, and medical benefits and a relocation package are included. Appointment is contingent upon successfully completing a full background check.

Applicants should submit a CV, cover letter, and a statement of research interests to careers.msu.edu (posting number 616041). In addition, applicants should provide the names of three (3) individuals from whom letters of recommendation can be requested.

Review of applications will begin on December 16, 2019, and will continue until the position has been filled. The starting date is negotiable with a preference toward candidates that are available in early 2020. Questions regarding the position may be directed to Professor Brian O'Shea at oshea@msu.edu.

MSU is an affirmative-action, equal-opportunity employer and is committed to achieving excellence through diversity.