



Bechtel Marine Propulsion Corporation

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All candidates must be U.S. citizens. Applicants selected will be subject to a Federal background investigation and must meet eligibility requirements for access to classified matter.

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Job Details

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Computational Scientist - (17179)

Job Title

Computational Scientist

Job Classification

Salary/Exempt

Organizational Unit

BMPC -> Technology -> Reactor Technology

Location

West Mifflin - West Mifflin, PA 15122 US (Primary)

Category

Engineering/Science

Career Level

Experienced (Non-Manager)

Education

Master's Degree

Job Type

Full-time

Job Description

Advanced/Senior:

Work with scientists and engineers across multiple disciplines to solve engineering problems by identifying, developing, and applying methods of computational science that leverage the Naval Nuclear Propulsion Program's high performance computing systems. Particular application areas include nuclear reactor physics (radiation transport), fluid dynamics (turbulence, two-phase flow), and solid mechanics. Depending on the background of the individual, near-term work assignments may include the continued development of production-level engineering software, evaluation of software performance bottlenecks, adaption of software to advanced solvers and parallel architectures, development of software capabilities required for integration into a multiphysics framework, and identification and implementation of software engineering and quality assurance improvements to existing software tools.

As a BMPC scientist, this individual is also expected to: Conduct exploratory research, experiments, and analyses to produce knowledge and products. Develop theories for understanding, characterizing, and organizing natural phenomena into a systematic and meaningful pattern for research into inventions, new products, or improved techniques for design, manufacturing, operation, or maintenance. Develop research proposals and approaches to provide a technically and economically sound basis for developing and evaluating new or improved products, methods, processes, and analytical and physical testing techniques. Maintain the technical excellence of BMPC within the Naval Nuclear Propulsion Program.

Required Skills

Advanced:

MS degree in a computational science or engineering discipline, mathematics, computer science, and/or a related field in a Physical Science from an accredited college or university and a minimum of two years of relevant experience.

Senior:

MS degree in a computational science or engineering discipline, mathematics, computer science, and/or a related field in a Physical Science from an accredited college or university and a minimum of four years of relevant experience; or

PhD degree in a computational science or engineering discipline, mathematics, computer science, and/or a related field in a Physical Science from an accredited college or university.

Demonstrated ability and passion for leading and developing original research projects. Domain knowledge of numerical methods for solving partial differential equations. Experience writing code in a scientific computing language (e.g., C, C++, Fortran, Python). Ability to work effectively across multiple projects simultaneously, Capacity to work independently as well as in interdisciplinary teams with minimal supervision. Outstanding written and verbal communication skills.

Preferred Skills

Experience with high performance computing in terms of parallel programming and running massively parallel jobs. Expertise in an aspect of numerical analysis: e.g., discretization techniques for solving partial differential equations, linear and nonlinear solvers, verification / validation / uncertainty quantification, optimization techniques, etc. Domain knowledge of nuclear reactor physics, fluid dynamics, or solid mechanics. Experience contributing to and managing multiple developer software projects. Familiarity with the software development process including best practices in software quality assurance, software architectures, and software development tool chains (unit testing, continuous integration, version control, debugging, profiling, etc.).

About Us

Bechtel Marine Propulsion Corporation is responsible for developing advanced naval nuclear propulsion technology, providing technical support to ensure the safety and reliability of our nation's naval nuclear reactors and training the Sailors who operate those reactors in the Navy's submarines and aircraft carrier fleets. Bechtel Marine Propulsion Corporation includes both the Bettis and Knolls Atomic Power Laboratories, which have been supporting the United States Nuclear Navy for more than six decades. We have more than 7,000 employees at main locations that include Pennsylvania, New York, South Carolina, Idaho and more. We also have an established presence at numerous shipyards and vendor sites around the globe. Bechtel Marine Propulsion Corporation operates the Bettis and Knolls Atomic Power Laboratories for the Department of Energy. We are dedicated solely to the support of the United States Naval Nuclear Propulsion Program.

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