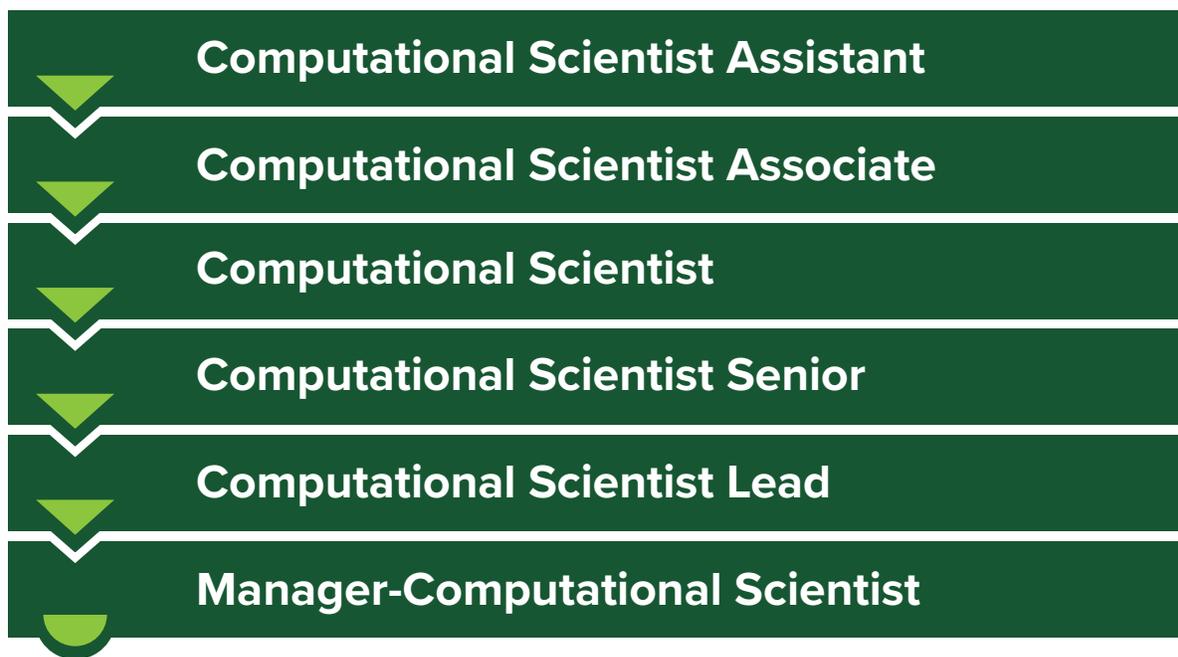


Computational Scientist Career Ladder

The Computational Scientist Career Ladder outlines a structured pathway for professionals aiming to advance in computational science, from foundational roles to leadership positions. Beginning as a Computational Scientist Assistant, individuals gain essential skills in data management, programming, and statistical analysis, providing support to research projects under general supervision. Progressing to a Computational Scientist Associate, they begin to independently address research problems, develop computational methods, manage workflows, and contribute to data interpretation. The Computational Scientist role offers increased autonomy, allowing professionals to optimize algorithms, extend analysis pipelines, and provide expertise in solving complex scientific problems. At the Computational Scientist Senior level, professionals lead advanced computational projects, contribute to the strategic direction of research efforts, and mentor junior staff, while driving innovation in methodology and application areas. The Computational Scientist Lead oversees large-scale, impactful research projects, coordinates cross-disciplinary efforts, and develops groundbreaking approaches to computational challenges. Finally, the Manager-Computational Science role focuses on team leadership, strategic planning, and advancing computational research initiatives of national or international significance. This career ladder supports growth in technical expertise and leadership, enabling professionals to contribute significantly to computational advancements across diverse scientific domains.



Click on a job title above for additional information.

Computational Scientist Assistant

Under general supervision, provides consultations and expertise on computer applications to help develop solutions to scientific research problems, and aids in the management of raw and processed data. Consults with researchers to determine needs; performs computerized data processing operations and statistical analyses of research data; aids in the automation of data processing and management through programming, debugs existing tools or pipelines, and assists in documentation; assists in interpretation and reporting of results. May supervise students.

**EDUCATION/
EXPERIENCE:** Bachelor's degree in a related field required. Work experience may NOT substitute for education requirement.

GRADE: W.G380

FLSA STATUS: Exempt

REMOTE/HYBRID: Eligible

CAREER LEVEL: Individual Contributor

Computational Scientist Associate

Participates in the problem assessment, analysis, and development of computational methods, pipelines or procedures; evaluates, selects, and applies appropriate methods to the specific research problems. Contributes to the analysis of complex data; participates in interpretation and reporting of results. Identifies relationships and trends or any factors that could affect the results of research. Oversees projects of moderate size, scope, and complexity. Implements programming and workflow management systems to scale processes and analysis across a variety of computational platforms, including High Performance Computing clusters. Performs debugging on existing or novel methods and tools, and creates documentation. Manages computational environments (virtual environments and containers). Contributes to technical proposal preparation and/or presentations.

**EDUCATION/
EXPERIENCE:** Master's degree in a related field OR Bachelor's degree in related field and two (2) years of related experience. Work experience may NOT substitute for education requirement.

GRADE: W.G390

FLSA STATUS: Exempt

REMOTE/HYBRID: Eligible

CAREER LEVEL: Individual Contributor

Computational Scientist

Collaborates in problem assessment, analysis, and development of computational methods or procedures, independently evaluates, selects, and applies appropriate methods to the specific research problems. Proposes solutions in engineering, the sciences, and other fields using mathematical theories and techniques. Optimizes and extends algorithms, analysis pipelines, and software in order to establish and ensure effectiveness and scalability of computing infrastructure. Provides consultation for and expertise with computer applications to complex research problems; performs computerized data processing operations and statistical analyses of research data; creates visualizations of results. Performs code review, analysis review, and writes summary reports to collaborators. Prepares figures for publication and helps to write manuscripts. Presents results internally and to collaborators and other groups.

EDUCATION/ EXPERIENCE: Doctorate degree in a related field OR Master's degree in a related field and two (2) years of related experience OR Bachelor's degree in related field and four (4) years of related experience required. Work experience may NOT substitute for education requirement.

GRADE: W.G400

FLSA STATUS: Exempt

REMOTE/HYBRID: Eligible

CAREER LEVEL: Individual Contributor

Computational Scientist Senior

Manages multiple or large computational projects; plans, schedules, conducts, or coordinates detailed phases of the work of a major project or in a total project of moderate steps. Makes substantial contributions to determining feasibility of goals/objectives; may evaluate proposed or ongoing projects. Creates opportunities to enhance technical methodology or content through expansion of existing or development of new efforts; may extend technology into new application areas; contributes or leads in intellectual development activities. Provides innovative problem-solving approaches to enhance organizational capabilities; uses peer network to expand technical capabilities and identifies new research opportunities. Understands and contributes to broad strategic objectives. May mentor and train junior staff members.

EDUCATION/ EXPERIENCE: Doctorate degree in a related field and four (4) years of related experience OR Master's degree in a related field and six (6) years of related experience OR Bachelor's degree in related field and eight (8) years of related experience required. Work experience may NOT substitute for education requirement.

GRADE: W.G415

FLSA STATUS: Exempt

REMOTE/HYBRID: Eligible

CAREER LEVEL: Individual Contributor

Computational Scientist Lead

Plans and directs research projects that have substantial impact that extend knowledge and understanding; plans, organizes, and leads the work of computational scientist staff members. Coordinates research and development activities between disciplines involving exploration of subject area, definition of scope, and selection of problems for investigation and development of novel concepts and approaches. Devises plans and leads work on extremely complex problems that impact the design success of current systems and services or addresses fundamental or broad design issues for future computational methods or technologies. Maintains liaison with individuals and units within and outside project, with responsibility for acting independently on technical matters pertaining to this field.

**EDUCATION/
EXPERIENCE:** Doctorate degree in a related field and four (4) years of related experience OR Master's degree in a related field and six (6) years of related experience required. Work experience may NOT substitute for education requirement.

GRADE: W.G420

FLSA STATUS: Exempt

REMOTE/HYBRID: Eligible

CAREER LEVEL: Emerging Leader

Manager-Computational Science

Manages a team of computational science professionals including hiring, training, and mentoring staff members. Directs the provision and support of high-performance computing, cloud computing, scientific visualization, large scale data management, visualization, mass storage, and other specialized functions associated with the application of IT to research. Proposes and leads new initiatives; guides programs of national or international significance; identifies future problems, research trends and opportunities. Directs and/or participates in major proposal preparation and presentation; may serve as Principal Investigator or Co-Investigator on proposals.

**EDUCATION/
EXPERIENCE:** Doctorate degree in a related field and seven (7) years of related experience OR Master's degree in a related field and nine (9) years of related experience required. Work experience may NOT substitute for education requirement.

GRADE: W.G440

FLSA STATUS: Exempt

REMOTE/HYBRID: Eligible

CAREER LEVEL: Functional Manager