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Fire Protection Engineer OR Mechanical Engineer OR Chemical Engineer, ZP-03/04 (GS-11/14 equivalent)

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY

[Agency Contact Information](#)

1 vacancy in the following location:

Gaithersburg, MD

Work Schedule is Full-time - Permanent

Opened Tuesday 6/27/2017

(1 day(s) ago)

Closes Tuesday 7/18/2017

(20 day(s) away)

Salary Range

\$66,510.00 to \$145,629.00 / Per Year

Series & Grade

ZP-0830, 0893, 0804-03/04

Promotion Potential

04

Supervisory Status

No

Who May Apply

All qualified U.S. citizens. This notice is issued under direct-hire authority to recruit new talent to occupations for which NIST has a severe shortage of candidates.

Control Number

472980200

Job Announcement Number

NISTEL-2017-0035

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Job Overview

Summary

[About the Agency](#)

As a research engineer, you will play a critical role in building a vibrant experimentally-driven research program on wildland-urban interface (WUI) fires.

Are you ready to explore your future with NIST?

Your application package may be shared with other selecting officials at NIST with opportunities like the one you are applying to. Additional selections may be made through this vacancy.

Duties

The research engineer will play a critical role in building a vibrant experimentally-driven research program on wildland-urban interface (WUI) fires. S/he will join NIST's world-class research team in the Engineering Laboratory's Fire Research Division and shall be responsible for leading NIST's efforts in reduced-scale and full-scale experiments to understand WUI fire behaviors and to mitigate potential fire hazards in the WUI communities. S/he shall independently conceive, design, and safely conduct reduced-scale and full-scale WUI fire experiments to accomplish the Division's mission and programmatic objectives, including developing WUI fire risk exposure metrics, assessing the fire performance of structures in WUI communities, and conceiving and validating predictive analytical and numerical models. S/he will lead the design of test structures and fixtures, and experimental

and instrumentation plans; and will oversee the construction of test structures and the safe conduct of experiments, both in the lab and field settings. S/he shall document, interpret, synthesize, and report experimental results in peer-reviewed scientific journals. S/he may also perform research and experiments to better understand firebrand ignition of building components and systems; firebrand generation, transport and characterization; in-situ field measurements; WUI materials flammability; and WUI fire suppression. Other duties will include: (1) assessing and improving best practices for large-scale WUI experiments, (2) supporting and participating in investigations and/or case studies of actual WUI fire events, (3) contributing to establishing international leadership by NIST in WUI fire research, and (4) contributing to the development of improved standard test methods to mitigate WUI fire hazards.

Travel Required

- Not Required

Relocation Authorized

- Yes
- Relocation expenses may be authorized.

Job Requirements

Key Requirements

- You must be a U.S. citizen
- You must be registered for Selective Service if applicable (www.sss.gov)
- You must be suitable for Federal Employment

Qualifications

BASIC REQUIREMENT: Degree: professional engineering. To be acceptable, the curriculum must: (1) be in a school of engineering with at least one curriculum accredited by

the Accreditation Board for Engineering and Technology (ABET) as a professional engineering curriculum; or (2) include differential and integral calculus and courses (more advanced than first-year physics and chemistry) in five of the following seven areas of engineering science or physics: (a) statics, dynamics; (b) strength of materials (stress-strain relationships); (c) fluid mechanics, hydraulics; (d) thermodynamics; (e) electrical fields and circuits; (f) nature and properties of materials (relating particle and aggregate structure to properties); and (g) any other comparable area of fundamental engineering science or physics, such as optics, heat transfer, soil mechanics, or electronics.

OR

Combination of education and experience -- college-level education, training, and/or technical experience that furnished (1) a thorough knowledge of the physical and mathematical sciences underlying professional engineering, and (2) a good understanding, both theoretical and practical, of the engineering sciences and techniques and their applications to one of the branches of engineering. The adequacy of such background must be demonstrated by one of the following:

- *Professional registration* -- Current registration as a professional engineer by any State, the District of Columbia, Guam, or Puerto Rico. Absent other means of qualifying under this standard, those applicants who achieved such registration by means other than written test (e.g., State grandfather or eminence provisions) are eligible only for positions that are within or closely related to the specialty field of their registration. For example, an applicant who attains registration through a State Board's eminence provision as a manufacturing engineer typically would be rated eligible only for manufacturing engineering positions.
- *Written Test*-- Evidence of having successfully passed the Engineer-in-Training (EIT) examination, or the written test required for professional registration, which is administered by the Boards of Engineering Examiners in the various States, the District of Columbia, Guam, and Puerto Rico.

Applicants who have passed the EIT examination and have completed all the requirements for either (a) a bachelor's degree in engineering technology (BET) from an accredited college or university that included 60 semester hours of courses in the physical, mathematical, and engineering sciences, or (b) a BET from a program accredited by the Accreditation Board for Engineering and Technology (ABET) may be rated eligible for certain engineering positions at GS-5. Eligibility is limited to positions that are within or closely related to the specialty field of the engineering technology program. Applicants for positions that involve highly technical research, development, or

similar functions requiring an advanced level of competence in basic science must meet the basic requirements in paragraph A.

Because of the diversity in kind and quality of BET programs, graduates of other BET programs are required to complete at least 1 year of additional education or highly technical work experience of such nature as to provide reasonable assurance of the possession of the knowledge, skills, and abilities required for professional engineering competence. The adequacy of this background must be demonstrated by passing the EIT examination.

- *Specified academic courses* -- Successful completion of at least 60 semester hours of courses in the physical, mathematical, and engineering sciences and in engineering that included the courses specified in the basic requirements. The courses must be fully acceptable toward meeting the requirements of a professional engineering curriculum as described in paragraph A.
- *Related curriculum* -- Successful completion of a curriculum leading to a bachelor's degree in engineering technology or in an appropriate professional field, e.g., physics, chemistry, architecture, computer science, mathematics, hydrology, or geology, may be accepted in lieu of a degree in engineering, provided the applicant has had at least 1 year of professional engineering experience acquired under professional engineering supervision and guidance. Ordinarily there should be either an established plan of intensive training to develop professional engineering competence, or several years of prior professional engineering-type experience, e.g., in interdisciplinary positions. (The above examples of related curricula are not all-inclusive.)

ZP-03: IN ADDITION TO THE BASIC REQUIREMENT: Applicants **MUST** possess one year (52 weeks) of specialized experience at the GS-9 level (ZP-II for NIST). Specialized experience is defined as experience in (a) designing and safely conducting reduced-scale and large-scale fire or heat transfer experiments as a member of a research team; (b) documenting experimental results on reduced-scale and large-scale fire and heat transfer experiments, AND (c) contributing to test reporting.

OR

Master's or equivalent graduate degree.

OR

A combination of education and experience.

ZP-04: IN ADDITION TO THE BASIC REQUIREMENT: Applicants **MUST** possess one year (52 weeks) of specialized experience at the GS-9 level (ZP-II for NIST). Specialized experience is defined as experience in (a) conceiving, designing, and safely conducting reduced-scale and large-scale fire or heat transfer experiments as the leader of a research team; AND (b) documenting, interpreting, and reporting of experimental results on reduced-scale and large-scale fire or heat transfer experiments in peer-reviewed journals.

Qualification requirements in the vacancy announcement are based on the U.S. Office of Personnel Management (OPM) Qualification Standards Handbook, which contains Federal qualification standards. This handbook is available on the OPM website located at <http://www.opm.gov/qualifications>.

Experience refers to paid and unpaid experience, including volunteer work done through National Service programs (e.g., Peace Corps, AmeriCorps) and other organizations (e.g., professional; philanthropic; religious; spiritual; community, student, social). Volunteer work helps build critical competencies, knowledge, and skills and can provide valuable training and experience that translates directly to paid employment. You will receive credit for all qualifying experience, including volunteer experience.

This position has an education requirement. You must submit a copy of your transcripts to document that you have met the education requirement. Unofficial transcripts will be accepted in the application package. Official transcripts will be required prior to the final offer of employment.

Foreign education: Education completed in foreign colleges or universities may be used to meet the qualification requirements if the applicant can provide documentation indicating that the foreign education is comparable to that received in an accredited educational institution in the United States. It is the responsibility of the applicant to provide such evidence when applying. For further information, visit:

<http://www.ed.gov/about/offices/list/ous/international/usnei/us/edlite-visitus-forrecog.html>

Applicants must meet requirements by the closing date of this announcement.

Your resume must be complete (i.e., include dates of experience, salary, work schedule, etc.), detailed and relevant to the position.

Security Clearance

Q - Nonsensitive

Additional Information

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And Technology**

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