Duties

Summary

The incumbent serves as a Research Soil Scientist, Agricultural Engineer, or Hydrologist in a multi-disciplinary program at the National Soil Erosion Research Laboratory (NSERL) in West Lafayette, Indiana. The mission of the NSERL is to quantify the dynamics and transport processes affecting environmental quality and agricultural sustainability and to develop tools for land users to conserve soil and water resources.

Responsibilities

- Use soil physical, chemical, and hydrologic analyses to quantify changes in soil and water quality at multiple spatial and temporal scales as a function of management, climate and soil type.
- Elucidate mechanisms in which soil and water quality impacts agricultural productivity and environmental quality.
- Provide input to modelling efforts related to soil erosion, contaminant transport, agricultural production and resiliency and ecosystem services.
- Identify important research questions related to soil erosion, soil quality, water quality/quantity, climate change, sustainable agriculture and natural resource management.
- Recognize, conceive, plan, direct and conduct research through a systems approach that is rooted on the foundation of basic science.
- Conduct laboratory and field studies individually or jointly with federal, state and international scientists.
- Provide technical guidance in area of expertise to ARS scientists as well as scientists from domestic and international universities and research organizations.

Travel Required

Occasional travel - Local, domestic, and international travel will be required for field work and to attend training and scientific meetings and conferences.

Supervisory status

No

Promotion Potential

15

• Job family (Series)
0470 Soil Science

0890 Agricultural Engineering

1315 Hydrology

- Requirements

Requirements

Conditions of Employment

- A valid motor vehicle license is required to travel to field and work sites.
- You must be a US Citizen or US National.
- Males born after 12/31/1959 must be Selective Service registered or exempt.
- Subject to satisfactory adjudication of background investigation and/or fingerprint check.
- Successful completion of a 3 year probationary period.
- Direct Deposit: Per Public Law 104-134 all Federal employees are required to have federal payments made by direct deposit to their financial institution.
- Successfully pass the E-Verify employment verification check. To learn more about E-Verify, including your rights and responsibilities, visit E-Verify at https://www.e-verify.gov/.

Qualifications

Applicants must meet all qualifications and eligibility requirements by the closing date of the announcement including specialized experience and/or education, as defined below.

This is an interdisciplinary position and may be filled in any of the job series/position titles listed. In addition to the specialized experience requirements, applicants must submit proof that they meet the educational requirements for at least one of the series described in the announcement. Applicants may only be appointed to job series/position titles for which they meet all experience and educational requirements.

Basic Qualification Requirements for Soil Science Series, 0470

A. Degree: soil science or a closely related discipline that included 30 semester hours or equivalent in biological, physical, or earth science, with a minimum of 15 semester hours in such subjects as soil genesis, pedology, soil chemistry, soil physics, and soil fertility.

OR

B. Combination of education and experience: courses equivalent to a major in soil science or a related discipline that included at least 30 semester hours in the biological, physical, or earth sciences. At least 15 of these semester hours must have been in the areas specified in A above, plus appropriate experience or additional education.

Basic Qualification Requirements for Agricultural Engineer Series, 0890

A. Degree: Engineering. To be acceptable, the program must: (1) lead to a bachelor's degree in a school of engineering with at least one program accredited by ABET; 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
B. 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 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:

1. **Professional registration or licensure** - Current registration as an Engineer Intern (EI), Engineer in Training (EIT), or licensure as a Professional Engineer (PE) 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.

2. **Written Test** - Evidence of having successfully passed the Fundamentals of Engineering (FE) examination or any other written test required for professional registration by an engineering licensure board in the various States, the District of Columbia, Guam, and Puerto Rico.

3. **Specified academic courses** - Successful completion of at least 60 semester hours of courses in the physical, mathematical, and engineering sciences and that included the courses specified in the basic requirements under paragraph A. The courses must be fully acceptable toward meeting the requirements of an engineering program as described in paragraph A.

4. **Related curriculum** - Successful completion of a curriculum leading to a bachelor's degree in an appropriate scientific field, e.g., engineering technology, physics, chemistry, architecture, computer science, mathematics, hydrology, or geology, may be accepted in lieu of a bachelor's 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.)

For more information about EI and EIT registration requirements, please visit the National Society of Professional Engineers website at: [http://www.ncspe.org](http://www.ncspe.org).

The FE examination is not administered by the U.S. Office of Personnel Management. For more information, please visit: [http://www.ncspe.org/Licensure/HowtoGetLicensed/index.html](http://www.ncspe.org/Licensure/HowtoGetLicensed/index.html).

**Basic Qualification Requirements for Hydrology Series, 1315**

A. **Degree:** physical or natural science, or engineering that included at least 30 semester hours in any combination of courses in hydrology, the physical sciences, geophysics, chemistry, engineering science, soils, mathematics, aquatic biology, atmospheric science, meteorology, geology, oceanography, or the management or conservation of water resources. The course work must have included at least 6 semester hours in calculus (including both differential and integral calculus), and at least 6 semester hours in physics. Calculus and physics, as described above, are requirements for all grade levels. OR

B. Combination of education and experience: course work as shown in A above, plus appropriate experience or additional education.

**Additional Requirements:**
In addition to meeting the basic requirements for one of the series described above, applicants must also meet additional qualification requirements as stated below.

**GS-12:** Applicants must have a Ph.D. or equivalent doctoral degree directly related to the duties of the position (i.e. soil science, agricultural engineering, civil engineering, earth science, or
hydrology) OR 1 year of specialized experience (defined below) equivalent to at least the GS-11 grade level in the Federal Service OR a combination of graduate level education and specialized experience.

**GS-13**: Applicants must have 1 year of specialized experience (defined below) equivalent to at least the GS-12 grade level in the Federal Service.

**Specialized Experience**: Specialized experience is experience directly related to the position to be filled.

The specialized experience requirements for this position at the **GS-12** level are:

- Conducting hands-on lab or field research experiments related to agriculture, hydrology, soil or water resources.
- Presenting research findings at regional and national meetings or conferences.
- Publishing research results in peer-reviewed scientific journals related to soil science, agricultural engineering, civil engineering, earth science or hydrology.

The specialized experience requirements for this position at the **GS-13** level are:

- Designing and conducting hands-on lab or field research experiments related to soil erosion, water quality or soil quality.
- Presenting research findings at national and international meetings or conferences.
- Publishing independent research results in peer-reviewed journals related to soil science, agricultural engineering, civil engineering, earth science or hydrology.

**Education**

Please see above for education qualification requirement information.

**Additional information**

Research scientists have open-ended promotion potential. Research accomplishments and their impact on the duties and responsibilities of positions are evaluated periodically. the grade level is limited only by the individual's demonstrated ability to perform research of recognized importance to science and technology. *Final grade level may be determined by a peer review panel.

Vacant research positions may be filled at one of several grade levels depending upon the scientific impact of the person selected. For this reason, you are encouraged to apply at all grade levels. A peer review will be required for selections made at grades GS-13 and above and the selectee will be required to submit supplemental materials.

CONFIDENTIAL FINANCIAL DISCLOSURE REPORT: Federal employees are subject to prohibitions against officially dealing with outside organizations in which they have a financial interest. If hired for this position, you may be required to submit a financial disclosure report within 30 days of the effective date of your appointment and annually thereafter.

Career Transition Assistance Plan (CTAP), Reemployment Priority List (RPL), or Interagency Career Transition Assistance Plan (ICTAP): Visit the OPM website for information on how to apply as a CTAP, RPL, or ICTAP eligible. To exercise selection priority for this vacancy, CTAP/RPL/ICTAP candidates must meet the basic eligibility requirements and all selective
factors. CTAP/ICTAP candidates must be rated and determined to be well qualified (or above) based on an evaluation of the competencies listed in the How You Will Be Evaluated section. When assessed through a score-based category rating method, CTAP/ICTAP applicants must receive a rating of at least 71 out of a possible 100.

Recruitment or Relocation Incentive may be authorized. Final determination to pay an incentive will be made by the hiring official at time of job offer.

**How You Will Be Evaluated**

You will be evaluated for this job based on how well you meet the qualifications above.

You will be evaluated in accordance with the category rating procedure as defined in the USDA Demonstration Project Plan. Applicants who meet the basic minimum qualification requirements established for the position will be placed in the Eligible category. Eligible applicants will be further evaluated against criteria for placement in the Quality category. This evaluation is based on the level of your experience, education, and/or training as determined by your responses to the Assessment Questionnaire. Applicants with veterans' preference are listed ahead of applicants who do not have veterans' preference within each category.

Note: If, after reviewing your resume and/or supporting documentation, a determination is made that you have inflated your qualifications and or experience, your score may be adjusted to more accurately reflect your abilities, or you may be found ineligible. Please follow all instructions carefully. Errors or omissions may affect your rating. Providing inaccurate information on Federal documents could be grounds for non-selection or disciplinary action up to including removal from the Federal service.

Clicking the link below will present a preview of the application form; i.e. the online questionnaire. The application form link below will only provide a preview and does not initiate the application process. To initiate the online application process, click the “Apply” button to the right.

To view the application form, visit:https://apply.usastaffing.gov/ViewQuestionnaire/10710575

**Background checks and security clearance**

**Security clearance**

Not Required

**Drug test required**

No

**Position sensitivity and risk**

Noncritical-Sensitive (NCS)/Moderate Risk

**Trust determination process**

Suitability/Fitness

- Required Documents
Required Documents

The following documents are required for your applicant package to be complete. Our office cannot be responsible for incompatible software, your system failure, etc. Encrypted documents will not be accepted. Failure to submit required, legible documents may result in loss of consideration.

- Resume that includes: 1) personal information such as name, address, contact information; 2) education; 3) detailed work experience related to this position as described in the major duties including work schedule, hours worked per week, dates of employment; title, series, grade (if applicable); 4) other qualifications.
- If education is required or you are using education to qualify, you must submit a copy of your college transcripts. An unofficial copy is sufficient with the application if it includes your name and the necessary course information; however, if you are selected, you will be required to submit official transcripts prior to entering on duty. Education must have been successfully obtained from an accredited school, college or university. If any education was completed at a foreign institute, you must submit with your application evidence that the institute was appropriately accredited by an accrediting body recognized by the U.S. Department of Education as equivalent to U.S. education standards. There are private organizations that specialize in this evaluation and a fee is normally associated with this service. For a list of private organizations that evaluate education, visit the NACES website. All transcripts must be in English or include an English translation.
- If claiming veteran's preference, you must submit a DD214, Certificate of Release from Active Duty, which shows dates of service and discharge under honorable conditions. If currently on active duty you must submit a certification of expected discharge or release from active duty service under honorable conditions not later than 120 days after the date the certification is submitted. Veteran's preference must be verified prior to appointment. Without this documentation, you will not receive veteran's preference and your application will be evaluated based on the material(s) submitted.
- If claiming 10-point veteran's preference you must provide the DD214 or certification requirements (see above bullet), plus the proof of entitlement of this preference as listed on the SF-15 Application for 10-point Veterans' Preference. The SF-15 should be included but is not required. Failure to submit these documents could result in the determination that there is insufficient documentation to support your claim for 10-point preference. For more information on veterans' preference visit FEDSHIREVETS.
- Surplus or displaced employees eligible for CTAP, RPL, or ICTAP priority must provide: proof of eligibility (RIF separation notice, notice of proposed removal for declining a transfer of function or directed reassignment to another commuting area, notice of disability annuity termination), SF-50 documenting separation (as applicable), and your most recent SF-50 noting position, grade level, and duty location with your application per 5 CFR 330.

To be considered for this position, you must submit a one-page abstract of your MS thesis and/or Ph.D. dissertation. Also, submit a list of names, addresses, and phone numbers of persons familiar with your stature, contributions, recognition; any honors or awards received; memberships in professional or honor societies; invitations to make presentations at scientific/technical meetings; scientific society office and committee assignments; presentations (other than invitation); and publications.

- Benefits

Benefits
A career with the U.S. Government provides employees with a comprehensive benefits package. As a federal employee, you and your family will have access to a range of benefits that are designed to make your federal career very rewarding. Learn more about federal benefits.

Eligibility for benefits depends on the type of position you hold and whether your position is full-time, part-time, or intermittent. Contact the hiring agency for more information on the specific benefits offered.