

POSITION ANNOUNCEMENT

POSITION TITLE: Scientific Programmer and Analyst

KU TITLE: Research Informatics Developer

APPLICATION DEADLINE: Review begins September 26, 2022, and will continue until a qualified pool of candidates is received.

TENTATIVE START DATE: October 24, 2022, exact start date is negotiable.

SALARY, EMPLOYMENT STATUS, AND FRINGE BENEFITS: Full-time position with benefits, contingent on funding, subject to a six-month probation and annual performance reviews. Onsite position. Salary starts at \$50,000 or greater, depending on qualifications and experience. KU offers great benefits to employees with up to 176 hours of paid vacation earned per year, 96 hours of sick leave earned per year, nine paid holidays plus one discretionary day, group medical, dental, life insurance, and retirement program. Other benefit plan options and State of Kansas discounts offered by various vendors. KU also offers employees educational and professional development opportunities. KGS at KU is a great place to work! The University actively encourages applications from members of underrepresented groups. Recent college graduates are encouraged to apply.

POSITION OVERVIEW:

The Scientific Programmer and Analyst participates as part of a research team in the design and implementation of geophysical software, and geophysical data processing. This position will create and modify documents, codes and make updates to support applications' user interface and/or hardware use. This position will test, troubleshoot, and perform technical work required to implement solutions. Position also will format, process, and analyze various types of geophysical data (primarily seismic) related to code development.

RESPONSIBILITIES:

(70%)

- Write functions and utility programs in C++ to implement in the existing code.
- Optimize code to be included into GUIs of existing software using C++ Builder.
- Directed review of scientific journal articles and implement algorithms in C++.
- Test, troubleshoot, and perform technical work required to implement solutions.

(15%)

- Perform preliminary processing following prescribed steps suitable for the analysis method necessary for the further development of algorithms and applications. Data processing steps include formatting, quality control checks, pre-processing (e.g., assign field geometry and trace editing), noise suppression, and basic velocity analysis.
- Perform enhanced analysis or re-processing specifically tuned for relevant targets to detect and image weak seismic signatures necessary for the further development of algorithms and applications.
- Collaborate with geophysicists and geologists to interpret geologic targets and/or seismic events and characterize the subsurface.

(10%)

- Collaborate on technical reports, including assisting with writing and making figures.
- Assist with short courses, customer support, and preparation of software materials, CDs, USB drives, manuals, etc.

5% Section Support

- Other duties as assigned by supervisor.

REQUIRED QUALIFICATIONS:

1. Bachelor's degree in Geophysics, Physics, Math, Electrical or Computing Science or related degree with relevant coursework and/or research, to be completed by the time of appointment.
2. Strong background in numerical methods as evidenced by application materials.
3. Strong problem-solving skills as evidenced by application materials.
4. Recent proven experience programming in C/C++, and demonstrated with authored code.
5. Scientific or engineering data programming experience in academic or professional settings, submission of example(s) will be required from finalists.

PREFERRED QUALIFICATIONS:

1. Experience in programming geophysical algorithms.
2. Experience in critically reviewing existing scientific-algorithms implementations.
3. Experience with seismic data processing or other relevant signal analysis.
4. Experience in working with GUIs.
5. Proven reliability with attendance, staying focused on task, and meeting deadlines.

APPLICATION PROCEDURE:

Apply online only at <https://employment.ku.edu/staff/23336BR>.

In addition to the online application, the following documents must be received:

1. Cover letter addressing the required and preferred qualifications and position requirements
2. Resume
3. Contact information for three professional and or academic references (name, email, phone, relationship to reference)
4. Example of work that demonstrates scientific or engineering programming you have done (e.g., from a previous research position or academic coursework) **will be requested from finalists.**
5. Unofficial transcripts *will be requested from finalists.*

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CONTACT INFORMATION:

Annette Delaney, Kansas Geological Survey, University of Kansas. adelaney@ku.edu or 785-864-2152.

KANSAS GEOLOGICAL SURVEY: The Kansas Geological Survey (KGS) is a research and service division of the University of Kansas that investigates and provides information about the state's geologic and groundwater resources. The KGS has no regulatory authority and does not take positions on natural resource issues.

KGS scientists pursue research related to surface and subsurface geology, energy resources, groundwater, and environmental hazards. They develop innovative tools and techniques, monitor earthquakes and groundwater levels, investigate water-quality concerns, and map the state's surface geology. Their analyses, findings, and data are shared with the scientific community and general public through publications, online resources, and

presentations. The KGS also houses thousands of oil and gas and water well records filed with the state over several decades as well as thousands of rock cores and cuttings brought to Earth's surface during oil and gas drilling.

The main headquarters of the KGS is in Lawrence on the west campus of the [University of Kansas](#), and the [KGS Well Sample Library](#) is in Wichita. Between the two locations, the KGS has a staff of approximately 115 employees, including 35 student employees. The KGS reports to the [Vice Chancellor for Research](#) at the University of Kansas and has a 12-member [advisory council](#) to provide review and guidance.

[More...](#)

LAWRENCE: A city of approximately 95,000, Lawrence is located on a rolling landscape 35 miles west of the major metropolitan area of Kansas City and 20 miles east of Topeka, the state capital. Home to [Haskell Indian Nations University](#) (<http://www.haskell.edu>) as well as KU, Lawrence offers the cultural and athletic events of a university setting. For more information on Lawrence, please visit the [Lawrence Convention and Visitors Bureau](#) (<http://www.visitlawrence.com>), the [Lawrence CyberVillage](#) (<http://www.ci.lawrence.ks.us>), or the [City of Lawrence](#) (<http://www.lawrenceks.org>) web pages.

The University of Kansas prohibits discrimination on the basis of race, color, ethnicity, religion, sex, national origin, age, ancestry, disability, status as a veteran, sexual orientation, marital status, parental status, gender identity, gender expression and genetic information in the University's programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Director of the Office of Institutional Opportunity and Access, IOA@ku.edu, 1246 W. Campus Road, Room 153A, Lawrence, KS, 66045, (785)864-6414, 711 TTY.