Graduate Research Assistant software developer
Los Alamos National Laboratory

Start date: any time between now and February 2013.

Job description

The Influenza Sequence Database at Los Alamos National Laboratory has an opening for an enthusiastic graduate research assistant with strong computing skills and an interest in scientific computing involving analysis of genetic sequences.
Please review carefully the conditions for eligibility for a GRA position at LANL www.lanl.gov/careers/career-options/student-internships/graduate/index.php.

The GRA will work directly with Dr Catherine Macken, PI of the Influenza Sequence Database, a database-backed website which serves tools for influenza research. The GRA will be responsible for the maintenance of a number of existing software tools, developing new tools that operate in the current environment, interacting with the databases, and participating in research projects by creating data analysis scripts in close collaboration with the PI. An enthusiastic intern, with appropriate starting skills can benefit enormously from the wide variety of activities involved in the ISD. This position is a good way to expand skill sets before applying for permanent employment or to develop research ideas before enrollment in a Ph.D program.

Los Alamos National Laboratory is located at high altitude in the foothills of the Jemez Mountains. The region is physically very beautiful, with many opportunities for outdoor activities; it enjoys abundant sunshine. The nearby city of Santa Fe is known for its cultural richness.

Job requirements – minimum

Ability to work independently; demonstrated ability to write clear, annotated, accessible code; demonstrated ability to prepare relevant documentation; experience with Unix/Linux; experience with postgreSQL or similar.

Additional required skills/training

An educational background that matches at least one of the three skill sets described below, in order to make rapid progress in at least one of three near-term projects. Longer-term, the successful GRA will have opportunities to expand his/her skill sets through working at the user-interface, algorithm and database levels.

Preferred skill sets for near-term projects:

1. strong perl and database experience along with some exposure to BLAST and tree building using PhyML/RAxML (and an interest in evolutionary analyses);
2. perl, systems experience (freebsd at the level of installing perl modules and scientific applications) and enough sql to work on existing queries;
3. Java and sequence alignment experience.

Priority will be given to skill sets 1 and 2. In the absence of strong perl, a candidate with excellent skills in object-oriented programming and motivation to quickly develop competence with perl will be considered favorably.

If a candidate has strong computing skills but lacks experience in bioinformatics software, such as BLAST and PhyML, then the PI will provide basic training in these tools. An interest in biological applications of computer science is very important, although previous experience with biology is not necessary.

Terms

1. Applicants must be prepared to spend at least 6 months full-time at LANL. Preference will be given to applicants who commit to at least one year.
2. Applicants can be foreign nationals provided they satisfy the conditions for a GRA (see link above). LANL is on the e-Verify system, so that foreign national graduates in STEM subjects can obtain extensions to OPT.
3. Applicants may be able to take courses from the University of California campus at LANL during the internship.

To apply

Please send resume, including descriptions of relevant work, cumulative GPA and current transcript (unofficial is fine) to Catherine Macken: cmacken@lanl.gov.
Please contact Dr Macken if you would like to know more before applying.