# Research Scientist

**Institute for Genomic Biology and Coordinated Science Laboratory College of Engineering**

**University of Illinois at Urbana‐Champaign**

The Institute for Genomic Biology (IGB) and the Coordinated Science Laboratory (CSL) have an opening available for a Research Scientist with CompGen. CompGen is a campus‐wide initiative in computational genomics being led by CSL and IGB. The National Science Foundation (NSF) and the National Institute of Health (NIH) have provided significant funding for CompGen to build a computational genomics instrument to accelerate genomics research that will allow the managing and processing of genomic information and algorithm development, while providing high accuracy of results, resilience to errors, and scalability with growing volumes of data.

CompGen is combining the Urbana‐Champaign campus’s collective strengths and expertise in

genomic research and large‐scale parallel systems and big data. Biologists and bioinformatics specialists are working with computer engineers and scientists to develop new technology that will enable genomic and individualized medicine breakthroughs. More than 35 multi‐disciplinary faculty members and researchers are involved along with an international consortium of companies, hospitals, and laboratories. CompGen is positioning the University of Illinois to be the world leader in innovation in computing that is fundamentally changing the way big genomic data are analyzed. We are looking for an individual who will provide leadership and deep technical expertise to the development of the leading‐ edge CompGen computational architecture.

List duties and responsibilities:

* Interface with industry consortium partners to develop and/or acquire prototype hardware.

Monitor emergence of new storage and compute technologies and analyze their utility for the CompGen instrument.

* Contribute to the creation and maintenance of documentation on all hardware components.
* Coordinate physical changes to instrument hardware so as to minimize impact on users Assist research teams identify computation primitives and map primitives to hardware implementations.
* Participation in the research community, both on and off campus, in the form of program committees, review panels, and other activities.
* Develop hardware acceleration methods for applications and toolkits identified as critical for genomics research.
* Coordinate hardware testing and development efforts with other on‐campus groups.
* Seek opportunities for collaborative interaction and research opportunities within Illinois.
* Proposal preparation in response to other research opportunities.
* Contribute to and oversee the implementation of the developed algorithms using good software engineering principles.

Minimum Qualifications:

* M. S. in computer engineering, computer science; or related field,
* Experience with either high‐performance computing or computational genomics
* Experience with hardware and board‐level design.

Preferred Qualifications: List preferred

* Ph.D. preferred in computer engineering, computer science; or related field
* Experience with non‐volatile memory technologies
* Experience with GPU programming; experience with mapping applications to FPGAs
* Experience with computational genomics applications; knowledge of administration, implementation, and device drivers in Linux
* Knowledge of storage system designs;
* Knowledge of sequential and parallel file systems;
* Knowledge of scripting languages such as Python, Perl, and Tcl/Tk.

The Research Scientist position is a full‐time, benefits‐eligible academic professional position appointed on a 12‐month service basis. The expected start date is as soon as possible after the closing date. Applicants may be interviewed before the closing date; however, no hiring decision will be made until after that date. Salary is commensurate with experience and qualifications.

To apply for this position, please create your candidate profile at [http://jobs.illinois.edu](http://jobs.illinois.edu/) and upload your cover letter, resume, and names/contact information for three references by May 15, 2015. Full consideration will be given to complete applications received by the closing date. For further information regarding application procedures, contact Amy Pruitt, [aepruitt@illinois.edu,](mailto:aepruitt@illinois.edu) 217‐244‐1802.

*Illinois is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, religion, color, national origin, sex, sexual orientation, gender identity, age, status as a protected veteran, or status as a qualified individual with a disability. Illinois welcomes individuals with diverse backgrounds, experiences, and ideas who embrace and value diversity and inclusivity. (www.inclusiveillinois.illinois.edu).*