

## **Senior Bioinformatician/Cheminformatician position**

**Closing date – Open until filled**

Dr. David Wishart is a Distinguished University Professor in the Department of Biological Sciences at the University of Alberta. He is a highly respected scientist who operates one of the largest and best-equipped laboratories at the University of Alberta. His research facilities are situated in the Department of Biological Sciences and the Centennial Centre for Interdisciplinary Sciences on the University of Alberta campus. Dr. Wishart's laboratories contain more than \$10 million in cutting-edge analytical equipment and high-end computers to support some of the world's most advanced metabolomics, cheminformatics and bioinformatics research. Dr. Wishart has active research programs in precision health, cancer (lung, breast), infectious diseases (COVID-19), neurological diseases (Alzheimer's, ALS), kidney diseases, animal/livestock health, forestry research, microbiome research, food chemistry, structural biology, portable sensor systems and metabolomics technology development. He has active collaborations with more than 30 scientists around the world. His laboratory also maintains more than 70 online scientific databases and webservers that routinely receive more than 35 million web accesses each year. Additional information about Dr. Wishart and his laboratory can be found on The Metabolomics Innovation Centre (TMIC) website at [www.metabolomicscentre.ca](http://www.metabolomicscentre.ca)

Under the general direction of the Principle Investigator (PI), the Senior Bioinformatician/Cheminformatician is responsible for assisting and leading various research projects in the fields of bioinformatics and cheminformatics with a special focus on metabolomics or chemical genomics. They will also be responsible for designing, developing and maintaining software and computer systems in the PI's lab. The individual will work with other researchers to plan and coordinate software development, meet reporting requirements, track progress, and prepare manuscripts. The individual will also be responsible for the development and maintenance of software, web applications, and databases for both laboratory and public use. The individual is responsible for responding to user queries or urgent matters regarding the lab's computer systems and assisting in the training of new staff.

### **Duties:**

#### **Software Development (55%)**

- Develops software and software pipelines to solve specific bioinformatics or cheminformatics problems and assists in research
- Develops and maintains web applications for general use, including publicly available bioinformatics/cheminformatics tools and lab management systems
- Creates and maintains databases for new and existing web applications

- Provides advice and assistance on computer operations, networking, and software development
- Assists and leads research projects; working with other researchers to coordinate development, meet necessary requirements, and prioritize activities
- Works closely with other research scientists to determine appropriate data analysis strategies and data representation/organization models for projects within the lab, and provides feedback
- Participates in the preparation of abstracts and manuscripts for publication

### **IT administration (35%)**

- Maintains web application servers by troubleshooting problems, applying software updates, making configuration changes, and migrating software applications to new servers or cloud computing suppliers as needed
- Maintains existing web applications and software by updating software components, fixing bugs and adding new features when required
- Introduces and integrates new technologies and installs and configures new software
- Documents the configuration of the servers and web applications using standard operating procedures (SOPs)
- Ensures servers are properly monitored, suitable backups are maintained, and restoration abilities are in place
- Manages lab resources including code repositories, email accounts, user accounts, SOPs and the lab wiki
- Performs database administration including database backups, optimization of database queries, ensuring data consistency, and designing/updating database schema
- Develops plans for computing infrastructure re-organization as needed, and ensures the computing resource requirements are met while staying within the budget

### **User Support and Training (10%)**

- Responds to user enquiries for help with web applications
- Troubleshoots any reported user problems
- Assists with the training of new staff and students.

### **Qualifications**

- PhD in Computing Science and/or Bioinformatics and/or Cheminformatics
- Extensive experience and proficiency with the following:
  - Experience using multiple programming languages such as Ruby, Python, Java, C, C++, or R.
  - Bioinformatics/cheminformatics data processing: data collection, curation, visualization and presentation
  - Experience in the field of machine learning or artificial intelligence

- Experience using version control systems (e.g. Git)
- Experience with web server setup and configuration. Experience creating and using Docker (or other) containers would be an asset.
- UNIX-based operating systems for server administration
- Database design and administration (e.g. MySQL).
- Experience with web design and layout would be a plus but not required.
- Biology, chemistry, bioinformatics tools, cheminformatics tools, data structures, algorithm theory, database design
- Excellent written and verbal communication skills
- Ability to document procedures, coordinate with other researchers, respond to user inquiries and prepare scientific papers

### **To Apply:**

Please send inquiries and applications to Dr. Wishart administrative team at:  
[wishartadmin@mailman.srv.ualberta.ca](mailto:wishartadmin@mailman.srv.ualberta.ca).

Applications should include a cover letter, CV as well as the names and contact information of three references.

Closing date: We will begin considering applications immediately until the position is filled.

We thank all applicants for their interest; however, only those individuals selected for an interview will be contacted.

### **How to Apply**

Email [wishartadmin@mailman.srv.ualberta.ca](mailto:wishartadmin@mailman.srv.ualberta.ca).

*All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. If suitable Canadian citizens or permanent residents cannot be found, other individuals will be considered. The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit persons; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.*