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## RESEARCH ASSOCIATE: NOVEL PROTEIN CHARACTERIZATION

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The Department of Chemical Engineering and Applied Chemistry at the University of Toronto (Toronto, Ontario, Canada) has one opening for a full-time Research Associate for a 1-year term to **characterize novel proteins of environmental origin and develop new methods for screening anaerobic enzymes**. This role presents a unique opportunity to conduct basic research that will have a clear and immediate impact on Canada's green economy. This role is part of Structural Proteomics in Toronto (SPiT), a leading centre for genome-scale protein science. With long-term support in place from the provincial and federal governments (Genome Canada), U.S. National Institutes of Health and the private sector, we are currently expanding our research team in the area of enzyme characterization.

### *PROJECT OBJECTIVE*

The objective of the BEEM project (Bioproducts and Enzymes from Environmental Metagenomes) is to develop microbial cultures and enzymes to biodegrade contaminants and generate value-added products from waste. Our multidisciplinary team, consisting of biochemists, engineers, industry leaders, and policy experts, will ensure that the technologies developed in this research will be quickly commercialized for industrial and field applications.

### *POSITION RESPONSIBILITIES*

#### **Research**

- Develop methods for anaerobic, high throughput expression of novel proteins from clones
- Develop new methods for high throughput screening of proteins for desired activities

#### **Communication**

- Write research progress reports and user protocols for the methods he/she develops
- Write manuscripts for peer-reviewed publications, including compiling information from co-authors, collecting and analyzing data, and summarizing relevant literature
- Prepare and present posters and platform presentations at conferences

- Present seminars on research results, enzyme screens developed, and other related topics to both internal (project team) and external audiences (project sponsors, collaborators, etc.)
- Train students and researchers on the use and development of enzyme screens and other enzyme biochemistry lab procedures as needed

## **Qualifications**

### ***EDUCATION***

- Ph.D. in biochemistry or a related discipline or an equivalent combination of education and experience

### ***EXPERIENCE***

- 10 years of relevant experience including high throughput protein expression and characterization methods and anaerobic microbial metabolism

### ***OTHER***

- Proven track record for performing enzymology and molecular biology experiments. Ability to accurately maintain laboratory records and operate either Windows or Macintosh computers. Experience includes gene cloning, protein expression and library screening, expression of recombinant microbial proteins in various protein expression systems, purification of recombinant proteins using affinity columns and other purification protocols, enzymatic assays for enzymes involved in biodegradation and biosynthesis of biopolymers, and biochemical analysis of microbial bioproducts. The candidate also requires some experience with bioinformatic data analysis.
- Ability to work both independently and as a member of a team
- Collegial and collaborative style and willing to share knowledge and assist colleagues
- Proven time management skills, exemplary organizational skills and a commitment to research
- Willing to keep up-to-date on the latest enzyme characterization research and techniques

## **Assets**

- Experience with anaerobic culturing methods
- Proficiency in biochemical characterization of microbial enzymes

### ***HOW TO APPLY***

Please email a cover letter and resume (2 page max.) to Melanie Duhamel ([mel.duhamel@utoronto.ca](mailto:mel.duhamel@utoronto.ca)). We thank all applicants for their interest; however, only those considered for an interview will be contacted.

***APPLICATION DEADLINE: NOV. 23, 2009***

*The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from visible minority group members, women, Aboriginal persons, persons with disabilities, members of sexual minority groups, and others who may contribute to the further diversification of ideas.*