Alumni Career Night:
Biology
March 25, 2009

Coordinated by the Career Centre, UT Mississauga

Alumni Guest Speakers:

Kathy Piliouras
Senior Study Manager, Clinical Development Group
GlaxoSmithKline

Annil Ramsumair
Clinical Supplies Associate
AstraZeneca

Chad Jankowski
Health Promotion/Student Development
University of Toronto Mississauga

Dominika Klej
Student, Master of Biotechnology

Priya Ramaswamy
Genetic Counselling

Rosa da Silva
PhD Candidate, Department of Biology
Vice President-UTMAGS

Career Centre, UT Mississauga
Room 3094, South Building
905-828-5451
careers.utm@utoronto.ca
www.utm.utoronto.ca/careers
Sample Career Options for Biology Students

There are many different career options available for Biology graduates. Below is just a sampling of types of positions that graduates may choose. Please note: This is not an exhaustive list as there are many other career options available. Some positions listed may also require additional education or experience.

- Laboratory Technician*
- Quality Control Analyst*
- Teacher/Professor*
- Radiation Therapist*
- Bioinformatics Programmer
- Technical Writer*
- Doctor*
- Research Technician
- Pharmaceutical/Technical Sales Representative
- Environmental Educator
- Toxicologist
- Food Scientist*
- Cytogenetic Technologist
- Biostatistician
- Medical Illustrator*
- Intellectual Property Manager
- Government/Regulatory Affairs Specialist
- Physical Therapist*
- Wildlife Biologist*
- Speech-Language Pathologist*
- Fresh Water Ecologist*
- Paramedic*
- Genetic Counsellor*
- Veterinarian*
- Optometrist*
- Pharmacist*
- Dentist*
- Microbiologist*
- Massage Therapist*
- Science Magazine Editor/Writer
- Environmental Lawyer
- Epidemiologist*
- Health Policy Analyst
- Medical Librarian
- Bacteriologist
- Dietician*
- Health Records Administrator*
- Audiologist*
- Chiropractor*
- Entrepreneur*

Note: career profiles for many of the above jobs are available in the Career Centre. Those marked with an asterisk (*) can be viewed using Career Cruising, a Canadian electronic career guide available in the Centre.

Alumni Career Profiles

The following are excerpts from alumni career profiles of Biology graduates listed on the UT Mississauga Career Centre web site. To read the complete profiles of these and other alum, visit www.utm.utoronto.ca/careers/alumni_profiles.html

Nicole Phillips
Nicole Phillips is a research coordinator for an international study on hereditary breast and ovarian cancer at the Centre for Research in Women's Health—a division of Sunnybrook and Women's College Health Sciences Centre.

Some of her responsibilities include managing the database, maintaining communication with all the centres, contacting participants for follow-up interviews or mailing out the questionnaire, getting genetic testing approved and then ordering the tests, assisting on various projects and supervising work done on the project.

"The main challenges are maintaining contact with the many centres as well as balancing everything else I have to do," says Nicole, who found her job on the UTM Career Centre website. "The main reward is working on a project that I know will help women in the end."

Nicole says in order to be successful as a researcher; you must have a keen eye for detail, be a quick learner, and have good organizational, communication, and problem solving skills.
Mike Mukesh Sharma  

Mike Mukesh Sharma is the Manager of Diagnostic Imaging for Headwaters Health Care Centre. Challenges of the job include budgeting and dealing with difficult patients, staff, physicians. But from those challenges, Mike sees many rewards. He values being able to provide the best tools and resources to his staff to ensure that they can provide the best patient care to the community and being able to foster an environment of continuous quality improvement and education.

For one year, Mike held a clinical placement at St. Michael’s Hospital.

“I showed my skills and was subsequently hired,” says Mike who also went on to earn a post-grad diploma in Radiological Sciences. "However, my (U of T) degree played a huge role in my advancement into the Management area.”

Mike, who also worked as Radiographic Technologist at St. Michael’s Hospital for 10 years, credits various other experiences with helping him get to where he is today. These include a 1-year stint as President of the Ontario Association of Radiology Managers, volunteering on the committee of the Integrated Healthcare Enterprise (IHE) Canada, and UTM’s Extern Program where he observed a hospital environment.

“You have to be a people person, have good leadership skills, and show integrity, compassion, and a great deal of understanding,” says Mike, who, in retrospect, thinks it may have been a good idea to incorporate more IT (information technology) into his education.

Mike says the key to his success has been his passion for healthcare and taking care of people

“If you are a people-oriented person and have great compassion and empathy for others, then this is a great field to expand your talents,” he says. “It is not a dead end job. Many other branches can be taken once you are in this field.”

More career profiles of UT Mississauga alum: [www.utm.utoronto.ca/careers/alumni_profiles.html](http://www.utm.utoronto.ca/careers/alumni_profiles.html)

Exploring Career Options in Biology

In addition to finding information online or in print, it is important to explore career options by talking with people in the field. The UT Mississauga Career Centre offers a number of programs, services and events to help you do this, including:

**Extern Program**
You are matched with a professional in your preferred career area and you go to the host’s work place to job shadow them for 1-5 days in February (Reading Week) and/or after exams finish in May. More information and deadline dates to apply at [www.utm.utoronto.ca/careers/extern.html](http://www.utm.utoronto.ca/careers/extern.html)

**Alumni Career Connections Program**
A partnership of the Career Centre and Office of Advancement, this new program allows current students to make connections with UT Mississauga alumni working in the field of their choice to arrange an information interview. Information interviewing is not interviewing for a job, but rather a way for you to gain valuable insights into your career area of interest, that would otherwise be difficult to find in books or on the internet. The insights you gain will allow you to make more informed decisions, whether you are planning your career or looking for a job. For example, request to speak with:

- Clinical Supplies Associate, AstraZeneca
- Cytology Technologist, Life Labs
- Science Teacher, American International School
- Scientist, Toronto General Research Institute
- Strategy & Operations Consultant, Deloitte Consulting LLP

For complete information, visit [www.utm.utoronto.ca/careers/alumni_connections.html](http://www.utm.utoronto.ca/careers/alumni_connections.html)
Networking Binder
Our print networking binder contains contact information for professionals in the field willing to answer your career questions. Contacts are University of Toronto alumni. Samples of past or current contacts include professionals from Boojum Research Technologies, Becton-Dickson & Co., Yonge Street Animal Hospital, MDS Pharma Services. Ask for more information at the Career Centre, Room SE3094.

Networking Events
Congratulations – by receiving this package, you have already attended one Alumni Career Night. Keep an eye out for more events in the future, including additional networking events and career fairs.

Career Counselling
Make an appointment to speak one-to-one with one of our professional Career Counsellors. Appointments may be booked by visiting us in SE3094 or by calling 905-828-5451.

Gaining Relevant Experience

Start early by seeking relevant opportunities that will help you gain experience and develop the skills that employers want. Some possible ways to gain relevant experience include:

Part-time, summer and volunteer work in positions that allow you to develop and demonstrate marketable skills. These might include both technical skills and "soft" skills like teamwork, project management, leadership, report writing, and presentation skills. The Career Centre web site offers listings of part-time, summer and volunteer opportunities throughout the year at www.utm.utoronto.ca/careers.

Samples of previous listings on the Career Centre Online include:

- Summer Events Coordinator, Toronto Bay Initiative
- Summer Research Program, UoT Banting and Best Institute
- Summer Student Lab Technician Conagra Foods
- Plant Taxonomist/Botanist, Toronto Zoo
- Field Biologist, Toronto Conservation Authority
- Research Assistant, UTM Biology
- Science Instructor, UofT Science Outreach
- Volunteer, Punjabi Community Health Centre
- Emergency Response Team Volunteer, Canadian Red Cross Society
- Technical Analyst, Pfizer Inc.
- Species Information Assistant, Lake Ontario Conservation Authority
- Botanists, Biologists, Ecologists, Ministry of Natural Resources
- Laboratory Technician (Microbiology), Pepsi Bottling Group
- Naturalization Crew Leader, Credit Valley Conservation

Get involved in on-campus extra-curricular activities: Join on-campus clubs and community associations that demonstrate your commitment and enthusiasm for particular industries. On-campus clubs include: Erindale Biological Society (EBS), Erindale College Special Response Team (ECSpeRT), Let's Talk Science Partnership Program or the Pre-Med Club. You can also use these opportunities to network with people in your career field. For example, as a club executive, you might organize a career event in partnership with the Career Centre and take on some of the responsibilities of contacting professionals to take part in such an event.

Attend relevant conferences that are being held in southern Ontario. Use these opportunities to increase your knowledge of the field, network with people working in the field and with potential employers. Volunteer to work at these conferences—it is a great (and cheap) way to meet a lot of people.
**Consider the Research Opportunity Program (ROP).** UTM’s ROP allows students in their second, third and fourth year to earn one full course credit by participating in a faculty member’s research project. Previous projects include: "Neuropeptide Distribution and Activity in Insects"; "Neuropeptides and amine function in the central and peripheral nervous system of insects"; "Feedback between Ragweed and Soil Microflora"; among others. Deadline for applications is usually mid-March.

**Apply for a Work-Study opportunity on campus.** This program provides eligible University of Toronto students with an opportunity to work on campus and gain valuable career and/or academic related experience. Positions are posted with the Career Centre every September. Past postings that might be of particular interest to Biology students have included:

- Research Assistant
- Bioinformatics/Genome Research
- Insect Lab Research Technician
- UTM Recycling Coordinator
- M. Biotech Assistant
- Animal Lab Assistant
- Herbarium Assistant
- Environment Health Policy Research
- Fruit Fly Research Assistant

For more information, including eligibility requirements, visit www.utm.utoronto.ca/careers/work_study.html

**Finding Work**

**Small Group Workshops**
We offer a variety of workshops covering different phases in the career planning and work search process, including Now That I’m Graduating, What’s Next, Networking, Effective Interviews, and others. Check the Career Centre events calendar for upcoming workshops. We also offer sessions with information about applying for graduate and professional school, including Road to Grad School.

**Employment Advisors**
Our professional staff are available to assist you, whether in pre-booked one-to-one resume critiques or practice interviews, or to answer your job search questions during our drop-in times in the afternoons. Drop by SE3094 for more information and to learn how we can help you get started.

**Employment Services**
The Career Centre offers online job postings for current students and for up to two years after graduation. Programs include: full-time work following graduation (Recent Graduates Employment Service); graduating year recruitment (Graduating Students Employment Service); Summer Employment; Part-time/Temporary; On-Campus; Ontario Work Study Program on-campus jobs; and Volunteer Listings.

For access to postings for current students, simply visit www.utm.utoronto.ca/careers and register online. Those seeking access to full-time listings (graduating year or recent graduates) must attend an orientation session prior to accessing listings. Please ask the Career Centre for details.
The following are **samples of opportunities** that have previously been listed on the Career Centre Online (samples have been edited for length):

<table>
<thead>
<tr>
<th>Job Title: QUALITY ASSURANCE OFFICER</th>
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<tbody>
<tr>
<td><strong>Department:</strong> Canadian Food Inspection Agency</td>
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<tr>
<td><strong>Description:</strong> Report to Burnaby Laboratory Director-monitors and evaluate Burnaby Laboratory quality system, verify that the system meets the requirements of ISO (International Standards Organization) standards and of the Standards Council of Canada. Lead and manage the activities of the Burnaby Laboratory Quality Assurance Team, and act as mentor to Laboratory personnel in the quality assurance area. Maintain documentation control for the Laboratory’s quality assurance system, including documentation on all complaints, non-conformities, and results of investigations. Coordinate or conduct internal audits for compliance with Standards Council of Canada CAN-P-4D (ISO 17025) standard. Receive and follow up on complaints concerning data quality. Provide advice concerning the development, implementation and management of laboratory quality assurance systems.</td>
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<tr>
<td><strong>Qualifications</strong> Graduation from a recognized university with a degree in science with a specialization in chemistry, microbiology or a closely related field. Experience working in a management role in a quality assurance/quality control program in an analytical laboratory. Experience using a laboratory information management software system. Experience using common office software such as WordPerfect, Word, Excel and e-mail</td>
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<tr>
<th>Job Title: SMALL SCALE FERMENTATION LAB TECHNICIAN</th>
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<td><strong>Responsibilities:</strong> Placing safety as the highest single priority in the workplace. Safe start-up, operation and shut-down of lab fermentation equipment. Sets up experimental equipment and improves the control, operations, and reliability of existing experimental equipment. Submits samples to analytical for analysis, then collates the data and enters it into a database or graphics program on a computer. Reads process and laboratory indicators to collect data, discerns erroneous readings, and repairs or replaces the instrument or indicator. Should have or shortly develop ability to log data, organize data, perform basic calculations, and develop some observations based on results. Must be diligent in monitoring/observing experiments and reporting significant responses. Troubleshoots operating problems and relays pertinent information to appropriate personnel. Instructs and trains new technicians in equipment operation and in basic principles behind operation. May be called upon to travel to support short-term assignments. Reports to the Lab Lead.</td>
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<td><strong>Qualifications:</strong> B.S. in Biology, Chemistry, or Engineering-based science. Zero to five years of industrial experience, preferably in a lab environment. Practical hands-on research expertise with industrial microbial fermentation processes and demonstrated mechanical aptitude are considered significant pluses. Possesses both mechanical skills and bench chemistry skills (i.e., calibration and operation of various lab equipment). Maintains the ability to offer suggestions for procedural improvements and clearly communicate process problems and results. Demonstrates good communication skills with all co-workers and a “can do” attitude. Establishes and maintains professional performance standards. Asks pertinent questions regarding the safe operation of their process.</td>
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Job Title: MARKET RESEARCH ANALYST (Millennium Research Group MRG)  
Job Category: Biotechnology and Pharmaceutical  
Description: Produce comprehensive market research reports and conduct custom consulting projects. Gather, interpret and synthesize data on market conditions, business opportunities and global trends in medical and healthcare industries. Will experience researching growing and dynamic medical markets across the globe, speaking with leading industry and medical specialists, presenting findings to company executives/investors, managing critical MRG clients, taking on leadership and management responsibilities and travel to industry events/client visits.  
Qualifications: Undergraduate degree with a proven record of academic success (all disciplines). Strong critical thinking and analytical skills. Superior oral and written communication skills. Excellent creative problem-solving skills. Strong initiative and proven leadership capabilities. Proficiency in Microsoft Word and Excel. Knowledge of medical device industry an asset but not mandatory.

Job Title: RESEARCH TECHNICIAN (Toronto Western)  
Department: Medicine, Neurology Research  
Description: Working under the direction of more senior staff, the Research Technician utilizes general knowledge and skills to perform routine, standardized laboratory research techniques and procedures. In this role, the technician will assist in the recruitment of research subjects; perform human physiological studies such as magnetic brain stimulation and electroencephalography, data analysis and preparation for presentation and publication. In addition, the Technician is responsible for maintenance of the laboratory by ordering supplies and backing up data. Experience with human physiological studies is desirable.  
Qualifications: B.Sc. in biological science or related field. Minimum 6 months related experience. Experience with magnetic brain stimulation and electroencephalography preferred. Demonstrated attention to detail, good dexterity and hand-eye coordination. Excellent organizational skills. Excellent verbal and written communication skills. Excellent interpersonal skills. Computer literacy/database management.

Job Title: CHEMISTRY TEACHER, Grades 7-12, independent school (Appleby College)  
Description: Applicants should have a willingness to commit to the full co-curricular program. Appleby teachers are expected to integrate the use of information technology into the curriculum  
Qualifications: Background in Biology, Chemistry and Environmental Science. Proven and relevant academic experience. Strong laboratory skills and experience. A proven ability to have a caring rapport with students, Grades 7 to 12. Strong communication skills. An enthusiastic and productive work ethic. Ontario Teachers’ Certificate an asset.

Other Relevant Resources

Selected Web Sites:

- BIOTECanada – “the national industry-funded association representing the broad spectrum of biotech constituents including emerging established and related service companies in the health, agricultural, and industrial sectors.” Find information about the different industries and companies within biotech. http://www.biotech.ca/index.php
- The PetriDish by BioTalent Canada http://www.biotalent.ca/petridish/default.asp (incl. job postings, bio-economy career profiles, and career planning tools)
- Science Careers (from the journal Science) http://sciencecareers.sciencemag.org (incl. job postings, list of employers, articles, job market info, job profiles)
- Canada’s Research-Based Pharmaceutical Companies – for the latest information about this industry as well as links to member companies http://www.canadapharma.org/
• Food Safety Network – this site provides information about the current hot topics related to the food industry. There is information for students, consumers, and researchers: http://www.foodsafetynetwork.ca/aspx/public/default.aspx
• Canadian Institute of Food Science and Technology – the national association for food industry professionals http://www.cifst.ca/
• Strategis: Canada’s Business and Consumer Site – search business information by sector.: http://strategis.ic.gc.ca/sc_indps/engdoc/homepage.html?categories=e_bis

Sample of Career Centre Library Resources:

Biology Job Market Analysis - This report provides an overview of the biology job market and is designed to introduce you to some of the choices that are open to students with a biology or chemistry degree. Industries covered include: Biotechnology, Pharmaceutical, Government, Law Enforcement, Health Care, Applied Health Sciences, Public Health, Medical Research, Food, Academia, Education. The following information is provided: an introduction to each industry; career paths in those industries; sample job titles; industry trends; potential employers; interviews with people working in these industries; sample job postings; further industry-specific resources. Visit us in SE3094 and ask to view a copy of this report.

Additional Resources:

• Alternative Careers in Science
• Canada’s Top 100 Employers
• Career Cruising (electronic career guide)
• Career Information Binders
• The Big Guide to Living & Working Overseas
• The Canadian Student Employment Guide
• What You Can Do With A Science Degree
• Panel - Pharmaceutical and Related Careers: Tap into a Booming Industry that Saves Lives!
• Panel - Beyond the Stethoscope: Careers in Health Care
• Panel - Careers in Biology
• Great Jobs for Biology Majors
• Clinical Laboratory Science Careers
• Careers for Animal Lovers and Other Zoological Types
• Careers for Nature Lovers and Other Outdoor Types
• Resource Guide for Careers in Toxicology
• The Yale Guide to Careers in Medicine and the Health Sciences
• and many more...

Keep up-to-date with all the latest information about career fairs, industry panels, networking events and more.

Sign-up for the Career Centre’s e-mail newsletter via our home page or add ‘Jimmi C’ as a friend on Facebook!

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