



Canadian Biotechnology Education Resource Centre
 MaRS Centre, Heritage Building
 101 College Street, Suite 120-E
 Toronto, ON, Canada
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**THE BIOTECHNOLOGY INITIATIVE
 LECTURES**

MacLeod Auditorium, Medical Sciences Building,
 University of Toronto

**MERCK FROSST EXPLORING MINDS
 WORKSHOPS**

Stone Lobby, Medical Sciences Building,
 University of Toronto

Tuesday, April 14, 2009

10:00 a.m.	"CRIME SCIENCE" Ms. Linda Williams, Centre of Forensic Sciences	"A MICROBIAL MYSTERY" Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College
11:00 a.m.	"DEVELOPING DRUGS FOR VIRAL PANDEMICS" Dr. Eleanor Fish, Toronto General Research Institute, University Health Network	"FRONTIERS IN GENOMICS" Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College
Noon	"USING DNA AS A TOOL TO CONSERVE VANISHING SPECIES AND REVEAL NATURAL HISTORY" Oliver Haddrath, Dept. of Natural History, Royal Ontario Museum	
1:00 p.m.	"BIOTECHNOLOGY IN YOUR WORLD" Dr. Paula Demacio, Professor of Biotechnology, Centennial College	"CSI AT HOME AND IN THE LAB" Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College

Wednesday, April 15, 2009

10:00 a.m.	"STEM CELLS IN HEALTH AND DISEASE" Dr. Jean Wang, Division of Cell and Molecular Biology, University Health Network	"A MICROBIAL MYSTERY" Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College
11:00 a.m.	"DNA FROM FOSSILS AND THE BENEFIT OF TIME TRAVEL" Dr. Regis Debryne, Ancient DNA Centre, Department of Anthropology, McMaster University	"FRONTIERS IN GENOMICS" Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College
Noon	"THE SCIENCE AND SOCIAL IMPACT OF GENOMICS" Dr. Shane Green, Director, Outreach, Ontario Genomics Institute	
1:00 p.m.	"CRIME SCIENCE" Ms. Linda Williams, Centre of Forensic Sciences	"CSI AT HOME AND IN THE LAB" Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College

THE BIOTECHNOLOGY INITIATIVE LECTURES

(Program with Ontario Curriculum 2008 links)

**Tuesday, April 14th, 10:00 a.m. and
Wednesday, April 15th, 1:00 p.m.**

“CRIME SCIENCE”

Ms. Linda Williams, Centre of Forensic Sciences

Discover the latest advances in the field of crime fighting. Join a forensic scientist to investigate how DNA analysis and body-fluid identification methods are used to solve real criminal cases.

- Genetics (Gr. 11-SBI3C)
- Cellular Biology (Gr. 11-SBI3C)
- Genetic Processes (Gr. 11-SBI3U)
- Evolution (Gr. 11-SBI3U)
- Diversity of Living Things (Gr. 11-SBI3U)
- Molecular Genetics (Gr. 12-SBI4U)
- Medical Technologies (Gr. 12-SNC4M)
- Biotechnology (Gr. 12-SNC4M)

Tuesday, April 14th, 11:00 a.m.

“DEVELOPING DRUGS FOR VIRAL PANDEMICS”

Dr. Eleanor Fish, Head, Division of Cellular & Molecular Biology, Toronto General Research Institute, University Health Network

There have been 10 pandemics of influenza A in the past 300 years. Pandemics of influenza occurred in 1918, 1957 and 1968. The pandemic of 1918 and 1919 killed 50 million to 100 million people. With today's world population of 6.5 billion — more than three times that in 1918 — even a relatively "mild" pandemic could kill many millions of people. The threat of the SARS coronavirus and the global HIV epidemic have hastened the development of antiviral drugs

- Cellular Biology (Gr. 11-SBI3C)
- Genetics (Gr. 11-SBI3C)
- Genetic Processes (Gr. 11-SBI3U)
- Evolution (Gr. 11-SBI3U)
- Diversity of Living Things (Gr. 11-SBI3U)
- Molecular Genetics (Gr. 12-SBI4U)
- Medical Technologies (Gr. 12-SNC4M)
- Pathogens and Disease (Gr. 12-SNC4M)
- Science and Public Health Issues (Gr. 12-SNC4M)
- Biotechnology (Gr. 12-SNC4M)
- Disease and Its Prevention (Gr. 12-SNC4E)

Tuesday, April 14th, 12 noon

"USING DNA AS A TOOL TO CONSERVE VANISHING SPECIES AND REVEAL NATURAL HISTORY"

Oliver Haddrath, Dept. of Natural History, Royal Ontario Museum

Learn how the Department of Natural History at the Royal Ontario Museum is using DNA to study a variety of different question ranging from how best to preserve endangered species, to finding out how all life on earth is related to each other. This presentation will showcase a few of these projects, ones that deal with conservation, systematics, biogeography and the tree of life."

- Genetics (Gr. 11-SBI3C)
- Genetic Processes (Gr. 11-SBI3U)
- Evolution (Gr. 11-SBI3U)
- Diversity of Living Things (Gr. 11-SBI3U)
- Molecular Genetics (Gr. 12-SBI4U)
- Biotechnology (Gr. 12-SNC4M)

Tuesday, April 14th, 1:00 p.m.

"BIOTECHNOLOGY IN YOUR WORLD"

Dr. Paula Demacio, Professor of Biotechnology, Centennial College

Discover the wonders of biotechnology in your world! Journey to various places in your city to uncover how biotechnology affects your lives. From the grocery store to the pharmacy, the pet store to the police station, exciting advances in biotechnology can be found everywhere!

- Genetics (Gr. 11-SBI3C)
- Genetic Processes (Gr. 11-SBI3U)
- Diversity of Living Things (Gr. 11-SBI3U)
- Molecular Genetics (Gr. 12-SBI4U)
- Biotechnology (Gr. 12-SNC4M)

Wednesday, April 15th, 10:00 a.m.

"STEM CELLS IN HEALTH AND DISEASE"

Dr. Jean Wang, Researcher, Division of Cell and Molecular Biology, University Health Network

Stem cells are master cells that provide the source material for all organs and tissue. They are found in the embryo and as rare cells in adult tissues including blood, skin, muscle and intestines. Because of their regenerative capabilities, stem cells have the potential to treat or cure diseases. Recently, scientists have discovered ways to reprogram adult human cells to behave like stem cells, bypassing the ethical issues associated with the use of human embryonic stem cells. In addition, recent evidence

suggests that tumour growth may also be driven by stem cells, a notion which has important implications for cancer treatment.

- Genetics (Gr. 11-SBI3C)
- Cellular Biology (Gr. 11-SBI3C)
- Genetic Processes (Gr. 11-SBI3U)
- Diversity of Living Things (Gr. 11-SBI3U)
- Molecular Genetics (Gr. 12-SBI4U)
- Medical Technologies (Gr. 12-SNC4M)
- Biotechnology (Gr. 12-SNC4M)
- Science and Public Health Issues (Gr. 12-SNC4M)

Wednesday, April 15th, 11:00 a.m.

“DNA FROM FOSSILS AND THE BENEFIT OF TIME TRAVEL”

Dr. Regis Debruyne, Professor, Ancient DNA Centre, Department of Anthropology, McMaster University

This presentation will explore the possibilities of extracting DNA from fossil remains and using it to solve long-standing questions about origins, migrations and extinction. The feasibility of resurrecting extinct animals via cloning will also be discussed.

- Genetics (Gr. 11-SBI3C)
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- Molecular Genetics (Gr. 12-SBI4U)
- Biotechnology (Gr. 12-SNC4M)

Wednesday, April 15th, 12:00 noon

"THE SCIENCE AND SOCIAL IMPACT OF GENOMICS"

Dr. Shane Green, Director, Outreach, Ontario Genomics Institute

This presentation is an energetic look at where genomics has come from and where it might lead.

- Cellular Biology (Gr. 11-SBI3C)
- Genetics (Gr. 11-SBI3C)
- Genetic Processes (Gr. 11-SBI3U)
- Molecular Genetics (Gr. 12-SBI4U)
- Medical Technologies (Gr. 12-SNC4M)
- Biotechnology (Gr. 12-SNC4M)
- Science and Public Health Issues (Gr. 12-SNC4M)

MERCK FROSST EXPLORING MINDS WORKSHOPS

Tuesday, April 14th (10:00 am)
Wednesday, April 15th (10:00 am)

“A MICROBIAL MYSTERY”

Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College

An outbreak occurs! A bacterial contaminant is suspected! How do microbiologists determine the identity of the microscopic culprit? Be a microbial sleuth and track down the world's smallest living organisms. In this hands-on workshop students will use modern microbiological laboratory techniques to identify unknown, non-pathogenic bacteria.

Tuesday, April 14th (11:00 a.m.)
Wednesday, April 15th (11:00 a.m.)

“FRONTIER IN GENOMICS”

Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College

Students enrolled in this workshop will get hands-on experience in genomic identification and how this information can be used for identification of drug targets, new proteins and genetic differences between individuals.

Tuesday, April 14th (1:00 p.m.)
Wednesday, April 15th (1:00 p.m.)

“CSI AT HOME AND IN THE LAB”

Faculty, Department of Biological Sciences and Applied Chemistry, Seneca College

Learn how to isolate DNA using only materials that you can find in your household. Then using techniques, learn how they can lead to catching the criminal.