



# Celebrate National Science and Technology Week

## Science and Technology Lecture Series Grades 9 and up

October 18 and 19, 2011  
Only \$3.50 per student

Register for one of the Museum's exciting lectures showcasing dynamic research by Canadian scientists and engineers. This is a perfect opportunity for students in grades 9 and up to explore potential careers in science, while supplementing your science curriculum! Each presentation is approximately 45 minutes.

## What Museums Do: Behind the Scenes

Grades 5 and up

October 20, 2011  
Only \$8 per student

There's more to museums than meets the eye! Go behind the scenes and learn more about some of the exciting work we do. Discover how we collect, restore, preserve and store artifacts as you visit our collection facilities and meet the people who work there. See some of the more than 40,000 artifacts in storage, and discover what they reveal about the transformation of Canada.

## Show Math

Grades 7 and up

October 20, 2011 at 10 a.m.  
Only \$3.50 per student

Show Math is a live, multimedia stage show combining humour + science + math + entertainment to equal lots of fun. The show is followed by free hands-on workshops, starting at 12:30 p.m. Presented by Carleton University Women in Science and Engineering.

**Take Part!** While visiting the Museum, take the opportunity to explore our new exhibition, *Energy: the Power to Choose*.

Please complete and return the enclosed registration form by **October 14, 2011**

**Book early to avoid disappointment**  
**613-991-3053, Toll free: 1-866-442-4416**



# Science and Technology Lecture Series

All presentations are described in the language of their delivery

**Tuesday October 18<sup>th</sup>, 2011**

**10:00 a.m.**

## **Up in the Air! — Rob Erdos, Chief Test Pilot**

When you are flying over 10 kilometers from the safety of the earth's surface, where the air pressure is too low to support life and the outside temperature hovers around -55 °C, you want your flight to be as comfortable as possible. Join the National Research Council's Chief Test Pilot to learn about his exciting and nerve-wracking work in his 650 km per hour "laboratory." Discover how Canadian researchers are taking new technology up in the air for the first time to ensure that our next flight to our favorite travel destination will be safe and uneventful.

*National Research Council Canada*

## **Des déchets comme carburant de voitures? — Mariane Trepanier**

Découvrez le processus de production de diesel propre à partir de la collecte des déchets jusqu'à la production de carburant. Apprenez en quoi les technologies de catalyseur et de réactions chimiques constituent des avenues prometteuses pour la production de bio-carburant.

*Université d'Ottawa*

**11:15 a.m.**

## **Splitting Atoms, Canadian Style — Jeremy Whitlock**

Nuclear fission has transformed the world of energy, medicine, and industry. Canadian scientists and engineers have been at the forefront of this science since its discovery in 1939. Discover how some of the world's first fission experiments led to one of the world's most efficient power reactors, CANDU, as well as to nuclear medicine and cancer therapy. Learn how reactors work, and exactly how hard it is to split the atom.

*Atomic Energy of Canada Limited*

## **Souffler la victoire : Un cours intensif sur l'aérodynamique — Annick D'Auteuil**

Vous êtes-vous déjà demandé comment les athlètes se préparent pour les Jeux Olympiques? Les habiletés, l'entraînement et le talent jouent un rôle important, mais saviez-vous que les athlètes des équipes canadiennes ont aussi la science de leur côté? Joignez Annick D'Auteuil du Conseil national de recherches Canada pour une présentation fascinante au sujet de l'aérodynamique des sports et de l'utilisation d'une soufflerie. Vous découvrirez comment la recherche en aérodynamique rend non seulement des personnes, mais aussi des structures telles que des ponts, des édifices ou des voitures, plus efficaces en réduisant leur traînée.

*National Research Council Canada National Research Council Canada*

**12:45 p.m.**

## **Satellites and Space Debris: Keeping Space Safe — Brad Wallace**

Space debris—derelict satellites, stray nuts and bolts, and even dust-like particles—orbit Earth at thousands of kilometers per hour. While this doesn't usually cause problems, sometimes collisions happen. This creates more debris, and can possibly affect the power grid, the ability to forecast weather, and even your cell phone. Learn about the role that satellites play in our lives, and how Canada is helping to keep space safe.

*Defence Research and Development Canada*

## **Évolution des réseaux cellulaires : où en sommes-nous actuellement? — Abdellah Chehri**

Avez-vous un téléphone sans fil *intelligent* qui vous ouvre à un monde de messages textes, de courriels, de fureteur WEB, et même à des appels vidéos? Êtes-vous curieux de mieux comprendre cette technologie. Sa récente évolution mènera à un développement rapide des réseaux radiomobiles. Cet exposé permet aux participants de découvrir les réseaux GSM (2G), UMTS (3G), LTE (4G+), GPRS et d'en acquérir le vocabulaire de base.

*Université d'Ottawa*

# Science and Technology Lecture Series

All presentations are described in the language of their delivery

**Wednesday October 19<sup>th</sup>, 2011**

**10 a.m.**

## **Unmanned Aerial Vehicles (UAVs): The New Air Force — Major Mark Wuennenberg**

Explore the world of UAVs, or remotely piloted aircraft, and see how these sophisticated aircraft serve as the eyes and ears for troops on the ground. You'll learn first-hand how this cutting edge technology is transforming the way that the Air Force conducts its peacetime and combat missions. You'll get a feel for this state-of-the-art aircraft as it embarks on risky reconnaissance missions in some of the most dangerous, remote areas of the world.

*Department of National Defence*

## **Les molécules en 3D — Alison Flynn**

Participez à cette présentation interactive et découvrez comment les chercheurs synthétisent des nouvelles molécules, telles que des médicaments, en tenant compte de leur structure trois dimensionnelle.

*Université d'Ottawa*

**11:15 a.m.**

## **Exploring the Smallest Things with Big Detectors: ATLAS at the Large Hadron Collider — Gerald Oakham**

The 6000-ton ATLAS experiment located at CERN's 27-kilometer Large Hadron Collider is currently collecting vast amounts of data. Learn how these huge experiments are used to explore the structure of the universe we live in, and how we search for evidence of the Higgs Boson, Dark Matter, Extra-dimensions in space, and even tiny black holes.

*Carleton University*

## **La vérité sur la représentation des sciences au cinéma — Ann Therriault**

Il ne faut pas croire tout ce que l'on voit au cinéma, surtout s'il s'agit d'un film catastrophe. Découvrez comment le film *Voyage au centre de la Terre* n'est peut-être pas aussi réaliste que vous le pensiez sur le plan scientifique.

*Natural Resources Canada*

**12:45 p.m.**

## **Icy Challenges in Canadian Waters — Anne Barker**

Here in Canada, we are no strangers to ice! It is found in most of our waterways and adjacent oceans and its presence can be a problem for engineers or for anyone that has to navigate through ice-covered water. Explore the world of ice in a talk by Anne Barker of the National Research Council. Learn about the science behind ice and find out how it influences coastal engineering, the design of bridges and other offshore structures, and the shipping industry. Discover the "cool" research that Canadian scientists are doing to harness both the power and potential of this common material.

*National Research Council Canada*

## **Tout ce que vous avez toujours voulu savoir sur les protéines sans jamais oser le demander — Nathalie Méthot**

Durant cette présentation vous apprendrez de quoi sont faites les protéines ainsi que leurs rôles dans le corps humain. On vous montrera des exemples de protéines en 3D. De plus, vous apprendrez comment la biotechnologie permet la fabrication de protéines améliorées. Finalement, on parlera de l'importance des protéines dans l'alimentation.

*La Cité Collégiale*

**National Science and Technology Week 2011 at the  
Canada Science and Technology Museum  
REGISTRATION FORM**

School Name \_\_\_\_\_

School Address \_\_\_\_\_

City \_\_\_\_\_ Province \_\_\_\_\_ Postal Code \_\_\_\_\_

Phone Number ( ) \_\_\_\_\_ Fax Number ( ) \_\_\_\_\_

Teacher's Name \_\_\_\_\_ Grade \_\_\_\_\_ Number of Students \_\_\_\_\_

E-mail Address \_\_\_\_\_

Estimated Arrival Time \_\_\_\_\_ Estimated Departure Time \_\_\_\_\_

Please place a cross in the box next to the lecture(s) you wish to attend and **submit one form per attending class**. The presentation title (below) indicates in which official language it will be offered.

***Tuesday October 18<sup>th</sup>, 2011***

10:00 a.m.	<input type="checkbox"/> Up in the Air!	<input type="checkbox"/> Des déchets comme carburant de voitures?
11:15 a.m.	<input type="checkbox"/> Splitting Atoms, Canadian Style	<input type="checkbox"/> Souffler la victoire : Un cours intensif sur l'aérodynamique
12:45 p.m.	<input type="checkbox"/> Satellites and Space Debris: Keeping Space Safe	<input type="checkbox"/> Évolution des réseaux cellulaires : où en sommes-nous actuellement?

***Wednesday October 19<sup>th</sup>, 2011***

10:00 a.m.	<input type="checkbox"/> Unmanned Aerial Vehicles (UAVs) The New Air Force	<input type="checkbox"/> Les molécules en 3D
11:15 a.m.	<input type="checkbox"/> Exploring the smallest things with big detectors: ATLAS at the Large Hadron Collider	<input type="checkbox"/> La vérité sur la représentation des sciences au cinéma
12:45 p.m.	<input type="checkbox"/> Icy Challenges in Canadian Waters	<input type="checkbox"/> Tout ce que vous avez toujours voulu savoir sur les protéines sans jamais oser le demander

***Thursday October 20<sup>th</sup>, 2011***

9:30 a.m.	<input type="checkbox"/> What Museums Do: Behind the Scenes
12:30 p.m.	<input type="checkbox"/> What Museums Do: Behind the Scenes

*Please enquire to confirm availability*

10:00 a.m.	<input type="checkbox"/> Show Math, <i>in English</i>
1:00 p.m.	<input type="checkbox"/> Show Math, <i>in French</i>

Cost: \$3.50 per student per day on October 18, 19 and 20.  
\$8 for October 20 (What Museums Do). Payment is due upon arrival.  
Please make cheques payable to the Canada Science and Technology Museum.

**PLEASE SEND YOUR REQUEST BY FAX TO (613) 993-7923**

**or by mail to:**

Canada Science and Technology Museum  
Reservation Office  
P.O. Box 9724, Station T  
Ottawa, Ontario. K1G 5A3

