

SMCC Heads Up for the week of September 30, 2013

The following are some of the stories that the Science Media Centre of Canada sent out to regional, national and international media on behalf of the Canadian research sector. Should you require further information, please go to our website at www.sciencemediacentre.ca. If you do not want to receive this information, please advise lis.ostiguy@sciencemedia.ca



[Not tonight dear, it's raining](#) - PLOS ONE -

Folk wisdom has long suggested that animals behave strangely in response to the weather. Now, researchers from Brazil and Canada have used pheromone-based studies to confirm that three unrelated insect species — the cucurbit beetle, the true armyworm moth and the potato aphid — curb their mating behaviour in response to falling atmospheric pressure, which often precedes rainfall that can injure the bugs.

[Canada's Future as an Innovative Society](#) - The University of Ottawa's Institute for Science, Society and Policy will release a set of ten criteria that need to be met in order to move Canadian innovation policy to the next level. Entitled *Canada's Future as an Innovative Society: A Decalogue of Policy Criteria*, the 16-page document is designed to support a coordinated, evidence-based approach to innovation policy development and assessment. It has been endorsed by eleven leaders in the Canadian innovation community; others will be able to add their endorsements online once the document is released.



[A jab for tuberculosis](#) - *Science Translational Medicine* - A new vaccine could boost the protection provided by the BCG (Bacillus Calmette–Guérin) tuberculosis vaccine. Scientists from McMaster University designed the new vaccine and found that it produced the desired immune response when they tested it in healthy adults. BCG is mostly effective at preventing a form of childhood meningitis, but offers only variable protection from adult lung tuberculosis. If additional clinical trials are successful, the new vaccine would be given following an initial BCG vaccination.

[Honeybees dislike the smell of diesel](#) - *Scientific Reports* - Honeybees rely on smell and vision to locate, identify, and recognize flowers, but researchers have found that diesel exhaust pollution, particularly nitrogen dioxide, disrupts honeybees' sense of smell. They think that diesel exhaust pollution may reduce the ability of honeybees to pollinate food crops.

[Paradox lost: Explaining Canada's Research Strength and Innovation Weakness](#) - The Council of Canadian Academies releases its inaugural synthesis report, drawing on the findings of seven previous reports on Canada's performance in science and technology. It finds that changing conditions will require businesses to become more innovative and could enable public policy to play a more effective role.

[Sea ice decline affects Greenland's caribou](#) = *Nature Communications* - Early mortality among caribou calves in West Greenland may be linked to Arctic sea ice decline. Researchers at Penn State University show that Arctic sea ice decline, due to regional warming, is tied to earlier spring emergence of young nutritious plants. The caribou, however, still reproduce at the usual time of year, leading to a mismatch between plant availability and caribou birth.



[Bird deaths in Canada](#) - *Avian Conservation and Ecology* - Human activities contribute to approximately 269 million bird deaths a year in

Canada, according to new estimates by researchers from Environment Canada and other institutions, published in a special issue of *Avian Conservation and Ecology*. By far the biggest cause of death was predation by domestic and feral cats, followed by collisions with windows and transmission lines and loss of nests to industrial forestry and agriculture. Other causes of death included bycatch in fisheries, habitat destruction caused by offshore and onshore oil exploration, and collisions with wind turbines.



[Water security, risk and society -](#)

Philosophical Transactions of the Royal Society A - Environmental change calls for new approaches to managing human demands on the environment. In this special issue of the journal, researchers assess water security in Canada. Professor Howard Wheeler from the University of Saskatchewan lays out a science-based agenda for the [Saskatchewan River Basin](#). In a separate paper, Karen Bakker, from the University of British Columbia, examines strategies for [improving water security](#).

[The Future of Scientific Publishing – Science](#) - This week's issue of *Science* includes a special news feature on "The Future of Scientific Publishing," including the rise of open access journals. Canadian experts in open access publishing are available for those following the debate.

Events

[The Global Impact of Infectious Diseases: Reduction by Vaccination](#) -Lorne Babiuk, Vice President of Research, University of Alberta. The event is free, but [registration](#) is required. You can also join the live [webcast](#). For more information, call [613-696-2101](tel:613-696-2101). October 8, 2013, 10:00 - 11:30 AM ET International Development Research Centre (IDRC), W. David Hopper Room, 150 Kent Street, Ottawa, ON

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A NEW FEATURE: Each week, SMCC will highlight interesting news from our supporters.

[New breast cancer jab could slash hours spent in hospital and help save the NHS millions](#) –

Tweeted by Rx&D - Current treatment, injecting Herceptin via a drip, takes up to 90 minutes per session for about a year. The new jab is effective within five minutes.

[Understanding soil nitrogen management using synchrotron technology](#) - As food security becomes an increasingly important global issue, scientists are looking for the best way to maintain the organic matter in soils using different methods of fertilization and crop rotation. Increasing the organic matter in soils is important to growing crops for numerous reasons, including increased water-holding capacity and improved tilth. Scientists have recently used the Canadian Light Source (CLS) to evaluate the effects of various sources of supplemental nitrogen fertilizer on the chemical composition of soil organic matter. Results of their experiments to study this question were recently published in the journal *Biogeochemistry*.

[GE Driving Natural Gas Vehicle Adoption in Canada; GE's CNG In A Box™ System Chosen for Canadian Natural Gas Fueling Stations](#) -

Seeking to meet the demand for natural gas used for fueling vehicle fleets, Chelsea Natural Gas Ltd. purchased 20 [GE Oil & Gas](#) (NYSE: GE) [CNG In A Box™](#) fueling systems as part of the Canadian energy company's efforts to develop the country's natural gas fueling infrastructure. This order marks the first entry of GE's compressed natural gas (CNG) fueling solution into Canada.