

Four More Universities Add a SPARK



Acadia University, McMaster University, the University of Toronto and Wilfrid Laurier University were all successful in the recent Students Promoting Awareness of Research Knowledge (SPARK) competition. They join 10 other institutions currently receiving SPARK funding from NSERC and 14 others who have participated in the program.

Through SPARK, students are recruited, trained and paid to write stories based on the NSERC-supported research at their institution. SPARK

World's Science Media Come to Montréal in October

NSERC is a major sponsor of an upcoming conference that will bring together hundreds of top science journalists from around the world. The 4th World Conference of Science Journalists will be held Oct. 4-8 in Montréal and will showcase advances in Canadian research to approximately 400 members of the international media. This is the first time the event is being held in Canada, and it will give the Canadian scientific community international attention. During the conference, the media will participate in tours to various science and medical research centres and will take part in workshops and discussions of hot topics and issues in science news coverage. Presentations such as "Mind Reading: What Do We Know About the Brain?" and "Polar Science Blossoms in Canada" will be given. In addition to NSERC's general sponsorship of the conference, the NSERC Newsbureau will host a Cyber Garden at the event, which will be used by journalists to prepare and send stories to their home media outlets. Information about the conference can be found at www.wcsj2004.com.

students gain marketable skills, and participating institutions and NSERC benefit from increased public awareness of their role in the research enterprise.

While NSERC has now been running the national program for six years, SPARK itself is celebrating its 15th anniversary this year. NSERC is pleased to congratulate program founder Owen Roberts, Director of Research Communications at the University of Guelph, and his SPARK team for the

tremendous success of their program. The Guelph program has won a number of awards over the years, including the Canadian Council for the Advancement of Education's 2003 Gold Award for "Best Program: Public Affairs, Marketing and Communications."

Following is an NSERC SPARK story by York University's SPARK student writer Jason Guriel, reprinted from YFile, York's daily electronic newsletter.

Space-Age Building Blocks

Chemical reactions often involve two uncharged molecules. However, scientists have long known that mixing charged molecules, or ions, with uncharged molecules can yield some of the fastest reactions known to chemistry. These reactions and how they take place in the universe is leading York chemistry Professor Diethard Bohme on a quest that looks to the heart of the very existence of life.

"An understanding of these reactions," says Bohme, "may greatly contribute to an understanding of how life developed in our universe."

With the help of radio astronomers and mass spectrometry, Bohme, Canada Research Chair in Chemical Mass Spectrometry, is identifying and studying these extraordinarily fast reactions as they occur in the great interstellar clouds between the stars.

Building on the work of radio astronomers – who have identified more than 100 different kinds of interstellar molecules – Bohme and graduate student Voislav Blagojevic have elucidated the chemical reactions that produce simple amino acids in these interstellar clouds.

"And amino acids," said Bohme, "are the building blocks of life."

Just published in *The Monthly Notices of the Royal Astronomical Society*, Bohme and Blagojevic's groundbreaking findings are now being examined by NASA.

Space chemistry is only just one area of interest for Bohme. Funded by NSERC, NRC and the company MDS Sciex, Bohme is also studying the chemistry and biochemistry of metal ions. As a result of this work, Bohme has demonstrated the use of metal ions in analytical mass spectrometry as well as in the catalytic reduction of nitrous oxide by carbon monoxide. An ongoing project of his mimics the way metal ions attach to biological molecules, and then measures biochemical activity in the gas phase. Plus, in collaboration with NRC Halifax, Bohme's research group is also developing new mass-spectrometric approaches that will lead to better analytic methods for identifying water toxins.

Bohme's work is interdisciplinary, drawing on astronomy, physics, chemistry and biology.



Prof. Diethard Bohme