

# Roberta Bondar visits Dal

BY NATALIE MACLELLAN

Dr. Roberta Bondar, valiantly fighting off pneumonia, spoke to a crowded McInnes Room Sunday evening. Dr. Bondar, Canada's first female astronaut, was the guest of the Dalhousie Science Society.

"I am a firm believer in constant goals, constant education, and [I am] constantly improving myself," said Dr. Bondar. No kidding. She is currently a BSc, MSc, PhD, and an MD, just to mention a few. She also holds certification in scuba diving, parachuting, and holds a private pilot's license.

Dr. Bondar told the audience that ever since she was a child, she always wanted to be a doctor, a scientist, a "space-man", and a photographer. "I'm working on number four now," she laughed.

Although centred around her trip to space, the prevailing theme in Dr. Bondar's talk was one of encouragement and motivation. She encouraged students to take risks, stressing the advantages of learning new languages and studying in foreign lands and institutions.

"It's not enough to take just a science degree, or just an arts degree, or just a business degree. It's a changing world," said Bondar. She stressed the importance of understanding how the world works not just to those who study science, but to people in all fields of academia.

"I think people who don't want to understand science have given up on life," she said. "I find it impossible to see how someone could

prefer watching Wheel Of Fortune or Jeopardy to watching the Discovery Channel."

Dr. Bondar joined the Canadian space program when it began in 1983 and in 1992 she flew on the space shuttle Discovery. One year before she was scheduled to fly, the space shuttle Challenger crashed, and Dr. Bondar recalled seeing the pain suffered by family members of the crew. She began to re-evaluate the risks she was taking as she realized that her family and friends were also going to have to deal with the consequences. She said that the fact that they supported her goals and encouraged her to achieve them is the greatest gift they could have given her.

There is still a great risk involved in space travel, Dr. Bondar warned. People are going into space regularly now, but that doesn't mean it is any safer. "Never take it for granted," she asked.

Dr. Bondar laughed at the irony of being asked by NASA to sign piles of autographs the night before she took off. "It's like, if something happens to you, these autographs will be worth a lot of money," she said.

The ironies didn't end there. "Science becomes extraordinarily difficult," Bondar commented about trying to conduct her experiments in space. "It's really hard work — to put a pen down, it has to be covered in velcro."

She explained that in space, it is very easy to lose things because everything is floating around. Here on earth, when you lose something you



look on a surface for it. In space, Dr. Bondar explained, you have to look in air, which isn't as easy as it sounds.

"Have you ever tried to focus in front of you when there's nothing in front of you to focus on?" she asked.

Dr. Bondar's current scientific focus is space medicine. Space travel induces changes in the body's regulatory system to adjust to the lack of gravity. Many of these changes are similar to ones that cause disease here on earth. A number of studies are carried out on astronauts to see how their bodies readjust to the absence of gravity.

Dr. Bondar is also studying photography, and plans to compile her photos for museum exhibits. She also hopes to use her photos to help Canadians understand what it is to be Canadian.

"It's not just a culture thing," she said. Her approach to photography is to "look at things from space — the big picture."

# Students teach an environmental lesson

BY ANTHONY SKELTON

With their own cups and plates in hand, approximately fifty Dalhousie University students marched en masse, as part of a course requirement, to Wendy's Restaurant on Quinpool Road with the hopes of leading us further down the road to a cleaner, greener environment.

"We are trying to promote the social acceptance of bringing your own plates and cutlery to restaurants so we can cut down on the waste created from eating fast food," said Erin Palmer, a second year Biology/Psychology student at Dalhousie University who participated in the project.

"Restaurants have come a long way in reducing their waste; it is now the responsibility of the consumer to take the extra step in helping to improve the environment."

The students who participated in the project are enrolled in a class on nature conservation taught by Dr. Martin Willison, professor in the Department of Biology and School of Resource and Environmental Studies at Dalhousie. Part of the class requirement is to think up a project which would have as its goal the promotion of environmental awareness and protection. The project which took place at Wendy's is one of many in the class.

"I was a bit sceptical about the project idea at first," said Dr. Willison. "I thought that the students wanted to have a demonstration in front of Wendy's, but after getting the general idea about what the group wanted to do, I thought it was a great idea and I think the students have done a great job."

Most of the students thought that it was much more productive to ask Wendy's if they could come to the restaurant to eat and use their own plates and cutlery rather than stage a "sixties style" demonstration outside.

"I think that this sort of demonstration is much more productive than any kind of boycott, because it will get a lot more attention from the people in the restaurant," said Robin Mace, a second-year Marine Biology student at Dalhousie. "I

think it is much more productive to teach by example because that seems to work the best."

Though Wendy's was the only site where the project took place, it was not the only restaurant which was asked to participate in the project. MacDonald's was also asked if they would like to take part, but they refused on the grounds that it might potentially generate bad press and that it was also a potential violation of food hygiene regulations.

On why Wendy's participated in the project, Wendy's General Manager, Dave Chisholm, said, "[It's] because we want to do what we can for the environment, we want to be able to help people [who are raising environmental consciousness] in any way that we can. Our main focus in helping these students is to help them get their message across."

For the most part the students were optimistic that their show of environmental concern would be the impetus behind a new trend. Some said they hope that sooner or later the bringing of plates and cutlery to fast food restaurants would be much like bringing your coffee cup to the coffee shop, which many people now do.

"I think that it could be a trend," said Isabelle Aube, a second-year Marine Biology student at Dalhousie. "It has now become a trend to bring your coffee mug with you to the coffee shop, and I do not see why bringing your own Tupperware or container to a restaurant is any harder. We are hopefully just starting a trend."

Although the main motivation behind the project was to raise environmental consciousness, it was also geared toward demonstrating how it is possible for individuals to make a difference and how easy it is to bring your own plates and cutlery with you when you go out to eat at fast food restaurants.

"I think that people can't look at bringing plates around with them as a hassle; they have to look at it as their duty," quipped Nathan Hanna, a third year Biology student at Dalhousie. "It is a hassle to get up and go to work in the morning, but people have to do it."

# Brightest comet of our lifetime

## Hale-Bopp and its mysterious companion fly in

BY KEN SMITH

Fans of the X-Files and the Weekly World News have taken a sudden interest in the Comet Hale-Bopp, visible to us earthlings in late March and early April. Although the appeal of Hale-Bopp is that it will probably be the brightest comet that we will ever see, and should present an amazing spectacle outside of the city, some people are interested in it because of a mysterious companion object sighted alongside it. Is this object an alien ship that is using the comet as a shield for its attack on earth?

News of the companion object first appeared on the web site for "Coast to Coast AM", a late night radio talk show hosted by Art Bell. In November, an amateur astronomer named Chuck Shramek posted a photograph of the comet which included the image of a companion object. An organization called the Farsight Institute claimed that through the use of clairvoyance, they had determined the object to be four times the size of the earth and hollow. They also claimed that it was glowing and producing radio signals.

Although the photograph turned out to be a digitally altered hoax, taken from the web site of the University of Hawaii Institute for Astronomy, the discussion of the companion object is still alive on the internet.

More important, however, is the spectacle which Hale-Bopp will produce for us this spring. The comet was discovered only two years ago, when astronomer Alan

Hale and amateur astronomer Thomas Bopp made independent observations on the same night. At that time, Hale-Bopp was further away from the sun than Jupiter. It soon became evident that the comet was exceptionally bright and would become highly visible in the spring of 1997 as it got closer to the sun.

Hale-Bopp orbits around the sun like the planets; however, the length of its orbit lies far beyond the path of Pluto. When Hale-Bopp rounds the sun after April 1st of this year, it will return to the outer edge of the solar system and not return for 4000 years.

Comets are made out of dust, ice, and frozen gases which are left over from when the solar system originally formed. Since most of their existence is spent far from the sun, the matter comets contain remains preserved in the same condition it was in when the solar system began. Lucy McFadden, an astronomer from the University of Maryland, compared the phenomenon to keeping materials from the origin of the solar system in the refrigerator. Thus, scientists can learn about the formation of planets by studying comets.

Hale-Bopp is approximately 30 kilometres in diameter, which would make it twice as big as Halley's comet, or about the size of a mountain. If a comet this big were to collide with the earth, humans would have the same fate as the dinosaurs. Fortunately, the closest that Hale-Bopp will come to the earth is about 190 million kilometres. As it begins to ap-

proach the sun, radiation will cause the comet to release particles. This will create a tail of gas and dust millions of kilometres long.

According to the Burke-Gaffney Observatory at Saint Mary's University, the best time to see Hale-Bopp will be between March 25th and April 12th. Their advice is to face northwest no earlier than 8 p.m. (or 9 p.m. when the clocks spring forward).

An information session about Comet Hale-Bopp is being put on by Saint Mary's Department of Astronomy and Physics and the Royal Astronomical Society of Canada. The sessions will take place on Tuesday, March 25th and Tuesday, April 1st at 7 p.m. in the McNally Building's Auditorium. Depending on the weather, the public will then be aided in viewing the comet with telescopes and binoculars outside of the McNally Building. More information about the comet can also be found at the observatory's web site (<http://www.stmarys.ca>).

Make sure to watch for the mysterious companion object while observing Hale-Bopp. As you view the beautiful spectacle of the comet's tail across the sky, ask yourself why would an alien ship four times the size of earth be interested in a comet the size of a mountain? And how can a group of aliens clever enough to hide behind an approaching comet make a dumb mistake like forgetting to turn their radio off? Perhaps only those of us with clairvoyance can answer these important questions.

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