



The
ROBERTA BONDAR
FOUNDATION™

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Embracing Science Through Interpreting Art

Dr. Roberta Bondar's relationship with planet Earth was changed forever following her experiences in space as a crewmember aboard the space shuttle, *Discovery*. Even with her 18 years of higher education including: three degrees in science; a medical degree; a specialization in neurology; further sub-specializing in neuro-ophthalmology; and eight years of focused preparation for the mission she wrote,

"Nothing had prepared me for the emotional rendezvous with the planet I had lived upon, studied and thought I knew."

(from *Touching the Earth*, her post-flight memoir)

Her constant goal in the years that have followed her return from space has been to develop a creative, learner-friendly approach to advancing the understanding of environmental science.

The Roberta Bondar Foundation gained official charitable status in July, 2009.



THE ROBERTA BONDAR FOUNDATION IN FOCUS

- * Responds to the recognized need within society to educate and improve knowledge of the environment in a way that stimulates interest, excitement, creativity, responsibility, and for some, the desire for focussed study in this area of science
- * Employs a unique approach, specifically, the fusion of art and science through the technology of photography, to provide a welcoming approach to heightening environmental awareness
- * Aims to help people see their environment in a positive light, to become more attuned to its characteristics and factors that influence change
- * Offers a range of learner-friendly programs that can be customized for all age groups from elementary school age children to mature adults
- * Helps people to understand and adapt to the changing face of the environment and in doing so helps them to ground their fears in a realistic understanding of its potential impact, both for today and for tomorrow.
- * Advances individual and collective desire to contribute toward environmental well being for today and for tomorrow
- * Engages all ages in understanding how natural systems adapt to climate and climate change
- * Responds to learners' preferences and life circumstances through flexible or structured program delivery modes; individual, self-directed or group learning experiences



Welcome to

The Roberta Bondar Foundation

Living on a dynamic planet, we must understand how we can best adapt to continuous change in order to survive and flourish. There is much that we can learn from the natural environment that inspires creativity and innovation.

“Science helps us to understand natural phenomena and their interactions. Through knowledge we are better informed to make decisions that affect our health and welfare and diminish our fears about the future. In turn, we can ask more questions, ultimately moving all of society forward,” explains Dr. Bondar.

What do we know about the environment around us? Why do we need to know more about the natural environment in which we live? How will that knowledge better our lives?

By staying engaged in life-long learning about our changing world the more we will be capable of understanding and responding to its changing face. This is the fundamental principle that underscores the mission and activities of the Foundation.

Through a combination of photography and scientific interpretation the Foundation supports the needs of learners, whether their circumstances and preferences are best served by individual or group experiences, self-directed or interactive learning, flexible or scheduled timeframes. The fusion of art and science is the platform for learning.

The Art: Why learn through aesthetic photography?

Everyone can relate to a photograph. Digital cameras are pretty much universal and give us instant communication through postings on social networks. Our personal histories can be flashed around the world in mere seconds and electronic documentation of our lives is now an expectation of technology. What and how we chose to photograph and how we will use the image teaches us about our interests and creative abilities.

A photograph is also an extension of a photographer's vision and mind, a projection of the outer real world framed by an inner personal world. Mirroring the artist, photographs also are windows to the world and communicate different things to different people. What is obvious to one is invisible to another.

An aesthetically pleasing image in fine art photography creates the opportunity to learn in a different way. It makes us pause as we consider the colours, lines, textures, shapes and relationships of the elements. As the subject of a photograph, the power, grace and intricacy of the natural world intrigue us. We are drawn into art but ask of it questions whose answers overlap those of traditional science. “What am I looking at? What does it mean? How does it work?”

The Science: Can I really like it? Why do I need it?

We are using science all the time. Most often it is invisible to us. More often than not we expect it to be there as applied science in the form of technology. Formal study of science at school gave us concepts and words but few of us really remember very much of it and if we do, it is most likely because we have applied the knowledge as we have gone through life. Now we are in the midst of a new awareness that demands an answer to “How will climate change affect me?”

How will we know if a given answer to that question is correct? We need more knowledge to make such a judgment. How do we know what knowledge is needed? By asking more questions we become more knowledgeable. We learn to respect other life forms that must also live beyond fluctuations on Earth's climate if they are to survive. By questioning and receiving answers we can update our science literacy base that has changed since we were in school.

Photography: A new view

As a means of discovery photography can give us a new way to look at the world. We can re-formulate our relationships as the known becomes the unknown and the unknown becomes the known. Through this non-threatening medium we feel comfortable exploring details, describing what we see, gaining new knowledge and creating new ideas. The more we engage in the science that is captured in a photograph, the more exciting it becomes to figure out how things work. The art draws us in to contemplate our assumptions while science moves us outward with new understanding.

Two of numerous expressions of appreciation received by Robert Gillett, President of Algonquin Community College, following a keynote address that Dr. Bondar delivered to its 2009 Conference.

“I was struck with how Dr. Bondar seizes every moment of the day to live her life to the fullest. She inspired me to consider every moment as an opportunity to learn.”

Shirley Haug, School of Business

“She drew upon that rare combination of intelligence, creativity, and humour to keep us thinking and laughing throughout her address.”

Cath Kenney, School of Media and Design

Extracted from a letter from Minister of Education, Kathleen Wynne, in 2007, in response to Dr. Bondar's leadership as chair of the first-ever Working Group on Environmental Education for the Ontario, Ministry of Education

“You can be assured that your report will provide a basis for moving ahead decisively to ensure that Ontario's students are well prepared to become environmentally literate and concerned citizens who will take an active role in improving their local communities, their country and the world. Thank you for your key role in establishing a vision and clear direction for environmental education in Ontario.”

Extracted from a note congratulating Dr. Bondar on the formation of The Roberta Bondar Foundation

“A Foundation that focuses on heightening environmental awareness and stimulating curiosity across all age groups is long overdue. That it will carry the name of, and be led by, such an accomplished and decorated Canadian places it in a class of its own.”

Don Tapscott

Business Executive, Strategy Consultant, and Author and Co-author of numerous books including *Grown Up Digital*, *Wikinomics: How Mass Collaboration Changes Everything*, *The Naked Corporation*

The Foundation's Activities

The Foundation's interactive website, seminars, lectures, books, field experiences and exhibitions supported by a range of media resources create the programs within which we can examine our relationship to the natural environment, its structure and ecosystems, our ethics and responsibilities.

Sponsored seminars and exhibitions will make substantial contributions toward heightening a population-wide appreciation of our environment and advancing our individual and collective desire to contribute toward its well being for today and tomorrow.

Seminars made available to groups within and beyond the elementary and secondary school community, are both stimulating and engaging. A seminar designed for high school students begins with a focus on the artistry of a group of photographs that capture the beauty and majesty of planet Earth, such as in the boreal forest.



With interest sparked and imagination stimulated through this groundwork, the session advances to group discussion and exploration of the photographs from a scientific perspective. How are the trees threatened? What species are at risk? What will happen in the longer-term with our changing climate? This creates a memorable learning experience.

Exhibitions provide another opportunity for creating “tailored to the learner” awareness of environmental issues. For example, an exhibition on Arctic landscape photography of the Ward Hunt Ice Shelf could explore the forces that shape the Arctic, the changes that have occurred over time, and the implications for loss of biodiversity. A self-paced audio narrative complements each photograph, describing the impact of environmental change that each photograph captures. Following this introduction, one can complete the learning experience by viewing a videotaped



interview with Dr. Bondar, who shares the scientific observations gleaned from her personal explorations of the Arctic. Recurring news coverage on the inevitable disappearance of the Shelf and loss of biodiversity takes on a new reality.

Specific projects could include: The Inuit and Arctic climate; Inner city students out-of-doors; Building community through “science in art” fairs; Seniors as life-long learners; Keeping us healthy in a changing world.

The Inspiration: A Great Canadian, A Great Cause

Dr. Roberta Bondar is unique, not just for being the world's first neurologist in space or for her pioneering space medicine research. Academically one of the most distinguished astronauts to have flown in space, Dr. Bondar is also the only astronaut to use fine art photography to explore and expose Earth's natural environment from the surface.

Seeing the world through the lenses of a medical doctor, scientist, photographer, astronaut and author, Dr. Roberta Bondar follows in her family's tradition of excellence in teaching.

Trained as a member of NASA's Earth Observation Team Dr. Bondar expanded her professional photographic expertise. After her space mission, she continued her photographic explorations honing her artistic and technical skills as an honors student in Professional Nature Photography. As a landscape photographer her work is represented by galleries in London, England, Vancouver, Toronto and Calgary and is featured in numerous books and other publications.

Dr. Bondar's distinctions are many: Officer of the Order of Canada, the Order of Ontario, the NASA Space Medal, induction into the Canadian Medical Hall of Fame and into the International Women's Forum's Hall of Fame, 24 honorary doctorates from Canadian and American Universities, and served as Chancellor of Trent University for six years.

Dr. Bondar is a true Renaissance woman and a great Canadian icon who exhibits a human curiosity and unending drive to reach, and help others reach higher capabilities. She exudes genuine wholesomeness, selflessness, and an unassuming style that makes even the most scientifically uninitiated among us feel comfortable, inspired and ready to learn more under her guidance.

A Lasting Gift – for all concerned

Dr. Bondar and her close associates, who share her commitment to environmental awareness, are working to expand the base of resources that will extend the reach of the Foundation's activities.

All those who have a vested interest in the Foundation whether they be learners or contributors to its resource base, will benefit from their association. They will demonstrate, increase and share their commitment to understanding our changing environment. Sharing Dr. Bondar's values, they will become part of the great adventure of life-long learning. Beyond this, they will contribute to the future well being of all forms of life upon our planet that

are affected by changes in climate. The Foundation is a Registered Charity under The Income Tax Act. Official receipts for donations will be issued for income tax purposes.

"I am not unlike most grandparents. With all of the reports and evidence of threats to the environment, I wonder and worry about what kind of environmental conditions my grandchildren and their children will face. To know that Dr. Bondar and her team will be working to better understand and promote preservation of the gifts our environment provides gives me a sense of great comfort."

Elaine Paterson
Mother of three, Grandmother of five (grandsons)
Former Chief Commissioner — Girl Guides of Canada
Board Chair, North York General Hospital Foundation



The
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THE SYMBOLISM BEHIND THE TRADEMARK

The Earth from space is remarkably pastel to the human eye. Shading from green to turquoise speaks of life on land and sea and in the air. As our protective atmosphere thins into the universe beyond Earth, we are reminded of the delicate balance of life on our planet.

Our spirit takes wing to discover new worlds within Earth as we soar with the energy of imagination, learning and creativity.



The Foundation will welcome your questions and expressions of interest in supporting and contributing toward its educational initiatives. Please contact:

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