

## The Pugwash Program on Science and Society

*"If science is to reach its full potential and draw on the great minds of every country, we must do more to end and prevent conflict... The Pugwash Conference movement, launched by the Russell-Einstein Manifesto of 1955, brought Russian and Western scientists together for more than 40 years to develop common understandings of the dangers of nuclear war and ways of reducing them, and in recent years has constructed a strong dialogue between North and South on the problems of development."*

—UN Secretary General  
Kofi Annan, *Science*,  
7 March 2003

As the Pugwash network of scientists and policy specialists has spread over the years to now include more than 50 national Pugwash groups around the world, so too has the Pugwash agenda broadened to include vitally important issues of energy, environment, health, food security and international scientific cooperation that have fundamental impacts on the security and well being of the world's peoples.

In 1988, at the 38th Pugwash Conference held on the Black Sea, the Pugwash Council issued the Dagomys Declaration, Ensuring the Survival of Civilization, which called upon



Martin Kaplan, Ruth Adams and Jennifer Leaning at the 1998 Pugwash Workshop on Public Health (Havana, Cuba)

"all scientists to expand our concerns to a broad set of interrelated dangers: destruction of the environment on a global scale and denial of basic needs for a growing majority of mankind. Without reducing our commitment to arms reduction and war prevention, we must recognise that environmental degradation and large-scale impoverishment... can lead to a massive catastrophe even if nuclear war is avoided."

To achieve the goals laid out in the Dagomys Declaration, Pugwash has convened recent annual conferences in Mexico (1998), South Africa (1999) and India (2002), and has organized workshops on such issues as:

- *Human Security in Southern Africa* (South Africa, 1998);
- *Public Health in the Developing World* (Cuba, 1998);
- *The Impact of Agricultural Biotechnology on Environmental and Food Security* (Mexico, 2002);
- *Towards the Solution of Economic Inequities in Latin America* (Argentina, 2003).

Under the leadership of its new President, Prof. M.S. Swaminathan of India, renowned agricultural scientist and one of the pioneers of the Green Revolution, Pugwash will continue to utilize its global network of scientists and policy specialists to address the major scientific and technological issues facing the international community.



Dorothy Hodgkin, past President of Pugwash and Nobel Laureate in Chemistry, 1964



Gabriel Baramki (Palestine), Karen Hallberg (Argentina) and Esmat Ezz (Egypt) at the 51st Pugwash Conference, New Delhi, March 2002

## Pugwash and Regional Security

For decades, Pugwash has provided informal channels for officials and public figures to explore ways of resolving many of the world's major conflicts. In the 1970s, such efforts included attempts to end the Vietnam War, resolve the Arab-Israeli dispute, and reduce Greek-Turkish tensions over Cyprus and the Aegean Sea. Currently, Pugwash organizes regular track-II workshops on the Israeli-Palestinian and Middle East conflicts, the South Asian stalemate between India and Pakistan, and tensions on the Korean peninsula, where conflict in any of these regions could lead to the use of nuclear weapons.

Because of its stature as a respected international scientific organization, the Pugwash Conferences have a credibility as an 'honest broker' that allows it to bring together parties to a conflict in ways not available to most other international NGOs.

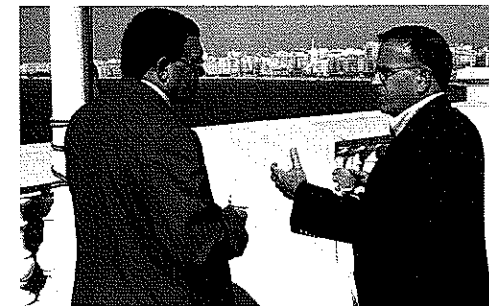
Over the past several years, Pugwash has organized meetings in Egypt, Jordan and Iran to discuss new approaches for reviving the Israeli-Palestinian peace process and promoting stability in the Middle East and Persian Gulf. Workshops and consultations with government officials have been held in New Delhi (India) and Lahore and Islamabad (Pakistan), focusing on the dispute over Kashmir and ways of reducing the nuclear confrontation between Pakistan and India.

Pugwash is also exploring sources of conflict that arise from different religions and cultures. In the post-September 11 world, the divisions between Islam and the West are especially sensitive and capable of generating increased spirals of violence. Utilizing the expertise of its Council members from such countries as Iran, Pakistan and Egypt, Pugwash is committed to convening workshops that will strengthen dialogue and mutual areas of interest between Arabic and Islamic countries and the West.

Finally, the strengthening of Pugwash national groups in Pakistan, Iran North Korea, Vietnam and other countries in troubled regions both broadens the international Pugwash network and provides increased access to senior decision-makers.



Susan Shirk, Hon. Chun Yong-Taek, Mark Suh and Sir Joseph Rotblat at the Pugwash workshop in Seoul, South Korea (April 2001)



Pugwash Council member Mohamed Kadry Said of Egypt (left) discusses the Arab-Israeli peace process with Joseph Alpher of Israel at a Pugwash workshop in Alexandria, Egypt (April, 2001)



Secretary General Paolo Cotta-Ramusino (left) and Pugwash Council member Saideh Lotfian (fourth from left) at the Pugwash workshop in Tehran (September 2003)



Sir Joseph Rotblat, President, Pugwash Conferences Nobel Acceptance Speech (1995)

"For their efforts to diminish the part played by nuclear arms in international politics and in the longer run to eliminate such arms...the Norwegian Nobel Committee has decided to award the Nobel Peace Prize in two equal parts, to Joseph Rotblat and to the Pugwash Conferences on Science and World Affairs...The Conferences are based on the recognition of the responsibility of scientists for their inventions...and have underlined the catastrophic consequences of the use of the new weapons. They have brought together scientists and decision-makers to collaborate across political divides on constructive proposals for reducing the nuclear threat." (1995)



Prof. John Holdren, Chair, Pugwash Executive Committee Nobel Acceptance Speech (1995)

## The Future of Pugwash

In August 2002, a new leadership team for Pugwash was installed during the 52nd Pugwash Conference in La Jolla, California. In the tradition of world-renowned scientists such as Joseph Rotblat and the Nobel Laureate chemist, Dorothy Hodgkin, the President of Pugwash is *Prof. M.S. Swaminathan* of India, an agricultural scientist and one of the pioneers of the Green Revolution. Chairman of the M.S. Swaminathan Research Institute in Chennai, India, Prof. Swaminathan has received numerous international awards, including the World Food Prize and the UNESCO Gandhi Prize, in a distinguished career devoted to improving the basic human condition of all the world's peoples.



Pugwash Council Member Maj. Gen. (ret.) Pan Zhenqiang and Pugwash President, M.S. Swaminathan (August 2002)



Secretary General Paolo Cotta-Ramusino meets with Canadian Foreign Minister the Hon. Bill Graham (March 2003)

*Prof. Paolo Cotta-Ramusino* of Italy, professor of Mathematical (Theoretical) Physics at the University of Milan, is the Secretary General of Pugwash, and brings to the task more than 20 years of active involvement in nuclear weapons and international security matters. He has been a leader of the Italian and European movement of scientists for disarmament.

*Prof. Marie Muller*, Dean of the Faculty of Humanities and Director of the Centre for International Political Studies at the University

of Pretoria, South Africa, is Chair of the Pugwash Council. The Executive Director of Pugwash is *Dr. Jeffrey Boutwell* of the United States, for many years a senior officer at the American Academy of Arts and Sciences in Cambridge, Massachusetts and a well known expert on disarmament matters, including conventional arms control.

Together with the new members of the Pugwash Council, a highly distinguished group of 28 internationally-respected scientists and policy figures, the Pugwash leadership will continue to bring a diversity of disciplinary and cultural perspectives to bear on major international issues that has been the trademark of Pugwash for almost five decades.



Marie Muller, Chair of Pugwash Council.



Jeffrey Boutwell, Executive Director.

## Pugwash and Eliminating Weapons of Mass Destruction

### Pugwash and Nuclear Weapons

From 1957 through the end of the Cold War in the early 1990s, the Pugwash Conferences provided an important unofficial channel between East and West that helped lay the groundwork for some of the most significant nuclear weapons arms control agreements of the period.

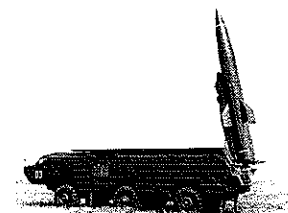
Today, the arms control system and the disarmament process is in crisis, despite the end of the East-West confrontation. Moreover, the



US Trident Missile

increased spread of nuclear weapons to additional countries, and the threat that nuclear weapons could be acquired by international terrorist organizations, has increased the threat posed by nuclear weapons. Pugwash is committed to preserving and strengthening the arms control regime by focusing on such critical issues as the non-weaponization of space, the control of missile technology and the entry into force of the Comprehensive

Test Ban Treaty. Pugwash especially stresses the importance of Article 6 of the Nuclear Non-Proliferation Treaty that requires complete nuclear disarmament by the nuclear states. Pugwash is working in those regions of greatest concern regarding nuclear proliferation and the risks of nuclear confrontation, including South Asia, the Middle East, and the Korean peninsula, to bring policymakers and scientists together to discuss feasible strategies for reducing the dangers of the use of nuclear weapons, and for eliminating them entirely.



Russian SS-23 Missile

### Pugwash and Chemical/Biological Weapons

In the 1970s, Pugwash initiated a separate series of meetings on the rising dangers posed by chemical and biological weapons, the so-called 'poor man's nuclear weapon.' Unlike nuclear weapons, chemical and biological weapons are accessible to a far greater number of countries and terrorist organizations.



Destroying chemical weapons

Pugwash scientists were instrumental in helping achieve the Biological Weapons Convention (1972) and the Chemical Weapons Convention (1993), and today the Pugwash Working Group on Chemical and Biological Weapons continues to meet twice a year to aid governments and international organizations in the successful implementation and verification of these agreements.

*"For inspiration on the subject [of eliminating nuclear weapons], I have come across no more credible and more deeply committed group than the Nobel Laureate Pugwash Conferences."*

—Hon. Abdul Sattar, Foreign Minister, Pakistan, 18 June 2001

### Terrorism and Weapons of Mass Destruction

The world today faces the very real danger that an international terrorist organization could acquire and detonate a nuclear device, with horrifying consequences. Pugwash is utilizing its international network of scientists and specialists to propose strategies for minimizing the risk that terrorists could acquire nuclear materials, or biological and chemical agents. In meetings with officials of the Ministry of Atomic Energy in Russia, with government officials in India and Pakistan, and with senior non-proliferation experts in the US, Europe, and Asia, Pugwash continues to alert the international community to the very real dangers posed by terrorist use of weapons of mass destruction.



## The First Pugwash Conference



Bertrand Russell  
1872–1970

*Bertrand Russell*

### *The Russell-Einstein Manifesto*

**Adopted in London  
9 July 1955**

"In the tragic situation which confronts humanity, we feel that scientists should assemble in conference to appraise the perils that have arisen as a result of the development of weapons of mass destruction ... We are speaking on this occasion, not as members of this or that nation, continent or creed, but as human beings ... whose continued existence is in doubt. The general public, and even many men in position of authority, have not realised what would be involved in a war with nuclear bombs. We appeal, as human beings, to human beings: Remember your humanity, and forget the rest... if you cannot, there lies before you the risk of universal death."



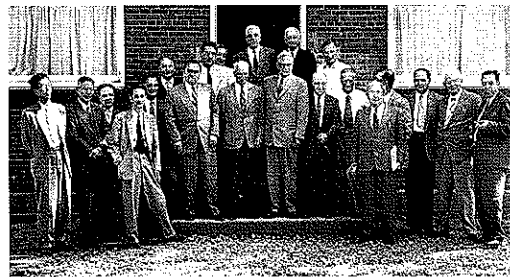
Albert Einstein  
1879–1955

*A. Einstein*

Following the release of the Russell-Einstein Manifesto on 9 July 1955, efforts were begun to convene an international conference of scientists for a more in-depth exchange of views on ways to avert a nuclear catastrophe. With the support of Cyrus Eaton, the first Pugwash Conference was held at the Eaton summer home in Pugwash, Nova Scotia, from 7–10 July 1957. A total of 22 participants from 10 countries attended and issued conference reports on nuclear radiation hazards, control of nuclear weapons, and the social responsibilities of scientists. From this first meeting the Pugwash Conferences have evolved into an international organization with national groups in more than 50 countries, which by the end of 2003 had organized more than 290 conferences. In recognition of its efforts to eliminate the nuclear threat, Pugwash and its then President, Joseph Rotblat, were jointly awarded the 1995 Nobel Peace Prize.



Cyrus Eaton.



Participants of the  
First Pugwash Conference,  
Pugwash, Nova Scotia, Canada  
7-10 July 1957

### *Mission Statement of the Pugwash Conferences*

"The mission of the Pugwash Conferences on Science and World Affairs is to bring scientific insight and reason to bear on threats to human security arising from science and technology in general, and above all from the catastrophic threat posed to humanity by nuclear and other weapons of mass destruction... Through meetings and projects that bring together scientists, scholars and individuals experienced in government, diplomacy and the military, Pugwash focuses on those problems that lie at the intersection of science and world affairs... Drawing its inspiration from the Russell-Einstein Manifesto of 1955, which called upon leaders of the world to renounce nuclear weapons and "remember their humanity," Pugwash above all is an expression of the social and moral duty of scientists to promote the beneficial applications of their work and prevent their misuse, to anticipate and evaluate the possible unintended consequences of scientific and technological developments, and to promote debate and reflection on the ethical obligations of scientists in taking responsibility for their work."

*[adopted by the Pugwash Council, 14 August 2002, La Jolla, California]*

## Influencing Policy: The International Pugwash Network

Through its international network of scientists and policy specialists, Pugwash maintains active contacts with senior figures in national governments, international organizations and NGOs, and the scientific community. In addition to these individual relationships that have been a prime source of Pugwash influence since 1957, the Pugwash Conferences rely on:

**Pugwash National Groups** in more than 50 countries around the world, many of them supported by their national academy of science or similar organization. These national groups also organize programs on a national or regional level, separate from the 10-12 workshops and conferences organized by international Pugwash each year.

**Pugwash Publications**, including the twice-a-year *Pugwash Newsletter* as well as regular editions of *Pugwash Occasional Papers* and *Pugwash Issue Briefs*, containing in-depth analysis and policy recommendations on timely security issues. Recent issues have focused on highly enriched uranium and nuclear terrorism, missile defense, and international humanitarian intervention.

**International Student/Young Pugwash** is a separate organization with its own board and national groups which interacts closely with the Pugwash Conferences on a wide range of issues, from science and ethics to ensuring security in outer space. Both Pugwash organizations are committed to engaging the next generation of scientists in thinking about the policy and ethical ramifications of new developments in science and technology.

**Pugwash Website**, at [www.pugwash.org](http://www.pugwash.org), is increasingly the means by which Pugwash communicates with its national groups and members, its scientific and policy constituencies, and the wider public. Pugwash will continue to evaluate and implement new communications technologies that can help strengthen its international network, especially in under-served and developing parts of the world.



Alexander Nikitin (Russia), Robert McNamara (United States), and Abdul Sattar (Pakistan) at the Pugwash Workshop on Avoiding an India-Pakistan Nuclear Confrontation, in Lahore (March 2003)

### *Policy Outreach and the Need for Support: The 50th Anniversary Russell-Einstein Fund*

In order to strengthen and expand its role in critical areas of science, technology and conflict, the Pugwash Conferences is initiating a special fundraising campaign in commemoration of the approaching 50th anniversary of the 1955 Russell-Einstein Manifesto. The creation of the **The 50th Anniversary Russell-Einstein Fund** seeks to provide additional funds for Pugwash, over and above the support it receives from national governments, charitable foundations, and national Pugwash groups, that will give Pugwash the flexibility it needs to address, on a timely basis, critical international security issues. Please refer to the special insert (if included) describing how you can support the Pugwash Conferences, or contact Dr. Jeffrey Boutwell, Pugwash Executive Director, in the Washington, DC office for more information (at [pugwashdc@aol.com](mailto:pugwashdc@aol.com) or 202-478-3440).

With your help, the Pugwash Conferences can continue to be an important international voice in meeting the emerging challenges in science, technology and global security of the 21st century.



Former Secretary General Francesco Calogero and Secretary General Paolo Cotta-Ramusino with the President of Italy, Carlo Azeglio Ciampi (July 2002)

Pugwash Conferences  
on Science and World Affairs

President: Professor M.S. Swaminathan  
Secretary-General: Professor Paolo Cotta-Ramusino  
Executive Director: Dr. Jeffrey Boutwell

PUGWASH COUNCIL

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Dr. Jeffrey Boutwell (United States)\*  
Professor Francesco Calogero (Italy)  
Dr. Pierre Canonne (France)  
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Academician Yuri Ryzhov (Russia)  
Air Commodore Jasjit Singh (India)  
Professor Ivo Slaus (Croatia)  
Dr. Mark Byung-Moon Suh (South Korea)  
Professor M.S. Swaminathan (India)\*

\* Members of the Pugwash Executive Committee

The Pugwash Organization:  
a truly international NGO

Formal governance of Pugwash is provided by the Pugwash Council and its 6-member Executive Committee. Council members are elected every five years at the Quinquennial Conferences, held since 1962, which approve the long-term goals and bylaws of Pugwash. Pugwash has four small permanent offices, in Rome, Washington, Geneva, and London, which operate with a total of only three full-time staff persons and a few part-time and volunteer staff. There are more than 50 National Pugwash Groups around the world, each organized independently, and in several cases sponsored and/or administered by academies of science, which help to identify suitable participants from their countries and rotate the work of hosting meetings (with funds raised locally, if possible). Pugwash is a truly international Non-Governmental Organization, where the central administrative structure is kept at a minimal level and the maximum emphasis is put on expanding the international Pugwash network of influential scientists and policy specialists.

Founded on the principle of the individual responsibility of scientists for their work, the Pugwash Conferences have worked for more than 45 years toward the twin goals of abolishing nuclear weapons and the peaceful settlement of international disputes. The emerging challenges in science, technology and international politics of the 21st century make those principles and goals more relevant than ever.

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Pugwash Conferences  
on Science and World Affairs

Nobel Peace Prize 1995

More than a decade after the end of the Cold War, the grave risk posed by nuclear, chemical and biological weapons is growing. Nuclear weapons are still at the core of the military strategies of the major nuclear weapons powers, the number of nuclear weapons states is increasing, multilateral arms control efforts are in disarray, and the threat remains real that a terrorist group might carry out a catastrophic use of a nuclear, radiological, biological, or chemical weapon.

Beginning with its first meeting in the small fishing village of Pugwash, Nova Scotia in 1957, the international network of Pugwash scientists and policy specialists have been working to mobilize national governments, international organizations, and the international scientific community to meet the threats posed by weapons of mass destruction. Over the years, the reputation of the Pugwash Conferences has allowed it to play an important role in proposing solutions for the elimination of such weapons, both through international treaties and agreements and through unilateral measures.

Pugwash is active as well in seeking to bring parties together to defuse and resolve regional tensions and conflicts, from the Middle East to South Asia to the Korean peninsula, precisely those areas where conflict could lead to the use of nuclear weapons.

As an organization committed above all to the beneficial application of new developments in science and technology, Pugwash also brings members of the international scientific and policy communities together to focus on means of improving human security through new advances in energy, the environment, health, and agriculture.

As a truly international organization with members in more than 50 countries, the Pugwash Conferences will continue to play an important role in shaping policies at the intersection of science and security.

In recognition of its work to seek the total elimination of nuclear weapons, the Pugwash Conferences and its then President, Joseph Rotblat, were awarded the 1995 Nobel Peace Prize.

