SYMPOSIUM:
SCIENCE & DIPLOMACY
FOR PEACE & SECURITY

25 Jan - 4 Feb 2016
Vienna International Centre
**Opening Session**

09:30  **Opening keynote address by CTBTO Executive Secretary Dr Lassina Zerbo**

09:50  **Welcoming remarks by Amb Bente Angel-Hansen**, Permanent Representative of Norway

10:00  **Remarks by Amb Cristian Istrate**, Permanent Representative of Romania and Chair of the Preparatory Commission

10:10  **Keynote Address by Mr Joseph Cirincione**, President, Ploughshares Fund

10:50  **Keynote Address by Dr David Strangway**, President Emeritus, University of British Columbia and Canada Foundation for Innovation

11:30  **Coffee Break**

**The CTBT: Where did it come from, where is it going?**

12:00  **20 Years On: Reflections on the Negotiations of the CTBT**

A panel discussion on the negotiations of the Treaty featuring former lead negotiators in the Conference on Disarmament who played key roles in the Treaty’s negotiation. The panel will explore the dynamics that led to the final Treaty text, including Article XIV, and offer the opportunity to reflect on the current impasse with regard to the Treaty’s entry into force.

**Moderator:** Amb Jaap Ramaker, Chairman of the CTBT negotiations in 1996

**Panellists:**
- Amb Wolfgang Hoffmann, CTBTO Executive Secretary Emeritus and former German Ambassador to the Conference on Disarmament
- Dr Itshak Lederman, former Director of External Relations, Israeli Atomic Energy Commission
- Amb Sha Zukang, former United Nations Under-Secretary-General
- Mr Victor Slipchenko, former CTBT deputy chief negotiator for Russia
- Sir Michael Weston, former UK Ambassador to the Conference on Disarmament
- Amb Mohamed Mounir-Zahran, former Egyptian Ambassador to the Conference on Disarmament

13:30  **Lunch**

15:00  **Achieving Entry into Force: Confronting the Challenge 20 Years Later**

A moderated debate with members of the Group of Eminent Persons and the coordinators of the CTBT Article XIV process on the geopolitical climate shaping conditions for ratifications in the remaining Annex 2 States, and potential high-level multilateral initiatives that could be undertaken to create conditions conducive to entry into force of the CTBT.

**Moderator:** Mr Daryl Kimball, Executive Director, Arms Control Association

**Panellists:**
- Amb Wolfgang Hoffmann, CTBTO Executive Secretary Emeritus and former German Ambassador to the Conference on Disarmament
- Ms Angela Kane, former High Representative for Disarmament Affairs
- Amb Mitsuru Kitano, Permanent Representative of Japan and Co-coordinator of the Art XIV Process
- Amb Susan le Jeune d’Allegeersheucque, Permanent Representative of the United Kingdom
- Amb Kairat Sarybay, Permanent Representative of Kazakhstan and Co-coordinator of the Art XIV Process
- Amb Tebogo Seokolo, Permanent Representative of South Africa
- Amb Sha Zukang, former United Nations Under-Secretary-General

17:30  **Briefing on the Symposium programme and requirements, the Executive Council Simulation, and the Practical Exercise**

**Mr Jean du Preez**, Chief, External Relations, Protocol and International Cooperation Section, CTBTO

18:00  **Reception hosted by the Permanent Mission of Norway**
SCIENCE FOR PEACE AND SECURITY: FROM NUCLEAR TESTING TO MULTILATERAL ARMS CONTROL VERIFICATION

09:30 Nuclear Testing and the Arms Race
Expert presentations and discussions on nuclear weapons technology, the decision-making process in nuclear testing, and the linkages between nuclear testing and the arms race.

Moderator: Mr Wilbur Randall Bell, Director, International Data Centre Division, CTBTO

Presenters:
Dr James Acton, Co-Director, Nuclear Policy Program, Carnegie Endowment for International Peace
Mr Michael Krepon, Co-Founder/Senior Associate, Stimson Center
Dr Zia Mian, Director, Project on Peace and Security in South Asia, Princeton University
Dr Pierce Corden, Visiting Scholar, American Association for the Advancement of Science (discussant)

11:00 Coffee break

11:15 Practical Exercise on Nuclear Testing (Dr Matthew Yedlin, University of British Columbia)

12:00 Lunch break

Panel discussion: Where’s the news? (Under-)reporting on the CTBT
The CTBT and its verification system are arguably one of the great under-reported news stories. A panel of journalists and media professionals, following the format of an “Oxford Union debate”, will consider the following motion: If nuclear weapons and nuclear testing are a great risk to life on earth, are news media failing the public by not paying them more attention?

Moderator: Ms Edith Lederer, United Nations chief correspondent, Associated Press, New York

Panellists:
Mr Louis Charbonneau, United Nations Bureau Chief, Thompson Reuters
Ms Rachel Oswald, CQ Roll Call, Washington, DC
Ms Tal Shalev, i24, Tel Aviv
Mr Siddhartha Varadarajan, The Wire, New Delhi

13:30 Keynote Address by Dr Paul Richards, Special Research Scientist, Lamont-Doherty Earth Observatory, Seismology Geology and Tectonophysics

14:00 The Foundation of the CTBT Verification Regime
A panel discussion to reflect on how the CTBT verification regime as it stands today, including the on-site inspection capability, measures up against expectations and technical capabilities in the 80s and 90s, and how the verification technologies are implemented 20 years later.

Moderator: Dr Pierce Corden, Visiting Scholar, American Association for the Advancement of Science

Panellists:
Dr Elisabeth Blanc, Research Director, Commissariat à l’Energie Atomique
Dr Itshak Lederman, former Director of External Relations, Israeli Atomic Energy Commission
Dr Svein Myklebust, Norwegian Seismic Array (NORSAR)
Dr Joachim Schulze, Chairperson of the CTBTO PrepCom Working Group B
Professor Gerardo Suarez, National Autonomous University of Mexico
Dr John J (Jay) Zucca, Principal Deputy Global Security Directorate, Lawrence Livermore National Laboratory

15:30 Break

16:00 The Future of Multilateral Arms Control Verification: Lessons from the CTBT
A panel discussion on how the CTBT and its verification regime contributed to arms control and non-proliferation arrangements and what lessons should be drawn from the CTBT for future arrangements.

Moderator: Ms Laura Rockwood, Executive Director, Vienna Center for Disarmament and Non-Proliferation

Panellists:
Dr James Acton, Senior Associate, Nuclear Policy Program, Carnegie Endowment
Dr Rebecca Johnson, Executive Director, Acronym Institute for Disarmament Diplomacy
Dr Zia Mian, Director, Project on Peace and Security in South Asia at the Program on Science and Global Security, Princeton
Mr Victor Slijepcev, former CTBT deputy chief negotiator for Russia
Amb Tibor Tóth, CTBTO Executive Secretary Emeritus
The CTBT and International Peace and Security

09:30 **Rebooting Nuclear Security: CTBT Entry into Force and the Elimination of Nuclear Threats**
A panel discussion examining how entry into force of the CTBT connects with other interlinked issues in arms control, disarmament and non-proliferation, and nuclear security.

*Moderator: Dr Elena Sokova,* Deputy Director, James Martin Center for Nonproliferation Studies

*Panellists:*
- **Ms Angela Kane,** former United Nations High Representative for Disarmament Affairs
- **Mr Tate Nurkin,** Senior Director IHS Aerospace, Defense and Security Thought Leadership
- **Mr Wolfgang Rudischhauser,** Director, WMD Non-Proliferation Centre, NATO
- **Amb Merav Zafary Odiz,** Permanent Representative of Israel
- **Amb Didier Lenoir,** Head of Delegation of the European Union

11:00 **Coffee Break**

11:30 **The CTBT as a Regional Confidence Building Measure**
A panel discussion on the role of the CTBT as a confidence building tool, in particular in North and South East Asia and the Middle East.

*Moderator: Amb Armin Ernesto Andereya Latorre,* Permanent Representative of Chile

*Panellists:*
- **Amb Dina Kawar,** Permanent Representative of the Hashemite Kingdom of Jordan to the United Nations (TBC)
- **Mr Anton Khlopkov,** Director, Center for Energy and Security Studies
- **Dr Waheguru Pal Singh Sidhu,** Senior Fellow, Brookings India in New Delhi
- **Mr Mohammad Hassan Daryaei,** Deputy Director-General, International Political and Security Affairs, Ministry of Foreign Affairs of Iran
- **Dr Maria Sultan,** Director General, South Asian Strategic Stability Institute

13:00 **Lunch**

The Legal and Institutional Framework of the CTBT

14:00 **Understanding the CTBT: Scope, Obligations and Compliance**
A presentation on the key articles of the Treaty and national implementation of the Treaty’s obligations, highlighting concrete advantages of an enforceable CTBT.

*Ms Sonya Brander,* Chief, Legal Services Section, CTBTO

14:45 **The Preparatory Commission and the Future Organization**
Discussion with the Chair of the Preparatory Commission, moderated by the Secretary of the Preparatory Commission

*Amb Cristian Istrate,* Permanent Representative of Romania and Chair of the Preparatory Commission

*Mr Bozorgmehr Ziaran,* Secretary to the Preparatory Commission

15:30 **Coffee break**

16:00 **Enforceability of the CTBT: International Politics and International Law**
A panel discussion on the enforceability of the CTBT as an international norm, the role of nuclear test moratoria and ways to advance entry into force in accordance with international law.

*Panellists:*
- **Amb Nobuyasu Abe,** Vice Chairman of the Japan Atomic Energy Commission, former UN Under-Secretary-General for Disarmament Affairs
- **Mr Daryl Kimball,** Executive Director, Arms Control Association
- **Professor Gabriella Venturini,** University of Milan
THE ROLE OF CIVIL SOCIETY AND ACADEMIA IN SHAPING NUCLEAR POLICY

09:00 Civil Society in Support of the CTBT
A panel discussion on the role of civil society organizations and public advocacy groups in raising awareness of the CTBT and affecting public policy on broader nuclear disarmament and non-proliferation issues.

Moderator: Dr Rebecca Johnson, Executive Director, Acronym Institute for Disarmament Diplomacy

Panellists:
Mr Daryl Kimball, Executive Director, Arms Control Association
Mr Anton Khlopkov, Director, Center for Energy and Security Studies
Dr Emily Landau, Senior Research Fellow, Head of the Arms Control and Regional Security Program, Institute for National Security Studies
Dr Maria Sultan, Director General, South Asian Strategic Stability Institute

10:30 Academia as a Force Multiplier
A panel discussion on the value of encouraging CTBT-related research, both in the technical and political fields, in order to stimulate critical thinking on the Treaty.

Moderator: Dr Elena Sokova, Deputy Director, James Martin Center for Nonproliferation Studies

Panellists:
Dr Happymon Jacob, Associate Professor of Disarmament Studies, Jawaharlal Nehru University
Dr Raymond Jeanloz, Professor of Astronomy, University of California Berkeley
Dr Gerald Kirchner, Carl Friedrich von Weizsäcker Professor, University of Hamburg
Dr Farhad Shahabi Sirjani, Senior Expert, Ministry of Foreign Affairs, Islamic Republic of Iran
Dr Matthew Yedlin, Associate Professor, University of British Columbia

12:00 Lunch

CTBT VERIFICATION: SCIENCE FOR PEACE AND SECURITY

12:30 Lunch Briefing, Evaluation of a Very Small Seismic Event, 12 May 2010, in North Korea
Dr Paul Richards, Special Research Scientist, Lamont-Doherty Earth Observatory, Seismology Geology and Tectonophysics.

14:00 Enhancing National Security through Science-based Verification
A moderated discussion exploring perspectives of the impact of the CTBT on national security.

Discussants:
Dr Raymond Jeanloz, Professor of Astronomy, University of California Berkeley
Mr Gideon Frank, former Director General of the Israel Atomic Energy Commission.

15:30 Visit to the Institute of Atomic and Subatomic Physics at the Vienna University of Technology:
- Introduction to the work of the Institute of Atomic and Subatomic Physics
- CTBT Verification Science 101 for Diplomats:
  - Dr Matthew Yedlin, Associate Professor, University of British Columbia
- Tour of the TRIGA Mark II research reactor
CTBT Verification: Monitoring, Collecting and Analysing Data

09:30 Introduction and Overview
Ms Nurcan Meral Ozel, Director, International Monitoring System Division, CTBTO

09:40 International Monitoring System Technologies: Purpose, status and challenges
Ms Nurcan Meral Ozel, Director, International Monitoring System Division, CTBTO

10:15 International Monitoring System Data and International Data Centre Products
Dr Gerhard Graham, IDC Programme and Project Coordinator, CTBTO

11:00 Coffee Break

11:30 Panel discussion: Roles and Responsibilities and Challenges Maintaining the IMS Verification System
Moderator: Mr David Jepsen, IMS Coordinator, CTBTO
Panellists: [TBC]

13:00 Lunch
Practical Observation of Data Analysts
Participants will observe practical analysis of:
- Waveform data - Dr Jane Gore, IDC Lead Analyst, CTBTO and Dr Paulina Bittner, IDC Lead Analyst, CTBTO
- Radionuclide/noble gas data - Ms Carla Pires, IDC Radionuclide Lead Analyst, CTBTO and Dr Nolasco Mlwilo, IDC Radionuclide Lead Analyst, CTBTO
- Atmospheric Transport Modelling - Dr Monika Krysta, IDC Atmospheric Sciences Officer, CTBTO

Dr Robert Pearce, IDC Senior Scientist, CTBTO
Dr Martin Kalinowski, Head, IDC Scientific Methods Unit, CTBTO

15:30 Civil and Scientific uses of IMS data and Case Study based on the Fukushima Accident
Dr Klas Elmgren, IDC Radionuclide Operations Officer, CTBTO

16:15 Coffee Break

16:30 Panel Discussion: The Way Forward for CTBT Technical Verification
Moderator: Professor Gerardo Suarez, National Autonomous University of Mexico
Panellists:
Mr Federico Guendel, former Director, International Monitoring System Division, CTBTO [TBC]
Dr John J (Jay) Zucca, Principal Deputy Global Security Directorate, Lawrence Livermore National Laboratory
Dr Raymond Jeanloz, Professor of Astronomy, University of California Berkeley

18:00 Briefing on Simulation Exercise and Role Designation
Mr Jean du Preez, Chief, External Relations, Protocol and International Cooperation Section, CTBTO
CTBT Verification: On-site Inspections

09:30 Introduction and Overview of OSI Activities and Techniques
  Mr Gregor Malich, Chief, OSI Equipment & Implementation Section, CTBTO

10:00 OSI Regime Implementation Challenges – Treaty and Protocol Issues
  Mr Gordon MacLeod, Chief, OSI Policy Planning & Operations Section, CTBTO

10:45 Coffee Break (demonstration of OSI equipment)

11:15 How to Become a “Surrogate” Inspector
  Mr Ron Gavish, Chief, OSI Training Section, CTBTO

11:45 Introduction to Point of Entry (POE), Table Top Exercise (TTE)
  - Introduction
  - Table Top Exercise Overview Presentation
  - Video: An On-Site Inspection – How It All Starts
  - Preparation/Room Allocation

13:00 Lunch (optional tours of CTBTO facilities)

14:30 Table Top Exercise
  - Point of Entry Procedures
  - Reporting/debriefing on TTE

15:30 Coffee Break (demonstration of OSI equipment)

16:00 Continuous Development of the OSI Regime - Outcome of the IFE14
  A briefing and video presentation
  Mr Oleg Rozhkov, Director, On-Site Inspection Division, CTBTO

17:00 OSI Quiz
  Mr Dmitry Tokin, OSI Training Officer, CTBTO
  Ms Misrak Fisseha, OSI Training Officer, CTBTO
  Mr Ryan Gonzalez, OSI Computer based Training Officer, CTBTO

17:30 Meet OSI Experts Q&A: How to get involved, support and join OSI activities: A Panel Discussion
  Moderator: Mr Oleg Rozhkov, Director, On-Site Inspection Division, CTBTO
  Panellists:
  Mr Ron Gavish, Chief, OSI Training Section, CTBTO
  Mr Gregor Malich, Chief, OSI Equipment & Implementation Section, CTBTO
  Ms Hongmei Deng, Chief, OSI Documentation Section, CTBTO
2 February
Tuesday

**Practical options and solutions after 20 Years**

09:30  **Entry into Force and the Future of the CTBT: Identifying Challenges and Obstacles after 20 Years**
- Introduction, Dr Genxin Li, Director, Legal and External Relations Division, CTBTO
- Identification and discussion about challenges and obstacles to achieving entry into force of the Treaty
  Mr Jean du Preez, Chief, External Relations, Protocol and International Cooperation Section, CTBTO
- Focus groups will meet to discuss and give feedback

11:00  **Coffee Break**

11:30  **Entry into Force and the Future of the CTBT: Identifying practical options and solutions after 20 Years** *(Part 1)*
- Focus groups identify options for ensuring sustainability of the Treaty and its verification regime, and make recommendations on practical options to advance entry into force of the Treaty

13:00  **Lunch** *(optional tours of the CTBTO facilities)*

14:30  **Entry into Force and the Future of the CTBT: Identifying practical options and solutions after 20 Years** *(Part 2)*
- Focus groups identify options for ensuring sustainability of the Treaty and its verification regime, and make recommendations on practical options to advance entry into force of the Treaty

16:00  **Introduction to Executive Council Simulation**
- Overview of the simulation scenario
- Brief introduction to the context and the rules

3 February
Wednesday

**Executive Council Simulation**

10:00  **Plenary Session 1**
- Technical Briefing on Suspicious Event
- National Statements

13:00  **Lunch**

14:30  **Plenary Session 2**

18:00  **End of Session**
**Executive Council Simulation**

09:30  Plenary Session 3

12:30  Lunch

14:00  Plenary Session 4 and Conclusion of Simulation

17:00  Closure of Symposium by CTBTO Executive Secretary Dr Lassina Zerbo

17:15  Closing Keynote Address by Lord Desmond Browne, Vice-Chairman of the Nuclear Threat Initiative
PUTTING AN END TO NUCLEAR EXPLOSIONS