SYMPOSIUM:
SCIENCE & DIPLOMACY
FOR PEACE & SECURITY

Vienna International Centre
**Opening Session**

09:30  Opening Keynote Address by CTBTO Executive Secretary Lassina Zerbo

09:50  Welcoming Remarks by Bente Angell-Hansen, Permanent Representative of Norway

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

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

10:50  Keynote Address by 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:** Jaap Ramaker, Chairman of the CTBT negotiations in 1996

**Panellists:**
- Wolfgang Hoffmann, CTBTO Executive Secretary Emeritus and former German Ambassador to the Conference on Disarmament
- Itshak Lederman, former Director of External Relations, Israel Atomic Energy Commission
- Sha Zukang, former United Nations Under-Secretary-General for Economic and Social Affairs
- Victor Slipchenko, former CTBT deputy chief negotiator for Russia
- Michael Weston, former UK Ambassador to the Conference on Disarmament
- 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 Treaty.

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

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

17:30  Briefing on the Symposium Programme and Requirements, the Executive Council Simulation, and the Practical Exercise

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

18:00  Reception Co-hosted by the CTBTO and 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: Randy Bell, Director, International Data Centre Division, CTBTO

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

11:00 Coffee break

11:15 Practical Exercise on Nuclear Testing (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?


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

13:30 Keynote Address by 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: Pierce Corden, Visiting Scholar, American Association for the Advancement of Science

Panellists:
Elisabeth Blanc, Research Director, Commissariat à l’Energie Atomique
Itshak Lederman, former Director of External Relations, Israel Atomic Energy Commission
Svein Mykkeltveit, Norwegian Seismic Array (NORSAR)
Joachim Schulze, Chairperson of the CTBTO PrepCom Working Group B
Gerardo Suárez, National Autonomous University of Mexico
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: Laura Rockwood, Executive Director, Vienna Center for Disarmament and Non-Proliferation

Panellists:
James Acton, Senior Associate, Nuclear Policy Program, Carnegie Endowment
Rebecca Johnson, Executive Director, Acronym Institute for Disarmament Diplomacy
Zia Mian, Director, Project on Peace and Security in South Asia at the Program on Science and Global Security, Princeton
Victor Slipchenko, former CTBT deputy chief negotiator for Russia
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: Elena Sokova, Deputy Director, James Martin Center for Nonproliferation Studies

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

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: Armin Ernesto Andereya Latorre, Permanent Representative of Chile

Panellists:
Dina Kawar, Permanent Representative of the Hashemite Kingdom of Jordan to the United Nations (TBC)
Anton Khlopkov, Director, Center for Energy and Security Studies
Waheguru Pal Singh Sidhu, Senior Fellow, Brookings India in New Delhi
Ali Asghar Soltanieh, former Permanent Representative of the Islamic Republic of Iran (TBC)
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.

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

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

Moderator: Abel Adelakun Ayoko, Permanent Representative of Nigeria

Panellists:
Nobuyasu Abe, Vice Chairman of the Japan Atomic Energy Commission, former United Nations Under-Secretary-General for Disarmament Affairs
Daryl Kimball, Executive Director, Arms Control Association
Gabriella Venturini, University of Milan
28 January
Thursday

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

Panellists:
- Daryl Kimball, Executive Director, Arms Control Association
- Anton Khlopkov, Director, Center for Energy and Security Studies
- Emily Landau, Senior Research Fellow, Head of the Arms Control and Regional Security Program, Institute for National Security Studies
- 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: Elena Sokova, Deputy Director, James Martin Center for Nonproliferation Studies

Panellists:
- Happymon Jacob, Associate Professor of Disarmament Studies, Jawaharlal Nehru University
- Raymond Jeanloz, Professor of Astronomy, University of California Berkeley
- Gerald Kirchner, Carl Friedrich von Weizsäcker Professor, University of Hamburg
- Farhad Shahabi Sirjani, Senior Expert, Ministry of Foreign Affairs, Islamic Republic of Iran
- 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 in the DPRK, 12 May 2010

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.

Moderator: Patrick Grenard, Special Assistant, Office of the Executive Secretary, CTBTO

Discussants:
- Raymond Jeanloz, Professor of Astronomy, University of California Berkeley
- Gideon Frank, former Director General, 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:
  - Matthew Yedlin, Associate Professor, University of British Columbia
- Tour of the TRIGA Mark II research reactor
29 January
Friday

CTBT Verification: Monitoring, Collecting and Analysing Data

09:30 Introduction and Overview
Nurçan Meral Özel, Director, International Monitoring System Division (IMS), CTBTO

09:40 International Monitoring System Technologies: Purpose, status and challenges
Nurçan Meral Özel, Director, International Monitoring System Division, CTBTO

10:15 IMS Data and International Data Centre (IDC) Products
Gerhard Graham, IDC Programme and Project Coordinator, CTBTO

11:00 Coffee Break

11:30 Panel Discussion: Roles, Responsibilities and Challenges Maintaining the IMS Verification System
Moderators: David Jepsen, IMS Coordinator, CTBTO, and Elisabetta Nava, IDC Radionuclide Operations Officer-Noble Gas, CTBTO
Panellists:
Mohammad Hassan Daryaei, Deputy Director-General for International Political and Security Affairs of the Ministry of Foreign Affairs of the Islamic Republic of Iran
Oscar Rolando Elvir Ferman, Instituto Hondureño de Ciencias de la Tierra Carrera de Física de la UNAH
Jan Fyen, Special Advisor, Norwegian Seismic Array NORSAR
Zeinabou Mindaoudou Souley, President, Haute Autorité Nigérienne à l’Energie Atomique

13:00 Lunch

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

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

15:30 Civil and Scientific Uses of IMS Data and Case Study on the Fukushima Accident
Klas Elmgren, IDC Radionuclide Operations Officer, CTBTO

16:15 Coffee Break

16:30 Panel Discussion: The Way Forward for CTBT Technical Verification
Moderator: Gerardo Suárez, National Autonomous University of Mexico
Panellists:
Federico Guendel, former Director, International Monitoring System Division, CTBTO
Raymond Jeanloz, Professor of Astronomy, University of California Berkeley
Joachim Schulze, Chairperson of the CTBTO PrepCom Working Group B
John J (Jay) Zucca, Principal Deputy Global Security Directorate, Lawrence Livermore National Laboratory

18:00 Briefing on Simulation Exercise and Role Designation
### CTBT Verification: On-site Inspections (OSI)

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>09:30</td>
<td>Introduction and Overview of OSI Activities and Techniques</td>
<td>Oleg Rozhkov, Director, On-Site Inspection Division, CTBTO</td>
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<td>10:00</td>
<td>OSI Regime Implementation Challenges – Treaty and Protocol Issues</td>
<td>Gordon MacLeod, Chief, OSI Policy Planning &amp; Operations Section, CTBTO</td>
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<td>10:45</td>
<td>Coffee Break (demonstration of OSI equipment)</td>
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<td>11:15</td>
<td>How to Become a “Surrogate” Inspector</td>
<td>Ron Gavish, Chief, OSI Training Section, CTBTO</td>
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<td>11:45</td>
<td>Continuous Development of the OSI Regime - Outcome of the Integrated Field Exercise 2014 (IFE14)</td>
<td>Oleg Rozhkov, Director, On-Site Inspection Division, CTBTO</td>
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<td>12:30</td>
<td>Introduction to Point of Entry (POE)</td>
<td>Gordon MacLeod, Chief, OSI Policy Planning &amp; Operations Section, CTBTO</td>
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<td>12:45</td>
<td>Table Top Exercise (TTE): Overview and Exercise Preparation</td>
<td>Misrak Fisseha, OSI Training Officer, CTBTO</td>
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<td>13:00</td>
<td>Lunch (optional tours of CTBTO facilities)</td>
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<tr>
<td>14:30</td>
<td>Table Top Exercise (Point of Entry)</td>
<td>OSI Team</td>
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<td>16:30</td>
<td>TTE Reporting/debriefing</td>
<td>OSI Team/Participants</td>
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<td>17:30</td>
<td>Meet OSI Experts: A panel discussion on how to get involved, support and join OSI activities with Q&amp;A</td>
<td>Moderator: Oleg Rozhkov, Director, On-Site Inspection Division, CTBTO</td>
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<td>Panellists: Hongmei Deng, Chief, OSI Documentation Section, CTBTO</td>
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**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:*

Genxin Li, Director, Legal and External Relations Division, CTBTO

*Discussion:*

Challenges and obstacles to ensuring the sustainability of the Treaty and its verification regime

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

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 the 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 report back to plenary on options discussed for ensuring the sustainability of the Treaty and its verification regime and recommendations on practical options to advance entry into force of the Treaty.

16:00  **Introduction to Executive Council Simulation**

Overview of the simulation scenario context and the rules

**FebruARY**

**Wednesday**

**Executive Council Simulation**

10:00  **Plenary Session 1**

- Technical briefing on suspicious event
- Briefing on OSI launch phase activities
- 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  Closing Remarks by CTBTO Executive Secretary Lassina Zerbo

17:15  Closing Keynote Address by Des Browne, Vice-Chairman of the Nuclear Threat Initiative and former UK Secretary of State for Defence
PUTTING AN END TO NUCLEAR EXPLOSIONS