ACCADEMIA NAZIONALE DEI LINCEI

NATIONAL ACADEMY OF SCIENCES

XXII EDOARDO AMALDI CONFERENCE

Nuclear Risks and Arms Control.
Problems and Progress in the Time of Pandemics and War

Rome, 6 - 8 April 2022

PRELIMINARY PROGRAM

UNDER THE PATRONAGE OF

Ministero degli Affari Esteri
e della Cooperazione Internazionale

Presidenza della Repubblica Italiana

Ministero dell'Istruzione,
dell'Università e della Ricerca

WITH THE SUPPORT OF

Consiglio Nazionale
delle Ricerche

INFN
Istituto Nazionale di Fisica Nucleare

RUniPace
Rete Università per la pace

WORLD SUMMIT
NOBEL PEACE LAUREATES
PERMANENT
SECRETARIAT

DICASTERIUM AD INTEGRAM
HUMANAM PROGRESSIONEM FOVENDAM

WEDNESDAY, 6 APRIL

8:30 - 9:30 Registration

Opening addresses

Roberto ANTONELLI, President of the Accademia Nazionale dei Lincei
Pasquale FERRARA, Italy's Ministry of Foreign Affairs
Luciano MAIANI, Chair of the Amaldi Conferences

10:30 - 11:10 **Keynote lecture**

Giorgio PARISI, Vice President of the Accademia Nazionale dei Lincei, Nobel Laureate in Physics 2021

The Value of Science

11:10 - 11:30 Coffee break

Keynote lecture

11:30 - 12:10 Robert FLOYD, CTBTO Secretary General

25 Years of CTBT

1. Progress on the Non-Proliferation Treaty

Chair: Carlo SCHAERF
(SICA Committee, Accademia Nazionale dei Lincei)

12:10 - 12:50 Rose GOTTEMOELLER, former Deputy Secretary General of NATO
An Independent View on Non-Proliferation

12:50 - 13:30 Sergey BATSANOV, Geneva Pugwash Office
Can the Nuclear Non-Proliferation Regime Remain Sustainable in the New Geopolitical Environment?

Lunch break

14:30 - 15:10 Tariq RAUF, Former Head of Verification and Security Policy, IAEA
The Future of the Non-Proliferation Treaty

2. Nuclear Energy and Biological Risks

Chair: Francesco CALOGERO
(SICA Committee, Accademia Nazionale dei Lincei)

15:10 - 15:50 Tatsujiro SUZUKI, Nagasaki University, Japan
Updating and Lessons Learnt from Fukushima

15:50 - 16:30 Jules HOFFMAN, CNRS, France, Nobel Laureate in Medicine 2011
The Risk of Future Pandemics

16:30 - 17:10 Emilio PARISINI, Latvian Institute of Organic Synthesis
International Collaboration to Tackle Future Pandemics

17:10 - 17:30 Coffee break

3. The Treaty for the Prohibition of Nuclear Weapons

Chair: *TBD*

17:30 - 18:10 Barbara GALLO, IRIAD
From Non-Proliferation to Prohibition of Nuclear Weapons

18:10 - 18:50 Nadezhda ARBATOVA, Head of the Department on European Politics, IMEMO, Moscow, Russia
Elimination of Nuclear Weapons: Current Debates in the Russian Strategic Community

19:30 End of Day 1

THURSDAY, 7 APRIL

4. Conflict Areas

Chair: Micah LOWENTHAL
(National Academy of Sciences, USA)

9:00 - 9:40 Amb. Wael AL-ASSAD, Qatar National Committee for the Prohibition of Weapons
Weapons of Mass Destruction in the Middle East

9:40 - 10:20 Amb. David DANIELI, Former Deputy Director General, Israel Atomic Energy Commission
An Israel Perspective

10:20 - 11:00 Hussain AL SHAHRISTANI, Former Deputy Prime Minister of Iraq
Tensions in the Middle East

11:00 - 11:20 Coffee break

11:20 - 12:00 Naeem Ahmad SALIK, Senior Fellow, Center for International Strategic Studies, Islamabad, Pakistan
Dangers of Inadvertent Escalation in South Asia

12:00 - 12:40 Ramamurti RAJARAMAN, Jawaharlal Nehru University, New Delhi, India
South Asia, a 3-Body Problem

Lunch break

14:00 - 14:40 Anton KHLOPKOV, Director, Centre for Energy and Security Studies, Moscow, Russia
The Case of the Korean Peninsula

5. The Iran Enrichment Agreement. Outlook and Perspectives

Chair: Francesco LENCI
(SICA Committee, Accademia Nazionale dei Lincei)

14:40 - 15:20 Steven MILLER, Belfer Center for Science and International Affairs, Harvard Kennedy School, USA
Reassessing the Iran Nuclear Deal

15:20 - 16:00 Ali Akbar SALEHI, Academy of Sciences, Iran Atomic Energy Organization
Iran's Nuclear Program, Challanges and Opportunities

16:00 - 16:20 Coffee break

6. Thinking about the Future

Chair: Enza PELLECCHIA
(SICA Committee, Accademia Nazionale dei Lincei)

16:20 - 17:00 Guglielmo TAMBURRINI, Federico II University of Naples, Italy
Nuclear Weapons, Cyber Risk and Militarization of Artificial Intelligence

17:00 - 17:40 Piero MARTIN, University of Padua, Italy
The Roadmap to Fusion: Science and International Cooperation for Sustainable Energy

17:40 - 18:20 Alessio PECORARIO, Dicastery for Promoting Integral Human Development, Holy See
Promoting Integral Human Development and Peace in the Digital Age

18:30 Guided tour of the Villa Farnesina

FRIDAY, 8 APRIL

7. Progress (and Setbacks) in the Elimination of Weapons of Mass Destruction

Chair: Alessandro PASCOLINI
(SICA Committee, Accademia Nazionale dei Lincei)

9:00 - 9:40 Goetz NEUNECK, IFSH, University of Hamburg
Verifying Nuclear Disarmament

9:40 - 10:20 Raymond JEANLOZ, NAS and University of California, Berkeley, USA
TITLE TBD

10:20 - 11:00 Alexey ARBATOV, Head of the Center for International Security, IMEMO, Moscow, Russia
Preserving and Updating Strategic Stability

11:00 - 11:40 Paolo COTTA RAMUSINO, Pugwash
Overview

Closing lecture

11:40 - 12:20 Eliezer RABINOVICI, President of CERN Council

Basic Science for Peace

13:00 End of the Conference

VENUE OF THE MEETING
Accademia Nazionale dei Lincei
Palazzo Corsini
Via della Lungara 10
Rome

The Accademia Nazionale dei Lincei

Founded in 1603, the Accademia Nazionale dei Lincei is the oldest scientific academy in the world which included, among many other prestigious names, Galileo Galilei. The Accademia Nazionale dei Lincei is within the sphere of the Italian Ministry of Cultural Heritage and is considered the highest Italian cultural institution. The Accademia Nazionale dei Lincei is a scientific consultant to the President of the Italian Republic and has recently been granted his High Permanent Patronage. The Accademia Nazionale dei Lincei mission is to promote, coordinate, integrate and spread scientific knowledge in its highest expressions, in the frame of cultural unity and universality. To this end, the Accademia Nazionale dei Lincei organises national and international conferences, meetings and seminars.

The National Academy of Sciences

Established by an Act of Congress signed by President Abraham Lincoln in 1863, the National Academy of Sciences is charged with providing independent, objective advice to the nation on matters related to science and technology. The National Academy of Sciences is committed to furthering science in America, and its members are active contributors to the international scientific community. Nearly 500 members of the National Academy of Sciences have won Nobel Prizes, and the Proceedings of the National Academy of Sciences, founded in 1914, is today one of the premier international journals publishing the results of original research. The National Academy of Sciences also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding in matters of science.

A brief history of the Edoardo Amaldi Conferences

In 1980, the United States National Academy of Sciences established a Committee on International Security and Arms Control (CISAC). During the 1980s, with Wolfgang K. H. Panofsky as Chairman, one of CISAC's main purposes was to maintain bilateral contacts with an analogous group at the Academy of Sciences of the Soviet Union. In January 1986, CISAC organized in Washington, D.C. a meeting and about ten scientists from European countries participated. In this meeting questions connected to arms control were discussed, together with the possibility of establishing in Europe a group of scientists with a role analogous to that of CISAC. Discussions on international security and armament control were extended beyond the limitation of a direct link between the USA and the USSR.

Francesco Calogero and Carlo Schaerf took part in this meeting and then reported to Edoardo Amaldi, then Vice President of the Accademia Nazionale dei Lincei. He was very much in favour of this initiative and set up a Working Group on International Security and Arms Control (SICA).

The first informal meeting was held in Rome at the Academy on 23-25 June 1988, and was entitled *Workshop on International Security and Disarmament: The Role of the Scientific Academies*. Participants from Belgium, Denmark, France, Federal Republic of Germany, Great Britain, the Netherlands, Sweden and the USA were present at this meeting. On that occasion it was decided to hold an international conference the following year and to invite participants from other European countries, including the Soviet Union.

The second meeting was entitled *International Security and Disarmament: the Role of the Scientific Academies* and was held in Rome in June 1989.

The third conference, entitled *International Conference on Security in Europe and the Transition away from Confrontation towards Cooperation*, was held again in Rome in June 1990. The title, the programme, and the specific items had already been established by Edoardo Amaldi (who was President of the Academy at the time) and the SICA group when he died unexpectedly on 5 December 1989. Prof. Giorgio Salvini was elected to succeed him as President of the Academy and decided to continue the Amaldi's initiative on disarmament and arms control. The third meeting was devoted to problems of peace, environmental cooperation, and measures of effective disarmament in the new international climate. It was at this meeting that the participants decided to dedicate all future conferences to the memory of Edoardo Amaldi, hence the name *Amaldi Conferences*. Since then the Amaldi Conferences continued on a yearly basis up until 2000, and later periodically.

Latest Conferences:

- XIX Edoardo Amaldi Conference on *International Cooperation for Enhancing Nuclear Safety, Security, Safeguards and Non-proliferation*, organized by the Accademia Nazionale dei Lincei and the European Commission - Joint Research Centre (Rome, 30-31 March 2015).
- XX Edoardo Amaldi Conference on *International Cooperation for Enhancing Nuclear Safety, Security, Safeguards and Non-proliferation - 60 Years IAEA Atoms for Peace and Development - EURATOM Treaty*, organized by the Accademia Nazionale dei Lincei and the European Commission - Joint Research Centre (Rome, 9-10 October 2017).
- XXI Edoardo Amaldi Conference on *International Cooperation for Enhancing Nuclear Safety, Security, Safeguards and Non-proliferation*, organized by the Accademia Nazionale dei Lincei and the National Academy of Sciences, USA (Rome, 7-8 October 2019).

Edoardo Amaldi (1908-1989)

Edoardo Amaldi was an Italian Physicist who started his research in Nuclear Physics in collaboration with Enrico Fermi. He has contributed substantially to the current knowledge on artificial radioactivity induced by neutrons and properties of slow neutrons, and gave first direct experimental evidence of the diffraction of fast neutrons by nuclei. After the Second World War, Amaldi was instrumental in the reconstruction of the post-Fermi School of Physics in Italy, and was co-founder of the Italian National Institute for Nuclear Physics (INFN), of the European Organization for Nuclear Research (CERN) and of the European Space Research Organisation (ESRO).

Amaldi supported the Working Group on International Security and Arms Control (SICA) from its inception, organizing the first conference on "International Security and Disarmament: The Role of the Scientific Academies" in Rome from 23 to 25 June 1988. The third conference on "Security in Europe and the Transition away from Confrontation towards Cooperation" was held again in Rome in June 1990. The title, the programme and the specific items had already been established by Edoardo Amaldi (President of the Academy at the time) and the SICA group when he died unexpectedly on 5 December 1989. Participants at this meeting decided to dedicate future meetings to the memory of Edoardo Amaldi, hence the name Amaldi Conferences. Since then the Amaldi Conferences have continued on a regular basis.