THE 13TH PIIC BEIJING SEMINAR ON INTERNATIONAL SECURITY



OCTOBER 31 - NOVEMBER 3, 2012 BEIJING, CHINA

CO-SPONSORS

Institute of Applied Physics and Computational Mathematics (IAPCM), China International School on Disarmament and Research on Conflicts (ISODARCO), Italy China Institutes of Contemporary International Relations (CICIR), China Chinese People's Association for Peace and Disarmament (CPAPD), China Nuclear Threat Initiative (NTI), USA

ORGANIZED BY

Program for Science and National Security Studies (PSNSS)

About the PIIC Seminar

This year represents the 13th convening of the PIIC Seminar on International Security in China. Meeting every other year since 1988, this seminar series brings together experts from around the world to discuss critical security issues at the interface between policy and science. Since its inception, experts from a wide variety of backgrounds have contributed insights, enhanced mutual understanding and increased Chinese scholars' awareness of global security issues.

As in previous seminars, the goal of the 2012 seminar is to provide a forum for experts to exchange their views and engage in discussions of key international security issues. The seminar creates an important opportunity for participants to introduce new concepts and mechanisms that enhance global stability and security for the coming decades.

The seminar is organized by the Program for Science and National Security Studies within the Institute of Applied Physics and Computational Mathematics. It is sponsored by the Institute of Applied Physics and Computational Mathematics, the International School on Disarmament and Research on Conflicts, the China Institutes of Contemporary International Relations, the Chinese People's Association for Peace and Disarmament, and the Nuclear Threat Initiative (NTI), with significant funding being provided in 2012 by NTI.



Conference Schedule

OCTOBER 31ST, WEDNESDAY

All Day Registration Lobby of Beijing Jade Palace Hotel

18:30-20:30 Buffet / Reception Gallery, 2nd Floor

NOVEMBER 1ST, THURSDAY

06:30-09:00 Breakfast Gallery, 2nd Floor

09:00-10:00 Opening Session

Function Room, 2nd Floor

moderator: Li Hua

Li Hua, Director of Institute of Applied Physics and Computational Mathematics (IAPCM) and Program for Science and National Security Studies (PSNSS)

Pang Sen, Director, Department of Arms Control, Ministry of Foreign Affairs, China

Ted Turner, Co-Chairman, NTI

Sam Nunn, Co-Chairman and CEO, NTI

Carlo Schaerf, President, ISODARCO

10:00-10:20 Tea Break

10:20-12:20 Featured Speakers

MODERATOR: Cui Liru

William J. Perry, Professor, Stanford University, and former U.S. Secretary of Defense

Hu Side, Member of Academy of Engineering and former President of China Academy of Engineering Physics (CAEP)

Siegfried Hecker, Professor and Co-Director, Center for International Security and Cooperation (CISAC), Stanford University, Emeritus Director of Los Alamos National Laboratory

Paolo Cotta-Ramusino, Secretary-General, Pugwash

NOVEMBER 1ST, THURSDAY (continued)

12:20-14:20 Banquet Banquet Hall. 3rd Floor

14:20-16:00 Plenary Session: Nuclear Disarmament and A World Free of Nuclear Weapons

MODERATOR: Joan Rohlfing

Rebecca Johnson: Preventing Nuclear Use: The Humanitarian Imperative for Nuclear Disarmament

Gu Guoliang: Cooperation and Differences between China and the United States in the Field of Arms Control and Nonproliferation

Xia Liping: China's Nuclear Doctrine and Its Impacts on International Nuclear Disarmament

Dipankar Banerjee: India-China Nuclear CBMs and Global Nuclear Disarmament

16:00-16:20 Tea Break

16:20-18:30 MODERATOR: Zhu Rui

Masako Ikegami: The Paradox of Extended Nuclear Deterrence in the Era of Global Nuclear Disarmament

Shen Dingli: Iran's Nuclear Gambit — Could a War Be Avoided?

Daniel Pinkston: The DPRK Nuclear Program and U.S. Extended Deterrence

Li Bin: Technical & Organizational Evidence of Nuclear Weapon Development

Zia Mian: Increasing Transparency of Nuclear-warhead and Fissile Material Stocks as a Step Toward Disarmament and Implementation of 2010 NPT Review Conference

18:30-20:30 Buffet Dinner

Gallery, 2nd Floor



NOVEMBER 2ND, FRIDAY

06:30-08:30 Breakfast Gallery, 2nd Floor

> Participants can choose their morning session. The afternoon includes plenary sessions.

08:30-10:20 Verification Technology Challenges Function Room, 2nd Floor

MODERATOR: Page Stoutland

Randy Bell: Mutual Benefits of Scientific Collaboration in Verification Technology Development

Ramamurti Rajaraman: An Introduction to Technical Issues in FMCT Verification

Sue Clark: Chemical and Isotopic Signatures for Nuclear Forensics

Zhao Yonggang: Nuclear Forensics Research in China

Nuclear Energy and the Fuel Cycle

Ninghui Meeting Room, 3rd Floor

MODERATOR: Deborah Rosenblum

Jasper Pandza: China's Move towards a Closed Nuclear Fuel Cycle: Nuclear Safety and Security Implications

Undraa Agvaanluvsan: Multilateral Nuclear Fuel Cycle Arrangements and Cooperation in North East Asia

John Carlson: A New International Framework for Nuclear Energy

Zhu Xuhui: The Development of Nuclear Energy in China

10:20-10:40 Tea Break

NOVEMBER 2ND, FRIDAY (continued)

10:40-12:10 CTBT Verification

Function Room, 2nd Floor

MODERATOR: Najmuddin Shaikh

Li Genxin: Prospects for Advancement toward the Entry into Force of the CTBT

Benjamin Rusek: Confidence Building and the CTBT

Lin Guojiong: On the Entry into Force of the CTBT

David Santoro: On the Role China Can Play in Facilitating the Entry into Force of the CTBT

Nuclear Security

Ninghui Meeting Room, 3rd Floor

MODERATOR: Ramamurti Rajaraman

Mirco Elena: Civilian Nuclear Energy: Reducing Dangers and Strengthening Peace

Frank von Hippel: A Global Cleanout of Nuclear-weaponusable Materials

Hui Zhang: Strengthening China's Nuclear Security

Liu Daming: Issues of Chinese Nuclear Security

12:10-14:00 Buffet Lunch

Gallery, 2nd Floor

14:00-16:30 Plenary Session: Strategic Stability and Security

Function Room, 2nd Floor

MODERATOR: Carlo Schaerf

Michael Krepon: Space Security and Deterrence Stability

Lora Saalman: China's Evolution on Ballistic Missile Defense

Yang Yi: U.S. Rebalancing and its Implications for Regional Security

Lewis Dunn: Building a Stable and Cooperative Long-term U.S.-China Strategic Relationship

Najmuddin Shaikh: Ballistic Missile Defense in South Asia and its Implications for Nuclear Stability

Mallika Joseph: Nuclear Learning in South Asia



NOVEMBER 2ND, FRIDAY (continued)

- 16:30-16:50
 Tea Break

 16:50-17:30
 Closing Session MODERATOR: Li Hua CLOSING REMARKS: Yang Mingjie, Vice President, CICIR
- 17:30-18:30 Buffet Dinner Gallery, 2nd Floor
- 18:30-21:00 Social Activities

NOVEMBER 3RD, SATURDAY

06:30-08:30 Breakfast Gallery, 2nd Floor

Departures

Participants

Undraa Agvaanluvsan MonAme Scientific Research Center, MONGOLIA undraa98@gmail.com

Alexei Arbatov Nuclear Threat Initiative (NTI) Board, RUSSIA

Dipankar Banerjee Institute of Peace and Conflict Studies (IPCS), INDIA dbanerjee@ipcs.org

Emma Belcher John D. and Catherine T. MacArthur Foundation, AUSTRALIA ebelcher@macfound.org

Randy Bell U.S. National Nuclear Security Administration (NNSA), USA randy.bell@nnsa.doe.gov

Desmond Browne Nuclear Threat Initiative (NTI) Board, UK

John Carlson Nuclear Threat Initiative (NTI), AUSTRALIA john.carlson.safeguards@gmail.com

Chen Huaifan Chinese People's Association for Peace and Disarmament (CPAPD), CHINA chenhuaifan@cpapd.org.cn

Sue Clark Washington State University, USA s_clark@wsu.edu

Paolo Cotta-Ramusino Pugwash Conferences on Science and World Affairs , ITALY cotta@mi.infn.it

Cui Liru China Institutes of Contemporary International Relations (CICIR), CHINA

8

Cui Maodong Center for Strategic Studies, China Academy of Engineering Physics (CAEP), CHINA cui_maodong@iapcm.ac.cn

Charles B. Curtis Nuclear Threat Initiative (NTI) Board, USA curtis@nti.org

Philippe de Koning Nuclear Threat Initiative (NTI), USA dekoning@nti.org

Myagmar Dovchin Mongolian Institute for Geopolitical Studies, MONGOLIA myagmarf@yahoo.com

Lewis Dunn Science Applications International Corporation (SAIC), USA lewis.a.dunn@SAIC.com

Rolf Ekéus Nuclear Threat Initiative (NTI) Board, SWEDEN

Mirco Elena International School on Disarmament and Research on Conflicts (ISODARCO), ITALY elena@science.unitn.it

Fu Ying Science and Technology Information Center, China Academy of Engineering Physics (CAEP), CHINA

fuyingatree@126.com

Gu Guoliang

Institute of American Studies, Chinese Academy of Social Sciences, CHINA gugl@cass.org.cn

Guo Xiaobing China Institutes of Contemporary International Relations (CICIR), CHINA guoxiaobing@yahoo.com

THE 13TH PIIC BEIJING SEMINAR ON INTERNATIONAL SECURITY



Eugene Habiger Nuclear Threat Initiative (NTI) Board, USA

Han Hua Peking University, CHINA rruthhan@gmail.com

He Yidan China Defense Science and Technology Information Center, CHINA jk_cdstic@sina.com

Siegfried Hecker Stanford University, USA shecker@stanford.edu

He Yijian China Ministry of Defense, CHINA ajian1024@hotmail.com

Lauren Hickok Princeton University, USA lauren.hickok@gmail.com

Henrik Staalhane Hiim The Norwegian Institute for Defense Studies, Oslo University, NORWAY henrik.hiim@gmail.com

Corey Hinderstein Nuclear Threat Initiative (NTI), USA hinderstein@nti.org

Nicola Horsburgh University of Oxford, UK nicola.horsburgh@sant.ox.ac.uk

Hu Side China Academy of Engineering Physics (CAEP), CHINA hsd@iapcm.ac.cn

Huang Weiguo Institute of Structural Mechanics, China Academy of Engineering Physics (CAEP), CHINA abby@caep.ac.cn

Hui Zhang Harvard University, USA hui_zhang@harvard.edu Masako Ikegami Department of Political Science, Stockholm University, JAPAN masako.ikegami@statsvet.su.se

Igor Ivanov Nuclear Threat Initiative (NTI) Board, RUSSIA

Rebecca Johnson The Acronym Institute for Disarmament Diplomacy, UK rej@acronym.org.uk

Mallika Joseph Regional Centre for Strategic Studies, INDIA ed@rcss.org; mallikajoseph@gmail.com

Kang Chunmei Science and Technology Information Center, China Academy of Engineering Physics (CAEP), CHINA Kangchunmei2002@qq.com

Jungmin Kang Korea Advanced Institute of Science and Technology, SOUTH KOREA jungminkang64@gmail.com

Shaun Kim Princeton University, USA shaunk@princeton.edu

Stephanie Kleine-Ahlbrandt International Crisis Group, USA ska@crisisgroup.org

Michael Krepon Henry L. Stimson Center, USA krepon@stimson.org

Gregory Kulacki Union of Concerned Scientists, USA gkulacki@ucsusa.org

Tomoko Kurokawa Princeton University, JAPAN tomokok@qb4.so-net.ne.jp

Li Bin Carnegie Endowment for International Peace, CHINA libin@tsinghua.edu.cn

Li Genxin

Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), CHINA genxin.li@ctbto.org

Li Hong

China Arms Control and Disarmament (CACDA), CHINA lihong.cacda@yahoo.com

Li Hua

Institute of Applied Physics and Computational Mathematics (IAPCM), CHINA lihuaw@iapcm.ac.cn

Li Jingping

Institute for Strategic Studies, National Defense University, People's Liberation Army (PLA), CHINA xu_weidi@hotmail.com

Li Yanqin

Science and Technology Information Center, China Academy of Engineering Physics (CAEP), CHINA liyqst@163.com

Lin Guojiong

United Nations, CHINA DRKCL@aol.com

Liu Bo

China Institutes of Contemporary International Relations (CICIR), CHINA liubo8610@yahoo.com

Liu Chong

China Institutes of Contemporary International Relations (CICIR), CHINA

Liu Daming

China Institute of Atomic Energy (CIAE), CHINA dmliu@ciae.ac.cn

Liu Gongliang

Institute of Applied Physics and Computational Mathematic (IAPCM), CHINA Igl@iapcm.ac.cn

Lu Yin

Institute for Strategic Studies, National Defense University, People's Liberation Army (PLA), CHINA ndudeer@163.com

Ma Yuan

College of Defense Studies, National Defense University, CHINA maggie.ma27@gmail.com

Carmen MacDougall

Nuclear Threat Initiative (NTI), USA macdougall@nti.org

Jessica Mathews Nuclear Threat Initiative (NTI) Board, USA

Zia Mian

Princeton University, UK ZIA@princeton.edu

Giuseppe Minacapilli

Tsinghua University, ITALY giuse.minacap@live.it; g.minacapilli@gmail. com

Sam Nunn Nuclear Threat Initiative (NTI), USA

Ouyang Liping

China Institutes of Contemporary International Relations (CICIR), CHINA liping_ouyang@yahoo.com

Hisashi Owada Nuclear Threat Initiative (NTI) Board, USA

Pan Zhenqiang Institute for Strategic Studies, National Defense University, People's Liberation Army (PLA), CHINA panzhenqiang@yahoo.com

Jasper Pandza

International Institute for Strategic Studies (IISS), GERMANY Pandza@iiss.org

Maria Cristina Parker

Princeton University, USA miaparke@princeton.edu

THE 13TH PIIC BEIJING SEMINAR ON INTERNATIONAL SECURITY



William Perry Nuclear Threat Initiative (NTI) Board, USA

Daniel Pinkston International Crisis Group, USA dpinkston@crisisgroup.org

Qu Changhong Institute of Structural Mechanics, China Academy of Engineering Physics (CAEP), CHINA quchanghong@163.com

Ramamurti Rajaraman Jawaharlal Nehru University, INDIA doug1968@hotmail.com; prof_rajaraman@ yahoo.com

Joan Rohlfing Nuclear Threat Initiative (NTI), USA rohlfing@nti.org

Deborah Rosenblum Nuclear Threat Initiative (NTI), USA rosenblum@nti.org

Benjamin Rusek Committee on International Security and Arms Control (CISAC), U.S. National Academy of Sciences, USA brusek@nas.edu

Lora Saalman Carnegie Endowment for International Peace, USA LSaalman@ceip.org

Nafis Sadik Nuclear Threat Initiative (NTI) Board, PAKISTAN

David Santoro Pacific Forum, Center for Strategic and International Studies (CSIS), FRANCE david@pacforum.org

Carlo Schaerf University of Rome, ITALY schaerf@roma2.infn.it

Phillip Schell Stockholm International Peace Research Institute (SIPRI), GERMANY schell@sipri.org Najmuddin Shaikh Former Foreign Secretary, PAKISTAN shaikh28@gmail.com

Shen Dingli Institute of International Studies, Fudan University, CHINA dlshen@fudan.ac.cn

Shen Yanping Center for Strategic Studies, China Academy of Engineering Physics (CAEP), CHINA psnss@iapcm.ac.cn

Wendin Smith George Mason University, USA wsmith25@gmu.edu

Julia Spiegel Princeton University, USA jbspiege@princeton.edu

Page Stoutland Nuclear Threat Initiative (NTI), USA stoutland@nti.org

Su Jiahang Center for Strategic Studies, China Academy of Engineering Physics (CAEP), CHINA sujh06@163.com

Mark Suh Korean Pugwash Group, SOUTH KOREA marksuh@gmx.net

Michael Sulmeyer U.S. Department of Defense, USA Michael.Sulmeyer@osd.mil

Sun Xiangli Center for Strategic Studies, China Academy of Engineering Physics (CAEP), CHINA sunxiangli@iapcm.ac.cn

Luke Swarthout Princeton University, USA Iswartho@princeton.edu

Teng Jianqun China Institute of International Studies, CHINA tengjianqun@vip.sina.com

Tian Jingmei

Center for Strategic Studies, China Academy of Engineering Physics (CAEP), CHINA Tian_jingmei@iapcm.ac.cn

Ted Turner Nuclear Threat Initiative (NTI), USA

Frank Von Hippel Princeton University, USA fvhippel@princeton.edu

Mark Walker Princeton University, USA markew@princeton.edu

Wang Xizhen

Science and Technology Information Center, China Academy of Engineering Physics (CAEP), CHINA xizhenw@163.com

Wang Zaibang

China Institutes of Contemporary International Relations (CICIR), CHINA wzbang@vip.sina.com

Wei Mengfu

China Academy of Engineering Physics (CAEP), CHINA weimengfu@x263.net

Rachel Weise

Princeton University, USA rachel.weise@gmail.com

Shirley Williams Nuclear Threat Initiative (NTI) Board, UK

Steve Wright Leeds Metropolitan University, UK

s.t.wright@leedsmet.ac.uk

Wu Chunsi

Shanghai Institutes for International Studies (SIIS), CHINA cswu@siis.org.cn

Wu Jun

Center for Strategic Studies, China Academy of Engineering Physics (CAEP), CHINA wujun@iapcm.ac.cn

Xia Liping

School of Political Science and International Relations, Tongji University, CHINA xialp@hotmail.com

Xie Dong

Institute of Applied Physics and Computational Mathematics (IAPCM), CHINA xie_dong@iapcm.ac.cn

Xie Wenxiong

Center for Strategic Studies, China Academy of Engineering Physics (CAEP), CHINA xiewenx86@gmail.com

Xu Rong

China Arms Control and Disarmament, CHINA xurong@ciis.org.cn

Xu Xuefeng

Center for Strategic Studies, China Academy of Engineering Physics (CAEP), CHINA xfxu.pku@gmail.com

Yang Fujia

Fudan University and Nuclear Threat Initiative (NTI) Board, CHINA fjyang23@yahoo.com

Yang Mingjie

China Institutes of Contemporary International Relations (CICIR), CHINA yangmingjie@263.net

Yang Yi

Institute for Strategic Studies, National Defense University, People's Liberation Army (PLA), CHINA Yangyi42@hotmail.com

Yu Meihua

China Reform Forum, CHINA yumeihua818@yahoo.com.cn

Jingdong Yuan

University of Sydney, USA jingdong.yuan@Sydney.edu.an

Zhang Meng

China Defense Science and Technology Information Center, CHINA davidmikemiui@gmail.com

THE 13TH PIIC BEIJING SEMINAR ON INTERNATIONAL SECURITY



Zhao Wuwen

Science and Technology Information Center, China Academy of Engineering Physics (CAEP), CHINA zhao_wuwen@sina.com

Zhao Yingjun

China Institute of Geology, CHINA yingjunzhao@sina.com

Zhao Yonggang

China Institute of Atomic Energy (CIAE), CHINA zhaoyg214@tom.com

Zhi Hui

China Defense Science and Technology Information Center, CHINA zhih@cetin.net.cn

Zhong Jing

National Defense University, CHINA zhongj1971@yahoo.com

Zhou Huan

Institute of Structural Mechanics, China Academy of Engineering Physics (CAEP), CHINA jocelynzhouhuan@163.com

Zhu Chenghu

Institute for Strategic Studies, National Defense University, People's Liberation Army (PLA), CHINA chenghuzhu@vip.sina.com

Zhu Rui

Chinese People's Association for Peace and Disarmament (CPAPD), CHINA CPAPD@CPAPD.org.cn

Zhu Xuhui

China Nuclear Industry Corporation (CNNC), CHINA zhuxh@cnnc.com.cn

Zou Yunhua

China Defense Science and Technology Information Center, CHINA yhzou@yahoo.com

About the Sponsors

Institute of Applied Physics and Computational Mathematics

The Beijing Institute of Applied Physics and Computational Mathematics was founded in 1958. Its areas of study include theoretical physics, nuclear and particle physics, plasma physics, laser physics, fluid dynamics, applied mathematics, computational mathematics, computer applications, and arms control science and technology.

International School of Disarmament and Research on Conflicts

The International School of Disarmament and Research on Conflicts (ISODARCO) is a non-government organization founded in 1966 by two Italian physics professors, Edoardo Amaldi and Carlo Schaerf, which offers a unique international forum on security problems throughout the world. ISODARCO's purpose is to bring together those with a great variety of experiences and approaches relating to security problems with discussions focused on commissioned expert papers.

China Institutes of Contemporary International Relations

China Institutes of Contemporary International Relations (CICIR) is a comprehensive research institution for international studies. In compliance with the directive of the State Council to set up a series of new institutions for international studies, the predecessor organization, China Institute of Contemporary International Relations, announced its official establishment in 1980. In 2003, the Institute was renamed and upgraded to China Institutes of Contemporary International Relations. CICIR consists of 11 institutes, two research divisions under direct supervision of CICIR leaders, eight research centers and several administrative departments. CICIR has now a staff of 380, including researchers, administrative and logistic personnel, among whom 150 are research professors or associate research professors.



Chinese People's Association for Peace and Disarmament

Founded in June 1985, the Chinese People's Association for Peace and Disarmament (CPAPD) is the largest Chinese non-governmental peace association with a total of 24 influential member organizations. The objectives of the CPAPD are to promote mutual understanding, friendship and cooperation between the peoples of China and the rest of the world in joint efforts to maintain world peace, oppose an arms race and war, achieve arms control and disarmament, strive for complete prohibition and thorough destruction of nuclear weapons and other weapons of mass destruction, protect ecological environment, and promote social harmony and sustainable development.

Nuclear Threat Initiative

The Nuclear Threat Initiative (NTI) is a nonprofit, nonpartisan organization with a mission to strengthen global security by reducing the risk of use and preventing the spread of nuclear, biological and chemical weapons and to work to build the trust, transparency and security that are preconditions to the ultimate fulfillment of the Non-Proliferation Treaty's goals and ambitions. Recognizing that governments have most of the resources and authority in the large-scale work of threat reduction, NTI emphasizes leverage—using its voice to raise awareness and advocate solutions; undertaking direct action projects that demonstrate new ways to reduce threats; and foster new thinking about these problems. Founders Ted Turner and former U.S. Senator Sam Nunn serve as co-chairmen of the board of directors, which includes members from China, India, Japan, Jordan, Pakistan, Russia, Sweden, the United Kingdom and the United States.