# UK Project on Nuclear Issues 2021 Annual Conference

**Tuesday 8 June 2021 (time in BST)**

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<th>Time</th>
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| 1300 – 1315 | Welcome Remarks  
**Tom Plant**, UK PONI Director and Director of Proliferation and Nuclear Policy, RUSI |
| 1315 – 1400 | **Keynote Speech and Q&A**  
Chair: **Tom Plant**, UK PONI Director and Director of Proliferation and Nuclear Policy, RUSI  
Speaker: **Vanessa Nicholls**, Director General Defence Nuclear Organisation, Ministry of Defence |
| 1400 – 1415 | Break |
| 1415 – 1530 | **Panel One: New perspectives on Arms Control and Disarmament**  
Chair: **Dr Matthew Harries**, Senior Research Fellow, RUSI  
Speakers:  
**Lydia Wachs**, Research Assistant, SWP Berlin (The German Institute for International and Security Affairs)  
*Revival of the Dead Hand? Russian Political and Military Elite’s Views on AI and Autonomy in Conventional and Nuclear Forces*  
**Claudia Westwood**, Network Liaison Officer, European Leadership Network  
*The UK’s Integrated Review: Implications for Transparency Measures in Multilateral Arms Control Forums*  
**Ekaterina Lapanovich**, PhD Candidate Department of Theory and History of International Relations, Ural Federal University.  
*The ‘Hijacked’ Initiative: from the Humanitarian Initiative to the Ban Treaty…and Back Again?* |
| 1530 – 1600 | Break |
| 1600 – 1715 | **Panel Two: New Technologies and Deterrence**  
Chair: **Marion Messmer**, Co-Director, BASIC  
Speakers:  
**Cameron Hunter**, Research Associate, University of Leicester  
*The ‘Rupture-Talk’ of Emerging Tech versus Nuclear Deterrence*  
**Dalia Landau**, Undergraduate Student in Religion, Politics and Society, University of Leeds  
*The Impact of New Technology on Strategic Stability: A Third Nuclear Age*  
**Hazel Carter**, Engineer, UK Ministry of Defence and **Oliver Porter**, Software Development Tester, MASS  
*Autonomous Nuclear Weapons: Ethics, International Law and Future Stability*  
Contributors: Alison Nightingales, Josh West and James Curtiss |
Wednesday 9 June 2021

1230 – 1345  
Panel Three: Technology and Communication in Future Nuclear Deterrents

Chair:  
Professor Deeph Chana, Co-Director of Institute for Science & Technology, Imperial College London

Speakers:  
Mat Budsworth, Radiation Effects Scientist, Atomic Weapons Establishment  
Replacement Warhead: Deterrence Without Detonation  
Mary Hood, Second Lieutenant US Air Force and 2020 Marshall Scholar at King’s College London  
The Criticality of Discourse in Determinations of Nuclear Arsenal Credibility under the CTBT  
George Parkes, Performance and Effectiveness Assessment Analyst, MASS and  
Joseph Campion, Mathematical Modeller, MASS  
A Quantum ‘State’ of Mind. Threats Posed by Bose Einstein Condensate Gravity Sensors

1345 - 1400  
Break

1400 – 1500  
AWE-MoD Fireside Chat: The Transition of AWE from Contractor Operation to Non-Departmental Public Body

Chair:  
Tom Plant, UK PONI Director and Director of Proliferation and Nuclear Policy, RUSI

With:  
Dominic Bethencourt-Smith, Atomic Weapons Establishment  
Ellen Jones, Defence Nuclear Organisation, UK Ministry of Defence  
Clare Brown, UK Government Investments, UK Ministry of Defence.

1500 - 1530  
Break

1530 - 1620  
Panel Four: Hypersonics and Strategic Stability

Chair:  
Alexandra Stickings, Research Fellow Space Policy and Security, RUSI

Speakers:  
Daniel Cook, Graduate Engineer, Lockheed Martin  
Hypersonic Missile Defence, Detecting the Undetectable  
Contributors: Aaron Kennedy, Jonathan Roberts, Jonathan Balakumar  
Timothy Wright, Research Analyst and Programme Administrator, IISS  
Hypersonic Glide Vehicles and Implications for Crisis Stability: A Technical and Doctrinal Analysis

1620 - 1700  
Break

1700 – 1800  
Keynote Speech and Q&A

Chair:  
David Jarvis, Associate Fellow, RUSI

Speaker:  
Commodore Paul Dailey, Deputy Director Submarine Capability, UK Ministry of Defence
Thursday 10 June 2021

1300 – 1415 Panel Five: Regional Deterrence Dynamics
Chair: **Darya Dolzikova**, Research Fellow, Proliferation and Nuclear Policy, RUSI
Speakers:
- **Rizwan Asghar**, PhD Candidate, University of California Davis
  *Nuclear Weapons and Interstate Conflict Behaviour: Moderating Influence of Civil-Military Relations*
- **Elisabeth Suh**, PhD Fellow, Institute for Peace Studies and Security Policy University of Hamburg
  *Understanding Signals - The DPRK’s Deterrence Posture*
- **Tom Hickey**, Project Assistant, UNIDIR
  *The Middle East WMD-Free Zone: Diplomatic Game of Pathways to Regional Stability?*

1415 – 1430 Break

1430 – 1520 Panel Six: Future Nuclear Technologies
Chair: **Tom Plant**, UK PONI Director and Director of Proliferation and Nuclear Policy, RUSI
Speakers:
- **Bhaumik Bhahmbhatt**, Warhead Systems Engineer, Atomic Weapons Establishment
  *Is Thorium-based Nuclear Fuel Really Proliferation Proof?*
- **Sam Brass**, Graduate Engineer, Lockheed Martin
  *Nuclear Propulsion in the UK: Can the UK Accelerate Humans Towards Colonising Mars?*
Contributors: Jacob Allen, Rebecca Desmond, Jennifer Edwards, Myles Johnson (Lockheed Martin) and Shyam Sikotra (Rolls Royce Submarines)

1520 – 1530 Break

1530 – 1730 Futures Exercise with N Square and the School of International Futures

Summary
This workshop with **N Square** and the **School of International Futures** will introduce participants to Futures Wheels, an exploratory futures tool, and how it can be applied to nuclear issues. This is a pilot of a participatory exercise that the School of International Futures hopes will be useful with other cross-sections of the nuclear community or networks of emerging leaders. It will also enrich the ongoing horizon scanning effort led by N Square.

Each of the ten groups will be assigned one of the N Square drivers of change, reinterpreted as a specific event in 2035. They will use a futures wheel to think through what this could mean by 2045; specifically, who would govern, own, or be at risk from nuclear weapons in that world.

About
**N Square** brings new energy and a fresh approach to tackling one of the world’s wickedest problems: the deepening threat posed by nuclear weapons. The nuclear landscape is a jumble of many overlapping challenges, from
political dilemmas to technological puzzles to conflicts between belief systems. We recognize the complexities without being daunted by them, employing a range of tactics to create conditions that enable new solutions, ideas, and partnerships.

**School of International Futures** helps policy makers and business leaders improve the present and the future by using foresight and futures methods. We help build capacity to make strategic choices for the long term, to improve the quality of innovation, and ensure organisations are more resilient to emerging risks. We are headquartered in London but operate globally, using diverse teams to work with organisations and communities to make change for the better.