



UNITED NATIONS  
UNIVERSITY

**UNU-CPR**

United Nations University Centre for Policy Research  
**Meeting Report**  
June 2016



---

# UNSCR 1540 Civil Society Forum

## A Dialogue with Academia and Civil Society

Hosted by the United Nations University in cooperation with the UN Office for Disarmament Affairs  
11-12 April 2016, UN Headquarters, New York

Rapporteur: Wilfred Wan, Centre for Policy Research, United Nations University, Tokyo, Japan

---

Acknowledgements: The organizers are grateful for the financial contributions from the Governments of the Republic of Korea and the United States of America, which made this meeting possible.

Disclaimer: The views expressed herein are those of the participants in the Forum and do not necessarily reflect the views of the United Nations or its Member States.

## Executive Summary

The two-day UNSCR 1540 Civil Society Forum was held from 11 to 12 April 2016 at the United Nations Headquarters in New York, with the aim of providing an opportunity for academia and civil society to contribute to the work of the Security Council Committee established pursuant to resolution 1540 (2004) (hereafter, 1540 Committee) in conducting the 2016 comprehensive review of the status of implementation of resolution 1540. Internationally-renowned experts and scholars from academia and civil society around the world, with expertise and experience in the fields relevant to the resolution, were invited to assess the weapons of mass destruction (WMD) proliferation threat presented by non-state actors in light of changing circumstance since 2010, to discuss academia's role in national, regional, and international efforts to implement resolution 1540, and to provide feedback to the 1540 Committee and its Group of Experts on transparency and outreach efforts.

Speakers and participants set forth the following proposals:

- The magnitude of the threat from non-state actors has increased since 2010. There are a greater number of groups, some with substantial resources under their control that could be applied to the acquisition or use of WMD. Especially concerning is the enhanced possibility of relatively unsophisticated, small-scale attacks that involve nuclear, biological, or chemical components due to the wider dissemination of equipment and information.
- The academic community is essential to raising awareness of the threat of biological terrorism, which faces both greater public skepticism and a lack of attention at the political level as compared to other WMD.
- On an individual level, researchers in the life sciences involved in dual-use research must enhance their self-regulatory activities.
- Codes of conduct are especially useful in the biological science community where regulatory requirements related to accounting, control, protection, and security are less robust and pose different concerns than in the nuclear or chemical areas. Codes of conduct should pertain specifically to 1540-related concerns. Such codes provide blueprints that feed directly into curriculum and training tailored to the specific sciences, enhancing outreach efforts.
- Academics and professional associations in the biological area, especially, should mobilize to play a greater role in engaging government regulators and the 1540 Committee, in consolidating and furthering research on how best to address security concerns, and in providing oversight at the institutional level.
- The Committee must deploy a more systematic approach to engaging academia and key stakeholders outside government. The "Wiesbaden Process" presents a model for establishing a regularized dialogue with industry that is sector-targeted and thematically driven. Concurrently, the Committee should continue to encourage the development of university- and NGO-organized 1540 events through participation and outreach.
- The Committee, its Experts, and academic communities should work to shift the conversation from member state reporting to member state implementation. This includes assessments that highlight compliance, with the identification of successful and unsuccessful cases.
- The Committee and its Experts could enhance analysis of the 1540 matrices by releasing data in friendlier formats, allowing comparative and time-lapse analyses.
- The Committee, state governments, and academic communities must continue to link concerns about non-state WMD proliferation to broader concerns of health, safety, and national security, utilizing existing programs and instruments to achieve 1540-related goals.

## Context

On 11-12 April 2016, the United Nations University, in cooperation with the UN Office for Disarmament Affairs (UNODA), convened the UNSCR 1540 Civil Society Forum: A Dialogue with Academia and Civil Society at United Nations Headquarters in New York.

The forum took place in the context of the 2016 comprehensive review on the status of implementation of resolution 1540 (2004), which obliges all Member States to adopt legislation to prevent the proliferation of nuclear, chemical, and biological weapons, their means of delivery, and related

materials to non-state actors, particularly for terrorist purposes. The forum was designed as an opportunity for civil society to provide input into the 2016 comprehensive review process. The 2016 review marks the first comprehensive review by the Committee since 2009, and one undertaken in accordance with resolution 1977 (2011), which extended the mandate of the Committee for ten years until 25 April 2021.

Twenty-six internationally-renowned experts and scholars from academia and civil society around the world, with expertise and experience in the fields relevant to the resolution, were invited to discuss their role in national, regional, and international efforts in implementing resolution 1540.

Over the course of the two-day forum, participants discussed a number of topics, including the evolving nature of threats in the nuclear, chemical, and biological realms; the direct responsibilities of some parts of the academic community in implementing 1540 obligations; and the relationship between academia, governments, and the 1540 Committee in reviewing and analyzing implementation. (The meeting agenda is annexed to this report.)

The following is a rapporteur summary of the two-day forum, which was held under the Chatham House Rule. This report synthesizes the main themes and key recommendations arising from the panel presentations and ensuing discussions. It does not necessarily represent a consensus view nor does it necessarily reflect the views of the United Nations or its Member States. Accompanying this report is a compilation of short research papers addressing 1540-related questions that participants were asked to submit.

### **I. Reassessing the Non-State Threat**

The event took place against the background of what participants agreed was an increase in the magnitude and acuteness of the non-state threat. Since the previous comprehensive review of resolution 1540 in 2009, there has been a marked increase in both the number and capability of groups – such as the Islamic State in Iraq and the Levant (ISIL, also known as Da’esh) – seeking to commit unconventional attacks. While discussants commended improvements to trade and border controls, participants noted that overall state responses had not been able to keep up with the heightened threat. Limited resources prevent governments from addressing every vulnerability in the global supply chain, while the business sector remains slow to adopt a proactive approach in targeting illicit procurement, for instance by investing in risk assessment and compliance evaluation programs. The possibility of non-state actors acquiring WMD or facilitating WMD proliferation remains a cause of concern.

#### ***High- and Low-End Attacks***

Indeed, most government attention is still dedicated to plots by global and well-resourced terrorist organizations that are situated at the high end of the threat spectrum, in particular those that involve the use of nuclear weapons or synthetic organisms. Al-Qaeda’s nuclear aspirations, for instance, played no small role in the drafting of resolution 1540, as well as efforts such as the International Convention for the Suppression of Acts of Nuclear Terrorism and the Global Initiative to Combat Nuclear Terrorism.<sup>1</sup>

Most governments focus on the threat of catastrophic attacks as a priority. This is understandable, but the possibility of lower-end local attacks – for instance those that utilize radiological materials or homemade ricin – deserves greater attention. This low-end threat is

exacerbated by the wider dissemination of equipment and knowledge.

Research advancements can have unintended consequences for the WMD threat at both the high and low ends of the spectrum. Progress in the biological sciences breaking down the makeup of human and animal diseases can be manipulated for purposes of a crude deployment or a mass attack. Lower costs in 3-D printing also allow for the manufacture of sophisticated specialized parts. Meanwhile advancements in miniaturization of components – especially those linked to unmanned aerial vehicles – can enhance means of delivery for all purposes, including non-peaceful.

#### ***Nuclear vs. Biological***

Several participants voiced concern about the uneven awareness of and focus on the different dimensions of the WMD threat posed by non-state actors. In particular, they pointed to the discrepancy in terms of institutional attention directed at the nuclear sphere as compared to the biological. Some lamented the widespread skepticism among Member States with respect to the reality of bioterrorism as a genuine threat. Some suggested this has been a longstanding issue, with nuclear weapons arguably seen as both the more dramatic threat – given the nature of their effects, as demonstrated in Hiroshima and Nagasaki – and the more manageable threat.

Indeed, there was agreement on the widespread commitment to and relative success of nuclear non-proliferation to date. Still, existing weapons and materials stockpiles underscore the reality of both the state and non-state threat, while the accelerating expansion of nuclear power programs to the Global South calls attention to the need for capacity-building in less developed regions. Pointing to the broad spectrum of nuclear threats, which includes 1) the use of nuclear explosive devices, 2) the sabotage of facilities (including cyberattack), and 3) the dispersal of material, one participant argued in favor of investing broadly in the protection of radiological components as the most productive approach.

The impressive advances in science and technology, with hugely positive benefits for global health and development, could also pose serious risks of misuse. Pathogens are freely available and there remains a general lack of regulation (including self-regulation) over laboratories, especially in academic institutions. Even in states where regulations are in place, there often exist conflicts of interest, with an independent and overarching implementation body as an exception rather than the norm. One barrier is that well-developed regulatory controls in the nuclear area might appear relevant to the biological area, but the two fields are so different that this is not the case. The capacity to address biological threats remains insufficient.

<sup>1</sup> The GICNT is an international partnership – now comprised of 86 nations and five observers – that endorses a set of nuclear security principles and aims to improve capacity in nuclear terrorism deterrence, prevention, detection, and response at national and international level.

## II. Academics and Implementation

While resolution 1540 stipulates that appropriate and effective controls must be enacted over WMD, their means of delivery, and related materials, it does not provide a blueprint for national implementation. Still, the scope of the mandate suggests that action cannot be confined to those taken by governments. Full implementation by states requires the involvement of all relevant stakeholders. Civil society, academia, and industry can support compliance efforts for instance by raising the profile of the mandate, providing technical expertise, and facilitating and sharing best practices. In these and other manners, civil society can contribute to an overall WMD security culture that cuts across national borders.

### *Social Responsibility*

There was widespread agreement on the social responsibility borne by academic communities, especially in appropriate self-regulation, awareness-raising, and outreach. Scientists whose work centers on technologies linked to the design, manufacture, or use of WMD and their means of delivery – for instance, those who handle sensitive nuclear technology, are responsible for protection of nuclear and other radioactive materials, or study biological select agents and toxins – in particular had a duty to inform the public of potential threats from non-State actors or of proliferation, providing information via conferences, policy papers, meetings, and other outlets. They must also consider the negative implications of promulgating their research and, when appropriate, make the decision not to publish or share sensitive information.

One participant noted that groups involved in potential dual-use research should play intermediary roles in informing the broader academic community as well. The centrality of a proactive approach was a popular theme; this included interactive aspects such as education on dual-use components, ethics courses, and case study activities, as well as the dissemination of data via industry books, documents, and websites. Refresher workshops on laboratory safety and security offered another means of disseminating a culture of awareness. Academics can also play a greater role in their own oversight, with associational entities such as the [World Conferences on Research Integrity](#) and the [InterAcademy Partnership](#) cited as critical to these efforts.

### *Codes of Conduct*

One of the recurrent themes through the forum was the value of codes of conduct. Across multiple panels, participants advocated for academics and researchers to adopt voluntary codes of conduct or similar principled guidelines, while calling for more proactive governmental support of such measures. There seemed to be agreement that civil society could provide added value especially in the realm of biological safety and security, given the aforementioned

risks. Still, they acknowledged that the academic community continued to be less receptive to these codes than their private sector counterparts.

One possible impediment is the level of specificity required in the content of codes of conduct, as they generally necessitate development closer to the ground, reflecting the particulars of the individual science, and then ideally funneling directly into curriculum development and training. Several participants thus recommended taking a step backwards, drawing upon [The Hague Ethical Guidelines](#), developed in 2015 and linked to the Chemical Weapons Convention, which established a base set of principles that can serve to jumpstart a longer-term process.

Development of such guidelines in line with requirements set by resolution 1540 may in turn create products that could be sent to other stakeholders – including governments and the private sector – for consideration. Such a process can further the development of reciprocity among those groups. The secrecy of private research activities, rationalized by commercial considerations, can hide the potential illegitimacy of work and obstruct detection of faulty research on defensive measures.

### *Limitations*

Still, while there was much agreement regarding the importance of academic communities engaging in self-policing, awareness-raising, and teaching, participants identified a number of practical obstacles to enhancing their involvement accordingly. For instance, researchers in the biological sciences may lack the ability to properly assess the security risks of their work, while institutional committees tasked with their review may lack the technical knowledge required for full analysis. This can result in difficult decisions with respect to publication in particular. Differences in cultures across institutions reinforce the limits of self-regulation.

In addition, many raised the question of whether there were sufficient resources within the academic community to ensure self-monitoring and compliance. At an even more fundamental level, there exists no clear standard of what exactly academics need to do to comply with resolution 1540, or how their dissemination of information via courses, workshops, or other means could be proven effective at all. This line of thought served as a microcosm of the debate over the resolution itself, as the particular wording of 1540 specifies that states “adopt and enforce appropriate effective laws” to prohibit non-state proliferation. What exactly does that entail, and how does it differ across states and fields?

## III. Academics and Analysis

In addition to the direct role of academics in implementation, another major question posed involved the role of academics in improving the existing analysis of state

implementation of resolution 1540. Participants admitted that a substantial gap still exists between the academic and the policy worlds, stemming both from their very different incentive structures and their resources. But they pushed the idea that academia and research think tanks could boost the quality of research in and around 1540, given processes of peer review, methodology, data transparency, among others.

### **Assessment Role**

As outsiders, academics have the luxury not only to innovate but to be critical in providing second-track assessments, while challenging governmental assumptions about the nature of the non-state threat, its causes and effects, and the effectiveness of countermeasures. However, there was some pushback on the idea of academics asking more insensitive questions or even “naming and shaming” states that have failed to properly enforce their laws related to the resolution. One participant suggested that it would be difficult for the Committee or the Group of Experts to draw upon academic resources that sought to establish any standard that went beyond responses on the 1540 Matrix, especially given the absence of an objective definition for “appropriate and effective” measures.

Still others suggested that civil society did not have to be confined to an outside role in assessment; it could help to develop guidance documents with states or partake in peer review processes that gauge state performance in certain areas (e.g. export controls or export licensing procedures). Governments could facilitate this relationship with civil society by soliciting this work. For instance, the role of academia and expert panels in anti-money laundering efforts was cited as a template that could be replicated in the field of 1540 implementation. However, others disagreed, suggesting that the sensitive nature of WMD proliferation and lack of equivalent to the US-driven financial system provided circumstances less conducive to the viability of such partnerships.

### **More Cohesion**

A number of participants highlighted a lack of cohesion among the academic community that manifested itself both outwardly in their relations with “implementers” and inwardly between the hard and soft sciences. They suggested that clearer voices from organizations such as the [InterAcademy Partnership](#), the [International Council for Science](#), and other national and regional academies of sciences would be instrumental in improving both internal and external relations, providing academics a greater sense of direction on issues related to resolution 1540.

There was an admission that there remain incentives for academics to work on their own, given the sensitivity of

data and the need to ensure protection of intellectual property. Still, many suggested that these concerns would need to be weighed against the benefits of increased networking to all groups. For instance, allowing the ability to reproduce study results is critical to ensuring their robustness. In addition, scholars examining a related topic could utilize that data for new research questions without the need for a tedious reinvention of the wheel.

In addition, interconnectivity among scholars would encourage comparative work that can help identify best practices toward fuller implementation. One participant highlighted that research in the field of strategic trade controls tended to occur in isolation. Despite increased scholarly interest in recent years, the nascent nature of the field was still characterized by much redundancy. The establishment of the journal [Strategic Trade Review](#) has increased dialogue among scholars; still, a conscious effort to map out existing literature on trade controls would further improve the quality of scholarship.

### **Link to Government**

The discussion during the meeting suggested that policymakers could also more effectively utilize the unique skillsets provided by academics. Academics have the potential not only to serve as technical experts, but can also provide advice on how governments can balance competing priorities, placing resolution 1540-related goals in greater context. Some suggested that governmental funding could be used to bolster 1540 education among academics themselves, helping to create a culture of compliance from the ground up. Textbook coverage of the topic oftentimes requires a level of scientific knowledge that can be lacking. Short courses or modules targeted at academics and government officials would help both sides to develop a holistic perspective of the issue, allowing more fruitful interaction between them.

Still, at least one participant sounded a call of warning regarding the viability of expanding 1540-related training and curriculum even within the academic community. Such a focus on a single UN resolution – even one with as broad a mandate as 1540 – is unrealistic given academic restraints. Another suggested that academic work must be more effectively adapted for government use. The same characteristics that defined the value of academic research also lengthened the amount of time it takes to generate outputs, oftentimes reducing their utility to officials working with vastly different timeframes and more narrow perspectives. By contrast the “[think zone](#)” set up in the context of the Biological Weapons Convention Review Conference, which allowed scholars to post shorter, to-the-point analytical pieces and assessments, was held up as a potential model for future interaction.

## IV. The Role of the Committee

### *Strategy Towards Academia*

Participants noted that the 1540 Committee was exemplary among UN arrangements – and (inter-)governmental entities overall – in actively reaching out to civil society through events such as this forum and the frequent participation by members of the Committee and its Experts in events organized or sponsored by universities and NGOs. At the same time, they suggested that the Committee could do more to develop a systematic approach to key stakeholders outside government. Its engagement of academia continues to be episodic, messy, and dominated by the Global North. Still, there has been substantial improvement in this aspect since 2009, as demonstrated by the ever-growing list of civil society-focused events.

Some highlighted the importance in particular of the Committee creating linkages with the scientific communities in chemistry and biology or with the aforementioned academic societies. The Committee could more directly integrate them through an academic advisory group or an international working group. These entities could produce educational materials, map out existing research, and enact training courses that put technical information in proper political context. In this manner, the Committee could also intensify interactions between the hard and soft sciences, engaging the whole of academia and strengthening the feedback loop.

### *Transparency and Data*

The 1540 Matrix, adopted in 2005 as a tool for organizing information about member state implementation of the resolution, provided a common foundation for almost all discussion of data. While participants almost uniformly expressed their appreciation for the overall climate of transparency created by the Committee in and around the instrument, they highlighted a number of shortcomings. For instance, the yes/no nature of answers in the matrices (referring either to state assertions of their relevant measures in their national reports or the Committee finding reference to applicable legal basis or executive measures) offered only surface-level identification of the presence of laws and regulations without delving into the precise nature of mechanisms of enforcement and implementation. That they are list-based and lack qualitative summaries also prevents in-depth trend analysis, for instance in geospatial and temporal terms, or a means of comparing implementation activities; even the coding rules used by the Group of Experts prior to 2008 – when a comprehensive set of such rules were developed – remain unclear.

Because of the data provided by the Committee, much of the focus remains simply on whether states have submitted an implementation report to the Committee to date, with

less attention on the content of the report and the quality of implementation efforts. That academics tend to base their analysis on quantitative measures linked to the yes/no responses exacerbates the issue. The use of reporting rate as a measurement of success can be misleading, as even the achievement of “universal compliance” can belie a lack of capacity; one participant referred to the area of export controls in citing the gap between awareness and execution, given lack of resources to properly detect, investigate, and prosecute. Others suggested that the Committee move to highlight successful and unsuccessful cases.

The Committee could also more effectively incorporate academic resources into the system. One participant cited as an example the [1540 Compass](#), a journal that exchanges views for effective implementation published jointly by the University of Georgia and UNODA. However, this partnership remains the exception rather than the norm. Others underscored the value of a centralized database that aggregates and consolidates the raw data from the individual country matrices published by the Committee, allowing more substantive comparisons across countries and regions. The addition of a temporal element would be especially welcome to gauge trends in implementation. One participant noted that the detailed database could foster not only more direct assistance, but also peer pressure towards compliance, as well as dialogue surrounding progress towards 1540 obligations.

### *Reorienting the Committee?*

For some, the Comprehensive Review provided the Committee an opportunity to make more fundamental changes. One participant noted the contradictory nature of its current role, with the focus on providing positive support through transparency undermining efforts to apply pressure in order to induce more substantive compliance. Perhaps the Committee should complement its role as a good faith partner with a more proactive approach involving political pressure – at least with respect to cases of grave non-compliance that result from lack of political will rather than lack of capacity. However, as others noted, the apparent reluctance of the UN Security Council to use sanctions to enforce the resolution limits the impact of any such pressure on states. Even if civil society chose to “name and shame” non-compliers, the consequences would be minimal without a significant change in philosophy by the Committee.

Another set of suggestions involved a mandate expansion for the Group of Experts, which could undertake more visits to states, engage in more detailed reporting of implementation, and also drive cohesive relations with civil society. Still, resource constraints remained on the minds of many; one participant suggested the group revisit past reform processes to learn more about why such improvements remain elusive. Another, returning to the absence of enforcement mechanisms, argued that any changes to the mandates of the Committee or its Experts would be futile so long as some states remained unwilling to share information.



## V. Conclusions

### *The Challenge and the Promise of 1540*

Problematically, the varying levels of global institutionalization among the nuclear, biological, and chemical fields, as well as means of delivery, leave members of those respective academic communities with different knowledge cultures and resources. One participant noted the lack of an International Atomic Energy Agency (IAEA) equivalent in the other spheres, with the Organisation for the Prohibition of Chemical Weapons not focused on chemical security and the biological field suffering from minimal institutional presence. There was some pushback, however, on whether these institutions affected academic communities or implementation at all; some noted that concerns on ethics and security in biology permeate funding processes all the way to publication decisions.

Overall, participants called for the need to integrate and coordinate existing non-proliferation efforts across the nuclear, biological, and chemical fields. While they acknowledged the myriad differences across threats (from technologies to political and legal frameworks), they also noted that few meetings address crosscutting concerns among the three. Some lamented the lack of interaction between key processes and mechanisms even within individual spheres, for instance, in the nuclear example, between resolution 1540, the Nuclear Security Summit series, and the Global Initiative to Combat Nuclear Terrorism.

Participants stressed the importance of overall coordination as a requisite for the wider application of resolution 1540. The Nuclear Security Summits, for example, substantially raised the profile of nuclear terrorism; a similar process in the biological sciences could do the same for bioterrorism, with “gift basket diplomacy” as a potential means to securing concrete commitments.<sup>2</sup> Participants also noted the importance of capitalizing on existing political momentum, given expanded perceptions of the non-state threat. Resolution 1540 offers a truly unique framework for widespread action that must be utilized.

### *Putting Resolution 1540 in Context*

Many participants noted that 1540 work has become deeply integrated across some sectors, for instance within the context of the Integrated Nuclear Security Support Plans developed by the IAEA, which are tailored to a specific state’s needs. However, a prevalent theme was the need to continue highlighting intersections between resolution 1540 and other issues. One participant noted that states would likely be receptive to expending resources towards technical assistance and communications under the auspices of emergency management or disaster relief, not least as that same infrastructure would also enhance their ability to detect non-state WMD proliferation. There were many suggestions for

alternative framings, in particular with an emphasis on mobilizing an effective public health response to bioterrorism as means towards enhancing awareness of the issue. Several participants underscored the importance of establishing a stronger nexus between safety and security.

The key to communication then was to integrate the principles and themes of resolution 1540 into existing resources. Education was consistently identified as a key vehicle for this broader engagement. Some participants suggested that states could follow the footsteps of the Committee, for instance by engaging civil society more directly through the establishment of national focal points. This approach could include thematically specific events held under the 1540 umbrella, but also could take place with existing instruments such as the Nuclear Centers of Excellence (requiring a slight reconstitution of those entities to reflect the broader agenda).

The reality of resource limitations led to much focus in the forum on the need for the Committee to pool existing knowledge and increase efficiency in and around resolution 1540. A common thread was the centrality of the academic community to this process. As sources of information and potential centers of innovation, academic institutions can improve threat awareness, drive collaboration towards implementation, and foster stronger analysis. Overall, participants shared a positive outlook regarding the future of 1540 and the role of academia in the process. As one participant noted, it was a welcome change from the tenor of previous discussions on resolution 1540, which tended to linger on the complexity of the threat, the lack of resources, and the unforgiving politics surrounding the issue.

## VI. Next Steps

From 20-22 June 2016, formal open consultations of the 1540 Committee will be held with Member States, relevant international organizations, and appropriate sectors of civil society. There will also be a side event held on that occasion that relays and builds upon the discussion of this 11-12 April forum.

<sup>2</sup> An approach that seeks to circumvent a “lowest common denominator” consensus at multilateral fora by having smaller groups of like-minded parties agree to collective action.

**Annex I: Meeting Agenda**

COMPREHENSIVE REVIEW 2016:  
UNSCR 1540 CIVIL SOCIETY FORUM  
A DIALOGUE WITH ACADEMIA AND CIVIL SOCIETY

-----  
11-12 April 2016  
Conference Room 8  
UN Headquarters, New York

Monday, 11 April 2016

- 1000-1010 Welcome Address  
David Malone, Rector, United Nations University
- 1010-1020 Welcome Address  
Kim Won-soo, UNODA, High Representative
- 1020-1030 Remarks on the 2016 Comprehensive Review  
Ambassador Román Oyarzun Marchesi, Chair of the 1540 Committee

## Session 1: The Non-State Threat

- 1030-1040 Keynote Address  
Gary Samore, Belfer Center for Science and International Affairs
- 1100-1130 General Discussion  
Moderator: James Cockayne, United Nations University
- 1200-1330 Panel - Emergent Threats  
Moderator: Angelo Minotti, Sapienza University of Rome  
Speakers: Matthew Bunn, Harvard University  
Noramly bin Muslim, National University of Malaysia  
Iqbal Parker, International Centre for Genetic Engineering and Biotechnology  
Discussant: Fu Xiao, China Foundation for International and Strategic Studies

## Session 2: 1540 Implementation

- 1500-1630 Panel - Enhancing Implementation  
Moderator: Vicente Garrido Rebolledo, King Juan Carlos University  
Speakers: Zabta Shinwari, Quaid-i-Azam University  
Fumiko Kasuga, Science Council of Japan  
Alejandra Graciela Suárez, National University of Rosario  
Discussants: Indira Nath, formerly, All India Institute of Medical Sciences  
Tom Bielefeld, formerly, Belfer Center
- 1700-1800 Review of Day 1 and Further Discussion  
Moderator: Brian Finlay, Stimson Center

Tuesday, 12 April 2016

## Session 3: 1540 Review and Analysis

- 0900-1030 Panel - Academic Outreach  
Moderator: Gregory Koblenz, George Mason University



Speakers: Mark T. Nance, North Carolina State University  
Waheguru Pal Singh Sidhu, Center on International Cooperation  
Andrea Viski, European Commission Joint Research Centre

Discussants: Sergey Netesov, Novosibirsk State University  
Zafar Nawaz Jaspal, Quaid-i-Azam University

1045-1215 Panel - Increasing Transparency

Moderator: Noel Stott, Institute for Security Studies

Speakers: Bryan R. Early, University at Albany SUNY  
Jo Husbands, National Academy of Sciences

Discussants: Zhou Chang, China Arms Control and Disarmament Association  
Monika Heupel, University of Bamberg

Closing Session

1345-1515 Review of Conference Discussions

Moderator: Tyler Moselle, 1540 Committee Member

Panel: Michael Rosenthal, 1540 Group of Experts  
Sibylle Bauer, Stockholm International Peace Research Institute  
Wilfred Wan, UNU-Centre for Policy Research

1530-1600 Closing Remarks and Next Steps

Moderator: James Cockayne, United Nations University

Speaker: Ambassador Román Oyarzun Marchesi, Chair of the 1540 Committee

**Annex II: List of Participants****Sibylle Bauer**

Director, Dual-Use and Arms Trade Control Programme  
Stockholm International Peace Research Institute

**Tom Bielefeld**

Nuclear security researcher and consultant  
Formerly, Belfer Center for Science and International Affairs

**Noramly bin Muslim**

Professor Emeritus  
National University of Malaysia

**Matthew Bunn**

Professor of Practice  
Harvard University

**James Cockayne**

Head of Office at the UN, New York  
United Nations University

**Bryan R. Early**

Associate Professor  
University at Albany, SUNY

**Brian Finlay**

President and CEO  
Stimson Center

**Fu Xiao**

Associate Researcher  
China Foundation for International and Strategic Studies

**Vicente Garrido Rebolledo**

Professor  
King Juan Carlos University

**Monika Heupel**

Junior Professor  
University of Bamberg

**Jo L. Husbands**

Scholar / Senior Project Director  
The National Academies of Sciences, Engineering, and  
Medicine

**Zafar Nawaz Jaspal**

Director and Associate Professor  
Quaid-i-Azam University

**Fumiko Kasuga**

Former Vice-President  
Science Council of Japan

**Gregory Koblentz**

Associate Professor  
George Mason University

**David M. Malone**

Rector  
United Nations University

**Ambassador Román Oyarzun Marchesi**

Chair  
1540 Committee

**Angelo Minotti**

Professor  
Sapienza University of Rome

**Tyler S. Moselle**

Coordinator of Working Group on Transparency and Media  
Outreach  
1540 Committee

**Mark Nance**

Assistant Professor  
North Carolina State University

**Indira Nath**

Formerly, All India Institute of Medical Sciences  
Formerly, National Institute of Pathology

**Sergey Netesov**

Professor, Head of Laboratory  
Novosibirsk State University

**M. Iqbal Parker**

Professor and Director  
International Centre for Genetic Engineering and Biotech-  
nology and University of Capetown

**Johannes Rath**

Head, DNA Laboratory  
University of Vienna

**Michael Rosenthal**

Member  
1540 Group of Experts

**Gary Samore**

Executive Director for Research  
Belfer Center for Science and International Affairs

**Zabta K. Shinwari**

Professor and Chairperson  
Quaid-i-Azam University

**Waheguru Pal Singh Sidhu**

Visiting Senior Fellow  
Center on International Cooperation, NYU

**Noel Stott**

Senior Research Fellow  
Institute for Security Studies

**Alejandra Graciela Suárez**

Professor  
Universidad Nacional de Rosario

**Terence Taylor**

Coordinator  
1540 Group of Experts

**Andrea Viski**

Scientific Officer  
European Commission Joint Research Centre

**Wilfred Wan**

Postdoctoral Fellow  
UNU Centre for Policy Research

**Kim Won-soo**

High Representative  
UN Office for Disarmament Affairs

**Zhou Chang**

Director of Secretariat  
China Arms Control and Disarmament Association

**Annex III: List of Submitted Papers**

All forum participants were invited to submit short research papers on 1540-related issues in advance of the meeting. The research papers are available at the following link:

<http://i.unu.edu/media/cpr.unu.edu/attachment/2177/UNU-UNODA-1540-Participant-Papers.pdf>

**Background Paper**

Resolution 1540 (2004) Events Organized by Academic Institutions and NGOS, 2010-2015  
1540 Group of Experts

**Emerging Threats**

Challenges in Emerging Threats in ASEAN and the Possible Roles of Civil Society  
Noramly bin Muslim

Evolving State and Non-State Proliferation Threats and Strengthening UNSCR 1540's Role in Addressing Them  
Matthew Bunn

Miniaturization Technologies: Effects on the Means of Delivery of Nuclear, Chemical and Biological Weapons  
Angelo Minotti

Scientific Developments in the Biological Areas of Concern in Relation to Proliferation by Non-State Actors  
M. Iqbal Parker

**Enhancing Implementation**

Enhancing UNSCR 1540 Implementation-related Activities by Science Council of Japan  
Fumiko Kasuga

Role of Academia in Implementation of UNSCR 1540: Biosafety and Biosecurity  
Indira Nath

Research and UNSCR 1540: Tasks, Challenges, Range of Stakeholders, Role for Co- and Self-Governance and a Practical Example of Research Governance including Civil Society  
Johannes Rath and Monique Ischi

1540 Implementation  
Vicente Garrido Rebolledo

Enhancing Implementation of United Nations Security Council Resolution 1540  
Zabta K. Shinwari

The Strategic Alliance with Academia to Enhance the Implementation of the 1540 Obligations  
Alejandra G. Suárez

**Academic Outreach**

Engaging Scientists in Assessing "Emergent Threats"  
Jo Husbands and Katie Bowman

Significance of Academics in Pursuit of UNSC Resolution 1540 Objectives  
Zafar Nawaz Jaspal

Academia and UN Security Council Resolution 1540  
Gregory D. Koblentz

UNSCR 1540 as Social Learning: Thoughts on Maximizing the 2016 Comprehensive Review  
Mark T. Nance

Evolution of Bioethics Education in Russia and CIS Countries  
Sergey V. Netesov

UNSCR 1540 Civil Society Forum: Academic Outreach  
Waheguru Pal Singh Sidhu

Academic Outreach  
Andrea Viski

***Increasing Transparency***

Turning Transparency into Knowledge: Enhancing How the 1540 Committee Shares Information  
Bryan R. Early

The Legitimacy of UN Security Council Resolution 1540  
Monika Heupel

Transparency: Effective Implementation of UNSCR 1540 Now and in the Future  
Jo L. Husbands

1540 Review and Analysis: Increasing Transparency  
Noel Stott