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From the Editor

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From the Editor's Desk

Dear Readers,

Volume 3.1 is an eclectic issue for *IJNS*. We open with two broad-reaching articles, the first by Sameh Aboul-Enein regarding the Non-Proliferation Treaty, and the second by Mutti Anggitta on the Iran nuclear deal of 2015. The following two articles focus on nuclear security in Nigeria and Pakistan, respectively. We then present a special opinion essay (a new venture for us), followed by the winning essays in our 2017 student writing competition. We wrap up the issue with another new addition: a book review section. *IJNS* will now publish reviews of books in the fields of nuclear security, safety, and safeguards.

In the issue's opener, "Toward a Non-Nuclear World: The NPT Regime – Nuclear Disarmament and the Challenge of a WMD-free zone in the Middle East," professor and former UN Ambassador Sameh Aboul-Enein delivers a comprehensive discussion of approaches to nuclear disarmament and the potential establishment of a WMD-free zone in the Middle East. He provides an extensive history of international NPT-related developments since the treaty's implementation in 1970—all while explaining the successes and shortfalls of recent NPT Review Conferences. Aboul-Enein argues that more rigorous NPT Review Processes, disarmament of existing nuclear powers, and an extensive verification scheme administered by the United Nations would all be beneficial if not essential in achieving a future free of WMD.

In "The Future of the Iran Nuclear Deal: Pretty Bright from Its Verification Lens," Mutti Anggitta of SUNY Albany examines the aftereffects of the Joint Comprehensive Plan of Action (JCPOA), or the Iran nuclear deal, of July 2015. Anggitta examines, and argues for the vital importance of, JCPOA's verification mechanism—specifically its four additional safeguards measures—and proffers that the deal will be a success if its verification mechanism prevents Iran from producing, or contributing to the production of, weapons-grade uranium and plutonium in the next 10-15 years.

The third and fourth articles complement each other well. The third, by four of University of Tennessee, Knoxville's own leading nuclear security researchers and experts—Stephen Dahunsi, John D. Auxier II, Joseph Stainback IV, and Howard Hall—considers Nigeria's current nuclear security situation as compared with that of the USA. The authors argue that, in light of Nigeria's recent technological developments and progress, the country should establish a Human Reliability Program to ensure safe and secure application of nuclear technology. They also offer a strategy for conducting a national threat assessment and evaluation, which, they note, is prerequisite for establishing the program.

The fourth article, by Noreen Iftakhar of the Pakistan Nuclear Regulatory Authority, and Sitara Noor of the Vienna Centre for Disarmament, considers recent facilities-related and technological developments in Pakistan and the impact of those developments on the country's nuclear security. They note Pakistan's successful efforts related to nuclear security education and training and argue that rigor must be maintained going forward to sustain the initiatives.

The issue's next item is a first for us: a special opinion editorial. Katharine E. Thomson's essay, "The Future of Nuclear Security: A Medical Physicist's Perspective," was one of three winners of the IAEA's inaugural International Essay Competition on Nuclear Security for Students and Early Career

Professionals in 2016, and *IJNS* is proud to publish the essay here in Volume 3.1. Thomson, a medical physicist, discusses several issues crucial in medical and industrial uses of radioactive material, and she recommends strategies that both medical and nuclear industries can use to ensure safety and security.

We are also very pleased to publish the three winning essays submitted to our annual student writing competition. The winners are Md. Shamsul Huda Sohel; Máté Solymosi; and Amal Touarsi, with Dr. Amina Kharchaf. Sohel's paper discusses the use of solar energy for powering backup batteries for nuclear power plants' reactor coolant pumps during electricity outages. Among other commendations, the judges noted that Sohel's essay "presents an interesting approach to dealing with a nuclear accident" and significantly "contributes toward a nuclear security body of knowledge." Solymosi's essay examines and discusses the safety and security of small facilities that handle radioactive material, offering suggestions to small users of such materials regarding how they can enhance their safety and security cultures. The judges expressed that Solymosi's paper succeeds in the "merging of security and safety in assessments," demonstrating an "understanding of nuclear safety and security." Touarsi's and Kharchaf's essay examines the opportunities and challenges of nuclear security in Morocco, following the recent creation of Morocco's new national agency for nuclear and radiological safety and security.

Lastly, beginning here with Volume 3.1, *IJNS* is adding a Book Review section. Our two first-ever book reviews close the issue. *IJNS*'s own Arjun Banerjee reviews Ramesh Thakur's *The United Nations, Peace and Security: From Collective Security to the Responsibility to Protect* (2nd ed.), and Kyle Mangrum reviews Benjamin E. Schwartz's *Right of Boom: The Aftermath of Nuclear Terrorism*.

We are delighted to present to you these excellent new articles, award winners, and book reviews. We look forward to our ongoing conversations and collaborations with all of you, our partners working towards stronger security and safety in all things nuclear—and towards a world free of WMD and increasingly blessed by the peaceful uses of nuclear science and technology.

Best regards,

Dr. Russel Hirst
Managing Editor
International Journal of Nuclear Security