Creating a Community for Global Security

By Charles D. Ferguson, Ph.D.

Imagine thousands and potentially millions of scientists committed to making the world safer and more secure. This was the vision of the dedicated group of “atomic scientists” who founded the Federation of Atomic Scientists (the original FAS) in November 1945. As we will soon reach the 70th anniversary, let’s reflect on the meaning of FAS and most especially look forward to the next 70 years. While the next issue of the Public Interest Report will feature many articles that assess the accomplishments of the organization and its affiliated scientists and policy experts during the past 70 years, this PIR issue features many outstanding experts who care deeply about global security.

Before discussing the content of this PIR, I am pleased to introduce to our readers the new Managing Editor: Allison Feldman. Allison started working at FAS in early August as the Communications and Community Outreach Officer. With an undergraduate degree in environmental science and biology from Binghamton University, Allison has a passion for science, and she also brings to FAS her experience in previous jobs in which she has worked with the scientific community and educated the public about science. I am happy to have her working at FAS because she will help FAS continue to revitalize itself as an organization dedicated to involving scientists, engineers, and other technically trained people in advising policymakers and informing the public about practical ways to make the world more secure against dangers such as use of nuclear weapons and outbreaks of pandemics. For example, Allison has recently begun the Scientist Spotlight series that features a prominent FAS-affiliated scientist or engineer on FAS.org each month.

Due to the transition time to have Allison start in this position, she and I decided to make this PIR a larger issue with about twice the number of articles typically found in the PIR. So, this combined summer-fall issue showcases several articles by seasoned practitioners in the fields of science, policy, and arms control, as well as younger engineers who are seeking to apply their technical training to stopping the further proliferation of nuclear weapons.

This PIR has thought-provoking pieces on nuclear nonproliferation, nuclear winter, preventing nuclear terrorism, the vital importance of intercultural understanding, and several other critical issues. Notably, Steven Starr, Director of the Clinical Laboratory Science Program at the University of Missouri
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Hospital and Clinics, writes on a core mission issue for FAS: the survival of humanity in the event of a nuclear war that could trigger a massive cooling of the earth. Also addressing a dreaded event that is preventable, Edward Friedman, Emeritus Professor at the Stevens Institute of Technology, and longtime FAS member for more than 50 years, has contributed an in-depth review article about the threat of nuclear terrorism and efforts that can reduce this risk.

FAS has an eminent reputation of featuring the work of prominent “hybrid” scientists: those who have distinguished careers in scientific research while also devoting a significant portion of their professional efforts toward societal issues. In this PIR, we show two of these so-called “hybrid” scientists: Professor Rob Goldston and Professor Frank Settle. Dr. Goldston has done path-breaking research for more than 30 years on nuclear fusion and, more recently, has helped develop innovative methods to confirm that nuclear warheads slated for dismantlement are genuine warheads without revealing classified military information. The Q&A with him explores both of these issues as well as his other interests in science and society. Dr. Settle has straddled the worlds of chemistry, teaching, and nuclear policy issues for decades. He has received international recognition for his excellent work in analytical chemistry and in creating an online annotated database for nuclear issues called ALSOS. In his article, he delves into the history of the nuclear age by examining the many leadership roles of General George Marshall in the development of the first atomic bombs and the first initiatives in arms control.

We are also pleased to present the work of early to mid-career engineers and scientists. In this issue, mid-career stars Markus Schiller and James Kim, who have done excellent technical and policy work in Germany, South Korea, and the United States, reveal that the allegedly North Korean missile-launching submarine appears to be “an emperor with no clothes.” They employ their skills in photographic analysis, missile technology, and political assessment to blow the cover on North Korea’s latest purported “super” weapon. This is not to suggest that North Korea is not an international security threat. However, we would be remiss not to provide a possible pathway for resolving this threat. To do that, Texas A&M University graduate students Manit Shah and José Trevino propose adapting the model of the agreement with Iran to limit its nuclear program to the problem of curtailing North Korea’s nuclear program. Of course, North Korea is a greater challenge than Iran, given the fact that North Korea has developed and tested nuclear weapons and Iran has not. But this underscores the need for creative thinking to prevent the further buildup of nuclear weapons by North Korea.

As an organization that supports having all scientific disciplines contribute to improving global security, we are excited to feature an insightful article by Nasser bin Nasser, the head of the Middle
East Scientific Institute for Security (MESIS), headquartered in Amman, Jordan. Nasser discusses the urgent need to understand the role of social science and cultural studies in effectively addressing international security. Among several issues, he highlights the misunderstandings that arose during the inspections in Iraq after the 1991 Gulf War. Unfortunately, cultural mis-readings exacerbated an already tense situation between the Iraqis and the inspectors looking for weapons of mass destructions or the programs to make such weapons.

In other news from FAS headquarters, we are happy to welcome Dr. David Hafemeister, an emeritus professor from California Polytechnic State University (Cal Poly), who will work as a visiting scientist at FAS for the next year. An FAS member since the mid-1960s, Dave has led a distinguished career during which he has served as a scientist in the executive and legislative branches of the U.S. government and has been an award-winning educator. During his visiting fellowship at FAS, he will be studying the science policy advisory process and will be seeking opportunities to educate policymakers.

To further our outreach, in June this year, FAS organized a salon dinner in Berkeley. The participants were prominent scientists, engineers, and community leaders in energy, air pollution, climate change, and national security. The two thematic questions the assembled considered were: (1) If you had only three minutes with the president of the United States, what one important issue should he or she know about and act on? And (2) who at the dinner (you had not met before) would you want to collaborate with in your work? In this not for attribution event, we had a very lively discussion with many providing practical advice on how FAS could serve in advancing energy security. Also, we believe that FAS has helped play a convening role in bringing together a diverse group of experts and in fostering interdisciplinary collaboration. We will be seeking to continue these conversations across the United States in the coming years.

We are thankful for the generous financial support from donors like you for FAS to perform these outreach programs and to sustain FAS’s core projects in nuclear security and government secrecy. We are also very appreciative of the advice from several FAS-affiliated scientists about energy and security policy and how FAS can play an effective role in this complex set of issues. Moreover, we welcome and encourage you to send us your ideas about how to get scientists and engineers more involved in societal issues.

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