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Women Leading the Way

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Women Leading the Way

As a feature of this issue, we asked some of the most notable women in the nuclear security profession to share their stories. Knowing that other women overcame circumstances that women still face instills hope, shows leadership, and provides mentorship to us all.

Thank you for contributing to this special issue and for your continued work and steadfast dedication to the nuclear security sector. Your camaraderie and experiences are invaluable to the growth of this network.

--Ashley Humphrey



*Laura S. H. Holgate, Ambassador (ret.)
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Threat Initiative*

My nuclear journey began simultaneously in Kansas and New Jersey in November 1983. A few weeks after traveling from my home in suburban Kansas City to begin my freshman year at Princeton University, “The Day After” aired on TV. This movie depicted the devastating aftermath of a Soviet nuclear attack only miles from my hometown. In the middle of Reagan-era saber-rattling, Evil Empire rhetoric, the scenario was, to me, quite literally too close for comfort, and my classmates and I embraced tearfully in fear and worry. It

was the same for many others, spawning the Nuclear Freeze Movement, and I became active with the Princeton Alliance to Reverse the Arms Race.

This activism paralleled my studies in international relations, arms control, and defense policy, and underpinned my resolve to somehow contribute to reducing the threats of nuclear weapons. I had that chance while working at what is now the Belfer Center for Science and International Affairs at the Harvard Kennedy School. I was the staff coordinator for a project with Ash Carter and Bill Perry that revolutionized the U.S. approach to WMD threats as the Soviet Union collapsed into chaos – shifting from confrontation to cooperation in order to manage the unprecedented risks of new nuclear weapons states, theft of materials or weapons, failure to complete treaty-mandated weapons elimination, and unpaid weapons scientists. This prescient project grew into the Nunn-Lugar Cooperative Threat Reduction program, involving multiple U.S. departments, inspiring similar assistance programs among dozens of other countries, and soon expanding to address threats not just in the post-Soviet region but around the world. It has been the privilege of my life to have worked on these programs at the U.S. Departments of Defense and Energy, at the non-governmental organization Nuclear Threat Initiative, at the White House, and as U.S. Ambassador to the International Atomic Energy Agency.

Along the way, I have benefited powerfully from generous mentors, both men and women. Some have hired me, some have advocated for me, some have advised me, some have challenged me, and some have been inspiring role models. Mentorship has come from my bosses, my peers, and my subordinates. The best boss I ever had knew my strengths, but he also sought to build me up where I was not as strong. He pushed me beyond my comfort zone, but in a way that I knew he would catch me if I fell. As it turned out,

he had more confidence in me than I did in myself; without his having identified my weak spots and helping me push through my fear to build new capabilities, I would still carry that weakness.

In another instance, a mentor promoted me into my first management position leading the Nunn-Lugar program at the Pentagon, which required a merger of two teams who had been at war with each other for several years. My deputy was senior to me in both years and experience, and I realized after several months that he had been intentionally, but almost imperceptibly, mentoring me into a leader who was able to gain the trust of the staff and forge them into a single, high-functioning team through empathy, transparency, and hard work. Those years were among the most exhausting yet also personally productive periods of my career. These mentors, among others, have moved me to “pay it forward” by supporting those in the nuclear community with advice, advocacy, and – I hope – inspiration.



Inna Pletukhina, Esq.
Project Manager, Office of Legal Affairs, IAEA

Prior to joining the IAEA’s Division of Nuclear Security as an Outreach Officer, I led the implementation of nuclear security foreign assistance programs at the U.S. Department of State. My work, shaped by a clear mandate, focused on the human element of nuclear security – insider threat mitigation programs, trustworthiness initiatives, and nuclear security culture. I collaborated with nuclear facility operators, regulators, and policy makers to support their facility- and national-level priorities and aspirations. My job was to listen and

find the right tool in my toolbox or to forge the right tool to achieve our common mission.

In my current role, I organize and execute multifaceted global communications campaigns to promote nuclear security as an integral part of all peaceful operations involving nuclear or other radioactive material and to highlight its importance for the sustainability of the benefits we derive from those materials. Empowered by the Member States’ mandate to continue improving communication on nuclear security, I write news stories on all nuclear security issues within the IAEA purview. As a result, I developed a more wholistic understanding of nuclear security.

As an Outreach Office, I saw first-hand the cross-cutting nature of nuclear security and that nuclear security systems and measures are really everywhere. While covering the World Youth Day with Pope Francis in Panama, I gained an insight into approaches to integrating nuclear security into the overall security arrangements of major public events. While in Armenia to develop a photo essay on radioactive crime scene management, I learned how to properly collect evidence at a crime scene contaminated with nuclear or other radioactive material. While visiting an IAEA Collaborating Centre on nuclear forensics in Hungary, I had the privilege of learning how nuclear forensic science can support criminal investigations and legal proceedings from one of the most accomplished women in the field.

Utilizing my legal education, I am focusing my efforts on a communication campaign to facilitate universal adherence to and effective implementation of the *Convention on the Physical Protection of Nuclear Material* and its 2005 Amendment. In collaboration with the United Nations Office of Counter-Terrorism, we attempted to present this key legal instrument to combat nuclear terrorism in an accessible and dynamic manner. The result was “NuSec Talks: Security through Law,” which launched on the virtual sidelines of the 64th IAEA General Conference.

My work in nuclear security has been among the most meaningful and rewarding endeavors, not only because of the people working on this common mission around the world and the many mentors – men and women – I encountered along the way. Despite often being the only woman in the room – whether in the United States or elsewhere – I have always felt empowered. My voice has not always been well-received, and I have been labeled in ways that implied a connection between my professional capacity and my gender. Cognizant of what is at stake, I steel my voice, redouble my efforts to be a part of the solution, and never apologize for driving my team to successful outcomes. For the nuclear security mission, what matters is the quality of the ideas and the dedication to mission, not the gender of the person advancing it.



*Michelle Reichert
President & CEO of Consolidated Nuclear Security*

It is a moment in time. The photograph, showing two rows of high-school-age women sitting in front of impressively large machines we now know as calutrons, is one of the most striking images of the Manhattan Project, which led to the world's first atomic weapons. Known as the "Calutron Girls," these brave young women are proof that whether we realize it or not, we're making history every single day. Seventy-five years later, their legacy remains at our sites as we work to serve and protect our nation's nuclear deterrence at Pantex and Y-12.

These women are embedded in my story. Having spent three decades in the Nuclear Security Enterprise, I am honored to be part of our enterprise's ongoing story by making history as the first female president and chief executive officer of either Pantex or Y-12, one of the first women in such a position across the Nuclear Security Enterprise.

After receiving my master's degree in radiological engineering/health physics, I joined Y-12 as an internal dosimetrist in the Health Physics department and, with the exception of a brief two-and-a-half-year stint in Kentucky as the deputy project manager of the Department of Energy's DUF6 project, my entire career has evolved in the East Tennessee hills at Y-12 and the Texas Panhandle at Pantex. I was proud to rise through the ranks at Y-12 and then serve as Pantex's manager before becoming Consolidated Nuclear Security's deputy enterprise manager and, later, its chief operating officer. Today, the responsibility and impact of our work resonates even more deeply with me.

Through the support of mentors, direct supervisors, and colleagues, I have often been stretched out of my comfort zone in the pursuit of excellence, working on diverse and challenging assignments among a very talented workforce. In any career path, there are always obstacles. I have found they often reveal where we may be, as individuals, holding ourselves back from creating the opportunity for newfound strength and skills.

To the women in our nuclear workforce, I encourage you to lean into those moments of challenge. When we are out of our comfort zones, we can truly grow. While you must know your subject matter, take a seat at the main table, offering your ideas and perspectives and actively engage in the opportunities available to you. Throughout my combined 33 years in our industry, I have learned that opportunity can often be found in the labor and fruit of hard work, a positive attitude, and confidence in your own abilities.

Similar to those “Calutron Girls” of World War II, it is my hope that my legacy is serving our great nation by leading an incredibly talented team, delivering on our mission, and providing for the enduring future of our enterprise. We must continue to recruit brilliant women and men to our field and help them grow, for the freedom and security of our nation and the world depend on it.



*Assoc. Prof. Dr. Şebnem Udum
Hacettepe University, Department of International Relations*

I have been working on nuclear-related issues since the early 2000s during my graduate studies at the Monterey Institute of International Studies (MIIS). I also worked as a Research Associate at the Center for Nonproliferation Studies (CNS) during a historic time-period: after 9/11 and before the Iraq War of 2003. I earned my Ph.D. in Turkey, with my dissertation on the nuclear energy debate in Turkey. My background in International Relations and education in the technical aspects of proliferation provided me the base to understand and evaluate the rising issue of nuclear security.

I have been working on nuclear security since 2013 following my participation to INSEN meetings at the IAEA. I have been an active participant, and then became part of leadership first by serving as the Vice Chair and Chair of Working Group II, and later serving as the Vice Chair and Chair of the Network. The critical contribution I made was to focus on the assessment of threats emanating from non-state actors, because of my background in social science. I could assess the social context, the motivations, and targets of actors, hence understand how the threat to nuclear facilities and material could form according to the individual or political aims of actors.

Next, I decided to focus on the education as a technical matter, and networking as other significant aspects of INSEN. I worked on nuclear security education for diverse audiences and by educators of diverse backgrounds. King’s College London incorporated the outcome of this work in the professional development courses in Turkey. The academic work I carried out in nuclear security in Turkey and in Turkish, and with encouragement from Prof. Russel Hirst, University of Tennessee, I started looking into the term “nuclear security” from the linguistic perspective. Then, we developed a research plan with my colleague, Dr. Zenobia Homan, to include other languages and to study the role of language in nuclear security education. We presented the preliminary research at the annual meeting of INSEN in July 2019 and then the INMM Annual Conference. We received incredibly positive reactions from the audience.

The moment in my career where a mentor was important and helped me get to where I am was when I met Prof. Dr. Mustafa Kibaroglu, who is the prominent expert on non-proliferation in Turkey. He was the first Turkish academic to work at the CNS, and I became the second, and the first woman to work at CNS, as a Research Associate. Being a woman in the field of security is already hard, because it is a male-dominated field, both in theory and practice. The mainstream International Relations theories are highly gendered with their assumptions and their predictions for state behavior. I was invited to the Women in International Security (WIIS) Symposium in 2003 in Washington, D.C., where we had interacted with only women who were working on security issues. It was where I grasped the significance of women in male-dominated fields; we could think out of the box, bring in new ideas, interact with each other and form bonds much more quickly and easily than with men and listen to each other’s views toward the solution of a problem.

At INSEN, what I appreciate the most is the principle to see gender and regional balance for membership and participants. I have been particularly impressed by successful and strong women with leadership skills from countries like Algeria, Brazil, Egypt, India, Morocco, Russia, Serbia, Ukraine, and the United States, among others. In INSEN's leadership, this is particularly visible, as all Chairs and Vice Chairs are chosen to reflect gender balance and regional diversity. Our activities as INSEN members, except the meetings at the IAEA, also acquired a context thanks to a strong bond developed among women. We took advantage of the breaks and, more importantly, the evenings and weekends to come together for networking. In these activities, the leadership of women was very noticeable.

Women engaged in studies on nuclear nonproliferation, security, or safety should never feel that they do not “belong” to the field. To the contrary, more women are needed in male-dominated areas to make a change. For nuclear security, we need more women for advanced measures in nuclear security, because we have an advantage by creation; the strategy of prevention is embedded in our brains, because women's brains are designed to keep their children alive. Therefore, they will make projections, predictions about the future, foresee potential threats, and will take measures to prevent them – rather than fighting with the source of the threat, or the danger when it occurs. That is why I would encourage more women in the nuclear field to work on nuclear security and related threats and risks.

I am also a member of the Women in Nuclear-Turkey Chapter and one of the Executive Board members. I found the opportunity to meet and collaborate with several amazing women in the nuclear field in Turkey. By experience, I can safely argue that the value women bring into the field is precious. Their areas of expertise range from nuclear safety, law, negotiations, to environmental protection, sociology, and psychology. When they come together, they are eager to put forward new ideas and projects to the field and to support each other in the effort to contribute their area.