



CBRN
**Centres
of Excellence**
An initiative of the European Union

EU CBRN COE NEWSLETTER

WOMEN IN CBRN



VOL. 20



Funded by
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Interregional Crime and Justice
Research Institute



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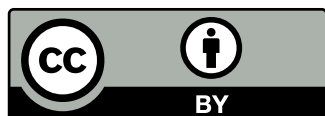
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INTRODUCTION

Welcome to the 20th edition of the European Union Chemical, Biological, Radiological, and Nuclear Risk Mitigation Centres of Excellence (EU CBRN CoE) Newsletter, a special issue dedicated to celebrating the pivotal role of women in CBRN risk mitigation. This edition shines a spotlight on the remarkable contributions of women in a field that has long been dominated by men, emphasizing the transformative impact of their leadership, expertise, and vision.

As you explore this edition, you will encounter powerful stories of women breaking through barriers to shape the future of global security. From leading national efforts to mitigate CBRN risks, to pushing the boundaries of scientific and technical expertise, these women are proving that diversity in thought and experience is essential to tackling complex security challenges. Their journeys are not just about professional success, but about inspiring change, redefining what is possible, and opening doors for the next generation of women in CBRN.

This newsletter also highlights the growing recognition of the importance of inclusive approaches to security. Women bring unique perspectives that enhance preparedness, response strategies, and resilience-building in the face of CBRN threats. Whether through leadership in policymaking or technical innovations in biosafety, their contributions are making a tangible difference in global security frameworks. These stories remind us that fostering gender diversity is not just a matter of equality, but a strategic imperative that strengthens our collective ability to respond to today's evolving risks.

As we celebrate the achievements of these inspiring women, we are reminded that their paths have not always been easy. They have overcome systemic obstacles, challenged stereotypes, and worked tirelessly to carve out spaces for themselves in a traditionally male-dominated domain. Their determination and success are not only inspiring but demonstrate the immense value that women bring to the global security landscape.

We hope this issue serves as a source of inspiration and motivation, encouraging more women to step into the CBRN field and pursue leadership roles. By highlighting these trailblazers, we invite readers to reflect on the critical importance of diversity and inclusion in creating a safer, more secure world. Together, we can build on the progress made and continue to drive change toward a more equitable future.

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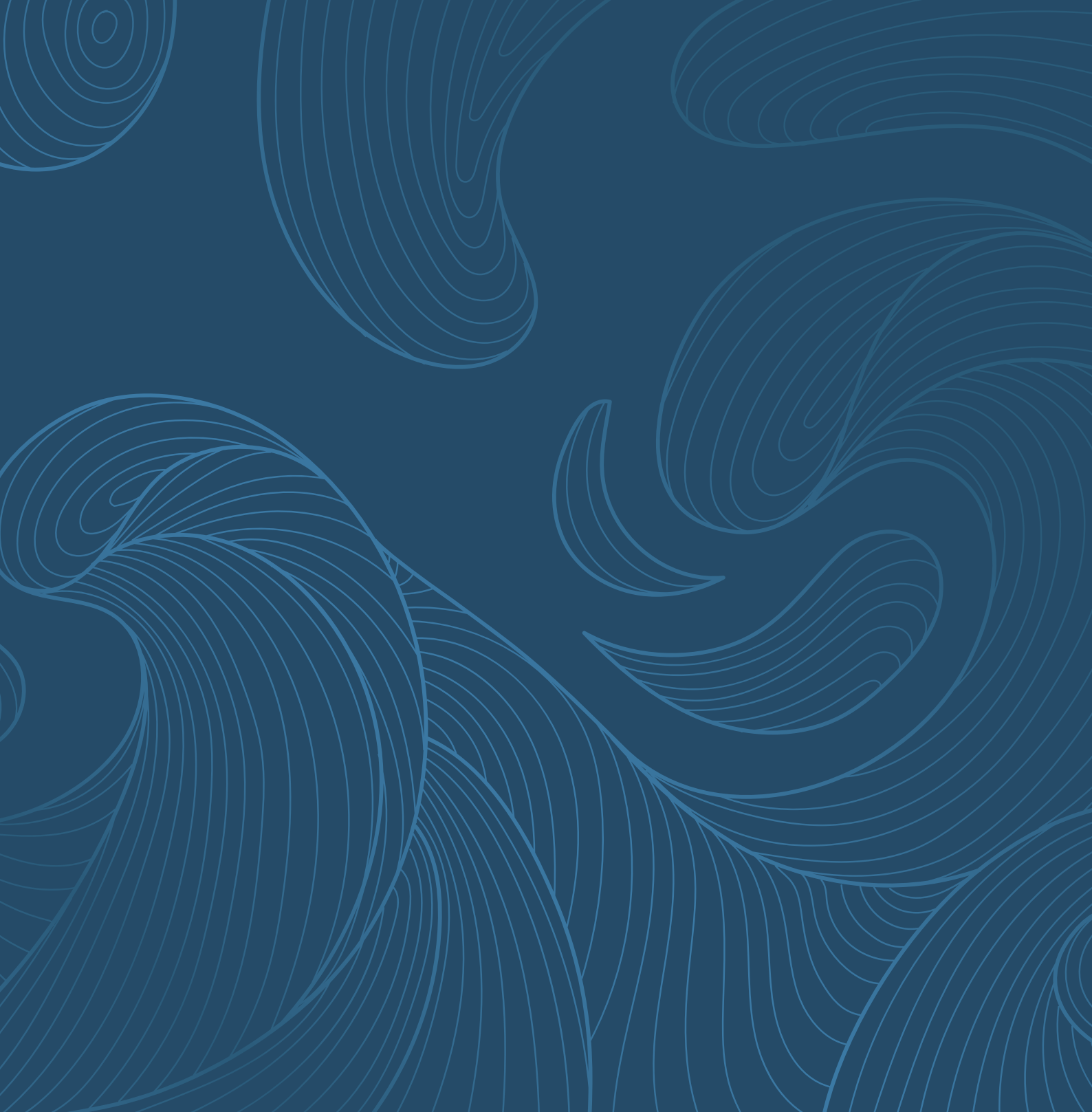
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WELCOME

**INTRODUCING THE
WOMEN LEADING THE
IMPLEMENTATION OF THE
EU CBRN COE INITIATIVE**



The “Welcome” section of the Newsletter features inspiring messages from the women at the forefront of the EU CBRN CoE Initiative, representing the European Commission, UNICRI, and the On-site Assistance experts’ team. Their words celebrate the crucial contributions of women in enhancing security through diverse expertise and perspectives. They acknowledge the progress made in breaking down systemic barriers while emphasizing the ongoing need to bring more women into CBRN fields. As key implementers and partners, they reaffirm their dedication to promoting collaboration, fostering inclusive recruitment, and inspiring the next generation of women to lead in CBRN risk mitigation. These voices resonate with determination and hope, envisioning a more secure and equitable world for all.

Service for Foreign Policy Instruments (FPI)

European Commission



Maria Rosa Sabbatelli

Head of Unit

FPI 1 – Global and Transregional Threats and Challenges

Service for Foreign Policy Instruments (FPI)

“

The role of women in the security domain is increasingly recognized as critical for enhancing security outcomes, particularly in the field of Chemical, Biological, Radiological, and Nuclear (CBRN) risk mitigation. Cognitive diversity brought by women can improve risk assessment, preparedness, response strategies, and communication, leading to more robust security frameworks. However, despite this growing recognition, women remain underrepresented in CBRN roles due to systemic barriers such as regulatory constraints, economic limitations, and persistent sociocultural biases.

To address these challenges, the European Commission has taken significant steps to promote gender equality across all sectors, including security. The EU CBRN Centres of Excellence initiative actively supports professional global networks of women scientist and encourages more inclusive recruitment practices in all the projects it funds. Success in the security sector will increasingly be measured by the participation of women in all phases of project formulation and implementation, ensuring a more equitable and effective approach to global security threats. Much progress has been made, but continued efforts are vital.”

”

Silvia Bottone



Project Manager – CBRN global actions

FPI 1 – Global and Transregional Threats and Challenges

Service for Foreign Policy Instruments (FPI)

Anne Sophie Lequarré



Project Manager – EU CBRN CoE African Atlantique Façade, North Africa and Sahel and biological threats actions

FPI 1 – Global and Transregional Threats and Challenges

Service for Foreign Policy Instruments (FPI)

Alexandra Lehmann



Project Manager – EU CBRN CoE Middle East and Gulf Cooperation Council countries

FPI 1 – Global and Transregional Threats and Challenges

Service for Foreign Policy Instruments (FPI)

The European Commission's Service for Foreign Policy Instrument (FPI) leads and oversees the implementation of the EU CBRN CoE Initiative as part of the European Union's goal to promote peace, stability and conflict prevention. With the support of the 'Global Europe: Neighbourhood, Development and International Cooperation Instrument', FPI funds and monitors a wide range of CBRN projects and activities aimed at strengthening CBRN risk mitigation capacities across the Initiative's 63-partner country network.

Joint Research Centre (JRC)

European Commission

The European Commission's Joint Research Centre offers technical and scientific support to Partner Countries to complete national needs and risk assessments that provide a comprehensive and consistent basis for establishing a CBRN National Action Plan. This enables Partner Countries to define their priority objectives in the field of CBRN risk mitigation, which can be shared to build joint projects and formulate an integrated regional approach.



Margarida Goulart

Head of Unit
Euratom Coordination (JRC 02)
Joint Research Centre (JRC)

“More and more women are coming into the field of security, supporting the development of innovative tools, methodologies and new technologies to detect, identify and mitigate the risk of Chemical, Biological, Radiological and Nuclear materials, in order to better protect our global communities. They should be even more empowered to have a role at all levels: policy, administration, research, coordination, training, first response... This will enable them to improve the public awareness on the CBRN risks and to reduce their impact.

Through the EU CBRN Centres of Excellence initiative, the EC Joint Research Centre supports women scientists and security professionals to make use of science and technology for peaceful purposes and to apply their expertise to reduce risks in a sustainable manner. The EU CBRN Centres of Excellence offer an opportunity to break the silos in CBRN domains and promote an inclusive safety and security culture worldwide.”



Alina Iatan

Technical Programme Manager – Security
Euratom Coordination (JRC 02)
Joint Research Centre (JRC)

On-Site Technical Assistance (OSA)

A highly qualified team of On-site Technical Assistance experts (OSA) in the CBRN field provides the Partner Countries with technical assistance and supports them with the identification of the risks and monitoring of the capacity building activities.



Mari Lursmanashvili

Team Leader
On-Site Technical Assistance (OSA)
EU CBRN CoE

“While providing technical expertise and working with the CBRN National Teams in the Partner Countries of the EU CBRN Centres of Excellence Initiative, we, at OSA, make every effort to support the European Commission in cultivating an inclusive environment, where women experts are encouraged, recognised and provided with an equal opportunity to be a vital part of our collective journey for a safer world and future for all.

Women are not just stakeholders in CBRN security, but also serve as role models and leaders in building resilience within nations against CBRN risks and threats. I believe that these stories will make even more women aware of the pivotal role they can play in shaping CBRN policies and practices, and will inspire them, especially for the next generation of young girls to feel confident and pursue their careers in security domains.”



Patricia Gitari

On-site Technical Assistance Expert
Eastern and Central Africa Regional Secretariat

United Nations Interregional Crime and Justice Research Institute (UNICRI)



Marian De Bruijn

Head of CBRN Programme
UNICRI

“Women and girls represent half of the world’s population and gender equality is recognized as a necessary foundation for a peaceful, prosperous and sustainable world in United Nations Sustainable Development Goal 5. However, in technical and security related areas such as CBRN, women are underrepresented. In 2022, UNICRI conducted research on the engagement and advancement of women in chemical safety and security. One of the recommendations of this

research was that the access to networks is vital for the inclusion of women. The design of the CBRN Centres of Excellence as an open and agile network, allows us to take additional steps to identify and engage women from different ages and origins, to better represent the world’s population that we are aiming to protect. UNICRI, with the support of the EU and other partners, will continue its efforts to promote women in CBRN.”

The United Nations Interregional Crime and Justice Research Institute (UNICRI) supports the advancing the EU CBRN CoE initiative by collaborating with more than 60 UN Member States. Through a network of Regional Coordinators positioned in various regions, UNICRI fosters national, regional, and international technical cooperation. Its mission is to assist partner countries in identifying their specific needs and working alongside the international community to ensure those needs in CBRN safety and security are effectively addressed.



Stefania Micucci

Regional Coordinator
African Atlantic Façade Regional
Secretariat
UNICRI



Julie Busch

Regional Coordinator
North Africa and Sahel Regional Secretariat
UNICRI



Nargizakhon Usmanova

Regional Coordinator
Central Asia Regional Secretariat
UNICRI



Heba Abdou Abdelhamid Mariey

Regional Coordinator
Gulf Cooperation Council Countries Regional
Secretariat
UNICRI



LEADERSHIP

MEET WOMEN LEADING CBRN EFFORTS ACROSS THE COE NETWORK

'Leadership' presents and celebrate remarkable women at the forefront of the EU CBRN CoE Initiative across different partner countries and regions. From Heads of Secretariats to National Focal Points or Team Leaders, their stories of dedication and resilience shine through in each interview, article and profile featured. Women leaders who are driving change, supporting risk mitigation, and shaping a safer future for all. Explore their journeys and the impact they are making in CBRN risk mitigation across the EU CBRN CoE network and beyond.

INTERVIEW | Mari Lursmanashvili, OSA Team Leader, former Head of SEEE Regional Secretariat and Georgia's National Focal Point

“Investing in women’s engagement in CBRN security and sciences is not just a matter of equality to me, but a strategic imperative that strengthens our collective CBRN risk mitigation capacities”



Mari Lursmanashvili is a Team Leader of the On-Site Technical Assistance (OSA) to the EU CBRN CoE. She is a former Head of Regional Secretariat of the South East and Eastern European (SEEE) region and a former National Focal Point (NFP) of Georgia. Lursmanashvili has a 26-year professional career, most of which she served in CBRN security and WMD non-proliferation domains. Today, she shares with us some of her achievements, challenges, and perspectives into the pathways to a more inclusive future in CBRN security.

Why do you believe it is crucial to have more women actively involved in CBRN security and sciences? How does their participation impact the field and contribute to global security and peace?

In an era marked by increasing global threats, the importance of inclusive approaches to security issues cannot be overstated. CBRN is no ex-

ception, and the need for diverse and innovative minds in this field has never been more critical.

Women are important agents for creating stability and security in the lives of their families and communities. They are inclined to promote reconciliation and peace even under very difficult and critical circumstances, and this makes them uniquely positioned to lead in security domains, including the CBRN.

Throughout my career, I had a privilege to meet with many inspiring women leaders and experts from across the governments, international organizations and civil society, who set the examples for excellence and outstanding dedication in the field of CBRN risk mitigation. And this of course largely includes the EU CBRN CoE Network.

Can you describe your journey into the CBRN field? What inspired you to pursue this career, and what keeps you motivated?

A safe and secure environment is the fundament of our existence, and we all know that there is no sustainable development for any nation without peace, stability and security. For me, personally, nothing can be more motivating than contributing to these goals, and nothing can be more rewarding than witnessing how your work supports building the capacity and fostering resilience of countries and regions against security threats.

My “friendship” with CBRN security issues started exactly 18 years ago, when I joined a team of strategic consultants for the U.S. DTRA Cooperative Threat Reduction programmes. Supporting the global effort to mitigate the WMD proliferation risks and strengthen CBRN security governance at national levels deepened my commitment to protecting humanity from some of these most devastating threats.

After over a decade, I decided to embark on a new career path in the national security of my country that eventually provided me with an opportunity to become a NFP for the EU CBRN CoE. Later on, I had an honour to become the first woman Head of Regional Secretariat of the SEEE Region until March 2024, when I assumed another leadership role of Team Leader of the Global OSA team.

What are the main barriers you have faced or observed that women encounter when pursuing a career in CBRN security/sciences? How have these challenges affected your or others’ career progression?

Probably, I was fortunate enough not to face too challenging barriers just because I am a woman. However, a major challenge most women encounter, especially in so-called non-traditional professions, is the level of equal recognition of their professional achievements.

It is not easy to influence the decisions of national teams, high-level stakeholders or management that are mostly represented by men. Women may experience being remained at the periphery of formal processes or decision-making, as security domains are yet regarded as non-traditional careers for them in many societies.

In your view, how does having a diverse team, including women, enhance the effectiveness and innovation in CBRN security and sciences?

A diverse team, that includes women, is a successful team and we have witnessed it a lot within the EU CBRN CoE network. SEEE Region is a great example for that. Such teams are the key to the effectiveness and sustainability of the results that we all strive to achieve in CBRN safety and security under this Initiative.

Could you share a success story or significant achievement in your CBRN career that highlights the positive impact women can have in this field? How did this experience shape your professional journey?

I would say that the most significant achievement in my career was that I have successfully managed to demonstrate strong female leadership while holding different CBRN related positions at different times. During my tenure as a NFP of Georgia, I was able to lead a multi-agency national team and develop and implement comprehensive national policies and reforms for complex CBRN challenges. This included obtaining highest level political support, implementing successful outreach strategies and ensuring smooth collaboration among many national experts, agencies and international partners. Under my leadership, Georgia became a model Partner Country of the CoE network, and I definitely take pride in this.

Over the years, the CoE has not only facilitated my professional growth but has also actively promoted inclusivity and leadership opportunities for women in CBRN, paving the way for a more diverse and dynamic collaboration between the stakeholders.

This achievement helped me to navigate further career opportunities in CBRN and advocate for myself in different leadership roles. Becoming the first woman Head of the SEEE Regional Secretariat, and then the Team Leader of such a Global Project as the OSA, have additionally inspired me to advocate for greater representation and inclusivity of women in the CBRN industry.

How has the CoE network facilitated your professional development and leadership in CBRN? Can you provide examples of how the CoE has supported you or other women in the field through opportunities, leadership roles, or peer networks?

Being part of the EU CBRN CoE network for almost 8 years now, has been an amazing opportunity to be connected with hundreds of national and international experts, multiple organizations and government teams. The Network has provided me and many other women a collaborative platform for knowledge exchange and skill enhancement, gaining critical insights into emerging CBRN trends and best practices.

Over the years, the CoE has not only facilitated my professional growth but has also actively promoted inclusivity and leadership opportunities for women in CBRN, paving the way for a more diverse and dynamic collaboration between the stakeholders.

What advice would you give to other women, including young girls who are interested in or currently pursuing a career in CBRN security/sciences? What shall they be prepared for and how can they succeed in this field?

Believe in yourself and follow your aspirations. Despite that historically, the CBRN field has been dominated by traditional perspectives, today it is more recognized that diverse viewpoints and experiences are crucial in addressing complex challenges and women shall be active participants of this process.

As the landscape of CBRN security continues to evolve, women are emerging as vital contributors to the EU CBRN Risk Mitigation Centres of Excellence Initiative, and not only.

In recent years we see more and more peer networks and associations that focus on empowering women in CBRN and advocating for young girls and scientists, who can break barriers and become change-makers in this critical field.

You will experience challenges, but stay dedicated, learn from women role models and mentors, and bring your perspectives and solutions. Preventing CBRN risks at any level, whether helping a specific country, region or a single institution contributes to the safe and secure environment overall, and it is worth the effort!

INTERVIEW | Safa Kubba, Iraqi Nuclear, Radiological, Chemical and Biological Commission (INRC)

Breaking Barriers in the Middle East: A Pioneering Woman in the CBRN Sector



Safa Kubba is one of the promising examples in the Middle East region who broke barriers and succeeded in joining the CBRN field, demonstrating high performance and determination to reach a leadership level, all while balancing her responsibilities as a wife and mother of one son.

She holds a master's degree in chemical engineering from Al-Nahrain University, Iraq. Safa is responsible for the Iraqi coordination council for all matters relevant to the EU CBRN CoE. Additionally, she oversees all chemical aspects at the Iraqi National Monitoring Authority (INMA) and coordinates the implementation of EU CBRN CoE projects in her home country.

How did you begin working in the CBRN field, and what motivated you to pursue this path?

My journey in the CBRN field began after I was nominated to represent the chemical aspect within the CBRN unit, as I had been working in the Chemical Department since 2012. I was driven by a passion for utilizing my skills and knowledge to serve my country and enhance safety and security. Additionally, I was motivated by my interest in participating in workshops and events that promote the development of women in the fields of safety and security.

Could you describe your current role and responsibilities within the Iraqi National Team for the EU CBRN CoE?

As the responsible for the Coordination Council at the Iraqi Nuclear, Radiological, Chemical and Biological Commission (INRC), I organize and coordinate meetings with council members from various ministries to facilitate CBRN-related activities. Additionally, I manage and follow up on projects with the European Union. Along with my colleagues in the Iraqi National Team, I am involved in drafting the CBRN National

Action Plan and participating in meetings and workshops dedicated to developing the Middle East Regional Action Plan.



The role of women in the CBRN field is growing significantly in Iraq and the Middle East region in general. There is increasing awareness of the importance of women's participation in this field.



What are the key projects/initiative or activities you have been involved in recently?

One of the most notable activities I have recently participated in, it is drafting the National Action Plan, and attending the workshop dedicated to developing the regional action plan in the field of CBRN. I have also been assigned to coordinate several projects and follow up on their implementation with representatives of the European Union within the EU CBRN CoE initiative, the main one being [Project 97- Improvement of Chemical Safety and Security in the Middle East](#). In addition, I have been assigned to hold meetings and contribute to committees and events aimed at enhancing cooperation between various ministries and institutions in the field of CBRN risk mitigation.

In terms of opportunities and challenges, how would you summarize your professional journey as a Middle Eastern woman working in the CBRN field?

As a woman from the Middle East working in the CBRN field, my career journey has been full of opportunities and challenges. I have faced difficulties in a male-dominated environment, but our organization's commitment to gender equality and equal opportunities, along with the support of my colleagues and my self-confidence, has enabled me to overcome these challenges and achieve success in my duties. In addition, I am working in the CBRN unit, where most members are female. They receive full support due to their competence and professionalism in managing and fulfilling assigned tasks.

I had the opportunity to participate in several activities related to the tasks of the new authority and the inclusion of CBRN responsibilities within the proposed structures of the new authority under Law No. 1 of 2024 (National Authority for Nuclear, Radiological, Chemical, and Biological). To summarize, women play a vital role in the CBRN risk mitigation, and specifically in Iraq, where they are encouraged to participate in various activities and programs that aim to build capacity, exchange best practices, and enable them to achieve leadership positions and contribute effectively to the safety and security of handling and managing CBRN materials.

Can you share a particularly challenging situation you encountered and how you overcame it?

The most challenging situation I faced was when the Head of the Authority assigned me the responsibility of coordinating projects with the European Union and other stakeholders. The challenges were great, and the tasks were substantial, but thanks to his support and confidence in my abilities, I was able to organize the work effectively and complete the tasks successfully.

How do you evaluate your experience as a female with management/leadership tasks working in a male dominated national team?

My experience as a woman assigned management and coordinating duties within a national team with a predominantly male population was rich and fruitful; however, it was full of challenges. I was able to overcome these challenges by building strong working relationships and employing my problem-solving and effective communication skills.

How do you perceive the evolving role of women in the CBRN field, both in Iraq and the Middle East region in general?

The role of women in the CBRN field is growing significantly in Iraq and the Middle East region in general. There is increasing awareness of the importance of women's participation in this field, and I believe that more women will find opportunities to achieve success and contribute effectively in the future.

What measures do you think are necessary to encourage and empower more women to enter and thrive in this sector?

I believe that capacity building is an extremely effective tool. Offering proper training and support to women, along with raising awareness of the importance of their role in this field, are essential measures. Continuous encouragement and providing equal opportunities for both women and men to pursue their careers and hold decision-making roles within the CBRN field can help empower more women.

What are the advices or tips you would give to young women interested in pursuing a career in CBRN in Iraq or the Middle East region?

It all starts with the individual woman. Breaking barriers to access the CBRN field must evolve from a woman's genuine confidence that "she can." Many women in Iraq and the region possess the necessary competence to pursue their career goals; however,

without addressing psychological barriers, including fear and self-doubt, other policies will not achieve their intended objectives. I would advise young women interested in the CBRN field to be courageous and confident, and to take advantage of every opportunity to learn and develop their skills. Seeking out mentors and guides can also be very helpful in providing support and advice.

Looking forward, what are your aspirations for the future of CBRN management, safety and security in Iraq and the Middle East?

I look forward to seeing more progress and coordination in the field of CBRN management in Iraq and the Middle East, along with strengthened safety and security procedures and measures to assure public and environment protection. The developed and implemented EU CBRN CoE projects could enhance national and regional capabilities and hence will facilitate regional cooperation. I also aspire to see more women actively participating in this field.

What motivates you to continue working in this field, despite the challenges?

My passion for the CBRN field and my desire to contribute to enhancing safety and security measures in my country are the main reasons that motivate me to continue working in this challenging field. Challenges make me more determined and insistent on achieving my goals and performing the best.

Is there anything else you would like to share about your journey, your work, or your vision for the future?

I would like to share a message of hope and inspiration with all ambitious women: you can achieve success in any field you choose. My vision for the future includes a safer and more equitable society, where women play a fundamental role in achieving this goal.

ARTICLE | Lela Lasareishvili, Head of South East and Eastern Europe Regional Secretariat

Strengthening Global Security: Women's Role in Shaping CBRN Security and Global Resilience

Women participation enriches the field with fresh perspectives, fosters collaboration and leads to more inclusive, effective solutions that contribute to global peace and security



Lela Lasareishvili

Head of SEEE Regional Secretariat, EU CBRN CoE
Information-Analytical Department
State Security Service of Georgia
Secretariat of the Interagency Coordinating Council for Combating
CBRN Threats

Historically, Chemical, Biological, Radiological and Nuclear (CBRN) has been a heavily male-dominated field. When thinking about women's role in development of CBRN substances, Marie Curie jumps into our minds, but this is a whole different story.

Ensuring CBRN security, as well as countering threats and mitigating their consequences is of utmost importance to every single country, while, at the same time, negative consequences would reach far beyond borders of any specific state. Involvement

of women in CBRN, just like any other field, means creating equal opportunities for women and demonstrating that CBRN is not an exclusively male field, or at least – it does not need to be. Additionally, with the advancements in technology, globalization and the growing risks posed by climate change, the need for diverse and innovative solutions became crucial. Women's involvement in the CBRN security and sciences plays a vital role in addressing these complex challenges. Their participation enriches the field with fresh perspectives, fosters

collaboration and leads to more inclusive, effective solutions that contribute to global peace and security.

INSIGHTS FROM MY PERSONAL PATH

My journey into the CBRN field was driven by a deep commitment to securing humanity from some of the most devastating threats we face today. With over seven years of experience in managing CBRN risks, I have witnessed the growing impact of climate change on the spread of diseases and damage it does to humanity.

With the advancements in technology, globalization and the growing risks posed by climate change, the need for diverse and innovative solutions became crucial.

As the Head of Secretariat of the [South East and Eastern European region](#) for the EU CBRN Risk Mitigation Centers of Excellence Initiative, my motivation stems from the desire not only to mitigate the risks but also to create a safer, more secure world, enhance preventive capacities of respectful agencies, and foster regional cooperation to minimize the CBRN threats.

From my personal perspective, one of the most significant barriers women face in this field is the historical underrepresentation in security and scientific roles. However, nowadays, qualified and skilled women proved that security is not just a field for men but a platform for excellence by all. I believe that one should not wait for the opportunities, but create them. If you can help, you should be in, no matter the gender: your expertise is crucial to better protect and serve humanity in the CBRN realm.

OPENING PEOPLE'S MINDS

Quite frankly, I am a big believer in diversity. A diverse and inclusive team is a great asset in the CBRN field, much like any other walk of life. Different perspectives, especially those brought by women, lead to more comprehensive threat assessments and innovative approaches to problem-solving. From my experience, teams that embrace gender diversity are more dynamic and better equipped to tackle the complex, interdisciplinary nature of CBRN threats. After all, women are believed to be better at multitasking, which can prove indispensable in a specific situation.

For women pursuing careers in the CBRN field, my advice is to remain confident in your abilities and seek out mentors and allies who can support your growth. Empower yourself with knowledge, pursue leadership, and

remember—your contributions to the CBRN can save lives and create lasting peace. Building a network within professional communities, like the EU CBRN Centres of Excellence, can provide invaluable opportunities for development and collaboration.

I think it is of outmost important to advance policies that make things fair for everyone in the CBRN world. This could mean promoting equal access to education and investing in STEM education for girls and women, offering scholarships and mentorship programs, and challenging gender stereotypes in these fields, as well as ensuring women have leadership opportunities by implementing targets for women in leadership positions within CBRN organizations, providing leadership training and development programs, and creating networks for women. Additionally, creating workplace environments that value diversity would

Empower yourself with knowledge, pursue leadership, and remember—your contributions to the CBRN can save lives and create lasting peace.

be a step in the right direction that would eventually result in the environments that are free from discrimination and harassment and fully embrace a culture of inclusivity and respect. We need to open people's minds and get more women involved in fighting CBRN threats. By implementing these strategies and advocating for supportive policies, we can create a more equitable and effective CBRN community.

In this context, I would like to share my country's experience, where leadership actively promotes team diversity and women hold high managerial positions. For instance, the Georgian CBRN team is predominantly comprised of women; both the Head of the Secretariat and the National Focal Point are female. Additionally, the almost majority of the National CBRN team, including many active Council experts, are women.

The CBRN is the topic that never loses its relevance, is far from boring and requires to remain engaged at all times. In this regard, the EU CBRN Risk Mitigation Centers of Excellence Initiative has been instrumental to build the capacity through various projects and trainings. Hence, enhancing skills and offering new opportunities for women has always been top of the agenda of the CoE. From my previous experience I have participated in lots of activities conducted by the auspice of the CoE that significantly enhanced my knowledge in mitigating CBRN threats and developed new skills to counter these risks.

Last but not least, as we face new global challenges, I am confident, that the involvement of women in the CBRN is not just beneficial—it is essential. Together, we can build a safer, more secure world for future generations.

5 key policies to advance women engagement in CBRN

- Promoting equal access to and investing in STEM education
- Offering scholarships and mentorship programs
- Challenging gender stereotypes in STEM/CBRN
- Providing leadership opportunities and implementing targets for women in leadership positions within CBRN organizations
- Creating networks for women

ARTICLE | Pamela West, Nigeria's National Focal Point

Trailblazing Women in CBRN Security in Nigeria

More female officers are being trained and there are requests for the inclusion of women in CBRN risk mitigation activities with evident benefits



Pamela Inkoba West is a policy maker, CBRN security expert with over 10 years' experience. She is currently serving as Principal Staff Officer (PSO) as well as the National Focal Point Officer (FPO) on CBRN in the Office of the National Security Adviser (ONSA), Nigeria. She has also served as founding member and Interim Vice-President, Women in Nuclear, Nigeria Chapter.

The CBRN field is evolving and expanding. Nigeria has over twenty-eight Ministries, Departments and Agencies (MDAs) involved in CBRN risk mitigation. The officers are predominantly male. Upon enquiry, one of the challenges identified was that the female officers were reluctant to join the CBRN teams due to the possibility of loss of life from explosions, infertility from radiation exposure or exposure to other fatal incidents. Female officers preferred the softer skills of administrative duties during such incidents.

However, this has improved since 2019 with international partnerships resulting in increased awareness, capacity building, and joint simulation and table-top exercises. More female officers are being trained and there are requests for the inclusion of women in CBRN risk mitigation activities with evident benefits.

The greatest opportunity being a woman in the CBRN field is becoming a trail blazer, inspiring the inclusion of more women, inspiring certification and professionalism, and bringing problem solv-

ing skills and leadership. Women possess peculiar skill sets, when merged with the right training and opportunities to serve and implement, they are a valuable resource to any team including CBRN risk mitigation.

Women in CBRN must actively volunteer to take on roles which they have been trained for. There is a whole generation to inspire and this can only be done with training, experience and professionalism, which equally ensures each individual is performing at their best, male or female.

There is a whole generation to inspire and this can only be done with training, experience and professionalism, which equally ensures each individual is performing at their best, male or female.

PROFILE | Ramatoulaye Diop, Senegal's National Focal Point

Ramatoulaye Diop

Ms Diop is keen to strengthen and update the link between climate change and CBRN risks within the African Atlantic Façade region



Ms Ramatoulaye Diop is Head of the Chemical Products and Waste Office, Ministry of the Environment and Ecological Transition of Senegal, and coordinator of the National Chemicals Management Commission (CNGPC). She was appointed Senegal's CBRN National Focal Point to the EU CBRN CoE in 2019.

Since her appointment as Senegal's CBRN National Focal Point in June 2019, Ms Ramatoulaye Diop, a specialist in the chemistry and biochemistry of natural products, has been tireless in her efforts to facilitate the implementation of the EU CBRN CoE Initiative in her country. She plays a crucial role in raising awareness among political decision-makers of the importance of investing in prevention, preparedness and response to CBRN events.

Over the past five years, and despite the challenges posed by the COVID-19 pandemic, Ms Diop has succeeded in uniting the members of the national CBRN team and supported them in drafting the National CBRN Action Plan, which has not only been finalised but has also been

adopted by the government, a fundamental step, she stresses, for the operationalisation of the actions set out therein. Her proactive approach was also evident in her efforts to improve the CBRN knowledge of Senegalese government executives through a targeted selection of trainees who took part in the first African Master's in CBRN Risk Management under the EU CBRN CoE Initiative; all the participants, including one woman, graduated.

As head of the chemicals and waste office in the Pollution and Hazards Prevention and Control Division of the Environment and Classified Establishments Directorate at the Ministry of the Environment and Ecological Transition, and coordinator of the National Chemicals Management

Commission (CNGPC), Ms Diop has been able to put her professional experience and knowledge to good use by first helping to implement and then coordinating a number of projects developed in the African Atlantic Façade region. The only woman among the ten national focal points in this region, Ms Diop is often at the forefront of innovation and does not hesitate to put forward her own ideas: in particular, she is keen to strengthen and update the link between climate change and CBRN risks within the region.

Ms Diop's leadership, dedication and vision are a source of inspiration for other women working in this field, and reinforce the importance of gender diversity in managing complex global challenges.

PROFILE | Somsanouk Keobounsansan, Lao PDR's National Focal Point

Somsanouk Keobounsansan



Ms. Somsanouk Keobounsansan is Deputy Director of the UN Political and Security Affairs Division, International Organizations Department, MFA, Lao PDR, and is a National Focal Point for the Government of Lao PDR to UNSCR 1540, the Biological Weapons Convention (BWC) and the EU CBRN CoE.

Ms. Somsanouk Keobounsansan has been a diplomat with the Ministry of Foreign Affairs (MFA) of Lao PDR for almost 13 years, serving at the Permanent Mission of Lao PDR to the United Nations in New York for four of those years. Currently, she is Deputy Director of the UN Political and Security Affairs Division, International Organizations Department, MFA, Lao PDR, and is a National Focal Point for the Government of Lao PDR to UNSCR 1540, the Biological Weapons Convention (BWC) and the European Union Chemical, Biological, Radiological and Nuclear Risk Mitigation Centres of Excellence Initiative (EU CBRN CoE).

As National Focal Point to the EU CBRN CoE, she is responsible

for communicating with line ministries to strengthen CBRN risk mitigation in her country. In this capacity, she has supported the implementation of EU CBRN CoE Projects [62](#), [81](#), [90](#) and [98](#). Moreover, she has been instrumental in advancing Lao PDR's CBRN National Action Plan, a strategic document identifying national priorities for capacity building.

Since her appointment as National Focal Point to the EU CBRN CoE in 2021, Ms. Somsanouk has expertly coordinated with relevant agencies to help advance CBRN risk mitigation in her country. She is proud to see that her work has not only helped Lao PDR, but has also contributed to a larger capacity-building programme,

one that is helping 63 Partner Countries across eight regions gain expertise on a wide range of CBRN topics. Because CBRN incidents can be regional or even global in scale, she believes there is a critical need to work collaboratively at the international level. To this end, she views her work as helping foster international cooperation, enabling the exchange of good practices that are helping address shared challenges and critical country needs. Ms. Somsanouk, like the other women CBRN champions featured in this publication, understands the importance of this work. We are thankful to her for helping make the world safer and more secure.

PROFILE | Brigadier General Dr. Sat Chansovannary, Deputy Director of Cambodia's Chemical Substance Control Department at GS NACW

Brigadier General Dr. Sat Chansovannary



Brigadier General Dr. Sat Chansovannary is Deputy Director of the Chemical Substance Control Department at the General Secretariat of the National Authority for the Prohibition of Chemical Weapons (GS NACW) of Cambodia. Since 2019, she has actively participated in EU CBRN CoE capacity-building projects, demonstrating outstanding leadership in the field of CBRN risk mitigation.

A FIRST CAPACITY-BUILDING EXPERIENCE WITH THE EU CBRN COE

During EU CBRN CoE Project 61 – Sound Management of Chemicals and their Associated Wastes in Southeast Asia ([SEACHEM](#)) – she represented Cambodia as a trainee and participated in the project's Train-the-Trainer Course.

These activities enhanced her knowledge of prevention, preparedness and response to chemical incidents and provided her with the confidence and skills to deliver complementary trainings to the NACW CBRN Response Team together with her colleagues. This achievement demonstrated Cambodia's com-

mitment and competency to carry forward and advance chemical safety and security.

COORDINATING AN EXPERT TEAM DURING THE 2023 SOUTHEAST ASIAN GAMES

In 2022, GS NACW was tasked to be ready to respond to potential CBRN incidents or attacks during the 2023 Southeast Asian Games (SEA Games). The implementation of this task was supported by an EU CBRN Expert Team under [Project 62](#) – On-Site Technical Assistance to the EU CBRN CoE Regional Secretariat for Southeast Asia – and BG. Dr. Chansovannary was

responsible for the coordination of all related activities, including the development of the CBRN Team Concept, Standard Operating Procedures (SOPs), the Training Programme, Training Delivery, as well as a Table-Top and Field Exercise. "During several months of implementation, with the support of the EU CBRN CoE Expert Team, we strengthened our CBRN Response Team's capabilities and we successfully met all our objectives during SEA Games 2023. I consider this a major achievement reflecting our commitment to advance and improve our CBRN response capabilities," BG. Dr. Chansovannary said.



BG. Dr. Sat Chansovannary presents during EU CBRN CoE Project 81 Workshop in Phnom Penh.

SUPPORTING THE IMPLEMENTATION OF A BIOSAFETY AND BIOSECURITY PROJECT

BG. Dr. Chansovannary was also responsible for supporting the implementation of EU CBRN CoE Project 81 – Enhanced Biosecurity in Southeast Asia (**BIOSEC**) – helping strengthen biosafety and biosecurity in Cambodia. “We were very pleased to have this project in Cambodia, because we gained knowledge and experience to implement the BWC, including helping us improve the preparation of CBM Reports, and we also started to implement a National Inventory of Dangerous Pathogens database,” BG. Dr. Chansovannary explained.

REPRESENTING CAMBODIA AT THE BWC WORKING GROUP

As a result of her effort, she was nominated to participate as a representative of Cambodia at the Fourth Session of the Working Group on the Strengthening of the Biological Weapons Convention on 19–23 August 2024 in Geneva. “This was a significant professional milestone,” BG. Dr. Chansovannary said. “I was proud to represent my country at such an important international meeting dedicated to enhancing peace and security, and I believe we will continue to successfully implement the BWC in Cambodia.”

APPRECIATION OF DEDICATION AND EFFORT BY NACW SECRETARY GENERAL

In recognition of her dedication to CBRN risk mitigation, BG. Dr. Chansovannary was appreciated by NACW Secretary General. “I am very grateful for the appreciation of my work, and I would like to thank NACW Secretary General H.E. General Phorn Nara for his leadership and for the opportunities to work on EU CBRN CoE Projects, among other CBRN tasks and activities implemented at the GS of NACW in Cambodia,” BG. Dr. Chansovannary said.



QUOTES | National Focal Points

South East and Eastern Europe



Diana Tsutskiridze
Georgia NFP

It is an utmost honor and pleasure to serve my country as a CBRN National Focal point for the EU CBRN CoE. This is an emerging and evolving field, and we change reality every day to make society more aware of CBRN safety and security. I would like to encourage everyone working in this field to overcome obstacles and carry on. We, women can do it much, much better.



Migena Kuburja
Albania NFP

I would encourage other women to actively contribute to protecting the communities by building their capacities and taking decision-making roles within the CBRN field.



African Atlantic Façade



Thiecta Famahé Gueye **/wife of Kassé** **Deputy NFP Senegal**

Head of the Planning and Monitoring and Evaluation Office,
Department of Regulation and Control, Ministry of the Environment and Ecological Transition

My appointment as National Deputy Focal Point for the EU CBRN CoE Initiative was a major turning point in my professional career. The training courses and interactions with the other focal points have greatly enriched my career. Thanks to these exchanges, I have consolidated my skills and acquired in-depth expertise in industrial risks management. These experiences encouraged me to deepen my knowledge, motivating me to undertake a Master II in Environment, which I successfully completed in 2022. I am deeply grateful to the EU CBRN CoE Initiative for this unique opportunity, which has enabled me to demonstrate my skills and be promoted within my department.

Central Asia



Tserendorj Uranchimeg **Mongolia NFP**

Director General, Natural Resources and Coordination Department, Ministry of Environment and Tourism, Mongolia

Women's participation at the decision-making level is important for reducing CBRN risks and improving the legal environment in developing countries.

TECHNICAL EXPERTISE

MEET WOMEN ADVANCING
CBRN TECHNICAL
EXPERTISE THROUGH COE
PROJECTS

'Technical Expertise' spotlights women experts advancing CBRN risk mitigation within the EU CBRN CoE Initiative. Through interviews, articles and testimonials, this section explores how these CBRN professionals provide and expand their technical expertise via EU-funded projects that build skills and knowledge across the EU CBRN CoE network. Delve into their stories and the significant contributions they are making through their expertise and unwavering commitment to security and safety.

INTERVIEW | Rana Baydoun, Researcher at Lebanese Atomic Energy Commission

Empowering Women in CBRN: Insights from a Leading Expert in the Middle East



Rana Baydoun is a researcher at the Lebanese Atomic Energy Commission (LAEC). She joined LAEC in 1997 as a Research Assistant. Throughout her time at this pivotal organisation, she gained extensive experience in radiological emergency response and nuclear security. She was later given the opportunity to pursue her studies, earning a PhD in environmental chemistry from Beirut Arab University in 2015. Rana completed her postdoctoral research at the Laboratoire des Sciences du Climat et de l'Environnement, CNRS-Paris. She has published over 25 articles in national and international peer-reviewed journals.

Can you describe your journey into the CBRN field? What inspired you to pursue this career, and what keeps you motivated?

My passion for science and research has been the catalyst throughout my journey into the CBRN field. Working at the Lebanese Atomic Energy Commission (LAEC) provided me with a valuable opportunity to learn, grow, and advance in this field. Early in my career, I focused on scientific and technical aspects,

including radionuclide analysis, radiation safety, and the detection and identification of materials out of regulatory control. The evolving CBRN risks over the past decades have been a major driving force, motivating me to dive deeper into radiological emergency preparedness and nuclear security. I was also honored to serve as the national counterpart for several national and regional projects aimed at enhancing our country's capabilities in these critical areas.

The CoE network has significantly impacted my career development and skills by providing access to specialized training and workshops and by connecting me with experts and essential resources, which have been crucial in building capacities in the CBRN field.

What are the main barriers you have faced or observed that women encounter when pursuing a career in CBRN security/sciences? How have these challenges affected your or others' career progression?

The CBRN sector is traditionally male-dominated, and this can create challenges for women in terms of visibility, networking, and mentorship opportunities. Another significant challenge is balancing professional responsibilities with personal and familial commitments, especially that working in the field of CBRN involves unpredictable hours and high-pressure situations. Despite these challenges, I have seen women demonstrate resilience and adaptability, often using these obstacles as motivation to overtop.

Personally, overcoming these barriers has reinforced my determination and drive to succeed, and I have found great support from my supervisors and colleagues at LAEC and at personal level from my husband and family. Working in the field of CBRN entails collaboration with military and security organizations. Bridging the gap between science and security was one of the challenges I had to overcome. Developing mutual understanding, adopting open-minded communication, and setting common objectives have been essential in strengthening smooth coordination.

Could you share a success story or significant achievement in your CBRN career that highlights the positive impact women can have in this field? How did this experience shape your professional journey?

One of the best experiences of my career was leading the implementation of the CONTACT Middle East Project (MIE) –enhancing capacities to prevent the trafficking of radiological and nuclear materials in the MIE region. The project was launched by UNICRI in 2019. Serving as a female team leader in a predominantly male team from various military organizations was a valuable experience. I chose to adopt a leadership model centered around teamwork, en-

couraging all team members to contribute actively toward achieving our objectives. As a team, we did a great job, providing support and guidance to each other throughout every phase of the project.

In your view, how does having a diverse team, including women, enhance the effectiveness and innovation in CBRN security and sciences?

Having a diverse team, including women, greatly enhances the effectiveness and innovation in CBRN security and sciences. Diversity brings together individuals with different perspectives, experiences, and problem-solving approaches, which is crucial when addressing complex and evolving challenges like CBRN risks. Women can adapt to new situations, and approach problems from various angles.

Additionally, women, in particular, are often skilled multitaskers, capable of managing multiple priorities simultaneously—a critical asset in high-pressure environments where rapid decision-making and coordination are essential. Women have high level of emotional intelligence, hence teams that include women can reflect broader range of social perspectives and communicate more effectively with public, especially in any CBRN emergency case.

What strategies or recommendations would you suggest to other women who are interested in or currently pursuing a career in CBRN security/sciences? How can they overcome the barriers they might face?

For women pursuing a career in CBRN security or sciences, breaking social taboos and advancing women's right to access the security field starts with a genuine confidence that "she can." I recommend building a strong foundation in science and technology, seeking out mentors, and actively networking within the CBRN community. Embrace leadership opportunities, even in male-dominated environments, and stay confident in your abilities. Resilience is key when facing challenges, so view setbacks as opportunities to grow. Additionally, advocating for

gender diversity and inclusion can help shift organizational cultures, making it easier for more women to thrive in this field. By focusing on these strategies, women can overcome barriers and achieve success in CBRN careers.

Are there any policies or advocacy efforts that you believe are essential to support and encourage more women to enter and thrive in the CBRN field?

There are many policies that could be adopted to empower women in CBRN field, such as adopting equitable hiring practices, establishing mentorship programs and providing targeted educational initiatives to help women gain the necessary skills and confidence. Foster the flexible working arrangements, such as remote options and flexible hours, could create more supportive environment for women working in CBRN field.

How has the CoE network facilitated your professional development and leadership in CBRN? Can you provide examples of how the CoE has supported you or other women in the field through opportunities, leadership roles, or peer networks?

The CoE network has significantly impacted my career development and skills by providing access to specialized training and workshops and by connecting me with experts and essential resources, which have been crucial in building capacities in the CBRN field. As a global platform, it has offered women opportunities to take on leadership roles, such as leading cooperative projects and coordinating with peers in other partner countries to gain experience and benefit from shared best practices.

Additionally, through the CoE, I have had the opportunity to join international organizations. I was selected to serve at the United Nations Interregional Crime and Justice Research Institute (UNICRI) as the Acting CBRN CoE Regional Coordinator for the Middle East Regional Secretariat for seven months in a secondment modality. During this period, I gained extensive experience in the CBRN field, including managing regional projects, developing action plans, and handling various other topics. This experience was highly valued by the management at LAEC upon my return.

The CoE network has significantly impacted my career development and skills by providing access to specialized training and workshops and by connecting me with experts and essential resources, which have been crucial in building capacities in the CBRN field.

For young women interested in pursuing a career in CBRN, my advice would be to stay curious, confident, and committed to your passion for science and security.

INTERVIEW | Sandra Matinyi (Uganda) and Musonda Mandona (Zambia), biosafety and biosecurity experts

Portraits Croisés: Q&A with Women Leading the Change in Biosafety and Biosecurity in Africa



Camille Dupire

Communication Expert

BIOCAP-ECA - EU CBRN CoE Project 99

National experts Sandra Matinyi, Uganda, and Musonda Mandona, Zambia, are leading figures of their countries' efforts to strengthen biosafety and biosecurity. With their engagement in projects like BIOCAP-ECA, they have been calling for inclusive efforts and structured approaches to mitigate biological risks effectively.

As part of BIOCAP-ECA, also known as [Project 99](#) of the the European Union (EU) Chemical, Biological, Radiological, and Nuclear (CBRN) Risk Mitigation Centres of Excellence (CoE) Initiative, they shared their experiences, challenges, and insights into the importance of women and youth's involvement in this crucial field.

We are leaving out a very huge portion of very key stakeholders - women - from the equation.

What motivated your specific interest in biosafety and biosecurity?

Sandra Matinyi: As an expert working in biosafety and biosecurity, I am very cognisant of some of the gaps that exist in terms of capacities. I have personally faced some challenges in finding relevant professionals back in Uganda. When looking for experts in specific domains, you would find just a handful of them. Yet, the task at hand is huge as the issue of biosafety/biosecurity encompasses every aspect of daily life, not just work done inside specialised, isolated labs.

Musonda Mandona: I agree. What people tend to forget is that, when defining biosafety and biosecurity, almost everyone is affected. So it is crucial to raise awareness about the role individuals play, as well as how our work can impact the environment and surrounding communities.

Nevertheless, I think the challenges are still in some way surmountable. In Zambia, the problem has really been around structuring the existing programmes to bring the necessary stakeholders on board. Whilst we strive to use a One Health approach, we are still not aware of all of the different people, the right stakeholders we are supposed to have around the table.

This is why it is exciting to be part of projects like BIOCAP-ECA, because it helps us to bridge some of these gaps we face in the [Eastern and Central African] region.

Can you explain the One Health approach and its significance?

Musonda Mandona: The One Health approach is an approach of collaborating with all sectors affected by the issues of biosafety and biosecurity, ranging from human, animal, environmental health and really any of the other sectors involved in playing a part in biosafety and biosecurity.

Biosafety is about using science responsibly in activities such as diagnosis and research, ensuring that those involved do so in a safe and responsible manner. Biosecurity, on the other hand, focuses on ensuring that our work doesn't negatively affect the

community. This includes managing waste properly and communicating information about the materials we handle in a way that the public can understand, ensuring their protection.

It is essential to not only provide technical information for lab personnel but also to clearly communicate risks to those outside our facilities. Unfortunately, this is an area where there is still a lot of room for improvement.

Sandra Matinyi: Let me explain the One Health approach concretely: If your country has, let's say, an unhealthy population due to biological risks, it will have an impact on your workforce and productivity. The economy will very much be affected. Food security as well is a big challenge, especially in our region.

The One Health approach also looks at the malicious use that can be made of biological agents by terrorists for example. At this point, we are not even talking about a national or a regional issue anymore but a truly global impact and universal risks.

So, overall, when adopting the One Health approach, you aim to mitigate economic, food security, and national security impacts of biological threats.

Why is it important to focus on women in biosafety and biosecurity?

Sandra Matinyi: When talking about infections, diseases, it is the women who bear the biggest burden. They are the ones who end up taking care of the people who are unwell, holding the families together. So, if we do not involve them in spaces where they contribute to the decisions being made, they cannot contribute to these biosafety/biosecurity efforts. It means we are leaving out a very huge portion of very key stakeholders from the equation.

So many times, women have been left out of capacity building initiatives. It may not necessarily be by design, but in the end, the result is the same: opportunities for women are limited. When we talk about biosafety and biosecurity, the situation is even more dire. So a change needs to happen, starting with initiatives like the African Women Leadership or the BIOCAP-ECA project, which puts an emphasis on involving national experts including women.

Musonda Mandona: I share this belief. Women’s involvement in biosafety, biosecurity - and all of the other regimes that support that kind of work - is critical because women have a unique perspective to bring to the table.

Representation, first of all, is very important. Having women in the biosafety/biosecurity space will provide young female professionals who may be interested in getting involved in this space leading figures to look up to, and get mentorship from.

But including women is also and simply key because our countries have a lot of amazing women doing a lot of great work! Shining a light on that work is really important.

What about the youth? How do you see their role in biosafety and biosecurity?

Musonda Mandona: A lot of the efforts that we are making now will only be realised in a few years so it is important to have young people aware and participating in CBRN initiatives. Because, by and large, the

systems we are creating are going to be for them, for a sustainable future. Young people are the ones who have to take the lead as they will be in charge of implementing these measures down the line.

A SHARED VISION: A MORE INCLUSIVE AND EFFECTIVE APPROACH TO MANAGING BIOLOGICAL THREATS

Both Sandra and Musonda are united in their mission to strengthen biosafety and biosecurity in their respective countries. They recognise the critical need for capacity building, legislative frameworks, and stakeholder engagement to mitigate biological risks.

They also call for a broader movement to ensure that half of the population is not left out of crucial decision-making processes.

We hope their stories can inspire others to recognise the vital contributions of women and young people in securing a safe and sustainable future for their nations and the globe.



Sandra Matinyi runs a consultancy that provides services in biosecurity, quality management systems, strengthening, and bioinformatics and data science. She also supports the Uganda Biological Weapons Conversion Technical Working Group and is a national expert for BIOCAP-ECA.

“

When talking about infections, diseases, women bear the biggest burden.

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Musonda Mandona works as a biosafety and biosecurity adviser within the Ministry of Health of Zambia. She is involved in a number of initiatives including the Youth for Biosecurity Fellowship, the African Women Leadership.

Strengthening biosafety and biosecurity capabilities in East and Central Africa

Established in the context of the EU CBRN CoE Initiative, Project 99 aims to support 11 countries from East and Central Africa to enhance the detection and mitigation of risks associated with biological materials or agents, as well as risks linked to installations or sites.

Scheduled to last until June 2026, Project 99 encompasses work packages related to national legislation and gap identification, awareness raising on biosafety and biosecurity, risk assessments, contingency and response plans, as well as waste management, among others.

The project is implemented by a consortium led by [Expertise France](#), and comprised of [Liège University](#), [RIVM](#), [SCJS Europe](#) and [ISEM Institute](#). To learn more about the project, please visit the [CoE Project 99](#)

INTERVIEW | Mathilde Cabral, Toxicologist, in charge of the Laboratory at Dakar's Poison Control Centre

A Senegalese Expert's Journey from the CBRNe African Master's to Strengthening National Safety Protocols



Mathilde Cabral, toxicologist in charge of the laboratory at the Dakar's Poison Control Centre, Senegal, is among the graduates of the CBRNe African Master's. The program profoundly impacted her career and her work in strengthening safety protocols in Senegal. Mathilde shared with us her experience of how the Master's shaped her professional journey, and how she applied her learning to safeguard public health in her home country.

In 2023, the first-of-its-kind specialised CBRNe African Master's programme achieved a milestone with the graduation ceremony of the first cohort of students at the International University of Rabat, Morocco. 21 trainees from six partner countries of the African Atlantic Façade region obtained their double degree, one from the Université de Haute Alsace, recognized by France's Conférence des Grandes Écoles and one by the Université Internationale of Rabat, after completing an intensive training programme addressed at key managers and operational personnel involved in the CBRNe field. The development and launch of the CBRNe Master's program were strongly advocated by the African Atlantic Façade CBRN Regional Secretariat of the EU CBRN CoE Initiative as part of

its strategy to establish a CBRN training center for the region. The Master was funded by the European Union.

TRANSFORMING A CAREER: FROM TOXICOLOGIST TO NATIONAL CBRN EXPERT

For Mathilde Cabral, joining the CBRNe Master's program was a transformative moment. Initially trained as a pharmacist and toxicologist, she was appointed as the focal point for CBRN-related health matters at Senegal's Ministry of Health, a responsibility she took on spontaneously. While she had some knowledge of chemical risks, her exposure to radiological and nuclear threats was limited.

“It wasn’t just about learning theory—I was learning how to apply these strategies in real-time scenarios”

“The CBRNe Master’s came at the right time,” Cabral shared. “I realized that I had significant knowledge gaps in areas like radiological and nuclear risks, and this program provided me with the tools to bridge those gaps.”

Through the program, Cabral gained a deep understanding of CBRN threats and their management, including risk assessments and crisis response, among others. More importantly, the program equipped her with practical skills to implement these strategies in real-world situations. “It wasn’t just about learning theory—I was learning how to apply these strategies in real-time scenarios,” she explained.

A key highlight for Cabral was the multidisciplinary network she built with fellow professionals across sectors, such as health, industry, and civil protection. This collaboration would prove vital to her work upon returning to Senegal. “Before the program, I had limited interaction with other sectors. Now, I rely on this network for support in managing CBRN risks across various fields,” she said.

APPLYING THE KNOWLEDGE: SIMULATION EXERCISES FOR CRISIS PREPAREDNESS

Upon completing the CBRNe Master’s, Mathilde Cabral quickly put her knowledge to the test by organizing a simulation exercise at Dakar’s Poison Control Centre. The exercise, which involved a scenario of collective pesticide poisoning, was aimed at strengthening the Centre’s emergency response procedures.

The simulation highlighted areas for enhancement within the Centre, particularly in communication and coordination across its different units. Cabral noted, “The exercise allowed us to identify areas where we could strengthen our protocols and streamline our communication. By doing so, we ensured that we could respond more effectively to emergencies.”

One of the key lessons learned from the simulation was the importance of standardizing responses to toxicological emergencies. “We discovered the need to align our communication, ensuring that everyone—from junior staff to senior experts—was on the same page when responding to critical incidents,” she explained. These improvements have since been implemented to ensure a more unified and coordinated response to public health emergencies at the Centre.

Cabral’s efforts also laid the foundation for stronger collaboration with national emergency services, including the SAMU and fire brigades, further enhancing Senegal’s overall crisis preparedness. Her team is now planning more extensive simulation exercises, bringing in external agencies to test their response to larger-scale CBRN threats.

“The program showed us how to develop strategies that align with our realities, not just replicate models from abroad.”

A REGIONAL IMPACT: STRENGTHENING SAFETY ACROSS THE AFRICAN ATLANTIC FAÇADE

While the CBRNe Master’s program has had a profound impact on Cabral’s career and her contributions to Senegal’s health and safety sector, the program’s benefits are being felt across the African

Atlantic Façade. The program has trained experts from multiple countries across the region, helping to build a robust network of professionals capable of addressing CBRN risks.

What sets the program apart is its emphasis on tailoring international best practices to local African contexts. “We were encouraged to adapt the knowledge to our own capacities,” Cabral explained. “The program showed us how to develop strategies that align with our realities, not just replicate models from abroad.”

Through this initiative, the African Atlantic Façade now has a growing cadre of professionals capable of advising governments and private sectors on how to manage CBRN risks, contributing to the region’s overall safety and security.

LOOKING AHEAD: PREPARING FOR FUTURE THREATS

Looking ahead, Mathilde Cabral is committed to further bolstering Senegal’s crisis management capabilities. Her team at the Poison Control Center has already conducted additional internal exercises to sharpen their response to emergencies, and plans are underway for joint simulations with the National Emergency Operations Centre to tackle larger CBRN threats.

For Cabral, the CBRNe Master’s program laid the foundation for sustained progress. “These exercises and the knowledge we’ve gained are essential for protecting our citizens. We’re continuing to strengthen our capabilities so that we’re ready for any potential crisis,” she stated.

The success of the CBRNe Master’s program highlights the critical role of targeted education and training in addressing the complex risks posed by CBRN threats. By empowering professionals like Mathilde Cabral to lead with confidence and expertise, the Master’s is contributing to ensure a safer future not only for the African Atlantic Façade region, but for the whole African continent.



QUOTES | Women graduates of the Africa's CBRNe Master's programme



BENIN

Carolle Yvonne Sênalidé Adjovi

Role: Head of the Waste and Wastewater Management Support Division, Ministry of the Environment and Transport, in charge of Sustainable Development, Republic of Benin

Speciality: CBRN Environment and Risk Management

The CBRNe Master's course has enhanced my skills and leadership in the field of risk management and enabled me to become part of networks of experts in the public, private, national and international sectors. Understanding the multi-service language of this field is an asset for joining a sector dominated by men. I invite women to assert themselves through CBRN expertise and to work for solid networking in gender diversity and interdisciplinarity in order to contribute to risk reduction by educating and raising awareness among grassroots populations and decision-makers.



BENIN

Egnonnam Marleine D. Commete

Role: Head of the Classified and Industrial Establishments Control Department, Ministry of Energy, Water and Mines

Speciality: Geology and CBRN

The CBRNe Master's course has transformed my career. It has enabled me to acquire essential skills for managing industrial risks and has profoundly changed the way I approach emergency situations. Thanks to this training, I've been able to raise awareness of the dangers associated with pressurised equipment and improve safety in the establishments I supervise. The experience has also given me the confidence to continue developing in this exciting field, with the ambition of making a real difference, not only in Benin, but also internationally.



GABON

Yasmine Okomo Nguema

Role: Research Engineer, Ministry of Health - Franceville Interdisciplinary Medical Research Centre (CIRMF)

Speciality: Biochemistry

The CBRNe Master's course gave me an invaluable opportunity to deepen my knowledge of emergency management. On my return to Gabon, I concentrated on setting up a national unit dedicated to the management of biological, zoonotic and epidemic risks, both in laboratories and among the general public. This unit will establish a network including the National Biosafety and Biosecurity Committee, facilitating the development of an action plan to define laboratory biosafety policies, assess risks and respond to potential biological threats.



GABON

Dr. Marlaine Michèle Boukandou Mounanga

Role: Researcher, Ministry of Higher Education, Scientific Research and Technological Innovation

Speciality: Microbiology and toxicology

The CBRNe Master's course has transformed my career. Thanks to the CBRNe Master's programme, I was able to find out about the EU CBRN CoE Initiative and join Gabon's national CBRN team. This experience considerably boosted my confidence as a woman in this field, motivating me to seize every opportunity to make the most of the skills I had acquired. It has also enabled me to share this knowledge, in particular by training staff from various sectors on the industrial risks associated with classified facilities in Gabon, as part of the EU CBRN CoE Project 95.



MOROCCO

Rokia Ghchime

Role: Chief Superintendent of Police, Head of the CBRN Risk and Threat Management Department, at the National Security Directorate/Ministry of the Interior

Speciality: CBRN risk and threat management

Believing in yourself is the first step towards success. I was proud to be one of the first African graduates of the EU's CBRNe Master's programme, which gave me the opportunity to enhance my skills and acquire the expertise I need to meet the challenges of CBRN in Morocco. This training, rich in exchanges and learning, has enabled me to contribute actively to the development of security strategies within my organisation and at the same time to take part in a regional network of experts within the sub-region. I am deeply grateful for the teaching I received, which continues to have a positive influence on my career and my commitment in this crucial area.



MAURITANIA

Maimouna Sidi Ali Deida

Role: Director of COMPETENCIES, a consultancy specialising in CBRN risks

Speciality: Industrial risk management

Completing the CBRNe Master's course has enabled me to acquire advanced technical skills in CBRN risk management. This knowledge enables me to respond in a more effective and informed way to crisis situations, which is crucial in a field where precision and speed are essential.

As a woman, this degree has given me greater legitimacy and opened doors to leadership opportunities that I might not otherwise have had. I've been able to take on key roles in risk reduction and risk management projects and be an influential voice in strategic discussions.

In addition, my background and achievements will inspire other women to consider careers in this field, which is essential to diversify and enrich our collective approach to CBRN risk management. Ultimately, the CBRNe Masters has given me not only the necessary technical skills, but also the confidence and professional respect to make a real difference in my sector.

**SENEGAL****Mathilde Cabral**

Role: Pharmacist - Research Professor at the FMPO/UCAD, Ministry of Health and Social Action (MSAS) and Ministry of Education

Speciality: Toxicology

More than just an academic step, the CBRNe Master's degree was for me a challenge similar to that of a novice hiker tackling steep peaks. In this male-dominated world where there are only a few of us pioneers, every learning curve was a crest to climb, but I did it! The training is a compass that helps me to draw up a precise and methodical roadmap to ensure the success of my projects at the Poison Centre and the Toxicology and Hydrology Laboratory. The knowledge I've acquired gives me the ability to analyse and manage events that reality might throw at us.

**CAMEROON****Mireille Mpoudi Ngole - Etame**

Role: Director of Operational Health, Ministry of Defence

Speciality: Infectious diseases and epidemiology

Thanks to the CBRNe Master's degree from EU CBRN CoE, I now have a different perspective on risk assessment.

In my role as medical advisor to the Chief of Staff of the Armed Forces, the expertise acquired during this training enables me to contribute to emergency planning for CBRN threats and risks and, in the event of a malicious incident or accident, to provide reliable and structured solutions for effective intervention.

PROFILE | Dr. Sabai Phyu, former On-site Assistance expert of Southeast Asia Regional Secretariat

Dr. Sabai Phyu



For roughly 20 years, Dr. Sabai Phyu has been a leader in the field of laboratory biosafety/biosecurity and biorisk management. As the operations head of high containment facilities in Singapore, she developed and implemented biosafety/biosecurity and biorisk management programmes in addition to overseeing the operations of the laboratories. She also contributed to the planning, design, construction, and furnishing of two high-containment laboratories in Singapore.

EU CBRN COE: FROM TRAINEE TO ON-SITE TECHNICAL EXPERT

Dr. Phyu was introduced to the European Union Chemical, Biological, Radiological, and Nuclear Risk Mitigation Centres of Excellence Initiative (EU CBRN CoE) while she was in charge of operating the high containment facility at the National University of Singapore. She joined as a trainee in “[Project 3](#): Knowledge Development and Transfer of Best Practice on Biosafety/Biosecurity/Biorisk Management” (2013-2015), and the course improved her understanding of biorisk and biosecurity management. She then took part as a trainer in “[Project 46](#): Enhancement of CBRN Capacities of Southeast Asia (SEA) in Addressing CBRN Risk Mitigation Concerning CBRN First Response, Biosafety and Biosecurity, Awareness Raising and

Legal framework”. She was one of three trainers for the *Design, Construction, Operation and Management of Microbiological Laboratories* courses organized by Project 46 (2017-2018). The focus of the training was to enhance the capacity of SEA laboratory Design Experts in designing and building biomedical laboratories. In 2018 and 2019, she was involved in another EU CBRN CoE project, “[Project 62](#): On-Site Technical Support to the EU CBRN CoE Regional Secretariat in Manila”, as a facilitator for a biosecurity workshop for experts in the SEA region and during a CBRN National Action Plan workshop in Brunei Darussalam.

Between August 2019 and April 2024, she led [Project 62](#), serving as On-Site Assistance (OSA) Technical Expert for SEA. Supporting the Regional Secretariat and National Focal Points, Dr. Phyu helped ensure SEA Partner Countries

received essential CBRN risk mitigation capacity through various training programmes. She also assisted the Regional Secretariat in engaging regional experts and organizations such as the ASEAN Health Division, the ASEAN CBR Network, and the Regional Public Health Laboratory (RPHL) Network. In 2023, Dr. Phyu proudly helped deliver a workshop on the *Design, Construction, Operations and Maintenance of Containment Laboratories and Hospital Isolation Rooms in Resource-Limited Settings*, a workshop fully led by regional expert trainers, reaching architects, engineers, and biosafety experts in the Philippines.

ADVANCING BIOSAFETY/ BIOSECURITY BEYOND THE EU CBRN COE

After leaving the OSA position, Dr. Phyu has continued working in the the domain of biosafety/

biosecurity and biorisk management, fields she is both passionate about and deeply committed to. In this capacity, she continues to serve as a Ministry of Health (MOH)-approved ABSL-3/BSL-3 laboratory certifier and trainer for MOH-approved biorisk management courses. She also serves as an executive committee mem-

ber for the Biorisk Association of Singapore. Furthermore, she supports multiple Technical Working Committees to prepare National Biorisk Management Standards for different types of laboratory facilities. At the regional level, she serves as a biosafety/biosecurity and biorisk management expert for the

RPHL Network and shares her professional knowledge and skills with biosafety professionals and laboratory certifiers regularly through national and regional biosafety/security networks. She continues to be a resource person, a deeply respected colleague, and a close friend of the EU CBRN CoE SEA family.

Supporting the Regional Secretariat and National Focal Points, Dr. Phyu helped ensure SEA Partner Countries received essential CBRN risk mitigation capacity through various training programmes.



Dr. Sabai Phyu with expert trainers from the Philippines and Singapore: Assoc. Prof. Ailyn M. Yabes (second from left), Bioexpert; Prof. Irma Makalinao (centre), Coordinator for CBRN Health Security; Er. Anton Setiawan (second from right), Professional Engineer, and Prof. Mary Ann Espina, Professional Architect (far right) at the laboratory designers/engineers and biosafety professionals training course (26-28 September 2023, Manila, Philippines). Photo credit: Prof. Mary Ann Espina

ARTICLE | Patricia Gitari, On-site Assistance expert for Eastern and Central Africa Regional Secretariat

Breaking Barriers: Women in CBRN and First Response

Equality means everyone is treated the same exact way, regardless of differences. Equity means everyone is provided with what they need to succeed



Patricia Gitari

On-site Technical Assistance Expert
EU CBRN CoE Eastern and Central Africa Regional Secretariat

The story of Marie Curie, the first woman to win a Nobel Prize and the only person to win it twice, serves as both an inspiration and a reminder of the obstacles women have long faced in scientific pursuits¹. Curie, despite being a top student, was barred from attending the male-only University of Warsaw. Her famous quote, “One never notices what has been done; one can only see what remains to be done,” resonates strongly with the current state of women’s participation in CBRN and first response fields. In the world of CBRN response and first responder roles, women continue to face significant challenges.

Despite progress in many fields, gender disparities persist in these critical areas of public safety and scientific research.

“SHRINK IT AND PINK IT”

STEM’s lack of diversity, equity, and inclusion (DEI) is often attributed in part to a “leaky pipeline”—the idea that despite interest and the ability to succeed in STEM careers, women tend not to pursue or remain in them². This metaphor has long been used to describe the gradual loss of women from STEM careers. However, this issue goes beyond individual choices. Systemic barriers and layered biases continue to push

women out of these fields. The impact of these barriers and biases extends beyond workplaces; they shape STEM products and innovations themselves.

In first response roles, women face unique challenges. Female firefighters, for instance, experience injury rates four times higher than their male counterparts, partly due to ill-fitting personal protective equipment (PPE). The phrase “shrink it and pink it” encapsulates the inadequate approach often taken in designing products for women. While some manufacturers now offer “female-sized” gear, it’s often just a downsized version of male equipment, failing

1 <https://www.biography.com/scientists/marie-curie>

2 https://ssir.org/articles/entry/leaky_pipelines_or_broken_scaffolding_supporting_womens_leadership_in_stem

From designing gender-appropriate PPE to ensuring inclusive nomination processes for training and leadership roles, every step towards equality in CBRN and first response fields is a step towards a safer, more equitable world for all.

to account for the anthropometric differences between male and female bodies. In addition to oversized turnout coats and pants, female firefighters also face issues while wearing male-centric equipment such as boots, gloves, helmets, SCBAs and SCBA masks³. Some PPE manufacturers have attempted to address the needs of female firefighters by offering “female-sized” turnout gear. However, studies show that female firefighters are generally unaware of such options or are not offered the opportunity within their departments to select these types of gender-specific gear.

CHANGING THE NARRATIVE IS CRUCIAL

Recent training programs in the Eastern and Central African region revealed a noticeable lack of female first responders. This disparity could stem from various factors, including unconscious bias in selection processes or the absence of explicit calls for inclusivity in nominations. Gender parity in CBRN and first response roles is not about disadvantaging men; it’s about achieving equality and leveraging diverse skills and perspectives. Response scenarios re-

quire not just physical strength but also empathy and strategic thinking – attributes not limited to any gender.

The EU CBRN CoE Initiative has an opportunity to inspire change in how CBRN issues are viewed and addressed. Projects such as [106](#) - CBRN Table top and field Exercises, Simulations, Training (TEST) to mitigate risks can play a pivotal role in shifting this narrative. The project may not necessarily address all the concerns faced by female first responders, but by ensuring balance during the training and including scenarios that are likely to be faced by women, can create rich training modules that can be replicated elsewhere.

As an OSA expert for the last 5 years and having organised several meetings and workshops in the Eastern and Central African region, one notable thing is the low participation of women in general. Project implementers, OSA or other CoE partners play a very small role in identifying participants for workshops and meetings as this remains the prerogative of partner countries. To achieve the objectives and

purposes of a training, project, meeting, little attention is paid to gender disparity. It is important to point out that this is not unique to the CoE Initiative.

One notable example where the target group was all women was in [Project 66](#): MEDISAFE – Combating falsified medicines in Eastern and Central Africa whereby women from Civil Society Organisations were trained on identification of falsified or sub-standard medications. The decision to train women only stems from the fact that in many cases, they are primarily the caregivers in homes, and therefore take children to health care facilities and purchase medications from pharmacies.

NOT MERELY AN ASPIRATION BUT A COMMITMENT

It is important to recognize that gender parity is not merely an aspiration but a commitment. As stated in the Universal Declaration of Human Rights, there should be no distinction or discrimination based on gender. Achieving this parity benefits everyone, breaking down barriers that limit both women and men in their professional and personal lives. The path forward requires conscious effort from all stakeholders. From designing gender-appropriate PPE to ensuring inclusive nomination processes for training and leadership roles, every step towards equality in CBRN and first response fields is a step towards a safer, more equitable world for all.

³ A critical review of female firefighter protective clothing and equipment workplace challenges, Research Journal of Textile and Apparel, 2019. Meredith McQuerry, Cassandra Kwon, Heather Johnson.

ARTICLE | Gunay Rzayeva, Project Manager of CoE Project 100

The Crucial Role of Women in CBRN Project Management: Challenges, Impact, and Opportunities

Involving women in CBRN security and project management is not just about fairness—it's a strategic advantage



Gunay Rzayeva

Project Manager of CoE Project 100

The CBRN (Chemical, Biological, Radiological, and Nuclear) field is one of the most challenging and dynamic areas in international relations and public safety. It requires robust leadership, strategic thinking, and technical expertise to navigate the complexities of global politics, security, and cooperation.

As the Project Team Lead for the EU CBRN CoE [Project 100](#) on Strengthening Frontline Biosafety and Biosecurity Measures in the South East and Eastern European Region, I have witnessed firsthand the vital contributions

women bring to this field. My journey in the CBRN sector, particularly in biothreat prevention, has been marked by resilience, strategic acumen, and a deep commitment to international peace and security.

Today, I have the privilege of leading a multidisciplinary and multicultural team spanning over ten countries, including Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Serbia, Montenegro, and Ukraine. Together, we navigate the complex political and social landscapes of these regions, united

by a shared belief in making the world a safer place to live and work.

A JOURNEY IN BIOLOGICAL THREAT REDUCTION

However, my journey in the CBRN field began much earlier with the Cooperative Threat Reduction (CTR) Biological Threat Reduction Program (BTRP), funded by the Defense Threat Reduction Agency (DTRA) of the U.S. Department of Defense, which aims to counter biothreats globally.

“Advocacy should focus on creating more opportunities in STEM and ensuring access to resources and support: flexible work arrangements, professional development, and mentorship programs tailored for women.”

Over the past decade, I have led numerous high-stakes projects within the CBRN CTR framework, both as a government advisor and in implementation roles with various U.S. government contractors, including Booz Allen Hamilton, Black and Veatch, Culmen International, and Science and Technology Centre in Ukraine (STCU). I successfully managed multi-million-dollar projects, such as the U.S. DoD's NATO Partnership for Peace Program, DTRA's Biological Threat Reduction Program (BTRP) Implementation in Azerbaijan, and the Azerbaijan Central Reference Laboratory (CRL) Remediation Project. In these roles, I led cross-functional teams, focusing not just on project management but also on forging strong partnerships and ensuring compliance with local and international standards and best practices for countering biothreats.

My contributions have been recognized with several awards, including the Franklin Award and the Meritorious Honor Award from the U.S. Department of State.

One of my key achievements was co-developing the “Sustainability and Transition Strategy” for the Cooperative Biological Engagement Program in Azerbaijan. This strategy, adopted by both DTRA and the Azerbaijani government, serves as the official guide for integrating BTRP-delivered systems into the national framework, marking a lasting change in Azerbaijan's approach to biothreats. My ability to navigate complex governmental relations led to the project's extension and increased funding, further cementing its long-term impact. This success underscored the importance of diverse perspectives and highlighted the value of women's contributions to CBRN security.

While I have achieved much, the journey has not been without its challenges. Working in the intricate realms of science, military, and politics, I have faced both gender and age discrimination. In the scientific community, it often requires years of dedication to be seen as an equal, and in the male-dominated political sphere, I've had to consistently prove my worth to be recognized as an equal partner.

Managing foreign government-funded projects presented additional hurdles. There were times when projects were paused due to political tensions between governments, requiring careful navigation and diplomacy. These challenges were further intensified by regional instability, including the COVID-19 pandemic, and the war in Ukraine. Each of these factors added layers of complexity to project management, demanding a high level of adaptability and resilience.

PROMOTING GENDER EQUALITY IN EDUCATION AND THE WORKPLACE

Diverse teams, including women, are essential for the effectiveness and innovation of CBRN security measures. Women's unique problem-solving skills and collaborative approaches enhance team dynamics and lead to more comprehensive strategies for addressing CBRN threats. Their ability to manage complex interpersonal relationships also supports international cooperation, which is crucial in a field that often requires cross-border collaboration.

To young women and girls considering a CBRN career, I advise you not to be discouraged by challenges. This field needs your perspective, skills, and determination. Pursue education in STEM fields, seek internships or volunteer opportunities, and value networking and mentorship.

To support more women in CBRN, policies promoting gender equality in education and the workplace are essential. Advocacy should focus on creating more opportunities in STEM and ensuring access to resources and support. This includes flexible work arrangements, professional development, and mentorship programs tailored for women.

In conclusion, involving women in CBRN security and project management is not just about fairness—it's a strategic advantage. By addressing the challenges women face and actively promoting their participation, we can build a more resilient and effective approach to global security. Supporting and encouraging women in this field ensures their voices are heard and their contributions recognized. Our collective journey, shaped by challenges and triumphs, stands as a testament to the significant impact women can make in CBRN security.

Enhancing bio threat monitoring and response on borders

As part of its mission to advance CBRN risk mitigation and enhance security and safety worldwide, the European Union launched the EU CBRN CoE Project 100 to support the strengthening of front line biosafety and biosecurity measures in the South East and Eastern European region.

Established in the context of the [EU CBRN CoE Initiative](#), the three-year project (May 2023 – April 2026) will aim to enhance bio threat monitoring and response on state borders and customs clearance zones within and across ten partner countries, namely: Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, North Macedonia, Moldova, Montenegro, Serbia, Ukraine. All participating countries are part of the [EU CBRN CoE Regional Secretariat for South East and Eastern Europe](#).

Funded by the European Union, the project will be implemented by the Science and Technology Center in Ukraine ([STCU](#)). The STCU supports the promotion of a culture of safety and security, and responsible science by advancing civilian science and technology partnerships addressing CBRN risks.

ARTICLE | Marina Li (Uzbekistan), Expert in CoE Project PRECA

Exercise on public health crises during mass gatherings

My journey through EU CBRN CoE Project 87 has not only honed my technical skills but has also provided me with a platform to champion the role of women in CBRN fields



Marina Li

Doctor of Medical Sciences, DSc

Associate Professor of the Department of Hygiene and Radiation Safety, Head of the Scientific Research Radiological Laboratory at the Center for the Development of Professional Qualifications of Medical Workers, Republic of Uzbekistan

In the modern world, the role of women encompasses all aspects of the economy. Numerous significant contributions across different domains of science, including physics, chemistry, biology, medicine, and the humanities are made by women. Even in traditionally male-dominated areas like CBRN safety and security, the role of women is increasingly prominent.

From 2022 to present, I have participated in the EU CBRN CoE [Project 87](#) titled “Preparedness and Response for Mass Gatherings and Other Health Threats in Central Asia”. Developed within the framework of the EU CBRN Centres of Excellence Initiative, the EU-funded project represents

a coordinated effort among six Central Asian countries to reinforce public health preparedness and response in the context of mass gatherings.

Through the project lifecycle, I have undertaken different roles: project national expert, project national task lead, and finally, proj-

ect regional coordinator on water safety. Within the framework of the project, I have been trained as a national trainer on water safety and delivered comprehensive trainings to over 100 experts in Uzbekistan. These trainings, designed to enhance preparedness and response to both natural and malicious threats and risks to pub-

By challenging myself and stepping into leadership positions (..) I have demonstrated that women can and should be at the forefront of CBRN expertise.

lic health that may occur during mass gathering events, enabled me not only to develop a deeper understanding of the critical importance of continuous training in maintaining public health safety and security, but also helped me to grow as a mentor.

**CROSS-COUNTRY
TABLETOP EXERCISE:
TESTING REGIONAL
CAPABILITIES**

Another significant intervention within the framework of EU CBRN CoE Project 87 was a tabletop exercise conducted on May 21-22, 2024. This tabletop exercise tested the capabilities built through the project’s trainings in water safety, food safety, chemical exposure, and command, control, and communication. Conducted at the national level, tabletop exercises took place simultaneously in all project’s partner countries, including Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Tajikistan, and Uzbekistan, and involved cross-border communications.

The exercise scenario involved a simulated mass gathering, with new information (injects) released to participants to test their preparedness activities. The exercise

scenario included public health issues related to water, food, and chemical exposure, and I enjoyed a lot facilitating and coordinating the work related to water safety during the exercise in Uzbekistan. This experience has been invaluable in my professional development and has helped me gain new perspectives on preparedness and response planning.

**SEEK OUT MENTORS,
BUILD YOUR NETWORK,
AND DON'T BE AFRAID**

My journey through EU CBRN CoE Project 87 has not only honed my technical skills but has also provided me with a platform to champion the role of women in CBRN fields. By challenging myself and stepping into leadership positions, and taking on significant responsibilities, I have demonstrated that women can and should be at the forefront of CBRN expertise. This experience has reinforced my belief in the power of mentorship and the importance of empowering the next generation of female scientists and leaders.

To all the young women aspiring to make their mark in CBRN and related fields, I

want to say: embrace every opportunity to learn and grow. Seek out mentors, build your network, and don't be afraid to take on leadership roles. Your contributions are invaluable, and your unique perspectives can drive innovation and progress. Remember that resilience is key; every challenge is an opportunity to prove your strength and capability. Together, we can create a future where gender is no barrier to achieving greatness in science, technology, as well as safety and security.

My involvement in EU CBRN CoE Project 87 has been a testament to the impact women can have when they are given the chance to lead and innovate. It is my hope that more women not only in Uzbekistan, but in Central Asia and beyond will be inspired to pursue careers in CBRN fields, bringing their talents and insights to bear on the pressing issues of our time. As we continue to advance in these areas, let us commit to fostering an inclusive environment where everyone, regardless of gender, has the opportunity to contribute to and benefit from scientific progress.

“By challenging myself and stepping into leadership positions (..) I have demonstrated that women can and should be at the forefront of CBRN expertise.”

ARTICLE | Saule Sharipova (Kazakhstan), Expert in CoE Project PRECA

Exercise on public health crises during mass gatherings

Reflecting on my journey, I see how complex, multifaceted, and fulfilling the role of a public health professional is



Dr. Saule Sharipova

Doctor of Medical Sciences, DBA

Director of the Republican State Unitary Enterprise "Center of Expertise of the Sanitary and Epidemiological Surveillance" of the Medical Center of the Presidential Administration, Republic of Kazakhstan

My journey into the medical profession began with a deep belief that came along with my admission to the medical university - I knew I was destined to become a doctor. In medicine, being devoted to the mission of serving people is crucial, as this field demands not only vast knowledge but also immense emotional resilience.

I began my career as an Epidemiologist in air transport before serving as the Department Head of the Sanitary and Epidemiological Surveillance Station for over a decade. I later became the Deputy Head of the Department of Sanitary and Epidemiological Surveillance in the Pavlodar region of Kazakhstan and served in this ca-

capacity for over eight years. Then my experience expanded nationally, including roles as the Deputy Head of the Republican Sanitary and Epidemiological Surveillance Service and the National Center of Expertise of the Sanitary and Epidemiological Surveillance Committee of the Ministry of Health of the Republic of Kazakhstan, where I gained invaluable experience through collaboration with regional entities and international organizations, but also engaged into teaching and mentoring young professionals.

Reflecting on my journey, I see how complex, multifaceted, and fulfilling the role of a public health professional is. From overseeing

preventive sanitary and epidemiological measures during land allocation, review of technological processes of production, to commissioning facilities, my work has impacted many now-prominent enterprises in Kazakhstan that export their products internationally.

Throughout my practical career, I've encountered a vast array of challenges - investigating outbreaks of acute infectious diseases, managing food poisoning cases, and organizing surveillance at industrial sites to prevent radioactive and chemical contamination. The diverse experiences, from COVID-19 pandemic response to laboratory data analysis, are too many to be listed.



Our team [at KAZTOXBASE Centre] is comprised of predominantly women – doctors, microbiologists, toxicologists, chemists – many of whom are not only experts in their fields but also remarkable, inspiring mentors for young professionals.



A SIGNIFICANT PROJECT MILESTONE

However, I would like to note one particular project that I have contributed to, EU CBRN CoE [Project 87](#) - “Preparedness and Response for Mass Gatherings and Other Health Threats in Central Asia” that brings together experts from various fields across different countries of Central Asia, with many of whom I have developed professional bonds. It is worth

mentioning that a significant project milestone in Kazakhstan was the establishment of “KAZTOXBASE” - information center for chemical poisoning at our Center for Sanitary and Epidemiological Expertise within the Medical Center of the Administration of the President of the Republic of Kazakhstan. Our team is comprised of predominantly women - doctors, microbiologists, toxicologists, chemists - many of whom

are not only experts in their fields but also remarkable, inspiring mentors for young professionals.

It feels natural that many women choose careers with social impact. It is because women have an inherent understanding of the value and yet fragility of human life. We as women know how precious it is to nurture and protect life, and how vital it is to safeguard it for future generations.

‘KazToxBase’: a new center to support healthcare

Named ‘KazToxBase’, the Poisons Information Center was inaugurated, on 6 June 2024, at the Center for Sanitary and Epidemiological Expertise of the Medical Center, under the Administration of the President of Kazakhstan.

The establishment of this new center is expected to significantly reduce the burden on hospitals by improving the management of chemical poisoning cases and providing critical support and training to healthcare professionals.

Ms. Saul Sharipova, Director of the Center for Sanitary and Epidemiological Expertise, stated that the new center will operate based on TOXBASE, the clinical toxicology database of the UK National Poisons Information Service.

“The center will provide consultative assistance to patients and medical professionals on the prevention, diagnosis, and treatment of chemical poisonings, following the recommendations of the World Health Organization. It will also enhance the qualifications of medical workers in Kazakhstan by training them in best international practices,” said Ms. Sharipova.

The opening ceremony featured representatives from the ISTC Governing Board. The ribbon was cut by Ms. Lyudmila Burbekova, Medical Center under the Administration of the President of Kazakhstan, and Ms. Maria Rosa Sabbatelli, European Commission’s Foreign Policy Instruments Service.

ARTICLE | Syeda Shazia Adeel (Pakistan), Expert in CoE Project PRECA

Establishing a Poison Information Centre in Pakistan: Challenges and Achievements

The successful establishment of the PIC represents a significant achievement in public health and women's empowerment in Pakistan



Syeda Shazia Adeel

Principal Scientific Officer
Head of Quality Assurance Department
National Institute of Health (NIH) Pakistan
M.Phil Microbiology, Ph.D Microbiology Scholar

Pakistan's commitment to global chemical safety and public health efforts is reflected in its participation in international agreements and projects. However, the absence of a centralized Poison Information Centre (PIC) undermined these efforts. A PIC is crucial for providing immediate information and assistance in poisoning cases, which can prevent fatalities and reduce the burden on healthcare systems.

Under the EU CBRN PRECA [Project 87](#), Pakistan received support to enhance chemical safety through four key areas: command and control systems, food safety, water safety, and chemical safe-

ty in mass gatherings. One of the project's mandates was to establish a PIC in Pakistan, a task that fell to the chemical safety group led by me. This responsibility came with significant challenges, compounded by my position as a woman in a traditionally male-dominated field.

SOCIETAL AND INSTITUTIONAL BARRIERS

As a woman, I faced additional scrutiny and resistance. Societal expectations often dictate that women prioritize domestic responsibilities over professional ambitions, leading to skepticism about their ability to lead such

critical projects. Additionally, institutional resistance, particularly in male-dominated leadership hinders the progress.

Despite these challenges, support from some senior colleagues allowed me to overcome initial hurdles. Their cooperation and mentorship played a crucial role in navigating the complex landscape and securing the necessary approvals and resources.

LOGISTICAL AND RESOURCE CONSTRAINTS

The initial challenge faced was selecting an appropriate location for the PIC at the institute. I, alongside Pakistan's National

Focal Point (NFP) for the EU CBRN CoE, aimed to find a location that could operate within Pakistan's limited resources. However, the most significant barrier was convincing the relevant head, who was engaged in testing various chemicals and drugs. This task proved exceptionally difficult for me due to both my junior rank and my gender. Despite the primary goal of establishing a comprehensive PIC which would prove immensely useful as poisons could be tested and information could be conveyed to the medics and public, I faced rejection. Even intervention from the CEO was unable to persuade the head.

Professional isolation is another critical issue. Women in Pakistan often have fewer opportunities to network and build professional relationships, which are crucial for the success of such initiatives. Following this setback, I approached various donors for assistance. The donors, however, were unwilling to help citing mistrust for country and its use of resources and capital and was further hindered by my lack of connections with high value donors. During this period, I experienced significant anxiety but remained committed to achieving the KPIs set for the

country's chemical safety group. Through discussions with the NFP and supportive colleagues, I decided to narrow the scope to just a PIC.

Once again, the issue of location arose. Fortunately, with the CEO's support, I was able to secure a room for the PIC in a central location. After resolving the issue of location, I encountered another significant obstacle: staffing the PIC. This challenge was particularly daunting as a woman trying to establish myself in a male-dominated field. However, after great effort, the issue was resolved, and a competent medical doctor was assigned the task of handling the advisory portion in the PIC.

Despite this progress, I still had a substantial workload. I had to prepare all the necessary documentation for the PIC myself, including Standard Operating Procedures, call log forms, list of locally available antidotes, pamphlets, etc. Despite the backing of a UK-based database "ToxBase" through the PRECA project, the task required meticulous attention to detail and a deep understanding of the subject matter. As a woman in this field, I had to demonstrate exceptional competence and dedication to ensure the success of the PIC, overcoming numerous challenges to achieve set goals.

ACHIEVEMENTS AND ONGOING CHALLENGES

Despite formidable obstacles, my team and I successfully established a PIC at the National Institute of Health (NIH), marking a significant milestone in Pakistan's efforts to enhance chemical safety and public health. The PIC now provides essential services, addressing poisoning incidents promptly and effectively. However, maintaining the PIC presents ongoing challenges. Ensuring continuous funding, updating equipment, and providing ongoing staff training are critical for the center's sustainability.

The journey to establish a Poison Information Center at NIH in Pakistan, led by a woman, highlights the broader challenges faced by women in the professional and healthcare sectors. Societal expectations, institutional resistance, logistical hurdles, and general systemic flaws all contributing to a complex and often discouraging environment. Despite these challenges, the successful establishment of the PIC represents a significant achievement in public health and women's empowerment in Pakistan. Addressing these issues requires a multifaceted approach, including policy changes, societal support, and increased funding and resources for healthcare initiatives led by women.

Dr. Shazia Adeel and her team successfully established a PIC at the National Institute of Health, marking a significant milestone in Pakistan's efforts to enhance chemical safety and public health.

ARTICLE | Raquel Duarte-Davidson, Expert in CoE Project PRECA

Tackling Barriers for Women in CBRN Careers

Positive outcomes inspire me to continue to engage in CBRN and hope that will also inspire young women to pursue a career with the knowledge that they will be able to succeed



Raquel Duarte-Davidson

BSc, MSc, PhD
 Honorary Professor, Environment and Public Health, Exeter University
 School of Medicine and Health
 Head, World Health Organization (WHO) Collaborating Centre for the
 Public Health Management of Chemical Exposures

Traditionally there has been a higher percentage of men working in the CBRN field relative to women. This has created a barrier that has made it less attractive for women to engage in this area of work, partly because these roles are viewed as requiring a strong military training which often women don't have. However, the skills required to engage in CBRN safety and security are wide ranging including medical and toxicological training, laboratory analysis, behavioral science and risk communicators, just to mention

a few examples. I was inspired to become involved in this area of work by a female colleague who was working internationally in this area and has been a champion in advocating the need to build capabilities and capacity in countries across the world to ensure we are prepared to respond to unusual and unexpected events.

FIRST EXPERIENCES IN THE CBRN WORLD

My first experience in the CBRN world was 20 years ago when

we succeeded in getting funding from the EU Health Programme to develop new methodologies for alerting, notification and surveillance of health threats to help EU member states deal with CBRN incidents (examples of projects include ASHT and ECHEMNET). My initial involvement was to contribute technically to these projects working with public health institutes and universities across the EU.

5 key drivers to advance women involvement in CBRN

- Being enthusiastic and self-driven
- Demonstrating technical competence
- Having female role models that have CBRN leadership roles
- Institutional support at high levels of organisations
- International cooperation and networks



From left to right: Raquel Duarte-Davidson, Syeda Shazia Adeel, Jackie Gibney and Rani Faryal Faheem.

With time I started leading these projects contributing to a variety of leadership positions, including projects funded by the European Union's CBRN Risk Mitigation Centres of Excellence (EU CBRN CoE). The aims of more recent projects have included building expertise and capacity to plan, prepare, respond and recover from CBRN incidents in different regions of the world. Having the opportunity to be involved in projects across the world has exposed me to working with people from a rich variety of cultures and to learn from each other's knowledge, experience and differing approaches. The challenges faced by women in different regions of the world differ but a common approach that helps break barriers is demonstrating technical competence as well as being enthusiastic and self-driven. Having female role models that have CBRN leadership roles is very important to demonstrate that we can succeed in areas of expertise that have historically been considered outside our reach. Institutional support at high levels of organisations is also important to encourage young female sci-

entists to develop their careers in areas that they may not otherwise consider. Similarly, international cooperation and networks play an important role in advancing women's careers in CBRN, as being involved in these activities highlight the fact that there are many women interested in developing their specialism in this area of work, enabling them to exchange ideas and learn from each other as well as meeting others with similar interests from different parts of their region and the world.

EU CBRN COE PROJECT 87 PRECA

By building up expertise through being involved in different projects it is possible to progressively take on more senior roles, as I've been able to do over the years, from being involved in the science and research to being a key expert for collaborative multi-agency and multi-partner projects to leading such projects.

As an example, I have been the Chemicals Expert for EU CBRN

CoE [Project 87](#) PRECA – Preparedness and Response to Mass Gatherings and other Health Threats in Central Asia, which has helped strengthen and empower Mass Gathering health preparedness and response in Central Asia; highlights of this project have included capacity building and training on how to be prepared for a mass gathering event, networking and participating in tabletop exercises and supporting countries to set up poisons information centres in Kazakhstan and Pakistan, as well as helping other countries to strengthen the clinical management advice and response capabilities (e.g. Kyrgyzstan, Uzbekistan, Mongolia, Tajikistan) during such mass gatherings. These types of positive outcomes inspire me to continue to engage in CBRN activities and I hope that I will also inspire young women to pursue a career in CBRN with the knowledge that they will be able to succeed and contribute to achieving a better gender balance.

ARTICLE | Joelle Khadra, International CBRN Expert involved in CoE projects

Empowering Women in CBRN: My Journey of Leadership and Advocacy through EU CBRN CoE Projects

Being a female professional in a traditionally male-dominated field comes with its own unique set of challenges—and rewards



Ms. Joelle Khadra

International CBRN expert

As a “CBRN and Emergency Management Instructor” with extensive experience in the Middle East, I have had the privilege of leading and participating in key EU CBRN Centres of Excellence (CoE) projects, including [Project 34](#), [Project 54](#) in Middle East, [Project 82](#) in Gulf Cooperation Council Countries, [Project 88](#) in South East and Eastern Europe, and [Project 94](#). Through these projects, I have facilitated critical capacity-building efforts, ensuring that our region is better equipped to manage CBRN incidents. However, being a female professional in a traditionally male-dominated field comes with its own unique set of challenges—and rewards.

WOMEN SUPPORTING WOMEN: TESTIMONIALS OF IMPACT

Throughout my work in CBRN, I have encountered many women who have expressed their appreciation for seeing a female leader in the field. In a region where women are often underrepresented in emergency response and technical roles, my presence has not only broken barriers but also inspired others to pursue roles in CBRN preparedness.

During a training session I met many women where they approached me at the end of the

session and said, “seeing a woman lead this training, in a field dominated by men, makes me feel empowered. You have shown me that it is possible for women to take on leadership roles in CBRN”. Their words resonated deeply, as I understand the struggles women face when entering fields that are traditionally considered male domains. They were not alone in this sentiment. Many female participants across the workshops I have facilitated have shared similar thoughts, often expressing relief and gratitude for having a female mentor they could relate to and learn from.



One of the challenges I have continuously addressed is the lack of female participation in first responder teams, especially when it comes to dealing with CBRN threats.



In Kuwait, during the National Training on Medical Response to Radiological Emergencies, 24 – 27 June 2024, several female attendees expressed how my involvement created a more inclusive and open environment, particularly when it came to discussing sensitive topics like decontamination procedures. For women, disrobing and undergoing decontamination in front of strangers can be especially challenging due to cultural norms and religious beliefs. One participant shared: “Having you here, understanding what we go through, made it easier for me to ask questions and get the clarity I needed. It is reassuring to see a woman in charge who understands our concerns.”

These testimonials reaffirm the importance of female representation in CBRN. By simply being present and leading these workshops, I have been able to foster a sense of community and empowerment among female professionals, many of whom have felt isolated or hesitant to pursue leadership roles in this field.

CHALLENGES IN A MALE-DOMINATED FIELD

Despite the positive impact of my work, the journey has not been without its challenges. Working in a male-dominated field like CBRN often means confronting stereotypes and biases. There have been times when my presence as a woman in a leadership role was questioned or met with skepticism.

Overcoming these biases has required resilience, confidence, and unwavering dedication to my work. Through my expertise and ability to deliver high-quality, impactful training, I have earned the respect of my peers. However, it is clear that female professionals in the CBRN field must work harder to prove themselves, particularly in environments where traditional gender roles are deeply ingrained.

One of the challenges I have continuously addressed is the lack of female participation in first responder teams, especially when it comes to dealing with CBRN threats. Women bring unique perspectives and skills to these teams, particularly in mass casualty management, where cultural sensitivity and empathy are crucial for managing vul-

nerable populations. It is essential to continue advocating for gender inclusion in this field to ensure that women are not only present but actively engaged in leadership roles.

LOOKING FORWARD: EMPOWERING MORE WOMEN IN CBRN

The testimonials and feedback I have received from the women I have trained and worked alongside remind me of the importance of representation and mentorship. It is not just about my role as a CBRN instructor but about opening doors for other women, showing them that they too can thrive in this field. I am proud to have been part of this change, contributing to the EU CBRN CoE projects that emphasize inclusivity and diversity.

As we move forward, my mission remains clear: to empower more women in CBRN, provide leadership opportunities, and ensure that gender inclusion is a key element in all CBRN preparedness efforts. By fostering a supportive and collaborative environment, we can ensure that women play an integral role in shaping the future of CBRN response.

SPREADING KNOWLEDGE AND BUILDING CAPACITY THROUGH EU COLLABORATION

Thanks to the continued support and collaboration with the EU CBRN CoE, we have successfully disseminated CBRN knowledge across multiple regions, ensuring that first responders, healthcare professionals, and government

officials are better prepared to respond to CBRN emergencies. Working with the EU CoE has greatly enhanced our ability to deliver impactful training, bringing a sense of professional fulfillment and achievement.

Knowing that the knowledge we are imparting contributes directly to protecting lives and strengthening communities is immensely rewarding. This collaboration has fostered an environment of expertise, growth, and capacity-building, enabling us to reach a wider audience and ensure that preparedness becomes an integral part of national and regional response frameworks. The professional impact of this partnership has been invaluable, as we continue to develop more resilient and secure systems for the future.



I am proud to have been part of this change, contributing to the EU CBRN CoE projects that emphasize inclusivity and diversity.



ARTICLE | Dr. Hanan Aldousari, Head of Scientific and Technology Division at the Radiation Protection Department of the Ministry of Health in Kuwait.

Women in Emergency Management: My Journey and Lessons Learned

My work is not just about enhancing skills; it's about paving the way for future generations of women in emergency management.



Dr. Hanan Aldousari

Head of Scientific and Technology Division at the Radiation Protection Department of the Ministry of Health in Kuwait, and Chief Nuclear Medicine Specialist

In the realm of Chemical, Biological, Radiological, and Nuclear (CBRN) response, the contributions of women are increasingly vital. As a woman working in the field, I have always felt a profound sense of responsibility to contribute meaningfully to this critical area for security. As Head of Scientific and Technology Division at the Radiation Protection Department of the Ministry of Health in Kuwait, and Chief Nuclear Medicine Specialist, I want to share my journey and the lessons I have learned along the way, particularly regarding the empowerment of women in emergency management.

My involvement in the EU CBRN CoE [Project 82](#), especially in the medical capacity-building training for emergency response to CBRN incidents, has been a transformative experience for me. From the outset, I realised that the success of such training went beyond simply conducting a course; it lay in the application of the knowledge we gained. Inspired by my experiences, I took the initiative to organise similar training sessions to share the insights I learned, both scientifically and administratively. This has enabled me to implement effective protocols and best practices in my community.

THE CRITICAL NEED FOR WOMEN REPRESENTATION IN CBRN EMERGENCY MANAGEMENT

Being a woman in this field, I understand the critical need for representation in emergency committees. Our input is especially vital during crises, where diverse perspectives can lead to more effective solutions. I strive to ensure that women's voices are heard and valued, particularly in environments where cultural norms may impose additional barriers.

One area I have been particularly passionate about is addressing the unique needs of women during emergencies. (...) By advocating for tailored solutions, I aim to create a more inclusive environment within CBRN response efforts.

One area I have been particularly passionate about is addressing the unique needs of women during emergencies. For example, I have focused on the challenges faced by women who wear hijabs, especially concerning protective clothing and decontamination processes. By advocating for tailored solutions, I aim to create a more inclusive environment within CBRN response efforts.

Moreover, I have been fortunate to inspire my female colleagues to engage in emergency response teams and training programs. By sharing my experiences and demonstrating the value of our

contributions, I hope to motivate other women to pursue careers in this essential field. My commitment to this work has deepened, especially after Kuwait was selected as the first country to host local training resulting from the Project 82.

Through my journey, I have come to understand the immense impact women can have in CBRN operations. I believe that fostering an environment where our contributions are recognized and valued is essential for building effective response teams. My work is not just about enhancing my skills; it's about paving the way for

future generations of women in emergency management.

In conclusion, my story is just one of many that illustrate the vital roles women play in CBRN response. By addressing the specific challenges we face, promoting inclusivity, and inspiring future leaders, I hope to highlight the significant impact women can make in ensuring community safety and resilience. As we continue to support initiatives like Project 82, I encourage all women in the field to share their voices and experiences. Together, we can shape a brighter future for emergency response in the GCC region and beyond.

By addressing the specific challenges we face, promoting inclusivity, and inspiring future leaders, I hope to highlight the significant impact women can make in ensuring community safety and resilience.



QUOTES | CBRN experts across Central Asia



Zhanat Dzhusieva Kazakhstan

Director of the Department of Strategic Development and International Cooperation of the Republican State Enterprise on the Right of Economic Management “National Center of Expertise” of the Committee for Sanitary and Epidemiological Control of the Ministry of Health of the Republic of Kazakhstan

“By staying vigilant and following best practices, we can protect ourselves and the world around us from potential threats.

CBRN is not just an acronym, but a reminder of our responsibility for safety and well-being.”



Saule Sharipova Kazakhstan

Director of the Republican State Unitary Enterprise “Center of Expertise of the Sanitary and Epidemiological Surveillance” of the Medical Center of the Presidential Administration, Republic of Kazakhstan
Doctor of Medical Sciences, DBA

“It feels natural that many women choose careers with social impact. It is because women have an inherent understanding of the value and yet fragility of human life.”



Nazgul Abamuslimova Kyrgyz Republic

Head of the Food Safety Supervision Section, Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic

“Women bring unique perspectives to CBRN security, fostering collaborative solutions for complex challenges.”



Gulnara Saryeva **Kyrgyz Republic**

General Hygiene Doctor, Department of Disease Prevention and State Sanitary and Epidemiological Surveillance of the Ministry of Health of the Kyrgyz Republic

"Diverse teams, including women, contribute comprehensively and holistically to mitigating CBRN risks."



Elina Yudakova **Kyrgyz Republic**

Lead Specialist
State Regulation Department on Environmental Protection and Ecological Safety of the Ministry of Natural Resources, Ecology and Technical Supervision

"Being part of the EU CBRN CoE Initiative, I have had a valuable opportunity to enhance my competencies and knowledge and was able to exchange with like-minded professionals from different regions and countries. This experience is not only immensely rewarding but also opened the door to numerous professional opportunities and equipped me with the skills needed to make a meaningful contribution to CBRN risk mitigation in my country."



Syeda Shazia Adeel **Pakistan**

Principal Scientific Officer/HOD
Quality Assurance Department
National Institute of Health, Islamabad, Pakistan

"As a female CBRN expert in chemical safety, this journey is one of constant learning and growth. Dedication, patience and commitment are all pivotal in tackling the challenges this field poses. Experience and capability in this field are crucial in manoeuvring the many obstacles in chemical and poison incidents and accidents. Moreover, the ability to contribute to public safety is a source of pride and honour."



Nosheen Ashraf Pakistan

Scientific Officer/Epidemiologist
Field Epidemiology & Disease Surveillance Division
National Institute of Health, Islamabad, Pakistan

“As a CBRN scientist, I feel a deep sense of responsibility and vigilance. My work involves meticulous analysis and precaution to safeguard public health and safety.”



Zurva Ashraf Pakistan

Senior Scientific Officer/Microbiologist
Public Health Laboratories Division
National Institute of Health, Islamabad, Pakistan

“Women have made substantial advancements in every field of life and played a key role in inspiring the future generation.”

Being a female scientist in CBRN is exciting and incredibly rewarding to be part of this critical field of science to promote a culture of safety and security.”



Nazish Badar Pakistan

Virologist
National Influenza Laboratory Surveillance Project
Public Health Laboratories Division
National Institute of Health, Islamabad, Pakistan

“As a CBRN female scientist, I have a deep sense of responsibility and determination to protect our region from unseen threats. Every day in the laboratory brings a mix of fear and hope, knowing the potential consequences of detection and failure. It’s challenging but empowering to contribute to global safety in a field where women are still underrepresented.”



Rani Faryal Faheem Tahir Pakistan

Tenured Professor of Microbiology
Quaid-i-Azam University, Islamabad, Pakistan

"I am proud to be part of a global network of likeminded women who are redefining what it means to be a leader in science, technology, and international security."



Ayesha Zaman Pakistan

Scientific Officer/Microbiologist
Public Health Laboratories Division
National Institute of Health Islamabad Pakistan

"As a female CBRN scientist, I feel a deep sense of purpose in applying my knowledge of CBRN to my workplace and research, contributing to safety and security. I believe that sharing this passion with other female scientists and colleagues will help build a network of security, ensuring a safer world for us and the people we care about."



Nodira Khakimova Tajikistan

Lead Researcher, PhD in Chemistry
Occupation Exposure Control Sector
CBRN Safety and Security Agency under the National Academy of Sciences of the Republic of Tajikistan
Member of Women in Nuclear (WiN) Network of Tajikistan

"The socio-economic development of a nation is closely linked to the advancement of sciences. One of key objectives is thus to promote and encourage the study of sciences among youth, with particular focus on engaging girls. Girls have flexible mindset, creative approach to problem-solving, attention to detail and perseverance, and are set for success in the scientific career."



Manizha Zaitova Tajikistan

Senior Research Officer, Occupation Exposure Control Sector,
CBRN Safety and Security Agency under the National Academy
of Sciences of the Republic of Tajikistan
Member of Women in Nuclear (WiN) Network of Tajikistan

“Women are not mere participants in the scientific processes; women are its driving force, capable of changing the world.”



Zarrina Shoimardonova Tajikistan

Senior Research Officer, Public and International Relations
Department, CBRN Safety and Security Agency under the National
Academy of Sciences of the Republic of Tajikistan
Member of Women in Nuclear (WiN) Network of Tajikistan

“Women have a unique vision, empathy and ability to solve complex problems. Across CBRN fields of work, women are an invaluable force in creating safe and secure world!”



Shoira Shosafarova Tajikistan

PhD, Head of the Occupational Exposure Control Sector, CBRN
Safety and Security Agency under the National Academy of
Sciences of the Republic of Tajikistan
Member of Women in Nuclear (WiN) Network of Tajikistan

“Scientists must pursue goals that benefit humanity, as science holds the key to ensuring a safe and peaceful future for all.”



Elena Malysheva Tajikistan

Senior Researcher, Sector for Monitoring Occupational, Medical, and Public Radiation Exposure, CBRN Safety and Security Agency under the National Academy of Sciences of the Republic of Tajikistan

Member of Women in Nuclear (WiN) Network of Tajikistan

“Women and men make equally significant contributions to the field of science.”



Farzona Mukhidinova Tajikistan

Senior Research Fellow, CBRN Safety and Security Agency under the National Academy of Sciences of the Republic of Tajikistan

Member of Women in Nuclear (WiN) Network of Tajikistan

“Recognizing women’s and men’s expertise equally is crucial for advancing science and research.”



Mehrangez Muminova Tajikistan

Scientific Secretary, CBRN Safety and Security Agency under the National Academy of Sciences of the Republic of Tajikistan

Member of Women in Nuclear (WiN) Network of Tajikistan

“CBRN risk reduction requires responsibility and diligence in science. ”



Marina Li **Uzbekistan**

Doctor of Medical Sciences, DSc Associate Professor of the Department of Hygiene and Radiation Safety, Head of the Scientific Research Radiological Laboratory at the Center for the Development of Professional Qualifications of Medical Workers, Republic of Uzbekistan

“As we continue to advance in CBRN risk reduction, let us commit to fostering an inclusive environment where everyone, regardless of gender, has an opportunity to contribute to and benefit from scientific progress.”



Mukambar Shaislamova **Uzbekistan**

Senior scientific associate at the Republican specialized scientific practical medical center of epidemiology, microbiology, infections and parasitic diseases of the Ministry of Health of the Republic Uzbekistan

“Involving women in CBRN safety and security helps ensure that communities are protected effectively.”



Khalida Mirkasimova **Uzbekistan**

Virologist, Research Institute of Virology, Ministry of Health of the Republic of Uzbekistan


“Women in leadership roles within CBRN areas of work inspire young girls to pursue careers in safety and security.”



Adolat Mirzaeva **Uzbekistan**

Senior scientific associate and parasitologist at the Research Institute of Virology of the Ministry of Health of the Republic Uzbekistan and research associate at the Research institute of Zoology of Academy of Sciences of Uzbekistan

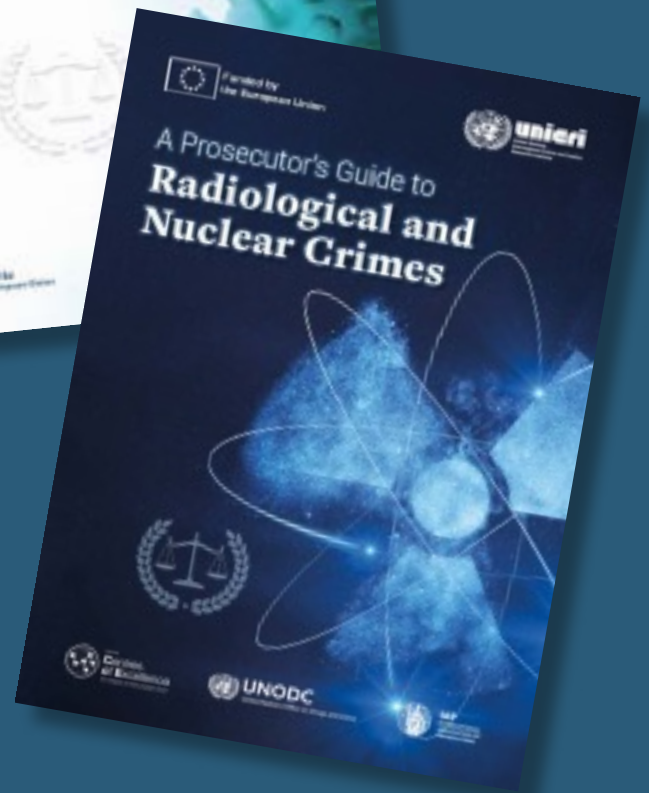
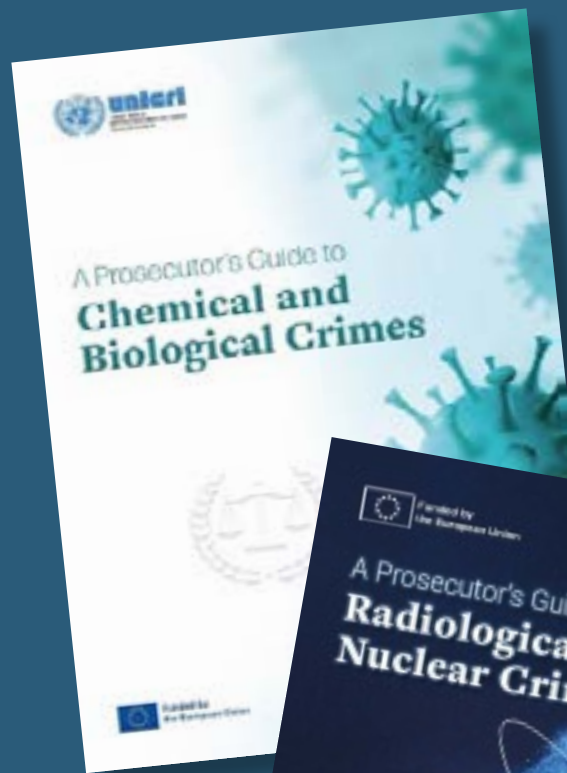
“Empowering women in CBRN fields enhances resilience and innovation.”



PUBLICATIONS

MEET WOMEN EXPERTS CONTRIBUTING TO CBRN PUBLICATIONS SUPPORTED BY THE COE

'Publications' highlights women who contributed to groundbreaking CBRN publications supported by the EU CBRN CoE, including the Prosecutor's Guide to Biological and Chemical Crimes and the Prosecutor's Guide to Radiological and Nuclear Crimes. Featuring articles by prosecutors and CBRN experts, it explores the vital role these women play in shaping legal and technical resources for prosecuting CBRN crimes. Women whose expertise is crucial in advancing justice and enhancing global security.



The Prosecutor's Guide to Chemical and Biological Crimes and the Prosecutor's Guide to Radiological and Nuclear Crimes aim to provide police, prosecutors, and relevant investigative agencies with guidance to support the successful prosecution of incidents involving the deliberate acquisition, stockpiling, production, transfers, or use of biological and chemical substances, and radiological or nuclear agents, respectively.

Funded by the European Union and developed under the coordination of UNICRI, this series of CBRN forensics guidebooks advance guidance on policies, recommendations and best practices to enforce and build up forensics capabilities in the domain.

ARTICLE | Elena Dinu, Retired Senior Prosecutor in Romania

Empowering Forerunners: The Role of Women in Nuclear and Radiological Security

Historically dominated by men, this field has been significantly developed by women scientists who often had to overcome challenges and barriers associated with gender



Elena Dinu

Expert of the Prosecutor's Guide for Radiological and Nuclear Crimes

Nuclear science has essentially influenced the modern world, its applications ranging from energy production to medical treatments and national security. Nevertheless, according to the OECD Nuclear Energy Agency (NEA) (2023), only one in four people in the nuclear workforce is a woman, and only 18.3% hold senior leadership positions. Historically dominated by men, this field has been significantly developed by women scientists who often had to overcome challenges and barriers usually associated with gender stereotyping, (unconscious) bias in a male-dominated work

culture, obstacles in accessing studies or jobs, lesser career opportunities, and conflicting family responsibilities (Dumancic & Enger, 2024).

Perhaps the most famous female scientist in the world, with groundbreaking discoveries concerning radioactivity, Marie Skłodowska Curie was also the first female to receive a Nobel prize and the only laureate who earned it twice in two different categories, Physics and Chemistry (nobelprize.org). However, she was awarded the first prize due to her husband's recognition and support, although initially, only Marie's male re-

search partners' names were submitted for appraisal by the French authorities. Less lucky, Lise Meitner, a physicist who played a crucial role in the discovery of nuclear fission and Chien-Shiung Wu, with significant contributions to particle physics, were denied the same honour.

Times have changed, and more recently, projects and grants such as those supported by the organisation Women In Nuclear (WiN) and the IAEA's Marie Skłodowska-Curie Fellowship and the Lise Meitner Programmes encourage increased female participation in nuclear science (IAEA, 2024).

Only one in four people in the nuclear workforce is a woman, and only 18.3% hold senior leadership positions (OECD NEA, 2023).

Diversity is crucial for fostering innovation and addressing global challenges. Women's unique perspectives and approaches to problem-solving can lead to advances that might not be possible in a homogenous environment. Beyond equality aspects, emboldening more women to join the field can also augment the quality and scope of scientific research.

NUCLEAR FORENSICS: KEY IN COMBATING NUCLEAR AND RADIOACTIVE CRIMES

Despite sharing an inquisitive predisposition, scientists and criminal investigators do not frequently mix. There are notable exceptions, though. Isaac Newton was a polymath who also wore a prosecutor's hat—or, better said, a prosecutor's robe, assiduously pursuing and successfully sending to trial forgers who counterfeited the king's money (Christianson, 2005).

During the Cold War, nuclear forensics emerged as a "national security science" to assess weapons' development (Garvey, 2010). However, over time, the discipline's scope expanded, and it became instrumental in combating crimes concerning nuclear and radioactive materials, such as trafficking, nuclear terrorism and other illicit activities of organised crime groups. Nuclear forensics can assist criminal investigation bodies in determining the truth about a given incident with nuclear or radioactive materials and providing investigative leads. Given the powers and competencies pertaining to their public functions, police officers, prosecutors, and judges play a leading role in criminal investigations concerning nuclear or radioactive materials. To successfully fight such offences, they must remain informed about the means and opportunities offered by nuclear forensics (UNICRI, 2024).

WOMEN'S INCLUSION IN JUSTICE AND SECURITY IS NOT JUST BENEFICIAL BUT ESSENTIAL

Similarly low represented as women in STEM jobs, women in the Law Enforcement sector barely counted between 12 and 29% in Western countries some ten years ago (Statista, 2012). More recent data available only for Europe does not indicate many exceptions to these figures (UNECE, 2019), while a UNODC (2020) report for the ASEAN region draws a similar picture. A reversal of trends concerning the Justice system can be noticed in European countries, where judges and prosecutors tend to have equal gender distribution, but there is mostly a female majority in many EU states (European Parliament, 2017). While in certain countries the female representation stretches to up to 50%, reaching e.g. 34,7% in the USA (UNDP, 2024), far great-

er disparities are observed in a few Asian and African countries where no women judges or prosecutors could be encountered (UNESCWA, 2018).

The contributions of women to science, justice and security are undeniable, yet their full poten-

tial has often been overlooked due to systemic barriers. Women's inclusion and contribution to justice and security is reflected in increased institutional legitimacy through fair representation, better governance standards and improved public services. As society progresses

towards greater gender equality, the inclusion of women is not just beneficial but essential. By continuing to recognise and expand women's inclusion in various sectors, the global society will be better capable of addressing the complex challenges of the future.

The contributions of women to science, justice and security are undeniable, yet their full potential has often been overlooked due to systemic barriers.

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ARTICLE | Shenaz Muzaffer, General Counsel of the International Association of Prosecutors

The prosecution of CBRN crimes: Similarities with 'traditional' crimes and networks

The obligations on prosecutors to comply with internationally-recognised standards are equally applicable to the prosecution of CBRN offences as to any other offence



Shenaz Muzaffer

Expert for the Prosecutor's Guide to Radiological and Nuclear Crimes

Whilst the investigation and prosecution of CBRN offences is a highly technical and specialised field, there are also many overlaps – both in relation to procedure and principles – with more 'traditional' crimes.

As the General Counsel for the International Association of Prosecutors (IAP), which is the only worldwide network of prosecutors, I was honoured to contribute to the recent Prosecutor's Guide to Radiological and Nuclear Crimes by drafting the sub-chapters on human rights and international cooperation and also to arrange, in conjunction with UNI-

CRI, a series of webinars for prosecutors to strengthen capacity in the CBRN field by promoting the guidance.

The obligations on prosecutors to comply with internationally-recognised standards of professional conduct and ethics - including the requirements of independence, impartiality, and obligations to protect and serve the public interest, and to uphold the rights of the accused to a fair trial - are equally applicable to the prosecution of CBRN offences as to any other offence. As criminal activity continues to transcend geographical boundaries, so too must prosecu-

tors work in close collaboration and cooperation with colleagues in other jurisdictions to ensure an effective response to the threats that we all face.

NETWORKS ARE CRUCIAL

Whilst I am not directly involved in the CBRN field myself, many of the best practice initiatives that I have witnessed are of equal applicability to women working in CBRN as to the legal profession. The first is the importance of networks as a mechanism to share professional best practices, as well as to provide support and practical advice.



As criminal activity continues to transcend geographical boundaries, so too must prosecutors work in close collaboration and cooperation with colleagues in other jurisdictions to ensure an effective response to the threats that we all face.



I have recently delivered a keynote speech in a Senior Leadership Development Programme for a law enforcement agency. The programme brings together female leaders and aspiring female leaders who are looking to thrive professionally. It gathers female colleagues from across the whole agency, who meet once a month for a full-day filled with motivational speeches delivered by senior leaders, as well as practical sessions on topics such as interview preparation or networking. This series of events also serve as an opportunity to discuss challenges and solutions in an open, safe environment with other colleagues. This support network encourages women to improve their

skills, to grow in confidence and to recognise their own abilities so that they can progress in their chosen career path.

A CHALLENGE, BUT WORTH THE EFFORT

Having led a large team previously, the importance of gender diversity in the workplace is critical. Women – and men – all bring their own unique experiences, knowledge and skills to a team, which fosters innovation and progression. Diversity of thought can promote a more collaborative and inclusive work culture, which in turn boosts morale and productivity. In addition, having women in leadership or prominent positions

– both in the CBRN field and other spheres – empowers other women and inspires them to thrive in their professional work.

As a criminal lawyer, I am motivated by the desire to ensure that justice is done, and seen to be done, in every case in which I am involved. It is not always easy – the hours are long, the cases can be intellectually and emotionally challenging, and it can be difficult to strike a proper work-life balance. However, as I am sure that those of you who work in the CBRN field will agree, the ability to contribute to building a safer, fairer and more just environment is hugely rewarding and well worth the effort!

ARTICLE | Dr Rebecca Hoile, Head of Operations of Sention Australia

Women in CBRN: From Microscope to Mentor

I never imagined that my passion for molecular biology and microbial diagnostics would take me on a journey into the world of CBRN



Dr Rebecca Hoile

Editor of the Prosecutor's Guide to Chemical and Biological Crimes

After graduating, I started as a microbiologist in a clinical hospital in Sydney, Australia. I had always been fascinated with the power of an infectious organism and I knew that my career would see me working with these pathogens. I never imagined that my passion for molecular biology and microbial diagnostics would take me on a journey into the world of CBRN. Yet at the age of 27, an opportunity came to move into that world within the Forensic Counter Terrorism Unit of the New South Wales Police Force. The world had experienced the largest bioterrorism event in history, the American Anthrax attacks, throwing health and law enforcement agencies into an area they were unfamiliar with.

My role involved the training and development of dedicated response procedures to bioterrorism, leading me to undertake my PhD in Forensic Science, and developing a methodology for the recovery of forensic evidence from biologically contaminated crime scenes. Opportunities grew and I was able to attend training courses and workshops within the Federal Bureau of Investigation (FBI) in the United States, the Australian and Canadian Defence Forces, and INTERPOL, eventually taking up a role within INTERPOL's Counter Terrorism and Emerging Threats Directorate, heading the Bioterrorism Prevention Unit for the last two years of my contract. While a significant honour, it was also one of challenge, working in a very male-dominated area of

counterterrorism and holding the stage with very high-ranking officials during each mission. Yet, I found that the key to acceptance and integration was credibility. Being able to share my operational experience from the FBI, Canada, and Australia and being able to directly utilise my PhD outcomes to assist end users, was critical to establishing myself as a credible expert in this field. Secondly, and even more importantly, was the ability to identify mentors along my career path, those who would support my drive, ambition, dedication, and passion.

Another challenge I faced in those early days was providing evidence for the inclusion of non-law enforcement agencies in the biosafety, biosecurity and CBRN

The commitment of UNICRI and the EU CBRN CoE to identify and collaborate with a new sector within CBRN was what drove the successful development of the first guidebook.

crime scene investigation programs being developed. Historically, investigation and response to a bioterrorist event was seen as a law enforcement role, however, the nature of the crime and use of a biological weapon relies heavily on other agencies, primarily health. What was required was the identification of individuals or agencies that could champion the cause and work with me to expand the awareness and benefit of the inclusion of other agencies to support law enforcement. Once this was established the Bioterrorism Prevention Program grew.

MAKING DREAMS TRUE

As a young microbiologist, I only dreamed of attending the Biological Weapons Convention (BWC), so you can imagine my excitement the first time I had a place at the table. Other key moments included attendance at the G7 Global Partnership meetings, presenting before the United Nations Security Council in New York, delivering training at the NATO school in Germany, and watching the women I have worked with and mentored continue in the field and thrive.

I have developed many programs yet one that stands out was delivered during the largest Ebola outbreak in West Africa in 2016, where we brought together law enforcement and health officials for the first time to develop operational procedures for managing high-risk outbreaks, whether natural or deliberate. Other stand-out programs in my CBRN career included being involved in the first multi-agency food defence symposium and the first health and security interface workshop with the World Health Organisation (WHO) and multi-agency exercises in Jordan.

These events culminated in the acceptance that ongoing CBRN programs required collaboration across multiple sectors to be successful and I am happy to have been a part of that movement.

PROSECUTOR'S GUIDE TO CHEMICAL AND BIOLOGICAL CRIMES

This expansion continued and in 2021 I was asked by UNICRI to lead a group of subject matter experts to develop the first edition of the *Prosecutor's Guide to Chemical and Biological Crimes*.

This entailed the coordination of several global leaders in the fields of microbiology, forensics, law, criminal investigation, and laboratory analysis. It required the ability to juggle multiple time zones, languages, experience, and areas of expertise. The commitment of UNICRI and the EU CBRN CoE to identify and collaborate with a new sector within CBRN was what drove the successful development of the first guidebook, released in 2022. The development of this book for prosecutors is one of the highlights of my career as it represents the deeper understanding we have today of CBRN materials and the adversaries we seek to abate.

Over 27 years in this field, I have worked for a number of leading organisations and collaborated with hundreds of wonderful people in an area I continue to be passionate about. Our threat landscape is continually evolving and CBRN preparedness and response will need to evolve with it. I hope that we continue to support women in their endeavors to work in this field and I thank those that have been mentors for me along my journey.

ARTICLE | Jovana Nikolov, Professor of nuclear physics at the University of Novi Sad, Faculty of Sciences, Serbia

From Academia to Global Security: A Nuclear Physics Professor's Journey to Nuclear Security

My main mission is to educate and train students and professionals in fundamental nuclear physics, radiation protection, nuclear safety and security



Professor Jovana Nikolov

Expert for the Prosecutor's Guide to Radiological and Nuclear Crimes

Equal involvement of men and women in all professional areas is becoming extremely important. However, expertise and qualifications should remain the top criteria. Involving women in traditionally male-dominated fields can bring diverse perspectives. Women and men often have different viewpoints and approaches to solving problems. In the CBRN sector, gender equality can lead to more innovative and effective solutions, helping humanity respond to complex challenges in

global security and peace. In the nuclear sector, there is a growing demand for skilled professionals, especially with technological advancements simplifying the peaceful use of nuclear energy (e.g., small modular reactors). Diverse teams of qualified women and men are key to success in the new nuclear era. They provide the necessary safety and security, which are crucial for education, training, public awareness, and the operation of new nuclear technologies.

A CAREER IN RADIOLOGICAL AND NUCLEAR SECURITY

As a professor of nuclear physics at the University of Novi Sad, Faculty of Sciences, Serbia, my main mission is to educate and train students and professionals in fundamental nuclear physics, radiation protection, nuclear safety and security. With a background in fundamental nuclear structure measurements, I had the privilege of working with leading nucle-

ar physicists at CERN under the ISOLDE collaboration during my PhD journey.

Afterward, my focus shifted to various applications of nuclear physics, and I became passionate about educating diverse audiences on the importance of radiation protection and detection techniques for ionizing radiation. I find it fascinating to apply my fundamental knowledge and skills to interdisciplinary areas like radiological crime scene management and nuclear forensics.

My first contact with radiological and nuclear security was in 2017, when I joined the Nuclear Forensics International Technical Working Group (ITWG). I was fortunate to meet a group of passionate, dedicated, and humble nuclear forensics experts and practitioners. In 2022, at the ITWG annual meeting, I became a co-lead of the Guidelines Task Group, sharing this position with an expert from Lawrence Livermore National Laboratory in the USA. This role has allowed me to grow personally and promote my home institution and country.

NETWORKS ADVANCE GENDER EQUALITY

I also serve as a point of contact for the Faculty of Sciences, University of Novi Sad, Serbia, for the IAEA International Nuclear Security Education Network (INSEN). This network strongly supports and promotes women's engagement and gender equality in numerous ways. Just recently I became a Vice Chair of Working group 1 that is dealing with development and revision of educa-

tional material. Out of four newly elected Vice Chairs for the year 2024/2025, there are three women and one man.

The EU CBRN Centres of Excellence also support the engagement of both women and men. Serbia is a member of the EU CBRN CoE Regional Secretariat for South East and Eastern Europe, and I have had the privilege of participating in regional events and collaborating closely with the Serbian National Focal Point for CBRN as an advisor and consultant on radiological- and nuclear-related questions. In addition, I am the author of a chapter in the *Prosecutor's Guide to Radiological and Nuclear Crimes*, a publication coordinated by UNICRI with several women leaders participating in the production.

As an IAEA international expert in radiological crime scene management and nuclear forensics workshops, I enjoy traveling around the world, meeting people, and exploring different cultures, religions, and political systems. The most motivating aspect for me is seeing the "sparkles" in the eyes of my students as they become aware of the importance of nuclear security and our role in protecting the world from radiological and nuclear crimes.

CBRN security has traditionally been a male-dominated field, leading to a lack of mentorship, career guidance, and support for women in the past. It was very challenging for women to find role models in this area. Nowadays, I am happy to see that various international organizations like the IAEA, EC JRC, UNICRI, and others

have adopted and applied gender equality strategies.

There are numerous relatively newly established networks that support women in CBRN. I am particularly aware of several regional and international networks that stimulate and strongly encourage the engagement of women in nuclear security through activities like workshops, fellowships, webinars, and other similar events. However, in some less developed countries, men still dominate the CBRN security field, and many women feel that they do not belong, or they are not respected or supported enough. This can hinder their confidence and career progression.

BALANCING PERSONAL LIFE AND A PROFESSIONAL CAREER

Additionally, a career in CBRN (like in science in general) may require long hours, complete dedication, and frequent travel, which can be difficult to balance with personal and family responsibilities.

Although I was fortunate to work with highly professional male colleagues, there were times when my contributions and achievements were discredited because I am a woman. At those moments, the lack of recognition affected my confidence. However, over time, my hard work and dedication were eventually recognized. I have learned that there is a proper time for everything in life.

As a proud mother of two boys, I am fully aware of how chal-

lenging it can be to balance personal life and a professional career. With good organization and strong support from your family, everything is possible. Being a good mother and wife can make it harder to focus on career goals, but with real dedication and a clear vision, there are no limitations. We might not sleep eight hours every night, but we can still have it all. I believe that women are better mothers when they are professionally satisfied and fulfilled.

As a mentor and supervisor to my students, I find this role very important not only for their professional but also for their personal development. We are all role models for our students, and we must give our best to help them become even better than we are. I had great mentors and colleagues (both men and women) who

opened up a whole avenue of opportunities and helped me become who I am today.

LEARN, CONNECT, PARTICIPATE

The most important recommendation I have for other women interested in or currently pursuing a career in CBRN security/science is to find mentors and colleagues who can provide guidance, support, and career advice. Join professional networks and organizations; attend conferences and workshops to build your professional network. Use the opportunity to speak and connect with others, as networking can open doors to new opportunities for you, your colleagues, and your students, as well as new collaborations for your home institution.

Learning and developing skills is a constant process; we all have to work on ourselves continuously to boost our confidence and competencies. Our achievements may not always be recognized, but at the end of the day, the most important thing is that we are aware of who we are and what our small role in this world is.

As women, we must advocate for policies that support work-life balance, such as flexible work hours and remote work. Balancing personal life with professional engagement is not an easy task, but once you succeed, you will be truly happy. The most important thing is not to allow anyone to jeopardize your achievements or diminish your career goals. Although we might have more family obligations, we are still capable of being great CBRN experts, mothers, wives, and daughters.



Working at the laboratory, IAEA Technical Visit to support gamma spectroscopy capacity building in nuclear forensics, North West University, Mafikeng, South Africa, February 19-23, 2024.

ARTICLE | Maia Silagadze, Senior Prosecutor in Georgia

A big space that needs to be filled

Despite the advancements in promoting women's involvement in the CBRN field, there is still a big space that needs to be filled.



Maia Silagadze

Expert for the Prosecutor's Guide to Radiological and Nuclear Crimes and Prosecutor's Guide to Chemical and Biological Crimes

As time passes by, more and more women engage in professions that historically were not considered to be suitable for them. Nowadays, during meetings, conferences, discussions, trainings, workshops in the Chemical, Biological, Radiological and Nuclear (CBRN) field, we see more women in the rooms and halls. But is this enough? Or women can do more?

At the beginning of my career, 15 years ago, when I first entered the prosecutors' office, there were much fewer women prosecutors than at present times.

Today, courtrooms are filled with women, trying to do their best to achieve the goals they have set.

CBRN CASES DEMAND DISCIPLINE AND ATTENTION TO DETAIL

CBRN is a complex field, especially when we encounter crimes or terrorist actions that include CBRN elements. In these situations, people with different professions and knowledge, skills and experience, need to cooperate to solve all the tasks and issues that appear on the table. During hard

times, women can offer crucial insights that will lead to further successful steps, as very often women have very good communication skills, facilitating effective communication between team members and representatives of different agencies. This is very important because lack of communication or any misunderstanding during a CBRN event may have negative consequences.

CBRN cases demand discipline and attention to detail. Since women very often have these attributes, this is one more reason

More women must believe in and challenge themselves to enter this very interesting field, as their role can be decisive in the progress of humanity.

to promote their engagement in order to foster progress in the CBRN field. In addition, during high-pressure situations, women's multi-tasking skills can help to manage several tasks simultaneously and not lose focus, increasing response effectiveness.

A BIG SPACE THAT NEEDS TO BE FILLED

Despite the advancements in promoting women's involvement in the CBRN field, there is still a big space that needs to be filled. Every situation and every event has objective and subjective sides.

The objective side of the story is that women can have the same knowledge and skills as men to work in the CBRN field: they can build their success stories and achieve scientific heights. As an example, we can remember Marie Curie with her scientific research of radiation, her Nobel Prizes and other honors. Therefore, intelligent and committed women can play a significant role in scientific progress and the CBRN field.

The subjective side maybe sometimes is that women imagine CBRN field as hard and difficult. Of course, it is a complex sphere that requires high intelligence, good knowledge and relevant

skills, but women can have all the abilities to be successful in CBRN. When nine years ago I first started prosecuting CBRN cases, I had to get acquainted with many technical issues, that as a lawyer I was not aware of. For example, what type of equipment and scientific method was used for radiological expertise, etc., among other types of challenges. However, when women do not step back and face all the challenges that appear during their career, they will overcome them.

More women must believe in and challenge themselves to enter this very interesting field, as their role can be decisive in the progress of humanity.



NETWORKING

MEET NETWORKS PROMOTING WOMEN ENGAGEMENT IN CBRN

'Networking' features leading networks that champion female engagement in CBRN safety and security worldwide. Spanning the entire CBRN domain, the networks presented are contributing to CBRN risk mitigation by empowering women leadership, fostering collaboration, and building unique skills and knowledge. Their impact is profound, as they inspire and support the current and next generation of women in CBRN. Through their collective efforts, these networks are creating pathways for women to lead, innovate, and contribute to a safer, more secure world.

ARTICLE | Women in Chemistry: 2024 Women in Chemistry Symposium

2024 Women in Chemistry Symposium: Empowering Gender Diversity in Chemical Security

This year's theme aimed to highlight the crucial role women play in the peaceful application of chemistry and their contributions to the implementation of the Chemical Weapons Convention



Heba Abdou Abdelhamid Mariey

Regional Coordinator for the Gulf Cooperation Council Countries of the EU CBRN CoE

The 2024 Symposium on Women in Chemistry took place successfully in Panama City, May 22-23, 2024, bringing together participants from the Group of Latin American and Caribbean States (GRULAC) including women leading experts, policymakers, and advocates to promote gender diversity and the empowerment of women in the field of chemistry. Hosted in collaboration with the United Nations Interregional Crime and Justice Research Institute (UNICRI) and the United Nations Institute for Disarmament Research (UNIDIR), the event was supported by voluntary contributions from the French Republic.

EMPOWERING WOMEN TO ADVANCE PEACEFUL USES OF CHEMISTRY

This year's theme, "Empowering Women to Advance Peaceful Uses of Chemistry", aimed to highlight the crucial role women play in the peaceful application of chemistry and their contributions to the implementation of the Chemical Weapons Convention. In addition, the symposium aimed to illustrate the strength and depth of the contribution of women to peaceful chemistry, to promote international solidarity and cooperation, to raise awareness of the opportunities for capacity and knowledge development for women in chemistry,

and to highlight specific issues and achievements in the field of gender mainstreaming and women's empowerment in the African Member States of the OPCW.

The two-day event featured a diverse programme aimed at addressing various issues related to women in chemistry including enhancing women's participation in risk management, best practices for advancing gender equity, and addressing the intersection of gender and chemical disarmament, with insights from leading experts in the field. Additionally, the event underscored the significance of collaboration among stakeholders

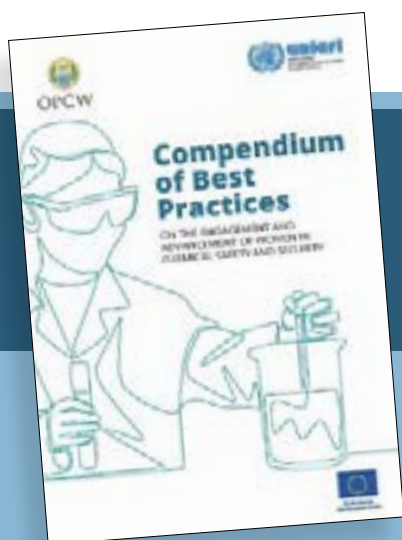
The symposium not only celebrated the achievements of women in the field but also reinforced the ongoing need for dedicated efforts toward achieving gender equity in chemistry.

to create an inclusive environment that empowers women in the chemistry sector. This includes adopting a multi-faceted approach that addresses educational barriers and promotes professional development, networking opportunities, and gender-sensitive workplace policies.

As the symposium wrapped up, attendees expressed their commitment to translating discussions into meaningful actions that drive progress in gender diversity. The collaborative spirit fostered during the event is expected to lead to further initiatives that sup-

port women's advancement in chemistry.

The symposium not only celebrated the achievements of women in the field but also reinforced the ongoing need for dedicated efforts toward achieving gender equity in chemistry.



Compendium of Best Practices on the engagement and advancement of Women in Chemical Safety and Security

The Compendium aims to provide policymakers and practitioners in the field of chemistry with guidance to promote gender inclusivity in the chemical safety and security sector through the identification of best practices in recruiting, training and promoting gender-inclusive careers.

The publication was developed by OPCW and UNICRI, with funding from the European Union.

<https://unicri.it/Publication/Compendium-best-practices-engagement-advancement-women-chemical-safety-security>

ARTICLE | Women in Biosafety: African Women Leaders – Frontiers in Biosecurity and Biosafety

African Women Leaders strengthen ties to prevent future epidemics, promote diversity and inclusion

The EU supported a 4-day course, at CARE Centre in Pasteur Institute Dakar, that brought together 21 emerging African women leaders in the field of biosafety and biosecurity



Credits: EU

Africa is facing increasing dangers from biological incidents and the risk of pandemics. It is therefore essential to strengthen health systems and develop policies that promote greater responsibility in the field of biosafety and biosecurity.

With their crucial engagement in risk mitigation initiatives, women professionals are calling for inclusive efforts and structured approaches to counter biological risks effectively.

FRONTIERS IN BIOSECURITY AND BIOSAFETY TO PREVENT THE NEXT PANDEMICS

Aware of this need, the European Union supported within the framework of the [EU CBRN Centres of Excellence](#) a 4-day course in Dakar, Senegal, with the aim of strengthening ties between African women professionals in the biosafety and biosecurity field.

Organised by the Centre for Africa's Resilience to Epidemics (CARE) at the Pasteur Institute in Dakar, from 16 to 19 September 2024, the event 'African Women Leaders – Frontiers in Biosecurity and Biosafety to prevent the next pandemics' brought together 21 women professionals from 15 countries on the African continent.

"Health is at the heart of the EU's actions", stressed at the event Jean-Marc Pisani, the European

It's about reinforcing the central role of women in Africa. It's a message from the EU that we're counting on these women leaders to unite tomorrow and meet the major challenges that lie ahead.

Union's ambassador to Senegal. "This is done through CARE, a regional training center for epidemic prevention and response, and by encouraging vaccine production in Africa, particularly Senegal. In both these initiatives, women have a central role to play."

REAL-LIFE EXERCISES TO RESPOND TO REAL-LIFE EMERGENCIES

At the event, participants were given lectures by experts on topics such as the approach to biosafety in Africa or biological risk management. It was an opportunity to get up to date with the latest knowledge and regulations on biosafety and biosecurity. "This workshop has definitely improved our knowledge and understanding in this sector", enthused Anna Jammeh, Chief Medical Officer and Epidemiologist at the Gambian Ministry of Health.

The participants were confronted with real-life exercises in the form of scenarios in which they were faced with biosafety challenges. "We didn't want it to be just a theoretical and technical workshop", explained Isha Fatma Njai, CARE's manager, "which is why we also included a practical component". "This will help us make decisions when we are confronted with identical situations", shared Yasmine Okone Nguema, a young biochemist at the University of Science and Technology in Franceville, Gabon.

"THIS CAN HAVE A MAJOR IMPACT ON PATIENT CARE AND THE RESPONSE TO AN EPIDEMIC"

The participants accompanied experts from the Pasteur Institute and Praesens CARE into the field, where they were able

to see the advantages of different types of mobile laboratories, particularly the BIONEAR truck and portable diagnostic devices. "These units have been designed to enable rapid diagnosis of infectious diseases", explained Idrissa Dieng, assistant researcher at the Pasteur Institute, on the road leading to the working-class district of Mbao, on the outskirts of Dakar.

This mobile structure can travel to the scene of an epidemic, carry out tests on the spot and obtain the results in less than two hours. "You can have all the certifications you want. But if you haven't practised them, when the time comes, you risk not doing the right thing. The exercises in this workshop take us from theory to reality in the field. This can have a major impact on patient care and the response to an epidemic",



Credits: EU



Credits: EU



Credits: EU



Credits: EU

admitted Chanceline Bilounga, a public health doctor in Cameroon.

“We need to share this knowledge we have acquired here to bring health security to our countries with our colleagues back home”, insisted Anna Jam-meh. “This group of women can have a cascade effect that will improve the global network”.

REINFORCING THE CENTRAL ROLE OF WOMEN IN AFRICA

Indeed, during these four days of training, lasting professional and human links were forged

between these women leaders. “We are very proud to be supporting this programme with the EU”, says Isha Fatma Njai, “because it makes it possible for these women to work together more effectively in the field of health safety in Africa”.

Within this framework, the participants are forming a network whose aim is to ensure that women have decision-making power and leadership opportunities in the field of biosafety and biosecurity across Africa. “It’s about reinforcing the central role of women in Africa”, explains Jean-Marc Pisani. “It’s a message from the EU that

we’re counting on these women leaders to unite tomorrow and meet the major challenges that lie ahead”.

The network is also looking to the next generation to build a stronger community based on diversity and inclusion. “I want to tell young girls to dare, to express themselves and not to be afraid”, insisted Yasmine Okone Nguema, “to take inspiration from women leaders who have already shown that women are capable of excelling in the sciences, but also in all areas of activity. They are the ones who can inspire a better future for us all”.

ARTICLE | Women in Nuclear: Ukraine

Resilience of Ukrainian Women in the Nuclear Industry

Russia’s war of aggression against Ukraine introduced new challenges that have significantly altered the professional lives of women working in the nuclear field



Renata Iares'ko

Director for Development, Communications & PR,
Women in Nuclear - Ukraine



Margaryta Rayets

President,
Women in Nuclear - Ukraine

Nuclear energy has traditionally been a male-dominated field, where the percentage of women building careers in this science-intensive and engineering sector has been significantly lower compared to other industries, such as logistics or food production. Ukraine’s experience has mirrored global trends, with women facing the same challenges, including stereotypical attitudes that suggest nuclear energy is not a “wom-

an’s profession” or that it is too difficult because “you are a woman.”

These deeply ingrained prejudices and stereotypes have historically led to the adoption of various legislative acts, regulations, and standards that limited women’s access to the nuclear field, confining them to roles deemed more “appropriate” for their gender, such as economists, accountants, environmentalists, or lab technicians.

POSITIVE CHANGES START TO TAKE ROOT

In the 1990s, the gender ratio in this field was approximately 40/60, and in some cases, it even approached 50/50. However, as Ukraine’s economy began to develop independently in the early 2000s, the division of professions into “male” and “female” roles became more pronounced, leading to a decline in the proportion of women in technical and scientific positions.

“In times of uncertainty and challenge, the solidarity of women in our field is more crucial than ever. WiN Ukraine Club provides a platform where we can share knowledge, experiences, and foster the professional growth of women dedicated to making the world a safer place.”

Since 2012, however, positive changes have started to take root. Gender neutrality became a key focus for the nuclear trade union, which was the first to advocate for changes in regulatory documents to ensure equal opportunities for women in the field. Amendments to legislation were an important step towards eliminating gender barriers and ensuring equal access to various professions within nuclear energy. This shift opened the fields of nuclear and radiation safety to women. Yet, as women working at nuclear facilities and participants of WiN Ukraine (Women in Nuclear Ukraine) shared with the WiN Ukraine Club, they still encountered stereotypical attitudes toward their expertise and professional experience. Despite often having more experience, women were frequently overlooked for leadership positions in favour of men.

ENSURING NUCLEAR SAFETY AMIDST RUSSIA'S WAR OF AGGRESSION AGAINST UKRAINE

The situation became even more challenging with the full-scale invasion in Ukraine. Women in the nuclear sector found themselves facing unprecedented challenges, as they now had to ensure nuclear safety not only in peacetime but also under the extraordinary conditions of war. The pressure is immense, with missiles constantly flying over nuclear facilities, posing a threat not only to Ukraine but to the entire world, as radiation knows no borders.

Before the full-scale invasion of Ukraine, women in nuclear energy worked actively and strove for success, much like their colleagues in other countries where there is no war. However, the Russia's war of aggression against Ukraine has introduced new challenges that have significantly altered their professional lives and daily duties. De-

spite these serious difficulties, women in the nuclear sector continue to work for the benefit of Ukraine and the entire world. Their activities are now focused on ensuring safety and stability under extraordinary conditions. Beyond their professional work, many of these women are also active volunteers, providing assistance to the Armed Forces of Ukraine, showcasing their incredible bravery and courage.

Women in the nuclear industry play a critical role in ensuring nuclear safety. They not only overcome numerous obstacles and prejudices that have existed in this field for many years but also continue to perform their work with unwavering dedication and professionalism. Their contribution is of immense importance not only to Ukraine but to global security, as a nuclear threat can have catastrophic consequences for the entire world. Ukrainian women in nuclear energy prove that their con-

tributions are irreplaceable and critically important in ensuring the safety of our future.

WHAT DOES THE FUTURE HOLD FOR WOMEN IN THE UKRAINIAN NUCLEAR SECTOR?

This is a question now being discussed not only among members of WiN Ukraine Club but throughout the entire nuclear community. The EU CBRN Centres of Excellence could play a vital role in supporting these women by providing specific programs, initiatives, or support networks

similar to those offered by WiN Ukraine. These initiatives have already helped many women overcome barriers and achieve success in the nuclear field, and their continued support will be essential in the rebuilding and advancement of Ukraine’s nuclear industry in the years to come.

“Women in the nuclear industry play a critical role in ensuring nuclear safety”

WiN Ukraine Club: uniting women, strengthening security

In February 2024, Women in Nuclear Ukraine created the WiN Ukraine Club. This club has been established to play a pivotal role in supporting women in the CBRN field by fostering a strong, supportive network that encourages collaboration, knowledge sharing, and professional development.

It provides tailored training programs, mentorship opportunities, and resources that help women navigate the complexities of working in high-risk environments. The club also advocates for gender equality in the nuclear industry and CBRN sectors, promoting the importance of women’s contributions to safety, security, and environmental protection.

The club’s initiatives include workshops on crisis management, CBRN safety protocols, and leadership in emergencies, ensuring that its members are well-equipped to handle the unique challenges they face in their roles.

By uniting women in the field, WiN Ukraine Club not only enhances the resilience of its members but also strengthens the overall security framework within Ukraine. “In times of uncertainty and challenge, the solidarity of women in our field is more crucial than ever. WiN Ukraine Club provides a platform where we can share knowledge, experiences, and foster the professional growth of women dedicated to making the world a safer place. We are committed to empowering our members with the skills and support they need to excel in the nuclear and CBRN fields, even in the face of adversity,” notes Renata Iaresko, WiN Ukraine Director for PR and Communications.

ARTICLE | Women in Nuclear: Tajikistan

Women in Nuclear Tajikistan

This non-governmental organization brings together female specialists working in the peaceful applications of nuclear energy, as well as in CBRN safety and security



Zarina Sayfieva

President of Women in Nuclear of Tajikistan (WiN Tajikistan)

Director, Regional Educational and Training Centre on CBRN Safety and Security, Countering Weapons of Mass Destruction and Counter-Terrorism, CBRN Safety and Security Agency under the National Academy of Sciences of the Republic of Tajikistan

Tajikistan has made significant strides in promoting gender equality and empowering women, encouraging their active participation in all areas of economy, science and technology. Notably, Presidential quotas have been established for the education of girls from distant and mountainous regions in higher educational institutions of the country. Government policies provide stipends and financial support to encourage female students to pursue higher education, including STEM fields. These efforts are aimed at reducing the gender gap in higher education and increasing the number of women in the labour market. In addition, the Presidential Decree on advancement of the role of women in Tajikistan that was followed by the adoption of the State Programme “On Main Directions of National Policy

on Provision of Equal Rights and Opportunities of Men and Women in the Republic of Tajikistan for 2001-2009”, the Gender Equality Law in 2005, and the State Programme on Education, Selection and Appointment of Talented Women and Girls to Management Positions focused on the promotion of women to leadership positions in government at the national and local levels, judiciary and prosecution bodies. It is through these initiatives that Tajikistan is fostering a more inclusive environment where women can thrive and contribute to the nation’s development.

WOMEN OF TAJIKISTAN IN CBRN

To strengthen the role of women in scientific, socio-political, socio-economic, and cultural

spheres, the Women in Nuclear of Tajikistan (WiN Tajikistan) network was established on March 8, 2020, under the leadership of Ilhom Mirsaidzoda, Director of the Chemical, Biological, Radiological, and Nuclear Safety and Security Agency of the National Academy of Sciences of Tajikistan. This non-governmental organization brings together female specialists working in the peaceful applications of nuclear energy, as well as in chemical, biological, radiological, and nuclear safety and security.

In February 2021, WiN Tajikistan became part of Women in Nuclear Global (WiN Global), a non-profit organization uniting women working in various fields of nuclear energy and radiation applications. To ad-



Organizations like WiN Tajikistan play a crucial role in strengthening the role of women in society, by providing mentorship and platforms for networking for women to excel in their careers.



vance their goals, WiN Tajikistan organizes and conducts numerous events that promote the active participation of women in science, encourages the exchange of experiences, spark interest in science and technology among young women, including round-table meetings, seminars and lectures.

One of the most significant events hosted by WiN Tajikistan is the international scientific-practical conference “Role of Women-Scientists in the Development of Science, Innovation and Technology”, held annually. In 2023, the Conference brought together over 100 participants from Kyrgyzstan, Kazakhstan, Tajikistan,

Uzbekistan, Morocco (on-line), providing participants with opportunities to engage in meaningful discussions.

The WiN Tajikistan network also strives to hold regular meetings and discussions with industries on-site. For example, in 2023, following the reconstruction of Tajikistan’s largest chemical plant “Azot”, members of the WiN Tajikistan network met with women working at this plant, who have organized themselves into a community of professionals with over 135 members, to discuss and plan joint activities to promote the work of women-scientists in the chemical industry and engage with wom-

en in remote districts and cities across the country.

Organizations like WiN Tajikistan play a crucial role in strengthening the role of women in society, by providing mentorship and platforms for networking for women to excel in their careers. By creating an environment where women and girls are encouraged to pursue higher education and professional careers, Tajikistan is paving the way for greater gender equality and the advancement of women in science and technology. This commitment to education and empowerment is essential for building a more equitable and prosperous society.

What are WiN Tajikistan main areas of work?

- Creating a supportive environment for the active participation of women in science and technology;
- Strengthening the role of women in the society;
- Facilitating women-professionals in career development and professional growth;
- Promoting the exchange of knowledge and experience among women-professionals;
- Encouraging interest in science, particularly in the nuclear technology, nuclear and radiation safety and security, and radiation protection among women and youth.
- Providing an outreach platform for women-professionals.

ARTICLE | Women in Nuclear: Black Sea

Black Sea Women in Nuclear Network: Power of Women, Power of Solidarity and Professionalism

BSWN unites nearly 100 members from over 30 countries to create connections, share knowledge, and amplify women's voices in the nuclear and related fields



Shoren Lortkipanidze

Founder and Vice President of Black Sea Women in Nuclear

Women still only make up a small percentage of the nuclear workforce, yet research has shown that enhancing the role of women plays an important part in the promotion of democracy, justice, security, and, above all, peace. Diverse perspectives generate the best outcomes, but not only. When people in diversity unite, committed networks can flourish, creating momentum and the opportunity to make a meaningful impact at the highest levels – being this organizational, national, or regional level.

Black Sea Women in Nuclear Network (BSWN) is a regional professional organisation that unites experts from Bulgaria, Georgia, Moldova, Romania, Türkiye,

Ukraine, and other nations. With nearly 100 members from over 30 countries, this interdisciplinary network brings together women from government, industry, civil society, research and academia to amplify women's voices in the nuclear and related fields.

The initial motivation to create BSWN arose from a conference dedicated to empowering women in Ukraine, held at the Kyiv Polytechnic Institute, in October 2019. Building on this idea, the James Martin Center for Non-proliferation Studies (CNS) and Los Alamos National Laboratory, supported by the U.S. Department of Energy National Nuclear Security Administration - Nuclear Security Women Initiative, in cooperation

with the Swedish Radiation Safety Authority, further developed the Black Sea initiative.

A LIFELINE FOR UKRAINIAN COLLEAGUES IN TIMES OF CRISIS

These initial efforts culminated in BSWN official launching in December 2021, two months before Russia's full scale invasion in Ukraine. This event shaped the network's identity and defined its very special role. Among other threats, Russia targeted Ukraine's nuclear facilities, occupied Chernobyl Exclusive Zone and, later, Zaporizhzhia Nuclear Power Plant. Russia's strikes on nuclear power plants evolved as a threat to the global nuclear order.



BSWN served as a model for establishing a network for Women in Nuclear Central Asia, and as an aspiration for starting a network for women in the Middle East.



BSWN became a lifeline for Ukrainian colleagues in times of crisis. It provided an extremely rich perspective on the importance of the human factor in nuclear security and documented first-hand accounts from Ukrainian colleagues on the role of women in mitigating the psychological consequences of conflict. This experience could be gained only through such professional and human interactions.

BSWN prepared four official statements on ongoing nuclear security risks created by Russia's war of aggression against Ukraine. The network has vouched to lend its expertise, time, and support to ensure a safe and peaceful nuclear sector. BSWN generated support through several unofficial channels,

such as an active WhatsApp group that shares accurate information and identifies misinformation. It also offers personal support and professional opportunities that would not be available otherwise.

The network accentuates and shares the abundance of regional knowledge and expertise in the field, amplifies women voices, promotes gender equity and increases women's leadership roles in nuclear fields. In addition, BSWN offers exchange programs, mentoring, and professional development opportunities. The network identifies and explores how to tackle barriers that women experience when pursuing a CBRN security/sciences career path.

WE ALL CAN DO THAT!

BSWN plans to expand its activities in the region. In November, Romania will host the annual Conference of the Network "Empowering Women in Nuclear - We All Can Do That!" The conference aims to explore the opportunities for women participation and advancement in the nuclear science and engineering field, and to raise awareness on the importance of gender equity and diverse voices.

The network's success inspired women from other regions to create similar professional communities. BSWN served as a model for establishing a network for Women in Nuclear Central Asia, and as an aspiration for starting a network for women in the Middle East.

For more information contact bswn.org@gmail.com or visit <https://bswin.org/>

BSWN flagship activities

- **NucTalks and ChemBio Talks:** Online expert discussion platforms aiming to increase awareness on a variety of issues, to share ideas and expertise in arms control, non-proliferation, nuclear safety and security, and to create new professional ties in the wider CBRN community.
- **Mentorship program:** Launched in October 2023, it is a natural consequence of the organization's perpetual efforts to nurture female voices through promoting friendly and meaningful connections that enable learning and knowledge-sharing experiences.

ARTICLE | Women in Strategic Trade Control: WiST

WiST: Exploring the Mission, Objectives and Implementation of Women in Strategic Trade Initiative

WiST aims to facilitate greater engagement of women in strategic trade management and acknowledge their critical leadership in this field



Ana Sánchez Cobaleda

*Legal Advisor of the EU P2P Project 90
on dual-use goods*



Lydia McCoy

WiST Secretariat Member

BACKGROUND

Strategic trade management (STM) is a cornerstone of the international security architecture, helping to ensure that the trade and transfer of sensitive technology, materials, and equipment are responsibly managed. It is exceedingly clear that the disarmament, non-proliferation, and arms

control challenges we face are more complex and wide-reaching than ever with the explosion of emerging technologies, such as artificial intelligence, biotechnology, quantum computing, and peaceful applications of nuclear technology. Addressing these challenges requires that we have a diverse range of experts.

Unfortunately, we have historically approached these issues from a perspective that is not fully inclusive of women. While women and girls account for half of the world's population, women's representation in the global workforce is limited. Specifically, women make up only 29% of total workers in the Science, Technolo-

The WiST Initiative is aligned with UN Security Council Resolution 1325 on Women, Peace, and Security

gy, Engineering, and Mathematics (STEM) fields globally, according to the 2023 Global Gender Gap Report. Additionally, evidence shows that women's representation in leadership positions is strikingly low. This challenge of representation exists and is compounded at every level for women in the STEM pipeline – university graduate students, women entering the professional field, and women cultivating their professional careers through promotions and other advancement opportunities. The absence of women in these discussions undermines our collective efforts to build a more free, open, secure, and prosperous world.

MISSION AND OVERALL OBJECTIVE

To meet these challenges, in 2022, the U.S. Department of State's Export Control and Related Border Security (EXBS) program addressed the underrepresentation of women in the field of STCs with the creation of Women in Strategic Trade (WiST) initiative. Now implemented in close partnership with the Department of Energy's International Nonproliferation Export Control Program (INECP), WiST aims to facilitate

greater engagement of women in strategic trade management and acknowledge their critical leadership in this field. The Departments of State and Energy co-lead the WiST Secretariat, whose role is to carry out the WiST mission, strategic direction, governance, implementation and impact on a global level. The WiST Initiative was launched in the Southeast Asia region and will transition to a fully global initiative in the coming years. The second annual WiST Forum was hosted in Kuala Lumpur, Malaysia in October of 2023, and, more recently, the third annual forum was held in September 2024 in Manila, Philippines.

This initiative also seeks to increase meaningful participation of women, especially in leadership positions, key functional areas, scientific and technical (STEM) fields, and other key stakeholder arenas. Given that STM requires technical expertise and enforcement capabilities for effective implementation, the limited global representation of women in the STEM and enforcement fields results in their underrepresentation in STM, including as leaders in these respective fields. It is critical to eliminate barriers to women's meaningful participation and

advance women's involvement in peace and security processes. There is tremendous value in an inclusive environment for STM, where women are actively encouraged to excel and lead in scientific pursuits, enforcement initiatives, and key leadership positions.

The WiST Initiative is aligned with UN Security Council Resolution 1325 on Women, Peace, and Security designed to shape inclusive frameworks to meet today's complex security challenges and to increase women's role in decision making. Furthermore, UNSCR 2663, the latest resolution extending UNSCR 1540, recognizes the importance of "the full, equal, and meaningful participation of women in all its activities," and emphasizes the full implementation of the resolution with a focus on enforcement measures and national export and transshipment controls. WiST is inclusive of all genders and promotes an inclusive approach to increase knowledge and enhance technical expertise in the field of strategic trade. WiST recognizes the role men play as key allies to the initiative and women in the field. In particular, WiST invites male champions who can advocate



for the WiST Initiative’s guiding principles, contribute to adopting policies and strategies that foster meaningful participation of women in STM, and champion women to advance professionally.

WIST’S IMPLEMENTING PILLARS

WiST aims to enhance meaningful participation of women in strategic trade controls and promote their representation in leadership roles through three guiding pillars: Empowerment, Capacity Building, and Community Engagement. These three pillars represent the WiST Initiative’s overarching goals and encompasses activities that contribute to achieving its strategic objectives.

The empowerment pillar highlights the prominent and essential roles and contributions of women in strategic trade while encouraging the next generation to join

the field. Events and activities in line with this pillar also aim to increase women’s representation in leadership positions and underrepresented areas of STM systems. For example, the WiST Forum is an annual event launched in Southeast Asia and focusing on different topical areas each year. The Philippines and the United States will co-hosted the third annual WiST Forum as part of Philippines Strategic Trade Summit (PhSTS) in September 2024. The Forum featured institutional models to cultivate gender diversity, highlight the roles and contributions of women in STEM, and provide a forum to share experiences, best practices, and lessons learned to advance in the STM field. The EU Partner to Partner (P2P) Export Control Programme provided moderators and speakers to the Forum.

Next, the capacity building pillar develops the technical and lead-

ership skills needed to succeed as an STC professional and addresses pressing non-proliferation challenges. For example, the U.S. Department of Energy led WiST Webinar Series provides professional development opportunities to enhance knowledge and skills needed to succeed as a STM professional.

Finally, the community engagement pillar provides a global forum for mentoring, “peer-to-peer” learning, and best practices and information sharing. The U.S. Department of State’s WiST Mentorship Initiative (WiSTMI) is noteworthy under this pillar. The goal of this engagement is to create a professional network and community of practice to advance women working in strategic trade by leveraging experienced international strategic trade experts to guide early- or mid-career women in the field, through a six-month mentorship.

The EU P2P Export Control Programme for dual-use goods has been actively supporting WiST since its early development

WIST AND EU P2P

The EU P2P Export Control Programme for dual-use goods has been actively supporting this inspiring initiative since its early development.

The EU P2P Programme involvement included participating in discussions with those responsible for the initiative, brainstorming on how to be intentional in developing and strengthening the role of women in STM, as well as attending round tables and contributing to events aimed at promoting the inclusion of women within this critical field. One of EU P2P WiST points of contact had the privilege of moderating the panel on “Early career - Recruitment and Advancing Development of Women” at the Second Annual WiST Forum, during the 2023 Malaysian Strategic Trade System Summit. Dr Ana Sánchez-Cobaleda had the honour of discussing strategies,

skills and challenges with well-known experts from around the world, all of them women with extended expertise in dual-use items’ export controls from KOSTI, US National Laboratories and the World Bank, among others. Moreover, the EU P2P also took part in the 3rd annual WiST Forum as part of the Philippines Strategic Trade Management Summit 2024, with members such as its Legal Advisor or Mr. Luis Catibayan, Regional Coordinator, discussing topics such as how to advance gender equity in the public and private sectors or the importance of men and women’s role, contribution, and strategies in fostering an inclusive workplace environment to facilitate the meaningful participation of women in STCs.

Alongside participating in events as experts, EU P2P has worked with the U.S. col-

leagues to have WiST-sponsored attendees at the two latest editions of the EU P2P Summer University on Strategic Trade Controls including adding a presentation on WiST to the 2024 Summer University agenda.

The EU P2P plans to continue working closely with the U.S. on more ways to get involved. This collaboration underscores a shared commitment to enhancing gender diversity within the realm of strategic trade management. This continued cooperation not only strengthens transatlantic ties, but it also advances the broader goal of gender equality in STEM fields.

CONTACT US

Those interested individuals, ministries/agencies, and organizations may contact us at wist@lnl.gov any time, and visit our website <https://wist.ornl.gov/>

ARTICLE | Women in Disarmament and Non-Proliferation: Young Women and Next Generation Initiative (YWNGI)

Addressing the gender imbalance in non-proliferation, arms control and disarmament: the Young Women and Next Generation Initiative

YWNGI was launched by the Istituto Affari Internazionali (IAI) and the Vienna Center for Disarmament and Non Proliferation (VCDNP) to encourage young women and the next generation to enter the non proliferation, arms control and disarmament field



Paola Tessari

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THE INITIATIVE: OBJECTIVES AND ACTIVITIES

The [Young Women and Next Generation Initiative \(YWNGI\)](#) was launched by the [Istituto Affari Internazionali \(IAI\)](#) and the [Vienna Center for Disarmament and NonProliferation \(VCDNP\)](#). The YWNGI is part of the [EU Non-Proliferation and Disarmament Consortium \(EUNPDC\)](#), a European

network of independent non-proliferation think tanks funded by the European Commission in support of the implementation of the European Union strategy against the Proliferation of Weapons of Mass Destruction (WMD).

The YWNGI aims to encourage young women and the next generation to enter the nonproliferation, arms control and disarmament field. The Initiative is

driven by the largely perceived imbalances in age and gender among experts and practitioners in this field: studies show that there is a significant gender disparity among professionals in nonproliferation, arms control and disarmament, where women are often under-represented. The Young Women and Next Generation Initiative (YWNGI) tackles such imbalances through different activities, aimed at increas-

Studies show that there is a significant gender disparity among professionals in non-proliferation, arms control and disarmament, where women are often under-represented.

ing the awareness of the topics and encouraging participation in events and workshops. The YWNGI ultimately wishes to help the next generation, especially young women, to understand how to pursue a career in the field, making the best use of their own skills. The initiative also contributes to expanding the limited offering of relevant courses on WMD issues in colleges and universities at undergraduate and graduate levels, especially in Europe.

In the framework of the YWNGI, the following activities are organized: public webinars, University visits and networking events, held online and in-presence. The topics of these events are closely linked to the issues of arms control, disarmament and non-proliferation: they range from CBRN threats to emerging technologies, artificial intelligence and hybrid threats. Webinars also addresses gender issues, such as how gendered social and political factors shape wars. Such events usually feature one or more domain experts as speakers, followed by Q&A sessions to encourage the engagement of the audience and the chance to discuss with high-level professionals. In addition, the YWNGI includes in-person workshops hosted by European universities. Over the past editions, University visits have been held in Prague, Valencia, Innsbruck and Rome. In addition to substantive

discussions, all events include a session on resources and opportunities for students and young professionals, such as educational material, internship and career advice. In this regard, the YWNGI cooperates with major youth-led groups and youth-oriented initiatives by hosting events to connect young professionals.

THE YWNGI MENTORSHIP PROGRAMME

The YWNGI also includes a Mentorship Programme (Young Women in Non-Proliferation and Disarmament Mentorship Programme – YWNDP), which runs from September to May every year, and it is now at the fourth edition. The Mentorship Programme is open to female undergraduate, graduate, and post-graduate students, as well as recent graduates. The Mentorship Programme pairs twenty successful applicants (mentees) with well-known experts (mentors) to establish a mentoring relationship, which envisions regular videoconferencing sessions and other forms of communication between mentees and mentors. The Call for application to the Mentorship Programme is issued in June every year: it is published on the EUNPDC website and social media, as well as the webpage and social media of both IAI and VCDNP. Candidates from all regions of the world are welcome to apply, but a portion

of the spots is reserved to candidates from Europe.

In the framework of the Mentorship Programme, dedicated skills-building workshops are organized for mentors and mentees. Over the past editions, skills-building trainings covered open-source intelligence for nuclear professionals and public-speaking, including media communication and skills for interviews and lectures.

Mentors and Mentees also have the chance to attend selected conferences, including [the Annual Conference of the EU Non-Proliferation and Disarmament Consortium](#). The Conference takes place every year in Brussels, and gathers experts from public institutions, governments, international organisations, independent think tanks, and civil society addressing numerous topics of central importance for the work of the EU, as well as several pressing arms control, non-proliferation and disarmament issues.

Through all its activities, the Young Women and Next Generation Initiative (YWNGI) is strongly committed to engaging the next generation, and especially women, and encouraging their continued and future involvement in the field, thus contributing to enhanced political and security related dialogue and long-term discussion on measures to combat the proliferation of WMD and their delivery systems.

ABOUT THE EU CBRN COE

The European Union (EU) Chemical, Biological, Radiological and Nuclear (CBRN) Risk Mitigation Centres of Excellence (CoE) is a global Initiative funded and implemented by the European Union as part of its goal to promote peace, stability and conflict prevention.

The aim of the Initiative is to mitigate risks and strengthen an all-hazards security governance in Partner Countries of the EU following a voluntary and demand-driven approach. The EU support is provided to implement a wide range of CBRN risk mitigation activities including needs and risk assessments, national and regional action plans, capacity building activities, legal framework reviews, table top and real time (including cross-border) field exercises, inter-regional exchange of best practices and lessons learnt.

The Initiative is led by the European Commission's Service for Foreign Policy Instrument (FPI), in close coordination with the European External Action Service (EEAS). The European Commission Joint Research Centre (JRC) provides technical support to Partner Countries, while the United Nations Interregional Crime and Justice Research Institute (UNICRI) ensures a coherent and effective national, regional and international cooperation. Other relevant International and/or Regional Organisations and experts also contribute to the Initiative, which represents the EU's largest civilian external security programme.

For more information visit the EU CBRN CoE website at www.cbrn-coe.eu

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