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SnTimes

A YOUTH GROUP NEWSROOM PROJECT



High ambitions and a historic venue

A sprawling complex of 240,000 square meters, which since the 13th century has been as a medieval fortified castle and today is a modern centre of public life, the Hofburg Palace this week hosts the CTBTO's Science and Technology Conference SnT 2019.

Altogether 1,700 registered participants from about 100 countries are taking part in the event and at least one hundred CTBTO staff have spent the past two years preparing for it.

International Data Centre Director (IDC) Tammy Taylor, one of the two SnT2019 project executive directors, said she hopes when departing from the conference, participants will have a deeper appreciation of the importance of CTBT data and their use in scientific applications.

Compared to previous editions of the conference SnT2019 is emphasizing the connection between science and the arts.

She said her IDC staff "would be elated, energized, and anxiously awaiting to see who would follow" if an Annex II state was to announce it would ratify during the conference.

In the course of the event it is estimated conference participants will consume 275 litres of coffee.

Guillaume Milot

Invest in citizens not WMD

Burkina Faso Energy Minister Bachir Ismael Ouedraogo has chided nations from investing in weapons of mass destruction at the expense of resources for their citizens.

"Why do you need to spend trillions of dollars to have a weapon that can destroy the world? We can use the money in investing in energy and by doing so you will be empowering the youths."

Ouedraogo was addressing the Forum on Global Citizenship and Youth Inclusion, co-organized with the Ban Ki-moon Centre as part of the CTBTO Science and Technology Conference, on Monday.

He also called on African countries to shun nuclear energy and utilise other technologies to establish cleaner sources of energy. African states should make use of wind and solar energy, he said.

"We should look at countries like Germany that are dismantling their nuclear energy and start using wind and solar energy. So, let's not go there (to nuclear energy)," he said.

South Africa is the only country on the continent using nuclear energy to generate electricity.

Speaking at the same event, Herbert Scoville Junior Fellow at the Nuclear Initiative and CTBTO Youth Group member Sylvia Mishra said India and Pakistan's leaders Narendra Modi and Imran Khan should resolve the disputes between their countries. Mishra said there needs to be more participation by young people in discussing nuclear disarmament.

Farai Shawn Matiashe



One of the most dangerous times for arms control

Arms control has entered one of its most dangerous periods, says former Austrian President, Heinz Fischer.

Addressing the opening of SnT2019, the bi-annual five-day CTBTO science and technology conference, at the Hofburg Palace in Vienna, Fischer stressed the importance of fighting for a nuclear-free world. Science and technologies are always evolving and contribute achieving the goals of the CTBT, he said.

CTBTO Executive Secretary Lassina Zerbo addressed a range of topics in his opening address, gender equality, youth engagement and the inauguration of the CTBTO's new technology center.

He said the CTBTO will focus on building trusted leaders by involving young people with the organization's activities. He also welcomed and thanked CTBTO staff and others for planning and organizing the conference and its spectacular opening ceremony.

Former UN Secretary General Ban Ki-moon, who had been scheduled to be part of the conference and the opening ceremony was sadly unable to participate because of the death of his mother.

Zerbo said the test ban treaty has real impact and he warned the audience against being distracted by cynicism.

Raghad Mohammad

Analyzing nuclear events - computer fluid dynamics vs the Gaussian approach

There are two main techniques used to model the dispersion of radionuclide particles following a nuclear accident or explosion – computer fluid dynamics (CFD) and the Gaussian approach

Historically, the Gaussian model has been widely used. However, the emergence of low-cost computational software allows mathematicians to consider making more use of computer fluid dynamics.

Both techniques depend on a mathematical description of particle transport with advection (movement of fluids)-diffusion equations. The Gaussian approach requires a number of simplifications in order to produce a derivation. In contrast, the CFD model allows for greater specifications to be accounted for, wind speed, turbulence, and air particle mixing, in real time.

Carlos Eduardo Bonfim, in a presentation on the first day of SnT2019 compared the Gaussian model's precision against Computer Fluid Dynamics (CFD) modeling using CTBTO radionuclide data following the 2011 Fukushima-Daiichi nuclear power plant accident to illustrate its limitations.

Bonfim, a CFD specialist and researcher in the Brazilian Army Chemical, Biological, Radiological and Nuclear Defense Institute said the Gaussian model fails to accurately depict 3D models in a controlled manner, whereas, CFD allows mathematicians to more accurately portray radionuclide dispersion. Thanks to the data presented in this presentation, Carlos provided evidence for increased use of CFD modeling and debate among mathematicians on the most appropriate way to model radionuclide particle dispersion.

Paul D. Shaver

INSPIRING STORIES

Becoming a woman nuclear engineer – winning a father’s acceptance

When Thu Zar Win came to the moment in her life to decide the career she wanted to pursue, nuclear engineering seemed to be mysterious and unknown, and thus desirable.

She was never scared of something she didn’t understand, she said, although more importantly she was not alarmed by what people, even those closest to her, would think about her career choice.

Coming from a very conservative and traditional family in Myanmar, Win faced misunderstanding by her father, who thought nuclear engineering was not for women, “who should be in the kitchen.”

But it appeared that over years of successful studies and fruitful work Win made her father proud of her and persuaded him the only kitchen she would be in is her lab.

Now the 25 year old is a research fellow at Nagasaki University in Japan and CYG regional coordinator for Southeast Asia, Pacific and Far East nuclear engineering, radiation risk communication. She was interviewed on the sidelines of the opening of SnT2019.

It took time for her to realize her choice was right, she said, but after an exchange programme



that every difficulty excited her and striving towards knowledge felt right.

Now she is pursuing two Master’ programmes in Cambodia and Japan and has become an inspiration for young women in Myanmar and other developing countries who see their future in nuclear related fields.

Although she now lives in Japan Win shares news of opportunities with students from Myanmar. She hopes that in future there will be more than the four s young women in her nuclear engineering class in Myanmar.

Her advice to every girl who has a “nuclear” dream – JUST KEEP GOING.

Ksenia Pirnavskaya

Royal Doors Open for SnT2019

The CTBTO’s seventh Science and Technology Conference SnT 2019 officially brought hundreds of scientists, policy makers and students to Vienna’s former imperial palace the Hofburg yesterday for its opening ceremony.

While the conference offers astonishing and interesting impressions and seeks to promote innovative and effective ways to enforce the CTBT the Hofburg deserves a closer look.

The Hofburg, the “Castle of the Courts” in English, is an architectural masterpiece. The 17,000 square meter palace with regularly hosts such events as the annual legal professionals’ ball, the IAEA

Staff Association Ball, as well as the SnT among others. From fifty to nearly 5,000 people can be accommodated in its magnificent halls.

The castle, which formerly belonged to the royal Habsburg household was built in the thirteenth century to initially serve as “the Seat of Dukes.” As the Holy Roman Empire expanded the Habsburg family turned the Hofburg into their personal winter residence. Today the President of Austria resides and works in it and it well serves conferences such as the the SnT combining modern science with a royal and historical flourish.

Moumi Awudu