



# WNU Experience in Training the Nuclear Industry's Best



# The WNU as a global network

## *Vision:*

- a) to develop competencies of the future world class nuclear leaders
- b) a leading global nuclear educational organization developing talents for the advancement of the nuclear science and technology

***Mission:*** To enhance international education and leadership in the peaceful uses of nuclear energy and the applications of nuclear science and technology, by providing top level training for future world class nuclear leaders



# Our values

## ► WNU provides excellent education with:

- Lifelong learning and networking opportunities
- Continuous improvement of performances and outcomes
- International collaboration for expanding learning networks
- Diversity in learning environments, cultures and people
- Equal opportunities and fair treatment in all programmes
- Clear and fast communications
- Creativity and innovation in engaging fellows, faculty, and collaborators
- Passion to manage the programmes with utmost efficiency
- Integrity, teamwork, professionalism, respect and leadership

# Participating Institutions

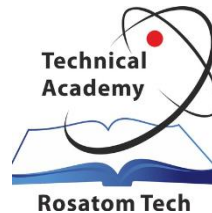
## Initial participants (Declaration of Commitment 2003)

2 intergovernmental  
organizations  
2 international associations  
27 institutions in 23 countries

## Current participants (2019)

2 intergovernmental  
organizations  
+ 7 international or regional  
associations  
+33 Institutions in + 5 countries

Recently  
added





# World Nuclear University Advisory Panel

Created in 2014

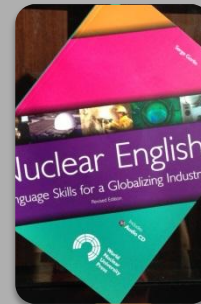
**Purpose:** To provide broad advice for the WNU on its continuous role on international education in the peaceful applications of nuclear science and technology

## Composition as of 2018:

- World Nuclear Association – Director General Agneta Rising
- OECD/Nuclear Energy Agency – Director General William Magwood
- IAEA – Deputy Director General – MT Mary Alice Hayward
- WANO – CEO Peter Prozesky
- WNU – Head Patricia Wieland



# WNU Programmes



**Summer  
Institute**

**School on  
Radiation  
Technologies**

**Short  
Courses**

**School of  
Uranium  
Production**

**Nuclear  
Olympiad**

**Executive  
Enhancement  
Course**

**Nuclear  
English  
Course**

**SI Alumni  
ELD**



Äspö Hard Rock Laboratory, Summer Institute 2015



Oxford Christ Church College, UK, Summer Institute 2014



Uppsala University, Sweden, Summer Institute 2015



Ottawa, Canada, Summer Institute 2016

[Back to programmes](#)



## 2019 Marks the WNU-SI's 15<sup>th</sup> Anniversary

- 2005: Idaho Falls, US
- 2006: Stockholm, Sweden
- 2007: Daejeon, Korea
- 2008: Ottawa, Canada
- 2009 - 2014: Oxford, UK
- 2015: Uppsala, Sweden
- 2016: Ottawa, Canada
- 2017: Uppsala, Sweden
- 2018: Busan and Gyeongju, Korea
- **2019: Romania and Switzerland**
- 2020: Japan





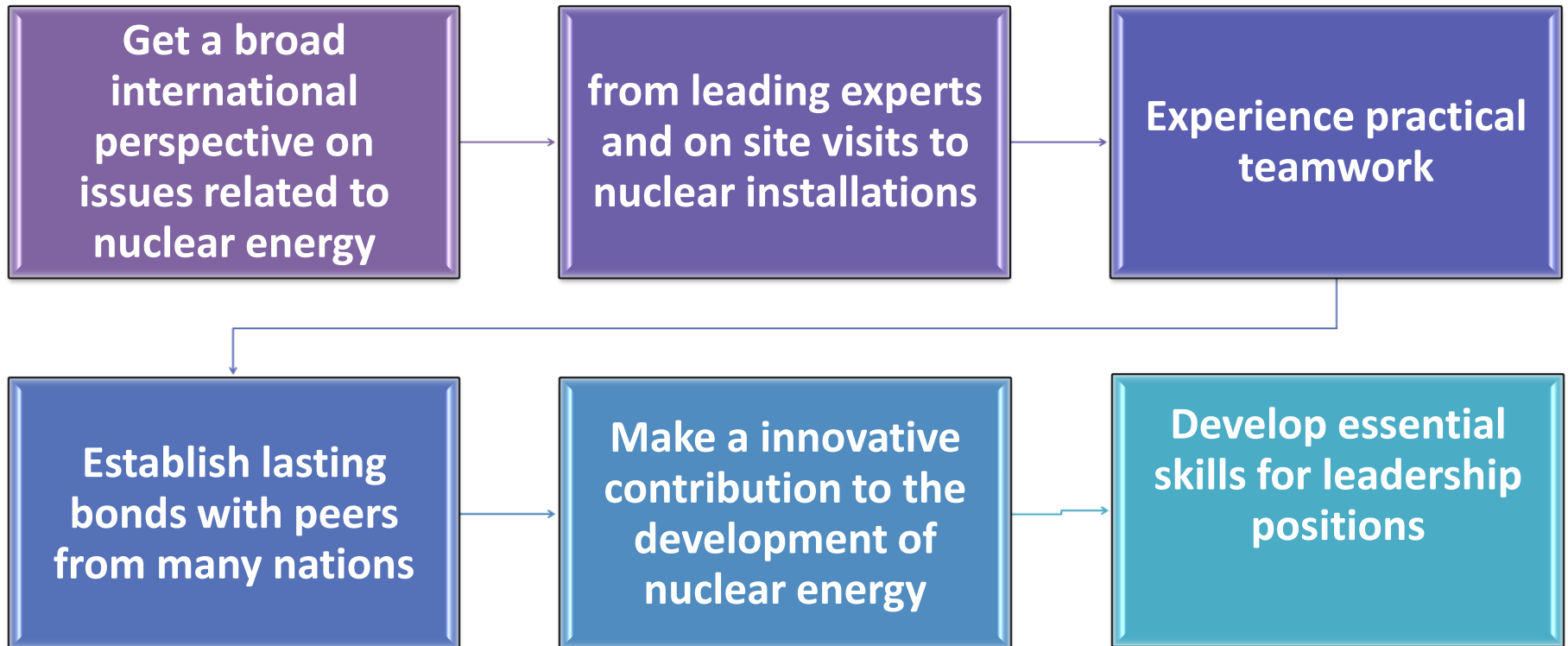
# Purpose of WNU Summer Institute

*To provide an unique educational experience aimed at building future global leadership in the fields of nuclear science and technology*



Nomination award on Human Capital Development in Atomexpo 2018

# The Summer Institute is designed to enable Fellows to:



# Network for Nuclear Innovations (NNI)

- enable fellows to participate in detailed discussion of important global nuclear issues and bring new light to it
- create a piece of work of high quality that can take numerous forms (an article to be sent to publication, a paper to be presented in an International Conference, a video to be posted, well founded recommendations for nuclear research, or an idea for a start-up company)
- Network for Nuclear Innovation Magazine

# Alumni testimonies

*“The WNU Summer Institute Programme turned out to be one of the most challenging experiences in my life.*

*I had to leave my "formal style" for a while in order to understand that the most relevant knowledge is acquired through dialogue with mentors and colleagues. True knowledge is obtained from the conjugation of real experiences and different cultural points of view, and that is what, without a doubt, WNU SI promotes among its participants.”*

**Mariano Lopez Ferrucci - WNU SI 2014**

*“WNU SI is about meeting and making connections; about understanding where you are now and, which is even more important, about how far you can get. To me, it's all about raising your personal bar while being inspired.”*

**Yuliya Balashevskaya - WNU SI 2014**

*“My experience at the WNU Summer Institute (2012) was extremely valuable to me both personally and professionally. At a time of development and transition in my career, I benefited tremendously from the technical knowledge, leadership skills, and inspiration I gained at the Institute. This is still one of the highlights of my career.”*

**Dale Clark, Vice-President, Fuel Services Division, Cameco Corporation & WNU SI 2012**



# Mentors testimonies

*“Success and innovation is achieved when both men and women are equally involved in education and decision-making processes. The WNU Summer Institute is committed to building the next generation’s nuclear leadership by embracing the values of full participation by men and women alike. I applaud them for this.”*

Janice Dunn Lee, former IAEA DDG-MT

*"With over 40 years experience in the nuclear industry, I have seen many organizational and individual development programs but what WNU has done for the nuclear industry is far beyond the expectation and I want to personally thank you."*

Amir Shahkarami, Former Senior VP, Exelon Generation, President & CEO CAsE Global Partners, Inc.

# This year – Romania & Switzerland

**82 Fellows**

**52 Faculty members**

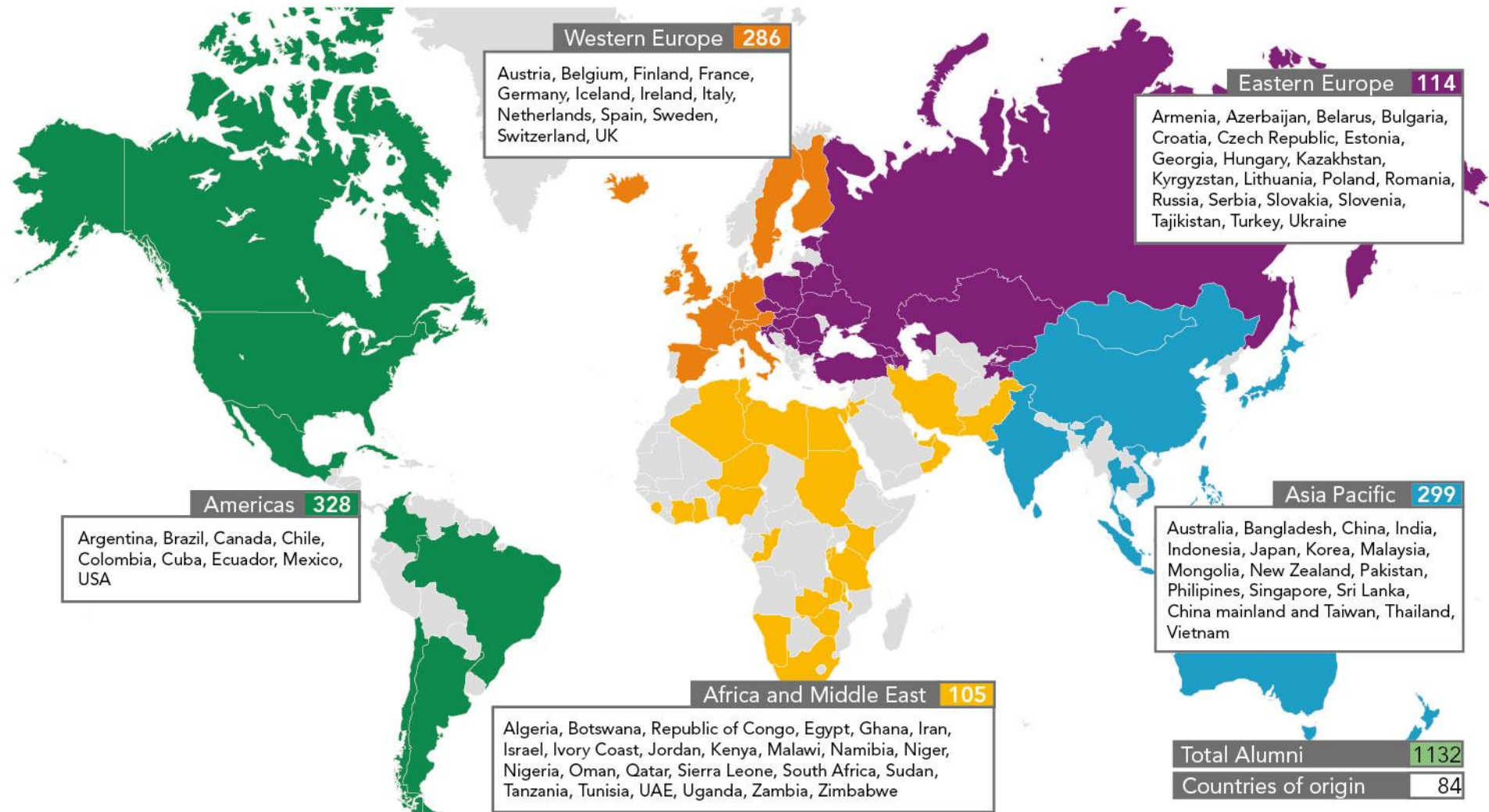
**8 Mentors**

And..

**Invited leaders:**

- Agneta Rising (WNA Director General)
- Cosmin Ghita (Nuclearelectrica CEO, Romania)
- Christophe Xerri (Director, Division of Nuclear Fuel Cycle, Waste Technology and Research Reactor, IAEA)
- Tim Gitzel (President and CEO, Cameco Corporation)
- Peter Prozesky (CEO, WANO)
- Kirill Komarov (First Deputy Director General for Corporate Development and International Business of ROSATOM & WNA Chairman)
- Mark Lesinski (President & CEO, Canadian Nuclear Laboratories)
- Liudmila Zalimskaya (Special Representative for International projects State Corporation Rosatom)
- Naomi Hirose (Executive Vice Chairman (Fukushima Affairs), TEPCO Holdings Inc.)
- Hans Wanner (Director General Swiss Federal Nuclear Safety Inspectorate ENSI)
- Gu Jun (President of China National Nuclear Corporation (CNNC))
- Richard Sexton (President & CEO, AECL)
- Mary Alice Hayward (Deputy Director General, IAEA)
- William Magwood (Director General, NEA OECD)
- Masahito Yoshimura (Senior Vice President, Hitachi-GE)
- Benoît Revaz (Director, Swiss Federal Office of Energy)

# The WNU Summer Institute Network



Geographical representation of WNU Summer Institute Alumni, 2005-2018

# Extended Leadership Development Workshop – Bariloche, Argentina, 2018





# WNU Radiation Technologies School

- South Korea (2010, 2012)
- Doha, Qatar (2014)
- São Paulo, Brazil (2017)
- **Obninsk, Russia (2019)**



# Radiation Technologies School Concept

**The RT School is designed to provide participants with:**

- A broad understanding of the main topics relevant to Radiation Technology
- Awareness of the main challenges within a given field
- An international network of value to current and future careers
- Inspiration to commit oneself to advancing the global contribution of peaceful nuclear technology

## Concept

Aimed at nuclear specialists in industry, universities, research centres, government and regulators

### **Objectives:**

- to increase participants knowledge about how nuclear science and technology are applied in the world today
- to recognize how their own special skills and experience fit into this global picture
- to inspire them to develop an expansive vision of where this industry can go in the future
- to network with fellow nuclear professionals in their countries



WNU Short course - The world nuclear industry today





# Nuclear Olympiad

*An international competition for students interested in nuclear technology and policy*

Konepa, Seoul, 2011: A plan for gaining public acceptance of nuclear energy in my country

IAEA, Vienna, 2015: Nuclear techniques for global development

WNA, London, 2016: Communications messages on the need to expand nuclear electricity capacity

**WNA, IAEA, 2019: Listening to the public**



- International Training Centre for uranium exploration, mine development, production, waste management and decommissioning
- Established in 2006 and is operated on behalf of WNU by DIAMO, the Czech uranium company
- Set up on the premise that a worldwide expansion of nuclear energy is now very likely, which will require a higher level of primary uranium production
- Now focusing on exploration and remediation
- Mostly participants from China and few others supported by IAEA
- The International Training Centre develops and presents schemes focused on professional training throughout the range of aspects of uranium production
- Each of the courses consists of a theoretical, lecture-based part and accompanying programmes that take the form of technical field trips to the DIAMO, state enterprise sites and premises, whose structure conveniently covers all aspects of the mining process



Training facilities at Straz pod Ralskem



Guest hotel at Straz pod Ralskem

□ Training Course

19-30 August 2019

**Remediation and Treatment of  
Ground and Mine Water Affected  
by Uranium Mining**

# Effective Communications with Nuclear English Course

- Learn English in a nuclear-specific context
- Based on the book: “Nuclear English: Language Skills for a Globalizing Industry” by Serge Gorlin



Brazil, May 2014



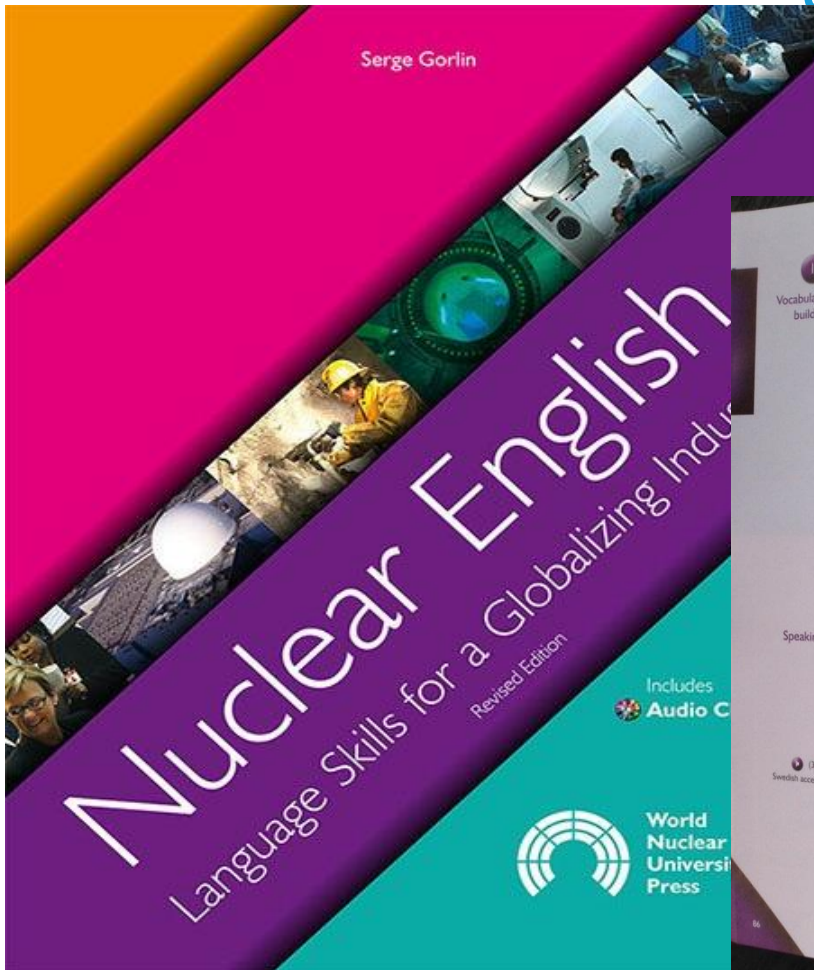


"If anybody is interested in energy, this book would give them a great understanding of the role nuclear energy might play."

Sir Roderick Carnegie  
Chairman Pacific Edge Group  
Former Chairman Conzinc Riotino  
Australia

WNU books are available for purchase at: [online-shop.world-nuclear.org](https://online-shop.world-nuclear.org)

# Communicating effectively with Nuclear English



**I** Describing Materials

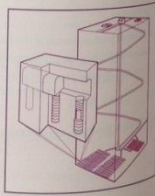
Vocabulary builder Match the materials/elements in the left column with the properties in the right column. The materials/elements can have more than one property. Use a dictionary if necessary.

Material / Element	Properties
Concrete	Corrosion-resistant
Boron	Insulating
Helium	Inert
Diamond	Non-flammable
Glass	Brittle
Titanium	Transparent
Oxygen	Acts as a radiation shield
Clay	Durable
Lead	Malleable
Rubber	Elastic
Ceramic	Reactive
Copper	Light
Cast iron	Dense
Wood	Neutron-absorbing

**Speaking** Look around your classroom. What materials have been used in its construction? How about the objects within the classroom? Working in small groups, identify the materials and talk about their properties.

**Examples:**  
The windows are made of glass which is brittle, transparent and insulating.  
The properties of concrete are stability and resistance to erosion.

**(30)** Swedish accent Because they must provide a barrier to radioactivity for thousands of years, the materials used in a final repository must be selected very carefully. Listen to SKB's Saida Engström describing the various levels of containment in a Swedish repository and fill in the gaps in the table on the next page.




**Follow-up discussion**


Type of barrier	Description	Properties
Fuel itself	Ceramic fuel	
Engineered barriers	Copper canister	
		Absorbency
Natural barrier	Rock	Stability

**Working with another student, discuss the following:**

- What kind of materials would be used in a repository in your country?
- If money wasn't a problem, which materials would be used in a repository?
- Is there an alternative to deep geological disposal which the general public might find more acceptable?
  - Report back to the class.



SKB's copper canister



"Now, that's what I call an engineered barrier!"

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Coming up in 2019 new book:

**Advanced Radiation Technology**

# WNU Executive Enhancement Programme

## **New programme to enhance:**

- broad understanding of the nuclear area,
- leadership skills,
- drive to influence the nuclear energy fast development.

## **Target audience:**

Board members, executive managers, high potential professionals in managerial positions with international outreach; policy makers in nuclear area, regulators.



# Thank You!

[www.world-nuclear-university.org](http://www.world-nuclear-university.org)

Find us in social media

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