



*Atoms for Peace and Development*

الوكالة الدولية للطاقة الذرية

国际原子能机构

International Atomic Energy Agency

Agence internationale de l'énergie atomique

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The Secretariat of the International Atomic Energy Agency (IAEA) presents its compliments to the IAEA's Member States and has the honour to draw their attention to the **International Conference on Nuclear Knowledge Management and Human Resources Development: Challenges and Opportunities** (hereinafter referred to as "event") to be held in Moscow, Russian Federation, from **15 to 19 June 2020**.

The purpose of the event is to review developments in the global situation relating to human resource development and nuclear knowledge management, consider the current and future challenges and opportunities, and to provide participants practical solutions that they can use at organizational, national, and international levels to develop and maintain the human resources needed to support safe and sustainable nuclear power programmes.

The event will be held in English.

Member States are invited to disseminate the attached Announcement and Call for Papers to the target audience for the event and to designate participants using Form A. Member States are strongly encouraged to identify suitable women participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the event.

Applications for financial support using Form C, as well as submissions of papers using Form B, can only be considered if received by the deadlines indicated in Section M of the Announcement and Call for Papers.





**International Conference on Nuclear Knowledge Management  
and Human Resources Development:  
Challenges and Opportunities**

**Moscow, Russian Federation  
15 to 19 June 2020**

Organized by the  
**International Atomic Energy Agency (IAEA)**

Hosted by the  
**Government of the Russian Federation**  
through the  
**State Atomic Energy Corporation “Rosatom”**

**Announcement and Call for Papers**

## **A. Background**

The nuclear field faces human resource challenges across the board, including in Member States operating nuclear power plants and countries in phases 2 and 3 of the Milestones approach, as well as at nuclear facilities, including research reactors, and radioactive waste management and fuel cycle facilities, subject to long term operation or decommissioning. Many of the opportunities for improving human resource development capabilities and ensuring the movement of knowledge and skills throughout the nuclear lifecycles are similar for all these facilities.

The best practices and practical guidance used at organizational and national levels can be shared to support sustainable human resource policies, nuclear knowledge management and information management activities across the workforce lifecycle. International cooperation approaches through conferences can be initiated or strengthened to address workforce related knowledge management issues at regional and international levels.

The programmatic activities of the IAEA encompass a dedicated subprogramme on nuclear knowledge management which focuses on:

- Developing methodologies and guidance documents for planning, designing and implementing nuclear knowledge management programmes;
- Facilitating nuclear education, networking and experience exchange;
- assisting Member States by providing products and services for maintaining and preserving nuclear knowledge; and
- Promoting the use of state-of-the-art knowledge management technologies and supporting interested Member States in their use.

The first international conference on nuclear knowledge management (NKM) was held in 2004 in Saclay, France; the second and third such conferences were held in Vienna in 2007 and 2016.

NKM-related topics, including capacity building, human resource development (HRD), education and training, and knowledge management were also addressed at a number of other conferences, including the first international conference on HRD held in Abu Dhabi in 2010, and the second and third such conferences held in Vienna in 2014 and in Gyeongju, Republic of Korea, in 2018.

This conference will review the current state of nuclear HRD, including nuclear learning and development and knowledge management activities, and will address issues such as availability and opportunities for sharing of relevant infrastructure. The conference will also directly support the ongoing business plans being delivered for Member States associated with HRD, learning and development, NKM and information management activities to support capacity building. The integrated approach to HRD and NKM will enable the specific topics and activities of the conference to be better tailored to meet the requirements of Member States who no longer view NKM and HRD as separate entities.

## **B. Objective of the Conference**

The objective of the conference is to review global developments in HRD, NKM and human capacity building, consider the current and future challenges and opportunities, and to provide participants with practical solutions that they can use at organizational, national and international levels to develop and maintain the human resources needed to support safe, secure and sustainable nuclear power

programmes. Various issues related to specific human competencies, methodological or process knowledge, and technology-related knowledge management will also be addressed.

## **C. Programme Structure and Topics**

To facilitate the conference objectives, each topical session will have the following format:

- A keynote speaker, who will present a paper by invitation;
- A set of presentations that supplement specific areas within the session topic and stimulate discussion among conference participants; and
- A set of detailed technical papers that present the state of the art of the subject area.

### **Opening Session: Opening, plenary and keynote presentations**

Opening addresses will be made by a senior management representative of the IAEA, a representative of the Government of the Russian Federation and the Chairperson of the Conference, who will be a senior manager from the host organization. The session will set the conference objectives and provide background information on the status and trends in the field of NKM and HRD including challenges to ensure the future nuclear workforce capability. Keynote interventions will provide information about cross-cutting aspects in NKM and HRD and specific applications of nuclear technologies that will emphasize the increasing reliance on a systematic and more effective approach to enhance the safe and economical operation of nuclear facilities.

### **Session 1: Nuclear Knowledge Management**

An integrated approach to NKM increases the importance and understanding of the workforce challenges across the full human resource lifecycle in the nuclear field, from embarking countries developing new nuclear programmes to existing facilities moving to decommissioning activities. Topics to be addressed in the presentations are:

- Strategies and policies to support NKM;
- Knowledge management methodologies and implementation approaches;
- Knowledge management across the nuclear operating lifecycle;
- Knowledge management for nuclear regulatory organizations;
- Knowledge management for non-power nuclear science and applications;
- Knowledge management in nuclear technology research, development and innovation;
- Internal/external collaboration for knowledge management; and
- Organizational culture to support knowledge management.

### **Session 2: Learning and Development for Human Resources**

There is a great need for robust strategies, sustainable programmes and shared materials for the improvement of the entire education/training process in the field of learning and development for human resources, and for the preservation of knowledge and expertise management. Topics to be addressed in the presentations are:

- Nuclear education and outreach;
- Building a learning culture in nuclear organizations and regulators;
- Human resources planning to support building and maintaining a workforce;
- Competency mapping and management;

- Training, certification and continued professional development along with performance monitoring and improvement;
- Roles and responsibilities related to human resources and leadership functions within the nuclear organization and regulators; and
- Networking and technical communities of practice.

### **Session 3: Digital Transformation to Support NKM and HRD**

The aim of this session is to share technical updates on experiences and lessons learned in relation to information technology and digital applications to support NKM and HRD on the following topics:

- Simulators for education and training of a nuclear workforce;
- Plant information models;
- Understanding how to plan and improve the digitalization strategy;
- Smart digital tools to enhance existing training programmes or support the establishment of new training programmes; and
- Potential digital technology to transform industry and businesses.

### **Session 4: Nuclear Information Management**

Due to emerging and disruptive information technologies and changing business needs, nuclear information management is undergoing substantial changes. Immediate access to reliable, trustworthy, easy to use and easily implementable, up-to-date information is required. In order to achieve this, proper information security and governance, top-of-the-line hardware and modern software, as well as properly trained staff need to be put in place. On the national and international level, a culture of long term preservation and information sharing need to be promoted. Topics to be addressed in the presentations are:

- Strengthening the role of nuclear knowledge and information management;
- Knowledge organization systems;
- Technology to support new trends in information, records and data management;
- Managing big data for analytics and transformation;
- Exploring data and disruption for nuclear plant operators; and
- Predictive analytics and new opportunities.

### **Panel Discussions**

To discuss technical challenges and experiences, panel discussions will be organized for technical sessions 1 to 12 in parallel. The panellists and audiences will have a chance to exchange their hands-on experiences and lessons learned on knowledge management challenges and approaches. A closing panel discussion by high level technical experts will consider:

- Technological issues;
- Regulatory issues;
- Political issues;
- Human resources; and
- Public information.

### **Closing session**

To conclude the conference, the session chairs will summarize the presentations and discussion of each technical session and the Chairperson will present their conclusions and recommendations to the IAEA.

## D. Target Audience

The conference is directed mainly at the staff of utilities, research and design organizations, regulatory bodies, and manufacturing and service companies, as well as government decision makers concerned with near, medium and long term nuclear energy needs, including:

- Government officials responsible for the introduction or expansion of nuclear power programmes;
- Managers, human resource managers and specialists, and training managers and specialists from the organizations that operate, regulate or support nuclear power plants and other nuclear facilities;
- Administrators, department chairs and faculty of universities, polytechnic institutes and training centres;
- Education and training specialists, knowledge management specialists and trainers from supplier organizations to the nuclear industry;
- Representatives of technical support organizations, vendors and supplier trade organizations that support the nuclear industry;
- Leaders of national and international organizations that establish policies and programmes in areas related to HRD of importance to the nuclear industry;
- Managers and specialists of organizations that communicate with nuclear industry stakeholders, particularly potential future employees in the nuclear industry; and
- Representatives of the next generation of nuclear professionals.

## E. Synopses, Papers and Proceedings

Concise papers on issues falling within the topics outlined in Section C may be submitted as contributions to the conference. All papers, apart from invited papers, must present original work and they should not have been published elsewhere.

### (a) Submission of Extended Synopses

Anyone wishing to present a paper or poster during this conference must submit a two-page synopsis in electronic format (no paper copies), directly to the IAEA. Instructions on how to upload the synopsis to the conference's web browser-based file submission system (IAEA INDICO) will be available on the IAEA conference website (see Section O). The synopsis must be submitted through this system between **1 October 2019 and 15 December 2019**. No other form of submission will be accepted.

Authors must further submit the following two forms to their appropriate governmental or other competent authority (see Section G) for transmission to the IAEA:

- Participation Form (Form A)
- Form for Submission of a Paper (Form B)

These forms must be received by the IAEA no later than **15 December 2019**.

**IMPORTANT:** The electronically received two-page synopsis will be considered by the Programme Committee only if these two forms have been received by the IAEA through the established official channels.

### **(b) Acceptance of Papers/Posters**

Authors will be informed by **28 February 2020** as to whether their papers have been accepted by the Programme Committee for oral or poster presentation.

Furthermore, selected authors will be asked to prepare full papers for publication in the proceedings. Guidelines for the preparation of contributed papers will be provided at that time.

In order to provide ample time for discussion, the number of papers that can be accepted for oral presentation is limited. If the number of relevant and high-quality papers submitted for selection exceeds the acceptable number, some of them will be selected for poster presentation.

The Conference Secretariat reserves the right to exclude papers that do not comply with the IAEA's quality standards and/or do not apply to one of the topics listed in Section C.

### **(c) Proceedings**

The proceedings of the conference containing conference conclusions and recommendations, session summaries, and the full papers will be published by the IAEA as soon as possible after the conference.

## **F. Participation and Registration**

All persons wishing to participate in the conference must be designated by an IAEA Member State or should be members of organizations that have been invited to attend. The list of invited organizations can be requested from the Conference Secretariat (see Section O).

In order to be designated by an IAEA Member State, participants are requested to send the following form(s), as applicable, to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority):

- Participation Form (Form A): participation only; no deadline if only Form A is submitted.
- Form for Submission of a Paper (Form B): participants submitting a paper through INDICO must send the completed and signed Form B together with Form A to their competent national authority for onward transmission to the IAEA ([Official.Mail@iaea.org](mailto:Official.Mail@iaea.org)) by **15 December 2019**.
- Grant Application Form (Form C): participants requesting financial support from the IAEA must complete Form C and send it together with Form A (and Form B, if applicable) to the competent national authority for onward transmission to the IAEA ([Official.Mail@iaea.org](mailto:Official.Mail@iaea.org)) by **15 December 2019**. Form C must be stamped and signed by the competent national authority.

Participants who are members of an organization invited to attend are requested to send the above form(s) through their organization to the IAEA ([Official.Mail@iaea.org](mailto:Official.Mail@iaea.org)).



## G. Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the conference. The IAEA has, however, limited funds at its disposal to help cover the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the conference.

If Governments wish to apply for a grant on behalf of one of their participants, the Participation Form (Form A) and the Grant Application Form (Form C), stamped and signed by the Government, must reach the IAEA ([Official.Mail@iaea.org](mailto:Official.Mail@iaea.org)) by **15 December 2019**.

Applications that do not comply with the above conditions cannot be considered.

Approved grants will be issued in the form of a lump sum payment that usually **covers only part of the cost of attendance**.

## H. Distribution of Documents

A preliminary programme of the conference will be available on the conference web page before the conference. The final programme and all accepted synopses will be available upon on-site registration at the conference.

## I. Working Language

The working language of the conference will be English. All communications must be sent to the IAEA in English.

## J. Venue and Accommodation

Detailed information on the venue, accommodation and other relevant matters will be sent directly to all designated participants approximately three months before the conference. This information will also be made available on the conference web page as soon as possible.

## **K. Exhibition**

A limited amount of space will be available for commercial vendors' displays/exhibits during the conference. Further information will be posted in due course on the conference web page (see Section O).

## **L. Visa**

Designated participants who require a visa to enter the Russian Federation should submit the necessary application(s) to the nearest diplomatic or consular representative of the Russian Federation as early as possible, but at least one month before the start of the conference. An invitation letter from the local organizers will be required to accompany the visa application. Please see the "Visa Guidance" section to be made available soon on the conference web page (see Section O) for information on how to obtain such an invitation letter.

## **M. Key Deadlines**

Submission of Form B and extended synopsis (800 words)	<b>15 December 2019</b>
Submission of Grant Application Form (Form C):	<b>15 December 2019</b>
Notification of acceptance of papers/posters:	<b>28 February 2020</b>
Submission of full papers:	<b>30 April 2020</b>

## **N. Conference Secretariat**

### **General contact details of the Conference Secretariat:**

International Atomic Energy Agency  
Vienna International Centre, PO Box 100  
1400 Vienna, Austria  
Tel.: +43 1 2600 0  
Fax: +43 1 2600 2007

Email: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org)

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**Joint email:** [NKM-HRD2020@iaea.org](mailto:NKM-HRD2020@iaea.org)

**Administration and Organization:**

**Mr Sanjai Padmanabhan**

Conference Services Section  
Division of Conference and Document Services  
Tel.: +43 1 2600 24838  
Email: [Conference.Contact-Point@iaea.org](mailto:Conference.Contact-Point@iaea.org)

## **O. Conference web page**

Please visit the IAEA conference web page regularly for new information regarding this conference:

<https://www.iaea.org/events/nkmhrd-2020>



# Participation Form

## International Conference on Nuclear Knowledge Management and Human Resources Development: Challenges and Opportunities

**Moscow, Russian Federation**

**15–19 June 2020**

To be completed by the participant and sent to the competent official authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA), Vienna International Centre, PO Box 100, 1400 Vienna, Austria, either electronically by email to: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) or by fax to: +43 1 26007 (no hard copies needed).

Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms
Institution:		
Full address:		
Tel:		
Email:		
Nationality:	Representing following Member State/non-Member State/entity or invited organization:	
Do you intend to submit a paper?                      Yes <input type="checkbox"/> No <input type="checkbox"/> Would you prefer to present your paper as a poster?    Yes <input type="checkbox"/> No <input type="checkbox"/> Title:		



# Form for Submission of a Paper

## International Conference on Nuclear Knowledge Management and Human Resources Development: Challenges and Opportunities

**Moscow, Russian Federation**

**15–19 June 2020**

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Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

**Deadline for receipt by IAEA through official channels: 15 December 2019**

Title of the paper:		
Abstract id in IAEA-INDICO:		
Family name(s) and first name(s) of author(s): (same as in passport(s)) (if more than 3, please indicate them in INDICO)	Scientific establishment(s) in which the work has been carried out	City/Country
1.		
2.		
3.		
Family name(s) and first name(s) of author presenting the paper: (same as in passport)	Mr/Ms:	
Mailing address:		
Tel (Fax):		
Email:		

I hereby agree to assign to the International Atomic Energy Agency (IAEA):

- the copyright; or
- the non-exclusive, world-wide, free-of-charge licence (this option is only for those authors whose parent institution does not allow them to transfer the copyright for work carried out in that institution) granting the IAEA world rights for the use of the aforementioned material in this and any future editions of the publication, in all languages, and in all formats available now, or to be developed in the future (digital formats, hardcopy etc.).

**Please note:** If granting the licence mentioned above, please supply any copyright acknowledgement text required.

Furthermore, I herewith declare:

- that the material submitted to the IAEA is original, except for such excerpts from copyrighted works as may be included with the permission of the copyright holder thereof, has been written by the stated authors, has not been published before, and is not under consideration for publication by another entity;
- that any permissions and rights to publish required for third-party content, including but not limited to figures and tables, have been obtained, that all published material is correctly referenced; and
- that the material submitted to the IAEA does not contain any libellous or other unlawful statements and does not contain any materials that violate any personal or proprietary rights of any person or entity.

**Date:**

**Signature of main author:**



# Grant Application Form

## International Conference on Nuclear Knowledge Management and Human Resources Development: Challenges and Opportunities

**Moscow, Russian Federation**

**15–19 June 2020**

To be completed by the applicant and sent to the competent official authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA), Vienna International Centre, PO Box 100, 1400 Vienna, Austria, either electronically by email to: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) or by fax to: +43 1 26007 (no hard copies needed).

**Deadline for receipt by IAEA through official channels: 15 December 2019**

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms:
Mailing address:	Tel.:	
	Fax:	
	Email:	
Date of birth (yy/mm/dd):	Nationality:	

### 1. Education (post-secondary):

Name and place of institution	Field of study	Diploma or Degree	Years attended	
			from	to

### 2. Recent employment record (starting with your present post):

Name and place of employer/ organization	Title of your position	Type of work	Years worked	
			from	to

### 3. Description of work performed over the last three years:

### 4. Institute's/Member State's programme in field of the event:

**Date:**                      **Signature of applicant:** \_\_\_\_\_

**Date:**                      **Name, signature and stamp of Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority** \_\_\_\_\_