

IAEA-CN-261



IAEA

International Atomic Energy Agency

**International Symposium on
Uranium Raw Material for the
Nuclear Fuel Cycle:
Exploration, Mining, Production,
Supply and Demand,
Economics and Environmental Issues
(URAM-2018)**

**IAEA Headquarters
Vienna, Austria**

25–29 June 2018

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

Announcement and Call for Papers

A. Background

Adequate services, expertise and modern technologies are needed to ensure a sustainable supply of uranium raw materials to fuel both operating and future nuclear power reactors. Effective regulation, sound environmental management, training and education are required to minimize the impact of uranium mining and production and to contribute to public acceptance of the global nuclear industry in general.

In 2005, 2009 and 2014, the International Atomic Energy Agency (IAEA) hosted International Symposia on Uranium Production and Raw Materials for the Nuclear Fuel Cycle¹ at its Headquarters in Vienna, Austria, to discuss all aspects of uranium raw materials for the uranium fuel cycle to ensure the long term sustainability of a nuclear power programme.

In response to a challenging economic environment, the industry is currently seeking new and innovative ways to improve efficiencies in producing uranium. Since 2016 the long term median forecast envisages the growth of nuclear power worldwide, thereby leading to an eventual increase in uranium demand and in turn the price of uranium. In the last few years uranium supply has exceeded consumption, leading to historically low spot prices for uranium oxide. This has resulted in decreased exploration activity as well as in some mines being placed in care and maintenance. Looking forward, secondary uranium supplies are expected to dwindle. This, combined with the exhaustion of some active uranium mines, requires that the uranium resource base and global production capacity be further advanced in order to meet current and future demands. The current oversupply could potentially lead to undersupply in the medium to long term. Due to long lead times from discovery to production, the re-evaluation of uranium resources is required now.

B. Purpose and Objectives

The long term sustainability of nuclear power will depend on, among several factors, an adequate supply of uranium resources that can be delivered to the marketplace at competitive prices. New exploration technologies and a better understanding of the recognition criteria and genesis of the uranium ores will be required to discover and delineate increasingly difficult-to-locate uranium deposits, particularly those of low cost. In addition, exploration, mining and milling technologies should be environmentally benign, and site decommissioning plans need to meet the requirements of increasingly stringent environmental regulations and societal expectations.

The purpose of the symposium is to analyse uranium supply and demand scenarios and to present and discuss new developments in uranium geology, exploration, mining, milling and processing, as well as the environmental requirements for uranium operations and site decommissioning. The presentations and discussions at URAM-2018 will:

- Lead to a better understanding of the adequacy of uranium supply to meet future demand;

¹ The full title of URAM-2015 was International Symposium on Uranium Production and Raw Materials for the Nuclear Fuel Cycle: Supply and Demand, Economics, the Environment and Energy Security. URAM-2009 and URAM-2014 both had a slightly amended full title: International Symposium on Uranium Raw Material for the Nuclear Fuel Cycle: Exploration, Mining, Production, Supply and Demand, Economics and Environmental Issues. This title is also being used for URAM-2018.

- Provide information on geological models, new exploration concepts, knowledge and technologies that may potentially result in the discovery and development of new uranium resources;
- Describe new mining and processing technologies that have the potential to support a more efficient and sustainable development of uranium and related resources; and
- Consider the environmental compatibility of uranium production and the overall effectiveness of progressive waste management, decommissioning and remediation of production facilities.

URAM-2018 is intended to bring together scientists, managers, exploration and mining geologists, mineral economists, engineers, operators, regulators, community representatives, social scientists, nuclear fuel cycle and environmental specialists and young professionals to exchange information and discuss updated research and current issues related to uranium geology and deposits, exploration, mining and processing, production economics and environmental and legal issues.

C. Topics and Format

Contributed papers will be accepted on the following topics:

1. Nuclear power and associated modern energy markets
 - Policies, carbon goals and climate change (with reference to COP-21)
 - Nuclear and renewables as a future energy mix
 - Energy trends
2. Uranium markets
 - Supply and demand
 - Market trends
 - Secondary supplies and inventories
 - Economics of production: constraints and improvements
3. Applied geology and geometallurgy of uranium and associated metals
 - Uranium deposit types and recognition criteria
 - Geochemistry and mineralogy of deposits and tailings
 - Uranium provinces
 - Genetic models
4. Advances in exploration
 - Geological, geophysical, geochemical methods
 - Exploration stories: lessons from success or failure
 - Resource estimation

- Regional spatial and quantitative uranium modelling
5. Economic evaluations of uranium projects
 - Classification and reporting standards
 - Conceptual, scoping, pre-feasibility and feasibility studies
 - Project priority, maturity ranking and timelines
 - Case studies
 - Socio-economics
 - Financing of uranium projects
 6. Underground and open pit uranium mining and milling
 - Advances in mining technologies and applications
 - Ore beneficiation and processing
 - New and emerging technologies in uranium milling
 - Advances in heap leaching
 7. Uranium production by the in situ leaching (ISL) process
 - ISL exploration and resource estimation
 - ISL mining and processing
 - ISL closure and remediation
 - ISL case studies
 8. Uranium from unconventional resources
 - Unconventional uranium resources (e.g. extraction of uranium from phosphates)
 - Production of uranium as a by- and co-product
 - Uranium from salt water
 9. Thorium and associated resources — international and national initiatives
 - Thorium resources
 - Thorium utilization scenarios and policies
 - By-product thorium and associated metals
 10. Health, safety, environment and social responsibility
 - Advances in radon management and radiation exposure reduction
 - Risk-based assessments
 - Regulatory issues
 - Managing legacy issues

- Stakeholder communications, engagement and public hearings
- Indigenous aspects
- Social and community return
- Environmental assessment and management

11. Tailings and waste management

- Progressive end-of-life remediation
- Evaluation of tailings
- Mine site regeneration

12. Uranium newcomers

- Update of uranium exploration and mining activities, newcomers
- Opportunities and challenges

The symposium programme will consist of plenary sessions, parallel technical sessions (as required), a poster session and closing uranium industry panel discussions.

D. Contributed Papers and Posters

Concise papers on topics falling within the scope of the symposium (see Section [CE](#)) may be submitted as contributions to the symposium. All papers, apart from invited papers, must present original work and must not have been published elsewhere.

(a) Submission of abstracts

Anyone wishing to present a paper at the symposium either orally or in the form of a poster must first submit a brief abstract in English of not more than 200 words in electronic format through the symposium's web browser-based file submission system (IAEA-INDICO). Instructions on how to upload the brief abstract will be available on the symposium web page (see Section [LE](#)) as of **October 2017**.

The brief abstract **must** be submitted through this system by **17 December 2017**. No other form of submission will be accepted.

Paper copies cannot be accepted. The brief abstract of not more than 200 words should give enough information on the contents of the proposed paper to enable the Programme Committee to evaluate it. Authors should state to which of the topics outlined in Section [CE](#) their contribution relates.

The brief abstracts should also be submitted together with a completed Participation Form (Form A) and Form for Submission of a Paper (Form B) to the competent official authority (see Section [EE](#)) for subsequent electronic transmission to the IAEA (Official.Mail@iaea.org), to be received by the IAEA by **17 December 2017**. In addition, the brief abstracts must be sent electronically to: URAM2018@iaea.org. Introductory and general matters should not be included.

IMPORTANT: The electronically received brief abstract will be considered by the Programme Committee only if the Participation Form (Form A) and Form for Submission of a Paper (Form B) have been received by the above-mentioned deadline and through the established official channels.

(b) Acceptance of papers for oral or poster presentation

Based on the number of papers anticipated and the need to provide ample time for discussion, the number that can be accepted for oral presentation is limited. Authors who prefer to present their papers as posters are requested to indicate this preference on Form A and via INDICO during electronic abstract submission. Authors will be notified by **December 2017** as to whether their abstracts have been accepted and, if so, for oral or poster presentation.

The brief abstracts that have been accepted by the Programme Committee will be reproduced in unedited form in the *Book of Contributed Papers*, which will be available at registration.

Further details concerning written and oral presentations at the meeting will be sent to all authors in due course.

(c) Submission of extended abstracts

Authors of papers selected for oral presentation, only, are requested to submit an extended abstract of three to five pages. Extended abstracts must be submitted through the IAEA-INDICO file submission system. Specifications for the layout and electronic format of the extended abstracts will be made available on the symposium web page. The deadline for electronic submission of the extended abstracts as both PDF and Word files is **1 February 2018**.

IMPORTANT: The system for electronic submission of extended abstracts, IAEA-INDICO, is the sole mechanism for submission of extended abstracts. Eligible authors are encouraged to submit extended abstracts as early as possible.

The IAEA will inform authors of the review of the extended abstracts by **1 March 2018**. The deadline for revised extended abstracts submitted through IAEA-INDICO is **2 April 2018**.

IMPORTANT: The system for electronic submission of extended abstracts, IAEA-INDICO, is the sole mechanism for submission of contributed extended abstracts. Authors are encouraged to submit extended abstracts as early as possible.

The extended abstracts that have been accepted by the Programme Committee will be reproduced in unedited form in the *Book of Contributed Papers*, which will be available at registration.

The IAEA, however, reserves the right to refuse the presentation or publication of any extended abstract, paper or poster that does not meet the expectations based on the information given in the brief abstract. The Secretariat also reserves the right to exclude extended abstracts that do not comply with its quality standards or that do not apply to one of the topics outlined in Section [CE](#) above.

E. Participation and Registration

The focus of this symposium is broad, covering exploration, mining, production, supply and demand, economics and environmental issues associated with the uranium production cycle. Thus, potential attendees and relevant organizations would include scientists, managers, exploration and mining

geologists, mineral economists, engineers, operators, regulators, community representatives, social scientists, nuclear fuel cycle and environmental specialists and young professionals.

All persons wishing to participate in the symposium have to 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 Symposium Secretariat (see Section K).

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 have to send the completed and signed Form B together with Form A (and Form C, if applicable) to their competent national authority for onward transmission to the IAEA (Official.Mail@iaea.org).
- Grant Application Form (Form C): participants requesting financial support from the IAEA, have to 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). Form C has to be stamped and signed by the competent national authorities. Participants who are members of an invited organization are requested to send the above form(s) through their organization to the IAEA (Official.Mail@iaea.org).

Participants who registered in accordance with the above procedure will receive from the IAEA further information approximately three months before the opening of the symposium.

Please note that in 2018 it will be possible, and encouraged, to manage the entire designation process electronically, using the new InTouch+ (<https://intouchplus.iaea.org>). This application is currently used for the IAEA's technical cooperation events and will be available for regular programme meetings starting in 2018. Using InTouch+, prospective participants will be able to apply to participate in the Symposium and submit all required documents online. National authorities will be able to use InTouch+ to review and approve these applications.

Interested parties that would like to use this new application should write to InTouchPlus.Contact-Point@iaea.org.

F. 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 designated participants in the symposium. The IAEA has, however, limited funds at its disposal to help cover the cost of attendance of selected specialists from Member States eligible to receive technical assistance under the IAEA's technical cooperation programme. Such assistance may be offered upon specific request to normally one participant per country provided that, in the IAEA's view, the participant on whose behalf assistance is requested will make an important contribution to the symposium.

If governments wish to apply for a grant on behalf of one of their specialists, they should address specific requests to the IAEA to this effect. Governments should ensure that applications for grants are:

1. Submitted by **17 December 2017**;
2. Accompanied by a completed and signed Grant Application Form (Form C);
3. Accompanied by a completed Participation Form (Form A).

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**.

G. Working Language

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

H. Exhibition

A limited amount of space will be available for commercial vendors' displays/exhibits during the symposium. Further information will be posted soon on the symposium web page (see Section **LM**).

I. Visas

Designated participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria as soon as possible. Please note that Austria is a Schengen State and therefore persons who require a visa will have to apply for a Schengen visa at least 21 days before entry into Austria. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question. At present the Schengen States are: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and Switzerland. If you need more information please check: <http://www.eurovisa.info/SchengenCountries.htm>.

J. Key Deadlines

Submission of Form for Submission of a Paper (Form B) and abstract:	17 December 2017
Submission of Grant Application Form (Form C):	17 December 2017
Notification of acceptance of brief abstract	31 December 2017
Electronic submission of extended abstracts, if applicable:	1 February 2018
Notification of acceptance of extended abstracts:	1 March 2018
Submission of revised extended abstracts:	2 April 2018

K. Symposium Secretariat

General contact details of the Symposium Secretariat:

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PO Box 100
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Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries of the symposium and correspondence on administrative matters to the IAEA Conference Services Section.

L. Symposium Web Page

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

<https://www.iaea.org/events/uram-2018>

M. Greening

To demonstrate its commitment to sustainability, the IAEA will organize this symposium as a 'green meeting' according to the guidelines of the Austrian Ecolabel.

There will be a focus on the areas of paper smart documentation, waste reduction and recycling, and environmentally friendly catering.