



News from the Nuclear Information Section

International Nuclear Information System (INIS), IAEA Library & SDSG

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To our readers



This issue of the Nuclear Information and Knowledge Newsletter is devoted to a whole spectrum of activities carried out by the Nuclear Information Section (NIS). Activities by both INIS and the IAEA Library, as well as information technology developments implemented by the System Developments and Support Group (SDSG), are included.

We start with probably the most important development of 2014 – the indexing of the INIS Collection by Google Scholar and the possibility to search our Collection while searching Google Scholar. An article on the usage of the INIS Collection statistically demonstrates the impact this cooperation with Google had on the number of visitors to our site. To better serve those visitors, the INIS Collection Search (ICS) is constantly updated and improved, while the number of records continues to increase – both topics which are discussed in the Newsletter. Together with an improved search facility, come the latest INIS Thesaurus developments, used

INIS partners with Google Scholar



Since its inception in 1970, INIS has relentlessly pursued its mission to disseminate knowledge to the public on the peaceful applications of nuclear science.

Since 2011, INIS has provided the nuclear community with an efficient gateway to its collection of more than 3.6 million bibliographic records: the INIS Collection Search (ICS) engine. The established partnership with Google underlines the tradition of INIS to embrace the newest technologies to continuously improve its services, while laying a strong foundation for future collaboration with Google. [Read more](#)

New INIS Collection search features



The INIS Collection Search (ICS,) the public interface of the Collection, is constantly updated and improved. Recently, version 5 of the ICS was released. This version continues the commitment of the Nuclear Information Section to provide a user-friendly experience and provide useful features for

researchers and the general public. [Read more](#)

INIS Collection usage: what can statistics tell us?



Since 2009, the audience of the INIS Collection has steadily grown to more than 125 000 visits per month. As a result, we have been able to collect and analyse comprehensive and objective statistics on INIS Collection usage. [Read more](#)

INIS Thesaurus latest developments



The INIS Thesaurus is a valuable and useful product used by the INIS Secretariat and INIS Member States to index documents for input into the Collection and to facilitate information retrieval.

[Read more](#)

2013 INIS highlights

There were many INIS achievements, improvements and information technology developments in 2013. This article highlights some of the major ones. [Read more](#)

for better indexing and input of INIS records to the Collection.

IAEA Library activities are reviewed through a prism of current challenges and opportunities, which include the possibility of introducing a new Resource Description and Access (RDA) standard. Special mention is given to a collection of valuable books and documents donated by the family of the late Dr. Franz J. Dahlkamp. And last, but not least, information resources available from the Library, or directly from the Web, are mentioned in 'Worth Reading'.

Inspirational reading!

Dobrica Savic

Forward to a colleague

Know someone who might be interested in the NIS Newsletter? Why not [forward it to them](#)?

Unsubscribe

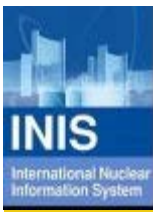
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Meetings

- **37th Consultative Meeting of INIS Liaison Officers**, 14-15 October 2014, IAEA, Vienna, Austria



New records in INIS Collection



From January to June 2014, 66 118 records were added to the INIS Collection. This includes both 22 522 national records and 43 596 voluntary records. In comparison with 63 848 records from the same period last year, 2270 more records were added.

[Read more](#)

INLN membership reaches 50



In 2013, the fiftieth member joined the International Nuclear Library Network (INLN). It is now an established fact that the INLN continues to gain momentum, as nuclear libraries reap the benefits of the Network and realize the pressing need for nuclear libraries to be present in inclusive, innovative and reflective societies. [Read more](#)

The IAEA Library: challenges and opportunities



The IAEA Library finds itself at a crossroads during these times when the traditional model of scholarly communication is fundamentally changing, the globalised dimension of research presents new challenges, and the interdisciplinary and comparative aspects of modern scholarship transcend discipline boundaries and put extra strain on Library resources. [Read more](#)

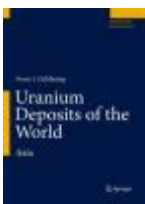
[more](#)

Resource Description and Access



Resource Description and Access (RDA) is a cataloguing standard which provides a comprehensive set of guidelines and instructions on formulating data to support resource discovery of all types of content and media. The IAEA Library is in the process of implementing RDA in conjunction with our move towards a new Integrated Library Management System. [Read more](#)

New collection at the IAEA Library



The IAEA Library received a donation of valuable books and documents from the late Professor Dr. Franz J. Dahlkamp's collection. This material is being incorporated into the Library collection. [Read more](#)

Worth reading

The IAEA Library regularly obtains a number of interesting new



publications, primarily in the area of nuclear science and technology, but also from other areas of interest to its users. A selection of recently received publications is listed here.

[Read more](#)

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INIS partners with Google Scholar

When it comes to delivering information and knowledge, using the right channels can make a big difference, especially when targeting a specialized audience. For this purpose, since 2011, INIS has provided the nuclear community with an efficient gateway to its collection of more than 3.6 million bibliographic records: the INIS Collection Search (ICS) engine.



While improving the efficiency of a system can generally be narrowed down to optimizing or increasing the resources vested in it, such as people, machines and money, the effectiveness of a system in reaching its target, especially on the World Wide Web, might prove to be more elusive. Search Engine Optimization (SEO), which substantially increases the visibility of contents, plays a key role in improving the effectiveness of information delivery.

In this light, the partnership between INIS and Google Scholar was born. Google Scholar remains the undisputed leader in providing access to recorded scholarly literature, capable of indexing 98 to 100 percent of academic journals. Partnering with Google Scholar benefits not only the visibility and accessibility of the INIS Collection Search (ICS), but the nuclear community as a whole.

The main challenges encountered in integrating INIS records with Google Scholar were ensuring performance, functionality and security. In terms of security, engineers had to consider major constraints in fully preserving the confidentiality of contents, as not all of the records, due to stringent limitations, can be publicly accessible as full-text documents. SEO changes to the INIS Collection Search had to maintain the ability to monitor user traffic flows and habits, with the aid of Google Analytics. Lastly, it was important to guarantee that the system could properly handle the expected increase in user traffic and workload, once the changes were put into effect.

A first step in integrating with Google Scholar was to guarantee the security of data, collaborating closely with the Division of Information Technology (MTIT) on adequate rules and access restrictions. This was initiated to prevent web crawlers and bots from autonomously indexing and hot-linking information stored on the public INIS web servers, the availability of which might be subject to change over the years, due to copyright or other legal restrictions. Access rules were put in force that would re-route all direct access to documents by external users, or through searches performed in Google services, to the relevant abstracts generated by the ICS. Next, a custom application, developed by the Systems Development and Support Group (SDSG) software engineers, to generate updated sitemaps of the collection contents, guaranteed the consistency and accuracy of the data presented on Google Scholar, together with an additional layer of control on the Google indexing process.

Due to the lack of historical data or analogy models to estimate the impact of increased user traffic, the project was divided into two phases, to maintain the highest level of information accessibility, while collecting statistical information and performing the required system upgrades. The first phase carried out by SDSG, in collaboration with Google Scholar's partner

management, limited the exchange of data in the INIS Collection to full-text documents, excluding their respective bibliographic records. The results were staggering, proving right the intuition of SDSG engineers to use only a portion of the Collection to assess the impact of traffic on the IT infrastructure. In fact, in December 2013, its first week of operation, the statistics showed an increase of +319% in page views, +411% in unique searches, +761% in visits and +1169% in unique visitors, compared to November of the previous year.

In the second phase, several SEO changes were performed in the ICS abstract pages of the entire INIS Collection, improving the ability of the ICS to generate the appropriate metadata interface to Google Scholar and Google Analytics, to facilitate indexing and guarantee the reliable collection of user statistical data. By the end of June 2014, with all the necessary changes put into effect, the INIS Collection Search Engine could boast an impressive +7.671.68% increase in unique users, a +3.294.89% increase in sessions and a +734.22% increase in page views compared to the same period of the previous year,. Numbers so big, that the INIS Collection became one of the most popular resources on the entire IAEA Web.

Since its inception in 1970, INIS has relentlessly pursued its mission to disseminate knowledge to the public on the peaceful applications of nuclear science. The established partnership with Google underlines the tradition of INIS to embrace the newest technologies to continuously improve its services, also laying a strong foundation for future collaboration with the Mountain View Company.

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New INIS Collection search features

The INIS Collection is the product of over 40 years of work by IAEA employees, INIS Liaison Officers, publishers, and Member States. The INIS Collection Search (ICS), the public interface of the Collection, is constantly being updated and improved. Recently, version 5 of the ICS was released. This version continues the commitment of the Nuclear Information Section to provide a user-friendly experience and to provide features useful for researchers and the general public.

Dynamic Searches of Related Resources

As part of our ongoing partnership with The European Organization for Nuclear Research (CERN), we have now made a dynamic link from ICS to CERN's High Energy Physics Information System (INSPIRE-HEP). When a search is performed on ICS, such as for 'Muons', that same search can be performed on INSPIRE-HEP simply by clicking on the link (found under 'Search other resources').

The screenshot displays the INIS Collection Search interface. At the top, there are tabs for 'Standard Search', 'My Selection', and 'Search History'. Below these is a search bar containing the text 'muons', with buttons for 'Search', 'Save Query', 'Subscribe', and 'Email'. A checkbox labeled 'Limit to results with full text' is also present. On the left side, there is a section titled 'Search other resources' with a link to 'INSPIRE-HEP' circled in blue. Below this is a 'Refine your search' section with filters for 'Country/Org.' and 'Language'. The main results area shows 'Results 1 - 10 of about 32082. Search took: 0.95 seconds.' and a list of search results, including 'Diffusion and trapping of positive muons in hydrides' and 'Behavior of positive muons in zirconium and vanadium hydrides'.

Search in INIS Collection

muons Brief format Search [Easy Search](#) [Advanced Search](#)

[find in "Phys.Rev.Lett.,105"](#) :: [more](#)

Sort by: Display results:

latest first desc. - or rank by - 25 results single list


HEP 35,584 records found 1 - 25 ▶▶ jump to record:

- 1. Exposure of nuclear track emulsion to thermal neutrons, heavy ions and muons**
 D.A. Artemenkov, V. Bradnova, A.A. Zaitsev, P.I. Zarubin, I.G. Zarubina, R.R. Kattabekov, K.Z. Mamatkulov, V.V. Rusakova. Jul 17, 2014.
 e-Print: [arXiv:1407.4572 \[nucl-ex\]](#) | [PDF](#)
[References](#) | [BibTeX](#) | [LaTeX\(US\)](#) | [LaTeX\(EU\)](#) | [Harvmac](#) | [EndNote](#)
[ADS Abstract Service](#)
[Detailed record](#)
- 2. Measurements of low energy e+e- hadronic cross sections and implications for the muon g-2**
 B. Malaescu. Jul 17, 2014. 4 pp.
 e-Print: [arXiv:1407.4685 \[hep-ex\]](#) | [PDF](#)
[References](#) | [BibTeX](#) | [LaTeX\(US\)](#) | [LaTeX\(EU\)](#) | [Harvmac](#) | [EndNote](#)
[ADS Abstract Service](#)
[Detailed record](#)


Related Search in INSPIRE-HEP

A related new feature provides a dynamic link to the Online Computer Library Center's (OCLC) WorldCat on bibliographic records containing International Standard Serial Number (ISSN) or International Standard Book Number (ISBN) records.

As an example, below is the first record from the search for 'muons'. It is a bibliographic record of an article in the Journal of the Less-Common Metals. Clicking on the ISSN will search ICS for all records provided by that journal. Clicking on the OCLC WorldCat icon, however, will search WorldCat for the indicated journal. Once there, a user can find nearby libraries with the journal in their collection.


 **Diffusion and trapping of positive **muons** in hydrides** G

by Doyama, M.; Nakai, R.; Yamamoto, R.; Uemura, Y.J.; Yamazaki, T. (British Columbia Univ., Vancouver (Canada). TRIUMF Facility); Fukai, Y. (Chuo Univ., Tokyo (Japan). Dept. of Physics); Suzuki, T. (Science Univ. of Tokyo (Japan). Faculty of Science)

 **Collapse**

[en] Protons (hydrogen nuclei) and positive **muons** are isotopes; thus the behaviour of positive **muons** and hydrogen in hydrides is rather similar. Positive **muons** were injected into non-stoichiometric zirconium hydrides ZrHsub(1.99), ZrHsub(1.90) and ZrHsub(1.56) which contain non-stoichiometric vacancies and the spin relaxation was measured as a function of time. At room temperature some positive **muons** occupy interstitial sites and some are trapped by non-stoichiometric vacancies in the hydrogen sublattice. The jump frequencies of the positive **muons** in ZrHsub(1.99) and ZrHsub(1.56) were determined to be $(3 \times 10_9)\exp(-0.31 \text{ eV/kT}) \text{ s}^{-1}$ and $(8 \times 10_9)\exp(-0.31 \text{ eV/kT}) \text{ s}^{-1}$ respectively. The pre-exponential factor of the muon frequency in ZrHsub(1.99) is about a factor of 3 greater than that in ZrHsub(1.90). Positive **muons** diffuse slowly in V²H and occupy substitutional sites in the hydrogen sublattice with a jump frequency of $0.5\exp(-0.02 \text{ eV/kT}) \text{ s}^{-1}$. At temperatures above 230 K positive **muons** and hydrogen diffuse at the same rate. (Auth.)

Subject [MATERIALS SCIENCE \(B2300\)](#), [CONDENSED MATTER PHYSICS](#), [SUPERCONDUCTIVITY AND SUPERFLUIDITY \(A1300\)](#)

Source/Report Journal of the Less-Common Metals; v. 88(2) p. 405-409; [ISSN 0022-5088](#); ; Dec 1982; International symposium on the properties and applications of metal hydrides; Toba (Japan); 30 May - 4 Jun 1982

Record Type Journal article

Country/Org. [Switzerland](#)

A search is performed in ICS, clicking the WorldCat icon searches OCLC for related records

Search results for 'n2:0022-5088'

Format: All Formats (31,531), Article (31517), Book (9), Journal, magazine (5), eJournal/eMagazine (3)

Refine Your Search: Author (Gulay L.D. (77), Buschow K.H.J. (65), Andreev A.V. (59), Morozkin A.V. (54), Bronger W. (41), Show more...), Year (2010 (2157), 2009 (3328))

Results 1-10 of about 31,531 (.25 seconds)

1. [Journal of the less-common metals : an interdisciplinary journal of materials science and solid-state chemistry and physics.](#)
Journal, magazine : Periodical [View all formats and languages >](#)
Language: English
Publisher: Lausanne [u.a.] : Elsevier Sequoia.
Database: WorldCat
[View all editions >](#)

2. [Journal of the less-common metals.](#)
Journal, magazine : Periodical [View all formats and languages >](#)
Language: English
Publisher: Amsterdam, Elsevier Pub. Co.
Database: WorldCat
[View all editions >](#)

The related records are found in WorldCat, which can provide further information on how to find the journal.

Extended Browsing

The browse feature has also been improved and extended. Clicking on 'Browse' in the top menu brings up a box which contains tabs for Subject Category, Top Searches, and, now, the INIS Thesaurus. The Thesaurus here behaves as it does when it is a stand-alone application. A user can search for terms and get results in English and seven other languages. When a user clicks on the main term, either in the main word block, or in a translation, a search for that term will be performed on the ICS. As an example, I searched for the term 'MUON DETECTION', and then translated the term into Japanese, 'ミューオン 出'. Clicking either the link 'MUON DETECTION' or the Japanese translation will perform a search on ICS.

Subject Category | Top Searches | Thesaurus | Close

Enter descriptor in: English MUON DETECTION
(start typing and the matching descriptor will automatically appear)

Wordblock	Translation: 日本語
MUON DETECTION	ミューオン検出
*bt charged particle detection	*bt 荷電粒子検出
rt cosmic ray detection	rt 宇宙線検出
rt dumand project	rt dumand (deep underwater muon and neutorino detector深海ニュートリノ) 実験

The search on the Thesaurus

The screenshot displays the INIS Collection Search web application. At the top, there's a header with 'INIS Collection Search' and a link to 'Advanced Search'. Below this, a navigation bar includes 'Standard Search' (selected), 'My Selection', and 'Search History'. The main search area contains a text input with 'MUON DETECTION', a 'Search' button, a 'Save Query' button, and links to 'Subscribe' and 'Email'. A checkbox for 'Limit to results with full text' is present. On the left sidebar, there are sections for 'Search other resources' (listing NUCLEUS and INSPIRE-HEP), 'Refine your search' (with a 'Country/Org.' filter showing counts for various countries like United States, Germany, etc.), and a 'Language' filter. The main results area shows 'Results 1 - 10 of about 14868. Search took: 1.28 seconds.' and a 'Sort by: date | relevance' option. The first result is titled 'Muon detection and background for normal events for a possible forward muon detector' by Hansl, T., from a 1980 workshop. The second result is 'Muon tomography imaging algorithms for nuclear threat detection inside large volume containers with the Muon Portal detector' by Riggi, S. et al. The interface is clean with a yellow border around the main content area.

The corresponding search on INIS Collection Search

Single-Record Page Changes

The vast majority of ICS users come from Google. They do a search on Google, retrieve a single record, perhaps download the corresponding full-text PDF, and leave. Therefore, we have made some improvements for when a single record is retrieved.

As the search has retrieved a single record and cannot be narrowed further, instead of the 'narrow your search' feature, there are boxes containing information about the ICS. This includes some facts about the INIS Collection, announcements, and some common custom queries. Furthermore, when clicking on the links to search other resources, instead of searching on 'RN:12598284' as it would have been in this example, a search is performed using the title of the given record.

Standard Search
My Selection
Search History

Search the INIS Collection

☐ Limit to results with full text

Search other resources

NUCLEUS

INSPIRE-HEP

INIS Collection fact file

329,259 public full text records

3,680,402 bibliographic records

New content added to the collection every week.

Announcements

More than 10,000 full text have been opened/made available to public since the beginning of the year!

Fukushima Archive records to be integrated to INIS Collection soon!

Custom queries

Fukushima Accident

Nuclear Safety

Results 1 - 1 of about 1. Search took: 0.09 seconds.
Sort by: date | relevance

All results

Muon detection and background for normal events for a possible forward muon detector

by Hansl, T.

from Proceedings of the topical workshop on forward production of high-mass flavours at collider energies. Paris, 28-30 November 1980

[en] A single μ -trigger in forward direction is not feasible. Muon detection in forward direction is not possible without an additional shielding around the CALCOM. Any muon detector behind the CALCOM has to be supplied with a fast decision logic to determine the track direction. From what has been discussed it is clear that the problems are at least as severe for μ -detection behind the Roman Calorimeter that covers angles up to 2.5° at a distance of 11.5 m to 13.5 m from the vertex

Subject	PHYSICS OF ELEMENTARY PARTICLES AND FIELDS (A2200)
Source/Report	Fontaine, G. (ed.); College de France, 75 - Paris. Lab. de Physique Corpusculaire; 335 p; nd; p. 257-281; Topical workshop on forward production of high-mass flavours at collider energies; Paris, France; 28 - 30 Nov 1979; LPC--80-13 ; ; p anti-p UA-1 collaboration.
Record Type	Report
Country/Org.	France
DEC	CHARGED PARTICLE DETECTION , ELECTRONIC CIRCUITS , PARTICLE IDENTIFICATION , PULSE CIRCUITS , RADIATION DETECTION
DEI	MUON DETECTION , PARTICLE DISCRIMINATION , TRIGGER CIRCUITS
Ref. Number	12598284
INIS Volume	12
INIS Issue	09

The corresponding search on INIS Collection Search

Further improvements that have been completed this year are the addition of Korean to the list of languages where automated translation is available, and a dynamic link to search related resources in the NUCLEUS catalogue.

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INIS Collection usage: what can statistics tell us?

Historical Overview

For many years, the main INIS performance indicators were the size and the growth rate of the INIS Collection. Statistics on the utilization of the Collection were evaluative and were based on collateral data, such as feedback from Liaison Officers, the IAEA, and user surveys.

However, the situation changed when access to the INIS Collection was opened in 2009, followed by the launch of the Google-based INIS Collection Search application (ICS) in 2011, and the inclusion of the INIS Collection in Google Scholar and Google.com at the end of 2013.

Since 2009, the audience of the INIS Collection has steadily grown to its present level of more than 125 000 visits per month. As a result, we have been able to collect and analyse comprehensive and objective statistics on INIS Collection usage and can answer the following important questions.

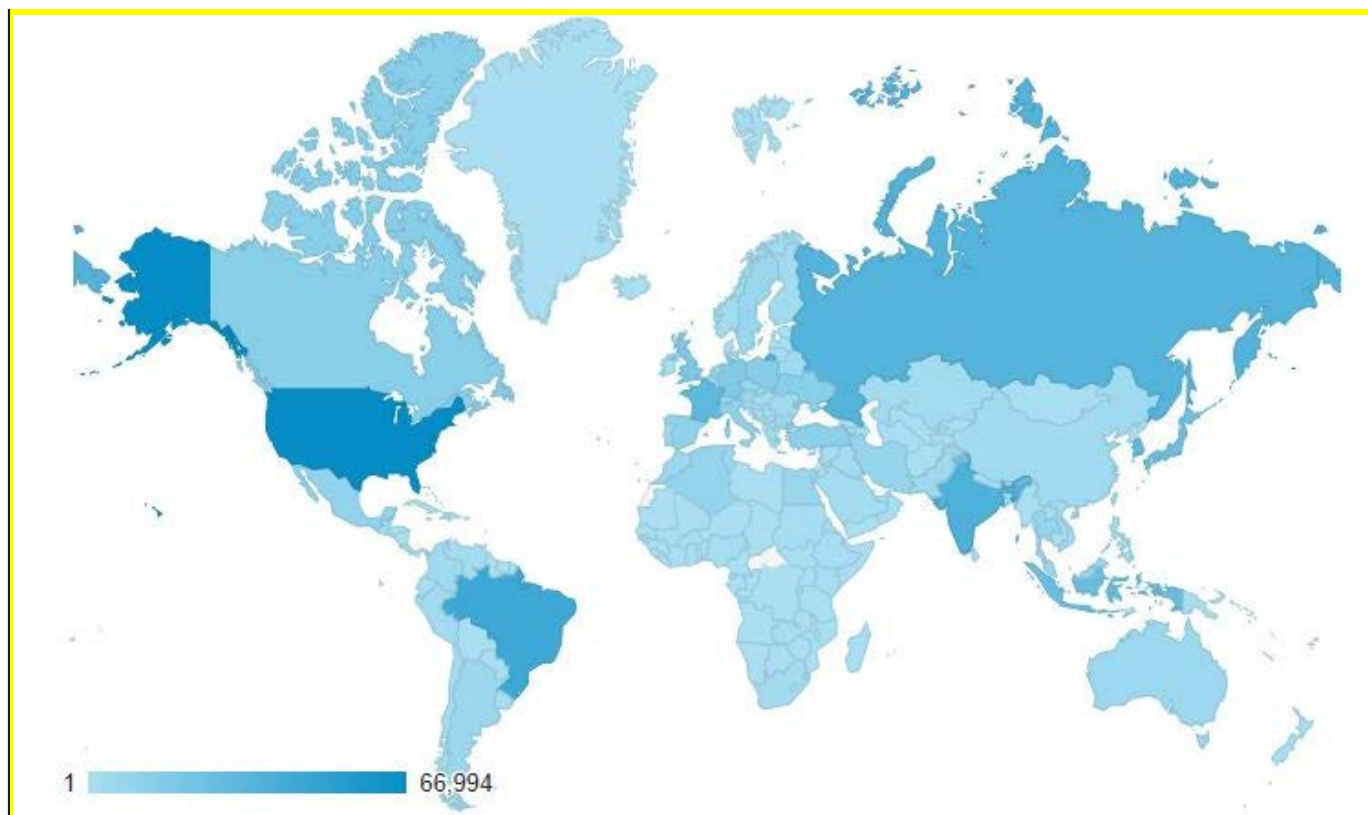
Q & A

Q: Is the INIS Collection in high demand?

A: Yes. In the first five months of 2014, almost 1 400 000 ICS pages were visited by 485 000 users.

Q: Are the users global, or mostly from the IAEA?

A: They come from all over the world. In the first five months of 2014, the ICS had visitors from 221 countries, 1200 regions and 15 000 cities.



World Map

Country	Visits	Region	Visits	City	Visits
United States	66 994	(not set)	83 626	(not set)	45 509
Brazil	43 981	England	12 483	Seoul	13 921
India	37 087	Sao Paulo	10 500	Moscow	9525
Russia	35 041	Jakarta	9576	Sao Paulo	6931
France	30 606	Ile-de-France	9291	Mumbai	5726
South Korea	30 584	Maharashtra	8565	Daejeon	5673
Indonesia	26 512	California	6691	Vienna	5299
Japan	24 650	Moscow	6560	Jakarta	5206
UK	18 276	Tokyo	5197	Kyiv	4943
Germany	16 186	Ontario	4708	Tunis	4858

INIS Users

Q: What if the same user visited the same page hundreds of times? What if one user downloaded a lot of documents? Such cases could ruin these impressive statistics. Do you keep such statistics? Why do you trust them?

A: Yes, we have such cases. They are rare but we have had and will continue to have them. Fortunately, the statistics are not limited by the overall figures, but go into more depth. During the first five months of 2014, almost 71 000 full-text documents (every 5th publically accessible full-text publication in the INIS Collection) were downloaded and more than 180 000 bibliographic records (every 20th bibliographic record in the INIS Collection) were viewed at least once. These figures, together with the total number of visitors, geographical distribution and number of documents viewed per session, make the influence of 'strange' cases insignificant.

Q: Is the INIS Collection considered by users to be a valuable resource?

A: Yes. In 2014, nearly 10% of visits were direct traffic. Direct traffic represents visitors that

access the INIS Collection directly by manually typing the URL, clicking on a bookmark, or clicking on an email link, but not through the link on another site or from a search results page. Mostly, they are returning visitors who find the INIS Collection useful.

Traffic source	Visits		Pages/Visit
Google.com	493 842	78.46%	1.77
direct	62 208	9.88%	2.9
ICS (internal traffic)	34 917	5.55%	7.49
worldwidescience.org	12 864	2.04%	2.24
widget	6178	0.98%	1.74
Yahoo.com	4663	0.74%	1.7
iaea.org	2143	0.34%	1.75
scholar.google.com	1649	0.26%	2.26
Ask.com	612	0.10%	1.48

Traffic source

Next Steps

Despite the impressive figures above, there is certainly room for improvement. One of the most important areas needing improvement is that of visitor engagement. In 2014, only 24% of all visitors returned. While the INIS Collection is on a par with most e-commerce sites (the average number of returning users is 25%, maximum 52%), there is room for improvement. Another area of improvement is the behaviour of the visitors accessing the ICS from Google.com. Most visitors view the landing page only and eventually download a corresponding full-text. The average number of pages viewed during a session that originated from Google.com is 1.7.

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INIS Thesaurus latest developments

The INIS Thesaurus is a valuable and useful product used by the INIS Secretariat and our Member States to index documents for input into the INIS Collection and to facilitate information retrieval for our global users. It is continually updated to stay abreast of new developments of terminologies in nuclear science and technology. As of May 2013, the INIS Thesaurus included 30 822 terms. In cooperation with INIS Member States, the Thesaurus is translated into eight languages: all six official IAEA languages, plus German and Japanese.

The latest developments include the addition of new terminologies and updates of the translated versions of the Thesaurus.

New terms from all areas of nuclear science and technology are proposed by Member States and the INIS Secretariat and approved by the Google based Thesaurus Advisory Group. Some of the additions include:

LIVERMORIUM 290 (Prior to June 2013 ELEMENT 116 290 was used for this concept.) BT1 Alpha Decay Radioisotopes BT1 Even-Even Nuclei BT1 Heavy Nuclei BT1 Livermorium Isotopes BT1 Milliseconds Living Radioisotopes UF Element 116 290	LOOP QUANTUM GRAVITY BT1 Quantum Gravity RT General Relativity Theory RT Spin Networks
BIOMETRIC AUTHENTICATION BT IDENTIFICATION SYSTEMS RT physical protection RT entry control systems RT security	METALLICITY The proportion of a celestial body made up of chemical elements other than hydrogen and helium.) RT CHEMICAL COMPOSITION RT COSMOCHEMISTRY

The INIS Interactive Multilingual Thesaurus is also constantly growing and being developed. A list of proposed terms, approved by INIS Subject Specialists and added to the English Thesaurus, is sent to the respective Member State for translation, who then sends it back to the Secretariat for further adaptation.

	A	B	C	D	E	F
1	Termid	Type	Term english	Scope note english	Term (ja)	Scope note (ja)
2	32760	valid	MAJORONS		マヨロン	
3	32761	valid	DILATINOS		DILATINO	
4	32762	valid	WIMPS		WIMP	
5	32764	invalid	WEAKLY INTERACTING MASSIVE PARTICLES		WEAKLY INTERACTING MASSIVE PARTICLES(WIMPs)	
6	32772	valid	DECOMMISSIONING LICENSES		廃止措置許可	
7	32782	valid	ACID SOILS		酸性土	
8	32770	valid	BONE MINERAL DENSITY		骨密度	
9	32788	valid	BROWNFIELD SITES	Land, often polluted, previously used for industrial or commercial purposes with potential for re-use after being cleaned up.	ブラウンフィールド	以前に工業や商業目的で利用された土地(サイト)で、汚染されている場合が多いが、汚染除去を実施すれば再利用できる可能性のある土地(サイト)。
10	32780	valid	CORAL REEFS		サンゴ礁	

The example above illustrates the importance of active participation and cooperation between Member States and the INIS Secretariat in developing and maintaining the INIS Thesaurus.

Bekele Negeri Duresa
Marija Sejmenova-Gichevska
Olga, Vakula
 INIS Thesaurus Specialists

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[@INISsecretariat](#)



News from the Nuclear Information Section

International Nuclear Information System (INIS), IAEA Library & SDG

No. 16, August 2014

2013 INIS highlights

As the first Nuclear Information and Knowledge Newsletter of 2014, it is, perhaps, appropriate to reflect on some of the many 2013 INIS highlights.

The 2012 INIS Progress and Activity Report was finalized and posted on the INIS website in February 2013.

Also in February, INIS deployed a new release of the INIS Collection Search (ICS), introducing many new changes, such as the possibility to customize and email search results, the direct export of search results to the RefWorks and EndNote databases, citation in RIS format, and improved usability.

At the *Technical Meeting on Topical Issues of Infrastructure Development Nuclear Power Project Development in Emerging Nuclear Power States*, held in February in Vienna, the INIS Unit Head gave a presentation highlighting INIS and its products and services.

In June, version 4.1 of the ICS was released, which allowed users to access information from the IAEA Meetings on Atomic Energy (MoAE) database directly from the ICS. Other features offered in the new version included a quick browse and search function, translation of saved bibliographic records into all official IAEA languages, as well as German and Japanese, and an enhanced search results page.

A 'Browse INIS Collection by Subject Category' feature was also added to the ICS in June, to enhance the user's experience when searching the ICS and improve the results and documents retrieved.

In August 2013, the Department of Nuclear Energy released an NE News application for iPad and in October 2013, INIS was proud to announce that it had redeveloped the application to function on the iPhone. In December 2013, INIS further extended its functionality to include Android devices. At the same time, improvements to the application were made, such as screen resolution scalability, a screen rotation mechanism on Android devices, and privileged access to the INIS Collection Search.

A presentation about INIS, its main products and services, and the benefits of active participation was given by the INIS Unit Head at the *Nuclear Information Technology (China) Forum 2013*, held in Shanghai, China from 8 to 9 August. More than 200 experts from China and other countries from the nuclear industry, nuclear power plants, nuclear research institutes, and academia participated in the event.

In September, INIS was proud to be included in the *IAEA Catalogue of Services for Nuclear Infrastructure Development*, which helps Member States identify available IAEA services for national organizations at different stages of the development, or expansion, of a nuclear power



programme, and request appropriate IAEA assistance.

Also in September, INIS, in collaboration with the IAEA Library and the IAEA Publishing Section, began digitizing old conference proceedings and safety standards published by the IAEA between 1957 and 1999. To date, 765 publications (over 253 000 pages) have been digitized and made publicly available through the ICS.

During the *57th IAEA General Conference*, held in Vienna from 16 to 20 September, Mr. Savić, Head of the Nuclear Information Section (NIS), was interviewed about the current status of nuclear information. He offered his view on the requirements of today's nuclear information users and the improvements made in accessing nuclear information, and he emphasized the strides INIS has made in this area throughout the years.

In October, version 4.2 of the ICS was released, in response to the task given to NIS at the *2012 Consultative Meeting of INIS Liaison Officers*, to offer a 'one access point' to all nuclear related information, not only from INIS and the IAEA Library but from other information resources within the Department of Nuclear Energy, as well. In addition to establishing this one access point, an Authority file for authors was created and implemented in the Advanced Search mechanism. Other improvements included enhanced language support, an enhanced search results page, and faster Advanced Search performance.

A new version of the *INIS Interactive Multilingual Thesaurus* was also announced in October, offering a simplified user interface, and multilingual support.

October was a busy month for INIS, which also included the creation of a new INIS promotional poster to raise awareness of key INIS activities, products and services within INIS Member States and among governments, industry, educational and research facilities.

The 2013 INIS Training Seminar was held at the IAEA in Vienna from 7 to 11 October, with participants from Austria, Bosnia and Herzegovina, China, Cuba, Egypt, Ghana, India, Indonesia, Japan, Republic of Korea, Lebanon, Pakistan, Russian Federation, Slovak Republic, Syrian Arab Republic, Tajikistan, Uruguay, and Vietnam.

Cooperation between INIS and its members is essential and this was demonstrated by a training session, hosted in October by the National INIS Centre of France at the CEA/Saclay Research Centre near Paris, for a staff member from the Joint Research Centre of the European Commission. All aspects of INIS input preparation, from bibliographic descriptions, to subject analysis and the submission of input and documents to INIS, were addressed.

Another example of cooperation was the meeting on the *Role of the International Nuclear Information System (INIS) in Supporting Nuclear Education and Industry: Regional Cooperation and Knowledge Preservation* which was held in Moscow from 22 to 24 October in cooperation with the National Research Nuclear University NRNU MEPhI, the Russian INIS Centre, and the INIS Secretariat. Over 40 participants from nuclear research institutes and universities, along with representatives from the Commonwealth of Independent States, attended.

In its November/December 2013 issue, the *Online Searcher*, a leading journal on information discovery, information technology and strategy, published an article on Nuclear Information Democratisation written by Mr. Savić. An HTML version of the article is available [here](#), and a PDF version [here](#).

In December, Mr. Savić and Mr. St-Pierre were two of the 80 participants representing around 30 countries who attended the *Fifteenth International Conference on Grey Literature* in Bratislava, Slovakia where Mr. St-Pierre gave a presentation, prepared jointly with Mr. Savić, on digital preservation at INIS.

INIS anticipates many more activities in 2014 and we look forward to sharing these with you in

the next issue of our Newsletter.

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INIS records entered from January to June 2014

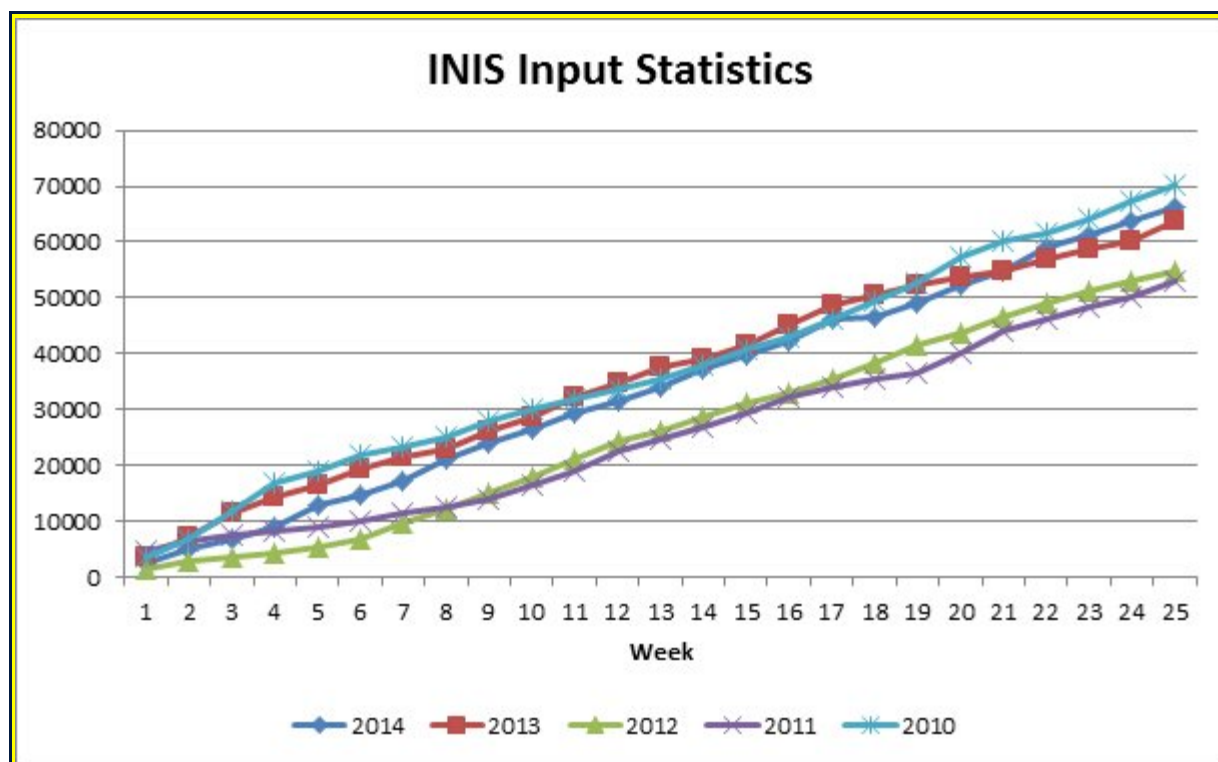
From January to June 2014, 66 118 records were added to the INIS Collection. This includes both national (22 522 records) and voluntary (43 596 records) input. In comparison with last year (63 848 records), 2270 more records were added for the same period. This is illustrated in the chart below.

The main contributing Member States in descending order, after the IAEA, were Germany, France, Japan, Republic of Korea, India, Ukraine, Brazil and Russian Federation.

The 2014 INIS production statistics for updates 1-25 are shown below, with the total number of records arranged by country of input.

The breakdown of the number of records based on type of literature is as follows:

Journals 52 230, Miscellaneous 6034, Books 5297 and Reports 2557.



INIS PRODUCTION STATISTICS 2014

Number of Records arranged by Country of Input

INIS Collection Volume: 45, Update: 1-25

Country Code	Total	Total Voluntary	Total National	Country Name
AM	30	0	30	Armenia
AR	20	0	20	Argentina
AT	322	0	322	Austria
AZ	344	0	344	Azerbaijan
BE	1	0	1	Belgium
BG	309	0	309	Bulgaria
BR	1121	0	1121	Brazil
BY	104	0	104	Belarus
CA	351	0	351	Canada
CN	857	0	857	China
CO	126	0	126	Colombia
CR	33	0	33	Costa Rica
CU	139	75	64	Cuba
CZ	47	0	47	Czech Republic
DE	3206	0	3206	Germany
EG	293	0	293	Egypt
ES	389	0	389	Spain
FR	2641	1437	1204	France
GE	22	0	22	Georgia
GH	90	0	90	Ghana
HU	502	0	502	Hungary
ID	195	0	195	Indonesia
IL	1	0	1	Israel
IN	1398	0	1398	India
IQ	17	0	17	Iraq
JP	2630	13	2617	Japan
KR	2118	0	2118	Korea, Republic of
LB	21	0	21	Lebanon
MK	51	0	51	Macedonia, The Former Yugoslav Republic of
MX	58	0	58	Mexico
NE	5	0	5	Niger
NG	9	0	9	Nigeria
NZ	10	0	10	New Zealand
PE	14	0	14	Peru
PK	644	0	644	Pakistan
RU	1008	0	1008	Russian Federation
SG	10	0	10	Singapore
TJ	100	0	100	Tajikistan
UA	1163	0	1163	Ukraine
US	281	11	270	United States
UY	99	0	99	Uruguay
UZ	74	0	74	Uzbekistan
VN	84	0	84	Viet Nam
XA	45007	42060	2947	International Atomic Energy Agency (IAEA)
XH	8	0	8	Arab Atomic Energy Agency (AAEA)
XJ	31	0	31	Joint Institute for Nuclear Research (JINR)

XN	135	0	135	Nuclear Energy Agency of the OECD (NEA)
Total	66118	43596	22522	

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Membership in the INLN reaches 50

In 2013, the fiftieth member joined the International Nuclear Library Network (INLN). It is now an established fact that the INLN continues to gain momentum, as nuclear libraries reap the benefits of the Network and realize the pressing need for nuclear libraries to be present in inclusive, innovative and reflective societies. The INLN Web Coordination Group, introduced in 2013, convenes regularly on-line to develop and evaluate the INLN Web presence and its communications. The INLN's objective is to enhance the sharing of existing resources without increasing administrative overhead. The IAEA Library works to achieve this objective, within its available resources. It continues to ensure that core Network information services—reference/research support, interlibrary loans (ILL), document delivery, guidance on information management, and permanent access to electronic library services—are offered equally to all INLN members in compliance with the terms and conditions of licence agreements. INLN members are expected to work equally towards this goal, however alignment of activities, and, perhaps, missions, need to be developed.



Current State and Challenges

The flow of Requests for Information (RFIs) in 2013 among INLN members continued unhindered. In total, 433 requests were met, either by the IAEA Library or other participating libraries. As in previous years, Document Delivery Services continues to be the major attraction of the INLN, representing the largest share of requests. Research support services and requests for interlibrary loans still remain a strong benefit for INLN members. Requests for guidance on nuclear information resources and service management doubled in 2013. This trend, first observed in 2011, continues to grow and represents a dynamic aspect of INLN work.

The INLN faces a number of challenges which need to be collectively addressed. Firstly, there has been an increase in the number of resources required to cover the diverse demand for

scientific and technical information. The IAEA Library has sought to resolve this through collaborative collection development (UN Consortium, SCOAP3), however, this topic, and the suggested solutions, needs to be widely identified and discussed. Secondly, although the decentralized approach to nuclear information management remains one of the strengths of the INLN, the collection of best practices already initiated by the IAEA Library needs to be widely adopted and shared to enhance complementarity and cooperation and, of course, to avoid duplication. Finally, the INLN remains sensitive to multiple legal regimes, as well as to varying licence agreement restriction layers. Network members may need to create a dedicated forum that will elaborate upon this major challenge, and at the same time, find ways to facilitate the re-use of open access information and data.

The Way Ahead

The Practical Arrangement currently drafted by the IAEA Library will be available for consultation among the INLN members this year. It will represent a first document based on which INLN activities will be developed, without introducing additional bureaucratic burdens, or suffocating creativity nurtured by the informal nature of the Network. The arrangement will employ an inclusive approach, creating a clear governance structure and acknowledging a horizontal working group aimed at supporting innovation (the INLN Web Coordination Group), and will promote capacity development, i.e. clarifying the Network's rationale, showing the benefits, and explaining functions. At the same time, it will strive to foster centralisation of supportive infrastructures and innovative solutions. The IAEA Library's collaboration with and development of the INVENIO system, catering to all Library functions, may prove crucial for the INLN, as it will allow and enhance deeper collection mining among INLN participants.

The INLN members will meet in October 2014, in Vienna, during the INIS Liaison Officers Meeting, and it is there that the *raison d'être* of the Network needs to be elaborated upon and be clearly articulated. The key to the work of the INLN is alignment in mission, goals and purpose across the INLN partners. This has been the working assumption of the IAEA Library's support of the INLN, as well as the original vision behind the creation of the INLN.

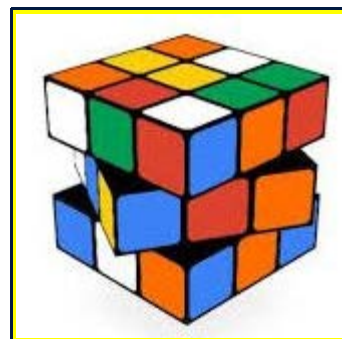
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The IAEA Library: challenges and opportunities

The IAEA Library finds itself at a crossroads during these times when the traditional model of scholarly communication is fundamentally changing, the globalised dimension of research presents new challenges, and the interdisciplinary and comparative aspects of modern scholarship transcend discipline boundaries and put an extra strain on Library resources. What's more, IAEA Library staff turnover in the last 12 months has been quite high, leading to minimal expansion of the nuclear information services offered. Nonetheless, in order to secure the Library's future development, while keeping in tune with the structures of the Nuclear Information Section and the trends in the research library environment, a set of major challenges has been identified, and actions to meet these challenges have been taken.



Collection Development

The major challenge lies in maintaining the excellence of collection building during a period when research themes are changing, prices of collections are increasing and budgets are decreasing. Taking into account the IAEA's focus and global outreach, it becomes increasingly difficult to delimit the focus on nuclear topics from broader global themes. The comparative and interdisciplinary approaches constitute a special challenge for the Library to build and develop a coherent collection policy. It is recognised that the shift towards electronic information resources (including periodicals) will accelerate, however, the growth of print monograph availability in the IAEA Library will remain at the current annual rates. To meet these challenges, a more structured approach to collection development has been adopted, aiming to expand the IAEA Library collections by a minimum of 2000 print monographs per year. The IAEA Library e-book collection also comes into focus, with the Library working to identify and introduce an e-book platform that will cater to the increase in requests for and availability of e-books. The ongoing developments in the field of e-books should be closely monitored, since this area is particularly challenging and unstable in terms of functionality, licences, standards, platforms, price models, services and preservation, as well as new workflows and administrative requirements.

The IAEA Library has made significant progress in collecting expensive resources through cooperative arrangements, while offering access to information resources through new technologies. In cooperation with other UN libraries, we were able to negotiate subscriptions at a lower cost. Partnerships with IAEA procurement experts, as well as vendors, resulted in obtaining new information in a cost-effective way. The Library's move towards evaluating electronic publications and including open access resources led to a relief on the budget strain and, at the same time, a substantial increase in metadata provision (almost 50%), as well as significant updating, maintaining and adding value to resources in the Library's catalogue (more than 20%). Moreover, the IAEA Library now supports the open access initiative SCOPA3, which is coordinated by CERN, and will thus continue to select quality open access resources based on strict and uniform criteria in line with the research and international organization profile and evolution of collections.

Increasing Access to Content

The abundance of closed and open access electronic resources, the need for their better management and exploitation by the Library and its users, and the importance of maintaining and streamlining the management of print collections, while offering more on-the-desktop services for users, has directed the Library to consider the implementation of a new Integrated Library System (ILS). New systems allow for more effective management of the processes for acquiring, describing, and making electronic resources available. Functional requirements for the new Library system have been prepared, and several new ILSs have been tested against these requirements. A decision was taken to move towards open access ILSs, and currently, a demonstration site of INVENIO ILS, developed by CERN, is being prepared with a view to employing this system after customization. This project is being developed in collaboration with the Systems Development and Support Group (SDSG), an integral part of the Nuclear Information Section, and may profoundly change the way both the IAEA Library and the International Nuclear Information System offer content to users worldwide.

Rethinking User Services

Users now expect Library services which correspond to their needs, and which integrate the use of new tools and platforms allowing for discussion and the exchange of information/data among colleagues. The IAEA Library is currently investigating a number of services and facilities that can be put in place to facilitate these demands and expectations. The objective of customizing the new integrated library system is to incorporate tools to cater to these user demands. Therefore, in tune with trends in the field, Library services will be re-built around user work flows, finding new ways to expose content.

To collect information about the needs of users and to identify changes in their information behaviors, the IAEA Library prepared a user survey, in collaboration with selected user groups. The survey will be launched in the summer of 2014. At the same time, Library staff will keep abreast of developments by closely monitoring trends through articles from peer-reviewed journals or through participation in international conferences. Through the use of new technologies, training for staff will increasingly be available in the Library (webinars, teleconferences, e-learning sessions).

Long-term Preservation of Digital Collections

Striking the right balance and choosing between paper and electronic resources is a major challenge, as is the long-term preservation of digital collections. The licensing and/or acquisition of core e-resources requires that the Library ensures their long-term preservation for future generations through participation in cooperative projects.

Preservation poses a number of challenges for libraries and for staff. It has been determined that the IAEA Library needs to study various preservation models in order to develop a strategy for digital preservation of its subscribed content. Acknowledging that an all-encompassing solution is yet to be found, the IAEA Library will initially investigate the following models with a view to their possible implementation: LOCKSS (preserving e-publications including small publishers), CLOCKSS and Portico.

Secondary IAEA Research Output

During their tenure with the IAEA, staff, in their majority post-doctorate researchers as well as University professors, continue to publicize their research in journals and monographs produced by publishers other than the IAEA. This research output, directly connected to IAEA funds, represents a special take on the notion of the institutional repository. Traditionally, these publications have been collected by the IAEA Library, and stored, analyzed and offered—where possible as full-text—through the IAEA Library catalogue. The need for better management of this research output within the agreed license agreements has been identified, for a more

systematic collection, offering quality metadata and, where applicable, full-text, to the wider community. This is, of course, intrinsically connected to the new integrated library system, and INVENIO has proven to be a tested digital repository management tool. The Library will closely monitor the possibilities of managing this part of its collection.

An IAEA Learning Lab

Notwithstanding the increasing digital component of the collections, there continues to be a significant rise in users visiting the Library on a daily basis. The Library is a 'laboratory' of the IAEA where researchers meet, engage in collaborative research, and are kept up to date with up-and-coming nuclear information resources. It is the only 'physical space' where visitors to the IAEA, conference participants, external researchers, as well as members of the diplomatic community in Vienna can meet and use the plethora of information resources available. At the same time, the IAEA Library is the only space where IAEA staff can consult resources catering particularly to their professional development (language learning, skills development etc.) The need to create a modern learning space in the Library, catering to social work spaces has been recognized. The Library needs to adjust and rethink the infrastructure in order to better adapt its space to accommodate new, emerging user needs. We will, therefore, look into the possibility of creating a learning environment which facilitates discussion, collaboration, and the use of new technologies in support of scientific research, with a special focus on nuclear science and its application.

These six topics present not only challenges, but also a number of opportunities for the IAEA Library. Likewise, they come following the swift evolution of the IAEA Library, its operational effectiveness, as attested to by the latest user survey, and its efficiency in information delivery. The amount of information queries received and met by the Library (of which more than 23% were research related), of information coaching visits, of personalized user profiles and information packages, of e-journals and table of content (ToC) alerts delivered, increased by more than 36% in 2013. Nonetheless, the IAEA Library, like any modern research library, needs to remain relevant in an ever-shifting information landscape, and to constantly reconfigure nuclear information services around new user engagement.

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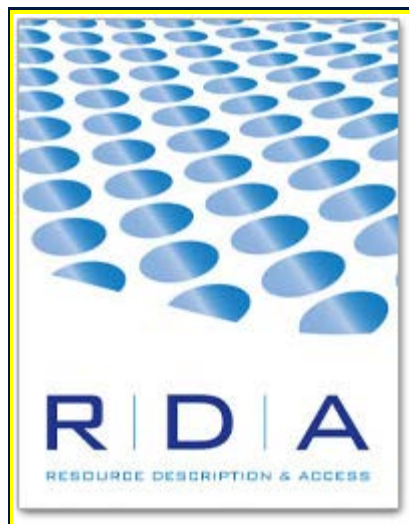


What is Resource Description and Access (RDA) and why does it matter?

Resource Description and Access (RDA) is a cataloguing standard which provides a comprehensive set of guidelines and instructions on formulating data to support resource discovery of all types of content and media.

RDA is the successor to the Anglo American Cataloguing Rules, 2nd edition revised (AACR2) which was first published in 1978 (followed by the revision in 2005).

The IAEA Library (and libraries around the world) has used AACR2 to guide its cataloguing activity, and while these rules have standardized cataloguing, they have also become increasingly difficult to apply in this age of born-digital resources and linked data. After all, AACR was first developed when libraries still used card catalogues, and the rules reflect this.



The main differences between RDA and AACR2 are structural. RDA has been developed with reference to the Functional Requirements for Bibliographic Records (FRBR), which identifies both the 'user tasks' which a library catalogue should make possible and a hierarchy of relationships in bibliographic data.

FRBR focuses on the user's need to find, identify, select and obtain resources and represents an approach to retrieval and access of information that allows users to explore the relationships between resources. The model is separate from specific cataloguing standards, such as AACR2 or RDA, but RDA was developed to be able to take advantage of the FRBR model.

For instance, if a user searches the catalogue for a particular item, e.g. 'Nuclear medicine and its applications', then currently, several individual records could be found—one each for the physical book, the electronic copy, a copy in French and a copy that is a different edition or published by a different publisher. In a catalogue where the title has been catalogued using RDA, and in accordance with FRBR principles, then conceivably one record could be returned in which the user would see all of the available formats, editions and languages for the item.

RDA also encourages the cataloguer to be more creative with how information is found and recorded for any item. Abbreviations and Latin phrases are no longer to be used. All authors of a work can be listed (rather than just the first three, as specified under AACR2).

In short, RDA allows for more flexible cataloguing. It provides more and better options for cataloguing electronic and born-digital resources. It is less 'Anglo' centred, it is not dependent on any one coding schema (e.g. MARC21) and it opens up the options to make library catalogues more 'discoverable' and meaningful to library users.

The IAEA Library is in the process of implementing RDA in conjunction with our move towards a

new Integrated Library Management System.

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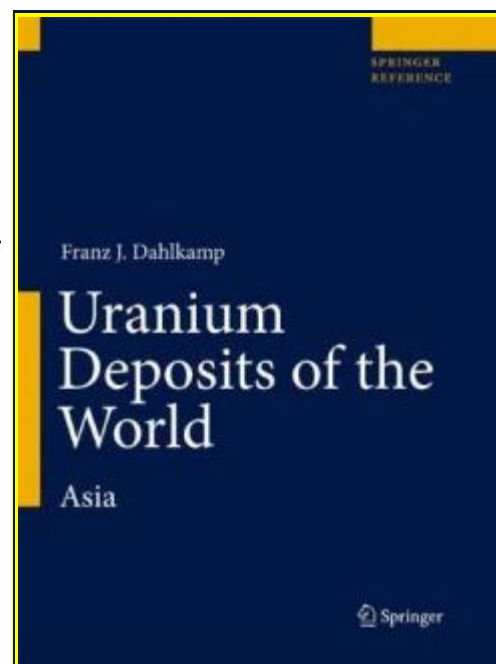
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Professor Franz J. Dahlkamp's Uranium Deposits of the World collection donated to the IAEA Library

The IAEA Library, through the coordination of the Nuclear Fuel Cycle and Materials Section (NEFW), received a donation of valuable books and documents from the late Professor Dr. Franz J. Dahlkamp's collection. This material is being incorporated into the Library collections, according to international standards and information management best practices. Prof. Dahlkamp, in the process of authoring his four-volume work of reference on the uranium deposits of the world, had created a unique library and archival collection based on which the published volumes—among his other works—were developed. This unique collection will soon be available to IAEA Library staff and other Library clients, while parts of it will be offered to the community through the IAEA Library catalogue as digitized items.

Prof. Franz J. Dahlkamp, who passed away on 5 March 2013, supported many IAEA Nuclear Fuel Cycle activities over the last four decades. He had many nicknames but 'Uranium Guru' describes him the best. Franz Dahlkamp's CV read like an encyclopedia. He taught at Universities in Leoben, Salzburg and Munich. While working for Uranerz, a major mining and mineral exploration company, he was part of the team that discovered the Key Lake uranium deposit in Canada in 1975.



Franz Dahlkamp authored the world's best known books on the topic, including *Uranium Ore Deposits* (1993) and the four-volume series he had been working on for the past 20 years. The first two volumes of *Uranium Deposits of the World* covered Asia (2010), and the USA and Latin America (2012). Over the past few years, he worked on completing the other two volumes on Europe and Australia, carrying around a large amount of papers and engaging in animated discussions with experts on the manuscripts. In March 2014, Springer released the four volumes of *Uranium Deposits of the World*, which comprises an unprecedented compilation of data and overviews of the key uranium regions throughout the globe. These four volumes, soon to be available at the IAEA Library, present Uranium related information from the world's continents: Asia; Europe; Australia, Oceania, and Africa; as well as the USA, and Latin America.

The IAEA Library ensures that the 'Uranium Guru's' archival collection will be properly cared for and preserved, along with the Library's diverse resources, and will also be permanently offered to future generations of researchers.

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Worth reading



A DETAILED ECONOMIC OVERVIEW OF THE WHOLE WORLD

The IAEA Library offers access to authoritative and current resources that depict an accurate image of the economic status of almost all the countries in the world. Regularly updated country reports of the Economist Intelligence Unit (EUI) and economic country surveys of the OSCE are available.



NUCLEAR POLITICS

[Nuclear Politics](#), a four-volume major work published in 2014, aims to introduce readers to the key arguments and authors in the field, catering to a variety of theoretical approaches and substantive topics under the umbrella of nuclear politics, highlighting in particular the diverse explanations for the regime, proliferation, non-proliferation and disarmament.



SOCIETY AT A GLANCE

This OECD biennial report provides internationally comparable data on demography and family characteristics, employment and wealth, mobility and housing, health status, social expenditure, subjective well-being, social cohesion, and other social measures.

NOTABLE OPEN ACCESS RESOURCES



Brazil's economic identity: motivations and expectations / Carl Meacham. Washington, D.C.: Center for Strategic & International Studies, 2014.

[Full text](#)



Governing uranium in China / Tamara Patton Schell. Copenhagen: Danish Institute for International Studies, 2014.

[Full text](#)

Seismic analysis of concrete structures within the nuclear industry / Pedram Tabatabaei Araghi. Stockholm: KTH Royal Institute of Technology, 2014.

[Full text](#)



Pandora's promise: the film / writer, director, Robert Stone. New York: Impact Partners, 2013.

[Watch on YouTube](#)



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