IAEA International Atomic Energy Agency

Nuclear Information and Knowledge

News from the International Nuclear Information System
Number 10, September 2010

In this issue

40 years of INIS

IAEA International Nuclear Information System INIS 1970–2010

To our Readers

In this issue, we focus on the first forty years of INIS, highlighting what made INIS what it is today.

I hope you have a stimulating read.
Ruth Hahn-Weinert

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The Road that led to the creation of INIS

The resources devoted to research, development and applications in many fields of science and technology, particularly in nuclear physics and nuclear sciences in general, were greatly expanded after World War II. In the 1940s, information management activities in nuclear science and technology were established in parallel in numerous countries and were progressively enhanced as developments in computer technology increased their usefulness. With the creation of the IAEA in 1957, the possibility of establishing a scheme to provide computerized access to a comprehensive collection of references to the world's nuclear literature began to be explored.The outcome of these efforts was the creation of INIS, a 'trailblazer' in the world of information exchange.

Read more

ILO Meetings over the Years

The consultative meetings of INIS Liaison Officers (ILO meetings) were born from a recommendation by the Advisory Committee for INIS and tasked to review INIS operations in the early years. Over the past forty years, thirty four consultative meetings of INIS Liaison Officers have taken place, offering INIS members a forum in which to discuss past achievements as well as the challenges ahead and providing recommendations to help improve INIS operations and INIS products.

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The Advisory Committee for INIS met for the first time on 18 and 19 November 1971. Established by a recommendation made by the IAEA's Board of Governors in February 1969, the objective of the Committee was to review INIS operations annually. During the early years of INIS, the Committee was an important advisory body, making recommendations regarding INIS' strategic direction and informing INIS operations.

Read more

INIS Today

Removing barriers to access and opening INIS on the web proved to be a landmark in positioning INIS as a key provider of information on the peaceful uses of nuclear science and technology. However, the information 'landscape' is continuously changing. In 2010, the INIS Secretariat in consultation with the INIS Liaison Officers, revisited some of its products and carry the responsibility to lay the foundation for continued success.

Read more

INIS Milestones

Discover INIS' milestones and highlights from the time INIS was created until today.

INIS and Nuclear Knowledge Management Section
IAEA Department of Nuclear Energy
International Atomic Energy Agency
Vienna International Centre, P.O. Box 100
1400 Vienna, Austria
For more information please contact inis.cbl@iaea.org
http://www.iaea.org/inis

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The Road that Led to the Creation of INIS

The resources devoted to research, development and applications in many fields of science and technology, particularly in nuclear physics and nuclear sciences in general, were greatly expanded after World War II by governmental agencies, universities, research centres and industry. Although largely driven by military applications, these developments were also partly driven by a growing interest in the civil applications of atomic energy for power generation, medicine, agriculture and other industrial applications. Soon, it became evident that ready access to scientific and technical information was essential and programmes were set up all around the world to manage the information already available and to include newly generated information and knowledge. Because of the recent military events closely related to atomic energy, these national information programmes in the atomic sciences were usually set up within government agencies. Thus, centralized and usually well-funded information management activities were the norm in the immediate post-war years.

Indeed, in the 1940s, information management activities in nuclear science and technology were established in parallel in numerous countries and were progressively enhanced as developments in computer technology increased their usefulness. In 1948, an abstracting journal, *Nuclear Science Abstracts (NSA)*, was established by the US Atomic Energy Commission. NSA was to incorporate information on the published results of all research and development in the nuclear sciences, and therefore not only information on industry reports but also on journal articles, books, etc. From 1948 until its discontinuation in 1976, NSA was to become the most authoritative source of information in the nuclear area and its printed copies were to be found on the shelves of libraries of practically every research centre, academic or other learned institution, as well as industrial enterprises dealing with any aspect of nuclear science.

Other countries also developed important information management activities during this period. In the former USSR, the Academy of Sciences Institute of Scientific Information's objective was to collect and create abstracts for all scientific and technical literature published in the then USSR and in foreign countries, and to publish it in the *Referativnyi Zhurnal* (Journal of Abstracts), which has been published continuously since 1952. In the early 1960s, *Referativnyi Zhurnal* covered relevant fields spanning the entire range of Soviet literature and also 12 500 foreign periodicals. Furthermore, the Institute had exchange agreements for scientific publications with 1085 foreign organizations in 60 countries.

As another example, in France, in order to satisfy the needs for scientific and technical information to support the war effort, the Centre National de la Recherche Scientifique (CNRS) was created in 1939. The CNRS went on to collect and publish bibliographic data on published literature, starting in 1941, in the *Bulletin Analytique* which subsequently became the *Bulletin Signalétique* in 1955. Furthermore, the Commissariat à l'Énergie Atomique (CEA) was established in October 1945 and, although it did not itself produce an international bibliography in the atomic sciences, cooperated with the CNRS by contributing to the *Bulletin Signalétique*. In the 1970s, the CNRS established large computerized databases for the natural sciences (PASCAL 1973) as well as the social sciences (FRANCIS 1978), derived from its *Bibliographie Internationale* (which was how its bibliographic products were referred to by then).

On an international scale, on 8 December 1953, during US President Dwight D. Eisenhower's "Atoms for Peace" address to the 47th Plenary Meeting of the United Nations General Assembly, the idea of establishing an international agency that might oversee research and development activities in the atomic area and ensure their peaceful applications was raised. Making scientific and technical information in the atomic area available would be an integral part of the responsibilities of such an agency.

During the 1950s and 1960s, a series of *United Nations Conferences on the Peaceful Uses of Atomic Energy* took place in which countries released vast amounts of information that had previously been held secret. At the third *UN Conference on the Peaceful Uses of Atomic Energy*, held in 1964, many of the information specialists present met to think about options for the future. The challenge was not only to develop a sustainable mechanism to preserve the large volume of newly available information, but also to facilitate information exchange between the East and the West. Thus, the seed that would ultimately lead to the establishment of the International Nuclear Information System (INIS) was planted, just as President Eisenhower's address to the UN General Assembly in 1953 had been the seed that had led to the establishment of the IAEA.

The Statute of the IAEA, which came into force in July 1957, contains in Article III, paragraph A.3 the statement that:

The Agency is authorized: to foster the exchange of scientific and technical information on peaceful uses of atomic energy;

and further, Article VIII, paragraph C states that:

The Agency .. shall take positive steps to encourage the exchange among its members of information relating to the nature and peaceful uses of atomic energy and shall serve as an intermediary among its members for this purpose

To better fulfil this function, during the 1960s, the IAEA began exploring the possibility of establishing a scheme to provide computerized access to a comprehensive collection of references to the world's nuclear literature. Its initial efforts consisted of building up a technical library. A *Panel on Technical Information* was established in 1959 to advise the IAEA on how best to establish channels for Member States to exchange scientific and technical information on the peaceful uses of atomic energy.

The outcome of these efforts was the creation of INIS, authorized by the IAEA's Board of Governors in February 1969. The system was designed as an international cooperative venture, requiring the active participation of its members who therefore needed to invest human and financial resources in order to make it function. INIS started operations in 1970, when it produced its first products, with 25 members. Current membership now numbers **147 countries and international organizations**, attesting to the success and usefulness of the system.

INIS was a 'trailblazer' in the world of information exchange owing to its key characteristic, its decentralized nature. Never before had an information exchange activity had such geographically and linguistically disparate nodes, each performing specific tasks on a common project. Over the past four decades, INIS has established itself as one of the key channels for collecting and making available nuclear information. Its success is a success story for the system and for the IAEA, the organization under whose aegis the system has been operating. But above all, it is a success story for the members of INIS that have made it what it is today and have helped users of information in the peaceful application of nuclear science and technology to make this a better world.

From *The International Nuclear Information System - The First Forty Years, 1970-2010* by Claudio Todeschini

Adapted by Bruna Lecossois

INIS and Nuclear Knowledge Management Section
IAEA Department of Nuclear Energy
International Atomic Energy Agency
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1400 Vienna, Austria
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ILO Meetings over the Years

The consultative meetings of INIS Liaison Officers (ILO meetings) were born from a recommendation by the *Advisory Committee for INIS* and tasked to review INIS operations in the early years. In discussing coordination and communication between Member States and the Secretariat, the Committee recommended a more direct involvement of national Liaison Officers by providing more frequent opportunities for them to meet to discuss detailed operational questions and to exchange experiences that may lead to improved input and a more useful exploitation of the output products. These meetings could be held in Vienna or in other locations, with the possible attendance of staff from INIS headquarters. The Committee felt that meetings of Liaison Officers would be of sufficient interest that a good attendance could be expected, even if little financial assistance was forthcoming from the IAEA.

As recommended, the IAEA invited INIS members (countries or international organizations) to send their Liaison Officers to the first consultative meeting, which was held in Vienna in November 1972. It was the first of a long line of consultative meetings of Liaison Officers, which were to take place usually at yearly intervals. Over the past forty years, thirty four consultative meetings of INIS Liaison Officers have taken place, offering INIS members a forum in which to discuss past achievements as well as the challenges ahead and providing recommendations to help improve INIS operations and INIS products.

An example is the 5th Consultative Meeting of INIS Liaison Officers, which took place in November 1975. Although various operational questions were discussed, the really notable recommendation of the meeting was that *the Secretariat should continue to negotiate with individual Member States and make preparations for the establishment, early in 1977, of an experimental cooperative computer network which will provide INIS centres with a facility for searching the INIS database at the Agency directly from remote locations*. This was the first step towards the *Direct Access Project (DAP)* that would eventually enable many members to access the full INIS database on the IAEA's computer in Vienna directly from their national centres or other national locations.

Many other meetings can be highlighted, for various and diverse reasons. In 1980, INIS commemorated its 10th anniversary and the annual consultative meeting of INIS Liaison Officers was held for the first time in the new IAEA facilities at the Vienna International Centre. At the 23rd Consultative Meeting of INIS Liaison Officers, held in Vienna in May 1995, H. Blix, Director General of the IAEA, delivered the opening address. He stressed the importance of INIS, noting the obligations on the signatories of the Nuclear Non-Proliferation Treaty to exchange information. Furthermore, INIS Liason Officers celebrated together the 25th anniversary of the production of the first INIS products (May 1970).

INIS' current Mission Statement, emphasizing information and knowledge management, was approved by the INIS Liaison Officers at their 33rd Consultative Meeting in October/November 2006.

Lastly, as a direct consequence of the recommendations made by the Liaison Officers at their 34th Consultative Meeting in November 2008, a major milestone in INIS history was reached on 3 April 2009 when the INIS Database was opened to all internet users around the world. Free, open and unrestricted web based access is now available to all users interested in the peaceful applications of nuclear science and technology. This open access also includes access to over 200 000 full text NCL documents consisting of scientific and technical reports and other publications.

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The Advisory Committee for INIS met for the first time on 18 and 19 November 1971. Established by a recommendation made by the IAEA's Board of Governors in February 1969, the objective of the Committee was to review INIS operations annually. Membership of the committee was not limited to nationals of Member States serving on the Board of Governors. It consisted of experts serving in their personal capacities at the invitation of the IAEA, and which represented INIS input producers, administrators and INIS output users.

The Committee considered economic and scientific policy matters and reported to the Director General of the IAEA. During the early years of INIS, the Committee was an important advisory body, making recommendations regarding INIS' strategic direction and informing INIS operations. Thanks in part to the Committee's interest in the concept of regional centres, INIS took a more active and direct role in assisting the establishment of national or regional centres, which would ultimately provide INIS inputs as well as other INIS related activities. Furthermore, strategically recommended developments also included increasing the direct involvement of national liaison officers to improve coordination and communication between Member States and the INIS Secretariat, or moving towards increased system automation.

However, instead of the yearly frequency first suggested by the Board, the Committee met at about four year intervals. In fact, the Committee reviewed INIS operations at times when major changes in the system were expected or desired.

After having met on ten occasions, the Committee last met in November 1998, when a decision by the Director General of the IAEA to eliminate most advisory bodies reporting directly to the Director General led to the abolition of the Committee. The role previously carried out by the Committee in the early years is now being filled via other, more flexible mechanisms, such as consultancy meetings or other ad hoc meetings convened on specific subjects.

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INIS Today

Confronting Reality

For the past two years I have had the privilege of working with INIS and had a chance to talk to some of the INIS Liaison Officers at the 34th ILO Meeting in 2008, the Joint INIS/ETDE Technical Meeting in 2009 and the INIS training seminar in November 2009. In 2010, INIS celebrates its 40th anniversary and its achievements are remarkable. Today, over 3.2 million bibliographic records and 250 000 full text documents are searchable and accessible on the web.

But let's be honest. When I spoke at the 34th ILO Meeting two years ago, INIS was facing the beginning of a crisis; Member States' input of bibliographic records stagnated and usage of the database was modest.

The 34th INIS Liaison Officer Meeting took corrective action. The INIS Liaison Officers decided to make the INIS database freely available on the web. Within ten months, usage of the INIS database increased tenfold, increasing from 7000 searches in April 2009, the month INIS was made freely available on the web, to 70 000 searches in December 2009.

Removing barriers to access and opening INIS on the web proved to be a landmark in positioning INIS as a key provider of information on the peaceful uses of nuclear science and technology.

However, the information 'landscape' is continuously changing. In his opening speech at the 5th International Conference on Academic Publishing in Europe, Dr. Winters, representing the German Association of Publishers and Booksellers, highlighted that "2009 was yet another important year in the transition to digital publishing". Elsevier, in their annual report for 2009, recognized a strong growth in on-line usage of scientific articles (+20% in 2009). In December 2009, Amazon US sold more eBooks than printed books for the first time. In early 2010, Nature Publishing Group announced iPhone applications that allow searching, browsing, reading and bookmarking full text. Hand-in-hand with the shift towards digital content go changing user needs and behaviour.

Today, speed and convenience are the most important factors when choosing among information sources. Resource discovery is no longer the major problem, unmediated access to digital full text and its source data is the issue.

To remain of relevance for future generations, information providers have to match their activities with the needs and behaviour of their customers.

The Joint INIS/ETDE Technical Meeting in 2009 recognized that INIS does not need to be at the forefront of this change, but it has to pursue new opportunities. Settling into safe routines is not an option in today's fast changing information landscape.

Pragmatic approach - or realistic foresight?

To face a downturn, you have to look away from supposed necessities and look towards facts and consequences. You have to make choices about what not to do so that resources will go to the most important initiatives. These are often the hardest decisions to make. Making a decision not to fund a new product is not painful; making a decision to discontinue a product is.

In 2010, the INIS Secretariat in consultation with the INIS Liaison Officers, revisited some of its products. In February 2010, the distribution of the INIS Atomindex on CD-ROM was discontinued. As Ms. Atieh, Chief of the Capacity Building and Liaison Group outlined by email to Liaison Officers "It is worth mentioning that the same data will continue to be available on our FTP server; on a weekly basis a new update is made available to the ILOs". In the same line of thought, the List of Key and Regularly Scanned Journals has been discontinued. At the same time, Mr. Savic, Head of INIS, confirmed the INIS Secretariat's "determination to continue maintaining basic journal authority tables used for input verification and validity control".

The INIS Secretariat, in cooperation with the INIS Liaison Officers, will continue to challenge supposed necessities and cut costs by improving operational efficiency.

However, cutting costs is not enough; INIS Liaison Officers also carry the responsibility to lay the foundation for continued success. Providing a repository of digital information has great promise. Digital information is everywhere; text, data files, still and moving pictures, databases; and it is growing in volume and value.

To further support the shift towards a repository of digital information, INIS would need to tackle policy and technical challenges. Managing, searching and preserving digital information has implications for technology as well as production

requirements and the way operations are managed. The future will not be easy, but we do not need to fear it; we have to shape it! The 35th INIS Liaison Officer Meeting can begin taking steps to position INIS for these changes.

Ruth Hahn-Weinert

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INIS MILESTONES

1966
- International system proposed

1967
- INIS Secretariat established

1969
- IAEA Board of Governors approved the system

1970
- First products generated in printed and electronic forms
- INIS membership comprises 39 Member States and 11 international organizations
- First training course held

1971
- English INIS Thesaurus developed and adopted for document indexing

1973
- Full subject scope covered

1976
- Abstracts added to references

1977
- 100 000 non-conventional literature (NCL) full texts on microfiche available

1978
- INIS Database accessible on traditional on-line system

1979
- French INIS Thesaurus completed

1981
- Russian INIS Thesaurus completed

1982
- German INIS Thesaurus completed

1983
- INIS Multilingual Dictionary (English-French-German-Russian) completed

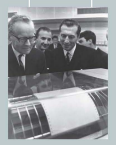
1985
- First definition of Membership Arrangements distributed
- 250 000 NCL full texts on microfiche available

1986
- One million database references available

1990
- Expert system for indexing quality control implemented
- Input preparation software FIBRE introduced

1991
- INIS Database available on CD-ROM

1992
- Expansion of subject scope to include the environmental and economic aspects of non-nuclear energy sources



1993
- Routine receipt of input to the system by electronic mail

1994
- Definition of membership arrangements
- INIS Mission Statement revised
- Spanish INIS Thesaurus completed

1995
- INIS Multilingual Dictionary (English-French-German-Russian-Spanish) completed

1996
- INIS web site launched
- 500 000 NCL full texts on microfiche available

1997
- Two million database references available
- New electronic technology implemented, and INIS NCL full texts available on CD-ROM; Start of electronic document delivery service
- INIS computer based training package on CD-ROM released

1998
- INIS Database on Internet launched
- INIS Data Processing System launched (all processing done on-line)

2000
- INIS web services launched
- INIS Distance Learning Programme on Internet launched
- Definition of Membership Arrangements revised

2004
- INIS2 - a regional portal site - opened at the Korea Atomic Energy Research Institute (KAERI)
- INIS given new role in nuclear knowledge preservation and management
- Computer assisted indexing (CAI) system started
- Two and a half million database references available

2005
- INIS 35th anniversary (1970-2005)

2006
- INIS membership comprises 116 Member States and 22 international organizations
- INIS Multilingual Dictionary (Arabic-English-Chinese-French-German-Russian-Spanish) completed
- INIS Database includes 2.7 million bibliographic references and about 700 000 full text documents

2008
- Three million bibliographic references available on the INIS database
- INIS Database Open Access Pilot Project launched in seven countries

2009
- Open access to the INIS Database on the Internet

2010
- INIS 40th Anniversary (1970-2010)
- INIS membership comprises 123 Member States and 24 international organizations

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INIS Meetings

Date	Name	Location	Contact
28-29 October	35th Consultative Meeting of INIS Liaison Officers	IAEA, Vienna, Austria	D.Savic

NKM Meetings

Date	Name	Location	Contact
27 Sept. - 1 Oct.	Technical Meeting on Developing NE Series Guide to Nuclear Knowledge Management	IAEA, Vienna, Austria	Z.Pasztory
11-14 October	Technical Meeting on International Community of Practice in Nuclear Knowledge Management (ICP NKM)	IAEA, Vienna, Austria	A.Pryakhin
19-22 October	Standing Advisory Group on NE (SAGNE): Second Meeting in Fourth Term (SAGNE IV 2)	IAEA, Vienna, Austria	Y.Yanev
27-29 October	Technical Meeting on Standardizing Curricula for Nuclear Power and Non-Power applications to Support Human Resources Development (HRD) Programmes in Nuclear Science and Technology	IAEA, Vienna, Austria	M.Saidy
1-5 November	Technical Meeting on the Asian Network for Education in Nuclear Technology (ANENT)	Hanoi, Vietnam	K.Hanamitsu, Y.Yanev
8-26 November	Training/Workshop on the School of Nuclear Energy Management (in cooperation with ICTP)	Trieste, Italy	M.Saidy
29 Nov. - 3 Dec.	Research Coordination Meeting on Increasing NPP Performance through Process-Oriented Knowledge Management Approach	IAEA, Vienna, Austria	Z.Pasztory
1-3 December	Technical Meeting on the Latin American Network for Education in Nuclear Science and Technology (LANENT)	Lima, Peru	Y.yanev
6–-9 December	Technical Meeting on Developing Methodologies and Tools for Fast Reactor Knowledge Preservation	IAEA, Vienna, Austria	A.Pryakhin

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