IAEA International Atomic Energy Agency

Nuclear Information and Knowledge

News from the International Nuclear Information System
Number 9, June 2010
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In this issue

40 years of INIS

IAEA International Nuclear Information System INIS 1970–2010

To our Readers

In this issue we focus on democratization of information and visibility on the Web.

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

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Democratization of Scientific and Technical Information

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Read more

Visibility on the Web

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Read more

Better understanding INIS Members' promotional needs

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Read more

Upcoming meeting

35th Consultative Meeting of INIS Liaison Officers

The 35th Consultative Meeting of INIS Liaison Officers will be held on 28-29 October 2010, at the IAEA Headquarters in Vienna, Austria. The meeting will mark the 40th Anniversary of INIS, review current status of database input, production and use, as well as discuss further developments and the future of INIS. It is expected that over 50 countries and international organizations will participate in this event marking the 40 years of existence of INIS and its contribution to the peaceful use of nuclear information in science and technology.
Photo: Early ILO Meeting

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Democratization of Scientific and Technical Information

The world of scientific and technical information (STI) has its own culture and its own, long established, rules of use and existence. These have helped bring us many inventions and improvements, to introduce many technological changes, and to make our lives and work much easier and more pleasurable. However, the world is in constant change and the traditional STI environment established long ago is not keeping up with those changes. The democratization of many social activities, which happens around us daily, has not made a significant impact on the world of STI. This is particularly evident in the traditional ways and forms of creating, distributing, accessing, and using information. STI is still operating in an old paradigm. In particular, free and uninhibited access to STI and to the results of scientific research and technological advancements are necessary for the world to overcome current challenges and problems. Poverty, starvation, pandemics and other health problems, clean drinking water, global pollution, overpopulation, energy shortage and world economic and political crises are just some of the areas which can be addressed by and can benefit from the democratization of STI.

As is the case with other social and economic changes, there are factors which can be regarded as instrumental in creating the need for democratization of scientific information and enabling it to ferment further. The main factors of influence are, firstly, the knowledge based economy and the knowledge worker as a user of STI, and, secondly, developments in the area of information and communication technologies (ICT), and particularly the impact of Internet growth.

A knowledge based economy places emphasis on generating knowledge assets such as codified human expertise, research and development (R&D), intellectual, financial, health and education services. In the knowledge economy, markets are increasingly competitive and innovation is in constant demand. Fast assimilation of knowledge is required, while knowledge workers have less and less time to acquire it. They need to find and attain huge quantities of information efficiently and effectively. Information found has to be instantly available and immediately usable. There is no time for conducting complex searches or waiting for information delivery. Once acquired, information and new knowledge are expected to produce added value to specific projects, products and services.

Hand in hand with an emerging knowledge based economy came the development of ICT, modern computers, storage and networking capabilities, and particularly the Internet. These ICT developments led to the critical tools that made the democratization of STI technically feasible. Combined with the knowledge workers' demands, ICT developments triggered a radical change in the existing ways of creating, distributing and using STI. This introduction of increasingly powerful and relatively cheap ICT technologies helped eliminate three previous obstacles from the world of STI. It eliminated physical and geographical barriers, it removed time constraints, and finally, with the introduction of the web and massive storage facilities, it enabled unprecedented amounts of information to be stored and made available online. These two factors, knowledge workers with new and very dynamic demands for STI and newly emerged ICT possibilities, created at the same time a strong demand for democratization of scientific information. There are at least three major areas where democratization of STI is taking place. These include the process of information creation, the ways and means for distributing and accessing this valuable resource, and the conditions for using the information found.

Information creation is a starting point in the process of STI democratization. Science has closed itself behind walls of official titles like professor and official academic degrees such as Dr, PhD, etc. However, at the same time valuable scientific and technical research and development is being performed by engineers, technicians, students, amateurs and enthusiasts. In addition, the use of social networking and collaboration tools is not regarded as sufficiently appropriate for scientific environments. Democratized science creation needs to open its doors for all others who are devoting their time and energy to these activities. The same applies for publishing the results of such findings. Unless coming from a well known (Ivy League) college, publishing attempts are more or less disregarded by leading scientific and technical journals. Open source journals are slowly gaining ground, but they have a long way to go. The peer review system established to control the quality of published articles in journals is too rigid for the new opportunities offered by today's web-based comments, blogs and social network-based evaluations.

Information distribution and access is another area with high potential for democratization. It requires freedom of access to information and world-wide knowledge, particularly for learning purposes, and reliable and unbiased sources of information. Greater use of open access journals for publishing purposes, instead of commercial journals, can also make a major impact on democratization of distribution and access. The increased use of web publishing is expected to be a major catalyst for this change. The number of new publishers starting up as open access publishers is increasing. The Public Library of Science is one of the best-known examples (www.plos.org). Similar trends are found in the opening of commercial science databases to the

general public through free distribution channels. For example, through the World Wide Science (www.worldwidescience.org), regarded by many as a global science gateway.

Conditions for using STI are the third area which needs to undergo some major reorganization and democratization. Current systems of copyrights, licenses, patents and trademarks are counterproductive and dysfunctional from the perspective of a global society and its long-term well-being. Even creators of some intellectual property are not always in the most favorable position. For example, copyright of a published article does not remain with the authors, but gets waived and transferred to the article publisher. So the society at large pays twice for that. In the case of academia, a first time through the grants given to the researchers to do the research, and then later again through subscriptions to journals or through the purchase of published articles. This area is probably the most difficult one to change and democratize, because it involves some fortified privileges and benefits. New models are emerging in the area of software publishing where General Public License (GPL) arrangements are gaining ground and could be applied in other areas, as well.

From the beginning of its establishment in 1970, INIS kept democratization of scientific information at its forefront. The Statute of the International Atomic Energy Agency (IAEA) stated that the IAEA's goal is to foster the exchange of scientific and technical information on the peaceful uses of atomic energy, to encourage the exchange among its members of information relating to the nature and peaceful uses of atomic energy and that it shall serve as an intermediary among its members for this purpose. This goal has led the IAEA to establish INIS, a system to provide computerized access to a comprehensive collection of references to the world’s nuclear literature. INIS was designed as an international cooperative venture, requiring the active participation of its members. It started with only 25 members, today, it has 146 members (122 countries and 24 international organizations).

INIS membership benefits include: access to a comprehensive and extensive pool of information in nuclear fields; the right of every INIS member to access relevant nuclear information of all other INIS members; increased access to, and visibility of, a country's national nuclear-related literature; technical cooperation and assistance in establishing and improving National INIS Centers; and help with the transfer of modern information technology and know-how to Member States. It is remarkable that these goals and benefits, based on highly democratic values, were introduced from the very beginning of INIS.

INIS represents an extraordinary example of world cooperation where 146 members give access to their valuable nuclear information resources in order to preserve world peace and further increase the use of nuclear energy for peaceful purposes. Made available are not only bibliographic references to publications, documents, reports and other grey literature, but also their full texts. Besides being a source of information for current search, availability of full texts gives INIS a special role: being a main custodian of this world information heritage and preserving this codified specialized scientific and technical knowledge. A further step in the democratization of INIS took place in 2009 when free, open and unrestricted Internet access to the INIS database was given to all Internet users around the world. This initiative provided easy access to reliable nuclear information on the peaceful uses of nuclear science and technology, including non-conventional literature, and made nuclear knowledge readily available worldwide. Currently, the INIS Database contains over 3.2 million bibliographic records and almost 350,000 full-text documents, consisting of scientific and technical reports and other non-copyrighted information.

Another advance in the popularization of INIS and its democratization was the introduction of a new public distribution channel. Namely, INIS joined the World Wide Science Organization and has made its database searchable also through their web portal. This sole action doubled the number of INIS database searches, improved its presence in the world of science and increased its usefulness to the scientific and technical community.

Further democratization developments and challenges foreseen by the INIS Secretariat include increasing the number of INIS members, reaching complete world coverage, increasing members' contributions to the database and improving the reliability, accuracy and timeliness of available information resources.

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Visibility on the Web

The vast array of information available on the World Wide Web has increased tremendously over the past 10 years, driving an exponential growth in internet usage to locate information. At the same time, finding the right, trustworthy sources of information has become more and more challenging. This is particularly true in the field of peaceful applications of nuclear science and technology, given the sensitive nature of the information requested.

Even an internationally established information source such as the International Nuclear Information System (INIS), which provides access to reliable and trusted information on the peaceful uses of nuclear science and technology, including full texts of non-conventional literature, needs to ensure its visibility to better reach potential end users.

In order to achieve such visibility, a combination of offline and online promotion efforts are necessary. And the INIS Secretariat has implemented several initiatives to bettter accomplish that objective.

One important step was making the INIS Database freely available to internet users around the world, which the Secretariat completed last April 2009. The importance of making the information in INIS more easily accessible is increasingly recognized, especially as more countries continue to express interest in using nuclear power. Now, more than ever, there is a need for reliable and trustworthy sources of information on nuclear energy and the information INIS offers comes from reliable sources such as the national atomic energy authorities in Member States.

Since launching the world wide free online access to INIS in April 2009, INIS' visibility has greatly increased and its usage has augmented by a factor of 10, going from 7.000 hits in April 2009 to 70.000 in December 2009.

Another important factor which has helped improve INIS visibility, and therefore its usage, is INIS' inclusion in the World Wide Science (WWS) website; INIS has become one of the resources searched within WWS.

Studies have shown that a high percentage of internet users find web sites through inbound links from other web sites. Inbound links indicate the popularity of a website. Search engines often use the number of backlinks that a website has as one factor to determine the website's search engine ranking. Inbound links therefore help increase the visibility of a web site. A survey conducted in October 2009 showed that the number of inbound links from national INIS centre web sites to the INIS web site and/or to the INIS Database web site is relatively modest. The topic was discussed at both the INIS Training Seminar in November 2009 and at the 12th INIS/ETDE Joint Technical Committee meeting in October 2009. In both events, Member States were encouraged to introduce inbound links from their web sites to the INIS web site. To facilitate this, the INIS Secretariat will be supporting this activity by developing an INIS search widget which it will make available to national INIS Liaison Officers.

A more recent count of the number of inbound links to the INIS web site and/or to the INIS Database web site was over 500 links. This includes links from web sites of national atomic energy authorities, universities, laboratories, directories, and others.

Publishing articles about INIS, in printed or electronic scientific and technical journals, and including their respective input into the INIS database would certainly positively contribute towards increasing INIS visibility. A survey conducted amongst the 20 countries which participated in the INIS Training Seminar in November 2009 has shown that the number of this type of input in the INIS Database is very modest.

Flyers, posters, and newsletters are distributed with the aim of highlighting the free availability of INIS on the web as a reliable information source. News items on the IAEA and on the INIS web sites have been placed, encouraging users to benefit from this valuable pool of information in the field of peaceful applications of nuclear science and technology.

Summary

Having the INIS Database on the web does not mean that it is visible to potential end users. We need to dramatically increase INIS visibility, by pursuing different approaches both offline and online, thus ensuring that the wealth of information that the INIS Secretariat and the Member States produce and maintain is known to potential users. One of the less expensive and most recommended ways to improve website visibility is through inbound links from other web sites. Therefore, national INIS centres are strongly encouraged to establish inbound links from their web sites to the INIS Database hosted at the IAEA website http://inisdb.iaea.org/.

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Better understanding INIS Members' promotional needs

Understanding the environment it operates in and the customers or partners that it interacts with is essential for any organisation. This is especially important for an information system like INIS, built on international collaboration with more than 145 members.

In the decentralised approach that has been adopted in INIS operations, the promotion of INIS' products and services is one of the key endeavours conducted by INIS Centres together with the INIS Secretariat. In an effort to gage its member's needs in this area, the INIS Secretariat conducted a brief survey to collect feedback and determine how to better assist members with their promotion and marketing efforts. The survey demonstrated that members were largely satisfied with existing promotional materials and indicated which products were considered the most useful by the National INIS Centres in promoting INIS. Two of the products deemed most useful were the INIS Topical CDs and the INIS Flyer.

However, other findings of a more strategic nature were also discerned and can be of use to other similarly structured information systems. Firstly, the need to move to simpler and more graphic promotional materials was identified, leading the INIS Secretariat to revise its existing promotional materials like its flyer, its poster or even this newsletter, which became shorter and more targeted. Secondly, it became clear that to better serve members, efforts should be increasingly focused on the promotional products deemed most useful by the members themselves, like the INIS Topical CDs. Thirdly, the survey results confirmed the importance of facilitating knowledge sharing between members, so that knowledge sharing has recently been initiated through INIS' member's only web portal. Lastly, the survey verified the need for providing members with tools to facilitate the creation of customised materials by the members themselves. As a result, the Secretariat is working on developing a customizable INIS Flyer Template and on creating a repository of images, or Image Bank, available to INIS Centres and to which they can contribute.

Bruna Lecossois

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INIS Update

Establishing the Kyrgyz INIS Centre

The national INIS centre in Kyrgyzstan is being established, and, within the framework of the National TC project "Establishing the National INIS centre, Kyrgyzstan, KIG0002", Ms. T. Atieh, Leader of the Capacity Building and Liaison Group at the INIS & NKM Section, travelled to the capital Bishkek in February 2010 to identify and evaluate the project status and its needs. The national nuclear information centre will be hosted at the Ecological Safety Centre, which is part of the State Agency on Environmental Protection and Forestry of the Kyrgyz Republic. Although the main INIS centre will be hosted within this centre, an additional INIS branch will be hosted at the Kyrgyz-Russian Slavonic University to fulfill the information needs of students and researchers at the university.

Taghrid Atieh

Open Resources on the Internet: A Valuable Source of INIS Input - A Success Story

In its endeavour to further increase the coverage and improve the timeliness, of the national nuclear literature in INIS, the national INIS centre of Egypt has begun using the web to locate and identify open access literature to be included in INIS. Within the last five months the Egypt INIS centre has contributed over 500 INIS input from different open sources. We congratulate the INIS centre on this new development and we would like to encourage all our national INIS centres to follow the same trend.

With more and more publishers using the web for publishing their work, the web has become an excellent place to locate valuable literature.

Once again, congratulations to the national INIS centre of Egypt and we look forward to announcing other countries joining this initiative.

Taghrid Atieh

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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
14-17 June	Technical Meeting on Developing NE Series Guide to Nuclear Knowledge Management	IAEA, Vienna, Austria	Z.Pasztory
21-24 June	Technical Meeting on the Use of Nuclear Facilities and Simulators as Effective Tools for Education and Preserving Knowledge	Ljubljana	A.Pryakhin
23-27 August	Training/Workshop on the School of Nuclear Knowledge Management (in cooperation with ICTP)	Trieste, Italy	M.Saidy
11-14 October	Technical Meeting on International Community of Practice in Nuclear Knowledge Management (ICP NKM)	IAEA, Vienna, Austria	Z.Pasztory
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
8-26 November	Training/Workshop on the School of Nuclear Energy Management (in cooperation with ICTP)	Trieste, Italy	M.Saidy
22-25 November	Research Coordination Meeting on Increasing NPP Performance through Process-Oriented Knowledge Management Approach IAEA, Vienna	Austria	Z.Pasztory
6–9 December	Technical Meeting on Developing Methodologies and Tools for Fast Reactor Knowledge Preservation	IAEA, Vienna, Austria	A.Pryakhin
4Q	Technical Meeting on the Asian Network for Education in Nuclear Technology (ANENT)	Thailand	K.Hanamitsu
4Q	Technical Meeting on the Latin American Network for Education in Nuclear Science and Technology (LANENT)	TBD	M.Sbaffoni

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