

Experience of the international network in radiation protection

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Abstract

With the aim of exchanging information on various subjects about radiation protection and designing a site where the members can send and receive information on courses, scientific activities, articles, technical opinions, commentaries and everything that promotes the communication, collaboration and integration, the 15th March 2002 the networking: "Radioproteccion" is created with 11 persons from 11 countries. The number of members had been increased. By the first month it had 117 members and by the end of the year 2002 it had already 179 members, 315 messages were send by then. By December 2007, there were 726 members from 28 countries mainly from Latin America: Argentina, Brasil, Bolivia, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela. There were also members from Austria, Canada, France, Israel, Italy, Portugal, Spain, Sweden, United Kingdom and United States. There have been distributed 2049 messages about Congress, courses and activities on national and international radiation protection and related issues which initially were in Latin American and the Caribbean. This has allowed diverse specialists that work in different themes to interchange experiences and information about subjects of common interest. This objective is the continuation of the spreading of activities that since 1991 and for 10 consecutive years had been made through the Bulletin "Protección Radiológica", from which 65000 samples were published and distributed to specialists from 40 countries thanks to the support of the International Atomic Energy Agency (IAEA) and the Pan-American Health Organization (PAHO). This idea is complemented by the Web: www.radioproteccion.org. Interesting topics have been discussed in the network for example: Pregnancy and medical radiation, emergency response, occupational exposure, radiation protection responsibilities, lessons learned from accidental exposures, aspects of safety culture, orphan sources, diagnosis and treatment of damage radiation, Radiation Protection Day, regulations, etc. Today the network is consolidating. There is a permanent communication which is an open channel for a great exchange of experiences, papers, publications, articles, events, etc. and to help to solve technical problems.

1. Introduction

Since 1984, technical cooperation projects on radiation protection developed in Latin America and the Caribbean have allowed the increase in communication among specialists in this region; the exchange of experiences and to ameliorate the professional ties with the purpose of increasing awareness in this field. The means to exchange communication has been the Bulletin "Radiation Protection", a website and 6 years from now the network of communication by e-mail called "Radioproteccion".

2. Bulletin "Radiation Protection"

Within an ARCAL project framework (Cooperation Agreement for the Promotion of Nuclear Science and Technology in Latin America and the Caribbean) and thanks to the support of the International Atomic Energy

Agency (IAEA) and the Pan American Health Organization (PAHO) in June 1991 the first "Radiation Protection" Bulletin number was edited and 5,000 copies were printed, under the leadership of the Project Coordinator ARCAL / IAEA in Peru, in order to establish a greater communication among specialists and make the activities that were developed known especially within the region.

By June 2001 there were published 22 editions of the Bulletin with a total of 65,000 copies that were distributed to specialists and institutions from 40 countries, especially in the Latin American and Caribbean region. The subscription was free. Through this mean realization of technical events were published, new writings on the interest topics, national and international standards, the Radiation

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Protection Societies news and topics related to the specialty. One of the activities of the projects ARCAL/IAEA about radiation protection was the edition of this bulletin because it was "a useful mean for sharing information among specialists of the region."

3. Website

To spread the project activities ARCAL/IAEA on radiation protection in June 1998 the website: www.arcalxx.org.pe is created, which is later changed to: www.radioproteccion.org.pe. Up until its deactivation in September 2003 it had received more than 10 000 visits. Subsequently a private website: www.radioproteccion.org is created.

Initially information about Project ARCAL agreements (meetings and meetings of coordinators working techniques) and about documents generated in the project was diffused. Information about: ARCAL background, coordinators, technical events, etc. was also provided.

Nowadays it is a website that aims to show the activities of radiation protection and related items that take place in the region and the world as well as the activities of the Federation of Radiation Protection of Latin America and the Caribbean (FRALC) and its affiliated Societies, also to include technical papers, news of interest, disseminating the websites of institutions related to the topic, and so on. It is open to collaboration of interested parties.

4. Interest list from Internet

An Internet list is made up of a group of people who exchange messages on specific topics of common interest through an e-mail and in a simultaneous way. Its purpose is to get several people involved in discussions on specific issues and to achieve the distribution of information to the whole group. These people use their e-mail daily and use the list as a source of information. This people may be geographically far apart. They have an email address where the messages are sent and they are also distributed to all members. Once the messages are received, people can respond to them with opinions or suggestions (which would be sent to all members), or

respond privately to the author of the message if the answer is not relevant to other members of the list.

The list allows the exchange of ideas on various topics of common interest. Once an e-mail is send, it is sent to all subscribers.

The list allows people: to ask questions to hundreds or thousands of people simultaneously, to receive messages directly into the mailbox and to send or read them at any time, to form an opinion on the state of the profession or specialty, to have access to formal and informal information, to establish ties with professionals in the same field of interest, to enrich themselves through ideas and criticisms shared with well know colleagues, or just to enjoy an equality status among senders and receivers.

Through the list, interested parties might be aware of the activities carried out by other institutions, might also cooperate, share resources, consult any doubts and exchange experiences. It is a very dynamic communication system. Members can exchange files (text, images, software, etc.) but always trying not to saturate the mailboxes. The old messages sent to the list can be checked as well.

Through the list, bulletins or electronic publications (with a simple format) on specific topics can be received periodically. The subscription is generally free. There are lists created exclusively for to this activity in which the user can not send messages to people who integrate the list but only to the person responsible for the list.

Each list has a moderator or person in charge of its maintenance and its progress. On one hand we have the Closed List, in which the moderator decides if the incorporation of a new member should occur, after fulfilling certain requirements. However, lists can be opened, and have no restrictions for subscriber's incorporation. In this Closed List The moderator is responsible for overseeing updates and designing whether the message sent from one of participant could be sent to the entire list or not. One advantage is that users never receive messages off-topic. The drawback is that messages reach all participants out of time, because they will not

be received until they have been checked and approved by the moderator.

On the other hand, in the Open List there is no need of moderators, so everybody can be subscribed and join the debates without restrictions. The advantage is that messages are received immediately. The disadvantage is that messages received are off-topic, poor quality or incorrect.

The list allows: 1) Access to information formal and informal, 2) Share experiences of work and the possibility of finding useful answers from anywhere in the world, in a short time, 3) Establish links with new colleagues and professionals in the same field of interest, 4) Enrichment of ideas and criticisms with colleagues recognized, 5) Status of equality between senders and receivers, 6) Shipping and read messages at any time.

A list is a source of professional information invaluable, as their messages, which are also filed, providing current and new data. In addition, it will lead to strength the ties among subscribers. This list controls itself and is not subject to any temporal or spatial limitations.

It would also be considered as other advantages of this List: 1) Responsiveness to electronic information systems, 2) Low-cost infrastructure, 3) The information does not produce costs, 4) Few space requirements, 4) Easy information sharing, 5) Shortly staff for maintenance, 6) Great impact on the scientific community, 7) Timing of information.

One problem that normally occurs in lists is the low participation of its members. Typically only between 5% and 10% of the subscribers are actively involved, responding to questions submitted or giving discussion topics. There might be an excessive protagonism in one of the participants though, so the moderator should encourage the proper use of the list, avoiding any excessive intervention, letting others work actively.

It is crucial to establish certain rules among the list subscribers, such as: 1) Write as concise as possible. The messages are reflection of ourselves, 2) When answering a list, do not put the entire citation of the message you are answering, avoid the personal messages and the "one to one" dialogues,, , " respond with facts, rather than

hearing arguments, check if the response has already been answered by more people 3) avoid sending mail attachments, 4) Do not use the list to send advertising, 5) Use the subject field: a header message with a short sentence of the message content, 6) Beware of humor and sarcasm, 7) Summarize what you're replying, 8) If using comments, ideas or materials from other people, we must mention the source, 9) Consider that when something is sent to the list, the information turns public domain, 10) The sender should be identified, 11) Before sending a message to the list, review its content, avoid writing with misspellings, 12) Do not send "chain letters", which demands re-mailing copies to save cancer patients, find missing persons, alarm about viruses, etc.. 13) Never insult, among others. Remember that the main purpose is to increase knowledge and promote collaboration among its members.

5. Red "Radioproteccion"

On March 15th 2002 the list of interest: "Radioproteccion" is created with 11 people from 11 countries of Latin America with the aim of exchanging information on various topics on safety and radiation protection. This list is in a commercial server (yahoo.com).

The list has been growing significantly. The first month had 117 members and at the end of the year 2002 it had 179 members and 315 message sent. In the first 6 years, 726 members have sent 2049 messages. (Table 1).

Table 1. Number of members and messages.

<i>Year</i>	<i>Members</i>	<i>Messages</i>
2002	179	315
2003	65	359
2004	93	297
2005	64	267
2006	117	461
2007	208	350
Total	726	2049

This list has become an integrated network mostly by radiation protection specialists from 28 countries, mainly from Latin America: Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela. There are also members in: Austria, Canada, Spain, United States, France, Israel, Italy, Portugal, United Kingdom and Sweden.

The specialists subscribed work in regulatory bodies, nuclear commissions, universities and entities where ion radiation is used in the industry, medicine and scientific research.

There have been distributed 2049 messages about congress advertisements, courses, workshops and national and international activities on radiation protection and related topics through this net. Besides, technical articles and news on the specialty have been spread. In addition technical opinions and feedback have been exchanged, promoting in this way the communication and cooperation among its members.

In this network many issues have been held, for example: Pregnancy and medical radiation, emergency response, occupational exposure, radiation protection responsibilities, lessons learned from accidental exposures, aspects of safety culture, orphan sources, diagnosis and treatment of damage radiation, regulations, etc. The idea of defining a day to celebrate the radiation protection was set in the network, which is being celebrated 2 years since then every April 15th.

The network is open to all specialists in radiation protection from Latin America and other continents requiring a communication channel to enhance the exchange of experiences and issues of interest to help to solve technical problems and to keep updated. Interested parties can apply for registration by writing to the moderator: medina@radioprotección.org or by sending a blank message to: Radioproteccion-subscribe@gruposyahoo.com. Every time a member joins the net, he must introduce himself to the others stating his full name, institution where he works, country and if possible mention the topics of interest in radiation protection.

The details of this network are in: <http://espanol.groups.yahoo.com/group/Radioproteccion/>

6. Conclusion

The network "Radioproteccion" is a growing network and perhaps the only one where the messages are in Spanish however this does interfere the communications in other languages such as Portuguese and English.

It is a Collaboration-network among researchers and stakeholders interested in issues of radiation protection of national and international entities, both public and private, which thanks to the new information technology will permit the usage of this field resource in a better way.

The network has helped to solve technical problems, to enhance collaboration, to upgrade issues in radiation protection and to meet specialists who at the same time keep in touch among specific topics specialists.

The announcement of technical events has incited technical specialists from various entities to participate. It is expected to expand the network with new subscriptions of members and with a greater interaction with other networks.

7. Acknowledgements

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8. References

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