



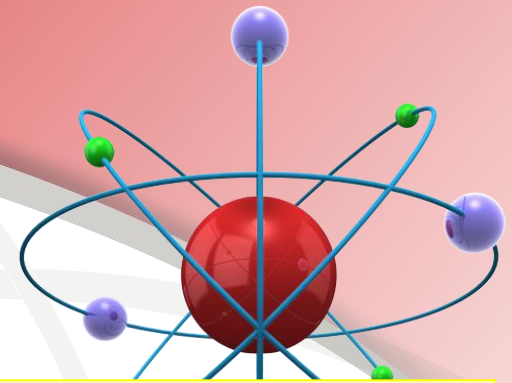
"Personnel training at the Faculty of Engineering (University of Buenos Aires) in Nuclear Safety, Radiation Protection and Nuclear Technology".

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University of Buenos Aires, Argentina.**



Training of human resources

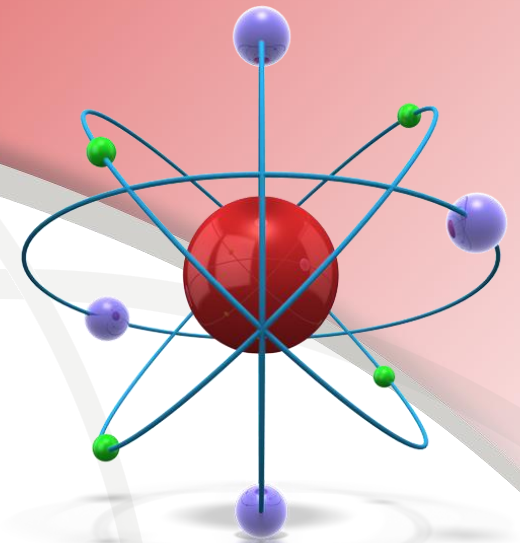


- In the area of technological applications of nuclear energy
- The control of these activities
- The production, use and security of radioactive sources.

This educational activity is conducted at the Faculty of Engineering of the University of Buenos Aires, Argentina, through **three specialization graduate programs.**



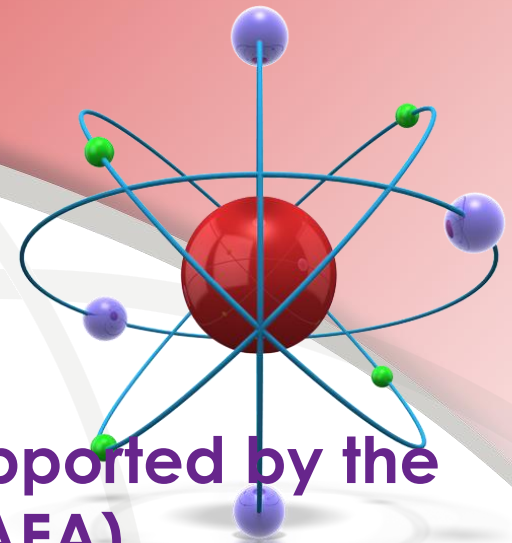
In collaboration with



- **NATIONAL ATOMIC ENERGY COMMISSION (CNEA)**
- **NUCLEAR REGULATORY AUTHORITY (ARN)**
- **APPLIED RESEARCH (INVAP)**
- **NUCLEOELECTRICA ARGENTINA S A (NASA)**
- **BALSEIRO INSTITUTE (IB)**

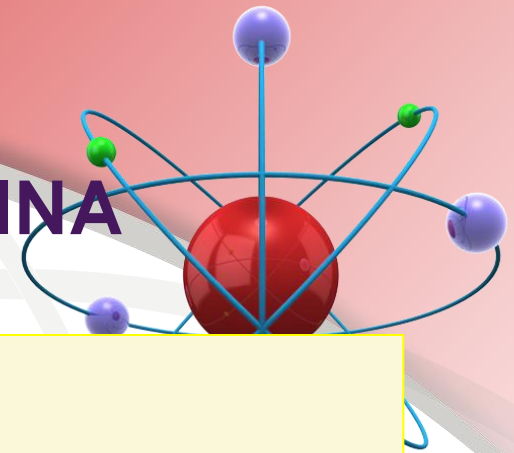


Relevance of the Programs



- These programs are sponsored and supported by the International Atomic Energy Agency (IAEA).
- Argentina has been established as a Training Regional Center in Radiological Protection and Nuclear Safety for Latin America and the Caribbean
- The University of Buenos Aires (UBA) is the largest and most important university in Argentina
- The FACULTY OF ENGINEERING has 6,500 students and it is the largest technological faculty in Argentina





MAIN NUCLEAR FACILITIES IN ARGENTINA

Nuclear power plants in operation	3
Research reactors and critical assemblies	6
Particle accelerator machines	10
Radioisotope and radioactive sources production plants	4
Irradiation plants with high dose	5
Nuclear fuel cycle Class I Facilities	12
Nuclear fuel cycle Classes II and III Facilities	16
Radioactive waste management sections	2
Mining factories complexes	8
Radiotherapy centers	180
Nuclear Medicine centers	300
Industrial gammagraphies facilities	65
Various industrial applications	301
Radioimmunoassay lab, research and other applications	595



Three graduate programs

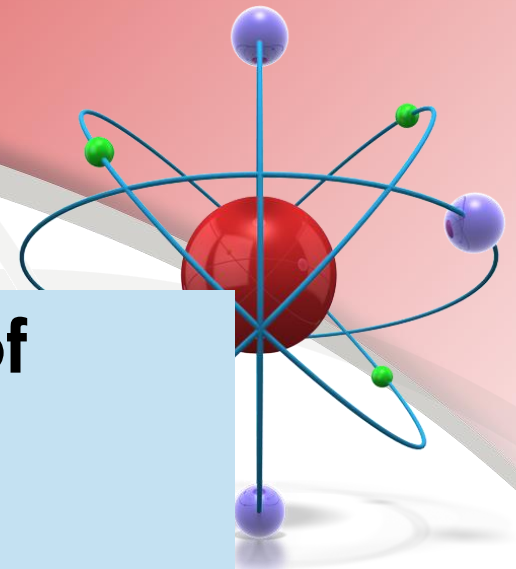
- 1) Radiation Protection and Safety of Radiation Sources
- 2) Nuclear Safety
- 3) Technological Applications of Nuclear Energy

1980: when this training of human resources began

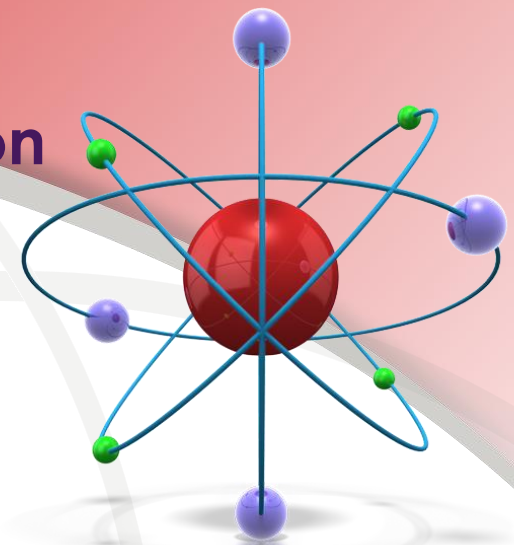
1485: specialists that have been graduated

725: foreign graduates most of whom are from Latin America.

The vast majority of Latin American specialists in radiation protection and nuclear safety are graduates of these programs.



"Radiation Protection and Safety of Radiation Sources" and "Nuclear Safety" Programs



Two stages:

1) Training in basic nuclear physics

At the Faculty of Engineering of the University of Buenos Aires

2) Focused on specialized technical aspects

Given by professionals of the Nuclear Regulatory Authority

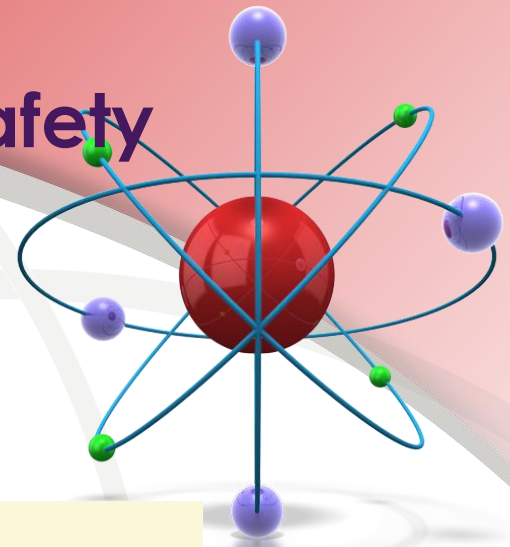
Both programs are sponsored and supported by the International Atomic Energy Agency (IAEA)



Program “Radiation Protection and Safety of Radiation Sources”

AIMS OF THE GRADUATE PROGRAM

Training specialists in radiation protection and safe use of sources of radiation with solid theoretical and practical knowledge and with the tools to perform effectively in control of the risks associated with the many activities that involve the use of ionizing radiation.



Program “Radiation Protection and Safety of Radiation Sources”



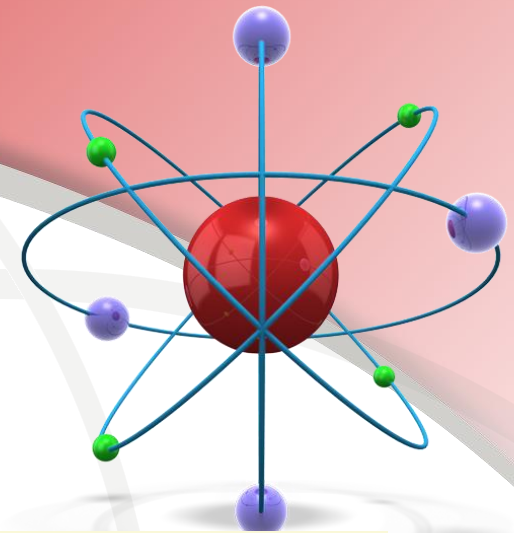
GRADUATE PROFILE

A specialist in radiation protection and safety of radiation sources in any facility in which to develop their work:

- Being able to assess radiation risks associated with normal operation and accidental situations in existing radioactive facilities or in the decommissioning or planning stage**
- Being able to propose technological solutions for the safe development of activities that use radiation sources**
- Being able to effectively and efficiently perform dosimetric measurements and calculations**
- Develop criteria to involve effectively in situations of radiological emergencies**
- Develop criteria that enable him/her it to efficiently carry out tasks of regulation and control of radioactive facilities**



Program “Nuclear Safety”



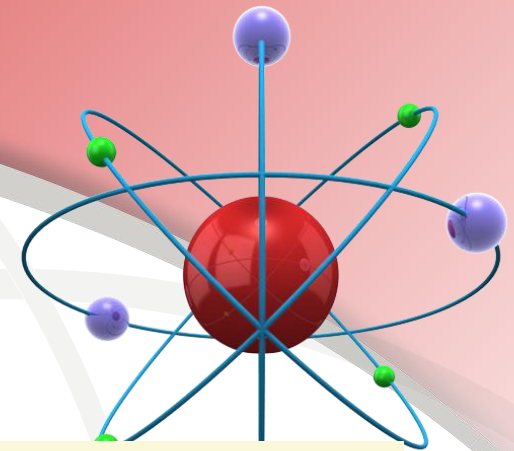
AIMS OF THE GRADUATE PROGRAM

Training specialists in nuclear safety with a solid theoretical and practical knowledge to enable them to:

- Define and improve, over time, the tasks necessary to achieve and maintain the level of excellence in security required for the development of any nuclear activity***
- Perform effectively as regulators of nuclear activities***



Program “Nuclear Safety”



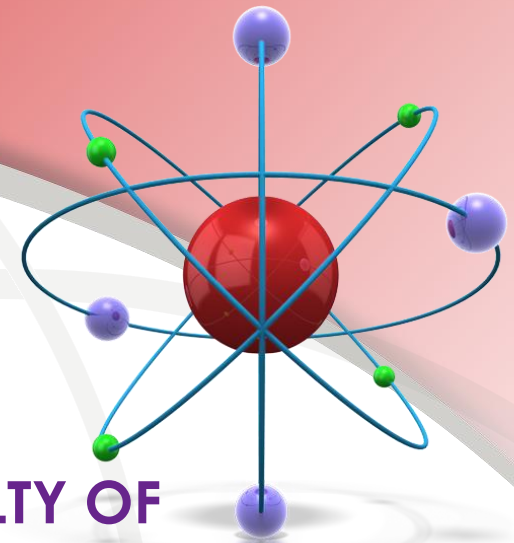
GRADUATE PROFILE

A specialist in nuclear safety at the facility concerned, able to:

- Analyze assessments of thermo-hydraulics and fluid mechanics for accident prevention***
- Analyze nuclear kinetic assessments for the prevention of critical accidents***
- Interpret probabilistic studies of safety analysis***
- Check that the operation of an installation is performed within the limits and conditions imposed by the license and by nuclear safety standards applicable to the installation***



Program "Technological Applications of Nuclear Energy"



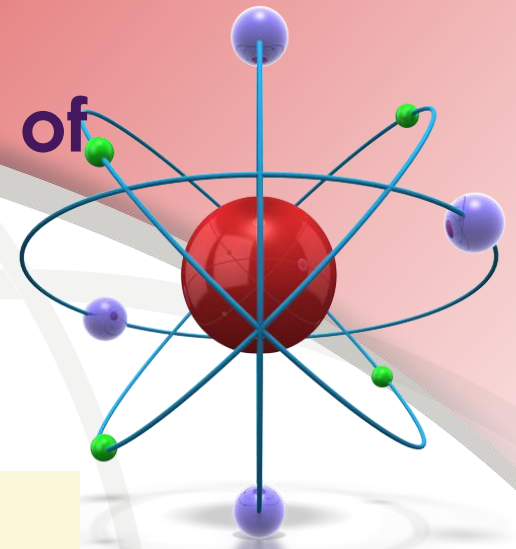
- Carried out by agreement among the FACULTY OF ENGINEERING, NATIONAL ATOMIC ENERGY COMMISSION and BALSEIRO INSTITUTE.
- It lasts for 1435 hours and extends along 41 weeks.
- Students do laboratory work in facilities of the NATIONAL ATOMIC ENERGY COMMISSION (in Bariloche and Buenos Aires) and dealing with a power reactor.
- They must submit a final paper corresponding to work performed at a laboratory for a month (at NATIONAL ATOMIC ENERGY COMMISSION , APPLIED RESEARCH and NUCLEOELECTRICA ARGENTINA).



Program "Technological Applications of Nuclear Energy"

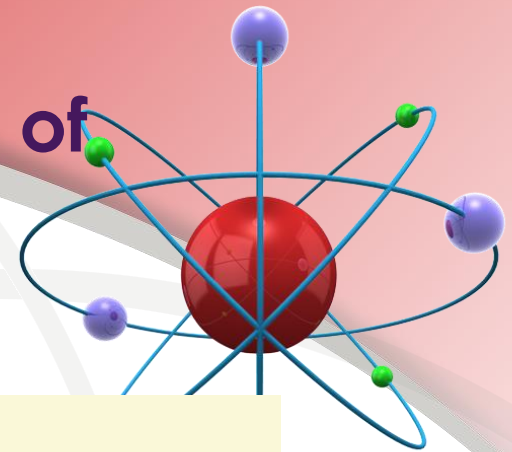
AIMS OF THE PROGRAM

Training specialists in technological applications of nuclear energy who have knowledge about the peace applications of nuclear technology; mastering the technical, methodological and conceptual management related to the various uses of nuclear energy in order to develop diverse activities



Program "Technological Applications of Nuclear Energy"

GRADUATE PROFILE

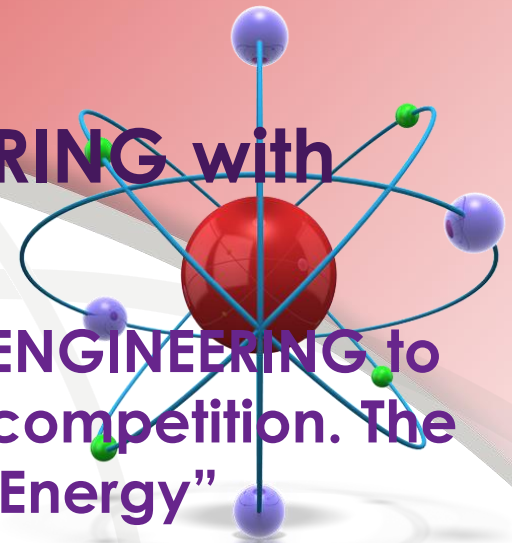


A specialist in

- ***Radioisotope applications, production, radiation sources, etc.***
- ***Radioactive waste management***
- ***Working at nuclear plants (power, research), and radioisotope production plants.***
- ***Nondestructive testing.***
- ***Working with the nuclear fuel cycle, design of fuel elements, processing of uranium ores, Uranium enrichment and reprocessing.***
- ***Activities related to international nuclear policy, nonproliferation treaties.***



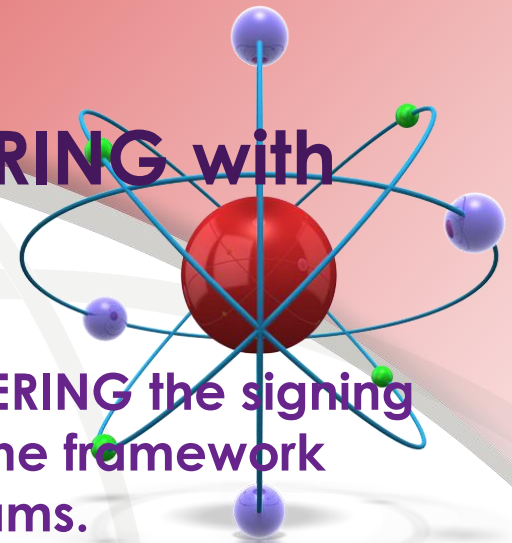
Activities of the FACULTY OF ENGINEERING with ROSATOM



- 2012: ROSATOM proposed the FACULTY OF ENGINEERING to sponsor and fund a nationwide monograph competition. The subject was "Peace Applications of Nuclear Energy"
- The FACULTY OF ENGINEERING organized the competition and 50 papers were forwarded.
- An extensive and qualified jury, formed by featured professionals from Argentine institutions and four jurors from ROSATOM, analyzed and selected the best three of them.
- 2013: The awards were presented in a publicized ceremony.
- 2014: ROSATOM invited the three winners, their directors and some journalists to visit Russian nuclear power plants and various nuclear installations (Kalinin NPP, Rosenergoatom, Mashinostroitelny Zavod, MEPhI University).



Activities of the FACULTY OF ENGINEERING with ROSATOM



- 2014: ROSATOM proposed the FACULTY OF ENGINEERING the signing of a memorandum of understanding meant to be the framework within which to develop various cooperation programs.
- This memorandum was signed at the MEPH University in June 2014, during the above mentioned visit.
- 2015: In July a workshop on nuclear applications, organized by ROSATOM will be held at the FACULTY OF ENGINEERING.
- 2015: Project to write a book about nuclear reactors, with Argentine and Russian authors.
- 2015: The Ministry of Education and Science of Russia has provided five scholarships aimed at Argentine graduates and advanced degree students for an educational program in Russia at the MEPH University, on the specialty "Technological Applications Associated With Nuclear Physics". Currently we are at the stage of registration and selection of the candidates.



Bottom line

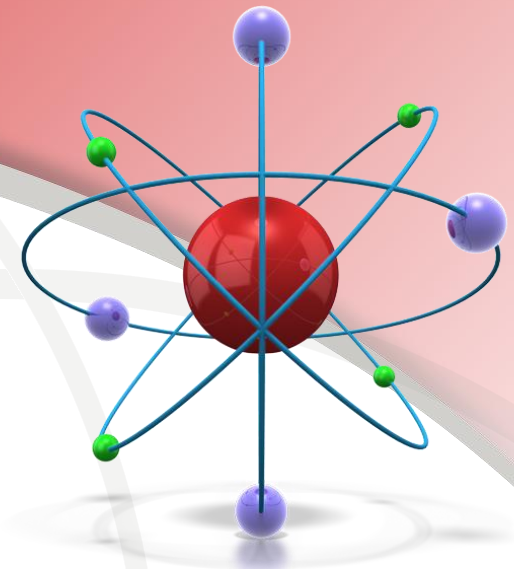


It's good to show the auspiciousness of this collaboration and how important it is for Argentina to be able to establish scientific and technological exchanges with an organization, a leader in the world, as ROSATOM.

Finally I want to thank the invitation and the financial support that I received from ROSATOM to participate in such an important event as ATOMEXPO 2015.

I want to emphasize the importance, not only for the knowledge and information that one gets in these meetings, but as a unique opportunity for personal exchange among professionals dedicated to the nuclear industry which ultimately leads to a rapprochement and understanding among the nations we represent. This is an issue much needed for this complicated world in which we live.





THANK YOU!

СПАСИБО!

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