PNRI Newsletter

A newsletter of the Philippine Nuclear Research Institute (PNRI)

July-September 2015 | Volume 8

PNRI NUCLEAR APPLICATIONS AT THE 2015 NSTW

Technical staff from DOST-PNRI explain the nuclear application exhibits on the Electron Beam Facility (left) and several types of radiation detection equipment (right) to thousands of visitors during the 2015 National Science and Technology Week Celebraton at the SMX Convention Center in Pasay City.

Featuring the latest innovations in nuclear science and technology through applications in agriculture, industry, medicine and disaster preparedness, the Department of Science and Technology – Philippine Nuclear Research Institute (DOST-PNRI) will join the entire Science Nation in celebrating the 2015 National Science and Technology Week (NSTW) on July 24 to 28 at the SMX Convention Center, SM Mall of Asia in Pasay City.

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The PNRI Newsletter is an online publication of the Philippine Nuclear Research Institute (PNRI), a research and development institute of the Department of Science and Technology (DOST).

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PNRI at 2015 NSTW - Continued from Page 1

Stepping up from last year's successful initiative, the DOST launched the 2015 NSTW under the theme, "Philippines: A Science Nation Innovating for Global Competitiveness", once again revolving on the sectoral interests of DOST eight outcomes on (1) agricultural productivity, (2) enterprise development, (3) industry competitiveness, (4) IT business process management, (5) E–Governance, (6) quality healthcare, (7) education, and (8) S&T disaster preparedness. This year, PNRI participated in a wide range of applications in securing the country's needs, particularly on Outcomes 1, 3, 6 and 8.

For agricultural productivity (Outcome 1), PNRI featured Plant Growth Promoters from radiation-processed natural polymers such as carrageenan (seaweed) and chitosan (shells of shrimps), which can help increase yield of crops such as rice, mungbean and peanuts.

In helping to improve industrial competitiveness (Outcome 3), PNRI also presented its irradiation facilities such as the semi-commercial Cobalt-60 Multipurpose Irradiation Facility and the recently inaugurated Electron Beam Facility.

PNRI featured its technologies for its recently approved quarantine treatment for Philippine Super Mangoes against mango pulp weevil, gamma-ray column scanning, use of isotopic techniques for the tracing of pollutants in the Manila Bay and in Boracay Island.

Under quality healthcare (Outcome 6), PNRI also featured wound dressings that serve as alternatives to expensive counterparts in the market today, such as the Skin Up™ Polyvinyl Pyrrolidone Carragenan Hydrogel Dressing and the Honey Alginate Wound Dressing. PNRI also featured the Technetium-99m Generator Facility for local production of radiopharmaceuticals.

Finally, PNRI contributed to S&T disaster preparedness through its exhibits on radon monitoring in the Philippine Fault and the Valley Fault System as earthquake precursor, environmental radioactivity monitoring, the Comprehensive Nuclear Test Ban Treaty Organization monitoring stations, and the development of the National Radiological Emergency Preparedness and Response Plan.

PNRI at the DOST Stakeholders Night

During the DOST Stakeholders Night on July 24, scientists and researchers from PNRI also participated in a medley of performances based on classic Broadway musicals.

PNRI was also joined by Philippine Institute of Volcanology and Seismology (PHIVOLCS) and Philippine Science High School (PSHS) in presenting selected songs from *The Sound of Music.*

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Top Left: The exhibit on Plant Growth Promoters in Outcome 1 on Agricultural Productivity.

Top Right: PNRI researchers show some samples of mango pulp weevils subjected to irradiation treatment as well as sands and corals from Boracay island for isotope analysis.

Bottom Left: A PNRI researcher explaining the use of the Gamma-ray Column Scanning technology for industrial purposes.

Bottom Right: Crowds visiting the PNRI exhibits entitled "Nuclear Technology - Ramdam sa Industriya" in Outcome 3 on Industrial Competetiveness.

Top Photos: Several visitors of Outcome 6 on Quality Healthcare listen to the explanations for the Technetium-99m Generator (left)

Top Right: PNRI Director Dr. Alumanda Dela Rosa (extreme left), PHIVOLCS Director Dr. Renato Solidum (extreme left) and PSHS Executive Director Dr. Larry Cabatic (1st row, 2nd from left) with performers from their respective agencies as they finished their musical presentation during the DOST Stakeholder's Night on July 24.

Bottom Photos: In Outcome 8 for S&T Disaster Preparedness, a PNRI researcher shows some marine and terrestrial samples for environmental radioactivity monitoring (left). At the assembly area for Outcome 8, facilitators from PNRI, PHIVOLCS, PAGASA and ASTI held an on-the-spot quiz on the various outcome exhibits.

PNRI at 2015 NSTW - Continued from Page 2

Nuclear Technology Exhibits at the DOST Regional Cluster Fairs

PNRI also brought the benefits of the peaceful applications of nuclear science and technology throughout the Philippines as it participated in the various DOST Regional Cluster Science and Technology Fairs.

The first of these fairs is the Southern Luzon Regional S&T Cluster Fair held in Puerto Princesa, Palawan from August 17 to 19. This was followed by the Northern Luzon Cluster S&T Fair held from September 1-3 in Vigan, Ilocos sur, and the Visayas Regional Cluster S&T Fair held from September 23 to 26 in Ormoc, Leyte. The upcoming Mindanao Regional S&T Cluster Fair will be held in Zamboanga from December 3 to 5.

As with the 2015 NSTW Celebration, PNRI was able to exhibit selected applications of nuclear technology for agriculture, medicine, industry and environmental protection.

A major activity during the cluster fairs was the elimination rounds of the 2015 Philippine Nuclear Science Quiz (See article on page X). The winners for each cluster will proceed to the National Level to be held during the 3rd Philippine Nuclear Congress at the Diamond Hotel in Manila on December 8.

Top Photos: Nuclear technologies for medical (left) and industrial (right) applications were featured during the Northern Luzon Regional Cluster S&T Fair from September 1-3 in Vigan, Ilocos Sur.

Bottom Left: A PNRI researcher explains the PGP exhibit at the Northern Luzon Cluster Fair.

Bottom RIght: A group of students try out the Skin Up™ Polyvinyl Pyrrolidone Hydrogel Dressing at the Visayas S&T Regional Cluster Fair in Ormoc, Leyte.

GET READY FOR THE 2015 PHILIPPINE NUCLEAR SCIENCE QUIZ!

Aiming to boost awareness on nuclear science and technology among students while also fostering a healthy competition, the DOST-PNRI will host the 2015 Philippine Nuclear Science Quiz (PNSQ).

The competition will cover various topics on nuclear S&T such as radiation and radioactivity, atomic and nuclear structure, nuclear and radiation technology, nuclear power, radiation protection, nuclear safety and regulations, and nuclear-related current events.

Each school will send a team composed of two high school students and a coach.

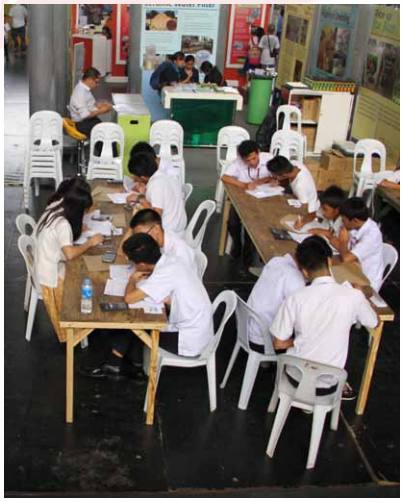
This year, the PNSQ expands its reach as the elimination round was held from August to September during the various DOST Regional S&T Fairs for North Luzon, South Luzon A, South Luzon B, and Visayas. The Mindanao elimination round will be held on November 12.

The top four schools from each regional cluster will compete at the National Level on December 8 during the Third Philippine Nuclear Congress to be held in Manila.

This level begins with the semi-final round in the form of a quiz show, where the five highest scorers at the end of the quiz will qualify for the final round.

In the final round, the teams will race towards the finish line by answering the quizmaster's questions. Cash prizes will be awarded to the top five national qualifiers – PhP 50,000 for the first place, PhP 35,000 for the second, PhP 25,000 for the third, and PhP 15,000 each for the last two qualifiers.

Clockwise from top: High school participants for the South Luzon A at the PNRI Compound; The PNSQ during the Visayas Cluster Fair in Ormoc, Leyte; PNSQ participants at the PNRI grounds



The Philippines at the 59th IAEA General Conference

Left Photo: Chargé d'Affaires Sulpicio Confiado of the Philippine Embassy in Vienna delivers the Philippine statement at the plenary of the 59th General Conference of the International Atomic Energy Agency (IAEA) on September 15. Photo from DFA

Right Photo: DOST-PNRI Director Dr. Alumanda Dela Rosa reports the results of the IAEA Scientific Forum on September 17 at the 59th IAEA General Conference plenary. Photo by Dean Calma, IAEA

Highlighting the Philippines' progress in the nuclear field through its partnership with the International Atomic Energy Agency (IAEA), DOST-PNRI Director Alumanda Dela Rosa and other members of the Philippine Delegation represented the country in the 59th IAEA General Conference held at Vienna, Austria from September 14-18.

As the United Nations organization for worldwide cooperation in promoting the safe, secure and peaceful uses of nuclear science and technology, the IAEA annually gathers thousands of delegates from 165 nations to further its programs and projects and to showcase the latest developments in the nuclear field across the globe, both in its research and development applications and in issues involving nuclear safety, security and safeguards.

This year, the Philippines was given the privilege of being elected as one of the Vice-Presidents of the conference and also as one of the eleven countries which will serve on the 35-member IAEA Board of Governors for a term of two years.

Meeting five times in a year, the Board of Governors decides on the Agency's programs and budget, applications for membership, and approval of safeguards agreements, among others.

The Philippine government expressed its gratitude to the IAEA at the conference, as majority of the country's projects involving nuclear applications receive support from the agency through financial assistance, equipment grants, fellowships, training courses and expert missions.

"The Philippines places high priority on the Agency's Technical Cooperation Programme since it serves as the primary vehicle for the peaceful uses of nuclear techniques which has benefitted Member States across all regions," said the Chargé d'Affaires of the Philippine Embassy in Vienna and Deputy Permanent Representative to the IAEA Mr. Sulpicio Confiado, who led the Philippine Delegation, as he addressed the plenary of the general conference on the evening of September 15.

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IAEA Expert Mission for Improving Education and Training on Nuclear Safety

Left: (1st row) PNRI Director Dr. Alumanda Dela Rosa (4th from left), International Atomic Energy Agency (IAEA) expert Mr. Jose Gil Martin (center), Mr. Hokee Kim of the Korea Institute of Nuclear Safety (KINS) (3rd from left), Mr. Mozzam Shahzad of the Pakistan Nuclear Regulator Authority (PNRA) (2nd from left), and Ms. Monalija Kostor of the Malaysian Atomic Energy Licensing Board (AELB) (4th from right) with participants from DOST-PNRI and the National Power Corporation (NPC).

Right: A presentation of PNRI facilities and activities before the IAEA review team by PNRI Nuclear Training Center Officer-in-Charge Mr. Roel Loteriña

The continuous education and training of researchers and regulators are very vital, not only in the development of nuclear science and technology, but also for strengthening the country's nuclear safety, security and safeguards, particularly for nuclear and Radiation installations.

In this light, the five-man review team from the International Atomic Energy Agency (IAEA) came to the Philippines for the IAEA Nuclear Safety Education and Training Review Service (ETReS) Mission at DOST - PNRI from August 17-20, 2015.

The ETReS mission is part of the IAEA's efforts to assist Member States in developing their own education and training program on nuclear safety that will be consistent with the IAEA Safety Standards as well as international good practices.

The preparatory self-assessment mission was held in April 8-10 this year.

The final mission this August consisted of a review team from the IAEA, South Korea, Malaysia and Pakistan.

Most of the participants who met with the review team for the four-day mission are composed of regulators and trainers from PNRI as well as representatives from the National Power Corporation (NPC), the Department of Energy (DOE), University of the Philippines - Manila and De La Salle University.

59th IAEA General Conference - Continued from Page 4

The address highlighted several PNRI projects on nuclear applications such as the development of precision farming methods with stable isotopes and the establishment of an electron beam facility. The Philippines also currently serves as a pilot country for several IAEA projects such as the hydrology studies under the IAEA Water Availability Enhancement (IWAVE) Project, and the outreach program on secondary schools under the project on Supporting Sustainability and Networking of National Nuclear Institutions in Asia and the Pacific Region.

The Philippines was also able to shore up its commitment to nuclear safety, security and safeguards through the Integrated Nuclear Security Support Plan (INSSP), as well as the elevated emergency preparedness and response for the Asia-Pacific Economic Cooperation (APEC) Summit in the Philippines this November 18-19. The plenary message also mentioned the visit of Director General Yukiya Amano to the Philippines in January this year as part of his tour of the Member States of South-east Asia, as well as his anticipated presence as the guest of honor at the Third Philippine Nuclear Congress from December 7 to 9.

PNRI Director at the Panel of the IAEA Scientific Forum

On September 16, PNRI Director Dela Rosa served as one of the panelists at the concluding discussion of the IAEA Scientific Forum entitled Atoms in Industry - Radiation Technology for Development.

The two-day forum tackled the potential of nuclear science & technology as a driving force for economic growth and sustainable development, particularly with radiation applications to improve the quality of every-day products and materials.

The PNRI director was also joined by speakers from Canada, Belgium and Pakistan as the panel discussed on how radiation technologies are being used to spur national development by providing more efficient and environment - friendly improvements in industrial processes.

Top Photos: At the IAEA Scientific Forum "Atoms in Industry - Radiation Technology for Development", Director Dela Rosa engages in a panel discussion with experts from other nations regarding the impact of radiation technology in their country's industrial development. Photos by Dean Calma, IAEA

Director Dela Rosa also had the honor of presenting the report of the IAEA Scientific Forum at the plenary of the General Conference on September 17.

Filipino Fresh Grad Bags 2nd Place at Nuclear Olympiad

Meanwhile, fresh college graduate Anton Philippe Tanquintic made the Philippines proud by winning the second place during the General Conference side event entitled Nuclear Olympiad and Developing a Talent Pipeline on September 17.

The Nuclear Olympiad, which was started by the World Nuclear University, is a contest for young students around the world to creatively communicate the role of nuclear science in enhancing the quality of life of mankind. For this year, the participants were tasked to make a minute-long video on the peaceful benefits of nuclear and radiation applications.

Tanquintic, who graduated with degrees in BS Applied Physics and BS Materials Science & Engineering at the Ateneo de Manila University, was an on-the-job trainee of the PNRI Applied Physics Research Section and a participant of its Annual Neutron School when he heard about the competition. His entry in the competition was the 59-second video entitled Nuclear Solutions for Today's Needs, which he made with the help of his sister, Antoinette.

Anton Tanquintic (2nd from left) with IAEA Director General Yukiya Amano (extreme left) and the winners of the Nuclear Olympiad. Photo by Dean Calma, IAEA

After making it through the early stages of the competition in July, Tanquintic was selected as one of the top five finalists who were sponsored by the WNU to go to Vienna during the General Conference. Along with Tanquintic are equally young minds who were both engaging in the field of nuclear engineering: Ms. Alice Cunha da Silva from Brazil, who won first place, and Mr. Vivek Maradia from India, who won third place.

CSC Supervisory Development Course at DOST-PNRI

Aiming for a more productive and competetive civil service through improving the quality, dynamism and leadership skills of first-level supervisors, the Civil Service Commission - National Capital Region (CSC-NCR) conducted the Supervisory Development Course - Track 1 at DOST-PNRI from August 3-7.

The course was attended by PNRI section heads, officers-in-charge, and senior members of the Institute's various sections.

Among the topics tackled in the four-day training course are the importance of personal effectiveness and career management, adapting to the demands of being a supervisor and effective communication skills, among others.

Nuclear Safety and Security

PNRI and IAEA Continues Efforts in Nuclear Security for APEC Summit

Left: PNRI Director Dr. Alumanda Dela Rosa (1st row, center), IAEA experts Mr. Thierry Pelletier (1st row, 7th from left) and Mr. Marcos Cesar Moreira (1st row, 6th from right) with the workshop participants.

Right: A PNRI researcher scans IAEA expert Mr. Theirry Pelletier for radioactive contamination in a simulated exercise on nuclear securiy during a major public event.

With the preparations for the 27th Asia-Pacific Economic Cooperation (APEC) Leaders Summit in full-swing, the DOST-PNRI is also intensifying its efforts in sustaining nuclear safety and security during the summit.

From September 22-24, PNRI hosted the Workshop on Concept of Operations Between Front-Line Officers and Mobile Expert Support Teams During Major Public Events in cooperation with the International Atomic Energy Agency (IAEA).

Among the participants are several emergency responders from the Philippine National Police (PNP) and the Bureau of Fire Protection (BFP). Researchers and regulators from PNRI also participated in the workshop.

Experts from IAEA and PNRI oriented the participants in improving the coordination between the on-site responders and support teams with further expertise in radiological threats.

Echo Seminar for Mobile Radiation Detection Systems

Top Photo: Researchers and regulators from DOST-PNRI studying the use of a a state-of-the-art mobile radiation detection system courtesy of the US Department of Energy - National Nuclear Security Administration (USDOE-NNSA).

Right Photo: PNRI responders mount the mobile radiation detection system to a vehicle for a test run.

To be able to make a more timely and effective response in the event of a nuclear or radiological emergency, members of the PNRI Radiological Emergency Monitoring and Control (REMCON) Teams attended an echo seminar on using a mobile radiation detection system on September 16.

The seminar continues the cooperative efforts by the United States Department of Energy - National Nuclear Security Administration (USODE-NNSA) with DOST-PNRI in the previous quarter's seminar for improving nuclear security systems, especially in preparation for major public events.

Nuclear Training Courses and Seminars

Radiation Safety Courses for Commercial and Industrial Sectors

Left Photo: The participants of the Radiation Safety Course - Commercial Sale Involving Radioactive Materials and Low Activity Sources (RSC-CL) at the PNRI Compound.

Right Photo: Participants of the Radiation Safety Course - Industrial Radiography (RSC-IR) during a tour of PNRI facilities

Many commercial and industrial ventures involve the use of radiation and radioactive materials. Both national and international standards require that the operators of such facilities and equipment should be trained in the proper handling of sources and other safety measures.

Through the years, the DOST-PNRI has helped our partners from various sectors to meet training requirements through its Radiation Safety Courses, (RSC) which are being conducted by the Institute's Nuclear Training Center. (NTC).

Radiation Safety Course - Commercial Sale Involving Radioactive Materials and Low Activity Sources (RSC-CL)

On July 14 to 15, PNRI conducted the RSC for individuals who are involved in acquisition of radioactive materials for commercial sale and distribution, as well as in the use of Category 5 radioactive sources used for research and education. Among the participants are laboratory analysts, chemists, engineers and managers of manufacturing industries.

The two-day training course was previously known as the Radiation Safety Course - 2 Days (RSC-2D).

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Eddy Current Array Technology Seminar

The Philippine Society for Non-Destructive Testing (PSNT), in close cooperation with the DOST-PNRI and NDT instruments Philippines Incorporated (NDTPI) conducted an Eddy Current Array Technology Seminar on August 13 at the PNRI Compound.

Around fifty participants attended the seminar, including engineers and several practitioners of non-destructive testing methods in the industrial sector, as well as PNRI researchers and NDT instructors.

The seminar featured the latest in eddy current technology and other non - destructive testing methods, including eddy current array techniques, alternate current field measurement, as well as the development and utilization of REDDY and SHARCK probes.

Nuclear and Isotope Techniques for Flood-Stricken Areas

In the aftermath of the Typhoon Yolanda (international name Haiyan), Filipinos were left with the challenge of rebuilding houses, buildings and other structures, as well as restoring the land, groundwater and other natural resources contaminated by floods. To meet these problems, the DOST-PNRI, in cooperation with the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture, will be bringing nuclear and isotopic analytical techniques to the fore in helping the recovery of flood-affected areas in the Philippines.

According to the IAEA, several technqiues on fallout radio-nuclides and compound specific stable isotopes will prove useful in tracking soil and water movement, as well as the pathways for nutrients and diseases. These are vital to flood rehabilitation efforts in areas where the storm surge resulted in contaminating the soil, groundwater and aquifer systems with decaying matter, cadavers and seawater, which will hamper agricultural recovery.

Dr. Brittany Graham of the New Zealand National Institute of Water and Atmospheric Reesearch (NIWA) conducts a seminar on Compound Specific Isotope Analysis on July 16 at the PNRI Compound

Experts from Australia and New Zealand visited these flood-stricken areas in July and August, where they directly observed the scale of the damage caused by Typhoon Yolanda. The experts also visited PNRI and conducted a seminar on isotope analytical techniques. The pilot efforts in the Philippines will serve as the first wave of assistance to other countries in the Asia-Pacific region.

Radiation Safety Courses - Continued from Page 7

Radiation Safety Course - Sealed Sources in Industrial Devices (RSC-ID)

PNRI also conducts the RSC for workers using Category 3 to 4 radioactive sources in industrial devices such as level gauges, static eliminators and moisture-density gauges, among others.

From September 14-18, the RSC was attended by plant managers, engineers, safety officers, operators and technicians of various corporations.

Radiation Safety Course - Industrial Radiography (RSC-IR)

Meanwhile, operators who are using gamma radiography on-site and in shielded enclosures are welcome to take the RSC for industrial radiography.

The Institute conducted this course from July 20 to 31 at the PNRI Compound. Most of the participants are Nondestructive Testing (NDT) technicians from inspection companies, as well as reliability engineers and quality assurance representatives from the petroleum industry.

Radiation Safety Refresher Course (RSRC)

Prior participants who completed at least one of these RSCs are eligible to take a refresher course from the NTC, which will enable them to review the basics of safety and security practices involving radiation and radioactive materials.

PNRI conducted the course from August 4 to 6, where the participants are composed of medical physicists, technologists and specialists, many of whom are currently serving as Radiation Safety Officers (RSO) for their respective facilities or institutions.

Top Photo: Participants of the Radiation Safety Course - Industrial Radiography (RSC-IR) at the laboratories of the Nuclear Analytical Techniques Applications Section

Bottom Photo: A film showing on radioactive sources for the Radiation Safety Refresher Course (RSRC)

During the courses, participants of basic RSCs are taught basic radiation and radio-activity concepts, as well as the fundamentals of radiation safety and security and the various regulatory requirements in the Code of PNRI Regulations and documents. The participants are also expected to be able to develop and implement a radiation safety program applicable to their practice as well as to their respective facilities.

From the Director

Greetings to everyone!

While the first half of 2015 was spent in the productive development and use of nuclear and radiation applications, we at DOST-PNRI met the second half by bringing these technologies closer to the Filipino people and the global community through exhibitions, participations in international events, training courses and seminars.

In July, PNRI was able to showcase nuclear technologies in four major outcomes for the 2015 National Science and Technology Week (NSTW). Our scientists and researchers were able to continue these efforts throughout the various Regional Cluster Science Fairs. During these science fairs, PNRI also conducted the elimination levels of the 2015 Philippine Nuclear Science Quiz for high school students.

PNRI was also able to participate as part of the Philippine Delegation to the 59th General Conference of the International Atomic Energy Agency (IAEA) this September.

Meanwhile, the Institute still continues to prepare for the nuclear security of the upcoming Asia-Pacific Economic Cooperation activities this November. PNRI coordinates closely with the Philippine National Police and other responding agencies.

The third quarter also saw the conduct of several Radiation Safety Courses for workers and managers from the industrial, medical and commercial sectors. Out technical cooperation projects and expert missions with the IAEA were also productive for our local scientists and researchers.

We are looking forward with hope to the end of 2015, in time for the 3rd Philippine Nuclear Congress.

COA Commissioners at PNRI

Commission on Audit (COA) Chairperson Michael Aguinaldo (6th from right) and Commissioner Heidi Mendoza (6th from left) with Department of Science and Technology (DOST) Secretary Mario Montejo (center), DOST Undersecretary Dr. Carol Yorobe, DOST Undersecretary Dr. Amelia Guevara and Philippine Nuclear Research Institute (PNRI) Director Dr. Alumanda Dela Rosa (3rd to 5th from right) with officials of the COA's International Audit and Relations Office, members of the PNRI Senior Staff and the COA DOST-PNRI audit team.

On August 17, Director Dela Rosa presented the various projects of PNRI and the International Atomic Energy Agency (IAEA) in the Philippines. The COA team visited the PNRI in preparation for its candidature as External Auditor of IAEA for 2016-17.

COA Chairperson Michael Aguinaldo and Commissioner Heidi Mendoza try out a nuclear science and technology information kiosk at the PNRI lobby. The kiosk was developed as part of the IAEA Technical Cooperation Project on Supporting Sustainability and Networking of National Nuclear Institutions in Asia and the Pacific Region.

The Philippines serves as a pilot country for the said project, along with Malaysia, Indonesia, and the United Arab Emirates.

Also at the COA Website (www.coa.gov.ph)

3rd Philippine Nuclear Congress

Meeting Challenges Through Nuclear Science and Technology for Sustainable Growth

The Third Philippine Nuclear Congress

After almost two decades, the Department of Science and Technology – Philippine Nuclear Research Institute (DOST-PNRI) and its partner agencies will once again convene the Philippine Nuclear Congress (PNC) on December 7 to 9, 2015 at the Diamond Hotel in Manila, Philippines.

The PNC is a multi-sectoral forum for information exchange on the current status of nuclear science and technology in various fields. More than an assessment of the state and contributions of nuclear science and technology in national development, the congress aims to expand the participation of the different sectors to establish stronger linkages with collaborating institutions and individuals.

The First Philippine Nuclear Congress (1976)

The country's first nuclear congress was held in 1976, exactly thirty-nine years before this year's congress. The first PNC adopted the theme "Partnerships for Progress Through Atomic Energy" and was held at the Philippine International Convention Center. Experts and representatives from the fields of energy, food, environment, industry, medicine and education pooled their knowledge and experience to improve applications of nuclear science in their respective areas of expertise and, ultimately, to support the National Atomic Energy Plan that paved the way for the construction of the Bataan Nuclear Power Plant. The Congress was organized by the Philippine Atomic Energy Commission (PAEC) under the Office of the President, which is now the Philippine Nuclear Research Institute (PNRI) under the Department of Science and Technology.

The Second Philippine Nuclear Congress (1996)

Twenty years later, the second PNC was convened from December 10-12, 1996. This coincided with the 100th anniversary of the discovery of radioactivity by Henri Becquerel. With the theme "Challenges of Nuclear Technology for the 21st Century", the second PNC sought to respond to global issues through nuclear science and technology as applied in various sectors, especially to prepare for the next millennium. The Congress was graced with the presence of Dr. Hans Blix, the then-Director General of the International Atomic Energy Agency (IAEA).

Many nuclear and radiation applications have already been developed since the previous Congress, which came in time to meet the greater demands for food, water and energy, as well as worldwide problems in health, and environmental protection. Back then, the Philippines was also reconsidering nuclear power for the country's energy mix, as President Fidel Ramos created a Nuclear Power Steering Committee for the implementation of a comprehensive nuclear program.

The Upcoming Third Philippine Nuclear Congress (2015)

Today, the Philippines has come a long way in harnessing the power of the atom in the fields of agriculture, health, industry and environment, as well as nuclear safety, safeguards and security. These achievements and more will be showcased in the third PNC, which will be held on December 7-9, 2015. For the third PNC, the current IAEA Director General Yukiya Amano was invited to be the keynote speaker. Director General Amano previously visited the Philippines in January 2015 as part of his tour of the IAEA Member States in Southeast Asia. He applauded the country's efforts not only in advancing the uses of nuclear science and technology but also in contributing to the development of our neighboring countries in the nuclear field.

First Philippine Nuclear Youth Summit and 2015 Philippine Nuclear Science Quiz

The upcoming Congress will witness the launching of the first Philippine Nuclear Youth Summit on the first day of the PNC, in recognition of the youth's great potential as well as their growing interest in nuclear and radiation technologies. This will afford students from colleges and secondary schools across the country a voice in the future of nuclear science and education in the country. The Congress will also host the 2015 Philippine Nuclear Science Quiz at the National Level, where the qualifying contenders from the various DOST Regional Clusters will compete for the top spots.

The 1976 Philippine Nuclear Congress held at the Philippine International Convention Center

The Second Philippine Nuclear Congress in 1996 with IAEA Director General Hans Blix (center) as guest speaker

IAEA Director General Yukiya Amano, who visited the Philippines in January 2015, will be the keynote speaker for the Third Philippine Nuclear Congress on December 7-9, 2015.

With representatives from the agricultural, industrial, medical, government and academic sectors gathering together to assess the state and contributions of nuclear science and technology in national development, the Third Philippine Nuclear Congress will be one of the significant milestones in the history of nuclear science and technology in the Philippines.

Third Philippine Nuclear Congress
December 7 to 9, 2015 in Manila, Philippines

Representatives from the agricultural, industrial, medical, government and academic sectors will converge for the Third Philippine Nuclear Congress (PNC) from December 7 to 9, 2015 at the Diamond Hotel in Manila, Philippines. With the theme, *Meeting Challenges through Nuclear Science and Technology for Sustainable Growth*, local and international experts in the nuclear field will present the global, regional and national developments in the areas of food and agriculture; health and medicine; industry; and the environment, as well as in nuclear safety, security and safeguards. International Atomic Energy Agency (IAEA) Director General Yukiya Amano will grace the event as the keynote speaker.

Opening Program, Welcome Reception and Closing Program

Opening Program – 9:00 am, December 7
- Message from Department of Science and Technology Secretary Mario Montejo
- Keynote address by International Atomic Energy Agency Director General Yukiya Amano

Welcome Reception – 6:00 pm, December 7
Closing Program – 4:00 pm, December 9

Days 1 to 3

Scientific Program and Exhibits
- Thematic Areas
  - Food and Agriculture
  - Health and Medicine
  - Industry
  - Environment
  - Nuclear Safety, Security and Safeguards
- Oral presentations by invited experts
- Poster presentations (accepted contributions)
- Exhibits

Day 1

Philippine Nuclear Youth Summit
- Nuclear Information, Education and Communication
  - Lectures by invited international experts
  - Testimonials by nuclear scientists
  - Group dynamics

Day 2

2015 Philippine Nuclear Science Quiz
National quiz bee competition for high school students

Organizers

EXECUTIVE COMMITTEE
- Department of Science and Technology (DOST)
- Philippine Nuclear Research Institute (PNRI)

SCIENTIFIC SOCIETIES
- Nuclear Research Foundation (NRF)
- Philippine Society of Nuclear Medicine (PSNM)
- Philippine Society for Nondestructive Testing (PSNT)
- Philippine Association for Radiation Protection (PARP)
- Philippine Organization of Medical Physicists (POMP)
- Philippine Radiation Oncology Society (PROS)

FOR INQUIRIES

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About Us

The Philippine Nuclear Research Institute (PNRI) is a research and development institute under the Department of Science and Technology (DOST) mandated by law to undertake research and development activities in the peaceful uses of nuclear energy, render nuclear and specialized services and exercise regulatory control in the field of nuclear science and technology. The Institute has been serving the public for the past 55 years, harnessing the beneficial applications of nuclear energy while ensuring the safe use and security of radioactive materials and nuclear facilities for the protection of workers, the general public and the environment.

PNRI Vision

The PNRI is an institution of excellence in nuclear science and technology propelled by a dynamic and committed workforce in the mainstream of national development.

PNRI Mission

We contribute to the improvement of the quality of Filipino life through the highest standards of nuclear research and development, specialized nuclear services, nuclear technology transfer and effective and efficient implementation of nuclear safety practices and regulations.

PNRI Newsletter

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