About Thailand Institute of Nuclear Technology (Public Organization)

Established in 21 April 2006, Thailand Institute of Nuclear Technology (Public Organization) or TINT is an independent organization separated from Office of Atoms for Peace to carry out research and development and to promote the utilization of nuclear technology. TINT also provides nuclear-related services and technology transfer to the public to help improve the quality of life and national development.

Vision

To be a leading nuclear solution-based research institute for Nation

Mission

1. Carry out the research and development on nuclear science and technology for sustainable development of the country
2. Transfer technology and provide consultancy services regarding the utilization of nuclear technology for socio-economic and environmental development
3. Administer and operate the research reactor and other nuclear facilities, and provide nuclear technology and nuclear safety services to the public
4. Promote a nuclear network and cooperate with organizations and research institutes, both domestic and international
5. Disseminate and build up public acceptance on the utilization of nuclear science and technology for national development

Strategy

1. Focus on research and development projects which meet the socio-economic and environmental benefits
2. Promote cooperation networks with domestic and international organizations
3. Develop the efficiency and quality of services of the nuclear science and technology, and the nuclear safety
4. Promote the cooperation network for communication, public relations, and knowledge dissemination to build up understanding and acceptance from all stakeholders and the public
5. Make use of advanced and efficient information technology for administration of databases and knowledge, and of technology transfer to the public
6. Develop and organizational management system with flexibility for efficient and effective cooperation
**Research and Development**
Research on nuclear science and technology

- Medical and public health research
- Biotechnology and Agriculture research
- Materials science and industry research
- Environment and safety research
- Nuclear physics and engineering research

**Nuclear Technology Services**

- Nuclear analysis, test and measurement services
- Radioisotope products services
- Irradiation services (foods, agricultural produces and medical devices, etc.)
- Gems irradiation services
- Waste management services
- Production, calibration, and maintenance of survey meters
- Nuclear technology transfer

Thailand Institute of Nuclear Technology (Public Organization)
9/9 Moo7, Sai moon, Ongkharak, Nakorn Nayok, 26120
Tel. +66 3739 2901 (to 6) Fax. +66 3739 2913 [www.tint.or.th](http://www.tint.or.th)
Welcome address

Nikom Prasertchiewchan
Chairperson, INST 2016

Dear colleagues and friends,

On behalf of the organizing committee and Thailand Institute of Nuclear Technology, I would like to welcome you to International Nuclear Science and Technology Conference 2016 (INST2016) in Bangkok, Thailand, from 4-6 August 2016.

INST2016 is the second international conference in its series that covers topics in nuclear science, technology and applications. It serves a venue where colleagues from all breadths of nuclear and radiation research gather together, present and share their work at the conference.

This year, the organizing committee has made a goal to promote the conference theme “Nuclear for Better Health and Environment”. Our comprehensive program has brought together over 400 participants from 14 countries and 2 international organizations. The program includes 12 technical sessions with 39 oral presentations and 94 poster presentations. It is complemented by extensive exhibitions. In addition, the panel discussion on August 6th will address how accelerators can contribute to sustainable development of many countries.

Through the conference, the organizing committee hopes that we are successful in providing a stage where new ideas are generated, innovation created, knowledge discussed and exchanged, friends made and strengthened, and collaboration initiated.

The organizing committee thanks Ministry of Science and Technology of Thailand, Office of Atoms for Peace, Synchrotron Light Research Institute, Nuclear Society of Thailand, Chulalongkorn University, Kasetsart University, Khon Kaen University and Thammasat University for co-hosting this event. We also thank Electricity Generating of Thailand, Pondpol Analytical Co., Ltd., Thai Sterilization Service, Co., Ltd., and Synergy Health (Thailand) Ltd., for sponsoring this conference.

We look forward to your participation and welcoming you to Bangkok.

With warmest regards,

Nikom Prasertchiewchan
Chair, INST2016
Manager, Radioactive Waste Management Center
Thailand Institute of Nuclear Technology
Welcome address

Somporn Chongkum
Editor-in-Chief, JPCS- INST 2016 Proceedings

It has been my great privilege to serve as the Co-Editor-in-Chief of the Journal of Physics Conference Series (JPCS), proceedings publication of International Nuclear Science and Technology 2016 (INST2016). INST2016 was the second of the INST conference series evolving from a notable national conference series on nuclear science and technology. INST2016 which was held in August 2016, Bangkok, Thailand had achieved fruitful outcomes. We would like to thank Thailand Institute of Nuclear Technology (TINT) for hosting this meeting, especially to Mr. Nikom Prasertchiewcharn, the organizing committee chairperson, and Dr. Phiriyatorn Suwanmala, the academic committee chairperson. We are also grateful to the members of the editorial board and the reviewers for their effort and dedication to bring the review process to success and ensure the quality of the research papers.

An increase of the number of articles accepted for publication from 31 (INST2014) to 45 (INST2016) indicates a growing interest among researchers to publish their work in the INST proceedings. The INST2016 proceedings publication has covered a mixed variety of articles in nuclear science and technology by authors from ASEAN and other countries including Japan, Korea and Sweden.

We hope to be able to initiate gradual changes in the near future for a more successful meeting and more importantly, for a higher level of proceedings publication.

We hope the members shall meet again and that the next meeting of INST series (INST2018) which will be held in Bangkok, Thailand in 2018 will also be fruitful and successful.

Thank you.

Somporn Chongkum, Dr. rer. nat.
Editor-in-Chief, JPCS – INST2016 Proceedings
Keynote Speaker:

‘Roles of Nuclear Technology and IAEA Contribution to Health and Environmental Issues in Developing Countries’

Yukiya Amano
Director General, the International Atomic Energy Agency (IAEA)

Yukiya Amano is Director General of the International Atomic Energy Agency. The IAEA, an intergovernmental organization based in Vienna, is the global centre for cooperation in nuclear applications, energy, science and technology. Established in 1957, the Agency works with its Member States and partners to promote safe, secure and peaceful nuclear technologies and prevent the proliferation of nuclear weapons.

Career Summary

August 2005 - August 2009: Permanent Representative and Ambassador Extraordinary and Plenipotentiary of Japan to the International Organizations in Vienna and Governor to the IAEA

April 2007: Chairman of the First Session of the Preparatory Committee for the 2010 NPT Review Conference

September 2005 - September 2006: Chairman of the Board of Governors of the IAEA

August 2004: Ambassador, Director-General for Disarmament, Non-Proliferation and Science Department, Japanese Ministry of Foreign Affairs

Publications

- A Japanese View on Nuclear Disarmament (The Non-Proliferation Review, 2002)
- The Significance of the NPT Extension (Future Restraints on Arms Proliferation, 1996)
- La Non Proliferation Nucleaire en Exteme-Orient (Proliferation et Non-Proliferation Nucleaire, 1995)
- Sea Dumping of Liquid Radio Active Waste by Russia (Gaiko Jiho, 1994)

**Education and Academic Experience**

- **2001-2002:** Visiting Scholar, Monterey Institute of International Studies, USA
- **2001:** Fellow, Weatherhead Center for International Affairs, Harvard University, USA
- **2000-2001:** Lecturer, International Politics, Sophia University, Japan
- **1991-1992:** Lecturer, International Politics, Yamanashi University, Japan
- **1988 - 1990:** Director for Research Coordination and Senior Research Fellow, Japan Institute of International Affairs, Japan
- **1974-1975:** Studies at the University of Nice, France
- **1973-1974:** Studies at University of Besancon, France
- **1972:** Graduated from Faculty of Law, University of Tokyo, Japan
Conference

Nuclear technology has played an important role in many aspects of our lives, including agriculture, medicine and healthcare, materials, environment, forensics, energy, and frontier advancement. The International Nuclear Science and Technology Conference (INST) aims to bring together scientists, engineers, academics and students to share knowledge and experiences about all aspects of nuclear sciences.

INST2016 was the second of the INST conference series organized by Thailand Institute of Nuclear Technology. INST has evolved from a national conference series on nuclear science and technology that was held every two years in Bangkok for over a twenty-year period.

INST2016 was held from 4 - 6 August 2016 in Bangkok, Thailand, under the central theme “Nuclear for Better Life”. The conference working language was English. The oral and poster research presentations covered seven major topics:

- Nuclear physics and engineering (PHY)
- Nuclear and radiation safety (SAF)
- Medical and nutritional applications (MED)
- Environmental applications (ENV)
- Radiation processing and industrial applications (IND)
- Agriculture and food applications (AGR)
- Instrumentation and other related topics (INS)

Keynote Speaker:

Yukiya Amano, Director General, International Atomic Energy Agency (IAEA)

Invited Speakers:

- Emanuele Tsesmelis, European Organization for Nuclear Research (CERN)
- Nguyen Tuan Khai, Vietnam Atomic Energy Institute (VINATOM), Vietnam
- Monique Lacroix, Institut National de La Recherche Scientifique, Canada
- Noriaki Seko, Japan Atomic Energy Agency, Japan
- Dheerawan Boonyawan, Chiang Mai University, Thailand
- Teerachat Sae-heng, Thammasat University, Thailand
- Waranont Anukool, Chiang Mai University, Thailand
- Dhanaj Saengchantr, Thailand Institute of Nuclear Technology, Thailand
- Edy Giri Rachman Putra, National Nuclear Energy Agency of Indonesia (BATAN), Indonesia
- Naruhiro Matsufuji, National Institute of Radiological Sciences, Japan
- Jong-Seo Chai, Sungkyunkwan University, Republic of Korea
Panel Discussion:

- Jong-Seo Chai, Sungkyunkwan University, Republic of Korea
- Emanuele Tsesmelis, European Organization for Nuclear Research (CERN)
- Naruhiro Matsufuji, National Institute of Radiological Sciences, Japan
- Ananya Ruangma, Wattanosoth Cancer Hospital, Thailand
- Pornthep Nisamaneepong, Thailand Institute of Nuclear Technology, Thailand
- Thiansin Liamsuwan, Thailand Institute of Nuclear Technology, Thailand
Committee

INST2016 was organized by Thailand Institute of Nuclear Technology (TINT).

Honorable Chairs

- Pornthep Nisameepphong (Executive Director)
- Hannarong Shamsab (Deputy Director)
- Nipavan Poramatikul (Deputy Director)

Organizing Committee

- Nikom Prasertchiewcharn (Chairperson)
- Phiriyatorn Suwanmala (Vice Chair)
- Kanokporn Boonsirichai (Secretary)
- Dhanaj Saengchantr
- Panita Ruenbanthoeng
- Kanchalika Dechates
- Watin Chinangkoonphiwat
- Nongnuch Jangsawang
- Wannipa Phianphak
- Roppon Picha
- Tippanan Ngamprayad
- Voraluck Lertanuntrakul
- Wanwisa Prasarthhammaporn
- Jaruratana Eamsiri
- Dussadee Rattanapra
- Kanokrat Tiyapun
- Saowaluck Phuengyat
- Natthamon Nunchukan

Academic Committee

- Phiriyatorn Suwanmala (Chairperson)
- Sasiphan Khaweerat (Secretary)
- Moleephan Dangprasert
- Boonsom Ponrtepkasemsan
- Kanokrat Tiyapun
- Kasinee Hemvichian
- Dussadee Rattanapra
- Roppon Picha
- Saensuk Wetchagarun
- Sarinrat Wonglee
- Thiansin Liamsuwan
- Kampanart Silva
- Kotchaphan Kanjana

Editors-in-Chief for IOP Journal of Physics Conference Series

- Somporn Chongkum (Former TINT Executive Director)
- Olgun Guven (Hacettepe University, Turkey)
# Program

## International Nuclear Science and Technology Conference (INST 2016)

**4-6 Aug 2016, Bangkok**

**Tentative Program**

### Day 1: Thursday, 4th August 2016

| Time       | Topic                                                                                     |
|------------|-------------------------------------------------------------------------------------------|
| 7:15-8:00  | Registration and coffee break (participants ready in the hall by 8:00)                      |
| 9:00-10:00 | Opening ceremony<br>Arrival of HRH Princess Maha Chakri Sirindhorn<br>Report by Minister of Science and Technology<br>Presentation of TINT Invention Awards (College Level) and Young Nuclear Scientist Award<br>Royal Opening Address of HRH Princess Maha Chakri Sirindhorn<br>Photo session |
| 10:00-10:40 | Keynote speaker: Yukiya Amano (Director General of the International Atomic Energy Agency (IAEA))<br>**Roles of Nuclear Technology and IAEA Contribution to Health and Environmental Issues in Developing Countries** |
| 10:40-12:00 | Exhibition session                                                                        |
| 12:00-13:30 | Lunch break                                                                               |
|            | **Session I: PHY (Chair: Rattachat Mongkolnavin, Physics CU, Thailand)**                   |
| 13:30-14:00 | Invited speaker PHY15: Emmanuele Tsesmelis (CERN, Switzerland)<br><i>CERN - A Gateway to Science and Technology</i> |
| 14:00-14:30 | Oral presentation PHY06: Noritaka Yusa (Department of Quantum Science and Energy Engineering, Tohoku University, Japan)<br><i>Probability of Detection Model for the Non-Destructive Inspection of Steam Generator Tubes of PWRs</i> |
| 14:30-15:50 | Poster session I and coffee break (1 h 20 min)                                           |
|            | **Session II: SAF (Chair: Pantip Ampornrat, OAP, Thailand)**                             |
| 15:50-16:20 | Invited speaker SAF15: Nguyen Tuan Khai (VINATOM, Vietnam)<br><i>Assessment for Released Source Term and Consequently Exclusive Area Boundary (EAB) and Precautionary Action Zone (PAZ) in Scenario of Severe Accidents at Ninh Thuan 1 nuclear power plant</i> |
| 16:20-16:40 | Oral presentation SAF14: Kampanart Silva (TINT, Thailand)<br><i>Establishment of ASEAN Network for Nuclear Power Plant Safety Research</i> |
| 16:40-17:00 | Oral presentation SAF08: Pawitra Aim-O (Department of Nuclear Engineering, Chulalongkorn University, Thailand)<br><i>Monte Carlo Simulation of Innovative Neutron and Photon Shielding Material Composing of High Density Concrete, Waste Rubber, Lead and Boron Carbide</i> |
Day 2: Friday, 5th August 2016 (2 parallel sessions)

| Time       | Session III: AGR (Chair: Panatsada Akikunprasert, KKU, Thailand) | Session IV: ENV (Chair: Pannee Pakkong, KU, Thailand) |
|------------|------------------------------------------------------------------|-------------------------------------------------------|
| 9:00-9:30  | Invited speaker AGR15: Monique Lacroix (INRS, Canada) <br>The Use of Suitable Packaging and Irradiation Process to Assure Food Safety | Oral presentation ENV09: Ryuta Hazama (Faculty of Human Environment, Osaka Sangyo University, Japan) <br>Recent Tritium Levels in Tap Waters Collected at the Eastern part of China |
| 9:30-9:50  | Oral presentation AGR06: Syukria Kurniawati (BATAN, Indonesia) <br>Heavy Metals Cr, Co, Hg and Zn in Foods from the Traditional Market in Jakarta | Oral presentation ENV08: Prasong Kessaratikoon (Thaksin University, Songkhla, Thailand), Specific Activities and Radiological Hazard Assessment in Beach Sand Samples in Songkhla Province, Thailand after Fukushima Dai-Ichi Nuclear Power Plant Accident in Japan |
| 9:50-10:10 | Oral presentation AGR02: Kanchana Chahorm (TINT, Thailand) <br>Improvement of Microbiological Qualities of Namphrik by Gamma Irradiation | Oral presentation ENV06: Natalia Adventini (Center for Applied Nuclear Science and Technology, Jawa Barat, Indonesia) <br>Pb Identification in Soil surrounding a Used Lead Acid Battery Smelter in West Java |
| 10:10-10:30| Oral presentation ENV07: Piyawan Krisanangkura (OAP, Thailand) <br>Fast and efficient uranium(VI) removal from simulated wastewater with and without water hardness by easily collected graphene oxide sponge |  |
| 10:30-10:40| Coffee break |  |
| 10:30-10:40| Session V: Biodosimetry (MED/SAF) (Chair: Sirirat Biramontri, OAP, Thailand) | Session VI: IND (Chair: Sunchai Nilsuwankosit, Nuclear Eng. CU, Thailand) |
| 10:40-11:10| Oral presentation SAF02: Issariya Chairam (OAP, Thailand) <br>Thailand Biological Dosimetry Network for Emergency Preparedness and Response | Invited speaker IND17: Noriaki Seko (JAEA, Japan) <br> Radiation Processing of Polymer and Its Environmental Applications |
| 11:10-11:30| Oral presentation SAF01: Benchawan Rungsimaporn (Ramathibodi Hospital, Thailand) <br>Preparedness for Radiological Emergency in Thailand: Establishment of Dose-Response Curves for Dicentrics and PCC Rings | Oral presentation IND09: Watcharee Katinonkul (Department of Science Service, Ministry of Science and Technology, Thailand) <br>Effect of Gamma Irradiation Combined with Ionic Liquid Pretreatment of Corn Shell on Enzymatic Digestibility |
| 11:30-11:50| Oral presentation MED15: Rujira Wanotayan (Mahidol University, Thailand) <br>Evaluation of XRCC4 extremely C-terminal (XECT) domain in DNA double-strand break repair of radiation-induced DNA damage | Oral presentation IND04: Myo Chit Aung (Mandalay Technological University, Myanmar) <br> Laboratory Inspection of Single-Pass Tray Column by Gamma Column Scanning Technique |
| Time          | Session VII: PHY/INS/IND                                                                 | Session VIII: MED                                                                 |
|--------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 11:50-12:10  | Oral presentation MED08: Pimpon Uttayarat (TINT, Thailand) *Development of γ-H2AX Assay as a Biomarker in Response to Ionizing Radiation* |                                                                                   |
| 12:10-13:40  | Lunch break                                                                            |                                                                                   |
| 13:40-14:40  | Invited speaker PHY17: Dheerawan Boonyawan (Plasma & Beam Physics Research, Chiang Mai University, Thailand) *Innovative Research of Plasma Physics for Life Sciences* | Invited speaker MED11: Teerachat Sae-heng (Thammasat University, Thailand) *The Mathematical Model of P53 Regulatory Circuit Manipulation in Cancer Therapy* |
| 14:40-15:00  | Invited speaker PHY08: Waranont Anukool (Department of Physics and Materials Science, Chiang Mai University, Thailand) *CMU Cold-atom Facility and Application on Various Scientific Disciplines* | Oral presentation MED01: Irena Gudowska (Department of Physics, Stockholm University, Sweden) *Out-of-field dose in proton spot scanning beams* |
| 15:00-16:20  | Oral presentation IND20: Dhanaj Saengchantr (Thailand Institute of Nuclear Technology, Thailand) *Role of Radioactive Material Applications for Industries in Thailand* | Oral presentation MED20: Siritorn Buranurak (Khon Kaen University, Thailand) *Development and commissioning of a new technique of total body irradiation treatment using real-time in vivo dosimetry with fiber-coupled Al2O3: Cluminescence detectors* |
| 16:20-16:50  | Oral presentation INS18: Edy Giri Rachman Putra (BATAN, Indonesia) *Neutron Scattering Facilities at G. A. Siwabessy Reactor Indonesia for Materials Science and Biology Research* | Invited speaker X: MED22: Pleumchitt Rojanapanthu (Thammasat University, Thailand) *Drug Discovery and Development Center* |
| 16:50-17:10  | Oral presentation INS12: Kiadtisak Saenboonruang (Kasetsart University, Thailand) *The Current Status of a Gas Electron* | Oral presentation MED13: Thitisop Tippayamontri (Université de Sherbrooke, Canada) *Targeting the DNA of cancer cells in* |
Multiplier (GEM) Research at Kasetsart University

chemoradiation therapy: Intratumoral administration of 5FU chemotherapeutic drug and 18 F-FLT positron source in a colorectal cancer mouse model

17:10-17:30 Oral presentation INS08: Mohd M. Sabri (Malaysian Nuclear Agency, Selangor, Malaysia)
Adaptive and Self-Tuning Control of the TRIGA Mark II Reactor

18:00 Reception + Dinner talk (Kasidete Teeranitayatarn)

Day 3: Saturday, 6th August 2016

Session XI: PHY/SAF/IND (Chair: Thawatchai Onjun, SIIT, Thailand)

9:00-9:20 Oral presentation IND21: Thein Zaw Win (Mandalay Technological University, Myanmar)
Isolation and Identification of Chitin from Prawn Shell Wastes

9:20-9:40 Oral presentation SAF03: Kasama Durongsak (Department of Nuclear Engineering, Chulalongkorn University, Thailand)
Development of remaining wall thickness measurement system for boiler wall tube using gamma scattering technique

9:40-10:00 Oral presentation SAF06: Nanthavan Yaanant (TINT, Thailand)
Study on Developing Safety Infrastructure for Mineral Processing Waste (NORM Waste) and Contamination Monitoring at the TINT Rare Earth Research & Development Center, Klong 5, Pathumthani

10:00-10:20 Oral presentation PHY10: Sasiphan Khaweerat (TINT, Thailand)
Development of a Neutron Tomography System in Thailand

10:20-10:30 Coffee break

Session XII (Chair: Prapong Klysuban, SLRI, Thailand)

10:30-11:00 Oral presentation of Young Nuclear Scientist Award Winner
Wanvimol Pasanphan (Kasetsart University, Thailand)
Light stabilizer-conjugated-stearylate chitosan nanoparticles: A bio-based additive for free radical stabilization of healthcare plastics under irradiation

11:00-11:30 Invited speaker MED18: Naruhiro Matsufuji (NIRS, Japan) (MED)
Overview summary of clinical heavier-ion progress in Japan

11:30-12:00 Invited speaker INS19: Jong-Seo Chai (SKKU, South Korea) (INS)
Cyclotron Development in Korea

12:00-13:30 Lunch break

13:30-15:00 Panel discussion: How can accelerators contribute to sustainable development of countries?
1. Jong-Seo Chai (SKKU, Korea)
2. Emmanuel Tsesmelis, (CERN, Switzerland)
3. Naruhiro Matsufuji (NIRS, Japan)
4. Ananya Ruangma (Wattanosoth Cancer Hospital, Thailand)
5. Pornthep Nisamaneepong (TINT, Thailand)
6. Thiansin Liamsuwan (TINT, Thailand), Moderator

15:00 Announcement of Oral and Poster Presentation Awards

15:10 Summary and closing ceremony
## Presentations

### Section 1: Invited and oral presentations

| Code   | Speaker             | Organization                                                                 | Title                                                                                   |
|--------|---------------------|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| AGR02  | Kanchana Chahorm    | Thailand Institute of Nuclear Technology (Public Organization)                | Improvement of microbiological qualities of namphrik by gamma irradiation.              |
| AGR06  | Syukria Kurniawati  | National Nuclear Energy Agency (BATAN)                                        | Heavy metals Cr, Co, Hg and Zn in foods from the traditional market in Jakarta          |
| AGR15  | Monique Lacroix     | Institut National de La Recherche Scientifique                                | The use of suitable packaging and irradiation process to assure food safety             |
| ENV06  | Natalia Adventini   | National Nuclear Energy Agency (BATAN)                                        | Pb identification in soil surrounding a used lead acid battery smelter in west Java, Indonesia |
| ENV07  | Piyawan Krisanangkura | Office of Atoms for Peace                                                   | Fast and efficient uranium (VI) removal from simulated wastewater with and without water hardness by easily collected graphene oxide sponge |
| ENV08  | Prasong Kessaratikoon | Thaksin University                                                           | Specific activities and radiological hazard assessment in beach sand samples in Songkhla province, Thailand after Fukushima Dai-Ichi nuclear power plant accident in Japan |
| ENV09  | Ryuta Hazama        | Osaka Sangyo University                                                      | Recent tritium levels in tap waters collected at the eastern part of China              |
| IND02  | Dherendra Gihwala   | Cape Peninsula University of Technology                                      | The use of PIXE and SEM to determine the correlation of the agglomeration of metal oxides with the mechanical properties of nano-composites containing TiO2 particles |
| IND04  | Myo Chit Aung       | Mandalay Technological University                                            | Laboratory inspection of single-pass tray experimental model column by gamma column scanning technique |
| IND09  | Watcharee Katinonkul | Department of Science Service, Ministry of Science and Technology, Thailand | Effect of gamma irradiation combined with ionic liquid pretreatment of corn shell on enzymatic digestibility |
| IND17  | Noriaki Seko        | JAEA                                                                          | Radiation processing for environmental applications                                    |
| IND20  | Dhanaj Saengchantr  | Thailand Institute of Nuclear Technology (Public Organization)                | Role of radioactive material applications for industries in Thailand                    |
| IND21  | Thein Zaw Win       | Mandalay Technological University                                            | Isolation and identification of chitin from prawn shell wastes                          |
| Code  | Speaker                  | Organization                      | Title                                                                 |
|-------|--------------------------|------------------------------------|----------------------------------------------------------------------|
| INS08 | Mohd Sabri Bin Minhat    | Malaysian Nuclear Agency           | Adaptive and self-tuning control of the TRIGA Mark II reactor         |
| INS12 | Kiaditsak Saenboonruang  | Kasetsart University               | The current status of a gas electron multiplier (GEM) research at Kasetsart university, Thailand |
| INS18 | Edy Giri Rachman Putra   | National Nuclear Energy Agency     | Neutron scattering facilities at G. A. Siwabessy reactor Indonesia for materials science and biology research |
| INS19 | Jong-Seo Chai            | Sungkyunkwan University            | Cyclotron development in Korea                                       |
| MED01 | Irena Gudowska           | Stockholm University               | Out-of-field dose in proton spot scanning beams                       |
| MED05 | Narongchai Autsavapromponp | Chiang Mai University             | Late effects in the progeny of bystander human cells after carbon ions are dependent on radiation quality: the relevance to cancer risk |
| MED08 | Pimpon Utayarat          | Thailand Institute of Nuclear Technology (Public Organization) | Development of g-H2AX assay as a biomarker in response to ionizing radiation |
| MED11 | Teerachat Saeheng        | Nagasaki University                | The mathematical model of P53 regulatory circuit manipulation in cancer therapy |
| MED13 | Thititip Tippayamontri  | University of Sherbrooke           | Targeting the DNA of cancer cells in chemoradiation therapy: intratumoral administration of 5FU chemotherapeutic drug and 18F-FLT positron source in a colorectal cancer mouse model |
| MED15 | Rujira Wanotayan         | Mahidol University                | Evaluation of XRCC4 extremely C-terminal (XECT) domain in DNA double-strand break repair of radiation-induced DNA damage |
| MED18 | Naruhiro Matsufuji       | National Institute of Radiological Sciences, Japan | Overview summary of clinical heavier-ion progress in Japan |
| MED20 | Siritorn Buranurak       | Khon Kaen University               | Development and commissioning of a new technique of total body irradiation treatment using real-time in vivo dosimetry with fiber-coupled Al2O3:C luminescence detectors |
| MED22 | Pleumchitt Rojanapanthu  | Thammasat University               | Drug discovery and development center                                 |
| PHY06 | Noritaka Yusa            | Umaru Musa Yar’adua University     | Probability of detection model for the non-destructive inspection of steam generator tubes of PWRs |
| PHY08 | Woranont Anukool         | Chiang Mai University              | CMU cold-atom facility and application on various scientific disciplines |
| PHY10 | Sasiphan Khaweerat       | Thailand Institute of Nuclear Technology (Public Organization) | Development of a neutron tomography system in Thailand |
| Code   | Speaker             | Organization                          | Title                                                                 |
|--------|---------------------|---------------------------------------|----------------------------------------------------------------------|
| PHY15  | Emmanuel Tsesmelis  | CERN                                  | CERN - A gateway to science and technology                            |
| PHY17  | Dheerawan Boonyawan| Chiang Mai University                 | Innovative research of plasma physics for life sciences              |
| SAF01  | Benchawan Rungsimaphorn | KasetsartUniversity Mahidol University | Preparedness for radiological emergency in Thailand: establishment of dose-response curves for dicentrics and PCC rings |
| SAF02  | Issariya Chairam    | Office of Atoms for Peace             | Thailand biological dosimetry network for emergency preparedness and response |
| SAF03  | Kasama Durongsak    | Chulalongkorn University              | Development of remaining wall thickness measurement system for boiler wall tube using gamma scattering technique |
| SAF06  | Nanthavan Yaanant   | Thailand Institute of Nuclear Technology (Public Organization) | Study on developing safety infrastructure for mineral processing waste (NORM Waste) and contamination monitoring at the TINT rare earth research & development center, Klong 5, Pathumthani. |
| SAF08  | Pawitra Aim-O       | Chulalongkorn University Synchrotron Light Research Institute | Monte Carlo simulation of innovative neutron and photon shielding material composing of high density concrete, waste rubber, lead and boron carbide |
| SAF14  | Kampanart Silva     | Thailand Institute of Nuclear Technology (Public Organization) | Establishment of ASEAN network for nuclear power plant safety research |
| SAF15  | Nguyen Tuan Khai    | Institute for Nuclear Science and Technology, VINATOM | Assessment for released source term and consequently exclusive area boundary (EAB) and precautionary action zone (PAZ) in scenario of severe accidents at Ninh Thuan 1 nuclear power plant |
Section 2: Poster presentations

| Code   | Presenter               | Organization                                      | Title                                                                 |
|--------|-------------------------|--------------------------------------------------|----------------------------------------------------------------------|
| AGR01  | Chutima Kranrod         | Chulalongkorn University                        | Preliminary survey of radioactivity level in Thai medicinal herb plants |
| AGR03  | Panchalee Prakhongsil   | Thailand Institute of Nuclear Technology          | Effects of gamma and electron beam irradiation on reduction of microbial load and antioxidant properties of Cassia alata (L.) Roxb. |
| AGR04  | Supalak Kongsri         | Thailand Institute of Nuclear Technology          | Instrumental neutron activation analysis for elemental composition in Thai rice samples |
| AGR05  | Saovapong Charoen       | Thailand Institute of Nuclear Technology          | In vitro antagonism test of irradiated Bacillus subtilis culture for suppression of rice blast fungi |
| AGR07  | Wanitch Limohpasmanee   | Thailand Institute of Nuclear Technology          | The control of brown planthopper (Nilaparvata lugens Stål) by the sterile insect technique |
| AGR08  | Surasak Sajjabut        | Thailand Institute of Nuclear Technology          | Effect of gamma irradiation on beta glucan and total water soluble polysaccharide in split gill mushroom (Shizephyllum commune) |
| AGR09  | Sirilak Chookaew        | Thailand Institute of Nuclear Technology          | Application of electron beam to improve the microbiological safety of Andrographis paniculata |
| AGR11  | Huaili Qin              | Nuctech Company Limited, China                   | The largest phytosanitary irradiation dedicated EB facility in the world |
| AGR12  | Boonsom Porntepkasemsan | Thailand Institute of Nuclear Technology          | Soil to rice transfer factors and annual effective doses assessment for 238U and 232Th |
| AGR13  | Jaruratana Eamsiri      | Thailand Institute of Nuclear Technology          | Efficacy of electron beam and gamma irradiation on microbial reduction and antioxidant activities of Butea superba. Roxb |
| AGR14  | Wachiraporn Pewlong     | Thailand Institute of Nuclear Technology          | Electron beam radiation effects on antioxidant properties and microbiological of Glycyrrhiza glaba (licorice) |
| ENV01  | Muhayatun Santoso       | National Nuclear Energy Agency of Indonesia       | Comparison of XRF and PIXE techniques for elemental characterization of airborne particulate matter |
| ENV02  | Dyah K. Sari            | National Nuclear Energy Agency of Indonesia       | Quality assurance assessment of EDXRF for airborne particulate matter analysis |
| ENV03  | Indah Kusmartini        | National Nuclear Energy Agency of Indonesia       | Elemental characterization of Indonesian volcanic ash Sinabung mountain by neutron activation analysis |
| Code   | Presenter                  | Organization                                      | Title                                                                                                                                 |
|--------|-----------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| ENV05  | Muhayatun Santoso           | National Nuclear Energy Agency of Indonesia       | Characterization of airborne particulate matter samples from urban areas in Indonesia using nuclear analytical techniques            |
| ENV10  | Santi Raksawong             | Prince of Songkla University                      | The 7Be profile in the undisturbed soil used for reference site to estimate the soil erosion                                          |
| ENV11  | Wannee Srinuttrakul         | Thailand Institute of Nuclear Technology (Public Organization) | Determination of 2H/1H and 18O/16O in water used for rice cultivation by cavity ring-down spectroscopy                                 |
| ENV12  | Suprawee Siriboonprapob     | Office of Atoms for Peace                         | A preliminary study of radon concentration in ground water from Songkhla by using a portable LSC                                    |
| ENV13  | Tarika Thumvijit            | Chiang Mai University                             | Survey of indoor radon concentration at hot spring area, Doi Saket district, Chiang Mai                                                |
| ENV14  | Suputtra Visetpotjanakit    | Office of Atoms for Peace                         | Participation in proficiency test for tritium strontium and cesium isotopes in seawater 2015 (IAEA-RML-2015-02)               |
| ENV15  | Suputtra Visetpotjanakit    | Office of Atoms for Peace                         | Prompt determination of 137Cs in large volume seawater using Cu-hexacyanoferrates cartridges                                     |
| ENV16  | Uthaiwan Injarean           | Thailand Institute of Nuclear Technology (Public Organization) | Comparison of NAA, ICP-MS, ICP-OES and WD-XRF techniques for determination of rare earths, uranium, and other elements in geological samples |
| ENV17  | Phachirarat Sola            | Thailand Institute of Nuclear Technology (Public Organization) | Investigation of radon level in air and water of workplaces at Thailand Institute of Nuclear Technology, Thailand                |
| ENV18  | Rawiwan Krisananuwan        | Chulalongkorn University                         | Transfer factor of 226Ra, 232Th and 40K from soil to Alpinia Galangal plant grown in northern Thailand                           |
| ENV19  | Wannee Srinuttrakul         | Thailand Institute of Nuclear Technology (Public Organization) | Determination of stable cesium and strontium in rice samples by inductively coupled plasma mass spectrometry                   |
| ENV20  | Wuthikrai Kulsawat          | Thailand Institute of Nuclear Technology (Public Organization) | d2H and d18O in precipitation, irrigation and pond water in Suphanburi rice paddy field                                         |
| ENV21  | Nitipon Noipow              | Thailand Institute of Nuclear Technology (Public Organization) | Potential of using tritium and stable isotope characteristics for illegal groundwater pumping investigation in Bangkok metropolitan area |
| Code   | Presenter         | Organization                                | Title                                                                                   |
|--------|-------------------|---------------------------------------------|-----------------------------------------------------------------------------------------|
| ENV22  | Kiattipong Kamdee | Thailand Institute of Nuclear Technology     | Exploration and evaluation of groundwater recharge mechanism of the upper Chao Phraya    |
|        |                   | (Public Organization)                       | Basin (Bangrakam district) by nuclear techniques                                         |
| ENV23  | Junghyup Lee      | Korea Institute of Nuclear Safety (KINS)    | Real-time underwater radiation monitoring system operation for environmental surveillance |
|        |                   |                                             | program in Korea                                                                        |
| IND01  | Apichate Maneewong| Thailand Institute of Nuclear Technology     | Validation of 182Ta, 54Mn and 46Sc measurements in blue topaz using gamma spectrometric  |
|        |                   | (Public Organization)                       | analysis                                                                               |
| IND03  | Akara Akaranate   | Thailand Institute of Nuclear Technology     | Determination of liquid level adsorbed in the thermal insulation using neutron back      |
|        |                   | (Public Organization)                       | scattering technique                                                                     |
| IND05  | Pakorn Pakaiphuek | Thailand Institute of Nuclear Technology     | The switching development on the MOSFET by using 8 MeV electron irradiation              |
|        |                   | (Public Organization)                       |                                                                                         |
| IND06  | Prartana Kewsuwan | Thailand Institute of Nuclear Technology     | Effect of concentrations of different molecular weight irradiated chitosan on radiation   |
|        |                   | (Public Organization)                       | synthesis of silver nanoparticles                                                        |
| IND08  | Thamaborn Ploykrathok | Chulalongkorn University                  | Determining the bio-based content of bio-plastics used in Thailand by radiocarbon       |
|        |                   |                                             | analysis                                                                               |
| IND11  | Phiriyatorn Suwanmala | Thailand Institute of Nuclear Technology     | Dye adsorbent prepared by radiation-induced graft polymerization of acrylic acid onto   |
|        |                   | (Public Organization)                       | carboxymethyl cellulose                                                                  |
| IND12  | Anantachai Pechrak| Thailand Institute of Nuclear Technology     | A study of residence time distribution using radiotracer technique in the large scale    |
|        |                   | (Public Organization)                       | plant facility                                                                          |
| IND13  | Kokiat Sukrod     | Thailand Institute of Nuclear Technology     | Conceptual study of fan-beam computed tomography technique for on-field industrial       |
|        |                   | (Public Organization)                       | applications                                                                            |
| IND14  | Joo Yeon Kim      | Korean Association for Radiation Application| Development of an advanced system for supporting the radiation technology information in  |
|        |                   |                                             | Korea                                                                                  |
| IND18  | Chalermphong Polee| Chulalongkorn University                    | Investigation of a hallow in tree trunk using the developed gamma-ray transmission       |
|        |                   |                                             | technique                                                                               |
| IND19  | Nongnut Jangsawang| Thailand Institute of Nuclear Technology     | Study on optical and radiological properties of aquamarine irradiated by electrons from  |
|        |                   | (Public Organization)                       | linear electron accelerator                                                               |
| INS01  | Anith Ghazali     | Malaysian Nuclear Agency                    | Adaptive PI controller for a nuclear process control using MRAC approach                 |
| INS02  | Apisara Charoensri| Office of Atoms for Peace                   | Measurement of fast neutron spectrum by using CR-39 detectors                             |
| Code  | Presenter                        | Organization                                           | Title                                                                 |
|-------|----------------------------------|--------------------------------------------------------|----------------------------------------------------------------------|
| INS03 | Anawat Rittirong                 | Kasetsart University                                   | A calculation of efficiencies of a GEM-based neutron detector using different solid neutron converters |
| INS04 | Endah Damastuti                  | National Nuclear Energy Agency (BATAN)                  | Assessment of NAA preparedness for elemental characterization toward certification of coal fly ash reference material candidate |
| INS05 | Kalaya Changkueng                | Office of Atoms for Peace                               | Proficiency test for trace elements and uranium isotopes in water (Proficiency test IAEA-TEL-2015-01) |
| INS06 | Kalaya Changkueng                | Office of Atoms for Peace                               | Column-separation for uranium-thorium in nitric acid matrix using ICP-MS determination techniques |
| INS07 | Ladapa Srijittawa                | Office of Atoms for Peace                               | U-235 and U-238 analysis by using gamma spectrometry technique and mathematical model for safeguards |
| INS09 | Sahakan Monthonwattana           | Thailand Institute of Nuclear Technology (Public Organization) | Gamma response characterization of optically stimulated luminescence (OSL) affects personal dosimetry |
| INS10 | Thiansin Liamsuwan               | Thailand Institute of Nuclear Technology (Public Organization) | Investigation of the response characteristics of OSL albedo neutron dosimeters in a 241 AmBe reference neutron field |
| INS11 | Rattakarn Yensano                | Khon Kaen University                                    | The design and construction of a high volume air and fallout sampler for a radiation monitoring station |
| INS13 | Somyot Srisatit                  | Chulalongkorn University                                | Threat liquid using X-Ray imaging technique                           |
| INS14 | Woro Yatu Niken Syahfitri        | National Nuclear Energy Agency (BATAN)                  | Macro elemental analysis food samples by nuclear analytical technique |
| INS15 | Joo Yeon Kim                     | Korean Association for Radiation Application            | Inverse tracking of unknown model parameters in atmospheric dispersion using a probabilistic inference |
| INS16 | Woo Ho Shin                      | Korean Association for Radiation Application            | The development of practice manual for LSC based on job analysis in radiation measurement and evaluation |
| INS17 | Thiti Rungseesumran              | Thailand Institute of Nuclear Technology (Public Organization) | Effect of the scattering radiation in air and two type of slab phantom between PMMA and the ISO water phantom for personal dosimeters calibration |
| INS20 | Djoko Prakoso Dwi Atmodjo        | National Nuclear Energy Agency (BATAN)                  | INAA application for trace element determination in biological reference material |
| MED06 | Panatsada Awikunprasert          | Khon Kaen University                                    | Survey of radiation dose from CT examinations in Srinakarind hospital, Thailand |
| Code       | Presenter            | Organization                                         | Title                                                                 |
|------------|----------------------|------------------------------------------------------|----------------------------------------------------------------------|
| MED07      | Petcharakorn Hanpanich | Khon Kaen University                                 | The use of Fourier transform infrared (FTIR) spectroscopy to differentiate malignant and non-malignant bile samples |
| MED09      | Srisawan Somkit       | Office of Atom for Peace                              | Effect to health from quantity of Polonium-210 coming from smoking cigarettes of commercialized brands in Thailand |
| MED10      | Wiranee Sriwiang      | Thailand Institute of Nuclear Technology (Public Organization) | Radiolabeling of 90Y-DOTA-[Pro1, Tyr4]-Bombesin: Optimization condition to diminish metabolite peptide |
| MED12      | Thanete Duangta       | Thailand Institute of Nuclear Technology (Public Organization) | Preparation of lyophilized Hynic-TOC kit to extend the shelf life and more convenient for the transport |
| MED14      | Thititip Tippayamongri | University of Sherbrooke                             | Absolute electron scattering cross sections from DNA constituents for targeted radionuclide therapy: Condensed tetrahydrofuran (THF) |
| MED16      | Sarinya Wongsanit     | Thailand Institute of Nuclear Technology (Public Organization) | Evaluation of potential stabilizers for suppression of side-products formed during the labeling of 68Ga-DOTA-Bombesin |
| MED21      | Wiranee Sriwiang      | Thailand Institute of Nuclear Technology (Public Organization) | Synergistic of active targeting DOTANOC with passive targeting AuNPs to specific uptake somatostatin receptors: Preliminary results of conjugation and characterization process |
| PHY01      | Boonyarith Chatthong  | Prince of Songkla University                         | Investigations of impurity effects on toroidal flow and internal transport barrier in ITER and DEMO |
| PHY02      | Jintana Pakdeewanich  | Prince of Songkla University                         | Investigations of ETB and ITB formations based on bifurcation concept |
| PHY03      | Kanokrat Tiyapun      | Thailand Institute of Nuclear Technology (Public Organization) | Neutronics and thermal hydraulic analysis of TRR-1/M1 reactor using MCNPX and COOLOD-N2 computer code |
| PHY04      | Wichian Ratanaatongchai | Thailand Institute of Nuclear Technology (Public Organization) | Measurements of TRR-1/M1 prompt gamma neutron activation beam |
| PHY05      | Vithit Pungkun        | Office of Atoms for Peace                            | The effect of angle and size on the efficiency and energy resolution of cadmium telluride detectors |
| PHY07      | Siriyporn Sangaroorn   | Mahasarakham University                             | The MCNP simulation of PGNAA system at TRR-1/M1 |
| Code   | Presenter          | Organization                                      | Title                                                                                   |
|--------|--------------------|--------------------------------------------------|-----------------------------------------------------------------------------------------|
| PHY09  | Roppon Picha       | Thailand Institute of Nuclear Technology (Public Organization) | Renovation status of Thailand Reactor neutron radiography                               |
| PHY11  | Jatechan Channuie  | Thailand Institute of Nuclear Technology (Public Organization) | Comparison of photon attenuation coefficients of various barite concrete formulas, ultra-high density concrete and lead by experimental data |
| PHY12  | Nguyen Quyen       | Sirindhorn International Institute of Technology | Effect of water quality to acidification caused by dielectric barrier discharge plasma    |
| PHY13  | Ahmad Usman        | University of Malaya Umaru Musa Yar’adua University | Cyclotron production of 48V via nat Ti(d,x) 48V nuclear reactions; a promising radionuclide |
| PHY16  | Wittawat Kanjanaput| Sirindhorn International Institute of Technology | Saturated neoclassical tearing modes in Tokamak plasma simulated by using modified island module |
| PHY20  | Suksit Sangkaew    | Office of Atoms for Peace                        | Fuel burnup analysis for Thai research reactor by using MCNPX computer code             |
| SAF04  | Kotchaphan Kanjana | Thailand Institute of Nuclear Technology (Public Organization) | Gamma-radiation-induced corrosion of aluminum alloy: Low dose effect                   |
| SAF05  | Kotchaphan Kanjana | Thailand Institute of Nuclear Technology (Public Organization) | High-temperature setup for investigation of fission product behavior                    |
| SAF07  | Pantip Ampornrat   | Office of Atoms for Peace                        | Determination of degradation of core-structural materials of Thailand research reactor TRR-1/M1 |
| SAF09  | Darunee Peekhunthod| Office of Atoms for Peace                        | Baseline quantity of 131I, 137Cs, 134Cs and 40K in Thai urines and internal exposure dose |
| SAF10  | Vithit Pungkun     | Office of Atoms for Peace                        | xPU/BaSO4 and xPU/Bi2O3 composite sheet for X-ray attenuation                           |
| SAF11  | Jeelawat Esor      | Thailand Institute of Nuclear Technology (Public Organization) | Comparing conversion coefficients from air kerma to personal dose equivalent Hp(3) for eye lens dosimetry |
| SAF13  | Kampanart Silva    | Thailand Institute of Nuclear Technology (Public Organization) | Preliminary results of consequence assessment of a hypothetical severe accident using Thai meteorological data |
| SAF16  | Yutthana Tumnoi    | Office of Atoms for Peace                        | 5 years after the Fukushima-Daiichi nuclear accident; has the coastal & marine environment of Thailand been radioactively effected? |
| Code  | Presenter          | Organization                                      | Title                                                                                           |
|-------|--------------------|---------------------------------------------------|-------------------------------------------------------------------------------------------------|
| SAF17 | Anan O-Manee       | Thailand Institute of Nuclear Technology (Public Organization) | Determination of distribution coefficient of non-radioactive cesium (Cs) between an aqueous Solution of very low Cs concentration and pure materials, such as SiO2 and bentonite (Kunipia F) |
| SAF18 | Jittima Bangvirunrak | Office of Atoms for Peace | Internal radiation exposure due to intake I-131 for nuclear medicine workers in Thailand         |
Section 3: Selected articles

AGR01 Preliminary survey of radioactivity level in Thai medicinal herb plants
C Kranrod, S Chanyotha*, R Kritsananuwat, T Ploykrathok, P Pengvanich, Y Tumnoi, T Thumvijit and S Sriburee

AGR02 Improvement of microbiological qualities of Namphrik by gamma irradiation
K Chahorn*, N Neramitmansook, N Kongsang and J Ko

AGR03 Effects of gamma and electron beam irradiation on reduction of microbial load and antioxidant properties of Cassia alata (L.) Roxb.
P Prakhongsil*, W Pewlong, S Sajjabut and S Chookaew

AGR07 The effect of gamma radiation on sterility and mating ability of brown planthopper, Nilaparvata lugens(Stål) in field cage
W Limohpasmanee*, T Kongratarporn and T Tannarin

ENV03 Elemental characterization of Indonesian volcanic ash Sinabung mountain by neutron activation analysis
I Kusmartini*, W Y N Syahfitri, S Kurniawati, D D Lestiani, M Santoso

ENV06 Lead identification in soil surrounding a used lead acid smelter area in Banten, Indonesia
N Adventini*, M Santoso, D D Lestiani, W Y N Syahfitri and L Rixson

ENV08 Specific activities and radiological hazard assessment in beach sand samples in Songkhla province, Thailand after Fukushima Dai-Ichi nuclear power plant accident in Japan
P Kessaratikoon*, R Boonkrongcheep, N Choosiri, M Daoh, S Udomsomporn

ENV10 The 7Be profile in the undisturbed soil used for reference site to estimate the soil erosion
S Raksawong, M Krmar, T Bhongsuwan*

ENV14 Participation in proficiency test for tritium strontium and cesium isotopes in seawater 2015 (IAEA-RML-2015-02)
S Visetpotjanakit* and S Kaewpaluek

ENV15 Determination of 137Cs in large volume seawater using Cu-hexacyanoferrate cartridge filters
S Visetpotjanakit* and Y Tumnoi

ENV17 Investigation of radon level in air and water of workplaces at Thailand Institute of Nuclear Technology, Thailand
P Sola*, U Youngchuay, S Kongsri and A Kongtana

ENV18 Transfer factor of 226Ra, 232Th and 40K from soil to Alpinia galangal plant grown in northern Thailand
R Kritsananuwat, S Chanyotha*, C Kranrod and P Pengvanich

ENV19 Determination of stable cesium and strontium in rice samples by inductively coupled plasma mass spectrometry
W Srinuttrakul* and S Yoshida

IND01 Validation of 182Ta, 54Mn and 46Sc measurements in blue topaz using gamma spectrometric analysis
A Maneewong*, J Channui, K Pangza, N Jangsawang, T Charoenam and T Chokesirisiriviyanakul

IND08 Determining the bio-based content of bio-plastics used in Thailand by radiocarbon analysis
T Ploykrathok and S Chanyotha*

IND12 A study of residence time distribution using radiotracer technique in the large scale plant facility
S Wetchagarun*, C Tippayakul, A Petchrak, K Sukrod and P Khoonkamjorn
| INS03 | A calculation of relative efficiencies of a GEM-based neutron detector using different solid neutron converters  
A Rittirong, S Sripreeprem and K Saenboonruang* |
| INS09 | Gamma response characterization of optically stimulated luminescence (OSL) affects personal dosimetry  
S Monthonwattana*, J Esoa, T Rungseesumran and A Intang |
| INS10 | Investigation of the response characteristics of OSL Albedo neutron dosimeters in a 241AmBe reference neutron field  
T Liamsuwan*, S Wonglee, J Channuie, J Esoa and S Monthonwattana |
| INS12 | The current status of the gas electron multiplier (GEM) research at Kasetsart University, Thailand  
P Kumpiranon, K Kulasri, A Rittirong and K Saenboonruang* |
| INS14 | Macro elemental analysis food samples by nuclear analytical technique  
W Y N Syahfitri*, S Kurniawati, N Adventini, E Damastuti and D D Lestiani |
| INS16 | The development of practice manual for LSC based on job analysis in radiation measurement and analysis  
W H Shin*, T J Park |
| INS17 | Effect of the scattering radiation in air and two type of slap phantom between PMMA and the ISO water phantom for personal dosimeters calibration  
N Kamwang, T Rungseesumran*, D Saengchantr, S Monthonwattana and V Pungkun |
| INS20 | INAA application for trace element determination in biological reference material  
D P D Atmodjo, S Kurniawati, D D Lestiani and N Adventini* |
| MED01 | Modelling of a proton spot scanning system using MCNP6  
O Ardenfors*, A Dasu, M Kopeć and I Gudowska |
| MED05 | A correlation of long term effects and radiation quality in the progeny of bystander cells after microbeam radiations: The experimental study of radiotherapy for cancer risk mitigation  
N Autsavapromporn*, T Konishi, C Liu, I Plante, T Funayama, N Usami, EI Azzam and M Suzuki |
| MED18 | Overview summary of clinical heavier-ion progress in Japan  
N Matsufuji |
| MED20 | Fiber optically radioluminescence detectors: A short review of key strengths and weaknesses of BCF-60 and Al₂O₃:C scintillating-material based systems in radiotherapy dosimetry applications  
S Buranurak* and C E Andersen |
| PHY01 | Impurity accumulation and performance of ITER and DEMO plasmas in the presence of transport barriers  
B Chatthong*, J Promping and T Onjun |
| PHY03 | Neutronics and thermal hydraulic analysis of TRIGA Mark II reactor using MCNPX and COOLOD-N2 computer code  
K Tiyapun* and S Wetchagarun |
| PHY06 | Probability of detection model for the non-destructive inspection of steam generator tubes of PWRs  
N Yusa |
| PHY07 | The MCNP simulation of PGNAA system at TRR-1/M1  
S Sangaroon*, W Ratanatongchai, R Picha, S Khaweerat, and J Channuie |
| PHY09 | Renovation status of neutron radiography facility at TRR-1/M1 reactor  
R Picha*, J Channuie, T Liamsuwan, J Promping, W Ratanatongchai, and S Wonglee |
PHY12 Improvement of water quality using dielectric barrier discharge plasma
N T Quyen, T Traikool, R Nitisoravut and T Onjun*

PHY13 Cyclotron production of 48V via natTi(d,x)48V nuclear reactions; a promising radionuclide
A R Usman, M U Khandaker* and H Haba

PHY17 Innovative research of plasma physics for life sciences
D Boonyawan

PHY20 Fuel burnup analysis for Thai research reactor by using MCNPX computer code
S Sangkaew*, T Angwongtrakool and B Srimok

SAF03 Development of remaining wall thickness measurement system for boiler wall tube using gamma scattering technique
K Durongsak, C Yenjai, and S Rassame*

SAF04 Gamma-radiation-induced corrosion of aluminum alloy: Low dose effect
K Kanjana*, P Ampornrat and J Channue

SAF06 Study on developing safety infrastructure for mineral processing waste (NORM waste) and contamination monitoring at the TINT rare earth research & development center, Khlong 5, Pathumthani, Thailand
N Yaanant*, V Kasemtanak, A Pattanasub, A O-manee, S Khaweerat, P Pruantonsai, T Akharavutchayanon, P Nuanjan, S Punbut, P Srimork, and N Prasertchiewchan

SAF07 Preliminary study of degradation from neutron effects of core-structural materials of Thai Research Reactor TRR-1/M1
P Ampornrat*, P Boonsuwan, S Sangkaew and T Angwongtrakool

SAF08 Monte Carlo simulation of innovative neutron and photon shielding material composing of high density concrete, waste rubber, lead and boron Carbide
P Aim-O, D Wongsawaeng*, P Phruksarojanakan and S Tancharakorn

SAF09 Baseline quantity of $^{131}$I, $^{137}$Cs, $^{134}$Cs and 40K in Thai urines and internal exposure dose
D Peekhunthod*, J Bangvirunrak, S Sansakon, A Nukultham and T Pukkhaw

SAF11 Comparing $H_p(3)$ evaluated from the conversion coefficients from air kerma to personal dose equivalent for eye lens dosimetry calibrated on a new cylindrical PMMA phantom
J Esor*, W Sudchai, S Monthonwattana, V Pungkun and A Intang

SAF13 Preliminary results of consequence assessment of a hypothetical severe accident using Thai meteorological data
K Silva*, S Monthonwattana, J Promping