

5th INTERNATIONAL SYMPOSIUM

The Application of Nuclear Technology as a Key Element to Promote
Competitive National Industrial Products: Energy, Health, Agriculture, Industry and Environment

August 13th-16th, 2019

Aula Dekanat Gedung D12 Lt. 3 FMIPA
Universitas Negeri Semarang
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KEYNOTE SPEAKERS

- Opening Remarks by Minister of Research, Technology, and Higher Education and Governor of Central Java Province (tentative)
- Irjen (Pol, Ret.) Drs. Sidarto Danusubroto, S.H., Presidential Advisory Council
- Dr. H. Oesman Sapta Odang, Chairman of Senator Republic Indonesia
- Dr. Ir. Agus Puji Prasetyono, M. Eng, Senior Advisor for Minister of Research, Technology and Higher Education, Indonesia
- H. Sutarmidji, S. H., M. Hum, Governor of West Kalimantan
- Chairman National Nuclear Energy Agency of Indonesia
- Ir. F. X. Sutijastoto, MA, Directorate General of New Renewable Energy and Energy Conservation, The Ministry of Energy and Mineral Resources
- dr. Siswanto, MHP., DTM, Chairman of Health Research and Development, Ministry of Health Republic of Indonesia
- Dr. Hadid Subki, MSME, Consultan Nuclear Power Technology Development & Licensing
- Ir. Harjanto, M. Eng, Director General of Metal, Machinery, Transportation Equipment and Electronics Industry Republic of Indonesia
- Ir. Suryantoro, M. Eng, Deputy Chairman of National Nuclear Energy Agency (BATAN) for Nuclear Energy Technology
- Dr. Yus Rusdian Ahmad, Deputy for Nuclear Safety And Assessment, Nuclear Energy Regulator Agency of Indonesia
- Ir. Adi Priyanto, MT, Head of Planning Division of National Electricity State Own Company
- Budi Gunadi Sadikin, President Director of PT. INALUM
- Tony Budi Santoso, Marketing Director of PT. Barata Indonesia
- Dr. Danrong Song, ACP100 Chief Design Engineer Nuclear Power Institute of China, China National Nuclear Cooperation Chengdu, China
- Hayun-Sik Park, Korea Atomic Energy Research Institute (KAERI), South Korea
- Prof. Vladimir Artisiuk, Vice Rector, Rosatom Technical Academy, Obninsk, Russia
- Dr. Masahiro Hamamoto, Global Business Development & Management Division Hitachi-GE Nuclear Energy, Ltd.
- Dr. Wang Jinfeng, CZEC Vice President, Senior Legal Advise, China
- Prof. Koji Ono, M.D., Ph.D, Director of Kansai BNCT Medical Center, Osaka Medical College, Japan
- Andi Prazos, Director of Business Development PT. Kimia Farma Tbk, Indonesia
- Prof. L. E. Redick, B. Sc., MBA, Ph. D, Director of International Centre for English Excellence, Singapore
- Dr. Hanief Arief, ST, MAP, Directorate of Intellectual Property Management, Ministry of Research, Technology and Higher Education, Indonesia
- Prof. Mitsunari Kirihata, Ph.D, Professor of Osaka Prefecture University, Japan
- Dr. Yoshihito Kameda, General Manager Medical System Sales Group, Sumitomo Heavy Industries, Ltd., Tokyo, Japan
- Dr. dr. Bagaswoto Poedjimartono, Sp. Rad (RI), Sp.KN., M. Kes., FICA, Radiology Unit, Sardjito Public Hospital
- Dr. Liem Peng Hong, Nippon Advanced Information Service (NAIS), Japan
- Prof. Ren-Tai Chiang, Ph.D., ANS Fellow, Professor of Sino-French Institute of Nuclear Engineering and Technology ANS, USA
- Prof. Hiroki Tanaka, Ph. D, Research Reactor Institute, Kyoto University, Japan
- Prof. Yoshinori Sakurai, Ph. D, Group of Radiation Medical Physics, Kyoto University, Japan
- Prof. Dr. Edy Meiyanto, Apt, Faculty of Pharmacy, Gadjah Mada University, Indonesia

Location:



<http://qrs.ly/sya20b7>

Call for Papers

Coverage Areas

This Conference invites researchers, teachers/lecturers, and students of sciences, mathematics, and education, to present their papers on the following fields of:
Health, Agriculture, Energy, Industry, and Environment

Important Dates

1. Deadline of Abstract:	15 July
2. Deadline of draft Original Full Paper:	30 July
3. Notification of acceptance:	5 August
4. Deadline of Authors' registration:	7 August
5. Deadline for Camera readyfull paper:	10 August
6. Symposium Dates:	13 - 16 August

Facilities

- CD Collection of Scientific Papers • Certificate
- Symposium kits • Food and snacks during conference

**Free Registration
for 200 Participants**

Selected papers for IOP will be charged later and will be confirmed by the committee

Contacts

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Official webpage:
<http://seminar.unnes.ac.id/event-5isy>

QUERIES & ADDITIONAL INFORMATION
For queries and additional information, please contact:

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BACKGROUND, OBJECTIVE & SCOPES

Indonesia with its vast archipelago has been experiencing high growth in energy demand. The increase is commensurate with the rate of increase in economic development and in population growth, and with rapid developments in the industrial sector. To satisfy the energy demand, the Optimum Energy Mix approach has been taken, in which the selection of alternatives sources involve the considerations of energy diversification, safety, social, economic, public health, and environment. Through the approach, the target of 2030 will be reached i.e.; the compositions of energy mix will be 30.5% coal, 30.4% gas, 25.6% oil and 14% will be supplied by renewable and new energy sources including nuclear. Small Modular Reactors (SMRs) have been considered as a potential options to provide energy supply for small islands outside Java.

Based on the World Health Organization (WHO), cancer is the second leading of fatal cause after cardiovascular disease. To help Indonesia in tackling the issue from nuclear sector, the Center of Science and Technology Accelerator of the National Nuclear Energy Agency (BATAN) is conducting R&D on particle acceleration and utilizing the Kartini Research Reactor (KRR) that is based on TRIGA Mark II Research Reactor located on the outskirts of the Yogyakarta Province. At the KRR, the facility for Boron Neutron Capture Therapy (BNCT) is going to be installed. The BNCT is a non-invasive therapeutic modality for treating locally invasive malignant tumors such as primary brain tumors and recurrent head and neck cancer with the non-radioactive isotope boron-10. The BNCT can be performed at a facility with a nuclear reactor or at hospitals that have developed alternative neutron sources, such as the KRR. Four of six beam ports at KRR will be equipped with a collimator, a device capable of narrowing the neutron beam. After decades of development, BNCT has reached clinical-trial stages in several countries, mainly for treating challenging cancers such as malignant brain tumors.

In agriculture sector, Indonesia is the world's largest producer of palm oil as well as a leading global producer of other high value commodities such as cocoa, rubber and coffee. The country is rich in fertile land ideal for growing a diverse range of crops for both export and domestic consumption. BATAN in cooperation with the IAEA has been developing drought tolerant sorghum for food, animal feed and the bioethanol industry. Water scarcity is a problem in the drought prone areas of the hilly district of Gunung Kidul and in the sandy soil of the coastal Bantul district of Yogyakarta Province in Indonesia. Nuclear technology is being used to increase the genetic variability sorghum, by inducing mutations with gamma irradiation.

The industrial sector in Indonesia is the sector that currently contributes most to Indonesia's annual GDP growth. The two most important sub-sectors of industry are mining and manufacturing, both being major pillars of the nation's economy since the 1970s, thus being engines of economic change and development. BATAN is conducting a preproject engineering to build a prototype small size medium light water reactor (SMR) to be in operation in 2024 – 2025. SMR has been acknowledged as a reliable and very safe nuclear technology to generate electricity and steam heat for industrial processes.

In environment sector, Indonesia has greatly under-reported on how much the primary rainforest has been illegally logged and the high level of pollutions generated by transportations, industries, and power plants. Nuclear power belongs to the set of energy sources and technologies available today that could help meet the climate-energy challenge. Greenhouse gases (GHGs), especially of carbon dioxide (CO₂) from nuclear power plants are negligible. In this regards, in developed countries SMRs have also been considered as a potential option to replace the retiring coal power plants.

This International Symposium invites decision makers from relevant international organizations, experts on energy, economy and environment, business sectors, professors/academia, and researchers to present their scientific papers on the fields of: Energy, Health, Agriculture, Industry, and Environment.

SCOPES:

1. **Energy, Health, Food and Agriculture, Industry, and Environment.**
2. **Applied Mathematics and Statistic above areas.**
3. **STEM Education.**

Organizing Committee

Steering Committee

- H. Ganjar Pranowo, S.H., M.IP., Governor of Central Java Province
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- Prof. Ir. Yohannes Sardjono, APU., Senior Researcher Consortium for Boron Neutron Capture Cancer Therapy, Center for Science and Accelerator Technology, National Atomic Energy Agency, Indonesia
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- Dr. Masturi M.Si., Faculty of Mathematics and Natural Science, Universitas Negeri Semarang

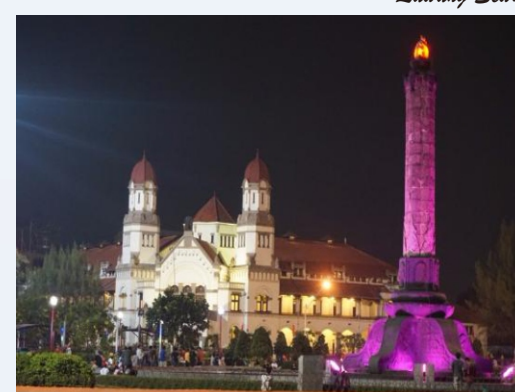
Central-Java

Semarang

Rawa Pening



Lawang Sewu



Sam Poo Kong Temple



Gedong Songo

