



Dept. of Nuclear Engineering and Engineering Physics
Universitas Gadjah Mada

PREFACE

The worldwide energy demand is always increasing. On the other hand, the fossil-based energy resources is limited and the nuclear-based renewable energy needs much effort to optimize its utilization. Therefore, innovation in energy technology is needed. Such advanced energy innovation is not only focusing on one aspect of technology, but also it needs to consider other aspects such as environment, policies, economical point of view, etc. Synchronization and innovation from academicians, professionals from industry, government, and society to achieve the goal of energy independence are needed.

The ASTECHNOVA 2016 International Energy Conference is the 5th conference being held by the Department of Nuclear Engineering and Engineering Physics (DNEEP), Universitas Gadjah Mada. ASTECHNOVA 2016 filled with outstanding participants and papers, to be shared among researchers from universities, industry, government, and energy-related organizations with several topics included oil and gas, new and renewable energy, nuclear energy, energy management, green technology, environment compliance, energy policy, instrumentation and control in industry, and other relevant topics of energy. We hope that this conference can be of benefit for facilitating exchange of ideas among researchers, especially in the energy field and its related topics.

On behalf of ASTECHNOVA International Energy Conference 2016 committee, I would like to give my sincere appreciation of your supports, paper submissions, and presentations.

Thank you very much and warm regards,

Dr. Alexander Agung
General Chair



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ABOUT THE CONFERENCE

ASTECHNOVA 2016 INTERNATIONAL ENERGY CONFERENCE

“Advanced Energy Innovation”

ASTECHNOVA 2016 - International Energy Conference

Department of Nuclear Engineering and Engineering Physics, Universitas Gadjah Mada

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ABOUT THE CONFERENCE

ASTECHNOVA 2016 INTERNATIONAL ENERGY CONFERENCE "Advanced Energy Innovation"

Short Description

Development of technologies for energy system leads to dramatic changes in energy consumption. It has never been so important to examine the stability of the worldwide energy consumption. During recent years, existing energy technologies have been showing to be inadequate due to fundamental changes in worldwide social needs and paradigm. Many basic assumptions are no longer certain and are definitely questioned. Nowadays, researchers and practitioners from industry and academia are developing advanced technology and innovation in energy system in order to solve these problems.

The ASTECHNOVA 2016 is to host communication and dissemination of proposed new approaches in dealing with technological development, as studying complexity and knowledge management. This event is the third international energy conference. In 2015 the conference was held successfully and attended by several participants and experts from Philippines, Nepal, South Africa, China, and USA.

The ASTECHNOVA 2016 -International Energy Conference- will systematically examine the following topics

- Oil and Gas
- New and Renewable Energy
- Nuclear Engineering
- Green Technologies
- Energy Management and Services
- Environmental Compliance
- Energy Policy, Education and Training
- Plant Engineering and Instrumentation & Control
- Other relevant topics on energy

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Rationale

Department of Nuclear Engineering and Engineering Physics, Universitas Gadjah Mada (DNEEP) is currently in the process of being a centre of excellent in energy system as part of the global institution. The most important aspects in the preparation for being a centre of excellent in energy system is the internationally scientific atmosphere in DNEEP. Department of Nuclear Engineering and Engineering Physics, Universitas Gadjah Mada should be joint to the international community in energy system with prominent researchers and practitioners from industry and academia in energy system. Therefore, it is crucial to an international conference to bring together researchers and practitioners from industry and academia for sharing their energy technological development.

In the conference, many well recognized researchers, practitioners and academia will share their experience and vision of the future technological development in energy system. Among others, there will be the scientific members, i.e. Prof. Sunil Chirayath (Texas A&M University, USA), Dr. Liem Peng Hong (NAIS Co., Inc, Japan), Prof. Agus Pulung Sasmito (McGill University, Canada), Prof. Christophe Demaziere (Chalmers University of Technology, Sweden), Hiroshige Kikura (Tokyo Institute of Technology), Prof. Sunarno, Prof. Phillip Beeley (Khalifa University, United Arab Emirates), Prof. Yonghee Kim (KAIST, South Korea), Dr. Jim Kuijper (NUCLIC, Netherlands) Dr.-Ing. Sihana (Universitas Gadjah Mada, Indonesia), Dr. Gea O.F. Parikesit (Universitas Gadjah Mada, Indonesia), Dr. Totok Soehartanto (Institut Teknologi Sepuluh Nopember, Indonesia and Dr. Jarot Setyowiyoto (Universitas Gadjah Mada, Indonesia). DNEEP believes that conducting the ASTECHNOVA 2016 - International Energy Conference - is a strategic initiative to open more networks to the prominent energy system researchers and practitioners from industry and academia in the world whose opinions and suggestions will help DNEEP to excel as a centre of excellent in energy system.

Aims

1. To bring together researchers and practitioners from industry and academia to give overviews of the state of the art of technology developments in energy system,
2. To present recent achievements of advanced technology developments in energy system,
3. To exchange ideas and experiences in the field of technology developments in energy system.

Event

The ASTECHNOVA 2016 - International Energy Conference - is proposed to take two days in November 2016 with 100 participants world wide that will present their papers, i.e.

Date : 2 and 3 November 2016
Time : 07:30 – 16:30 with four parallel scientific sessions
Venue : Eastparc Hotel Yogyakarta

Important dates for participants for this event

Extended abstract submission deadline	July 15, 2016
Notification of acceptance	July 29, 2016
Presenter registration form submission deadline	Oct 7, 2016
Full paper submission deadline (extended)	Oct 7, 2016
Conference date	Nov 2-3, 2016

The detail schedule of ASTECHNOVA -International Energy Conference-, as follows:

Day 1 (2nd November 2016)

The Grand Ballroom	
Time	Schedule
07:30– 08:00	Registration
08:00 – 08:15	Traditional dance performance by Universitas Gadjah Mada student
08:15 – 08:20	Welcome speech by Committee Chairman
08:20 – 08:30	Opening by Dean of Faculty of Engineering Universitas Gadjah Mada
08:30 – 08:40	Launching ASTECHNOVA AWARD by Director General for Information and Public Diplomacy of the Ministry of Foreign Affairs of Indonesia and Director of Non-Aligned Movement Centre for South-South Technical Cooperation (NAMCSSTC)
08:40 – 08:50	Photo session
08:50 – 09:15	Coffee break Mini chamber orchestra by Department of Nuclear Engineering and Engineering Physics Universitas Gadjah Mada Student
09:15 – 10:00	Keynote Speaker: National Energy Board (DEN) - Tumiran “Human Resources for Energy Development in Indonesia”
10:00 – 10:15	Souvenir for keynote speaker, main speakers and representation of volunteer reviewers
10:15 – 11:30	Challenge and Opportunities in Energy Development Main Speaker : <ul style="list-style-type: none"> - Cubaenergia – Curbelo Alonso “Challenge and Opportunities in Clean Energy Development in Carribean and Latin America Regions” - Indonesia Financial Services Authority (OJK) – Edi Setijawan “Financial Foundation for Energy Development in Indonesia” - Dept. of Nuclear Engineering and Engineering Physics, Universitas Gadjah Mada - Rachmawan Budiarto “Education, Research and Community Development Activities on New and Renewable Energy within Universitas Gadjah Mada” Moderator : Haryono Budi Santosa
11:30 – 12:00	Discussion
12:00 – 13:00	Poster Session (3rd Floor) Lunch at Verandah Restaurant (1st Floor)

Scientific Parallel Session

Time	Dahlia Room	Tulip Room 2
	Renewable Energy	Oil and Gas and Other
	Chair : Hiroshige Kikura (Tokyo Institute of Technology)	Chair : Agus Arif (UGM)
13:00-13:25	#13Multilevel Diffuser Augmented for Horizontal Axis Wind Turbine (Fariz Qashidi Putra)	#33Anti Surge Control of Centrifugal Compressor at PT. Pertamina Ep Asset 2 Field Pendopo (Muhammad Lukmanul Hakim , Balza Achmad, et.al)
13:25-13:50	#18Purification of Biodiesel Using Activated Carbon Produced From Cocoa Pod Husk (Dan Sulaiman)	#15Approach to Topographic Map, hydrogeological and Environmental Isotopes Analysis to Delineation of Watersheds in Drought-prone Areas (Aris Sunantyo)
13:50-14:15	#22The Development of Heterogeneous Catalyst CaO/NaOH From Waste of Green Mussel Shell for Biodiesel Production(Hadiyanto, Budiyo, Istadi, et.al.)	#43Microscopy of Alloy Formation on Arc Plasma Sintered Ods Steel (Bandriyana, Arbi Dimiyati, et.al.)
14:15-14:40	#11Renewable Energy: Numerical study of the effect of geometry variation on the performance of innovative design wind speed enhancer (Theodorus Tio Wibowo)	#29An Optical Current Sensor Based on an SMS Fiber Structure (Agus Muhamad Hatta, Ika Novitasari, et.al.)
14:40-15:00	Poster Session (3rd Floor) Coffee Break	
Time	Plant Engineering and Instrumentation & Control	Plant Engineering and Instrumentation & Control
	Chair : Balza Achmad (UGM)	Chair : Totok Soehartanto (ITS)
15:00-15:25	#4Numerical Study of A Thermosyphon Cooling System: Film Condensation (Filian Arbiyani)	#6Post-Installation : Insight of Coastal-Area Society in Hybrid Power Generator of Pantai Baru, Yogyakarta (Widhyharto)
15:25-15:50	#28Performance Evaluation of Three-Bed Adsorption Refrigeration Cycle (Aep Saepul Uyun, Kamarudding Abdullah, et.al)	#39Energy Monitoring System for Existing Buildings in Indonesia (Sentagi S Utami , Faridah, et.al.)
15:50-16:15		#17The Study of System Planning of Assets Security on Marine Current Renewable Energy (Juniarko Prananda)
17:00-19:00	Welcome Dinner Invited by NAMCSSTC (The Grand Ballroom)	

Day 2 (3rd November 2016)

Time	Dahlia Room	Tulip Room	Magnolia Room
		Renewable Energy	Plant Engineering and Instrumentation & Control
		Chair : Kusnanto (ASEAN Centre of Energy)	Chair : Awang N. I. Wardhana (UGM)
08:00-08:30	Morning meeting for Day 2 chairs and speakers (Iris Room)		
08:30-08:55		#25Development of Biobriquette From Nutmeg Seed Shells (Rukmana Idris, Ahmad Tawiequrrohman, et.al.)	#30Design of Hydro Power by Using Turbines Kaplan on The Discharge Channel Paiton 1 And 2 (Totok Soehartanto, Alvin Kurniawan Sosilo, et.al.)
08:55-09:20		#40Reactive Extraction of Reutalis Trisperma Seeds(Nunung Prabaningrum)	#34Potential Analysis of Ex-Coal Mining Land as Energy Storage Type Pumped Hydroelectric Storage in Kutai Kartanegara, East Kalimantan (Yollanda Zilviana Devi, Rachmawan Budiarto, et.al.)
09:20-09:45		#10Urban Photovoltaics and Online Energy Monitoring System: Development in UGM's Kinanti Dormitory (Rachmawan Budiarto)	#35Development of Fuel Debris Inspection Methods Using Air Coupled Ultrasound (Ari Hamdani, Hiroshige Kikura, et.al)
09:45-10:05		#27Influence of Temperature Variation to Optimize Biogas Purification on Water Scrubber System (Arief Abdurrakhman, Roekmono, et.al)	#47Techno-Economic Evaluation of Carbon Capture Storage Ready for Coal-Based Power Generation In Indonesia(Usman)
10:05-10:30	Poster Session (3rd Floor) Coffee Break		

Day 2 (3rd November 2016)

Time	Renewable Energy	Energy Policy, Education and Training	Nuclear Engineering
	Chair : Nunung Prabaningrum(UGM)	Chair : Singgih Hawibowo (UGM)	Chair : Sihana (UGM)
10:30-10:55	#49Energy in Lao PDR (Keomany VHANSALY)	#9Influential Factors to The Industrial Consumers' Smart Grid Adoption (Zheng Ma)	#2Study on A Hybrid Nuclear System: Light Water Reactor with Fossil Fueled Superheater (A.F. Wibisono)
10:55-11:20	#50Energy Development in Vietnam (Tran Thi Thu Trang)	#26Nuclear Security Training: A New Approach for Educating Nuclear Technology in Indonesia (Ferdiansjah, Faridah, et.al.)	#3Fuel Loading Pattern Optimization with Constraint on Fuel Assembly Inventories Using Quantum-Inspired Evolutionary Algorithm(M. Rizki Oktavian, Alexander Agung, et.al.)
11:20-11:45	#51Bioenergy in Cambodia (YANG Sokchea)	#48Measuring Indonesia's Energy Security (Qodri Febrilian Erahman)	#5Mass and Energy Balance Analysis of Methanol Production Using Atmospheric CO ₂ Capture With Energy Source from PCMSR (Andang Widiharto)
11:45-12:00	Closing ceremony (Iris Room)		
12:00	Lunch at Verandah Restaurant (1st Floor)		

International Scientific Committee

Prof. Sunil Chirayath (Texas A&M University, USA)

Dr. Liem Peng Hong (NAIS Co., Inc, Japan)

Prof. Agus Pulung Sasmito (McGill University, Canada)

Prof. Christophe Demaziere (Chalmers University of Technology, Sweden)

Prof. Hiroshige Kikura (Tokyo Institute of Technology, Japan)

Prof. Sunarno (Universitas Gadjah Mada, Indonesia)

Prof. Phillip Beeley (Khalifa University, United Arab Emirates)

Prof. Yonghee Kim (KAIST, South Korea)

Dr. Jim Kuijper (NUCLIC, Netherlands)

Dr.-Ing. Sihana (Universitas Gadjah Mada, Indonesia)

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Dr. Totok Soehartanto (Institut Teknologi Sepuluh Nopember, Indonesia)

Dr. Jarot Setyowiyoto (Universitas Gadjah Mada, Indonesia)

Local Organizing Committee (Universitas Gadjah Mada, Indonesia)

General Chair : Alexander Agung

Publicity & PR : Sentagi Sesotya Utami

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Publication Chair : Agus Arif, Balza Achmad

TPC Chair : Awang Wardhana, Anung Muharini, Singgih Hawibowo

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Logistic Chair : Widya Rosita

Sponsorship & PR : Haryono Budi Santosa, Rachmawan Budiarto

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