

We VS Air Pollution

IIONews – ITERA held Studium Generale at GKU Hall Building (18/9) “Air Pollution Monitoring and Modelling. This public lecture presents keynote speaker from Universiti Teknologi Malaysia, Dr. Wesam Al Madhoun.

He described air pollution could be caused by various sources such as fired forest, industry gas, transportation emission and waste. From this discussion we know that our country has a very unhealthy condition.

Our Rector’s representative, Prof. Sukrasno, Vice Rector of ITERA for Non-Academic Affairs said that this topic is related to

million people of our nation. Thus, we need to create more experts to solve these problems.

Acep Purqon, The Director of ITERA International Office added, we need to collaborate. ABGCM aspects; Academic, Business, Government, Community and Mass Media have to contribute. Because this is not only one person’s matters, but all of us. Besides, one of the regions that has an air pollution issue is Riau, which is in Sumatera. It’s in line with our aim “ITERA of Sumatera”.

“Afterall, the most important advice is we as a country, do not necessary to blame or point fingers to each other. We need to collaborate, think and solve this

issue in term of Regional Collaboration. As an education institution we need to initiate this move,” He said.

In the near future, ITERA and UTM planned technology development collaboration to monitor the air quality and prevent air pollution. This Studium Generale was also held in order to initiate the collaboration of exchange programs for staff and student between ITERA and UTM.

Furthermore, Dr. Wesam explained, Air pollution is a silent killer. Seven million people in the world died due to air pollution. The most highlighted impact are health problems such as

pneumonia, heart attack, stroke and cancer. Regarding to the research, this health problem mostly affected children, women, and outdoor worker.

As an academican, we need to educate people that we have the right for health air. We can control law enforcement that regulate about pollution. Moreover, we can create alternative technology for efficient energy using, safe and affordable fuel for transportation and household: cooking, heating and lighting. **



Auf Wiedersehen, Eyang Habibie!

This month, our nation had been hanging flag at half-mast for three days. We are in a deepest condolence on the passing of our beloved former third president, Mr. BJ Habibie.

As we know, He’s well-known not only as a leader of nation, but also the father of democracy and father of technology. He was the main actor in the development of science and technology in Indonesia. He got full support from politics to develop anything related to science and technology in Indonesia. A place that no one

else ever had in Indonesia.

He directly led the strategic industry and developed a concept related to it, which is also called “habibienomics”. BJ Habibie’s Legacy About Technology-Based Economy. His visionary thought about 16 thousand islands in Indonesia which cannot be supported by land transportation, made his determination about the aircraft industry as a unifier of Indonesia in the scope of connectivity. To strengthen all these, technology campuses/institutes such as ITERA have an important

role to play in developing science and technology. The technology institute is the answer to the acceleration and development of Indonesia in the field of technology which aims to drive the economic growth and boost the GDP (Gross Domestic Product).

Innovation is driven by economy, as a technology institution, we must develop technology that can

prosper the people of Indonesia, we have to continue the journey to the success of Habibie’s vision. Last, we send our deep condolences and best prayers to Mr. BJ Habibie and the family. Auf Wiedersehen, Eyang!

Acep Purqon, Ph.D
Director of ITERA International Office





by Adib Mustofa S.Pi.,M.App.Sc
Lecturer delegation to Tianjin University for Summer Program "Smart Ocean"

MARINE DEVELOPMENT COMPARISON

between China and Indonesia

In the industrial era of 4.0, understand the uses of technology and big data processing is needed in all sector, including ocean sector. In this summer program, all participants had an opportunity to learn several advanced technologies for marine applications.

If the United States of America and Russia have Global Positioning Services (GPS) and GLONASS respectively, China has BeiDou Satellites orbiting the Earth. During the course we were introduced about the development and the principal concepts of BeiDou Satellites including its application for ocean science and technology.

In addition we learned several instruments for observing ocean parameters, such as CTD (Conductivity, Temperature, and Depth) instrument and its sensors. This instrument is crucial to get better understanding about ocean so that we could make trajectories of future climates, phenomena, and fate of the ocean. These instruments were also deployed by many countries and there were nearly real-time dataset gained from the instruments that are publicly available to access, such as Global Ocean Observation System (GOOS) and WestPack.

We then learned about data processing using several software, such as MATLAB for satellite modelling and tide prediction, ArcMap and ENVI for data and image processing in Geographic Information System (GIS), SNAP for processing satellite images to identify specific features in the

marine environment, and underwater topographic software to identify the underwater elevation and sediments of bottom of the water.

These knowledge and practical skills are needed in this era of smart ocean to better understand our ocean so that human may make better science-based decision and policy making to protect and manage our ocean.

China and Indonesia has different ocean characteristics and socio-cultural values so that they should have different approaches in managing ocean. While Indonesia has only tropical water seas, China has two types of sea water where tropical sea water is in the South China sea and temperate sea water is in the East China, Yellow, and Bohai Sea.

These different characteristic will influence the different marine biodiversity in the region. Tropical sea is characterized by high marine biodiversity, especially Indonesia is also a part of Coral Triangle Region where the marine biodiversity hotspot is there. Indonesia, therefore, has more marine species biodiversity compared to China. There are 22,629 marine species recorded in the China's seas that belong to 49 phyla. This number represents 10% of the World total biodiversity. Fishes, crabs, shrimp, and cephalopods are the main major biological diversity in China with 1.694 fish species recorded and 150 of them has major economic values.

In addition, there are 90 species of cephalopod, 300 species of shrimp, 42 species of krill and 600 species of crab inhabit in the China sea (Liu, 2012). Compared to Indonesia, Indonesia has approximately 76% of the world's coral species and 37% of the world's coral reef fish species (UNDP, 2016).

In term of ocean observation system, China has more advanced technology in observing Ocean compared to Indonesia. China has developed many technologies including sensors and instruments, such as CTD and glider instrument to explore deep ocean under 1000 meter, to get better understanding of the ocean.

In addition, China has contributed in deploying more instruments to the ocean so that ocean parameter dataset could be obtained. These dataset is also a part of the global observation system that is publicly accessible. Based on the Global Ocean Observation System website, China has deployed 87 Argos instrument to the ocean, compared to Indonesia that only deploys 1 Argos instrument. This showed that China government gives more attention and research funding to ocean sectors compared to Indonesia.




Whereas, Indonesia has more ocean cover than China. To protect and manage the ocean, it is important to have mutual collaboration in this sector as ocean is connected every country rather than separated every nations.



Our Team:

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