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4th INTERNATIONAL CONFERENCE ON SCIENCE AND TECHNOLOGY APPLICATIONS IN CLIMATE CHANGE (STACLIM 2021)

1 - 2 July 2021 | 8:00 a.m - 6.00 p.m MYT



Organized by

INSTITUTE OF CLIMATE CHANGE



Co-Sponsored by

UKM-YSD CHAIR FOR SUSTAINABILITY



Accredited 5 CPD Points
from





**" EMPOWERING
BREAKTHROUGHS
FOR CLIMATE
CHANGE "**

TABLE OF CONTENTS

PAGE

03	Programme Overview
06	Conference Background
07	Foreword by Director of Institute of Climate Change
09	Foreword by General Chair of STACLIM 2021
11	Organising Committee
13	Conference Advisors
14	Keynote Speakers
20	Conference Schedule
34	Acknowledgement
35	With Best Compliments

PROGRAMME OVERVIEW

Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME
08:00 – 08:50	Virtual conference room opens for access to participants
08:50 - 09:00	Opening by Emcee
09:00 – 09:10	Welcome Remarks By YBhg. Prof. Dr. Mohd Nizam Mohd Said <i>Director of Institute of Climate Change (IPIC)</i> <i>Universiti Kebangsaan Malaysia (UKM)</i>
09:10 – 09:20	Opening By YBhg. Prof. Dato' Ir. Dr. Abdul Wahab Mohammad <i>Deputy Vice Chancellor UKM (Research & Innovation)</i> <i>Universiti Kebangsaan Malaysia (UKM)</i>
09:20 – 10:00	Keynote Speaker I: YBhg. Prof. Dr. Joshua S. Fu <i>The University of Tennessee Knoxville, USA</i> Title: Integrated Engineering and Earth Systems Science as Solution to Climate Change: Lessons and Opportunities Moderator: YBhg. Prof. Dr. Mohd Nizam Mohd Said
10:00 – 10:40	Keynote Speaker II: YBhg. Prof. Dr. Agamuthu Pariatamby <i>Jeffrey Cheah Institute on Southeast Asia, Malaysia</i> Title: Waste Management and Climate Change in Asia: Will it Mitigate or Aggravate? Moderator: Assoc. Prof. Dr. Marlia Mohd Hanafiah
10:40 – 11:20	Keynote Speaker III: Distinguished Professor Dr. Biswajeet Pradhan <i>University of Technology Sydney, Australia</i> Title: Geospatial Intelligence in Climate-Induced Hazard Modelling Moderator: Assoc. Prof. Sr. Dr. Khairul Nizam Abdul Maulud
*MYT is Malaysian Time (UTC/GMT+8 hours) * Please note that the time given is Malaysia Time and you are requested to look at your corresponding national time zone to join on time	

PROGRAMME OVERVIEW

Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
11:20 – 11:30	Morning Break / Breakout Room		
11:30 – 12:30 Session I (Parallel Sessions)	Breakout Room A	Breakout Room B	Breakout Room C
	Weather and Climate (ACP-1) Chair: Dr. Maggie Ooi Chel Gee & Assoc. Prof. Dr. Liew Juneng	Water Environment and Technology (LWFF-1a) Chair: Assoc. Prof. Sr. Dr Khairul Nizam Abdul Maulud & Ts. Dr. Wan Shafrina Wan Mohd Jaafar	Education (HSEE-1) Chair: Assoc. Prof. Dr. Rawshan Ara Begum & Dr. Asif Raihan
12:30- 13:30	Lunch Break		
13:30 – 15:00 Session II (Parallel Sessions)	Air Quality (ACP-2) <i>Chair: Assoc. Prof. Dr. Liew Juneng & Dr. Maggie Ooi Chel Gee</i>	Water Environment and Technology (LWFF-1b) <i>Chair: Assoc. Prof. Sr. Dr. Khairul Nizam Abdul Maulud & Ts. Dr. Wan Shafrina Wan Mohd Jaafar</i>	Socio-economic (HSEE-2) <i>Chair: Assoc. Prof. Dr. Rawshan Ara Begum & Dr. Asif Raihan</i>
15:00 – 15:10	Break		
15:10 – 16:40 Session III (Parallel Sessions)	Advanced Technology (ATRE-1) Chair: Assoc. Prof. Marlia Mohd Hanafiah & Dr. Khairiatul Mardiana Jansar	Forests and Land Use (LWFF-2) Chair: Ts. Dr. Wan Shafrina Wan Mohd Jaafar & Assoc. Prof. Sr. Dr. Khairul Nizam Abdul Maulud	Oceanography (CMME-1) Chair: Dr. Wee Hin Boo & Dr. Maggie Ooi Chel Gee
16:40	The End of Day 1		
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Day 2 (2nd July 2021)

TIME (MYT)	PROGRAMME		
08:00 – 09:00	Virtual conference room opens for access to participants		
09:00 – 10:30 Session IV (Parallel Sessions)	Breakout Room A	Breakout Room B	Breakout Room C
	Environmental Management (ATRE-2) Chair: Assoc. Prof. Marlia Mohd Hanafiah & Dr. Khairiatul Mardiana Jansar	Geology and Astronomy (ACP-3) Chair: Dr. Maggie Ooi Chel Gee & Assoc. Prof. Dr. Liew Juneng	Environmental Sustainability (HSEE-3) Chair: Dr. Asif Raihan & Assoc. Prof. Dr. Rawshan Ara Begum
10:30 – 12:00 Session V (Parallel Sessions)	Mathematical Modelling (ATRE-3) Chair: Dr. Khairiatul Mardiana Jansar & Assoc. Prof. Marlia Mohd Hanafiah	Water Environment and Technology (LWFF-1c) Chair: Assoc. Prof. Sr. Dr. Khairul Nizam Abdul Maulud & Ts. Dr. Wan Shafrina Wan Mohd Jaafar	Coastal Environment (CMME-2) Chair: Dr. Wee Hin Boo & Dr. Maggie Ooi Chel Gee
12:00	The End of Conference Programme		
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CONFERENCE BACKGROUND

Following the success of 2014, 2016 and 2018 International Conference on Science & Technology Applications in Climate Change (STACLIM), the Institute of Climate Change (IPI), Universiti Kebangsaan Malaysia (UKM) is proud to extend our promotion of research and education for the advancement of climate change studies. The 2021 International Conference on Science & Technology Applications in Climate Change (STACLIM 2021) with the theme “Empowering Breakthroughs for Climate Change” will be the fourth in the series of conferences organized by IPI.

The aim of this conference is to bring together researchers in fields of Environmental Science, Health Sustainability, Mathematics, Sustainable Energy, Economic Sustainability, Socio-Cultural Studies, Social Science, Atmospheric Science, and related fields, to present their research findings as well as create new opportunities for future research collaborations. This event is envisaged to witness active participation from various eminent environmental and earth scientists, engineers and students from academia, industry and government sectors for addressing complications associated with climate change and to draw forth novel and ground-breaking initiatives and solutions for climate resilience.

In addition, the conference includes three keynote speeches by leading experts from reputable organizations such as Prof. Dr. Joshua S. Fu (The University of Tennessee Knoxville, USA), Prof. Dr. Agamuthu Pariatamby (Jeffry Cheah Institute on Southeast Asia) and Distinguished Professor Dr. Biswajeet Pradhan (University of Technology Sydney, Australia).

To document and promulgate the research findings and ideas shared, we are very pleased to inform you that the accepted abstracts and the research papers of STACLIM 2021 will be published in Institute of Physics (IOP) Conference Series: Earth and Environmental Science (EES) (Online ISSN: 1755-1315). The aforementioned journal is indexed in SCOPUS and other prominent databases, and cover areas of engineering, environmental science, energy, sustainability issues, earth sciences, atmospheric science and meteorology. For all accepted papers, we provide you with the opportunity to publish your paper in WoS and Scopus indexed journals namely Remote Sensing (Special Issue: Remote Sensing of Tropical Montane Ecosystems and Elevation Gradients) and Geografia – Malaysian Journal of Society & Space.

We look forward to meeting you at STACLIM 2021!

FOREWORD BY DIRECTOR OF INSTITUTE OF CLIMATE CHANGE

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

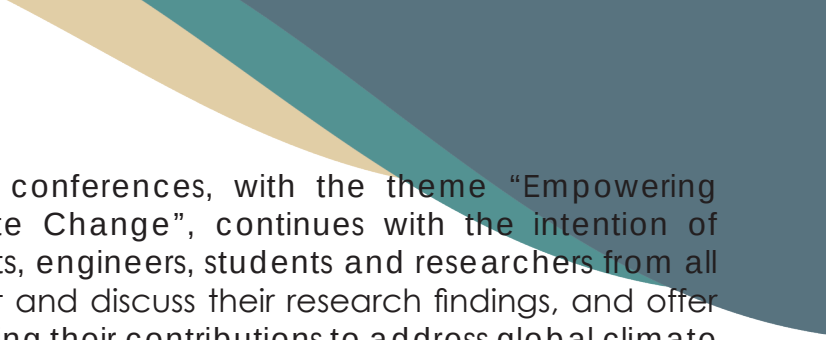
Assalamualaikum wbt. and Salam Sejahtera



Dear Distinguished Guests and Conference Participants,

On behalf of the Institute of Climate Change (IPI), Universiti Kebangsaan Malaysia (UKM), and the STACLIM 2021 organising committee, I am honoured and delighted to welcome you to the 4th International Conference on Science & Technology Applications in Climate Change (STACLIM) at on 1 – 2 July 2021. We are very pleased with the positive responses to our invitation from various local and international research institutions as well as institutions of higher learning, and look forward to a fruitful, diverse and highly collaborative conference event.

As you are aware, climate change has become a crucial issue in today's world economy and is affecting the global community as a whole. Its impacts influence multiple facets of our life – whether it be our health or the quality of the environment we thrive in – on a day-to-day basis. As a consequence, promotion of in-depth studies - especially through multidisciplinary research endeavours that bring specialists from a wide range of spectrum – for addressing complications associated with climate change should be treated as the need of the hour. Started in 2014, the STACLIM conference series aim to confront various challenges pertinent to climate change and proffer opportunities to better understand how science and technological applications can play significant roles for drawing the immediate attention of people and for providing action plans.



The fourth series of the conferences, with the theme “Empowering Breakthroughs for Climate Change”, continues with the intention of bringing together scientists, engineers, students and researchers from all over the world to present and discuss their research findings, and offer them a platform for enabling their contributions to address global climate change issues.

We wish to express our deepest gratitude and appreciation to the Universiti Kebangsaan Malaysia management and staff for their continuous support, and the conference committee members for their relentless effort to ensure the smooth organisation of this conference. Our deepest appreciation also goes to the keynote speakers, reviewers, authors, and everyone, who contributed directly or indirectly from all over the world, whose support and encouragement is of paramount importance towards the success of this conference. Finally, we wish you a fruitful conference experience and would like to shorten our words by thanking you in advance for your wholehearted participation.

PROF. DR. MOHD. NIZAM MOHD. SAID

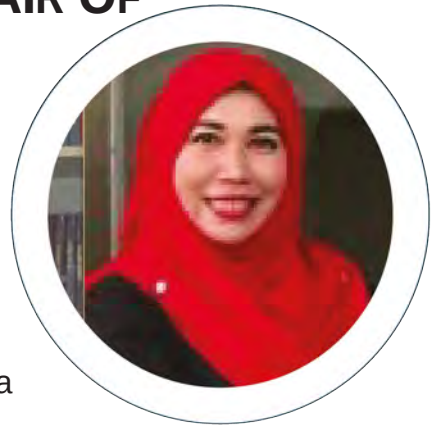
Director

Institute of Climate Change

FOREWORD BY GENERAL CHAIR OF STACLIM 2021

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

Assalamualaikum wbt. and Salam Sejahtera



On behalf of the Organising Committee, it is our pleasure to welcome all the academicians, researchers, scientist and students from all over the world to the 2021 4th International Conference on Science and Technology Applications in Climate Change (STACLIM 2021) with the theme is Empowering Breakthroughs for Climate Change.

As a premier conference in the field, STACLIM 2021 provides information on the latest developments in the research and application of Science-Engineering and others related field for understanding the climate change issues. We are pleased to present the proceedings of the conference as its published record.

STACLIM 2021 is a young conference for research (now is the 4th) in the areas of multidisciplinary fields including economics, social science, Internet of Things and now the most highlighted; modelling and advanced technology in combating climate change. Although it is only in its fourth year, it has already witnessed significant growth. As evidence of that, STACLIM 2018, 2016 and 2014 received a record more than 50 submissions research articles. The authors of submitted articles come from locally and internationally. The most importantly, this conference is to bring various researcher for networking and expend their research collaborations. For young researcher, this is the time for you to get more knowledge from the senior as preparing after your study finished.

The conference program represents the efforts of many people. We want to express our gratitude to the members of the Program Committee and the Senior Program Committee, and the external reviewers for their hard work in reviewing submissions. Without proper teamwork we would not able to achieved this event.

We also thank the three keynote speakers, Prof. Dr. Joshua S. Fu (The University of Tennessee Knoxville, USA), Prof. Dr. Agamuthu Pariatamby (Jeffrey Cheah Institute on Southeast Asia) and Distinguished Professor Dr. Biswajeet Pradhan (University of Technology Sydney, Australia) for sharing their insights with us. The paper submission and reviewing process was managed using the EDAS system. Finally, the conference would not be possible without the excellent papers contributed by authors. We thank all the authors for their contributions and their participation in STACLIM 2021.

We hope that this program will further stimulate research in climate change, and provide practitioners with better understanding in various fields. We feel honored and privileged to serve the best recent developments in the field of STACLIM to you through this exciting program. Special thanks to our sponsors, UKM-YSD Chair in Climate Change. Our deep gratitude to all members of the committee for their cooperation and contribution to the organisation of this conference and infinity thanks to all the participants. Again, every programme is not successful without the backbone of this conference. So, all of you is the backbone and we are glad to have all of you at this conference.

ASSOC. PROF. DR. MARLIA MOHD HANAFIAH

Chairman

STACLIM 2021

ORGANISING COMMITTEE

PATRON

Prof. Dato' Dr. Mohd Ekhwan Toriman
Vice-Chancellor, Universiti Kebangsaan Malaysia

ADVISOR

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Director of Institute of Climate Change (IPI), UKM

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Associate Prof. Dr. Marlia Mohd Hanafiah
Head of Research Centre for Tropical Climate System (IKLIM), IPI, UKM

VICE CHAIRMAN

Sr. Associate Prof. Dr. Khairul Nizam Abdul Maulud
Head of Earth Observation Centre

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Dr. Ooi Chel Gee

Dr. Wee Hin Boo

Dr. Kuhan Chandru A/L Balasanthiran

Associate Prof. Dr. Liew Ju Neng

Associate Prof. Dr. Zaini Sakawi

Dr. Khairiatul Mardiana Jansar

Dr. Siti Aminah Bahari

Norzatul Ézzah Mohd Hasan

Nur Khairun Ayuni Jusoh Sukri

Noridawaty Mat Daud

Nurul Umairah Mohd Nizam

Md Iqbal Ansari

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Nur Zaimah Abd Wahid

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Noor Shuhaira Rejab
Khalisah Khairina
Akhtar Rasool

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Muhamad Roszaini Roslan*
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Siti Aisyah Mohamed

IT, LOGISTIC AND TECHNICAL COMITTEE

Mohd Azlan Shah Jaafar*
Ahmad Tarmizi Mohd Azmi
Siti Aisyah Mohamed
Noor Shuhaira Rejab
Mohd Sayuti Che Hamid

CONFERENCE ADVISORS

- Prof. Dr. Yit Arn Teh (Newcastle University, UK)
- Prof. Dr. Shabbir Gheewala (KMUTTT Thailand)
- Prof. Lin Neng-Huei (National Central University (NCU), Taiwan)
- Associate Prof. Dr. Eben North Broadbent (University of Florida, USA)
- Associate Prof. Dr. Trakarn Prapasongsa (Mahidol University Thailand)
- Dr. Shantanu Kumar (National Central University Taiwan)
- Dr. Didin Augustus (Institut Teknologi Nasional Bandung (ITENAS) Indonesia)
- Prof. Dr. Biswajeet Pradhan (University of Technology Sydney Australia)
- Prof. Dr. Peter Brimblecombe (UK)
- Dato' Ir. Dr. Nik Mohd Kamel Nik Hassan (IPI)
- Dr. Noordin Ahmad (IPI)
- Prof. Dr. Mohd Talib Latif (UKM)
- Prof. Dr. Fredolin Tangang (UKM)
- Associate Prof. Dr. Muhammad Izzuddin Syakir (USM)
- Associate Prof. Ts. Dr. Aeslina Abdul Kadir (UTHM)
- Dr. Firoz Khan (UM)
- Dr. Woon Kok Sin (Xiamen University Malaysia)
- Prof. Dr. Andy Chan (University of Nottingham Malaysia)

KEYNOTE SPEAKER I



Prof. Dr. Joshua S.Fu
(The University of Tennessee Knoxville, USA)

Joshua S. Fu is the John D. Tickle Professor in the Department of Civil and Environmental Engineering of The University of Tennessee Knoxville, USA. He is also the Inaugural Professor of the UT-ORNL Bredesen Center for Interdisciplinary Research and Graduate Education, Joint Appointment Professor in the Computational Sciences and Engineering Division at Oak Ridge National Laboratory. Prof Fu has served Vice-Chair of the Measurement-Model Fusion for the Global Total Atmospheric Deposition (MMF-GTAD) of the new initiative in the World Meteorological Organization (WMO), contributed as a co-author of the Final Report of the Hemispheric Transport of Air Pollution (HTAP) for the United Nations Economic Commission for Europe (UN Task Force Hemispheric Transport of Air Pollution) and reviewing committee member for air quality status in East Asia under EANET. He also contributed to climate modelling results for IPCC AR5 based on RCP 4.5 and 8.5 scenarios.

The focus of Prof Fu's research work includes air quality, climate change, energy, and human health. Additional focus is to utilize artificial intelligence and machine learning techniques on climate change, human health, and mapping global total atmospheric deposition. Currently, his research team is deploying a chemistry solver for a new ESM and improve the climate-chemistry model on global and regional scales and downscaling to a 4 km resolution. Dr. Fu has received numerous awards from national and international associations and a recipient of the Fellow of the American Association for the Advancement of Science (AAAS) and Air & Waste Management Association, Board Certified Environmental Engineering Member of the American Academy of Environmental Engineers and Scientists, and other distinguished and endowed professorship awards. Dr. Fu has published more than 160 refereed journal articles and 120 conference proceedings, more than 200 invited talks and keynotes, and serving journal editors.

ABSTRACT

Integrated Engineering and Earth Systems Science as Solution to Climate Change: Lessons and Opportunities

Climate change is happening. Climate change is no longer a hypothesis. It is a fact. The solutions are expected to be developed. To develop a framework for a systems approach to studying the Earth and to identify facilities, infrastructure, coordinating mechanisms, computing, and workforce development needed to support future work, it bridges the gap between engineering and earth systems science to share successful strategies and discuss challenges. Making further progress will require lowering institutional and cultural barriers to engagement across traditional scientific disciplines and advancing transdisciplinary efforts that foster greater understanding of the interdependencies among the Earth system components. Exploring how to undertake and operationalize opportunities for larger projects connecting earth systems science and engineering. This session will draw on lessons learned from those who managed multi-disciplinary and interdisciplinary projects at scale. Earth system models, models of engineered systems, and machine learning must be integrated to practicably predict vulnerability and its engineering solutions to lower the damage at less. There are examples, Practicable predictions of air/water quality and quantity, as well as floods and droughts, require data-driven models and smart sensing systems. Exascale computing, edge computing, and 5G offer the promise to accelerate scientific discovery and revolutionize engineering approaches through data-driven and physics-constrained to build a next generation civil infrastructure.

KEYNOTE SPEAKER II



Prof. Dr. Agamuthu Pariatamby
(Jeffrey Cheah Institute on Southeast Asia)

Dr. Agamuthu FASc, is a Senior Professor in the Jeffrey Sachs Center on Sustainable Development at Sunway University. Prior to this he was attached to University of Malaya for 44 years. He is a Fellow of the Academy of Sciences, Malaysia. He is appointed as the High-Level Foreign Expert for the Ministry of Science and Technology, China and is also a Visiting Professor for Zhejiang University of Technology in Hangzhou, China. Current responsibility includes Senior Editor in Chief of Waste Management and Research, and is on the editorial boards of several journals such as Journal of Material Cycles and Waste Management and Journal of Safety and Environment. He is the Vice-President of the Society of Solid Waste Management Experts in Asia and Pacific Islands (SWAPI). He is the Founder Head of the Center for Research in Waste Management and the Founder President of the Malaysian Society of Waste Management and Environment. Currently he is the Chairman for the Organization for Climate Change (OFCC), Malaysia. He is a member of International Solid Waste Association (ISWA). He has published 21 books, 28 chapters in book and authored over 470 peer-reviewed articles, proceedings and invited papers. He has done over 75 consultancy projects and supervised over 200 Master's Degree students and 30 doctoral students. He has international cooperation and collaboration in several countries such as the UK, China, Austria, Japan, India, Norway, Cambodia, Thailand, Myanmar, Sri Lanka, to name a few.

ABSTRACT

Waste Management and Climate Change in Asia: Will it Mitigate or Aggravate?

Globally 2 billion tonnes of municipal solid waste (MSW) is generated which is expected to increase to 3.4 billion tonnes in 2050. Average global per capita generation of MSW is 1.42 kg/cap/day which ranges from 0.27 – 2.19 kg/cap/day. Asia, which contains 60% of the world population, is the largest waste producing continent. About 972 million tonnes of MSW is generated annually in Asia, constituting 48.3% of global MSW generation. China and India contribute 15% and 12% of the global MSW, respectively. Waste generation could be linked to the material consumption, where it was estimated that material consumption increased fivefold within 1970 to 2010. The MSW composition in most Asian countries pose a serious management issue since the organic component ranges from 40 – 80%. To compound the issue, the moisture content is generally above 60% which would decrease the calorific value of the waste and make it unsuitable for thermal technology, whereas generation of unsegregated MSW deems it economically and technologically infeasible for recycling. Since waste treatment and disposal technologies require consideration of quantity and quality of generated waste, the most common technology used in Asia is landfilling or dumpsite disposal. At least 55 – 75% of the waste end up in landfills which can occasionally increase to 90% as in Bangladesh and Pakistan. A survey by International Solid Waste Association (ISWA) revealed that out of the 50 largest dumpsites in the world, Asia has 17 of these. Greenhouse gases (GHG) which are considered the driving forces of climate change are mainly generated from landfilling or open dumping and food waste and/or MSW with high moisture content leads to rapid generation of GHG. As an example, landfilling or open dumping in Pakistan generates approximately 15 million tonnes of CO₂-eq GHG emissions yearly, whereas in Malaysia, about 7 million tonnes of CO₂-eq GHG emissions are released. On the other hand, Japan who incinerates majority of MSW, releases about 3 million tonnes of CO₂-eq GHG emissions from landfilling. GHG emissions from MSW management from other Asian countries is also reported. Recycling is the most effective mean of reducing GHG emissions from management of MSW, followed by waste-to-energy alternative, as only waste incineration also releases GHG emissions. Therefore, MSW can play its role in reducing GHG emissions and reduce its contribution towards aggravating climate change. One possible action could be to ensure the implementation of a Sustainable Holistic Waste Management system incorporating zero waste concept. Several recommendations are also given to achieve an efficient waste management that suits different nations in Asia and also reduces GHG emissions.

KEYNOTE SPEAKER III



**Distinguished Professor Dr. Biswajeet Pradhan
(University of Technology Sydney, Australia)**

Professor Biswajeet Pradhan is a Distinguished Professor and Director of the Centre for Advance Modelling and Geospatial Information Systems (CAMGIS), at the University of Technology Sydney, Australia. Before joining the school, he was a full professor of Geographical Information System (GIS) and Remote Sensing at the Faculty of Engineering, University of Putra, Malaysia. Professor Biswajeet Pradhan has more than 18 years of teaching, research, and industrial experience in the field of Geospatial Information Systems. He has also published over 300 research articles in refereed international ISI journals, 11 book chapters, 3 books, and more than 150 conference proceedings. Since February 2015, he is serving as an “Ambassador Scientist” for Alexander Humboldt Foundation, Germany. He has widely traveled abroad visiting more than 55 countries to present his research findings. The appointment as a Distinguished Professor at IPI begins from 18 August 2020 to 17 August 2021, for one year. We hope his expertise will further enhance the international research collaboration and publication between UKM and the University of Technology Sydney, Australia.

ABSTRACT

Geospatial intelligence in climate-induced hazard modelling

Remote sensing has advanced in the last few decades and a variety of sensors such as satellite, airborne, or terrestrial platforms are available to us. New technologies have been developed to mitigate natural hazards such as floods, cyclones, earthquakes, and landslides. Novel methods have been tested for climate-induced hazard modelling. Almost all these have been enabled by remote sensing and advanced geospatial computations. This presentation would give an overview of application of geospatial intelligence in detecting and predicting climate-induced hazards (e.g., soil erosion, landslides, debris flows, rockfalls, droughts, floods, etc.) with the aid of different remote sensing techniques and artificial intelligence methods. The talk would further touch upon a number of data processing and data/sensor integration challenges. Then, the speaker would present an overview of the current solutions to those challenges, highlighting their strengths and weaknesses. Finally, he would talk about the future needs in climate-induced hazards detection and prediction by giving examples from his own benchmark and recent works on these topics.

CONFERENCE SCHEDULE

Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME
08:00 – 08:50	Virtual conference room opens for access to participants
08:50 - 09:00	Opening by Emcee
09:00 – 09:10	Welcome Remarks By YBhg. Prof. Dr. Mohd Nizam Mohd Said <i>Director of Institute of Climate Change (IPi), UKM</i> <i>Universiti Kebangsaan Malaysia (UKM)</i>
09:10 – 09:20	Opening By YBhg. Prof. Dato' Ir. Dr. Abdul Wahab Mohammad <i>Deputy Vice Chancellor UKM (Research & Innovation)</i> <i>Universiti Kebangsaan Malaysia (UKM)</i>
09:20 – 10:00	Keynote Speaker I: YBhg. Prof. Dr. Joshua S. Fu <i>The University of Tennessee Knoxville, USA</i> Title: Integrated Engineering and Earth Systems Science as Solution to Climate Change: Lessons and Opportunities Moderator: YBhg. Prof. Dr. Mohd Nizam Mohd Said
10:00 – 10:40	Keynote Speaker II: YBhg. Prof. Dr. Agamuthu Pariatamby <i>Jeffrey Cheah Institute on Southeast Asia, Malaysia</i> Title: Waste Management and Climate Change in Asia: Will it Mitigate or Aggravate? Moderator: Assoc. Prof. Dr. Marlia Mohd Hanafiah
10:40 – 11:20	Keynote Speaker III: Distinguished Professor Dr. Biswajeet Pradhan <i>University of Technology Sydney, Australia</i> Title: Geospatial Intelligence in Climate-Induced Hazard Modelling Moderator: Assoc. Prof. Sr. Dr. Khairul Nizam Abdul Maulud

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Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
11:20 – 11:30	Morning Break / Breakout Room		
Session 1 (Parallel Session)	Breakout Room A Weather and Climate (ACP-1) Chair: Dr. Maggie Ooi Chel Gee & Assoc. Prof. Dr. Liew Ju Neng		
Time Slot	PAPER ID	EDAS ID	Title
11:30 - 11:45	ACP001	1570714529	Future Scenarios of Extreme Weather in CORDEX-SEA Multi-models Simulations Presenter: Assoc. Prof. Dr. Liew Juneng
11:45 - 12:00	ACP002	1570714432	Variations of Precipitable Water Vapor from 2012 to 2019 over the Philippines using Radiosondes Presenter: Yavin S. Rivera
12:00 - 12:15	ACP003	1570719278	Quantifying the Joint Distribution of Drought Indicators in Borneo Fire-Prone Area Presenter: Mohamad Khoirun Najib
Session 1 (Parallel Session)	Breakout Room B Water Environment and Technology (LWFF-1a) Chair: Assoc. Prof. Sr. Dr Khairul Nizam Abdul Maulud & Ts. Dr. Wan Shafrina Wan Mohd Jaafar		
Time Slot	PAPER ID	EDAS ID	Title
11:30 - 11:45	LWFF001	1570719229	The effect of Climate Change on Flood Hazards in Kelantan River Basin Malaysia Presenter: Tze Huey Tam
11:45 - 12:00	LWFF002	1570712662	Water treatment process using conventional and advanced methods: A comparative study of Malaysia and selected countries Presenter: Nihayatul Hanifah Pakharuddin

*MYT is Malaysian Time (UTC/GMT+8 hours)

Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
Time Slot	PAPER ID	EDAS ID	Title
12:00 - 12:15	LWFF003	1570706260	Effect of Freeze-dried and Oven-dried Bioflocs as Dietary Supplements on Water Quality, Growth Performance, and Body Composition of Red Tilapia (Hybrid) Presenter: Tarq Alwi Binalshikh-Abubkr
12:15 - 12:30	LWFF004	1570714652	Estimation of Surface Elevation Changes at Bare Earth Riverbank using Differential DEM Technique of UAV Imagery Data Presenter: Norhafizi Mohamad
Session 1 (Parallel Session)	Breakout Room C Education (HSEE-1) Chair: Assoc. Prof. Dr. Rawshan Ara Begum & Dr. Asif Raihan		
Time Slot	PAPER ID	EDAS ID	Title
11:30 - 11:45	HSEE001	1570719236	Sustainability in higher education: interdisciplinary approach Presenter: Bindiya Naik
11:45 - 12:00	HSEE002	1570719281	Factors Affecting Job Performance of Non Teaching Staff in Higher Education Institutes in Maharashtra Presenter: Trishna Bokil & Dr Vijay Kulkarni
12:00 - 12:15	HSEE003	1570719658	Use of IoT for Environmental Awareness in English Language Teaching at Higher Education Level Presenter: Dr Tahara Khanum S
12:15 - 12:30	HSEE004	1570718729	Academic Libraries and Services during the post covid scenario: A Case Study of Adoption of the New Techniques for Sustainability by a Management Institutional Library, India Presenter: Dr Meenal Kedar Oak

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Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
12:30 - 13:30	Lunch Break		
Session II (Parallel Session)	Breakout Room A Air Quality (ACP-2) Chair: Assoc. Prof. Dr. Liew Ju Neng & Dr. Maggie Ooi Chel Gee		
Time Slot	PAPER ID	EDAS ID	Title
13:30 -13:45	ACP004	1570713873	MODIS-Derived Fire Spatial and Temporal Distribution During Haze Season in Southeast Asia Using Empirical Orthogonal Function Presenter: Aulia Nisa'ul Khoir
13:45 - 14:00	ACP005	1570719173	Spatio-Temporal of Surface Ozone (O3) Variations at Urban and Suburban Sites in Sarawak Region of Malaysia Presenter: Hartini Mahidin
14:00 - 14:15	ACP006	1570719186	One-Year Monitoring Of Volatile Organic Compounds (VOCs): Variation, Ozone Formation Potential (OFP) and Health Risk in Urban Hotspot Cities, Malaysia Presenter: Nor Syamimi Sufiera Limi Hawari
14:15 - 14:30	ACP007	1570727532	Evaluation of regional simulation of surface ozone over Southeast Asia using ground-based observation at two existing Global Atmospheric Watch stations Presenter: Dr. Didin Agustian Permadi
14:30 - 14:45	ACP008	1570714436	Impact of Biomass-Burning Haze on In-situ Inhibition and Delayed Precipitation in Malaysia Presenter: Maggie Ooi Chel Gee

*MYT is Malaysian Time (UTC/GMT+8 hours)

Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
Session II (Parallel Session)	Breakout Room B Water Environment and Technology (LWFF-1b) Chair: Assoc. Prof. Sr. Dr. Khairul Nizam Abdul Maulud & Ts. Dr. Wan Shafrina Wan Mohd Jaafar		
Time Slot	PAPER ID	EDAS ID	Title
13:30 -13:45	LWFF005	1570717009	A case study on water price calculation of key projects at Fenglinwan irrigation areas in JiangXi Province, China Presenter: Siska Melinda
13:45 - 14:00	LWFF006	1570712596	Numerical simulation of hydraulic optimization for regulating tank in pumping station Presenter: Adelia Agustina
14:00 - 14:15	LWFF007	1570719685	River-flood forecasting methods: the context of the Kelantan river in Malaysia Presenter: Mohammed Abdul Majid
14:15 - 14:30	LWFF008	1570714054	Numerical study on percolation and dam slope's stability of impermeable wall composed by clay and concrete for earth-rock dam Presenter: Kai Yu
14:30 - 14:45	LWFF009	1570713173	Evaluation of Urban Water Security Based on DPSIR Model Presenter: Xueting Tao
14:45 - 15:00	LWFF010	1570711878	Future impacts of climate change on sediment influx rate in hydropower reservoir using SWAT Presenter: Azwin Zailti Abdul Razad

**MYT is Malaysian Time (UTC/GMT+8 hours)*

Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
Session II (Parallel Session)	Breakout Room C Socio-economic (HSEE-2) Chair: Assoc. Prof. Dr. Rawshan Ara Begum & Dr. Asif Raihan		
Time Slot	PAPER ID	EDAS ID	Title
13:30 -13:45	HSEE005	1570714468	A Study on Carbon Cap and Trade Effect to Cost of Electricity in Accordance to The Merit Order of Power Plants Presenter: Aditya Sukmana Putra
13:45 - 14:00	HSEE006	1570720978	A meta-analysis of economic value of forest carbon stock Presenter: Dr. Asif Raihan
14:00 - 14:15	HSEE007	1570719271	Temperature and non-external mortality in Klang Valley. A time series analysis Presenter: Ahmad Norazhar Mohd Yatim
14:15 - 14:30	HSEE008	1570727858	Analysis on Malaysia Electricity Demand and Generation by 2040 Presenter: Azreen Harina Binti Azman
14:30 - 14:45	HSEE009	1570705738	Spatiotemporal assessment of effects of leachate from landfills on groundwater in Kano metropolis Nigeria Presenter: Hadiza Ado Suleiman
14:45 - 15:00	HSEE010	1570710800	Solutions of contemporary problems of environmental safety as a component of national security Presenter: Prof. Liliya Mykolayivna Popova

**MYT is Malaysian Time (UTC/GMT+8 hours)*

Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
15:00 – 15:10	Break		
Session III (Parallel Sessions)	Breakout Room A Advanced Technology (ATRE-1) Chair: Assoc. Prof. Marlia Mohd Hanafiah & Dr. Khairiatul Mardiana Jansar		
Time Slot	PAPER ID	EDAS ID	Title
15:10 - 15:25	ATRE001	1570708091	Polyurethane modified screen - printed electrode for the electrochemical detection of histamine in fish Presenter: Muhammad Abdurrahman Munir
15:25 - 15:40	ATRE002	1570708244	Sulfate (SO ₄ ²⁻) Removal by Electrocoagulation process under Combined Electrical Connection of Electrodes Presenter: Abbas Abdulameer Azeez
15:40 - 15:55	ATRE003	1570710243	Microbial fuel cells constructed from the integration of anaerobic and aerobic sanitary landfill site systems Presenter: Noraishah Abdul Harris
15:55 - 16:10	ATRE004	1570720108	Hydrogen production via methane dry reforming processes over CoAl and CoMgAl-hydrotalcite derived catalysts Presenter: Dr. Zoulikha Abdelsadek
16:10 - 16:25	ATRE005	1570714647	Effect of Different Heating Rate on Properties of Fired Brick Produced from Industrial Waste and Natural Clay Presenter: Nur Jannah Abdul Hamid

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Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
Session III (Parallel Session)	Breakout Room B Forests and Land Use (LWFF-2) Chair: Ts. Dr. Wan Shafrina Wan Mohd Jaafar & Assoc. Prof. Sr. Dr. Khairul Nizam Abdul Maulud		
Time Slot	PAPER ID	EDAS ID	Title
15:10 - 15:25	LWFF016	1570710602	Performance of Fire Hotspot Detection System with Sensor Based on Angle Width and Voltage Difference Monitoring for Forest Security Presenter: Noor Suryaningsih
15:25 - 15:40	LWFF017	1570712168	Is El Nino Southern Oscillation (ENSO) the main driver of forest fire in Kalimantan? Presenter: Ida Bagus Mandhara Brasika
15:40 - 15:55	LWFF018	1570713234	An object-based approach to detect on tree stump in a selective logging area using Unmanned Aerial Vehicle (UAV) Imagery Presenter: Aisyah Marliza Muhmad Kamarulzaman
15:55 - 16:10	LWFF019	1570713257	Analyzing canopy height variations in secondary tropical forests of Malaysia using NASA GEDI Presenter: Esmaeel Adrah & Shaurya Bajaj
16:10 -16:25	LWFF020	1570711365	Study of The Effect Of El Niño Southern Oscillation (ENSO) on Urban Heat Island Formation: Case Study Kuching City, Sarawak Presenter: Ricky Anak Kemarau

**MYT is Malaysian Time (UTC/GMT+8 hours)*

Day 1 (1st July 2021)

TIME (MYT)	PROGRAMME		
Session III (Parallel Sessions)	Breakout Room C Oceanography (CMME-1) Chair: Dr. Wee Hin Boo & Dr. Maggie Ooi Chel Gee		
Time Slot	PAPER ID	EDAS ID	Title
15:10 - 15:25	CMME001	1570713289	Deriving Offshore Tidal Datum Using Satellite Altimetry Around Malaysian Seas Presenter: Mohammad Hanif Hamden
15:25 - 15:40	CMME002	1570713503	The Implementation and Advancement of a Regional Geodetic Vertical Datum Presentation: Nornajihah Mohammad Yazid
15:40 - 15:55	CMME003	1570714517	Evaluation of Coastal Model Performance using Statistical Analysis at The Kelantan Coast, Malaysia Presenter: Nurul A'idah Abd Rahim
15:55 - 16:10	CMME004	1570722230	Wave Runup and Overtopping On Smooth-Slope NEXC Block Presenter: Yannie Anak Benson
16:40	The End of Day 1		

**MYT is Malaysian Time (UTC/GMT+8 hours)*

Day 2 (2nd July 2021)

TIME (MYT)	PROGRAMME		
08:00 – 09:00	Virtual conference room opens for access to participants		
Session IV (Parallel Sessions)	Breakout Room A Environmental Management (ATRE-2) Chair: Assoc. Prof. Marlia Mohd Hanafiah & Dr. Khairiatul Mardiana Jansar		
Time Slot	PAPER ID	EDAS ID	Title
09:00 - 09:15	ATRE006	1570711260	Emissions of carbon dioxide and methane from dairy cattle manure Presenter: Khalisah Khairina binti Razman
09:15 - 09:30	ATRE007	1570713351	Waste-to-wealth in ASEAN countries: A case on e-waste generation from mobile phone Presenter: Haikal Ismail
09:30 - 09:45	ATRE008	1570713438	Water Quality of Rooftop Rainwater Harvesting System (MyRAWAS) Presenter: Umairah Nizam
09:45 - 10:00	ATRE009	1570714620	Comparative response of Malaysian weedy rice (<i>Oryza sativa</i>) initial growth towards the allelopathic potential of <i>Leucaena leucocephala</i> (Lam.) de Wit and <i>Dicranopteris linearis</i> (Burm. f.) Underw Presenter: Muhamad Safwan Ishak
10:00 - 10:15	ATRE010	1570720691	Effect of Mulch on Glyphosate Mobility in Soil Column Presenter: Dr. Khairiatul Mardiana Jansar
10:15 - 10:30	ATRE011	1570715517	Development and mechanical properties of low fired bricks from drinking water sludge and fly ash Presenter: Aifahana Syamimie Mohd Suhaimi

**MYT is Malaysian Time (UTC/GMT+8 hours)*

Day 2 (2nd July 2021)

TIME (MYT)	PROGRAMME		
Session IV (Parallel Sessions)	Breakout Room B Geology and Astronomy (ACP-3) Chair: Dr. Maggie Ooi Chel Gee & Assoc. Prof. Dr. Liew Ju Neng		
Time Slot	PAPER ID	EDAS ID	Title
09:00 - 09:15	ACP009	1570713515	Subsurface Geological Model By Using Free Air Anomaly In Malay Basin Presenter: Farouq Jamil / Mohd Akhmal bin Muhamad Sidek
09:15 - 09:30	ACP010	1570717183	Review of Potential Astronomical Optical Observatory Sites in Luzon Presenter: Ruby-Ann B. Dela Cruz
09:30 - 09:45	ACP011	1570714551	Azimuth and Elevation Factors Correction for Single Station Lightning Electromagnetic Field Sensor Presenter: Sulaiman Ali Mohammad
09:45 - 10:00	ACP012	1570714627	Earth's geomagnetic response of solar wind changes associated with solar events at low latitude region in TRE MAGDAS Station Presenter: Associate Prof Ts Dr. Roslan Umar
10:00 - 10:15	ACP013	1570714648	A Statistical Analysis of the Relationship Between Pc4 And Pc5 ULF Waves, Solar Winds and Geomagnetic Storms for Predicting Earthquake Precursor Signatures in Low Latitude Regions Presenter: Sharifah Nurul Aisyah Syed Zafar
10:15 - 10:30	ACP014	1570717120	Statistical significance of geomagnetic diurnal variation anomalies prior to worldwide earthquakes Presenter: Muhammad Khairul Adib Muhammad Yusof

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Day 2 (2nd July 2021)

TIME (MYT)	PROGRAMME		
Session IV (Parallel Sessions)	Breakout Room C Environmental Sustainability (HSEE-3) Chair: Dr. Asif Raihan & Assoc. Prof. Dr. Rawshan Ara Begum		
Time Slot	PAPER ID	EDAS ID	Title
09:00 - 09:15	HSEE011	1570705498	Life Cycle Design and Efficiency Strategy for Sustainable Membrane Technology Presenter: Khalisah Khairina Razman
09:15 - 09:30	HSEE012	1570714613	Life Cycle Assessment of Crushed Glass Abrasive Manufacturing of Recycled Glass Presenter: Dr. Muhammad Izzuddin Syakir Ishak
09:30 - 09:45	HSEE013	1570733478	Population Trends of Passage and Wintering Barn Swallow (<i>Hirundo rustica</i>) in Peninsular Malaysia Presenter: Nor Adibah Ismail
09:45 - 10:00	HSEE014	1570713255	The Adverse Effect of Long Term Intake of Monosodium Glutamate on Kidney Performance Presenter: Dr. Ali A. Tala'a
Session V (Parallel Sessions)	Breakout Room A Mathematical Modelling (ATRE-3) Chair: Dr. Khairatul Mardiana Jansar & Assoc. Prof. Marlia Mohd Hanafiah		
Time Slot	PAPER ID	EDAS ID	Title
10:30 -10:45	ATRE012	1570714556	Parameter Estimation And Hypothesis Testing Of Geographically And Temporally Weighted Bivariate Generalized Poisson Regression Presenter: Setyorini Indah Purwanti

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Day 2 (2nd July 2021)

TIME (MYT)		PROGRAMME	
Time Slot	PAPER ID	EDAS ID	Title
10:45 - 11:00	ATRE013	1570714598	Parameter Estimation and Hypothesis Testing of Geographically and Temporally Weighted Bivariate Gamma Regression Model Presenter: Desy Wasani
11:00 - 11:15	ATRE014	1570714601	Parameter Estimation and Hypothesis Testing of Geographically and Temporally Weighted Bivariate Poisson Inverse Gaussian Regression Model Presenter: Meylita Sari
11:15 - 11:30	ATRE015	1570714428	Mixed Estimator Of Spline Truncated, Fourier Series, And Kernel In Biresponse Semiparametric Regression Model Presenter: Hartina Husain
11:30 - 11:45	ATRE016	1570713998	Antibacterial Activity of Aquatic Extract of Myrtus communis Leaves Against Periodontitis Isolated Bacteria Presenter: Dr. Hamzah Abdulrahman Salman
11:45 - 12:00	ATRE017	1570719175	The Use of Entropy Based Fuzzy Membership on Weighted Logistic Regression for Imbalanced Dataset Presenter: Ajiwasesa Harumeka
Session V (Parallel Sessions)	Breakout Room B Water Environment and Technology (LWFF-1c) Chair: Assoc. Prof. Sr. Dr. Khairul Nizam Abdul Maulud & Ts. Dr. Wan Shafrina Wan Mohd Jaafar		
Time Slot	PAPER ID	EDAS ID	Title
10:30 -10:45	LWFF011	1570714605	Characterization of aquifer system using electrical resistivity tomography (ERT) and induced polarisation (IP) techniques Presenter: Naseem Akhtar

*MYT is Malaysian Time (UTC/GMT+8 hours)

Day 2 (2nd July 2021)

TIME (MYT)	PROGRAMME		
Time Slot 10:45 - 11:00 11:00 - 11:15 11:15 - 11:30 11:30 - 11:45	PAPER ID LWFF012 LWFF013 LWFF014 LWFF015	EDAS ID 1570716985 1570715307 1570716840 1570716942	Title Effectiveness of a Groundsill Structure in Reducing Scouring Problem at Cimadur River, Banten Province Presenter: Destiana Safitri Study of the effect of climate variation on irrigated and rainfed rice productivity based on aquacrop crop modelling simulation (Case Study of Java Island) Presenter: Kharisma Aprilina Numerical simulation of hydraulic performances with free overfall flow Presenter: Xiao-hui Ye Evaluation of the Groundsill's Stability at downstream of "Citorek" Bridge in Cimadur River, Banten Province Presenter: Hao Chen
Session V (Parallel Sessions)		Breakout Room C Coastal Environment (CMME-2) Chair: Dr. Wee Hin Boo & Dr. Maggie Ooi Chel Gee	
Time Slot 10:30 -10:45 10:45 - 11:00 11:00 - 11:15	Paper ID CMME005 CMME006 CMME007	EDAS ID 1570711971 1570710284 1570715033	Title Calcareous Nannofloral in Western Lobe Offshore, Niger delta: Implication on Eutrophication and Climate Change Presenter: Oretade Bamidele Samuel The Influence of Temperature and Nutrient Concentrations on Growth Rate, Biomass, Chlorophyll-a, and Biochemical Compositions of Tetraselmis suecica (Chlorophyta) Presenter: Ahmed Awadh Sas Submerging Paddy Cultivation Area due to Coastal Flooding in Kuala Kedah, Malaysia Presenter: Samera Samsuddin Sah
12:00	The End of Conference Programme		

ACKNOWLEDGEMENT

CO-SPONSORED BY
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WITH BEST COMPLIMENTS



DIRECTOR

Prof. Dr. Mohd Nizam Mohd Said

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Expert Areas

- * Forestry Sciences - Dynamic of Forest Ecosystems, Forest Biomass
- * Biological Sciences - Ecology - Biodiversity & Conservation
- * Biological Sciences - Biodiversity and Conservation - Species diversity.



DEPUTY DIRECTOR

Prof. Ir. Dr. Mardina Abdullah

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Expert Areas

- * Ionospheric Resech
- * Manufacturing
- * Satellite Navigation



HEAD OF EARTH OBSERVATION CENTRE

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email: knam@ukm.edu.my

Expert Areas

- * Engineering Sciences - Geomatic, Engineering- Geographic, Information system (GIS)
- * Engineering - Surveying and mapping & Engineering
- * Spatial data modelling and databasing



HEAD OF CENTRE FOR TROPICAL CLIMATE CHANGE SYSTEM

Associate Prof. Dr. Marlia Mohd Hanafiah

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Expert Areas

- * Environmental Science
- * Marine Science and Geology



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Expert Areas

- * Satellite Communication
- * Millimeter Wave Propagation
- * RFID



RESEARCH FELLOW

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Expert Areas

- * Environmental and Natural Resource Economics
- * Economics of Sustainable Development
- * Energy Economics & Environmental Valuation



RESEARCH FELLOW

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Expert Areas

- * Metamaterials
- * Electromagnetic Wave & Propagation
- * Electromagnetic Radiation
- * Electromagnetic Compatibility
- * Antenna & Wireless Application



RESEARCH FELLOW

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Expert Areas

- * Ionospheric & GPS Research
- * Radio Communication System



RESEARCH FELLOW

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Expert Areas

- * RF & Microwave Antenna
- * Astronomy Instrumentation
- * Antenna Design



RESEARCH FELLOW

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Expert Areas

- * Magnetospheric Physics
- * Satellite Data Analysis



RESEARCH FELLOW

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Expert Areas

- * Remote Sensing
- * Geographical Information System (GIS)
- * Machine Learning - Forestry Modelling



RESEARCH FELLOW

Dr. Kuhan Chandru A/I Balasanthiran

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Expert Areas

- * Astrobiology
- * Environmental Organic Geochemistry
- * Marine Biology & Origins of Life



RESEARCH FELLOW

Dr. Ooi Chel Gee

email: chelgee.ooi@ukm.edu.my

Expert Areas

- * Chemical weather prediction model (WRF-CMAQ),
- * Biomass burning emission
- * Transport & Urban climate and pollution



RESEARCH FELLOW

Dr. Wee Hin Boo

email: weehinboo@ukm.edu.my

Expert Areas

- * Coral Reef Ecology, Phylogenetics of symbiosis



RESEARCH FELLOW

Dr. Samir Salem Omair Al-Bawri

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Expert Areas

- * Wireless Communication
- * RF and Microwave
- * Antenna and Propagation
- * Metamaterials
- * Localization Estimation Techniques

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UKM-YSD CHAIR FOR SUSTAINABILITY

On February 22, 2021, UKM and YSD signed a Memorandum of Agreement creating the UKM-YSD Chair for Sustainability with an endowment of RM15 Million. The official launch of the UKM-YSD Chair for Sustainability was held in UKM on March 11 2021 officiated by Science, Technology, and Innovation Minister YB Khairy Jamaluddin in the presence of YSD Chairman Y.A.M. Tunku Tan Sri Imran Ibni Almarhum Tuanku Ja'afar and Vice-Chancellor UKM, Prof. Dato' Ts. Dr. Mohd. Ekhwan Hj. Toriman.

UKM-YSD Chair for Sustainability primary goal:

To work on sustainability initiatives focusing on climate change resilience and circular solution with mutually beneficial partnerships with the community and the industry.

It is envisioned that the Chair will tackle sustainability challenges, specifically on:



VISION



To continue leading sustainability initiatives towards long term productivity and wellbeing through research excellence in climate change and circular solutions

MISSION



Climate change resilience



Smart circular solution



Capacity building and knowledge generation & dissemination

While simultaneously  Ensures long term productivity and wellbeing



ukmysdchair@ukm.edu.my



UKM-YSD Chair for Sustainability



@ukmysdchair

OBJECTIVES



Climate Change Resilience

To address global and national priorities as well as local needs of tackling climate change toward community resilience and low carbon economy



Smart Circular Solutions

To provide smart circular solutions for long term industrial productivity and societal wellbeing



Capacity Building

To nurture future talents for sustainable futures To inculcate sustainability literacy, behavioral changes and capacity building towards community resilience



Knowledge Generation & Dissemination

To develop and disseminate knowledge that contribute towards sustainable futures



Impact Assessment

To assess the impact of sustainable futures initiatives on economic and social transformation

BENEFITS & IMPACTS

The industry and community will benefit from frontiers knowledge and cutting-edge research and activities conducted by the Chair as a means of enhancing economic competitiveness and quality of life.

The capacity building initiatives will focus on the enhancement of livelihood, sustainability literacy and inculcating behavioural changes.

While the development of smart circular solutions with the direct participation of stakeholders will enhance industry efficiency and productivity to reduce carbon footprint and sustainable practices. This technology expected will reduce the dependency on foreign labourers, nurture high skilled local talents and reduce environmental impact.

RESEARCH THRUST AREAS



For more info, please contact us:

UKM-YSD Chair for Sustainability, Faculty of Engineering and Built Environment, Universiti Kebangsaan Malaysia
Phone: +603-8921 6031 Email: ukmysdchair@ukm.edu.my

WITH BEST COMPLIMENTS

PROGRAMME OUTLINE

1. Research Methodology Course (ZFR1 6014)
2. Research Proposal Presentation
3. Workshop and Colloquium
4. Journal Publication
5. Thesis

Graduate Requirements

Complete 6 credit of courses (including 4 hours research methodology), Pass in Bahasa Melayu course (for international students), and publish 1 indexed journal.

Complete 8 credit hours of courses (including 4 hours research methodology), Pass in Bahasa Melayu course (for international students), and publish 2 indexed journals and 1 proceeding.

MSc

PhD

FEES

Type of Fees	MSc		
	Local	Part Time	International Full Time
Registration (first semester only)	RM 1,010.00	RM 885.00	RM 1,410.00
Services (each semester)	RM 845.00	RM 625.00	RM 1,085.00
Study (each semester)	RM 1,635.00	RM 1,435.00	RM 3,600.00
1 st Semester	RM 3,490.00	RM 2,945.00	RM 6,095.00
Subsequent Semesters	RM 2,480.00	RM 2,060.00	RM 4,685.00

Type of Fees	PhD		
	Local	Part Time	International Full Time
Registration (first semester only)	RM 1,010.00	RM 885.00	RM 1,710.00
Services (each semester)	RM 745.00	RM 525.00	RM 958.00
Study (each semester)	RM 2,435.00	RM 2,235.00	RM 5,400.00
1 st Semester	RM 4,190.00	RM3,645.00	RM 8,095.00
Subsequent Semesters	RM 3,180.00	RM 2,760.00	RM 6,385.00

For more information please contact us:

Administration (HQ)
Level 2, Research Complex Building,
Institute of Climate Change (ipic), UKM,
43600 UKM Bangi, Selangor Darul Ehsan, Malaysia.
Tel: 03-8911 8484 Fax: 03-8911 8490

How to register:

Perspective candidates can apply via online at



<http://guest.ukm.my/>



ACADEMIC BROCHURE

Ph.D and M.Sc. (Research Mode)

INSTITUTE OF CLIMATE CHANGE (IPIC)

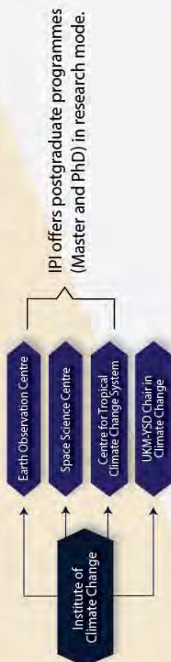
Space Science Centre (Angkasa)

Earth Observation Centre (EOC)

Centre for Tropical Climate Change System (IKLIM)

INTRODUCTION

Institute of Climate Change (IPI) was established on December 2, 2013.



PROGRAM OFFERED

Programmes	National Education Code (NEC)	Specializations
Master of Science (MSc)	440 850	• Space Science • Space Management and Policy • Climate Change Science • Climate Change and Policy • Geospatial Analysis
Doctor of Philosophy (PhD)	440 850	• Space Science • Astronautic • Space Management and Policy • Climate Change Science • Climate Change and Social Science • Climate Change Policy • Geospatial Analysis

LANGUAGE REQUIREMENT

Foreign student is required to obtain a minimum score of 550 for the TOEFL or a Band 5.0 for the IELTS as a prerequisite for entry into graduate programmes at UKM; or

Sit for the English Proficiency Test (EPT) and if the student fails to achieve the level required by the programme, the student must attend and pass the English Proficiency Module (EPM) in no later than three (3) semesters for a doctoral programme or two (2) semesters for a master's programme from the date of admission into the University.

Foreign student who comes from a country where English is the official language; or Obtained academic qualifications from any institution of higher learning that uses English as the medium of instruction.

ADMISSION REQUIREMENTS

Applicants should possess one of the following:

MSc

- A Bachelor's Degree with Cumulative Grade Point Avg (CGPA) of 2.75 and above from UKM or any other institution of higher learning recognised by the Senate.
- A qualification equivalent to a Bachelor's Degree and experience in the relevant field recognised by the Senate.

PhD

A Master degree in relevant areas which are recognised by the Senate; or Currently pursuing in a Master's programme at the Universiti Kebangsaan Malaysia and being recommended by the Graduate Studies Committee and the relevant Faculty for conversion to the Doctor of Philosophy (PhD) programme with the approval of the Senate.

Fast-Track

An Honour's degree in relevant areas from UKM or any other recognised university which are recognised by the Senate and with Cumulative Grade Point Average (CGPA) of 3.67 and above.

DURATION OF STUDY

Programmes	Full Time	Part Time
Doctor of Philosophy	6 – 12 semesters	8 – 14 semesters
Master of Science	4 – 6 semesters	6 – 8 semesters

WITH BEST COMPLIMENTS



Website: IPi

CENTRE FOR TROPICAL CLIMATE CHANGE SYSTEM

- NUOP: Program Disaster Resilient Cities: Forecasting Local Level Climate Extremes And Physical Hazards For Kuala Lumpur
- Conference on Science and Technology Application in Climate Change (STACCLIM)

RESEARCH FIELDS:

- Life Cycle Assessment (LCA)
- Environment Engineering & Footprinting
- Wastewater Treatment
- Carbon Footprint
- Air Quality & Pollution
- Chemical weather PREDICTION Model (WRF-CMAQ)
- Biomass Burning Emission & Transport
- Urban Climate & Pollution

Experts Refer to Weather, Atmosphere and Ozone Surface

"Green City Towards Reducing Air Pollution and Climate Change Monitoring"

IKLIM

MoU and LoI signing ceremony between Institute of Climate Change, UKM and Vellore Institute of Technology, India in the field of climate change green technology.

For more information, please contact us:

Administration (HQ)
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Bangi, Selangor Darul Ehsan, Malaysia.
Tel: 03-8911 8484 Fax: 03-8911 8490

Last Update: September 2020

Institute of Climate Change (IPi) was established on December 2, 2013.

VISION

- To become a reputable educational and research institution as well as international referral centre in the field of climate change and space science.

MISSION

- Through the study programmes and research activities, the institute seeks to augment the relevant knowledge and expertise in the fields of climate change and space science for human advancement and well-being.

UKM-YSD CHAIR IN CLIMATE CHANGE

The UKM-YSD Chair in Climate Change was established on 15 March 2010 to enhance research and academic capabilities in area of climate change. Since 22 January 2013, this Chair has been managed by the Institute of Climate Change (IPi) in consultation with Yayasan Sime Darby.

The objectives of the Chair are:

- To provide a platform for a mutually beneficial partnership between UKM and YSD in pursuing research excellence in climate change;
- To invite relevant international experts to address knowledge gaps regarding climate change;
- To develop expertise and competent human resource in climate change; and
- To promote research and development in climate change pertaining to the impact and the mitigating measures needed to cope with climate change.

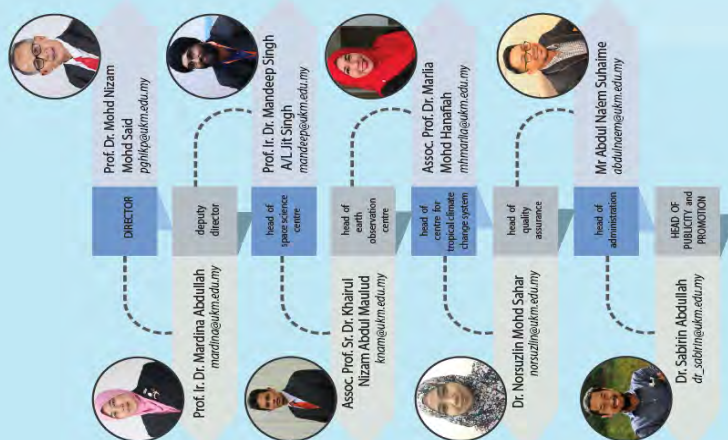
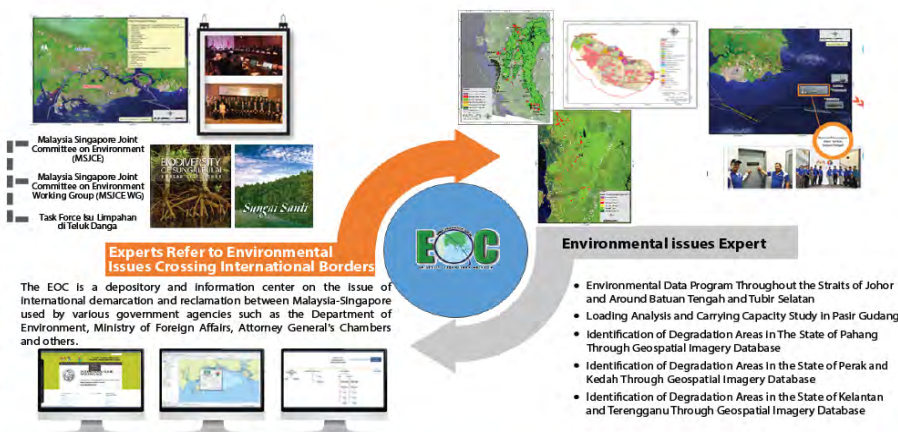
EARTH OBSERVATION CENTRE

management team



RESEARCH CENTRE

EARTH OBSERVATION CENTRE





International Conference on Science and Technology
Applications In Climate Change 2021

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www.ukm.my/staclim/

Photo Credit : Wee Hin Boo