



The 6th INTERNATIONAL
CONFERENCE FOR
TROPICAL STUDIES
AND ITS APPLICATIONS

**Toward Sustainable Tropical Environment
for New Capital City of Indonesia**

ABSTRACT BOOK

1st-2nd November 2022 | Samarinda-Indonesia

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Abstract Book

**The 6th International Conference on Tropical Studies and Its Application
(ICTROPS) 2022**

“Toward Sustainable Tropical Environment for New Capital City of Indonesia”



The 6th INTERNATIONAL CONFERENCE FOR
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Foreword of Rector



Assalamualaikum Wr. Wb.

Dear colleagues, professors, lecturers, researchers, and all participants. On behalf of Mulawarman University, I would like to express my sincere gratitude and welcome you to the 6th ICTROPS 2022.

Moreover, I honourably welcome our keynote speakers:

Prof. Chow-Yang Lee, University of California, Riverside, USA; Prof. Michael Kohl, University of Hamburg, Germany; Assoc. Prof. Sehanat Prasongsuk, Ph.D., Chulalongkorn University, Thailand; Ir. Bambang Susantono, MCP., MSCE., Ph.D., The Head of Nusantara Capital Authority, Indonesia; Dr. Muhammad Ilman, Yayasan Konservasi Alam Nusantara (YKAN), Indonesia; Dr.rer.nat. Suseno Amien, Padjajaran University, Indonesia; PIU (Project Implementation Unit) 4in1 IsDB projects; and our invited speakers.

I hope that the conference would be able to achieve its objective in providing a platform for researchers and practitioners to advancing knowledge and research for the better of life beyond the pandemic. The center of excellence of our university is tropical studies. Therefore, this conference is a forum for sharing the latest issues in the context of tropical studies and its applications. We realized that the complexity of these issues needs a balanced from the pure science and social science perspectives

My deepest gratitude goes to the Advisory Board, Organizing Committee, PMU and PIU 4in1 IsDB projects (the University of Jember, State University of Malang, and Sultan Agung Tirtayasa University) who have supported the success of this conference. The committee has organized a scientific program and is working hard to present highly respected and international speakers to lead it. Although we try our finest to be professional, please accept our sincere apologies should some inconveniences occur before, during, or after the event. I wish you a very productive conference with exciting and encouraging discussions and exchanges of knowledge. Thank you for joining this event. I sincerely hope you will enjoy our conference.

Wassalamu'alaikum wr. wb.

Rector of Mulawarman University

Dr. Ir. H. Abdunnur., M.Si



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Foreword of Executive Director of PIU-IsDB



Assalamu 'alaikum wr wb.

The important role of this IsDB project is as an enabler for Mulawarman University to achieve as a Service Excellence on Center for Tropical Studies (SE-CTS) by developing five key sectors namely Campus Infrastructure (CI), Teaching and Learning (T&L), Research, on Campus Service (CS), and Public Services (PS). The project will indirectly benefit GDP of the nation as a result of higher quality of education. It is expected that the project will increase the quality of graduates, both in academic skills as the core competence and soft skills as an essential added value. It is projected that the project becomes an important trajectory for qualified human resources that are heavily in need to face the embracing ASEAN Economic Community and possibly Trans Pacific Partnerships.

Samarinda as the host city for Mulawarman University and East Kalimantan province will also economically benefited through the coming of more young researchers. The 6th International Conference on Tropical Studies and Its Applications (ICTROPS) annual conference on 1st - 2nd November 2022, is organized by Mulawarman University in collaboration with Islamic Development Bank (IsDB) and Ministry of Education, Culture Research, and Technology of The Republic of Indonesia. On behalf of Project Implementation unit (PIU) Islamic Development Bank (IsDB) of Mulawarman University, We would also like to extend our gratitude especially to all speakers, participants and committees.

Wassalamu'alaikum wr. wb.

Executive Director of PIU-IsDB

Dr. Sc. Mustaid Yusuf, M.Si.



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Firdan Farezal, S.I.Kom.
- Proceeding and Journal : Ir. Pandu K. Utomo, S.T., M.Sc., IPM
Retno Wulandari, Ph.D
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Firman, S.Pi.
Suardi



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Venue



Mercure Hotel Samarinda

Mulawarman St. No.171, Pelabuhan District, Samarinda, East Kalimantan, Indonesia

Available on [zoom](#) platform

Keynote Speakers

Prof. Chow-Yang Lee
University of California, Riverside, USA



Prof. Chaw-Yang Lee is a Professor & Endowed Presidential Chair in Urban Entomology, University of California, Riverside. He received Ph.D. degree in Entomology (Insect Toxicology) at University of Science, Malaysia. He is a member of Entomological Society of America, Pacific-Rim Termite Research Group, Malaysian Society of Parasitology and Tropical Medicine, Malaysia Pest Management Association and Singapore Pest Management Association. He has professional certification: Board Certified Entomologist (BCE) (Urban & Industrial), Entomological Society of America. He has done a lot of research focused on entomology. He also published book chapters on the following topics: Biology and Management of the German Cockroach, Advances of the Biology and Management of Modern Bed Bugs, Perspective in Urban Insect Pest Management in Malaysia and so on.

Prof. Michael Köhl
University of Hamburg, Germany

Prof. Michael Köhl is a professor who teaches at the University of Hamburg. He has interests in the disciplines of Forestry, Climatology, Biogeography, and Remote Sensing. In addition he has tremendous experience and expertise in REDD+, Forest Management, Carbon Sequestration, Forest Conservation, Natural Resource Management, including research in forestry, Remote Sensing, and GIS.



Assoc. Prof. Sehanat Prasongsuk, Ph.D.
Chulalongkorn University, Thailand



Assoc. Prof. Sehanat Prasongsuk, Ph.D is a lecturer at the Department of Botany, Faculty of Science, Chulalongkorn University. He is also a research fellow at the Department of Biology, Universitas Airlangga. He received Ph.D. degree in Biological Science, Chulalongkorn University, Thailand in 2004. He has been a visiting scholar at Rutgers, The State University of New Jersey, USA. His research focuses on plant and fungal biotechnology, plant biomass utilization and conversion, fungal enzymes and metabolites, mushroom and its applications and biopulping and biobleaching. He has published a lot of international journals in the areas of biotechnology, biomass conversion, biological science, etc, also book chapters on the following topics Biological pretreatment of lignocellulosic biomass and Enzymes for hemicellulosic degradation and he also have many patent from 2016.



Dr. Myrna Asnawati Safitri, S.H., M.,Si
Nusantara Capital Authority, Indonesia

Dr. Myrna Asnawati Safitri, S.H., M.,Si completed her studies in law at Brawijaya University and continued her master's program in anthropology at the University of Indonesia. His doctoral program was completed at Leiden University. He has taught law at the University of Indonesia, President University, and Pancasila University. Then in 2016 he was assigned to be the Deputy for Education, Socialization, Participation and Partnerships at the Peat and Mangrove Restoration Agency. Now, she is Deputy for the Environment and Natural Resources of the Nusantara Capital Authority of the Republic of Indonesia.

Dr. Muhammad Ilman
Yayasan Konservasi Alam Nusantara (YKAN), Indonesia

Dr. Muhammad Ilman studied at Marine Science and Technology, Bogor Agricultural University (IPB), Coastal and Marine Resources Management, Bogor Agricultural University (IPB), and earned a PhD from the School of Earth and Environmental Science, the University of Queensland, Australia. He has various experiences in various fields ranging from Mangroves experts, NGOs, to commercial aquaculture to be trusted to be involved in various activities ranging from UNDP, The USAID, and Wetlands International Indonesia. He is currently entrusted with the position of Chair of Advisory Board at People Fish Forest Indonesia and Director of Indonesia Oceans Program at The Nature Conservation (Yayasan Konservasi Alam Indonesia).



Dr.rer.nat. Suseno Amien
Padjajaran University, Indonesia



Dr.rer.nat. Suseno Amien studied at the Faculty of Agriculture, Padjadjaran University until he received a doctorate from the Applied Plant Molecular Biologie der Pflanzen Faculty of Biology, University of Hamburg. Then in 2010 completed a post-doctoral program at the University of Regensburg, Germany. He has published several books. In addition, he has intellectual property rights in biological and genetics fields. Currently he is a permanent lecturer at the Faculty of Agroculture, Padjadjaran University and at the same time serves as the Special Duty Head of Indonesian Delegation (Delri) on WIPO IGC Third Intercessional Working Group on Genetics Resources.

Invited Speakers

Anie Yulistyorini, M.Sc., Ph.D., State University of Malang



Education :

- Bachelor of Environmental Engineering, Institut Teknologi Sepuluh Nopember (ITS), Indonesia
- Master of Science in Environmental Sanitation, Ghent University, Belgium
- PhD, Wastewater Treatment, University of Leeds, United Kingdom

Research :

Water and Sanitation, Water Treatment and Design, Rainwater Harvesting and Treatment, Resource Recovery from Wastewater

Indah Prihatiningtyas D. S., S.T., M.T., Ph.D., Mulawarman University

- Education:
- Bachelor of Industrial Engineering, UII, Indonesia
 - Magister Management, UII, Indonesia
 - Master of Chemical Engineering, Diponegoro University, Indonesia
 - PhD in Chemical Engineering, KU Leuven, Belgium

Research:

Membrane technology, Separation process, Water treatment



Dr. Mekro Permana Pinem. S.T., MT., Sultan Ageng Tirtayasa University



Education :

- Mechanical Engineering Universitas Sultan Ageng Tirtayasa, Indonesia
- Mechanical Engineering Universitas Indonesia, Indonesia
- Doctoral Degree Engineering Process, Université de technologie de Compiègne, France

Research :

Nanomaterials, Carbohydrate Polymer

Drs. Wachju Subchan, M.S., Ph.D., Jember University

- Education:
- Bachelor at Department of Biology Education, IKIP Malang, Indonesia
 - Master in Animal Ecology, Universitas Gadjah Mada, Indonesia
 - Doctoral in Animal Ecology, La Trobe University, Australia

Research:

Biology, Biology education, Environmental science





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Schedule

Time (UTC +8/ WITA)	Conference Day 1 (Tuesday, 1 st November 2022)
07.30 – 08.00	Registration
08.00 – 09.00	Opening Ceremony <ul style="list-style-type: none"> • Singing National Anthem “Indonesia Raya” • Praying • Welcoming speech from Project Management Unit (PMU) • Welcoming speech from Rector of Mulawarman University • Traditional Dance
09.00 – 09.15	Photo Session
09.15 – 10.15	Plenary Session 1 <ul style="list-style-type: none"> • Speaker: Dr. Myrna Asnawati Safitri, S.H., M.,Si • Moderator: Dr. Sc. Mustaid Yusuf, M.Si
10.15 – 10.30	Coffee Break
10.30 – 11.30	Plenary Session 2 <ul style="list-style-type: none"> • Speaker: Prof. Chow-Yang Lee • Moderator: Ainun Nimatu Rohmah, M.A.
11.30 – 12.30	Plenary Session 3 <ul style="list-style-type: none"> • Speaker: Dr. rer. Nat. Suseno Amien • Moderator: Dr. Zeni Haryanto
12.30 – 13.30	Lunch Break
13.30 – 14.30	Plenary Session 4 <ul style="list-style-type: none"> • Speaker: Dr. Muhammad Ilman • Moderator: Dr. Noor Hindryawati, M. Si.
14.30 – 16.00	Parallel Session for Oral Presentation Day 1
16.00 – 16.10	Coffee Break
16.10 – 17.00	Poster Presentation

Time (UTC +8/ WITA)	Conference Day 2 (Wednesday, 2 nd November 2022)
07.30 – 08.00	Registration
08.00 – 09.00	Plenary Session 5 <ul style="list-style-type: none"> • Speaker: Assoc. Prof. Sehanat Prasongsuk, Ph.D • Moderator: Retno Wulandari, Ph.D
09.00 – 10.00	Plenary Session 6 <ul style="list-style-type: none"> • Speaker: Prof. Michael Köhl • Moderator: Prof. Dr. Enos Tangke Arung, S.Hut., M.P.
10.00 – 10.15	Coffee Break
10.15 – 11.15	Panel Session 1 Moderator: Dr. Alamsyah Speakers: <ul style="list-style-type: none"> • Invited speaker from State University of Malang (Anie Yulistyorini, M.Sc., Ph.D)



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	<ul style="list-style-type: none"> Invited speaker from Mulawarman University (Indah Prihatiningtyas D. S., S.T., M.T., Ph.D.)
11.15 – 12.15	<p>Panel Session 2 Moderator: Rosfiansyah, SP, M.Si, Ph.D. Speakers:</p> <ul style="list-style-type: none"> Invited speaker from Jember University (Drs. Wachju Subchan, M.S., Ph.D) Invited speaker from Sultan Ageng Tirtayasa University (Dr. Mekro Permana Pinem. S.T., MT.)
12.15 – 13.15	Lunch Break
13.15 – 14.45	Parallel Session for Oral Presentation Day 2
14.45 – 15.45	<p>Closing Ceremony</p> <ul style="list-style-type: none"> Best Poster Announcement Best Presenter Announcement



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Parallel Session

Parallel sessions are carried out on the first and second days according to the schedule. We provide 5 rooms for parallel session. Each presenter is welcome to do an oral presentation in the provided rooms, offline or online.

Day 1 (Tuesday, 1 st November 2022)					
Time	Room 1	Room 2	Room 3	Room 4	Room 5
14.30 – 14.40	ETM-070	ETM-170	ESC-118	ESC-169	ETM-205
14.40 – 14.50	ETM-071	ETM-171	ESC-119	ESC-180	ETM-208
14.50 – 15.00	ETM-072	ETM-172	ESC-120	ESC-183	ETM-220
15.00 – 15.10	ETM-110	ETM-175	ESC-130	ESC-188	ETM-221
15.10 – 15.20	ETM-129	ETM-178	ESC-136	ESC-191	ETM-229
15.20 – 15.30	ETM-131	ETM-185	ESC-138	ESC-193	ETM-162
15.30 – 15.40	ETM-135	ETM-186	ESC-147	ESC-195	ESC-253
15.40 – 15.50	ETM-140	ETM-192	ESC-163	ESC-197	ESC-257
15.50 – 15.60	ETM-144		ESC-167	ESC-200	

Day 2 (Wednesday, 2 nd November 2022)					
Time	Room 1	Room 2	Room 3	Room 4	Room 5
13.15 – 13.25	ESC-206	ESC-218	ESC-235	ELP-123	ESE-142
13.25 – 13.35	ESC-207	ESC-222	ESC-236	ELP-124	ESE-143
13.35 – 13.45	ESC-209	ESC-223	ESC-239	ELP-133	ESE-160
13.45 – 13.55	ESC-210	ESC-224	ESC-240	ELP-134	ESE-182
13.55 – 14.05	ESC-213	ESC-227	ESC-241	ELP-141	ESE-219
14.05 – 14.15	ESC-214	ESC-228	ESC-242	ELP-161	ESE-255
14.15 – 14.25	ESC-215	ESC-231	ESC-243	ELP-187	ESC-260
14.25 – 14.35	ESC-217	ESC-232	ESC-244	ELP-194	ELP-261
14.35 – 14.45		ESC-233	ESC-245	ELP-212	ESC-262

Notes:

Every presenter will have a 10-minute presentation.

Subtopics:

1. ETM = Environmental Technology and Modelling
2. ESC = Environmental Science
3. ESE = Environmental Socio-Economy
4. ELP = Environmental Law and Policy



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To participants who present via Zoom, please join at the following link:

Room 1 : Link: bit.ly/ICTROPS_Room1
Meeting ID: 979 7107 1139
Passcode: 6thictrops



Room 2 : Link: bit.ly/ICTROPS_Room2
Meeting ID: 206 357 9118
Passcode:



Room 3 : Link: bit.ly/ICTROPS_Room3
Meeting ID: 936 2110 9336
Passcode:



Room 4 : Link: bit.ly/ICTROPS_Room4
Meeting ID: 914 7907 9108
Password: 914 7907 9108



Room 5 : Link: bit.ly/ICTROPS_Room5
Meeting ID: 829 0667 7801
Password: 623296



Display Name in zoom is mandatory using the format we provided.

The format is: Sub Topic_ID_Room_Name

For example John Smith, Sub topic ETM, author paper ID number 216, Room 1

Display name : ETM_216_1_John Smith

Poster Presentation:

Day 1 (Tuesday, 1 st November 2022)	
Time	Poster Room
16.10 - 17.00	ESC-P01
	ESC-P01
	ESC-P01

List of Authors

No.	Subtopic	ID	Author(s)	Title
1.	ETM	70	Dienita Hasna Faadiyah, Fahrizal Adnan, Yodi Prapeta Dewi, Febrina Zulya	EFFECT OF UVC BASED PHOTOCATALYST ON THE DEGRADATION OF HUMIC ACID WITH VARIATIONS OF pH AND VARIATIONS OF CONCENTRATION
2.	ETM	71	Salsabila Juwita Lestari, Fahrizal Adnan, Muhammad Busyairi, Searphin Nugroho	EFFECT OF UV LIGHT VARIATION AND CaCO ₃ (SCAVENGER) CONCENTRATION IN REDUCING HUMIC ACID USING TiO ₂ /Fe ₃ O ₄
3.	ETM	72	Mariyatul Kibtiah, Fahrizal Adnan, Muhammad Busyairi, Searphin Nugroho	PHOTOCATALYST WITH VARIOUS RATIOS AND CONCENTRATIONS OF TiO ₂ -Fe ₃ O ₄ TO REMOVE HUMIC ACID POLLUTANTS
4.	ETM	110	Nadhi Sugandhi, Supriatna, Eko Kusratmoko, Heinrich Rakuasa	SPATIAL ANALYSIS OF LANDSLIDE PRONE AREAS IN SIRIMAU DISTRICT, AMBON CITY USING THE SMORPH METHOD
5.	ETM	129	Lina Dianati Fathimahhayati, Theresia Amelia Pawitra, Tri Budi Purnomo, Jenny Noviani	USING ERGONOMIC CHECKPOINTS IN AGRICULTURE TO SUPPORT THE IMPROVEMENT OF WORK SYSTEMS IN RUBBER PLANTATIONS - A CASE STUDY IN CV. EJA NURSERY, EAST KALIMANTAN
6.	ETM	131	Gabriel Denny Lambe, Muhammad Amin Syam, Hamzah Umar	HYDROGEOLOGY AND GROUNDWATER MODELLING IN THE MINING AREA OF PT. X IN BERAMBAI AREA, KUTAI KARTANEGARA REGENCY, EAST KALIMANTAN PROVINCE
7.	ETM	135	Nurhasimah Nugrah, Muhammad Amin Syam, Heriyanto	THE GROUNDWATER QUALITY ANALYSIS FOR CLEAN WATER AND IRRIGATION IN SANGA- SANGA DISTRICT, KUTAI KARTANEGARA REGENCY, EAST KALIMANTAN PROVINCE
8.	ETM	140	Ikhzan, Resty Intan Putri, M. Amin Syam	DISTRIBUTION ANALYSIS OF LEACHATE USING THE WENNER CONFIGURATION RESISTIVITY METHOD AT SAMBUTAN TPA, SAMARINDA CITY, EAST KALIMANTAN, INDONESIA
9.	ETM	144	Eka Arriyanti, Siti Qomariah, Nurhasanah	CLOUD COMPUTING MODELLING BASED ON THE INTERSECTION OF CIRCLES AND DBSCAN FOR CHARACTERIZING DENSITY OF THE CITY
10.	ETM	162	Tantra D. Larasati, Ari Susandy Sanjaya, Beryl A. V Agatha, Noveno P. Tebay	ACTIVATED CARBON PRODUCED BY CARBONIZATION AND CHEMICAL ACTIVATION OF COCONUT FROND FOR AIR BATTERIES



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ETM-144

CLOUD COMPUTING MODELLING BASED ON THE INTERSECTION OF CIRCLES AND DBSCAN FOR CHARACTERIZING DENSITY OF THE CITY

Eka Arriyanti¹, Siti Qomariah², Nurhasanah³

¹STMIK Widya Cipta Dharma, Jl. M. Yamin, no. 25, Samarinda.

²UIN Aji Muhammad Sultan Indris, Jl. H.A.M. Rifadin, no. 37, Samarinda.

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ABSTRACT

The density of a city is very influential on to the environmental health of the city community. The character of a city needs to be developed and identified so that the advance coordination can be developed optimally. A city that will be built requires an information network pattern as a framework for the density center of the city environment. While a city that already exists, requires identification on to the density character as an effort to maintain the environmental health. The objective of this research was to provide a cloud computing model for a city in a computer network to control the density of the city environment. The intersection of circles and DBSCAN were used as the basis for modeling. The center of urban neighborhood density was marked as spatial data, where the coordinates were the center of the clusters. The urban environmental development plan was used as a labeling reference. Then, the computational design was interpreted, which was the main result of the research. The main conclusion of this research was a method to control the density of the city environment based on cloud computing.

Key words: city, cloud, computing, density, model.



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