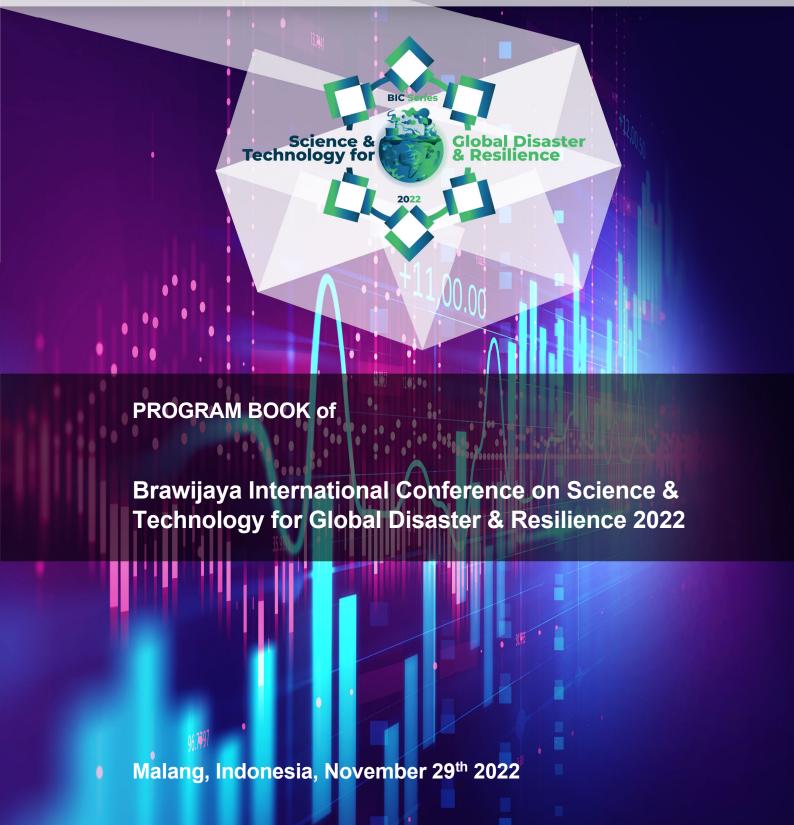
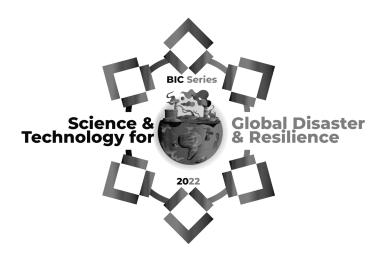




**Universitas Brawijaya** 







Brawijaya International Conference: Green, Humane, and Divine Paradigm

# Program Book of Brawijaya International Conference on Science & Technology for Global Disaster & Resilience 2022

Malang, Jawa Timur, Indonesia 29<sup>th</sup> November 2022

Organized by:



Faculty of Computer Science Universitas Brawiijaya



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#### WELCOME MESSAGE FROM THE CONFERENCE CHAIR OF BIC STGDR 2022



Assalamu'alaikum Wr. Wb. Shalom, Om Swastiastu, Namo Budaya, Salam Kebajikan, Salam Sejahtera bagi kita semua. Good morning.

Honorable Dean of Faculty of Computer Science, Universitas Brawijaya, Prof. Wayan Firdaus Mahmudy. Vice Deans, Dr. Herman Tolle, Mr. Agus Wahyu Widodo, Mr. Arif Rahman. Distinguished keynote speakers Prof. Emad Takla from the National Research Institute of Astronomy and Geophysics, Egypt; Thomas Gadsden, Ph.D., and Anna Palagyi, Ph.D. from The George Institute for Global Health; Prof. Elisabeth Schroeder-Butterfill from the University of Southampton; Prof. Vidhya Venugopal from Sri Ramachandra University, India; and Prof. Wayan Firdaus

Mahmudy from Universitas Brawijaya, Indonesia.

We want to extend our warmest welcome to all participants of the 2022 the Brawijaya International Conference (BIC) on Science and Technology for Global Disaster and Resilience (STGDR). Now, we are in the "new normal" era. Due to that, this conference is held in a hybrid format. Presenters and Participants, thank you for joining us and it is my great pleasure and honor to welcome you all at the opening ceremony of the Brawijaya International Conference (BIC) on Science and Technology for Global Disaster and Resilience (STGDR) 2022 at the Faculty of Computer Science, Universitas Brawijaya. This conference is part of the Brawijaya International Conference series in 2022.

Global Assessment Report on Disaster Risk Reduction 2022 mentioned that gobal systems are becoming more connected and therefore more vulnerable in an uncertain risk landscape. Without increased action to build resilience to systemic risk, the United Nations Sustainable Development Goals cannot be achieved and the best defence against future shocks is to transform systems now, to build resilience by addressing climate change and to reduce the vulnerability, exposure and inequality that drive disasters.

This year, we received 45 papers submissions and after the reviewing process, the technical program committee selected 35 papers. I would like to express our gratitude to all authors and registered participants for your academic contributions at this conference. I would like to extend my gratitude and appreciation to the conference committee and all reviewers for their hard work.

Finally, with the online setting in the conference program, I hope all of you watching enjoy the conference. I believe that this conference will inspire fruitful discussions, make long-lasting friendships, initiate professional collaborations, and create beautiful memories. Thank you very much.

Thank you!

Sincerely yours,

Riswan Septriayadi Sianturi, Ph.D.

The BIC STGDR 2022 Conference Chair

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#### **CONFERENCE INFORMATION**

Date : November, 29<sup>th</sup> (Tuesday) 2022

Organizer : Faculty of Computer Science, Universitas Brawijaya

Venue : 🖄 Hybrid

**On site:** Auditorium Algoritma Building G, 2<sup>nd</sup> Floor, Faculty of Computer Science, Universitas Brawijaya

8 Veteran Street, 65145

Malang, Jawa Timur, Indonesia

**Online:** via Zoom Meeting

Official Language : English

Secretariat Rectorate Office Building, Universitas Brawijaya

Jl. Veteran Malang, East Java, Indonesia 65145

Malang, Jawa Timur, Indonesia

Email : bic.series@ub.ac.id

Web : https://ub.ac.id

Conference Website : <a href="https://bic-series.ub.ac.id/bic-stgdr/">https://bic-series.ub.ac.id/bic-stgdr/</a>

#### **COMMITTEES**

#### **Honorary Chair**

- Prof. Ariffin, Universitas Brawijaya, INDONESIA
- Prof. Iwan Triyuwono, Universitas Brawijaya, INDONESIA
- Prof. Widodo, Universitas Brawijaya, INDONESIA
- Prof. Unti Ludigdo, Universitas Brawijaya, INDONESIA

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#### **Conference Chair**

• Riswan Septriayadi Sianturi, Ph.D., Universitas Brawijaya, INDONESIA

#### **Conference Co-Chair**

- Novita Rosyida, Universitas Brawijaya, INDONESIA
- Hurriyatul Fitriyah, Universitas Brawijaya, INDONESIA

#### **Technical Program Committee Chair**

• Putra Pandu Adikara, Universitas Brawijaya, INDONESIA

#### **Technical Program Committees**

- Prof. Emad Takla, National Research Institute of Astronomy and Geophysics, EGYPT
- Prof. Elisabeth Schroeder-Butterfill, University of Southampton, ENGLAND;
- Prof. Vidhya Venugopal, Sri Ramachandra University, INDIA
- Agung Setia Budi, Ph.D., Universitas Brawijaya, INDONESIA
- Anna Palagyi, Ph.D., The George Institute for Global Health, AUSTRALIA
- Dr. Eng. Budi Darma Setiawan, Universitas Brawijaya, INDONESIA

- Eko Sakti Pramukantoro, Ph.D., Universitas Brawijaya, INDONESIA
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- Mahendra Data, Ph.D., Universitas Brawijaya, INDONESIA
- Rizal Setya Perdana, Ph.D., Universitas Brawijaya, INDONESIA
- Sujarwoto, Ph.D., Universitas Brawijaya, INDONESIA
- Thomas Gadsden, Ph.D., The George Institute for Global Health, AUSTRALIA
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- Sritanjung Bilgis, Universitas Brawijaya, INDONESIA
- Wava Akhirta Putra, Universitas Brawijaya, INDONESIA

# **SCOPE OF THE CONFERENCE**

То	pics of interest include, but may not restricted to:
$\leq$	Global Seismic Hazard
$\subseteq$	Water and Resource Engineering
$\subseteq$	Disaster Risk Reduction
$\subseteq$	Technology for Disaster Mitigation
$\subseteq$	Surveillance and Early Warning Systems
$\subseteq$	Social Networks and Stratification
$\subseteq$	Health System Research, Policy and Financing
$\subseteq$	Management Smart Technology and Artificial Intelligence
$\leq$	Post-Disaster Business Continuity and Economical Recovery
$\leq$	Psychology and Health Rehabilitation Related to Disaster
$\leq$	Community based disaster risk management
$\leq$	Corporate Social Responsibility and Conflict Resolution
$\subseteq$	Construction of Vulnerability and Gerontology

### **TECHNICAL PROGRAM**

Tuesday, November 29th, 2022-CONFERENCE			
Time (GMT+7)	Agenda		Location
07:00 - 07:30	Registration		G2 / ZOOM
07:30 - 08:30	Opening Speech		G2 / ZOOM
	Chief Executive Report Riswan Septriayadi Sianturi, Ph.D.		G2 / ZOOM
	1st Speech: Chair of the Board of Professors <b>Prof. Armanu Thoyib, Ph.D.</b>		G2 / ZOOM
	2 <sup>nd</sup> Speech: Head of Senate Academic of University Brawijaya <b>Prof. Dr. Ariffin</b>		G2 / ZOOM
	3 <sup>rd</sup> Speech: Rector of Universitas Brawijaya <b>Prof. Widodo, Ph.D.Med.Sc</b>		G2 / ZOOM
08:30 - 09:00	Coffee Break and Session transition		G2 / ZOOM
09:00 - 09:45	Keynote Speech I : Assoc. Prof. Emad Takla National Research Institute of Astronomy and Geophysics, Egypt		G2 / ZOOM
09:45 - 10:30	<b>Keynote Speech II: Anna Palagyi, Ph.D.</b> Center for Health System Science, The George Institute for Health, Australia	Global	ZOOM
10:30 - 11:15	Keynote Speech III : Thomas Gadsden, Ph.D.  Health Economics and Process Evaluation Program, The George Institute for Global Health, Australia		ZOOM
11:15 - 12:15	Lunch Break		G2
12:15 - 13:00	Keynote Speech IV: Prof. Vidhya Venugopal Occupational and Environmental Health, Sri Ramachandra Institute of Higher Education and Research, India	Parallel	ZOOM
13:00 - 13:45	Keynote Speech V: Assoc. Prof. Dr. Elisabeth Schroeder-Butterfill Gerontology, University of Southampton, United Kingdom	Session	ZOOM
13:45 - 14:30	Coffee break and Session transition		G2
14:30 - 15:15	14:30 - 15:15  Keynote Speech VI: Prof. Wayan Firdaus Mahmudy, Ph.D. Faculty of Computer Science, Universitas Brawijaya, Indonesia		G2 / ZOOM
15:15 - 16:00	Closing		G2 / ZOOM

<sup>\*)</sup> Time is in local time using Waktu Indonesia Barat (WIB)/Western Indonesia Time Zone (UTC+07:00)

Zoom Meeting information will be informed by email

#### **KEYNOTE SPEECH**

Main Room	November 29th, 2022
	09:00 - 09:45

 $\label{lem:constraints} Precursory\ Geomagnetic\ Signals\ Associated\ with\ Tectonic\ Activities$ 

Assoc. Prof. Emad Takla

Main Room November 29th, 2022 09:45 - 10:30

Anna Palagyi, Ph.D.

Main Room November 29th, 2022 10:30 - 11:15

Thomas Gadsden, Ph.D.

Main Room November 29th, 2022 12.15 - 13.00

Prof. Vidhya Venugopal

Main Room November 29th, 2022 13.00 - 13.45

Assoc. Prof. Dr. Elisabeth Schroeder-Butterfill

Main Room November 29th, 2022 14:45 - 15:15

**Artificial Intelligence for Disaster Resilience** 

Prof. Wayan Firdaus Mahmudy, Ph.D

# **PARALLEL SESSION**

PARALLEL SE	SSION: BIC1 November 29th, 2022 12:15 - 14:30	
[1994]	Community-based flood and landslides disaster management for mitigation of road networks performance: A qualitative study Andri Irfan Rifai, Joewono Prasetijo and Reiza Setiawan	
[6970]	Urban Heat Island Mitigation Strategies on Humid Tropic City Based on Public Participatory Jono Wardoyo	
[7434]	The Development model of the Disaster Communication Based on the CwC (Communication with Community) as a Post-Eruption Resilience Strategy at Mount Semeru on Affected Communities in Disaster-Prone Areas Syahirul Alim, Ika Rizki Yustisia and Danty Alifya Wildana	
[4384]	Design and Development Crowdfunding Website System Based on Artificial Intelligence of Indonesia Tourism Putri Oktaviani Syaiful, Tata Kharisma Mahardhika, Dita Nisa Al Rizqi, Muhammad Derry Ramadhan and Alexander Wicaksana	
[2032]	<b>Community Information Search Behavior in Natural Disaster</b> Hermawan Hermawan and Bq. Suci Martina F	
[5151]	Design and Development of Sales Management System Based on Website Tata Kharisma Mahardhika, Muhammad Derry Ramadhan, Dita Nisa Al Rizqi, Putri Oktaviani Syaiful and Alexander Wicaksana	

PARALLEL SESSI	ION: BIC2	November 29th, 2022 12:15 - 14:30
[2105]	Deep learning models (DLMs) and Knowledge graph (KG) applied artificial intelligence (AI) for healthcare services base on Natural Language processing (NLP) on data classification Pascal Muam Mah, Victor Aghaah Mah and Kilian Nyamka	
[2923]	A Machine Learning Model for Waste Classi Architecture Transfer Learning Erma Susanti and Eko Nur Cahyo	fication Using Xception
[5199]	Land Suitability Analysis for Cocoa (Theobr Using Multi-Criteria Decision Analysis (MCI Malang Regency) Alizza Iman Raddin, Hanifa Putri Rahima, Yesa and Riswan Septriayadi Sianturi	DA) Method (Case Study:
[6824]	Impact Analysis of Residential Land Expansin East Kalimantan Using Google Earth Engi	_

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Fritz Adriano, Septiah Cahyo Budi Laksono, Muhammad Devan Ryandra, Hokman Solideo Hakati and Riswan Septriayadi Sianturi

# [5113] Comparison Vector Autoregressive and Long Short Term Memory for forecasting Air Pollution Index In Jakarta

Ariska Fitriyana Ningrum, Agus Suharsono and Santi Puteri Rahayu

[6175] AQAS: Automatic Question-Answering System for Quick Response Natural Disaster Knowledge Management

Rizal Setya Perdana, Putra Pandu Adikara, Indriati Indriati and Diva Kurnianingtyas

PARALLEL SES	SSION: BIC3	November 29 <sup>th</sup> , 2022 12:15 - 14:30
[8375]	Time Series Intervention Analysis on Count Data of Foreign Tourist Arrivals with Log-linear Poisson AR and Poisson Autoregressive (PAR(p)) Veniola Forestryani, Hidayatul Khusna and Agus Suharsono	
[4212]	<b>Design of a CubeSat Constellation for Monitoring Hot Spots in Indonesian Forest Areas</b> Mohammad Sutarto, Muazam Nugroho and Mohammad Mukhayadi	
[1368]	<b>Critical Factors Affecting Warehouse Productivity Performance</b> Yeni Sumantri	
[9686]	Spatial Analysis of Strategic Level of Resident in Malang City I Made Yoga Adhitya, Achmad Wafi Makarim Riswan S Sianturi	
[9295]	Analysis of Forest Fire and Peatland Distr Using a Multi-Satellite Geographic Inform Eko Nur Cahyo and Erma Susanti	
[938]	UI/UX Design of Stunting Prevention Duri Period of Life Mobile Application Using Do Ahmad Izzan Kautsar, Hana Fabrianne, Latifa Adinda Hardiyanti and Riswan Septriayadi S	esign Thinking Method a Binti Cahyani, Putri

PARALLEL SES	SSION: BIC4	November 29 <sup>th</sup> , 2022 12:15 - 14:30
[2816] Digital platforms as mitigation tool in disaster-prone tourist villages Fadly Usman, Moch Rozikin, Mukhamad Fathoni and Wawargita P Wijayanti		•
[8451]	Tyre Rubber in Concrete	

Bhaskar Bhatt and Bhaskar Bhatt

Universitas Brawijaya

[8506]	Analysis of Urban Heat Island in Java Island using Google Earth Engine
	Naomi Davita Budiman, Farah Nadiyah Aulia, Nazwa Anandia, Hendra Darmawan, Muhammad Iqbal and Riswan Septriayadi Sianturi
[3587]	1D Steady Flow Flood Modeling of Bacoor River using LiDAR Digital Elevation Model
	Kirson Maynard Nodado and Federico Dela Pena
[2047]	Detection of Landslides based on IoT, Big Data, and Data Mining in Celebes Mountain Road Network
	Andri Irfan Rifai, Susanty Handayani and Joewono Prasetijo
[9554]	Identification of Vulnerability Area and Buildings Using UAV And
	3D Scanner In Lembang Fault Area
	Nitih Indra Komala Dewi, Wahyu Buana Putra, Try Ramadhan, Tutin Aryanti, Restu Minggra and Dian Fitria

November 29th, 2022

12:15 - 14:30

[463]	Ensuring Fair and Equitable Access of The Vaccine Covid-19: Learned from Health Policy and Covid-19 Vaccination Plan in Indonesia Rena Anisah Wahyuwanti and Christanti Yosefa
[7658]	<b>Spatial Distribution of Health Facilities in Batu City</b> Dhea Salsabila, Chofifa Hidayati, Della Izzah and Riswan Sianturi
[7727]	Finite Element Analysis of Dual Small Plate Fixation and Single Plate Fixation for Distal Clavicle Fracture Treatment Achmad As'Ad Sonief and Ilham Prabaswara
[2359]	Emergency Medical Team Universitas Brawijaya Responses during Mamuju Earthquake 2021: Minimum Data Sheet Analysis Aurick Yudha Nagara, Bintari Ratih Kusumaningrum, Sri Sunarti, Satria Pandu Persada Isma, Hanif Abdul Hamid, Ananto Satya Pradana Drajat, Dwiwardoyo Triyuliarto and Muhammad Irawan
[5951]	Development of Computational Medical Imaging Using Convolutional Neural Network Improved by Time-varying Particle Swarm Optimization and Extreme Learning Machine Imam Cholissodin, Sutrisno Sutrisno, Arief Andy Soebroto, Hera Dwi Novita, Sinta Murlistyarini, George Alexander Suwito and Nurul Hidayat

**PARALLEL SESSION: BIC5** 

PARALLEL SESSION: BIC6	November 29th, 2022
	12:15 - 14:30

[6813] Quantifying Earthquake Hazard Vulnerability in the West Aceh region and its surroundings

Juellyan, Bambang Setiawan and Muttaqin

- [9780] Identification for Geohazard Potential in Southern East Java Using Gravity Method Based on Satellite Data GGMPlus 2013
  Alvira Setyowati, Sukir Maryanto, Mayang Puspita and Emad Takla.
- [5183] Impact Analysis of Land Subsidence on National Road of Bts. Kota Sidoarjo Gempol Near West Side Sidoarjo Mud Volcano's Levee, Sidoarjo, East Java, Indonesia
  Yopi Delfian, Mahendra Andiek Maulana, Dwa Desa Warnana and Apri

Yopi Delfian, Mahendra Andiek Maulana, Dwa Desa Warnana and Apri Artoto

- [100] Parameter Estimation and Hypothesis Testing on Geographically & Temporally Weighted Bivariate Log-Normal Regression Models
  Sindi W. Pratiwi, Purhadi and Bambang W. Otok
- [695] Subsurface Analysis of National Road of Bts. Sidoarjo City Gempol Near West Side LuSi Embankment Using Geophysical Methods and Geotechnical Tests

Indriani Rety Habsari, Mahendra Andiek Maulana, Dwa Desa Warnana and Apri Artoto

