

# Table of contents

Volume 1752

2021

◀ Previous issue    Next issue ▶

**3rd International Conference on Statistics, Mathematics, Teaching, and Research 2019 9 – 10 October 2019, Makassar, Indonesia**

Accepted papers received: 21 December 2020

Published online: 15 February 2021

Open all abstracts

## Preface

**OPEN ACCESS** 011001

The 3<sup>rd</sup> International conference on Statistics, Mathematics, Teaching, and Research 2019 (The 3<sup>rd</sup> ICSMTR 2019)

+ Open abstract     View article     PDF

**OPEN ACCESS** 011002

Peer review declaration

+ Open abstract     View article     PDF

## Applied Mathematics and Statistics

**OPEN ACCESS** 012001

A mathematical modelling and numerical simulation of the *SIRS* political fanaticism figure voters model with presence of media in Indonesian presidential election

B Yong

+ Open abstract     View article     PDF

**OPEN ACCESS** 012002

Cyber Insurance Rate Making Based on Markov Model for Regular Networks Topology

Y Antonio and S W Indratno

+ Open abstract     View article     PDF

**OPEN ACCESS** 012003

SEIR Model and Simulation for Typus Disease

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012004

### Numerical Solution of SIRS model for Dengue Fever Transmission in Makassar City with Runge Kutta Method

W Sanusi, M I Pratama, M Rifandi, S Sidjara, Irwan and S Side

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012005

### An Over view on intuitionistic fuzzy topological spaces

M Abdy, S Zenin and Irwan

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012006

### Mathematical Modelling for Event Occurrence Rainbow Secondary

M Rifandy, Rahmawati and S Side

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012007

### SEIR Mathematical Model of Seizure fever in Infants Under 5 Years Old in Makassar City

S Side, I Sari and W Sanusi

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012008

### Comparing the performance of $T^2$ chart based on PCA Mix, Kernel PCA Mix, and Mixed Kernel PCA for Network Anomaly Detection

M Mashuri, M Ahsan, H Kuswanto, D D Prastyo, H Khusna and Wibawati

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012009

### A Regression-Based Approach for Mediation Analysis with Censored Data

N A Salehah and Suhartono

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012010

### Bringing Real Analysis Subject Into Real Life: an Experimental Research for Prospective Teacher of Mathematics Study Program Using Realistic Mathematics Education

N W Ashari and Salwah

[+ Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, [View our Privacy and Cookies policy.](#)

012011



## A Novel Hybrid Mgstar-Rnn Model for Forecasting Spatio-Temporal Data

V O N Laily, Suhartono, E Pusporani and R M Atok

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012012

## A Hybrid Generalized Space-Time Autoregressive-Elman Recurrent Neural Network Model for Forecasting Space-Time Data with Exogenous Variables

E Setyowati, Suhartono and D D Prastyo

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012013

## A Hybrid GSTARX-Jordan RNN Model for Forecasting Space-Time Data with Calendar Variation Effect

F Hikmawati, Suhartono and D D Prastyo

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012014

## Evaluating the K-Means Analysis in Clustering Area Based on Estates Productivity in Tana Luwu Using Silhouette Index

B Poerwanto

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012015

## A MGSTAR: An Extension of The Generalized Space-Time Autoregressive Model

Suhartono, N Nahdliyah, M S Akbar, N A Salehah and A Choiruddin

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012016

## Bivariate Poisson Inverse Gaussian Regression Model with Exposure Variable: Infant and Maternal Death Case Study

S Mardalena, Purhadi, J T D Purnomo and D D Prastyo

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012017

## Parameter Estimation of Multivariate Adaptive Regression Spline (MARS) with Stepwise Approach to Multi Drug-Resistant Tuberculosis (MDR-TB) Modeling in Lamongan Regency

S D P Yasmirullah, B W Otok, J D T Purnomo and D D Prastyo

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012018

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).  
Modeling of Human Development Index in Papua Province Using Spline Smoothing Estimator in Nonparametric Regression



D P Rahmawati, I N Budiantara, D D Prastyo and M A D Octavanny

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012019

Modeling of Children Ever Born in Indonesia Using Fourier Series Nonparametric Regression

M A D Octavanny, I N Budiantara, H Kuswanto and D P Rahmawati

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012020

Monitoring ZA Fertilizer Production using Multivariate Maximum Chart Based on Bootstrap Control Limit

R Kruba, M Mashuri and D D Prastyo

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012021

Naïve Bayes Classifier and Particle Swarm Optimization Feature Selection Method for Classifying Intrusion Detection System Dataset

A S Talita, O S Nataza and Z Rustam

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012022

Bayesian Mixture Generalized Extreme Value Regression with Double-Exponential CAR Frailty for Dengue Haemorrhagic Fever in Pamekasan, East Java, Indonesia

D Rantini, N Iriawan and Irhamah

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012023

An Empirical Study to Determine Crop Insurance Premium Using Survival Analysis

P Hasanah, M Azka, R Herliansyah and N L Payung

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012024

Highest Posterior Distribution (HPD) Control Chart for Individual Observation

H Khusna, M Mashuri and M Ahsan

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012025

Small area estimation with application to households with energy-saving lamps estimates in Java Island, Indonesia

T H Siagian, I Y Wulansari and E Pasaribu

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more,

[see our Privacy and Cookies policy](#) [View article](#) [PDF](#)



- 
- OPEN ACCESS** 012026  
Logistic Regression Model of Relationship between Breast Cancer Pathology Diagnosis with Metastasis  
M N Bustan and B Poerwanto  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012027  
Estimating Households that Handle Their Domestic Waste in Not Eco-Friendly Ways in Indonesia: An Application of Small Area Estimation Technique  
Sukim, A Ubaidillah, R Kurniawan and T H Siagian  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012028  
Compound-Target Prediction and Network-Target Analysis on Jamu Formula  
N H A Syahrir, Sumarheni and M Hasbi  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012029  
Stability Analysis of Genotype the Local Red Union Palu to determine the Cultivation Location using Additive Main Effect and Multiplicative Interaction (AMMI)  
Fadjryani, Junaidi and Riski  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012030  
Feature Selection using Simulated Annealing with Optimal Neighborhood Approach  
A Syaiful, B Sartono, F M Afendi, R Anisa and A Salim  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012031  
Kernel Based Comparison between Fuzzy C-Means and Support Vector Machine for Sinusitis Classification  
R A Putri, Z Rustam, J Pandelaki and N Salmi  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012032  
Pancreatic Cancer Classification Using the Kernel-based Support Vector Machine (KSVM)  
R Khairi, S G Fitri and Z Rustam  
[+ Open abstract](#) [View article](#) [PDF](#)

## Fuzzy C-Means Clustering with Minkowski and Euclidean Distance for Cerebral Infarction Classification

R Khairi, S G Fitri, Z Rustam and J Pandelaki

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012036

### Prediction Insolvency of Insurance Companies Using Random Forest

Z Rustam and G Saragih

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012037

### Preprocessing Unbalanced Data using Support Vector Machine with Method K-Nearest Neighbors for Cerebral Infarction Classification

A G M Sari, A M Putri, Z Rustam and J Pandelaki

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012038

### Classification of sinusitis using kernel three-way c-means

S Hartini, Z Rustam, J Pandelaki, M Prasetyo and R E Yunus

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012039

### Schizophrenia Classification Using Fuzzy Kernel C-Means

S Hartini and Z Rustam

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012040

### Kernel Entropy Based Fuzzy C-Means (KEFCM) for Acute Sinusitis

Z Rustam, N Shandri, T Siswantining and J Pandelaki

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012041

### Classification of Cerebral Infarction Data Using K-Means and Kernel K-Means

A M Putri, A G M Sari, Z Rustam and J Pandelaki

[+ Open abstract](#) [View article](#) [PDF](#)

**OPEN ACCESS**

012042

### Comparison between Fisher's Ratio and Information Gain with SVM classifier for 3 levels of enthusiasm classification through face recognition

Z Rustam, Andrea Laksmirani Kristina and Y Satria

[+ Open abstract](#) [View article](#) [PDF](#)  
 This site uses cookies. By continuing to use this site, you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



- 
- OPEN ACCESS** 012043  
Prostate Cancer Classification Using Random Forest and Support Vector Machines  
Z Rustam and N Angie  
[+](#) Open abstract [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012044  
Classification of Infarction using Random Forest  
S H Rukmawan, F R Aszhari, Z Rustam and J Pandelaki  
[+](#) Open abstract [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012045  
Cerebral Infarction Classification Using the K-Nearest Neighbor and Naive Bayes Classifier  
S H Rukmawan, F R Aszhari, Z Rustam and J Pandelaki  
[+](#) Open abstract [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012046  
Leroux Spatial Model for Mapping the Relative Risk of Dengue Fever in Makassar  
S A Thamrin, Rosdiana, A K Jaya and Ansariadi  
[+](#) Open abstract [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012047  
Estimation of Relative Risk of Dengue Fever in Makassar Using Localized Bayesian Autoregressive Conditional Model  
S A Thamrin, R Khaerati, A K Jaya and Ansariadi  
[+](#) Open abstract [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012048  
Spatial Econometric Model for Mapping Poverty Area in West Sulawesi  
Asrirawan Asrirawan, Rahmawati, Hikmah and M Abdy  
[+](#) Open abstract [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012049  
Handling Incomplete Data with Regression Imputation  
S Annas, P Kartikasari and R Arisandi  
[+](#) Open abstract [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012050  
Bias Not Linear Prediction Method The Best for Small Area on Empirical Suspect Spending Per Capita (Case: South Sulawesi Province District Gowa)  
M Nurrajes Sudatrin, S Annas, Asfar and Z Rai  
[+](#) Open abstract [View article](#) [PDF](#)

This website uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



## Biological Science

OPEN ACCESS

012051

Effect of Brotowali Extract Fortification of Papaya Leaves And Sugar Cane Caries on Diabetes Mellitus Type II

A.Bida Purnamasari and Rusdianto

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012052

Morphometric Variations of *Nerita Lineata* Gmelin 1791 in Different Mangrove Age Groups in the Ecosystem

M Yunus and A N Samsi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012053

Isolation And Identification of Secondary Methabolites Compound of *Moringa Oleifera* Lamk Leaf Acetic Ethyl Extract

Sudding and N Herawati

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012054

Analysis The Effect of the Use Seaweed (*Eucheuma cottonii*) as The Substitution Material to Tapioca Flour on The Quality of Snakehead Fish (*Channa striata*) Nugget

E S Kaseng and F W Suhaeb

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012055

The Role of Technopreneurship on Development of Noodles and Testless Bread Products From Cassava (*Manihot Esculenta*)

J Saludung and A Pramezwarly

[+ Open abstract](#) [View article](#) [PDF](#)

## Chemical Science

OPEN ACCESS

012056

The Effect of Differences in Extraction of Cassia Siamea.Lamk Leaves in Etoh 70% and Etoh 90% Against The Inhibition of The A-Glucosidase Enzyme

H Tanty, Aryusmar, S D Permai and Bustanussalam

[+ Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.

012056



## Gas Chromatography-Mass Spectrometry (GC-MS) Analysis and Antioxidant Activity of Sea-Cucumber (*Holothurian atra* and *Holothurian edulis*) From Selayar Island

A Muflihunna, A Mu'nisa, Yusminah Hala and Hasri

[+](#) Open abstract [View article](#) [PDF](#)

---

OPEN ACCESS

012058

### The Effect Of Microwave Irradiation on Synthesis of Gold Nanoparticles Using Ethanol Extract of White Bol Guava Leaves

Suriati Eka Putri, Diana Eka Pratiwi and Sumiati Side

[+](#) Open abstract [View article](#) [PDF](#)

---

OPEN ACCESS

012059

### The Comparison of Optimum Conditions for Lead (Pb) Analysis Method using DITHIZONE and EDTA Complex in Seaweeds (*Eucheuma spinosum*)

M Syahrir, M Wijaya and R Irmayani

[+](#) Open abstract [View article](#) [PDF](#)

---

## Education and Communication

---

OPEN ACCESS

012060

### Type Curiosity of Students Learned by Discovery-Based Contextual Models and Direct Learning Models on Acid Base Topic

Sugiarti and Halimah Husain

[+](#) Open abstract [View article](#) [PDF](#)

---

OPEN ACCESS

012061

### Characters of Senior High School Students in Cooperative-Based Learning Reviewed from Mathematics Learning Achievement

M Ilyas, Ma'rufi, A Fitriani and Karmila

[+](#) Open abstract [View article](#) [PDF](#)

---

OPEN ACCESS

012062

### Using Cooperative Learning Models of The Bamboo Dancing Type to Improve the Skills of 4C Students

Arvyaty, Salim, Kadir, Kodirun, Ruslan and Hariani

[+](#) Open abstract [View article](#) [PDF](#)

---

OPEN ACCESS

012063

### Students' Multiple Intelligence in Visualization of Mathematics Problem Solving

St Z Nurhajarurahmah

[+](#) Open abstract [View article](#) [PDF](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



- 
- OPEN ACCESS** 012064  
The Application of Cooperative Learning Type Group Investigation to Improve Students' Learning Activities and Learning Outcomes  
Fitriani  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012065  
The Implementation of Improve Method Using LCD Media and Its Effect on Student's Learning Outcome  
Nurhuda and Zakir Has  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012066  
The Use of Google Classroom Application in a Blended Learning Environment  
Jamiludin, Darnawati, W A S Uke and Salim  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012067  
Analyzing Conceptual and Procedural Knowledge of Geometry Among Prospective Teachers: Indonesian Perspective  
Yurniwati and D A Soleh  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012068  
The Effect of Cooperative Learning Model Type Team Games Tournament (TGT) with Play Wheel Media on Students' Interest in Biology Education STKIP Pembangunan Indonesia  
P A Azis and N D Pertiwi  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012069  
Gap Analysis of University Online Learning Website from Students' Perspectives: A Case from Telkom University, Indonesia  
M Pradana, M D Rahmawan, S Wahyuddin and R Imam  
[+ Open abstract](#) [View article](#) [PDF](#)
- 
- OPEN ACCESS** 012070  
Changes in Indonesian EFL Lecturers' Technological Pedagogical Content Knowledge (TPACK) After Lesson Study  
E Darsih, D Suherdi and Safrina  
[+ Open abstract](#) [View article](#) [PDF](#)

## Pre-service elementary school teachers' reasoning profile in solving geometry problems based on mathematics ability

Rosdiana, I K Budayasa and A Lukito

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012072

## Development of Metacognitive Learning Model Device oriented by HOTS to Improve Students Mathematical Literation

S I Masrura, N Indrawati, A A Syahri, Subanji and Sukoriyanto

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012073

## Probabilistic Thinking of Senior High School Students with Low Mathematical Abilities in Solving Probability Tasks

R Raya, St. Suwarsono and A Lukito

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012074

## Use of Preprint in the Publication of the Scientific Papers

E Rustan

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012075

## Development of the Basic Concept Assessment of SD/MI Mathematics Based KKNI Curriculum

N. P Munir and A. Anas

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012076

## Application of Interactive Audio Visual Media to Improve Students' Creative Thinking Skill

Muh Tawil and Ahmad Dahlan

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012077

## Managing Hybrid Learning Model: Web Enhanced Course Media in Physics Learning

A Yani, Nurhayati and A Dahlan

[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS**

012078

## The Use of Metacognitive Strategies in Solving Mathematical Problems

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).



[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012079

Study of Clarification Android Based Worksheet of Topic Cartesian Coordinate at Level Junior Secondary

Nasrullah, Suradi and Hamda

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012080

An Analysis of Students' Mathematical Problem Solving Skill in Completing Multiplication and Division of Fractions

A M Marwati and B Mas'ud

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012081

Learning Trajectory in Mathematical Proof

I Minggi, U Mulabar and S F Assagaf

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012082

Students' Understanding on Formal Definition of Limit

Nurdin, S F Assagaf and F Arwadi

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012083

Correlation between Teacher Guidance and Parent with Chemical Literation Ability of Junior High School Student

Sugiarti, U Mulbar, Adnan and A Bahri

[+ Open abstract](#) [View article](#) [PDF](#)

OPEN ACCESS

012084

Biology Science Literacy of Junior High School Students in South Sulawesi, Indonesia

Adnan, U Mulbar, Sugiarti and A Bahri

[+ Open abstract](#) [View article](#) [PDF](#)

## Engineering and Computer Science

OPEN ACCESS

012085

Viterbi Algorithm and Its Application to Indonesian Speech Recognition

Z Hatala and F Puturuhi

[+ Open abstract](#) [View article](#) [PDF](#)

This site uses cookies. By viewing this page you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



---

**OPEN ACCESS** 012086  
Measurement of Crack Damage Dimensions on Asphalt Road Using Gabor Filter  
D R Sulistyaningrum, B Setiyono, J N Anita and M R Muheimin  
[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS** 012087  
Estimation of Vehicle Speed at Night Based on Rear Lights  
B Setiyono, D Ratna, M F Ilmi and I G N R Usadha  
[+ Open abstract](#) [View article](#) [PDF](#)

---

## Environmental and Earth science

---

**OPEN ACCESS** 012088  
Mangrove Changes in Pannikiang Island Barru Regency South Sulawesi  
Jaelani, A Malik and A R Djalil  
[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS** 012089  
Mangrove Forest Management Strategy as A Sustainable Production Forest Area in Luwu District, South Sulawesi Province, Indonesia  
A Arfan, R Maru, S Side, M R Abidin and U Sideng  
[+ Open abstract](#) [View article](#) [PDF](#)

---

**OPEN ACCESS** 012090  
Characteristics of Disaster Mitigation Training Model in South Sulawesi  
F Daud, Adnan, A Bahri, A N Arifin and A C Pratiwi  
[+ Open abstract](#) [View article](#) [PDF](#)

## JOURNAL LINKS

---

[Journal home](#)

---

[Journal Scope](#)

---

[Information for organizers](#)

---

[Information for authors](#)

---

[Contact us](#)

---

[Reprint services from Curran Associates](#)

This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our [Privacy and Cookies policy](#).



This site uses cookies. By continuing to use this site you agree to our use of cookies. To find out more, see our Privacy and Cookies policy.



PAPER • OPEN ACCESS

## The 3<sup>rd</sup> International conference on Statistics, Mathematics, Teaching, and Research 2019 (The 3<sup>rd</sup> ICSMTR 2019)

To cite this article: 2021 *J. Phys.: Conf. Ser.* **1752** 011001

View the [article online](#) for updates and enhancements.



**IOP | ebooks™**

Bringing together innovative digital publishing with leading authors from the global scientific community.

Start exploring the collection—download the first chapter of every title for free.

# The 3<sup>rd</sup> International conference on Statistics, Mathematics, Teaching, and Research 2019 (The 3<sup>rd</sup> ICSMTR 2019)

## Forewords

On behalf of the organizing committee, it is a great pleasure to extend a warm welcome to all readers for the 3<sup>rd</sup> International Conference on Statistics, Mathematics, Teaching, and Research (ICSMTR) 2019 proceeding. This is a two-year conference on the field of statistics, mathematics, science, and education. The conference organized by the Faculty of Mathematics and Natural Sciences, Universitas Negeri Makassar, Indonesia. The conference conducted in two days 9<sup>th</sup> to 10<sup>th</sup> of October 2019 with one keynote speaker, nine invited speakers, 137 parallel speakers from different backgrounds, and 101 accepted paper submitted to IOP.

I also would like to express my gratitude and sincere thanks to the keynote, invited and all parallel speakers for spending their valuable time and sharing their thoughts and works with us in the conference. I do hope that this conference would bring a great opportunity for all of us to gain new ideas, improve our knowledge, and enhance collaboration between researchers.

Lastly, I do hope that this proceeding contribute for the knowledge especially in the field of Statistics, Mathematics, Science, and Education. I also would like you taking opportunity to meet again in the next ICSMTR 2021.

Best regard,

**Dr. Ruliana**

- Chairman of ICSMTR 2019
- Department of Statistics, Universitas Negeri Makassar, Indonesia
- [ruliana@unm.ac.id](mailto:ruliana@unm.ac.id)





## 1. Committee Member

### *Steering Committee:*

1. Prof. Dr. H. Husain Syam, M.TP (Rector of Universitas Negeri Makassar)
2. Prof. Dr. rer.nat Muharram, M.Si (Vice rector for Academic affairs, Universitas Negeri Makassar)
3. Dr. H. Karta Jayadi, M.Sn. (Vice rector for finance, Universitas Negeri Makassar)
4. Dr. H. Arifuddin Usman, M.Kes. (Vice rector for students affairs, Universitas Negeri Makassar)
5. Prof. Dr. Ir. H. Gufran D. Dirawan, M.EMD (Vice rector for development, Universitas Negeri Makassar)
6. Drs. Suwardi Annas, M.Si., Ph.D. (Dean of Faculty of Mathematics and Naturas Sciences, Universitas Negeri Makassar)
7. Dr. Awi Dassa, M.Si. (Vice Dean for Academic Affairs of Faculty of Mathematics and Naturas Sciences, Universitas Negeri Makassar)
8. Dra. Hj. Sumiati Side, M.Si. (Vice Dean for finance of Faculty of Mathematics and Naturas Sciences, Universitas Negeri Makassar)
9. Drs. H. A. Sukri Nyompa, SH, M.Si., Ph.D. (Vice Dean for student affairs of Faculty of Mathematics and Naturas Sciences, Universitas Negeri Makassar)
10. Dr. Andi Asmawati Azis, M.Si. (Vice Dean for Development of Faculty of Mathematics and Naturas Sciences, Universitas Negeri Makassar)
11. Dr. Suhartono, M.Sc. (Chair of FORSTAT)
12. Dr. Nurdin, M.Si. (Cahir of IndoMS Sulawesi)
13. Dr. Asdar, S.Pd., M.Pd. (Mathematics Department, Universitas Negeri Makassar)
14. Dr. Ahmad Yani, M.Si. (Physics Department, Universitas Negeri Makassar)
15. Dr. Abdul Muis, M.Si. (Biology Department, Universitas Negeri Makassar)
16. Dr. Muhammad Anwar, M.Si. (Chemistry Department, Universitas Negeri Makassar)
17. Drs. Nur Zakaria Leo, M.Si. (Geography Department, Universitas Negeri Makassar)
18. Prof. M. Arif Tiro, Ph.D. (Statistics Department, Universitas Negeri Makassar)
19. Dr. Ratnawaty Maming, M.Si. (Science Department, Universitas Negeri Makassar)

### *Scientific Committee:*

1. Professor Kerrie Mengersen (Quendsland University of Technology, Australia)
2. Abbas Panakkal, Ph.D. (Social Study, Madin Academia for Research and International Study, India)
3. Professor Richard W. Wong (Kanazawa University, Jepang)
4. Professor Benoit Liquet Ph.D (University of Pau and Pays de l'Adour, France)
5. Professor Wan-Haw Chen, Ph.D (Tunghai University, Taiwan)
6. Professor. Ahmad A. Bahnassy (Faculty of Medicine, King Fahad Medical City, Saudi Arabia)
7. Professor Idir Ouassou (Ecole Nationale des Sciences Appliquees, Marakech, Maroko)
8. Professor Muhammad Arif Tiro (Universitas Negeri Makassar, Indonesia)
9. Professor Hamzah Upu (Universitas Negeri Makassar, Indonesia)
10. Prof. Dr. Syafruddin Side, M.Si. (Mathematics, UNM)
11. Prof. Dr. M. Arif Tiro, Ph.D. (Statistics, UNM)
12. Prof. Dr. Hamzah Upu, M.Ed. (Mathematics, UNM)
13. Abbas Panakkal, Ph.D. (Social Study, Madin Academia for Research and International Study, India)
14. Dr. Suhartono, M.Si. (Chair of FORSTAT)
15. Prof. Dr. dr. M. Nadjib Bustan, MPH (Statistics, UNM)
16. Drs. Subaer, M.Phil, Ph.D. (Physics, UNM)
17. Zulfikar, S.Si., M.Sc., Ph.D. (Chemistry, UNM)
18. Sitti Faika, Ph.D. (Chemistry, UNM)
19. Prof. Oslan Jumadi, Ph.D. (Chemistry, UNM)
20. Dr. Arsad Bahri, S.Pd., M.Pd. (Biology, UNM)
21. Dr. Rahmat Syam, ST., M.T. (Mathematics, UNM)
22. Dr. Muhammad Abdy, S.Si., M.Si. (Mathematics, UNM)
23. Abdul Malik, Ph.D. (Geography, UNM)
24. Uca, S.Si., M.Si., Ph.D. (Geography, UNM)

25. Dr. Rosmini Maru, S.Pd., M.Si. (Geography, UNM)
26. Dr. Ramlawati, M.Si. (Geography, UNM)

*Organizing Committee*

- Chair of Committee : Dr. Ruliana, S.Pd., M.Si. (Statistics, UNM)  
Vide Chair of Committee : Nurwati Jam'an, S.Pd., M.Pd., Ph.D (Mathematics, UNM)

*Secretary:*

1. Ansari Saleh Ahmar, S.Si., M.Sc. (Statistics, UNM)
2. Fajar Arwadi, S.Pd., M.Sc. (Mathematics, UNM)

*Treasurer:*

1. Wahidah Sanusi, S.Si., M.Si., Ph.D. (Mathematics, UNM)
2. TP. Harmah M, S.E. (FMIPA, UNM)

*Administration Section:*

1. Muhammad Kasim Aidid, S.Si., M.Si (Statistics, UNM)
2. Kamaruddin, S.Sos., M.Si. (FMIPA, UNM)
3. Alauddin, S.Sos. (FMIPA, UNM)
4. Dr. Erman Syarif, M.Pd. (Geography, UNM)
5. Drs. Muh. Nusrang, M.Si. (Statistics, UNM)
6. Sudarmin, S.Si., M.Si. (Statistics, UNM)
7. Ahmad Zaki, S.Si., M.Si. (Mathematics, UNM)
8. Sutamrin, S.Si., M.Pd. (Mathematics, UNM)
9. Herman, S.Si., M.Si. (Physics, UNM)
10. Vistarani Arini Tiwow, M.Si (Physics, UNM)
11. Arifah Novia Arifin, S.Pd., M.Pd. (Biology, UNM)
12. Muh. Fahmuddin, S.Si., M.Si. (Statistics, UNM)
13. Zakiyah Mar'ah, S.Si., M.Si. (Statistics, UNM)

*Editing and Publication Section:*

1. Said Fachri Assagaf, S.Pd., M.Sc. (Mathematics, UNM)
2. Amal, S.Si., M.Si., Ph.D. (Geography, UNM)
3. Sahlan Sidjara, S.Si., M.Si. (Mathematics, UNM)
4. Irwan, S.Si., M.Si. (Mathematics, UNM)
5. Zulkifli Rais, S.Pd., M.Si. (Statistics, UNM)
6. Sahribulan, S.Si., M.Si. (Biology, UNM)
7. Saparuddin, S.Pd., M.Si. (Biology, UNM)
8. Dian Dwi Putri U.S.P, S.Pd., M.Pd. (Biology, UNM)
9. Vicran Zharvan, S.Si., M.Si. (Physics, UNM)
10. Ahmad Dahlan, S.Pd., M.Pd. (Science, UNM)
11. Dinil Qaiyimah, S.Pd., M.Sc. (Geography, UNM)
12. Syamsunardi, S.Pd., M.Pd. (Geography, UNM)
13. Syamsuddin Mas'ud, S.Pd., M.Sc. (Mathematics, UNM)
14. Arie Arma Arsyad, S.Pd., M.Pd. (Science, UNM)

*Program Planning Section:*

1. Sabri, S.Pd., M.Sc. (Mathematics, UNM)
2. Aswi, S.Pd., M.Sc. (Statistics, UNM)
3. Drs. Abdul Haris Bakri, M.Si. (Physics, UNM)
4. Dr. Fatma Hiola, MP (Biology, UNM)
5. Hartati A. Ahmad, S.Si., M.Si., Ph.D. (Biology, UNM)
6. Nasrullah, S.Pd., M.Pd. (Mathematics, UNM)
7. Syahrullah, S.Pd., M.Pd. (Mathematics, UNM)
8. Muhammad Husnul Khuluq, S.Pd., M.Sc. (Mathematics, UNM)

9. Nita Maghfirah Ilyas, S.Si., M.Si. (Chemistry, UNM)
10. Munawwarah, S.Pd., M.Pd. (Chemistry, UNM)
11. A. Sri Astika Wahyuni, S.Pd., M.Pd. (Physics, UNM)
12. Muh. Rais Abidin, S.Pd., M.Pd. (Geography, UNM)
13. Rifda Nur Hikmawati Arif, S.Pd., M.Pd. (Science, UNM)
14. A. Citra Pratiwi, S.Pd., M.Ed. (Biology, UNM)

*Accommodation Section:*

1. Ulfah, SH., MM (FMIPA, UNM)
2. Sawiah, S.E. (FMIPA, UNM)
3. St. Masita, S.Kom., MM(FMIPA, UNM)
4. Muhlis (FMIPA, UNM)
5. Hasrul Nuru H. (FMIPA, UNM)
6. M. Rizal B, SH. (FMIPA, UNM)
7. M. Miftach Fakhri, S.Pd. (FMIPA, UNM)
8. Adi Isnain, S.Pd. (FMIPA, UNM)
9. A. Sri Rahayu Sukri, SE. (FMIPA, UNM)

*Funding and Sponsorship Section:*

1. Drs. Haksani, M.Pd. (Chemistry, UNM)
2. Dr. Hilda Karim, M.Si. (Biology, UNM)
3. Dr. Hasri, M.Si. (Chemistry, UNM)
4. Dr. A. Mu'nisa, M.Si. (Biology, UNM)
5. Andi Indra Jaya, S.Stat. (Statistics, UNM)
6. Riangkaryaman, S.Stat. (Statistics, UNM)
7. Muhammad Ahkamal Ahmad (Statistics, UNM)
8. M. Surianto Tri Saputra, S.Kom. (Statistics, UNM)
9. Rahmat Karunia Galib, ST. (Statistics, UNM)

3. Documentation

Poster

# THE 3<sup>rd</sup> ICSMTR 2019

*International Conference on Statistics, Mathematics, Teaching, and Research*



Faculty of Mathematics and Natural Science  
Universitas Negeri Makassar

## and Workshop

Big Data and Expectations in Academic Writings for Higher Degree Research

Detail Information at: <http://icsmtr.conf.unm.ac.id/>

October 09-10, 2019

*Claro Hotel*

Jl. AP Pettarani No.3 Makassar

INTERNATIONAL CONFERENCE

\*Statistics, Mathematics, Sciences, and Teaching on Advanced Multidisciplinary Research of High Quality Publications for Better Human Life Innovation Orientation\*

KEYNOTE SPEAKER



**Professor Dr. Husain Syam, M.TP**  
(Rector of Universitas Negeri Makassar)

INVITED SPEAKERS



**Distinguished Professor Kerrie Mengersen**  
(Queensland University of Technology, Australia)



**Abbas Panakkal, Ph.D**  
(Director, International Interfaith Initiative, Director, Ibn Batuta International Centre for Intercultural Studies, India)



**Professor Richard W. Wong**  
(Kanazawa University, Japan)



**Professor Benoit Liquet, Ph.D.**  
(University of Pau and Pays de l'Adour, France)



**Professor Wen-Haw Chen Ph.D**  
(Tunghai University, Taiwan)



**Professor Ahmad A. Bahnassy**  
(Faculty of Medicine, King Fahad Medical City, Saudi Arabia)



**Professor Idir Ouassou**  
(Ecole Nationale des Sciences Appliquees, Marakech, Maroko)



**Professor Muhammad Arif Tiro**  
(Universitas Negeri Makassar, Indonesia)



**Professor Hamzah Upu**  
(Universitas Negeri Makassar, Indonesia)

Selected Papers will be Submitted for Publication in Scopus Indexed:

- 1) Proceeding: Springer Lecturer Notes of the Institute for Computer Science, Social Informatics and Telecommunications Engineering (LNICST)
- 2) Journal of Physics: Conference Series (IOP Publishing)

Sinta Indexed Journal (S4): Sainsmat Journal

WORKSHOP October 08, 2019

SPEAKERS



**Distinguished Professor Kerrie Mengersen**  
Queensland University of Technology, Australia  
**Theme:** "Big Data for Higher Degree Research"



**Abbas Panakkal, Ph.D**  
(Director, International Interfaith Initiative, Director, Ibn Batuta International Centre for Intercultural Studies, India)  
**Theme:** "Expectations in Academic Writing for Higher Degree Research"

Payment Information

	WORKSHOP	
International Participant	USD 53	
Local Participant	IDR 750.000	
CONFERENCE		
	Early	Regular
International Presenter	USD 300	USD 325
Local Presenter	IDR 2.750.000	IDR 3.000.000
International Participant	USD 75	USD 100
Local Participant	IDR 750.000	IDR 1.000.000

Abstract and full paper should be sent to the email: [icsmtr\\_2019@unm.ac.id](mailto:icsmtr_2019@unm.ac.id)  
The registration fee should be paid by Bank transfer:

Wahidah Sanusi  
Mandiri Bank

174-000-0-865-840

SWIFT CODE  
**BMRIJA**

TIMELINE

**Deadline of Early Registration:**  
Presenter (August 07, 2019)  
Participant (October 01, 2019)

**Deadline of Registration:**  
Presenter (September 07, 2019)  
Participant (October 07, 2019)

**Deadline of Abstracts Submission (September 30, 2019)**  
Announcement of Selected Abstracts (October 03, 2019)  
Acceptance of Full Papers (October 07, 2019)

**Contact Person:**  
Dr. Rufiana, S.Pd., M.Si.  
(+6281241851066)  
Prof. Syafruddin Side, Ph.D.  
(+6281342258671)  
Wahidah Sanusi, S.Si., M.Si., Ph.D.  
(+6281342182872)  
Nurwati Jam'an, S.Pd., M.Pd., Ph.D.  
(+628123672046)  
email : [icsmtr\\_2019@unm.ac.id](mailto:icsmtr_2019@unm.ac.id)

SECRETARIAT

3<sup>rd</sup> floor IOP Building, Faculty of Mathematics and Natural Science, Kampus UNM Perintisdieng, Makassar, Indonesia, Phone: +62-411-894036, Fax: +62-411-880968.

Organized by



Faculty of Mathematics and Natural Science  
Universitas Negeri Makassar

Supported by





**The Committee Members, the speakers, and audiences**



**The Dean of Faculty of Mathematics and Natural Sciences, UNM and the best presenters on the 3<sup>rd</sup> ICSMTR 2019**



**The Committee Members**



