Overview of the Third International Conference on Science (ICOS) 2019

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Abstract. The Third ICOS 2019 was hosted by Hasanuddin University, Makassar, Indonesia and held in Makassar Indonesia in July 26-27, 2019 at the Four Points by Sheraton Hotel, Jalan Andi Djemma No. 130, Makassar 90222 Indonesia. This overview describes the main directions and results of the Third International Conference on Science. It gives the details about the participants and the proceedings.

1. A message from the chairman
Bismillahirrohmanirrohiim
The honorable:
• Rector of Hasanuddin University
• Dean of Faculty of Mathematics and Natural Science

Distinguished guests, our keynote speakers:
• Professor Ocky, from The Ministry of Research, Technology and Higher Education of the Republic of Indonesia
• Professor Jalifah Latip, from The Universiti Kebangsaan Malaysia
• Professor Young, from The University of Melbourne, Australia
• Professor Tan, from The University of Waterloo Canada

Ladies and gentlemen
Assalamu alaikum warahmatullahi wabarakatuh
Good morning everyone

On behalf of the 3rd ICOS organizing committee, I am honored and delighted to welcome you to the third International Conference on Science (ICOS2019) at The Four Points Hotel, Makassar. This 3rd ICOS is hosted by Hasanuddin University, a state university which is supposed to be the largest one especially in the eastern part of Indonesia with about 40 thousands students.

First of all, let me just quickly introduce our keynote speakers.

Professor Jalifah Latip, from The Universiti Kebangsaan Malaysia, working mainly in Chemistry with very broad applications such as Pharmacology, Genetics/Molecular Biology, Environmental Science, Immunology/Microbiology, and Materials Science. According to Scopus,
about 85 documents have been written by Professor Latip with more than 600 citations. Professor Latip, just to let you know, our Chemistry bachelor study program has recently got an international accreditation so that by the regulation we are eligible to pursue a teaching class for international students. And so we are expecting to have collaboration with The Universiti Kebangsaan Malaysia - Faculty of Science and Technology.

Professor Ocky, is the Director of Research and Community Services (in bahasa, pronounced as, Direktur Riset dan Pengabdian Kepada Masyarakat) of The Ministry of Research, Technology and Higher Education of the Republic of Indonesia, and a professor in the Faculty of Fishery and Marine Science, Diponegoro University, Semarang, Indonesia.

Professor Young, from The University of Melbourne, Australia who is according to the records in Scopus, working in multidisciplinary fields such as engineering, energy, environmental science, earth and planetary science, and producing more than a hundred documents with over 4,5 thousands citations. Professor Young, our fellow, Dr. Ribal, is working with you at the moment. We hope Dr. Ribal may use this good opportunity for improving his academic record, for example by publishing more papers in good journals. We know that recently you have an article published in one of the Nature journals which is supposed to be one of the best journals with high impact factor. By doing so, I believe soon after Dr. Ribal return to Indonesia, He will be appointed as a new professor in our Department of Mathematics. Professor Young, I have been told that some of the participants of this 3rd ICOS were graduated from ANU (Australian National University). And apparently, their graduation certificates were signed by Professor Young, the chancellor of ANU at that time. Seems they are going to see you soon to say hello. I myself, first time, read your name as the Dean of Engineering Faculty and also as the vice chancellor of Adelaide University, when I was studying for my PhD degree in the Department of Applied Mathematics, Adelaide University, back in 1997. At that time, I was supervised by Prof. David Clements. I believe you both know each other.

Our fourth keynote speaker is Professor Tan, from The University of Waterloo Canada, who mostly works on actuarial science, has been producing about 70 documents in Scopus with more than one thousand citations. During the last few years, Professor Tan has also worked as a consultant of Canada’s READI Project in Indonesia. And this is not the first time for Professor Tan coming to Makassar. Last time Professor Tan came to Makassar for giving a talk in our Department of Mathematics. Professor Tan, just recently Hasanuddin University has released a decree for the establishment of actuarial study program for undergraduate students. For the first time, starting the coming semester we will admit new students. This study program is the first one established outside Java especially in the eastern part of Indonesia. We hope READI Project will still be running in the coming years, and we are looking forward to joining it and becoming a member of the consortium.

Distinguished guests, keynote speakers. It is such a great honor for us to have you all here joining the 3rd ICOS. We hope you will have a good time with us in this 3rd ICOS. ICOS had been held twice previously, here in Makassar. The first ICOS was held in 2014 and joined by 71 authors/papers published in a proceeding of an ISBN number. The second ICOS was in 2017, November, from the 2nd to the 3rd, with a proceeding published in the IOP’s Journal of Physics: Conference Series (JPCS), comprising about 97 research papers. As we know, JPCS is indexed by several index institutions, including Scopus. JPCS is classified in quartile Q3 by Scimago. For the publication of this 3rd ICOS proceeding, we have signed a contract with IOP’s JPCS again.

By the last minute of submission deadline, the third ICOS received about 284 submissions of mostly full-papers and several abstracts. However, only about 260 selected abstracts and papers are going to be presented, either orally in 6 parallel classrooms or by poster displaying, within the two days, today and tomorrow. Before being presented, the accepted full-papers have passed a pre-review on the similarity check and format review. The pre-review is pursued as the IOP
Publishing, the publisher, requires the papers to be of reasonably low similarity percentage and of standard format, in order for the papers to get published. The second reason why we did a pre-review is because we wish to get the proceeding published as quickly as possible, hopefully latest at the end of this year. Further, there will be a content review after the presentation session.

The authors of the papers and abstracts come from a number of universities in several countries. Some participants from China are joining this 3rd ICOS and they are here with us for giving a talk on their works.

For this time, the main aim of the 3rd ICOS is to improve the academic atmosphere within the universities especially Hasanuddin University. Specifically, we intend that with this 3rd ICOS, the lecturers, during their busy time of doing teaching and research, they will still keep writing. For sure, we all believe that without writing up our research findings, the research will certainly be just useless. Moreover, of course, we mean this 3rd ICOS as an occasion where the lecturers and researchers, coming from many places, can gather together, share each other their research, which probably may lead to ideas of doing joint research, and even cooperation between universities.

The 3rd ICOS will be held for two days, today 26th of July and tomorrow July the 27th. Today we will have 4 plenary sessions presenting our 4 keynote speakers, followed by 3 sessions of parallel oral presentations in 6 parallel rooms. Tomorrow we will have 5 sessions of parallel oral presentations. During the 2 days, you may have a look at the posters displaying along the hall.

To all of the participants, authors, presenters, thank you very much for joining the 3rd ICOS. We understand that you had spent time and efforts coming along from faraway places just for joining this conference. Enjoy your participation in this 3rd ICOS and we hope that you will have a memorable time visiting Makassar. We also hope, you will be coming back again for the next ICOS together with even more colleagues of yours.

As the chair of the 3rd ICOS, I do realize that the success of this conference depends ultimately on many people who have worked together for organizing this conference. Recognition should go to the technical team who has worked for preparing the technical stuffs. Thanks a lot to the members of the organizing committee.

Last but not least, I would like to thank the Institute of Physics (IOP) for the cooperation for the proceeding publication.

The honorable, Rector of Hasanuddin University. Thank you very much for the provided supports. Now, I am begging you to please open the 3rd ICOS officially.

Good morning everyone.
Assalamu alaikum warahmatullahi wabarakatuh.
Makassar, July 26th 2019
Moh. Ivan Azis
Chairman of ICOS2019.

2. Contributed articles, authors and their affiliations
The following is a table of 248 articles together with their authors and affiliations, in a group of topic headings, that will be passed to the publisher for publication.

| # | Article title | First author’s surname | Affiliation |
|---|---|---|---|
| | A. Biology and Agriculture | | |
|   | Title                                                                 | Authors            | Institution                        |
|---|-----------------------------------------------------------------------|--------------------|------------------------------------|
|1  | Potential of community based ecotourism of bats population in Soppeng regency, Indonesia | Santosa Hasanuddin | University                         |
|2  | In silico approach of antidiabetic compounds from Caesalpinia crista seed through docking analysis and ADMET predictions | Sulfahri Hasanuddin | University                         |
|3  | Water Resource Conservation Based on Local Wisdom of Madurese Ethnic Migrant at Kalibaru Afdeeling Banyuwangi, Indonesia | Hariyadi            | University of Jember                |
|4  | The simulation model of rainwater utilization management to fulfil the water requirement of corn feed plants in the slope area of hills: A Case study of corn feed cultivation for the planting period from March to June in Benteng Gajah village, South Sulawesi, East Indonesia | Hasbi Hasanuddin   | University                         |
|5  | Utilization of Nypa fruit in Alzheimer’s Disease: An In Silico Approach | Sulfahri Hasanuddin | University                         |
|6  | Bioethanol production from algae Spirogyra peipingensis using Saccharomyces cerevisiae, Pichia kudriavzevii and Kluyveromyces thermotolerans | Sulfahri Hasanuddin | University                         |
|7  | Preliminary study: Padina australis Hauck’s antibacterial activity and phytochemical test against pathogenic shrimp bacteria | Latifah Hasanuddin  | University                         |
|8  | Authentication of organic Lampung robusta ground roasted coffee by UV-visible spectroscopy and PLS-DA method | Yulia Lampung State Polytechnic |                         |
|9  | The development of classification model of peaberry and civet ground roasted coffee using UV-visible spectroscopy and two different compensation methods | Suhandy The University of Lampung |                         |
|10 | Studies on microplastic contamination in seagrass beds at Spermonde Archipelago of Makassar Strait, Indonesia | Tahir Hasanuddin   | University                         |
|11 | The use of probiotic Lactobacillus plantarum and Lactobacillus bifermantsans as antidote of mercury metal (Hg) to the mice Rattus norvegicus | Dwyana Hasanuddin   | University                         |
|12 | Isolation and cloning of Rv3204 of Mycobacterium tuberculosis to Escherichia coli BL21 as vaccines tuberculosis : A preliminary Study | Agus Hasanuddin     | University                         |
|13 | Visible reflectance characteristics of marine debris in the sandy beach | Faizal Hasanuddin   | University                         |
|14 | Biosugar production from algae Spirogyra peipingensis by acid and enzymatic hydrolysis processes | Sulfahri Hasanuddin | University                         |
|15 | Bioactivity of methanolic extract of marine tunicate Pyura sp against methicillin resistant Staphylococcus aureus (MRSA) | Litaay Hasanuddin   | University                         |
|16 | Potential analysis Persea americana, Allium sativum and Ficus sepatica as anti-cancer uses in silico docking and ADMET prediction | Sulfahri Hasanuddin | University                         |
| No. | Title                                                                 | Authors                          | Institute                                      |
|-----|----------------------------------------------------------------------|----------------------------------|-----------------------------------------------|
| 17  | Effectiveness of methanol extract hydroid aglaophenia cupressina lamoureux as antimicrobial in resistant Methicilline Staphylococcus Aureus (MRSA), Shigella sp., Malassezia furfur, and Candida albicans | Johannes                         | Hasanuddin University                          |
| 18  | Isolation and characterization of bacteria from mangrove sediment at coastal area in Pangkep South Sulawesi | Ambeng                           | Hasanuddin University                          |
| 19  | Compatibility of MO PLUS biofertilizer and Paenybacillus polymyxa to stimulate rice germination | Baharuddin                      | Hasanuddin University                          |
| 20  | Gastropods and edible macroalgae                                    | Soekendarsi                      | Hasanuddin University                          |
| 21  | The study of bacteria populations in phytoremediation of cadmium using Eichhornia crassipes | Fahruddin                        | Hasanuddin University                          |
| 22  | Phytoremediation relationship of lead (Pb) by Eichhornia crassipes on pH, BOD and COD in groundwater | Tanjung                          | Hasanuddin University                          |
| 23  | Species composition and structure of mangrove in Tamo Rocky Cliff Beach Majene (West Sulawesi, Indonesia) | Priosambodo                     | Hasanuddin University                          |
| 24  | The relationship between the length and weight of snail Nerita lineata Gmelin 1791 on environmental factors in the mangrove ecosystem | Samsi                            | College of Teacher Training and Education Pembangunan Indonesia |
| 25  | Selection of Plastic Degradation Indigenous Bacteria Isolated from Tamangapa Landfill Makassar City | Haedar                           | Hasanuddin University                          |
| 26  | Viability and role of Beauveria Bassiana as endofit in Corn Bima 11 Tammu Tammu varieties against Aphids sp. | Daud                            | Hasanuddin University                          |
| 27  | Cocoa Clone Resistance to Phytophthora Pod Rot (PPR) and Cocoa Pod Borer (CPB) in South Sulawesi | Dewi                             | Hasanuddin University                          |
| 28  | Predators effects on mortality of sandfish Holothuria scabra cultured in multitrophic system | Tresnati                         | Hasanuddin University                          |
| 29  | Cultivation of adipose-derived mesenchymal stem cells from Rat Rattus norvegicus by using mechanical + enzymatic method | Nurpratama                      | Hasanuddin University                          |
| 30  | Medaka fish Oryzias javanicus Bleeker as bio-indicator of lead content in waters | Andriani                         | Hasanuddin University                          |
| 31  | Non-edible oil of Cerbera manghas L. seed from Seram island - Maluku as oil source of biodiesel production | Sutapa                           | University of Pattimura                        |
| 32  | Microstructural analysis of silver nanoparticles resulted through bioreduction using Abelmoschus esculentus leaf extract | Roddu                           | University of East Indonesia                   |

**B. Chemistry and Computational Chemistry**
| No. | Title                                                                 | Author(s)          | Institution                           |
|-----|----------------------------------------------------------------------|--------------------|---------------------------------------|
| 33  | Synthesis of Poly(Ethyl Eugenyl oxyacetate) as carrier for separation of heavy metal ions Fe(III), Cr(III), Cu(II), Ni(II), Co(II), and Pb(II) using liquid-liquid extraction method | Harinu Halimu      | University of Poleo                    |
| 34  | Green-route synthesis and characterization of the silver nanoparticles resulted by bio-reduction process | Roddu              | University of East Indonesia           |
| 35  | Synthesis and activity of N-(o-tolyl)caffeamide and N-(o-tolyl)-p-coumaramide against P388 leukemia murine cells | Firdaus            | Hasanuddin University                  |
| 36  | Toxicological evaluation and antibacterial activity of crude protein extract from endophytic bacteria associated with Algae Eucheuma spinosum | Sugrani            | Megarezyk University of Makassar       |
| 37  | Utilization of polyfloral honey in the synthesis of gold nanoparticles and evaluation of its potency as an antibacterial against S. aureus and E. coli | Mandey             | Hasanuddin University                  |
| 38  | Total phenolic, antioxidant activity and toxicity effect of Turbinaria decurrrens extracts from South Sulawesi | Sami               | Hasanuddin University                  |
| 39  | Isolation and identification of bioactive proteins from the brown algae Sargassum, Sp. and their potential as anticancer agents | Karim              | School of Pharmacy YAMASI, Makassar, Indonesia |
| 40  | Cloning and characterization of Rv1980c gene encoding MPT64 Protein from Mycobacterium tuberculosis as a new candidate vaccine of tuberculosis | Ahmad              | Hasanuddin University                  |
| 41  | Cloning and expression of recombinant protein CFP21 from Mycobacterium tuberculosis as a tuberculosis vaccine candidate | Ahmad              | Hasanuddin University                  |
| 42  | Anti-dengue potential of bioactive protein from epiphytic bacteria that are symbiotic with brown algae Sargassum sp. | Ahmad              | Hasanuddin University                  |
| 43  | The potency of protein Hydrolysate from Epiphytic bacteria associated with brown algae Sargassum sp. as anticancer agents | Asmi               | Hasanuddin University                  |
| 44  | Synthesis and modification of mesoporous silica with sulfated titanium dioxide as a heterogeneous catalyst for biodiesel production from palm fatty acid distillate | Manga              | Politeknik Negeri Ujung Pandang, Makassar |
| 45  | Activity and kinetics of α-Glucosidase inhibition by collagen Hydrolysate from Thunnus albacares bone | Natsir             | Hasanuddin University                  |
| 46  | Isolation, characterization and anticancer potential test of crude extract of L-asparaginase enzyme from siam weed leaf (Chromolaena odorata Linn): a novel source | Yusriadi           | Hasanuddin University                  |
| 47  | Purification and characterization of α-glucosidase enzyme from rice groats | Papriani           | Hasanuddin University                  |
| Page | Title                                                                 | Author               | Institution          |
|------|----------------------------------------------------------------------|----------------------|----------------------|
| 48   | Purification, characterization and anticancer potential tests of L-asparaginase enzyme from the leaves siam weed (Chromolaena odorata Linn) | Khaerah Hasanuddin   | University           |
| 49   | Effect of filler and plasticizer on the mechanical properties of bioplastic cellulose from rice husk | Jannah Hasanuddin    | University           |
| 50   | Symbiont bacteria cultures from the red algae Eucheuma spinosum, isolation of bioactive proteins and their anticancer potential test | Ramadan Hasanuddin   | University           |
| 51   | (R)-N-trans- feruloyloctopamine from the root timber of Melochia umbellata (Houtt.) Stapf var. Visenia (Paliisa) | Nusan Hasanuddin     | University           |
| 52   | Steam flush pressure: A new modification method to extraction chitin from Lingula sp | Arif Hasanuddin      | University           |
| 53   | Phytochemical and antioxidant analysis of methanol extract of Moringa and Celery leaves | Natsir Hasanuddin    | University           |
| 54   | Isolation and Identification of Bioactive Proteins from Microsymbiont Algae Eucheuma cottonii and Their Potential as An Anticancer | Marinda Hasanuddin   | University           |
| 55   | Administration of ethanol extract of mustard greens (Brassica rapa L) leaves increased Superoxide Dismutase levels in Hyperglycemic rat | Wahjuni University   | University, Bali, Indonesia |
| 56   | Isolation and characterization of starch from the hump of kepok banana (Musa balbisiana. L) as a precursor of biodegradable polyurethane synthesis | Budirohmi           | Sekolah Tinggi Ilmu Kesehatan Gema Insan Akademik Makassar |
| 57   | Phytochemical analysis and antioxidant activity of soursop leaf extract (Annona muricata Linn.) | Hasmila Hasanuddin   | University           |
| 58   | Photodegradation of remazol brilliant blue using Fe2O3 intercalated bentonite | Suprihatin University | University, Bali, Indonesia |
| 59   | Amino acids characterization of forest honeys from some area of South Sulawesi | Noor Hasanuddin      | University           |
| 60   | Accumulation of iron by perumpung (phragmites karka) and its adaptation in various pH of hydroponic solution | Rusmanta Cenderawasih | University           |
| 61   | Production of bioethanol from seaweed, Gracilaria verrucosa and Eucheuma cottonii, by simultaneous saccharification and fermentation methods | Wadi Polytechnic of Agriculture Pangkep State | University           |
| 62   | Characterization of Polyurethanes from MDI, PEG 400 and Kepok Banana Hump additives with TGA, DTG and LCMS spectrometers | Budirohmi           | Sekolah Tinggi Ilmu Kesehatan Gema Insan Akademik Makassar |
| 63   | Synthesis and anti-tuberculosis of Zn(II)Phenylalanine dithiocarbamate | Kartina Hasanuddin   | University           |
| No. | Title                                                                 | Author                   | Institution                      |
|-----|----------------------------------------------------------------------|--------------------------|----------------------------------|
| 64  | Adsorption of metal ion, Co(II) on Eucheuma spinosum                  | Taba                     | Hasanuddin University            |
| 65  | Antibacterial and cytotoxic activities assay from the extract of macroalga Halimeda cylindracea from Gulf of Boni, Indonesia | Dini                     | Hasanuddin University            |
| 66  | The role of acetone solvent in the reaction of 3-chloropropionyl and 2-chloropropionyl-isothiocyanate with hydrazine | Firdausiah               | UKM Bangi, Selangor D.E. Malaysia|
| 67  | Isolation and characterization of Soil Termites (Macrotermes gilvus) cellulolytic bacteria and activity determination of cellulase enzyme on newsprint substrates | Arfah                    | Hasanuddin University            |
| 68  | The addition of both Ca2+ and Na+ metal ions to prebiotic productions from cassava peels to enhance the quality of broilers | Agustina                 | Hasanuddin University            |
| 69  | The potential of Chlorella vulgaris and avocado seed oil as anti-aging cream material | Putri                    | STITEK Balik Diwa, Makassar      |
| 70  | The prebiotic production by using cassava peels with the addition of both K+ and Mg2+ metal ions as an activator and their potential to enhance broiler quality | Wahyuni                  | Hasanuddin University            |
| 71  | Characterization molecularly imprinted polymers as a selective adsorbent in the solid-phase extraction method | Fauziah                  | Hasanuddin University            |
| 72  | Adsorption of chromium ions by candlenut shell based carbon activated with H3PO4 | Zakir                    | Hasanuddin University            |
| 73  | In vitro antibacterial and anticancer activity of Zn(II)Valinedithiocarbamate complexes | Kartina                  | Hasanuddin University            |
| 74  | Comparison of micronutrients content (Fe, Cu, Mn) in cacao beans from plantation area and transmigration area in East Luwu | Rombe                    | Hasanuddin University            |
| 75  | Potential of stigmasterol from EtOAc extract Melochia umbellata (Houtt) Stapf var. Visenia as Dengue Antivirus | Soekamto                 | Hasanuddin University            |
| 76  | Analysis activity 14C of coral in Barrang Caddi Island, Spermonde Archipelago | Firman                   | Hasanuddin University            |
| 77  | Modification of Microencapsulate Protein Crude Extract Formula from Chlorella vulgaris and Spirulina platensis for Baby Biscuit | Mayasari                 | Hasanuddin University            |
| 78  | Broken painting in the prehistoric cave and chemical content of paint used in Maros Regency, South Sulawesi | Thosibo                  | Hasanuddin University            |
| 79  | Relationship between distribution of dimethyl sulfide (DMS) and plankton community structure in Spermonde, Indonesia | Armus                    | Hasanuddin University            |
| 80  | Adsorption of Pb (II) ions by activated and modified candlenut shell based carbon | Zakir                    | Hasanuddin University            |

C. Computer Science and Information Technology
| No. | Title                                                                 | Author(s)                                      | Institution                                    |
|-----|----------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------|
| 81  | A Priority Packet Dissemination Scheduling Mechanism in Vehicular Ad-Hoc Networks | Jeffry                                        | Universitas Pancasakti Makassar                |
| 82  | Increasing accuracy of classification physical activity based on smartphone using ensemble logistic regression with boosting method | Lawi                                          | Hasamuddin University                           |
| 83  | An indoor video-based for single face identification among people     | Indrabayu                                     | Hasamuddin University                           |
| 84  | On identifying the irregularities of electricity customer behaviors using soft computing approach | Lawi                                          | Hasamuddin University                           |
| 85  | Face recognition system using Viola Jones, histograms of oriented gradients and multi-class support vector machine | Arafah                                        | Hasamuddin University                           |
| 86  | An intelligent agent of finite state machine in educational game “Flora the Explorer” | Pukeng                                        | STMIK Widya Cipta Dharma, Indonesia             |
| 87  | The application of algebraic methods to simplify the more complex type of static data structure through visualization approach | Hasbi                                         | Hasamuddin University                           |
| 88  | New concept of universal coding using one step reversible low contrast mapping (1RLCM) | Mesra                                         | Hasamuddin University                           |
| 89  | Design of intelligent camera-based security system with image enhancement support | Chyan                                         | Atma Jaya University, Makassar, Indonesia       |
| 90  | User experience on games development trends                          | Persada                                        | Universitas Islam Indonesia                     |
| 91  | Decision Support System on Potential Land Palm Oil Cultivation using Promethee with Geographical Visualization | Widians                                       | Mulawarman University, Samarinda, Indonesia    |
| 92  | Double measurement on cognitive learning apps for children with mentally retardation | Persada                                       | Universitas Islam Indonesia                     |
| 93  | On the Okamoto-Uchiyama cryptosystem (A brief essay on basic mathematics applied in cryptography) | Haryanto                                      | Hasamuddin University                           |
| 94  | Decision support system for predicting increased data on objects of motor vehicle name transfer (BBNKB I) using trend moment method (Case study: wheels 2 and wheels 4 in Samarinda) | Pakpahan                                      | Mulawarman University, Samarinda, Indonesia    |
| 95  | Closed Shop Scheduling Optimisation using Max-Plus Automata           | Merdekawati                                   | Sepuluh Nopember Institute of Technology, Surabaya, Indonesia |
| 96 | The 5R adaptation framework for cultural heritage management information system of the Dayak tribe Borneo | Budiman | Mulawarman University, Samarinda, Indonesia |
| 97 | Augmented reality for interactive promotion media at Faculty of Computer Science and Information Technology Mulawarman University | Firdaus | Mulawarman University, Samarinda, Indonesia |
| 98 | Performance evaluation of naive Bayes and support vector machine in type 2 Diabetes Mellitus gene expression microarray data | Ramdaniah | Hasanuddin University |
| 99 | Construction of \((h,k)\)-Coterie Quorum System Based on Majority Coterie | Arsal | Hasanuddin University |
| 100 | k-Coterie and Coterie Join Operation | Djunaidy | Hasanuddin University |

### D. Engineering

| 101 | Effect of sodium hydroxide concentration on the tensile strength of coconut fiber | Arsyad | Politeknik Negeri Ujung Pandang, Makassar |
| 102 | The Content and Function of Electrical Energy Sources from Silisium which are contained by the Sand of Kuri Ca’di Beach in Maros Regency | Umar | Hasanuddin University |
| 103 | Geochemical correlation of gold placer and indication of Au-Cu-Pb-Zn-Ag mineralization at Parigi Moutong, Central Sulawesi, Indonesia | Tonggiroh | Hasanuddin University |
| 104 | Geological constraints for disaster mitigation model in South Sulawesi | Maulana | Hasanuddin University |
| 105 | An optimization of the machining parameters on delamination in drilling ramie woven reinforced composites using Taguchi method | Chandrabakty | Universitas Tadulako, Palu, Indonesia |
| 106 | A general variable neighborhood search based on path relinking algorithm for multi-skill resource-constrained project scheduling problem with multiple restrictions | Dai | Southwest Jiaotong University, 610031 Chengdu, PR China |
| 107 | Optimal motion planning of differential-drive mobile robots based on trapezoidal collocation method | Mao | Southwest Jiaotong University, 610031 Chengdu, PR China |
| 108 | Chemical composition and physical characteristics of coal and mangrove wood as alternative fuel | Rahman | Hasanuddin University |
| 109 | Phytoremediation of tofu wastewater using Eichhornia crassipes | Oktorina | Hasanuddin University |
The human dimension and its effect on multi-function streets in settlement on water of Buloa Kareppa and Marbor Tallo  
Asmal Hasanuddin University

Placement of photovoltaic and capacitors in the 20 kV Jeneponto Distribution Network  
Arief Hasanuddin University

Determination of optimal location and capacity of distributed generations based on artificial bee colony  
Ratuhaji Hasanuddin University

Investigation of non–conventional methods for combined economic emission dispatch problem  
Putra Hasanuddin University

Role of geomembrane to prevent water pollution and radiation exposure in landfill for NORM waste from the oil and gas industries  
Dwipayana University of Indonesia

The potential of electrical power generation based on organic waste utilization at Tamangapa landfill Malassar  
Yusran Hasanuddin University

Purification and analysis of patchouli alcohol from patchouli oil by vacuum fractionation distillation  
Rifai Politeknik Negeri Ujung Pandang, Makassar

Economic dispatch of Jeneponto thermal power plant for primary energy efficiency  
Nappu Hasanuddin University

Analysis of cobalt (Co) in the soil of Antang Landfill, Makassar City, South Sulawesi Province, Indonesia by use of ICP-OES  
Artiningsih Hasanuddin University

| E. Mathematics and Actuarial Science |
|--------------------------------------|
| Discrete Double-Sided Quaternionic Fourier Transform and Application  
Bahri Hasanuddin University |
| Duality Property for Linear Canonical Transform  
Bahri Hasanuddin University |
| Some Properties Associated with Cli ord-Fourier Transform  
Bahri Hasanuddin University |
| On One-Dimensional Quaternion Fourier Transform  
Bahri Hasanuddin University |
| A Generalized S-Transform in Linear Canonical Transform  
Bahri Hasanuddin University |
| Two Uncertainty Principles Related to the Linear Canonical S-Transform  
Bahri Hasanuddin University |
| Boundary value problems governed by Helmholtz equation for anisotropic trigonometrically graded materials: A boundary element method solution  
Khaeruddin Hasanuddin University |
| Numerical simulation of modified Helmholtz boundary value problems for anisotropic exponentially graded materials  
Azis Hasanuddin University |
| A dimensional reduction of an (n+1) compartmental model  
Cahyono Hau Oleo University |
| Analysis of stenosis effect on blood pressure using moving particle semi-implicit method  
Purnama Institut Teknologi Bandung |
129  Pattern similarities of vector matrices  Muhtar  Halu Oleo University
130  Harmonious labeling on prisms graph  Hinding  Hasanuddin University
131  On the derivation of a boundary element method for diffusion convection-reaction problems of compressible flow in exponentially inhomogeneous media  Nafie  Hasanuddin University
132  Isomorphism From Quaternion To Matrix Ring Over Field Zp  Amir  Hasanuddin University
133  Segmented individual claim reserve estimation using BART refinement  Effendie  Universitas Gadjah Mada
134  Commutative part of skew polynomial ring over split-octonion  Amir  Hasanuddin University
135  Stability Analysis for Routh-Hurwitz Conditions Using Partial Pivot  Erawaty  Hasanuddin University
136  A boundary element method solution to spatially variable coefficients diffusion convection equation of anisotropic media  Suryani  Hasanuddin University
137  Boundary element method solutions for steady anisotropic-diffusion convection problems of incompressible flow in quadratically graded media  Baja  Hasanuddin University
138  On the derivation of a boundary element method for steady anisotropic-diffusion convection problems of incompressible flow in trigonometrically graded media  Sakka  Hasanuddin University
139  The effect of harvesting with threshold on the dynamics of prey predator model  Toaha  Hasanuddin University
140  Around Zero-Divisor Graph of Skew Polynomial Rings over Real Matrix 2 by 2  Amir  Hasanuddin University
141  Text Encryption Algorithm based on Chaotic Map  Irsan  Universitas Presiden
142  Solution of simple prey-predator model by Runge Kutta method  Juarlin  Hasanuddin University
143  Stability analysis of prey predator model with Holling II functional response and threshold harvesting for the predator  Yusrianto  Hasanuddin University
144  Critical illness insurance pricing with stochastic interest rates model  Alim  Universitas Gadjah Mada
145  Smoking epidemic model with density-dependent death rate and numerical sensitivity analysis  Simarmata  Universitas Gadjah Mada
146  A dynamic model of Indonesian National Health Insurance participation types  Listiani  Universitas Gadjah Mada
147  Universal kriging of corn plant data under isotropic power type variogram model  Somayasa  Halu Oleo University
148  Morbidity-Mortality Table Construction for Eleven Chronical Diseases (ECD) Using Constant Force Assumption  Anggraeni  Universitas Gadjah Mada
| 149 | Effect of vaccination and treatment on the MSEICR model of the transmission of hepatitis B virus | Muin | Hasanuddin University |
| 150 | An analysis of Fama and French three factor model in market reaction to Indonesia presidential election in 2019 | Diaraya | Hasanuddin University |
| 151 | Stability analysis of SEISEIR-SEI modelling on the dynamics of spread dengue fever with vaccination and insecticide | Hartati | Hasanuddin University |
| 152 | Analysis of which factors are important in controlling the number of smokers in Indonesia | Ardiyanti | Universitas Gadjah Mada |
| 153 | Multi-objective optimization in determining the location of the transportation hub with generated data using nonparametric statistics | Juman | Universitas Gadjah Mada |
| 154 | Multinomial method for pricing Lookback Option | Sudding | Universitas Presiden |
| 155 | The Binomial Model for N-Period European Call Option Price | Musa | Hasanuddin University |
| 156 | On Weak Solution of Cauchy Problem for Non-linear Parabolic Equations | Aris | Hasanuddin University |

**F. Medical and Pharmaceutical Science**

| 157 | RESISTIVITY OF PROTEIN KINASE-B (AKT), NF-κB TRANSDUCTION OBSTACLES, AND APOPTOSIS INDUCTION (CASPACE -3, -9) AS ANTI-PROLIFERATION AND ANTI-CANCER OF BURKITT’S LYMPHOMA USING FLAVONOID FRACTION OF ETHYL ACETATE FROM ANT NEST (MYRMECODIA PENDANS) | Achmad | Hasanuddin University |
| 158 | Comparison of microwave assisted extraction (MAE) with variations of power and infusion extraction method on antibacterial activity of rosella calyx extract (Hibiscus sabdariffa) | Alam | Hasanuddin University |
| 159 | The effect of combination ethanol extracts of bitter melon leaves, white turmeric rhizome and bangle rhizome on the sgot-sgpt levels and the liver histopathology profile of rats | Alam | Hasanuddin University |
| 160 | Physicochemical and Micromeritics Properties of Ketoprofen-Tartaric Acid Binary System | Himawan | Hasanuddin University |
| 161 | Gel edasi: Ethosomal gel using cow’s blood as a supportive of healing diabetic foot ulcer | Lestari | Hasanuddin University |
| 162 | Anti coagulant activities of brown seaweed Sargassum cristaefolium extract | Manggau | Hasanuddin University |
| 163 | Gastroulcerogenic Evaluation of Ibuprofen Ester Conjugates | Rifai | Hasanuddin University |
| 164 | Characterization of antioxidative fraction of plant stem Bonea macrophylla Griff | Rudiana | Universitas Mathla’ul Anwar |
| 165 | Correlation Phenolic Concentration to Antioxidant and Antibacterial Activities of Several Ethanolic extracts from Indonesia | Sartini | Hasanuddin University |
| No. | Title                                                                 | Authors                      | Institution                                    |
|-----|-----------------------------------------------------------------------|------------------------------|-----------------------------------------------|
| 166 | Mixed Multiplex Allele-Specific PCR (MiMAS-PCR) test for rapid detection of MDR and XDR-TB from the sputum of pulmonary TB patients | Massi                        | Hasanuddin University                          |
| 167 | Increased Endothelin-1 Lung Level in Obesity Mice                     | Sandira                      | Alkhairaat University, Palu, Central Sulawesi, Indonesia |
| 168 | Comparison of two varieties of Plectranthus scutellarioides based on extraction method, phytochemical compound, and cytotoxicity | Astuti                      | Hasanuddin University                          |
| 169 | Optimization of extraction and quality assessment based on physicochemical properties of Carrageenan from red algae (Kappaphycus alvarezii) origin of South Sulawesi Indonesia | Syaharuddin                  | Hasanuddin University                          |
| 170 | Preynlated flavon and antibacterial activities of Artocarpus lanceifolius Roxb bark | Hamsidar                    | Gorontalo State University, Indonesia          |
| 171 | α-Glucosidase inhibitory activity of breadfruit leaf extract (Artocarpus altilis (parkinson) fosberg) | Rante                        | Hasanuddin University                          |
| 172 | Palisa (Kleinhovia hospita L.) Hepatoprotector “Tea Bag” preparation as supporting therapy in the use of fixed-dose combination of antituberculosis drugs | Tayeb                       | Hasanuddin University                          |
| 173 | Development of lengkuas (Alpinia galanga) and cortex of banyuru (Pterospermum celebicum, miq) extract for topical preparation on validation methods analysis of total flavonoid levels | Marzuki                     | Hasanuddin University                          |
| 174 | Toxicity test of stem bark extract of banyuru (Pterospermum celebicum miq,) using BSLT (brine shrimp lethality test) and cream irritation test | Marzuki                     | Hasanuddin University                          |

**G. Physics and Computational Physics**

| No. | Title                                                                 | Authors                      | Institution                                    |
|-----|-----------------------------------------------------------------------|------------------------------|-----------------------------------------------|
| 175 | Energetics of internal tides over the Sangihe-Talaud ridge - Sulawesi sea | Hermansyah                   | Balikpapan State Polytechnics, East Kalimantan, Indonesia |
| 176 | On the effect of the material’s anisotropy: a numerical investigation for the modified Helmholtz problems of homogeneous media (withdrawed) | Salam                        | Hasanuddin University                          |
| 177 | A boundary element method for anisotropic-diffusion convection-reaction equation in quadratically graded media of incompressible flow | Salam                        | Hasanuddin University                          |
| 178 | Diffusion convection-reaction equation in exponentially graded media of incompressible flow: Boundary element method solutions | Raya                         | Hasanuddin University                          |
| No. | Title                                                                 | Authors                                      | Institution                                  |
|-----|----------------------------------------------------------------------|----------------------------------------------|----------------------------------------------|
| 179 | Numerical solution to diffusion convection-reaction equation with trigonometrically variable coefficients of incompressible flow | Hamzah Hasanuddin                           | University                                  |
| 180 | Development of LED-DOAS system for observing aerosol optical properties in the lower troposphere | Aminuddin Universitas Jenderal Soedirman     |                                              |
| 181 | Relation between body mass index and position of chest examination as a function of entrance surface dose | Musdalifah Hasanuddin University             |                                              |
| 182 | The role of radiocarbon analysis in determining the chronology of Erong culture in Tana Toraja | Duli Hasanuddin University                   |                                              |
| 183 | Archaeological tourism: A new development and challenges for cultural and historical tourism objects | Rahman Hasanuddin University                 |                                              |
| 184 | Palaeoenvironmental reconstruction on Toroan residential site in Madura Island: Phytolith-based analysis | Muda Hasanuddin University                   |                                              |
| 185 | Traditional conservation on Chinese metal coins (Kepeng) from Sangkulu-kulu underwater archeological sites, Selayar regency | Nurfadli Hasanuddin University               |                                              |
| 186 | Hypocenter relocation analysis of 7.5 Mw Palu and its aftershocks: A preliminary result | Ramdhan The Indonesian Agency for Meteorology, Climatology, and Geophysics (BMKG) |                                              |
| 187 | Seismicity around Sunda strait and its surroundings based on hypocenter relocation using 3-D velocity: a preliminary result of relocated hypocenter database construction from the BMKG catalog | Ramdhan The Indonesian Agency for Meteorology, Climatology, and Geophysics (BMKG) |                                              |
| 188 | Supershear rupture of the 28 September 2018 Palu earthquake inferred from Empirical Green’s Function analysis | Priyobudi The Indonesian Agency for Meteorology, Climatology, and Geophysics (BMKG) |                                              |
| 189 | Numerical solutions to Helmholtz equation of anisotropic functionally graded materials | Paharuddin Hasanuddin University             |                                              |
| 190 | Numerical simulation for anisotropic-diffusion convection reaction problems of inhomogeneous media | Jalil Hasanuddin University                  |                                              |
| No. | Title                                                                 | Authors             | Affiliation          |
|-----|----------------------------------------------------------------------|---------------------|----------------------|
| 191 | A numerical study on the effect of the material’s anisotropy in diffusion convection reaction problems | Rauf Hasanuddin     | Hasanuddin University |
| 192 | Numerical solutions for anisotropic-diffusion convection problems of incompressible flow in exponentially graded media | Haddade Hasanuddin  | Hasanuddin University |
| 193 | Numerical simulation for steady anisotropic-diffusion convection problems of compressible flow in exponentially graded media | Assagaf Hasanuddin  | Hasanuddin University |
| 194 | Hypocenter determination and focal mechanism solution of May 29 2017 earthquake around Poso, Central Sulawesi, Indonesia | Massinai Hasanuddin | Hasanuddin University |
| 195 | Properties of ZnO/TiO2 hetero-structures thin films grown by sol-gel with various zinc acetate dehydrated concentration | Gareso Hasanuddin    | Hasanuddin University |
| 196 | Optical properties of wood by laser spectroscopy | Muhammad Hasanuddin  | Hasanuddin University |
| 197 | Synthesis Ag nanoparticle by laser fragmentation for high sensitive ammonium residue detection | Zahrah Hasanuddin    | Hasanuddin University |
| 198 | Chlorine signal investigation in organic product as a pesticide residues by Laser Induced Breakdown Spectroscopy (LIBS) | Irwan Hasanuddin     | Hasanuddin University |
| 199 | Fabrication and characterization starch/chitosan reinforced polypropylene as biodegradable | Jangong Hasanuddin   | Hasanuddin University |
| 200 | Bio-markers based oil to source rock correlation and paleo-environmental interpretation: A case study from Talang Akar Formation, South Sumatra Basin, Indonesia | Syamsuddin Hasanuddin | Hasanuddin University |
| 201 | Quantifying entrance skin dose for early diagnose of lung cancer | Latif Hasanuddin     | Hasanuddin University |
| 202 | Implementation technique of radiotherapy patients dose verification 3DCRT and IMRT | Rusydi Hasanuddin    | Radiotherapy of Hospital Wahidin Sudirohusodo, Makassar 90245, Indonesia |
| 203 | Composites Based Ordinary Portland Cement and Fe2O3 for X-Ray Shield Applications | Riswati B Hasanuddin | Hasanuddin University |
| 204 | Evaluation of Typical Dose Rate Values, Maximum Dose Rate in Air and Dose Rate in Surface Image Intensifier (II) in Dual Function Fluoroscopy (Fl) | Bariah Hasanuddin    | Hasanuddin University |
| 205 | Prehistoric Diet to Neolithic Tenggera Cave Site, Southeast Sulawesi, Indonesia | Nur Hasanuddin       | Hasanuddin University |
| 206 | Subsurface prediction using resistivity method (Case study: Bira, South Sulawesi, Indonesia) | Puspitasari Hasanuddin | Hasanuddin University |
| 207 | Effect of SSD and absorbing filter in calibration process of Thermo Luminescence Dosimeter TLD-700 | Nurdin Hasanuddin    | Hasanuddin University |
| 208 | Evaluation of performance levels of CT scan dual slice using phantom ACR | Rahayuddin Hasanuddin | Hasanuddin University |
| No. | Title                                                                 | Author                                      | Affiliation                         |
|-----|----------------------------------------------------------------------|---------------------------------------------|-------------------------------------|
| 209 | Upcoming-wave equation of seismic migration                            | Sea                                         | University of Geosciences, Beijing   |
| 210 | Seismicity analysis Sulawesi North Arm based on B-Values              | Massinai Hasanuddin                       | Hasanuddin University                |
| 211 | Prediction of land use and land cover (LULC) changes using CA-Markov model in Mamuju Subdistrict | Risma Hasanuddin                       | Hasanuddin University                |
| 212 | Sensitivity Enhancement of Strain Sensor Based on Polymer Optical Fiber for Concrete Testing | Arifin Hasanuddin                       | Hasanuddin University                |
| 213 | Three Decades State of the Tombolo Related to Wind Climate (1985 to 2015): Case of Galesong Beach, Takalar Regency | Pada Hasanuddin                       | Hasanuddin University                |
| 214 | Analytical Approach of Long Waves Dynamics in an Estuary (Case Study in Karang Mumus River Estuary) | Raming Hasanuddin                       | Hasanuddin University                |
| 215 | Study of Macro Earthquake Attenuation using Q-Factor Coda Waves around Matano Fault | Karnaen Hasanuddin                     | Hasanuddin University                |
| 216 | Fabrication of Milk Fat Sensor based on Plastic Optical Fiber          | Angrasari Hasanuddin                     | Hasanuddin University                |
| 217 | Protein Content Sensor based on Plastic Optical Fiber                 | Anisfaizurrahm Hasanuddin                  | Hasanuddin University                |
| 218 | Dispersion analysis of SO2 pollutants caused by sugar industry of PT. Makassar Tene | Putra Hasanuddin                       | Hasanuddin University                |
| 219 | Investigating of LSPR spectra on a hybrid Fe3O4-Au within core-shell structure | Sujak University of Indonesia             | University of Indonesia              |
| 220 | Reconstruction of Conceptual Model in Mataloko Geothermal Field (Nusa Tenggara Timur) | Fauziyah University of Indonesia         | University of Indonesia              |
| 221 | Complex conjugate for second-order derivative of 2D analytic signal of magnetic field anomaly | Manan Halu Oleo University                | Halu Oleo University                 |
| 222 | Nanostructure and Optical Properties of Fe3O4: Effect of Calcination Temperature and Dwelling Time | Indrayana Universitas Halmahera, Maluku Utara, INDONESIA | Universitas Halmahera, Maluku Utara, INDONESIA |
| 223 | Identification of Landslide Potential using Electrical Resistivity Tomography Method Wenner-Schlumberger Configuration in Sampiro, Bolaang Mongondow Utara, North Sulawesi | Nurdin Hasanuddin University             | Hasanuddin University                |
| 224 | Application of Geoelectrical Resistivity Method for Groundwater Exploration Using Wenner-Schlumberger Configuration in Sampakang, Maros Regency, Indonesia. | Syamsuddin Hasanuddin University         | Hasanuddin University                |
| 225 | Orthogonal iteration process of determining K value on estimator of Jackknife ridge regression parameter | Tinungki Hasanuddin University            | Hasanuddin University                |

**H. Statistics**

| No. | Title                                                                 | Author                                      | Affiliation                         |
|-----|----------------------------------------------------------------------|---------------------------------------------|-------------------------------------|
| 225 | Orthogonal iteration process of determining K value on estimator of Jackknife ridge regression parameter | Tinungki Hasanuddin University             | Hasanuddin University                |
| 226 | Measuring the economic value of disaster mitigation on quality of life in Indonesia | Subanti | Universitas Sebelas Maret |
| 227 | A study on the trend of Indonesian propensity to save by applying an outlier analysis | Raya | Halu Oleo University |
| 228 | The use of multivariate page test in dealing the violations of principal assumptions in completely randomized block design | Tinungki | Hasanuddin University |
| 229 | Detection of Outliers in Multivariate Data using Minimum Vector Variance Method | Herdiani | Hasanuddin University |
| 230 | The growth determinant based on economic and non economic factors (empirical evidence in Central Java Province, Indonesia) | Hakim | Universitas Sebelas Maret |
| 231 | Power behavior of test based on the moving sums (MOSUM) of spatial least squares residuals | Somayasa | Halu Oleo University |
| 232 | Asymptotic modelling of corn plant data using moving sums (MOSUM) technique | Somayasa | Halu Oleo University |
| 233 | Robust Principal Component Analysis with Modified One-Step M-Estimator Method | Sriwijayanti | Hasanuddin University |
| 234 | Comparison of C4.5 Algorithm with naive Bayesian Method in classification of Diabetes Mellitus (A Case Study at Hasanuddin University hospital Makassar) | Ente | Hasanuddin University |
| 235 | Searching open reading frame in a DNA sequence using dynamic programming | Yunus | Hasanuddin University |
| 236 | Modeling of Extreme Rainfall Recurrence Using Conditional Probability Approach | Sunusi | Hasanuddin University |
| 237 | Prediction of currency crisis in Indonesia using combined volatility and Markov regime switching models based on lending interest rate / deposit interest rate indicator | Sugiyanto | Universitas Sebelas Maret |
| 238 | Extended Cox model for breast cancer survival data using Bayesian approach: A case study | Arsyad | Hasanuddin University |
| 239 | The analysis of factors that affecting household food security of tuberculosis patients in Surabaya | Susilaningsrum | Institut Teknologi Sepuluh Nopember |
| 240 | Estimating Claim Occurrences in Non Life Insurance by using Single Decrement Environment Method | Rangkuti | Hasanuddin University |
| 241 | Likelihood Construction of Hawkes Process in Insurance Claim Settlement Process | Ilyas | Hasanuddin University |
| 242 | Characteristic of extreme rainfall in Makassar, Province of South Sulawesi | Rahim | Hasanuddin University |
| 243 | Modelling The Recovery of Health Conditions for Pulmonary Tuberculosis Patients at Dr. Soegiri Hospital Lamongan in 2018 Using Binary Logistic Regression | Wulandari | Institut Teknologi Sepuluh Nopember |
| 244 | Mercury (Hg) contamination on water, sediment and macrozoobenthos in Waelata River, Wamsait Village Waelata Sub-district, Buru District, Maluku Province | Heumasse | Hasanuddin University |
## Selection of Compound Group to Identify the Authenticity One of Jamu Product Using The Group Lasso for Logistic Regression

### Authors
Riau
IPB University

### Abstract

Positioning of subdistricts by factors household food security of TB patients in Surabaya

### Author
Ulama
Institut Teknologi Sepuluh Nopember

## Liu-type regression in statistical downscaling models for forecasting monthly rainfall salt as producer regions in Pangkep regency

### Authors
Sahriman
Hasanuddin University

### Abstract

The role of firm’s unique resource in developing sustainable competitive advantage from strategy inimitability and its effect on firm performance of mining companies in Indonesia

### Author
Rauf
Hasanuddin University

### Conference photographs

#### 1. Opening ceremony

- Speech by the chairman
- Speech by the vice rector of Hasanuddin University
- Banging the gong as the symbol of official opening

#### 2. Keynote speaker sessions

- Professor Ocky Karna Radjasa
- Professor Ian R. Young
- Professor Jalifah Binti Latip
3. Parallel talks

Oral presentations

Poster presentation

Two presenters from China

Welcome dinner and cultural evening

4. The committees

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Acknowledgements
We would like to thank Hasanuddin University as the main sponsor, who has supported the Third International Conference on Science (ICOS 2019)