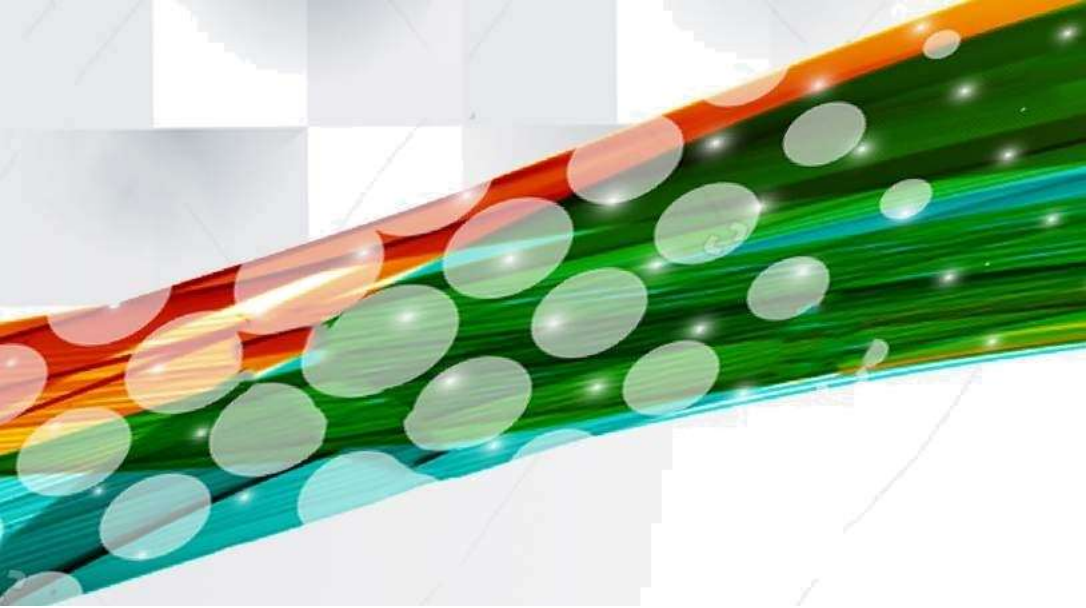


BOOK OF ABSTRACTS

The 2nd International Conference on Industrial Technology for Sustainable Development



PTi
8 A G U L T B

22-23 August 2019
Makassar-Indonesia

<https://wonitsd.teknologiindustriumi.ac.id/about-icon-itsd/>



PROGRAM SCHEDULE

| Day 1st: Thursday, August 22nd 2019 | | | | |
|---|---|---|--|--|
| 07.00 - 08.00 | Registration | | | |
| 08.00 - 09.45 | <p>Opening Ceremony</p> <ol style="list-style-type: none"> 1. Opening by MC 2. Al-Qur'an Recitation 3. The National Anthem of Indonesia 4. Opening Prayer of International Conference 4. Opening Remarks: <ul style="list-style-type: none"> - Chairperson of International Conference - Dr. Ir. Lamatinulu, ST., MT., IPM., AER - Officially open the International Conference - Rector of Universitas Muslim Indonesia 6. Keynote Speech <ul style="list-style-type: none"> - University Savoie Mont Blanc, France - Prof. Herve Boileau - Kyushu University, Japan - Assoc. Prof. Gerard B. Remijn - Universiti Sains Malaysia - Major Ts. Dr. Mohd Hazizan Bin Mohd Hashim - Chiang Mai Rajabhat University, Thailand - Dr. WorajitSettaphun - Universitas Muslim Indonesia - Ir. Hj. Setyawati Yani, ST., MT., Ph.D., IPM., AER | | | |
| 09.45 - 10.30 | Coffee Break | | | |
| 10.30-11.00 | Preparation for Parallel Session Presentation | | | |
| 1st Session Parallel Presentation | | | | |
| <i>Room</i> | Jasper | Sapphire | Emerald | Topaz |
| <i>Session Chair</i> | Dr.Eng. Irma Nur Afiah | Dr. Wiratni Budhijanto | Dr. Muthia Elma | Prof. Syahrudin Nawi |
| <i>PIC</i> | M. Ikhwan Nur Safutra | Muh. Arman | Rafdi Abd. Majid | M. Hardin Wakila |
| 11.00-11.07 | Analysis of The Effect of Work Activities and Lift Loads on Musculoskeletal Weakness in Factory Workers (Study Case, CV. Harapan Makmur) | Potential of Alkaloids Compound of Mangrove Perepat (Sonneratia Alba) Root Ethanol Fraction as A Natural Antibiotics Source | ZSM-5 zeolite from siliceous palm oil baltom ash under hydrothermal condition with varing aging time | Analysis of the Treatment of Leaf Extract of Crown Flower Plant (Calotropis gigantea) on the Mortality of Aedes aegypti Larvae |
| | (Sri Rahayu, Muhammad Dahlan, Ahmad Padhil) | (Madyawati Latief, Muhaimin, Hilda Amanda, Indra Lasmana Tarigan) | (Lenny Marlinda, Hari Wiki Utama, Wahyudi Za ar, Edwin Permana, Rahmi, Nur Wahyu Wulandari) | (A. Rizki Amelia A, Haeruddin, Rizky Ramadhanty) |



1st Session Parallel Presentation

| | | | | |
|-------------|---|---|--|--|
| 11.07-11.14 | Strategy for Development of Banana Chips in Bungku Utara District | Effect of Backwashing on Performance of Interlayer-free Silica Pectin Membrane for Wetland Saline Water | Copyrolysis of Rice Husk and Plastic Bags Waste from Low Density Polyethylene (LDPE) for Improving Pyrolysis Liquid Product | Impact of Health Education Media in Era Industrialization of Care for Eat Patterns of Pregnant Women High Risk |
| | <i>(Chaerul Fahmi Yusuf, Nur Mawati Mambuhu)</i> | <i>(Muthia Elma, Aulia Rahma, Sintong Leonardo Situngkir, Muh. Farid Hidayat)</i> | <i>(Hesti Wijayanti, Chairul Irawan, Yuli Ristianingsih)</i> | <i>(Tutik Agustini, Yusriani)</i> |
| 11.14-11.21 | Study Illuminaton Levels In Public Transportation of City Makassar Value of Ergonomic | Kinetics Study of Glycerol Degradation Reaction From Biodiesel Waste Using Sonication Method | Response Surface Methodology for Optimization Production Biodiesel from Coc nut Oil by Microwave-Assisted Transesterification using a low concentration NaOH Catalyst | The Role of Health Workers in Implementing of Childbirth Planning and Complication Prevention Program |
| | <i>(Ahmad Hanafie, Andi Haslindah, Hammada Abbas, Suradi)</i> | <i>(Isran Asnawi, Rismawati Rasyid, Dirgahayu Lantara, Ruslan Kalla)</i> | <i>(Mahfud Mahfud, Lailatul Qadriyah, Zakir Sab ra, Andi Suryanto)</i> | <i>(Muhammad Khidri Alwi, Yusriani)</i> |
| 11.21-11.28 | Tracking Masela Block: The Perspective and Roles of Local IE and Government could Play With | The Use of Papaya Seeds as a Natural Coagulant in Water Treatment from Tello River | Antibacterial Activity of Honey and Lime Fruit (<i>Citrus aurantifolia</i> (Christm.) Swingle) Peeling Waste Extract Against <i>Escherichia coli</i> and <i>Staphylococcus aureus</i> . | Impact of Using Gadgets on Subjective Complaints on Eye Health Disorders in Adolescents |
| | <i>(Simah Aisyah Marasabessy)</i> | <i>(Setyo Erna Widiyanti, Eko Wardana Saputra, Nur Insani, Pabbenteng)</i> | <i>(La Ode Sumarlin, Febri Laili Sa'adah, Nani Radiastuti)</i> | <i>(Yusriani)</i> |
| 11.28-11.35 | Optimization Of Strong Variation As A Increasing Attraction Power Of Combination Of Welding Materials Welding Model | Thermal cracking of Polyethylene terephthalate and Low-Density Polyethylene plastic waste mixtures at low temperature | Potential Tracking of Cytotoxic Activities of Mangrove Perepa e (<i>Sonneratia alba</i>) Root Extract As An Anticancer Candidate | Identification and Risk Assessment of Environmental Sanitation in Lae-Lae Island, City of Makassar |
| | <i>(Saripuddin M, Ahmad Hanafie, Hammad Abbas)</i> | <i>(Lenny Marlinda, Heriyanti, Sutrisno, Rahmi, Rahman Yuzhar)</i> | <i>(Madyawati Latief, Nelson, Hilda Amanda, Indra Lasmana Tarigan, Siti Aisyah)</i> | <i>(Alfina Baharuddin, Nurbaeti, Nurfardiansyah Bur, Syahab Salamun)</i> |



1st Session Parallel Presentation

| | | | | |
|-------------|--|--|---|--|
| 11.35-11.42 | Optimum Staying-Time in Wastewater Treatment System With Combination of Eichornia Crassipes, Zeolite and Betel Leaf Extract | Comparing Silica and Zeolite Sand as Filter Media by Neutralization, Coagulation and Vertical Sand Filtration for Treating of Wetland Saline Water | Enhancement Performances of Ultrafiltration Polysulfon Membrane (Uf-Psf) for Organic Matter Removal by Coagulation-Adsorption in Peat Water | Factors Related to Human Reliability Case Study: Workers in Units BTG Boiler, Turbin, Generator) PT. Semen Tonasa Biringkassi Port Pangkep District 2019 |
| | (Andi Haslinah, Andrie) | (Muthia Elma, Muh. Zainuddin, Eris Munandar, Sintong Leonardo Situngkir, Muh. Farid Hidayat, Dhiyaur Rahmah, Nur Baity) | (Amalia Enggar Pratiwi, Muthia Elma, Aulia Rahma, Erdina L.A. Rampun, Mahmud, Chairul Abdi, Raisa Rosadi) | (Nurbaeti, Yuliati, Alfina Baharuddin, Putri Indah M) |
| 11.42-11.49 | Design of Driving Precautions Information Tool Using Ultrasonic Sensors | Catalytic Cracking Crude Biodiesel from Used Cooking Oil with Catalyst Cr ₂ O ₃ /Zeolite | Synthesize Fe ₃ O ₄ -TiO ₂ composite for methyl orange photocatalytic degradation | Analysis of Mycoplastic Contamination on Green Shellfish (Perna Viridis) on the Tallo River in Makassar City in 2019 |
| | (I Saraswati, R Wiryadinata, A Setyana) | (Isalmi Aziz, Nanda Saridewi, Fitri Febriyani, Lisa Adhani) | (Indar Kustiningsih, Fajariswan Nurrahman, Desi Permatasari, Denni Kartika Sari, Jayanuddin) | (Nurfardiansyah Bur, Abdul Gafur, Alfina Baharuddin) |
| 11.49-11.56 | Product Development Analysis Of Dragon Fruit Praline Chocolate By Using Quality Function Deployment (QFD) Method | Characterization of Zeolites from Tasikmalaya and Its Application for Ammonium removal | Esterification of glycerol with acetic acid into bioadditive triacetin with Fe ₂ O ₃ /activated carbon catalyst | Perceived External Prestige: Meta-perception of Nurses and Customers's Opinion in Hospital, Makassar City |
| | (Andi Halindah, Andi Haslinah, Alfira Mutmainnah, Ilfa Zahrani Jail) | (Teguh Kurniawan, Nuryoto) | (Zahrul Mufrodi, Shinta Amelia) | (Nurmiati Muchlis, Fendy Suhariadi, Nyoman Anita Damayanti, Ah. Yusuf, A. Rizki Amelia) |
| 11.56-12.03 | Analysis of the Effect of OSHMS Implementation on Employee Productivity with Partial Least Squares (PLS) Method at PT Pelindo IV Makassar Container Terminal | Noodle Wastewater Treatment Using Simple Liming, Coagulation and Filtration Processes | The Acacia bark extract as a corrosion green inhibitor for the prevention of dry corrosion in steel | Social Harmonization and Law Awareness of Society to Overcome Intergroup Conflict in Makassar City |



1st Session Parallel Presentation

| | | | | |
|--|--|--|--|---|
| | <i>(Irma Nur Afiah, Taufik Nur, Ririn Ayu Lestari)</i> | <i>(Anna Sumardi, Muthia Elma, Aulia Rahma, Sintong Leonardo Situngkir, Muh. Farid Hidayat, Muh. Zainuddin, Eris Munandar)</i> | <i>(Diah Riski Gusti, Intan Lestari, Faizar Farid)</i> | <i>(Syahrudin Nawir, Muhammad Syarif Nuh, Hasan Kadir, Azwad Rachmat H)</i> |
|--|--|--|--|---|

12.03 - 13.30

Lunch Break

2nd Session Parallel Presentation

| <i>Room</i> | Jasper | Sapphire | Emerald | Topaz |
|----------------------|---|---|---|---|
| <i>Session Chair</i> | Dr. Lamatinulu | Dr. Lenny Marlinda | Dr. Anwaruddin Hisyam | Dr. Hasriwiani H. Abbas |
| <i>PIC</i> | M. Ikhwan Nur Safutra | Muh. Arman | Rafdi Abd. Majid | M. Hardin Wakila |
| 13.30-13.37 | Analysis of The Cause of Production Process Failure in Dg. Sija Coffee Processing Industry Using FMEA and FTA Methods | Comparison Between Strong and Weak Acid As An Acid Catalyst in Fabricating Silica Membranes for Water Desalination | Paving Block from LDPE Plastic and Pyrolysis Residue | Importance-Performance Analysis of Academic Services for Public Health Students |
| | <i>(Putri Adytia Cahyani, Abdul Mail, Nurhayati Rauf, Ahmad Padhil)</i> | <i>(Sazila Karina Rahman, Anna Sumardi, Adhe Paramita, Erdina Lulu Atika Rampun, Aulia Rahma, Muthia Elma)</i> | <i>(Heriyanti, Lenny Marlinda, Sutrisno, Malhatul Ulfa)</i> | <i>(Mansur Sididi, Nurmiati Muchlis, A. Surahman Batara)</i> |
| 13.37-13.44 | Analysis of Working Posture Using Manual Task Risk Assesment (Mantra) Method in Tofu Production Process in Baji | Interlayer-free Glucose Carbonised Template Silica Membranes Fabricated at Low Calcination Temperature via Rapid Thermal Processing (RTP) Technique | Development of a Diffusion-based Mathematical Model for the Prediction of Gold Electrowinning Performance | Comparasion Analysis of Organic Rice Farming and Conventional Rice Farming |
| | <i>(Muhammad Dahlan, Andi Pawennari, Irma Nur Afiah, Agfina Wardhani)</i> | <i>(Maimunawaro, Muthia Elma, Sazila Karina Rahman, Aulia Rahma, Erdina Lulu Atika Rampun, Mufidah Nur Amalia)</i> | <i>(Mustaf Mohamed, Sh kerri Ismail, Imam Santosa, Anwaruddin Hisya)</i> | <i>(Nuraeni, Muhammad Salim, Farizaah Dahifina Amran, Irfan)</i> |



2nd Session Parallel Presentation

| | | | | |
|-------------|--|---|---|---|
| 13.44-13.51 | Analysis of Manual Material Handling Using Niosh Lifting Equation Method in Indonesia Bureau of Logistics (BULOG) Warehouse Makassar | Effectiveness of Nano-chitosan Dispersion in Ice Blocks for Fresh Fish Preservation | Determination Percentage Of Inhibition Chitin Deaseetylase Enzyme In Optical Biosensor Using Chitosan Membrane Modification | Analysis of The Eye Fatigue Subjective Complaints on Airnav Air Traffic Controller Workers Branch Perum LPPNPI Makassar |
| | <i>(Rahmaniah Malik, Nurhayati Rauf, Irma Nur Afiah, Indriyati)</i> | <i>(Wiratni Budhijanto, Yohannes Susanto, Prihati Sih Nugraheni)</i> | <i>(Hamsina, Andi Abriana)</i> | <i>(Suharni A. Fachrin, Alfina Baharuddin, Rahmaniati)</i> |
| 13.51-13.58 | Analysis of Lightweight Bata Production Capacity Using Simulation Method of System Dynamics in Maccon Company Makassar | Effect of n-Hexane as Co-solvent on In situ Transesterification from Spirulina platensis using Microwave | Upgrading of Tantalum and Niobium Oxides from Bangka Tin Slag with Sodium Hydroxide Followed by Nitrate and Phosphate Acid | Evaluation of Soil Characteristics on Coffee Land in Sinjai Regency, South Sulawesi |
| | <i>(Riska Iva Riana, Abdul Mail, Muhammad Nusran)</i> | <i>(Ummu Kalsum, Mahmuddin Mahmuddin, Ahmad Roesyadi, Mahfud Mahfud)</i> | <i>(Rafdi Abdul Majid, S. Permana, Debby Rachel, Wahyu Kartika, Darnengsih, Munira Munira, Mustafiah Mustafiah)</i> | <i>(Asma Assa, Jamilah, Arni Pratama, Rahmad Wahyudi, Mamang)</i> |
| 13.58-14.05 | Analysis of Production Capacity Planning to Meet The Consumer Request Using The Rough Cut Capacity Planning (RCCP) in PT. Maccon Generasi Mandiri Makassar | The effect of catalyst concentration and reaction time on biodiesel production from palm oil using a catalyst $Mg(OH)_2 / \gamma-AI_2O_3$ | The Application of Liquid Pyrolysis of Coconut Shells on the Preservation of Mackerel Fish | Design of Juleha Knife Product and Models of System Dynamics Halal Chicken Product in Makassar City |
| | <i>(Suraidah, Lamatinulu, Muhammad Yakub, Ahmad Padhil)</i> | <i>(Winda Novia, Ikkal Jafar, Rahmaniah Malik, Anshariah, Rismawati Rasyid)</i> | <i>(Andi Aladin, Setyawati Yani, Takdir Syarif, Basri Modding, Lastri Wiyani)</i> | <i>(Muhammad Nusran)</i> |



2nd Session Parallel Presentation

| | | | | |
|-------------|---|---|--|--|
| 14.05-14.12 | Production Scheduling with Comparison Application of The Methods of Campbell Dudek Smith, Heuristic Pour and Palmer to Minimize Makespan Time (Case Study PT. JAPFA COM Feed Indonesia Tbk Unit Makassar) | Review on Solvent Extraction Of Bitumen From Asbuton As Raw Material for Non-Conventional Oil | Making Solid Fertilizer by Aerobic Process | Study of Campus-Based Trip Generation Model (Case Study: Muhammadiyah University of Makassar) |
| | <i>(Siti Ruqaiyah, Takdir Alisyahbana, Ahmad Padhil, Lamatinulu)</i> | <i>(Hermin Hardyanti Umar, Syahnur Said, Zakir Sabara, Setyawati Yani)</i> | <i>(N Nurjanah, La Ifa, Lukmanul Afdatullah, Dwi Nurhudaeni Abdullah)</i> | <i>(Lambang Basri Said, Hamdan Kadir)</i> |
| 14.12-14.19 | The Effect of Grain Size on The Compressive Strength of Canary Shell Bio-Briquette | Box-Behnken Design for Optimization of Microwave-Assisted Transesterification in the Production of Methyl Ester from Coconut Oil using CaO heterogeneous catalyst | Analysis of Liquid Smoke from Biomass Waste of Palm Kernels and Coconut Shell Using GC-MS | Mercury Pollution in The Aquatic System Near of Urban Artisanal Gold Mining (UAGM) Activity in Makassar, South Sulawesi, Indonesia |
| | <i>(Nur Asmiani, Sri Widodo, Bayu Sanjaya, Alfian Nawir, Nurliah Jafar, Alam Budiman Thamsi)</i> | <i>(Andi Suryanto, Ardiansyah, Surapto Suprpto, Mahfud Mahfud)</i> | <i>(Mustafiah Mustafiah, Rafdi Abdul Majid, Darnengsih, Munira Munira)</i> | <i>(Hasriwiani Habo Abbas, Masyuki Sakakibara, Lukmanul Hakim Arma, Suharni Andi Fachrin, Abdul Gafur)</i> |
| 14.19-14.26 | Determination of Nickel (Ni) Content Based on Thermal Analysis | Utilization of Microwave in Atsiri Oil Extraction from The Cananga Flower | Distribution of Arsen (As) as Soil Pollutant Around Antang Landfills Makassar City, South Sulawesi Province, Indonesia | MSVR (Mining Simulator Virtual Reality) Mining Activity Simulation Application Using Virtual Reality Technology |
| | <i>(Zulkifli Rumba A. Singku, Emi Prasetyawati Umar, Tri Andrayani HS. Kandora, Uswatul Khaerah, Jamaluddin, Habibie Anwar, Nurliah Jafar, Firman Nullah Yusuf)</i> | <i>(Zakir Sabara, Muh. Azis Albar J, Andi Syarifuddin, Andi Pawennari, Andi Suryanto)</i> | <i>(Andi Artiningsih, Sri Widodo, Alfian Nawir, Nurliah Jafar, Harwan)</i> | <i>(Giswa Ade Nugraha K, Emi Prasetyawati Umar, Anshariah, Zakir Sabara)</i> |



2nd Session Parallel Presentation

| | | | | |
|---|---|--|--|---|
| 14.26-14.33 | Organic Geochemistry of Outcrop Samples and Doda Oil Seep Collected from Lariang and Karama areas, West Sulawesi, Indonesia | Characteristics of Virgin Coconut Oil Emulsion at Room Temperature Storage | Optimization of Microwave Assisted Transesterification Insitu for Biodiesel Production from Microalgae using Box-Behnken Desig | Map of Landslide Disaster Area As A Disaster Management Effort In Masamba Sub-District, Indonesia |
| | <i>(Rakhmat Fakhruddin, Taufik Ramli, Dzul Fadli, Agus Ardianto Budiman)</i> | <i>(Lasri Wiyani, Andi Aladin, Setyawati Yani, Rahmawati, Mustafiah Mustafiah)</i> | <i>(Ummu Kalsum, Viqhie Aswi, Lailatul Qadriyah, Mahfud Mahfud)</i> | <i>(Alam Budiman Thamsi, Arif Nurwaskito, Nur Asmiani, Alfian Nawir)</i> |
| 14.33-14.40 | X | | | Effects of Multimedia Video Learning (MVL) on Male Sex Male (MSM) knowledge on Sexually Transmitted Infections (SMTs) in Bulukumba Regency <i>(Sukirawati, Sri Salmawati, Intan Deasy Aghmaitry, Andi Asrina, Fairus Prihatin Idris)</i> |
| 14.40-14.47 | | | | The effect of video toward Gay, Shemale, and Man who have sex with men (MSM) knowledge in effort to prevent sexually transmitted infections in Makassar <i>(Mirna, Sri Nurjian, Andi Asrina, Arman)</i> |
| 14.47-16.00 | | | | Networking & Coffee Break |
| 16.00-19.00 | Free Time | | | |
| 19.00-22.00 | Gala Dinner @ 2nd Floor MYKO Poolside | | | |
| Day 2nd: Friday, August 23rd 2019 | | | | |
| 07.30 - 12.00 | City Tour | | | |



PREFACE

Assalaamu 'alaikum Wr. Wb.

The 2nd International Conference on Industrial Technology for Sustainable Development (2nd ICon-ITSD) is the second conference series hosted by the Faculty of Industrial Technology Universitas Muslim Indonesia (FTI-UMI) and is held in Myko Hotel and Convention Center, Makassar Indonesia on August 22-23, 2019.

The 2nd ICon-ITSD is the place for academia, industries, and government representative to share and discuss various issues in the sustainable development of industrial technology, including engineering, environmental, socio-cultural, economic growth, policies, and related topics. This conference involves 5 keynote speakers from France, Japan, Thailand, Malaysia, and Indonesia. The participants are from researchers, practitioners, government officers, and students from some countries.

FTI-UMI and 2nd ICon-ITSD 2019 committee are thanking prominent keynote speakers, namely; Professor Herve Boileau (Universite Savoie Mont Blanc, France), A/Prof. Gerard B

Remijn (Kyushu University, Japan), Dr. Worajit Setthapun (Chiang Mai Rajabhat University, Thailand), Major Ts. Dr. Mohd Hazizan bin Mohf Hashim (Universiti Sains Malaysia, Malaysia) and Dr. Setyawati Yani (Universitas Muslim Indonesia, Indonesia) for their participants in the conference to deliver keynote speeches which covers topics of sustainable industrial practice, technology, management, and policy.

Special thank you goes to Badan Kejuruan Teknik Industri Persatuan Insinyur Indonesia (BKTI PII), Badan Kejuruan Kimia Persatuan Insinyur Indonesia (BKK PII), Badan Kejuruan Teknik Pertambangan Persatuan Insinyur Indonesia (BKTP PII), Postgraduate Program Universitas Sultan Ageng Tirtayasa, Universitas Ahmad Dahlan, Politeknik Negeri Kupang, and Indo-Franco Consortium for Sustainable Tourism for co-hosting the conference.

I am very grateful to the 2nd ICon-ITSD committee, session chairs, and student volunteers who selflessly contribute to the success of this conference. Also, we are thankful to all the authors who submitted papers, because of which the conference became a story of success. This book of abstract presents all abstract accepted for oral presentation in this conference. I hope this book could gain useful information for their research study.

I wish you all have a productive meeting.

Thank you,

*Wallahu Walliyut Taufiq Walhidayah,
Wassalamu Alaikum Wr. Wb*

Dean of Faculty of Industrial Technology,

Dr. Ir. H. Zakir Sabara HW, ST., MT., IPM., ASEAN Eng.



ABSTRACTS OF KEYNOTE SPEAKER

1. **Prof. Herve Boileau** - University Savoie Mont Blanc, France
2. **Assoc. Prof. Gerard B. Remijn** - Kyushu University, Japan
3. **Major Ts. Dr. Mohd Hazizan Bin Mohd Hashim** - Universiti Sains Malaysia
4. **Dr. Worajit Settaphun** - Chiang Mai Rajabhat University, Thailand
5. **Ir. Hj. Setyawati Yani, ST., MT., Ph.D., IPM., AER** - Universitas Muslim Indonesia



FACTORS RELATED TO HUMAN RELIABILITY CASE STUDY: WORKERS IN UNITS BTG BOILER, TURBIN, GENERATOR) PT. SEMEN TONASA BIRINGKASSI PORT PANGKEP DISTRICT 2019

Nurbaeti*, Yuliati, Alfina Baharuddin, Putri Indah M

Departement; Administration & Public Policy, Occupational Health and safety, Enviromental Health, Occupational Health and safety, Faculty of Public Health

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ABSTRACT. The Human Reliability Assessment (HRA) is a qualitative and quantitative method for measuring human contribution to a risk. The Human Reliability Assessment (HRA) can be caused by several factors such as length of work, use of PPE, K3 training, work period. The type of research used was

observational analytic with a cross sectional study design. The target population in this study were all workers working in BTG units (Boilers, Turbines, Generators) PT. Semen Tonasa Biringkassi Port Kab. Pangkep with 93 people. The results showed that there was no significant relationship between the old working variables with as many as 100.0% of the total total of 94 workers, while the variable use of PPE with a value ρ value = 0.368, K3 training with a value ρ value = 0.300, and work period ρ value = 0.641 does not have a relationship with human reliability (human reliability assessment) at workers in BTG units (Boilers, Turbines, Generators) PT. Semen Tonasa Port Biringkassi District. Pangkep.

Keywords: Human Reliability Assessment, Duration, PPE, Working Period, K3 Training