

Scientific Program

Day 1 : Wednesday, 1 September 2021				
08.00–08.30	Conference Registration at http://conference2021.ri2c.org			
08.30–08.45	General Introduction of RI ² C 2021			
08.45–09.00	Opening Session <ul style="list-style-type: none"> - Introduction of King Mongkut's University of Technology North Bangkok (KMUTNB) - Welcome & Report by Conference Chair: Professor Somrerk Chandra-Ambhon Vice President for Research and Technology Development of KMUTNB - Welcome & Opening Ceremony by President of KMUTNB: Professor Suchart Siengchin 			
09.00–09.10	Greeting and Welcoming by Master of Ceremony (MC) Welcome & introduce Professor San Hoa Thang (Plenary Speaker I)			
09.10–09.40	Plenary Speaker I : Professor San Hoa Thang (School of Chemistry, Monash University, Australia) Topic : RAFT PISA: A Versatile Tool to Functional Polymers as Nano-Objects with Various Morphologies			
09.40–09.50	Q & A			
09.50–09.55	Welcome & introduce Professor Yang Zhigang (Plenary Speaker II)			
09.55–10.25	Plenary Speaker II : Professor Yang Zhigang (School of Materials, Tsinghua University, China) Topic : Alloy Elements Partition Effect on Phase Transformation Kinetics in Steels			
10.25–10.35	Q & A			
10.35–10.40	Welcome & introduce Professor Yuttana Kumsuwan (Plenary Speaker III)			
10.40–11.10	Plenary Speaker III : Professor Yuttana Kumsuwan (Chiang Mai University, Thailand) Topic : Common-mode voltage mitigation for the new nine-switch voltage-source converter			
11.10–11.20	Q & A			
11.20–11.25	Welcome & introduce Dr. Wilaiporn Chetanachan (Plenary Speaker IV)			
11.25–11.55	Plenary Speaker IV : Dr. Wilaiporn Chetanachan (Principal innovation advisor office of the president & CEO, SCG) Topic : Innovation Accelerator “Deep Science and Tech”			
11.55–12.05	Q & A			
12.05–12.10	General Introduction : Guidelines for Presenters			
12.10–13.00	Break			
13.00–17.00	Parallel sessions (4 rooms)			
	<u>Room I</u> Innovative Sustainable Sciences (iSS)	<u>Room II</u> Innovative Materials Engineering (iME)	<u>Room III</u> Innovative Electricals and Electronics (iEE)	<u>Room IV</u> Innovative Electricals and Electronics (iEE)

2021 Research, Invention, and Innovation Congress (RI²C 2021)
1-2 September 2021 : Virtual Platform

Room I

Session : Innovative Sustainable Sciences (iSS)			
Chairman : Malinee Sriariyanun			
Time	Paper ID	Title	Presenter
13.00–13.15	ISS2021-05	Performance Modeling of the Darrieus Wind Turbine	Thuzar Mon
13.15–13.30	ISS2021-07	Coal/biomass co-combustion investigation by thermogravimetric analysis	Thidaporn Seangwattana
13.30–13.45	ISS2021-11	Relative Efficiency Analysis of Biomass Agricultural Plants using Data Envelopment Analysis	Kasin Ransikarbum
13.45–14.00	ISS2021-20	Effect of injection timing on particle size distribution of a diesel engine fueled with biodiesel-diesel blends	Pomprab Sriumpunpuk
14.00–14.15	ISS2021-23	The Comparative Study on Compressed Natural Gas (CNG) and Compressed Biomethane Gas (CBG) Fueled in a Spark Ignition Engine	Tanat Limpachoti
14.15–14.30	ISS2021-27	The Electrical Energy Modeling of the Modular Off-Grid PV System for Aquaculture Application in the EEC Region	Sukkhii Buakaew
14.30–14.45	ISS2021-30	Formation of multiple combustion fronts in an imbert downdraft gasification reactor	Kasemsil Onthong
14.45–15.00	ISS2021-31	Soot Oxidation in Diesel Exhaust on Silver Catalyst Supported by Alumina, Titanium and Zirconium	Punya Promhuad
15.00–15.15	ISS2021-32	Optimization of Microwave-Assisted Extraction of Residual Soybean Oil from Spent Bleaching Earth	Chanatip Dejkajorn
15.15–15.30	ISS2021-41	The Prototype of Non-thermal Plasma After treatment System for Simultaneous Reduction of Nitrogen Oxide Emission in Flue Gas	Dararat Laohalertdecha
15.30–15.45	ISS2021-43	The Study of Parameters Affecting Temperature of Journal Bearing and Shaft in Sugar Mill	Keittipong Choojit
15.45–16.00	ISS2021-06	Performance analysis of two-stage pressure retarded osmosis	Lida Simasatitkul
16.00–16.15	ISS2021-16	The Mechanical Properties of Oil Palm by Using Semi-Damp Dryer	Sakultala Wannapakhe
16.15–16.30	ISS2021-26	Comparison between pressure retarded osmosis model using batch and continuous water supply sources	Kingchat Potisa-ad
16.30–16.45	ISS2021-44	Perspectives of anaerobic decomposition of biomass for sustainable biogas production: A Review	S. Indran
16.45–17.00	ISS2021-18	Tensile Strength and Moisture Resistance Properties of Biocomposite Films Based on Polyvinyl Alcohol (PVA) with Cellulose as Reinforcement from Durian Peel Fibers	Melbi Mahardika

Room II

Innovative Materials Engineering (iME) Chairman : Rungsima Yeetsorn Co-Chairman : Walaiporn Prissanaroon-Oujai			
Time	Paper ID	Title	Presenter
13.00–13.15	MATPR-D-21-06073	Oxygen permeability properties of nanocellulose reinforced biopolymer nanocomposites	R.A. Ilyas
13.15–13.30	MATPR-D-21-05995	Influence of the stacking sequence and coconut husk micro fillers on the drilling parameters of coconut leaf sheath/glass/jute fiber hybrid phenol formaldehyde composites	Bharath Kn
13.30–13.45	MATPR-D-21-05901	Experimental Investigation on Mechanical, Chemical and Acoustical Properties of Natural Fiber Reinforced Hybrid Polymer Composites	Prabhu Loganathan
13.45–14.00	MATPR-D-21-06072	Rotomoulding Release Agent Preparation for Auto Part Fabrications	Kannika Onyu
14.00–14.15	MATPR-D-21-05732	Anti-Gnawing Bio-Polymer Composites from Non-Toxic Substances Extracted from Hot Chili Pepper	Arnuparb Prasarnsri
14.15–14.30	MATPR-D-21-05687	Effects of Water Hyacinth Fiber Size on Sound Absorption Properties of Advanced Recycled Palm Oil-based Polyurethane Foam Composite	Nathapong Sukhawipat
14.30–14.45	MATPR-D-21-05688	Effects of Caesalpinia Sappan L. Wood Fiber on A Novel Biodegradable Polybutylene Succinate Composite Film	Ekkachai Martwong
14.45–15.00	MATPR-S-21-07840	Limonia Acidissima (Wood-apple) shell: Micro and Nanoparticles Preparation and Chemical Treatment	Vasanth Kumar Shraavanabelagola Nagarajasetty
15.00–15.15	MATPR-D-21-05563	The Development of Modified Gold Nanoparticle for Detection of Arsenic	Saowapa T. Niyomthai
15.15–15.30	MATPR-D-21-05899	Effects of Auxiliary Chemicals and Dye Solubility on Chemical Oxygen Demand Reduction of Dyes by Electrocoagulation with Fe Electrode	Chantaraporn Phalakornkule
15.30–15.45	MATPR-D-21-05468	Clotrimazole-loaded fatty acid-based in situ forming film oral spray	Jongjan Mahadlek
15.45–16.00	MATPR-D-21-05467	Preparation of hydrogel with self-healing properties based on poly(vinyl alcohol)/corn starch/zeolite/cellulose nanocrystals for wound dressing applications	Poonsub Threepopnatkul
16.00–16.15	MATPR-D-21-04867	Effect of matrix-forming agent ratios on drug release, water sorption and erosion behaviors of shellac wax-poloxamer matrix tablet	Pornsit Chaiya
16.15–16.30	MATPR-D-21-05760	Aspen Adsorption Simulation for the Effects of Purge Flowrate and Vacuum Pressure in Vacuum Pressure Swing Adsorption	Sirawich Punpee
16.30–16.45	MATPR-D-21-05503	Facile synthesis of polyaniline-nickel oxide composites via interfacial polymerization	Achanai Buasri
16.45–17.00	MATPR-D-21-06139	In situ solvent removal-based Eudragit®L/dimethyl sulfoxide	Jongjan Mahadlek

Room III

Innovative Electricals and Electronics (iEE) : Computer & Information Technology			
Time	Paper ID	Title	Presenter
13.00–13.15	1570707163	A Genetic Algorithm for Split Delivery Open Vehicle Routing Problem with Physical Workload Consideration	Tarit Rattanamane
13.15–13.30	1570710541	The Amount of Solid Waste Forecasting Using Time Series ANFIS	Maleerat Maliyaem
13.30–13.45	1570710552	Optimal Order Picking Route in Automotive Part Warehouse Using Integer Programming	Janyaporn Cheewapongpan
13.45–14.00	1570711005	Guidelines for Information Technology Governance Based on Integrated ISO 38500 and COBIT 2019	Busarin Visitsilp
14.00–14.15	1570711010	Improving of Imbalanced Data in Multiclass Classification for Sentiment Analysis Using Supervised Term Weighting	Khanista Namee
14.15–14.30	1570711114	Time-Series Database Benchmarking Framework for Power Measurement Data	Lianne Kirsten Visperas
14.30–14.45	1570711270	Low Cost Automated OS Security Audit Platform Using Robot Framework	Hachol Dabthong
14.45–15.00	1570711378	Water Quality Assessment in the Lam Pa Thao Dam, Chaiyaphum, Thailand with K-Means Clustering Algorithm	Phukkaraphon Ardarsa
15.00–15.15	1570711488	Thai and English Languages Video Subtitle Recognition with CNN and LSTM Networks	Thanadol Singkhornart
15.15–15.30	1570711519	Smart Label Reader: The Prototype of Reading Aid for Thai Elderly	Yupin Suppakhun
15.30–15.45	1570711528	New Approach for Single Sign-On Improvement Using Load Distribution Method	Surachai Chitpinityon
15.45–16.00	1570711631	Analysis of Logistical Aspect of Food-Safety System in the Green Supply Chain Using Vehicle Routing Problem Model	Kasin Ransikarbum
16.00–16.15	1570711654	Design of a Decision Support System for Vegetarian Food Flavoring by Using Deep Learning for the Ageing Society	Akksatcha Duangsuphasin
16.15–16.30	1570712226	Deep Learning Approach for Complex Activity Recognition Using Heterogeneous Sensors from Wearable Device	Narit Hnoohom
16.30–16.45	1570713239	An Empirical Study of Intelligent Virtual Learning Platforms	Sakchai Chaiyarak
16.45–17.00	1570713336	Learning Sentiments Using Co-Occurrence Analysis	Nirach Romyen

Room IV

Innovative Electricals and Electronics (iEE) : Electromagnetics and Its Applications			
Time	Paper ID	Title	Presenter
13.00–13.15	1570700734	An Integrated 3D-Printed Lens with Ultra-wideband Flower-Shaped Stub Antenna for Ethanol-Water Mixture Characterization	Nonchanutt Chudpooti
13.15–13.30	1570710597	A Low-Cost Partially Reflective Surface for Gain Enhancement of Dual Polarized Microstrip Patch Antenna	Nonchanutt Chudpooti
13.30–13.45	1570710729	Non-Destructive Liquid-Mixture Sensor using Dual-Mushroom Resonator for Glucose Concentration Characterization	Nonchanutt Chudpooti
13.45–14.00	1570710988	Circularly Polarized Elliptical Patch Array Antennas for GPS	Prayoot Akkaraekthalin
14.00–14.15	1570711353	Characterization of Glass Samples for On-Glass WiFi and UHF RFID Antenna Design	Muhammad Uzair
14.15–14.30	1570711487	Interdigitated Capacitive Touch Sensor Integrated in Laminated Glass with a Large Sensing Area	Apichart Kaewcharoen
14.30–14.45	1570713614	An X-Band Array Antenna for Forward Looking Radar in Collision Avoidance Systems of Locomotives	Thipamas Phakaew
14.45–15.00	1570713799	Terahertz Free-Space Measurement System Using Low-Cost 3D Printed Hemispherical Lens Antenna	Nattapong Duangrit
15.00–15.15	1570713809	Broadband Single-Mode Hollow Substrate Integrated Waveguide with Photonic Crystal Sidewalls for Multilayer System-In-Package Applications	Binbin Hong
15.15–15.30	1570713810	Novel Hollow Substrate Integrated Waveguide for 5G and Robotic Applications	Giorgos Savvides
15.30–15.45	1570713813	A Novel 24-GHz Miniaturized Flexible Rectifier for Wireless Energy Harvesting	Bilal Malik
15.45–16.00	1570713932	Study on the Detection of Object Buried Under Railway by Using Clutter Removal Technique	Pongsathorn Chomdee
16.00–16.15	1570713954	Inspection of Rail Sweep Using Matrix Pencil Method Based-Radar Target Identification	Akkarat Boonpoonga
16.15–16.30	1570714096	Design and Experiment of a Wideband Circularly Polarized Stacked Patch Antenna for Universal UHF RFID Readers	Wanwisa Thaiwot
16.30–16.45	1570714129	Multiband Thin Film Antenna for WLAN and LTE MIMO Systems	Boonyarit Kumkhet
16.45–17.00	1570714651	Solving Transmission-Line (TL) Problems Using Simple Coupled Integral Equations and the Method of Moments (MM) for Undergraduate Education	Sangwon Kittiwittayapong
17.00–17.15	1570714655	Wideband Impedance Matching Using Quarter-Wave-Like Transformers Implemented by Asymmetric Compact Microstrip Resonant Cells	Sangwon Kittiwittayapong