

Symposium A1/A10 : Ferroelectrics and Related Materials/ Computation and Modeling

Chairs Prof. Dr. Naratip Vittayakorn
Assoc. Prof. Dr. Sirichok Jungthawan

Co-chairs Dr. Thitirat Charoonsuk
Assoc. Prof. Dr. Tosapol Maluangnon
Prof. Dr. Siriporn Jungsuttiwong
Assoc. Prof. Dr. Surachate Limkumnerd

Meeting room via Zoom application: Room 01

Wednesday 7th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Prof. Naratip Vittayakorn Co-chair: Assoc. Prof. Dr. Sirichok Jungthawan			
11:00-11:30	A1-I-006	Prof. Emeritus Dr. Seiji Kojima	Order-disorder nature and elastic anomaly of successive phase transition of (K _{0.5} Na _{0.5})NbO ₃ proved by broadband Brillouin scattering
11:30-12:00	A1-I-139	Prof. Dr. Vladimir Shur	Shapes of Micro- and Nano-domains in Uniaxial Ferroelectrics
12:00-12:20	A1-O-026	Asst. Prof. Dr. Sangwook Kim	Origin of Piezoelectricity by Partial Ordering of Off-centered Cation in Perovskite-type Pseudo-cubic Structure
12:20-12:40	A1-O-031	Dr. Kok-Geng Lim	Dynamics of Ferroelectric Polarization and Internal Electric Field in PbTiO ₃ /SrTiO ₃ Superlattices
Break			
Chair: Assoc. Prof. Dr. Suwit Suthirakun Co-chair: Dr. Thitirat charoonsuk			
13:30-14:00	A1-I-181	Dr. Ji Hye Lee	Enhanced Mechanical Switching of Ferroelectric Polarization via Multiple Coupled Atomic Distortion
14:00-14:30	A1-I-206	Asst. Prof. Dr. Daesu Lee	Stabilizing hidden room-temperature ferroelectricity via a metastable atomic distortion pattern
14:30-14:50	A1-O-071	Dr. Wei Peng	Oxygen Vacancy-Induced Topological Nanodomains in Ultrathin Ferroelectric Films
14:50-15:10	A1-O-093	Dr. Hiroshi Maiwa	Temperature change due to deformation of the poled PZT ceramics composite
Break			
Chair: Prof. Naratip Vittayakorn Co-chair: Assoc. Prof. Tosapol Maluangnont			
15:30-16:00	A1-I-140	Prof. Dr. Vladimir Shur	Periodical Poling with Submicron Periods in LNOI Wafers
16:00-16:20	A1-O-117	Mr. Tse Lung Lin	Dielectric Properties Of Nd(Ti _{0.5} W _{0.5})O ₄ Ceramics At Microwave Frequency
POSTER SESSION			
16:20-16:25	A10-P-141 (Withdrawn)	Dr. Sittichain Pramchu	First-principles-based crystal structure prediction of some ternary layered transition metal borides
16:25-16:30	A1-P-050	Asst. Prof. Dr. Chatchai Kruea-In	Phase formation and Electrical Properties of BNKT Ceramics Modified by KNbO ₃
16:30-16:35	A1-P-059	Asst. Prof. Dr. Sasipohn Prasertpalichat	Effects of B-site Mn-acceptor and Ta-donor doping in 0.93Bi _{0.5} Na _{0.5} TiO ₃ -0.07BaTiO ₃ lead-free ceramics
16:35-16:40	A1-P-161	Asst. Prof. Dr. Chtiakorn Kornphom	Low-Temperature-Sintering of Modified (K _{0.44} Na _{0.52} Li _{0.04})(Nb _{0.84} Ta _{0.10} Sb _{0.06})O ₃ Solid Solution Prepared via the Solid-State Combustion Technique

16:40-16:45 A1-P-168 Miss Surirat Yotthuan Phase evolution, microstructure and electrical responses of Cs⁺ substitution and direct doping in KNNT ceramics

Thursday 8th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Prof. Ranjit Thapa Co-chair: Asst. Prof. Dr. Suwit Suthirakun			
11:00-11:30	A10-I-085	Assoc. Prof. Dr. Khian-Hooi Chew	Phase Transitions, Hysteresis Loops and Electrocaloric effect in Antiferroelectric-Ferroelectric Superlattices
11:30-12:00	A1-I-220	Prof. Yoon Sook Oh	Interplay between built-in defect-dipole and ferroelectric polarization
12:00-12:20	A1-O-158	Assoc. Prof. Dr. MD Mijanur Rahaman	Site occupancy of Li ions in Li-doped K(Ta _{1-x} Nb _x)O ₃ single crystals :Reanalysis of inelastic light scattering data and first-principles calculations
12:20-12:40	A10-O-175	Dr. Narasak Pandech	First-principles Study of Spontaneous Polarization of Inorganic and Organic Germanium Based Halide Perovskites AGeX ₃ (A = Cs ⁺ , CH ₃ NH ₃ ⁺ ; X = I, Br, Cl)

Break

Chair: Assoc. Prof. Dr. Khian-Hooi Chew Co-chair: Dr. Thitirat Charoonsuk			
13:30-14:00	A10-I-218	Prof. Ranjit Thapa	Energy and Electronic Descriptors of Carbon based Catalyst Towards OER using Quantum Mechanics/Machine Learning Approach
14:00-14:30	A10-I-197	Asst. Prof. Dr. Suwit Suthirakun	A Computational Attempt to Unravel Small Polaron Transport in Transition Metal Oxide-Based Electrodes
14:30-14:50	A10-O-130	Dr. Wutthikrai Busayaporn	Mystery of Titania Surface, "The Most Well-known Oxide Surface but We DO NOT Know It All, Yet"
14:50-15:10	A10-O-143	Miss Preeyaporn Poldorn	The Catalytic CO ₂ Hydrogenation over Single-atom (Fe or Ni) incorporated nitrogen-doped graphene: A DFT Study

Break

Chair: Assoc. Prof. Dr. Surachate Limkumnerd Co-chair: Dr. Narasak Pandech			
15:30-16:00	A1-I-217	Dr. Chang Wei Sea	Water-assisted Electrical Poling of Ferroelectric Material and Its Potential in Photocatalytic Water Splitting
16:00-16:30	A1-I-219	Prof. Chan-Ho Yang	Fractionalized polar skyrmions in BiFeO ₃
16:30-16:50	A10-O-145	Miss Yuwanda Injongkol	Mechanistic insight into Catalytic Carbon Dioxide Hydrogenation to Formic Acid over Pt-doped Boron Nitride Nanosheets
16:50-17:10	A10-O-148	Miss Ratchadaree Intayot	Ti ₄ -Decorated B/N-Doped Graphene as High-Capacity Hydrogen Storage Material: A DFT Study

Friday 9th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Prof. Dr. Siriporn Jungstittiwong Co-chair: Assoc. Prof. Dr. Sirichok Jungthawan			
11:00-11:30	A10-I-198	Assoc. Prof. Dr. Jaekwang Lee	Cooperative evolution of polar distortion and nonpolar rotation of oxygen octahedra in oxide heterostructures
11:30-11:50	A10-O-152	Miss Suparada Kamchompoo	A DFT Study of Hydrodeoxygenation Reaction Mechanistic over MoP for Bio-Oil Treatment
11:50-12:10	A10-O-051 (Withdrawn)	Miss Supawadee Namuangruk	Synergy of a NiMn and N vacancy g-C ₃ N ₄ Sheet Boosts CO ₂ Electrochemical Reduction Reaction

Symposium A2: Novel Processing and Characterization Techniques**Chair** Assoc. Prof. Dr. Tawatchai Charinpanitkul**Co-chair** Assoc. Prof. Dr. Supree Pinitsoontorn
Dr. Pinit Kidkhunthod

Meeting room via Zoom application: Room 05

Thursday 8th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Assoc. Prof. Dr. Supree Pinitsoontorn			
11:00-11:30	A2-I-087	Prof. Yongxiang Li	High-Throughput Preparation and Property Investigations on Lead-Free Piezoelectric Ceramics
11:30-12:00	A2-I-183	Assoc. Prof. Dr. Goh Boon Tong	Controlled Growth of Silicon Based Core-Shell Nanowires by Hot-Wire Chemical Vapor Deposition and Their Electrochemical Properties for Energy Applications
12:00-12:30	A2-I-184	Dr. Tamil Selvi Velayutham	Piezoelectric Polymers and Its Recent Progress
Break			
Chair: Assoc. Prof. Dr. Tawatchai Charinpanitkul			
13:15-13:45	A2-I-185	Assoc. Prof. Dr. Deok Yong Cho	Use of X-ray Absorption Spectroscopy to Identify the Local Atomic Structures in Amorphous Thin Films
13:45-14:15	A2-I-186	Prof. Yoshihiro Kuroiwa	Study of Materials Structure Physics of Perovskite-type Ferroelectrics by Synchrotron Radiation X-ray Diffraction
14:15-14:45	A2-I-187	Prof. Ram P. Tandon (Presented by Dr. Poonam Pahuja)	Performance Enhancement in Multiferroic Composites
POSTER SESSION			
14:45-14:50	A2-P-049	Miss Luxsanaree Mala	Enhanced Antibacterial and Flame Retardant Properties of Silk Fabric by Silver Colloid and Montmorillonite
14:50-14:55	A2-P-057	Mr. Tirapat Wechprasit	Sonochemical Synthesis, Characterization and Photocatalytic Activity of Fe-doped BiVO ₄ Nanoparticles
14:55-15:00	A2-P-062 (Withdrawn)	Miss Wilaiwan Leenakul	The studying of Microstructure and Mechanical Properties of Lithium disilicate Glass-ceramic System For Dental Applications
Break			
Chair: Dr. Pinit Kidkhunthod			
15:15-15:45	A2-I-188	Prof. Ahmad Safari	Advances in Development and Applications of Piezoelectric Materials
15:45-16:15	A2-I-189	Prof. Zhili Dong	Transmission Electron Microscopy Study of Perovskite-type Manganite-based Heterostructures Prepared by Pulsed Laser Deposition
16:15-16:35	A2-O-023	Mr. Pichai Soison	Green Algae Synthesized Titanium Dioxide Nanoparticles and Their Photocatalytic Activity
16:35-16:55	A2-O-029	Mr. Akarawin Pimarnthisakorn	Hydrogen Production by Photoelectrochemical Water Splitting over Vanadium-Copper Oxide Bilayer Film
16:55-17:15	A2-O-024 (Withdrawn)	Asst. Prof. Dr. Samroeng Narakaew	A Simple Sonochemical Preparation and Characterization of Vanadium Oxides

Symposium A3 : Functional Ceramic Materials and Applications

Chair Professor Dr. Nisanart Traiphol
Asst. Prof. Dr. Uraiwan Intatha

Co-chair Asst. Prof. Dr. Natthaphon Raengthon

Meeting room via Zoom application: Room 2 (July 7) & SCI Space (July 8)

Wednesday 7th July 2021

Time	Abstract No.	Presenter	Title
Chair: Professor Dr. Nisanart Traiphol Co-chair: Asst. Prof. Dr. Natthaphon Raengthon			
11:00-11.30	A3-I-151	Prof. Dr. Sedat Alkoy	Antiferroelectrics Revisited for High Energy Density Capacitors and Large Strain Actuators
11:30-12.00	A3-I-101	Prof. Dr. Guorong Li	Critical State to Achieve a Giant Electric Field-induced Strain with a Low Hysteresis in Relaxor Ferroelectric Ceramics
12:00-12.30	A3-I-215	Prof. Naoki Ohashi	Oxysilicide semiconductors, a candidate for non-toxic semiconductor for infrared optoelectronic applications

Break

Chair: Professor Dr. Nisanart Traiphol Co-chair: Asst. Prof. Dr. Natthaphon Raengthon			
13:30-13.50	A3-O-039	Dr. Pinit Kidkhunthod	New transparent materials for applications as supercapacitors: manganese-lithium-borate glasses
13:50-14.10	A3-O-058	Miss Khanittha Ponsanti	Hybrid Materials for Diagnosis of Breast Cancer Cell: Development and Synthesis of Mesoporous silica nanoparticles (MSNs)/Silver nanoparticles (AgNPs)
14:10-14.30	A3-O-086	Dr. Navadecho Chankhunthod	Influences of Alkaline Metal Ions and Thermal Treatment for promoting TiO ₂ (B) nanorods in Hydrothermal Synthesis
14:30-14.50	A3-O-088	Assoc. Prof. Dr. Pornjuk Srepusharawoot	Improved dielectric properties of CaCu _{3-x} Mg _x Ti ₄ O ₁₂ ceramics fabricated through a chemical combustion method: experimental and computational studies
14:50-15.20	A3-I-190	Dr. David Hall	New Opportunities in BiFeO ₃ -BaTiO ₃ Solid Solutions

Thursday 8th July 2021

Time	Abstract No.	Presenter	Title
Chair: Professor Dr. Nisanart Traiphol Co-chair: Asst. Prof. Dr. Natthaphon Raengthon			
11:00-11.30	A3-I-210	Prof. Yun Liu	Structural evolution of Antiferroelectric Materials in High Power Energy Conversion
11:30-12.00	A3-I-191	Assoc. Prof. Dr. Benya Cherdhirunkorn	The effect of nitrogen ion implantation on the physical and dielectric properties of cobalt-doped PZT ceramics
12:00-12.30	A3-I-211	Assoc. Prof. Dr. Tonphong Kaewkongka	CNG Cylinder Inspection Using Acoustic Emission Technique

Break

Chair: Asst. Prof. Dr. Uraiwan Intatha Co-chair: Asst. Prof. Dr. Natthaphon Raengthon			
13:30-13.50	A3-O-095	Dr. Jingjing Feng	Effect of Organic Medium on Rheological Behaviors of Conductive Silver Paste System for LTCC
13:50-14.10	A3-O-115	Miss Pakamon Kittisayarm	Utilization of Activated Bagasse Ash for Early High Strength Metakaolin-Based Geopolymer
14:10-14.30	A3-O-157	Master Irem Bobrek	Determination of Dielectric and Ferroelectric Response of Mn-Doped 0.72PMN-0.28PT Piezoceramics

POSTER SESSION

14:30-14.35	A3-P-002	Asst. Prof. Dr. Vorrada Loryuenyong	Preparation of Luminescent Glass Aggregates from Soda-Lime Waste Glass
14:35-14.40	A3-P-003	Asst. Prof. Dr. Vorrada Loryuenyong	The Preparation of Reversible Thermochromic Mn-Doped Ca-Zn-Al-O Inorganic Materials

14:40-14.45	A3-P-038	Mr. Sornamol Traiphop	Study on Optical, Magnetic and Dielectric Properties of CuB _{1-x} GexO ₂ Delafossite Oxide
14:45-14.50	A3-P-054	Miss Suchitra Inthong	Synthesis and Properties of Magnesium Oxide/Nano Hydroxyapatite Composites
14.50-14.55	A3-P-056	Miss Tanisara Noinonmueng	Structural, Optical and Visible-light Driven Photocatalytic Properties of Yb-Doped BiVO ₄ Nanoparticles Prepared via Rapid Sonochemical Process
14:55-15.00	A3-P-060	Miss Pimchanok Patho	Silica Extraction from Electronic Insulator Waste Material by Hydrothermal Process
15:00-15.05	A3-P-079	Miss Aunsaya Eksatit	Microstructural and Interfacial Designs of Dual-Phase Oxygen Permeable Membranes for Oxygen Separation Application
15:05-15.10	A3-P-116	Mr. Karn Kitbumrung	Influence of Zeolite A for Early Strength of Cement Mortar and for Grinding Aid of Fine Pit Sand
15:10-15.15	A3-P-125	Miss Surintip Jaimuang	Investigation of mechanical properties of foam beads/basil seed reinforced lightweight cement

Symposium A4: Processing and Applications of Thin Films**Chair** Assoc. Prof. Dr. Wisanu Pecharapa**Co-chair** Assoc. Prof. Dr. Sakuntam Sanorpim

Meeting room via Zoom application: Room 05

Friday 9th July 2021

Time	Abstract No.	Presenter	Title
Chair: Assoc. Prof. Dr. Wisanu Pecharapa			
Co-chair: Assoc. Prof. Dr. Sakuntam Sanorpim			
11:00-11:30	A4-I-212	Prof. Jianhua Hao	Synthesis and applications of layered ultrathin films and MXene nanosheets
11:30-12:00	A4-I-216	Prof. Jiyan Dai	Electrical and thermoelectric properties of ZrTe ₂ thin films
12:00-12:30	A4-I-196	Dr. Jeong Rae Kim	Observation of Metallic Electronic Structure in a Single-Atomic-Layer Oxide Thin Film
Break			
13:30-13:50	A4-O-112	Mr. Nikhil Naidoo	Characterizations of Cadmium Sulphide Thin Films with Bismuth Doped Zinc Oxide Buffer Layer for Solar Cell Window Layer Applications
POSTER SESSION			
13:50-13:55	A4-P-070	Dr. Wanwisa Limphirat	Oxidation Dynamics of Iron- Cobalt – Alloy Thin Film During Annealing Studied by Time -Resolved X-ray Absorption Spectroscopy
13:55-14:00	A4-P-080	Mr. Nattawit Yutimit	Characterization of titanium dioxide doped with silver thin film synthesized by spark deposition technique
14:00-14:05	A4-P-082	Miss Panyanat Pimsarn	Optical properties of tungsten oxide/titanium dioxide thin-film composite layer prepared by electro spark deposition technique
14:05-14:10	A4-P-083	Mr. Phongpisut Thongwan	The effect of Ag-doped on ZnO thin films prepared by electro-spark deposition techniques
14:10-14:15	A4-P-098	Mr. Peerawoot Rattanawichai	Effect of Rapid Thermal Treatment on the Electrical Resistivity Improvement of nc-ZnO:Bi Thin Film and ITO substrate
14:15-14:20	A4-P-132	Dr. Phanawan Whangdee	Effect of fluoride and hydroxyl group on bioactivity of the anodized films prepared by two-step anodization at low current density
14:20-14:25	A4-P-174	Miss Nattamon Suwannaharn	Effect of Al Addition on Crystal Structure of AlGa _N /Ga _N on GaAs (001) Substrate Grown by MOVPE
14:25-14:30	A4-P-178	Mr. Nutthapong Discharoen	Effect of Cubic Ga _N Buffer Layer on MBE Growth of Cubic Al _N films on MgO (001) Substrates

Symposium A5: Dielectric Applications**Chair** Associate Professor Dr. Prasit Thongbai**Co-chair** Associate Professor Dr. Theerachai Bongkarn

Meeting room via Zoom application: Room 03

Wednesday 7 July 2021

Time	Abstract No.	Presenter	Title
Chair: Associate Professor Anurak Prasatkhetragarn Co-chair: Asst.Prof.Dr. Sasipohn Prasertpalichat			
11:00-11:30	A5-I-192	Prof. C.A. Lu	Dielectric Properties of Materials Measured in the Millimeter-Wave Frequency Range
11:30-12:00	A5-I-207	Asst. Prof. Viyada Harnchana	The Role of Dielectric Properties on Power Output of Triboelectric Nanogenerator
12:20-12:40	A5-O-090 (Withdrawn)	Prof. Dr. Zhifu Liu	Machine learning-assisted dielectric properties prediction and rational design of microwave dielectric ceramics

Break

Chair: Assist.Prof. Dr. Viyada Harnchana

Co-chair: Asst.Prof.Dr. Narit Triamnak

13:30-14:00	A5-I-193	Prof. Xiang-Ming Chen	Ordering domain engineering and physical properties modulation of Ba(Co ₁ /3Nb ₂ /3)O ₃ complex perovskite ceramics
14:00-14:30	A5-I-208	Assoc. Prof. Dr. Tosapol Maluangnont	Electric Modulus Study of the Dielectric Nanosheets – Metal Nanoparticles – Cellulose Filter Paper Compositeds Films for Triboelectric Nanogenerator
14:30-14:50	A5-O-108	Mr. Suchinda Chotiradsirikun	Biodegradable Nanocomposite derived from PLA/PBAT Blends with Transition Metal Cations Doped Porous Clay Heterostructure for Flexible Capacitor Applications
14:50-15:10	A5-O-113	Miss Samanya Paramee	Temperature and frequency dependence of dielectric relaxation in Metal-Organic perovskite-like framework

Break

Chair: Asst. Prof. Viyada Harnchana

Co-chair: Asst. Prof. Dr. Narit Triamnak

15:25-15:45	A5-O-119	Mr. Nattapong Chuewangkam	Dielectric and Mechanical Properties of Geopolymer-based Composites added with Sugarcane Bagasse Ash
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POSTER SESSION

15:45-15:50	A5-P-040	Assoc. Prof. Dr. Sukanda Jiansirisomboon	Fabrication of Dielectric La-doped HfO ₂ Thin Films
15:50-15:55	A5-P-096	Assoc. Prof. Dr. Mingsheng Ma	Low-temperature sintering of ZnAl ₂ O ₄ ceramics doped with 4CuO-TiO ₂ -2Nb ₂ O ₅ composite oxide sintering aid
15:55-16:00	A5-P-100	Miss Nateeporn Thongyong	Current-voltage characteristics and dielectric relaxations in Mg ²⁺ - Ta ⁵⁺ co-doped TiO ₂ ceramics
16:00-16:05	A5-P-104	Assoc. Prof. Dr. Pairot Moontragoon	Theoretical and Experimental Approaches of Effect of (Al, Ga) Doping Ions on Colossal Dielectric Properties of ZnO Ceramic
16:05-16:10	A5-P-105	Miss Yasumin Mingmuang	Nonlinear Electrical Properties and Enhanced Giant Dielectric Response in Sr/Mg-doped CCTO Ceramics with TiO ₂ -rich Phase
16:10-16:15	A5-P-106	Mr. Noppakorn Thanamoon	Effects of Sintering Conditions on High-Performance Dielectric Properties of Tb/Nb Co-doped TiO ₂ Ceramics
16:15-16:20	A5-P-126	Miss Sirintra Lokakaew	Preparation, Characterization, and Dielectric Properties of Nanocomposite Film Between PDMS and BT

16:20-16:25	A5-P-127	Miss Saryrung Khumtrong	Preparation, Characterization, and Dielectric Properties of BNT/PVDF Nanocomposite Films
16:25-16:30	A5-P-128	Mr. Thanakrit Theethuan	Preparation, Characterization, and Dielectric Properties of BT/PVDF Nanocomposite Films
16:30-16:35	A5-P-164	Dr. Pristanuch Masakul	The Dielectric and Electrochemical Properties of Zn-doped Titanate Nanowires Prepared by Hydrothermal Route
16:35-16:40	A5-P-171	Mr. Bhoowadol Thatawong	Dielectric and piezoelectric properties of near morphotropic phase boundary 0.94BNT-0.06BT ceramics synthesized by the solid-state combustion technique
16:40-16:45	A5-P-176	Mr. Thanakrit Onsri	Crystal structure, microstructure and electrical properties of $(\text{Ba}_{0.97}\text{Ca}_{0.03})(\text{Ti}_{0.94}\text{Sn}_{0.06-x}\text{Zr}_x)\text{O}_3$ ceramics synthesized by the solid state combustion technique

Symposium A6 : Piezoelectric Applications**Chair** Prof. Dr. Supon Ananta**Co-chair** Assoc. Prof. Dr. Nantakan Muensit

Meeting room via Zoom application: Room 03

Friday 9th July 2021

Time	Abstract No.	Presenter	Title
Chair: Prof. Dr. Supon Ananta			
Co-chair: Assoc. Prof. Dr. Nantakan Muensit			
11:00-11:30	A6-I-146	Prof. Shujun Zhang	Piezoelectric Materials and Application Oriented Figures of Merit
11:30-12:00	A6-I-179	Asst. Prof. Dr. Wee Chen Gan	Unraveling the effects of piezoelectric polarization on the surface charge density of hybrid-piezo/triboelectric nanogenerator
12:00-12:30	A6-I-194	Dr. Thulasinath Raman Venkatesan	Structure-Property Relationships in Three-Phase Relaxor-Ferroelectric P(VDF-TrFE-CFE) Terpolymer
Break			
Chair: Prof. Dr. Supon Ananta			
Co-chair: Assoc. Prof. Dr. Nantakan Muensit			
13:00-13:20	A6-O-025	Mr. Takahiro Samma	Freeze casting of cellular lead-free piezoelectric ceramics and piezocatalytic activity
13:20-13:40	A6-O-067	Master Ryota Yamamoto	Fabrication and Vibration Energy Harvesting of Polymer/Ceramic Multilayer Structure
13:40-14:00	A6-O-155	Master EZGI YALCIN	Comparison of the Performance Characteristics of the Tonpilz Transducers Fabricated from 0.60PMN-0.40PT & PZT Piezoceramics
14:00-14:20	A6-O-177	Master Muhammet Boz	Design, Finite Element Analysis, Fabrication and Electroacoustic Characterization of Transducer Arrays from Piezoceramics with Hollow Cylindrical Shell Form
POSTER SESSION			
14:20-14:25	A6-P-091	Dr. Hiroshi Maiwa	Effect of additives on lead-free antiferroelectric NaNbO ₃ ceramics

Symposium A7 : Quantum Technology**Chair** Assoc. Prof. Worawat Meevasana**Co-chair** Asst. Prof. Sujint Suwanna

Meeting room via Zoom application: Room 04

Friday 9th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Asst. Prof. Sujint Suwanna Co-chair: Dr. Thiparat Chotibut			
11:00-11:30	A7-I-223	Assoc. Prof. Worawat Meevasana	Ecosystem for Quantum Technology Research in Thailand
11:30-12:00	A7-I-224	Dr. Sorawis Sangtawesin	Quantum Sensing with the Flaws of Nature
12:00-12:30	A7-I-225	Dr. Jirawat Tangpanitanon	Business Opportunities for Quantum Computing and Simulations

BreakChair: Assoc. Prof. Worawat Meevasana
Co-Chair: Dr. Sorawis Sangtawesin

13:30-14:00	A7-I-226	Dr. Thiparat Chotibut	Machine intelligence in the age of quantum machine
14:00-14:30	A7-I-227	Dr. Pruet Kalasuwan	Light at the new dawn of quantum information
14:30-15:00	A7-I-228	Dr. Piyaphat Phoonthong	Enabling advanced technology with Quantum Metrology

Symposium A8 : Sensors and Actuators**Chair** Dr. Adisorn Tuantranont**Co-chair** Dr. Nadnudda Rodthongkum
Assoc. Prof. Dr. Toemsak Sriksirin

Meeting room via Zoom application: Room 05

Wednesday 7th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Dr. Adisorn Tuantranont Co-chair: Dr. Nadnudda Rodthongkum			
11:00-11:30	A8-I-209	Prof. Dr. Orawon Chailapakul	Nanomaterial-based Optical and Electrochemical Biosensors for detection of C-reactive Protein
11:30-12:00	A8-I-213	Prof. Kui Yao	Lead-free Oxide Piezoelectric Thin Films and Coatings for Future Electromechanical Sensors and Actuators
12:00-12:20	A8-O-156	Asst.Prof. Ayse Berksoy-Yavuz	The Effect of Mn-Doping on Structural and Electromechanical Properties of 0.26PIN-0.40PMN-0.34PT Ternary Piezoceramic System
Break			
Chair: Dr. Nadnudda Rodthongkum Co-chair: Assoc. Prof. Dr. Toemsak Sriksirin			
13:30-14:00	A8-I-195	Prof. Daniel Citterio	Analytical Devices Made from Paper for Calibration-Free Semiquantitative Colorimetric Assays
14:00-14:20	A8-O-084	Miss Kanchanok Phochakum	Development of conductive and biocompatible three-dimensional graphene-based composite scaffold for tissue engineering applications
14:20-14:40	A8-O-120	Miss Patiya Pasakon	Disposable Screen-Printed Carbon Electrode Compositing with Multi-Walled Carbon Nanotube and Graphene for Application as Electrochemical Sensor
14:40-15:00	A8-O-150	Mr. Chavalchart Herabut	Toilet Gadget and System for Urine Monitoring
Break			
Chair: Assoc. Prof. Dr. Toemsak Sriksirin Co-chair: Dr. Adisorn Tuantranont			
15:30-16:00	A8-I-211	Asst. Prof. Dr. Benchaporn Lertanantawong	Electrochemical DNA Sensors Development for Multiple Pathogens Detection
16:00-16:20	A8-O-159	Mr. Panjaphong Lertsathitphong	The active gold nanostructured formation and its electrocatalysis in sensing application from electrochemical restructuring with redox active species
16:20-16:40	A8-O-160	Miss Merve Nur Ciftci	Design, Development and Characterization of a 25-35 kHz Mid-Frequency Tonpilz Transducer Array from 0.675PMN-0.325PT Piezoceramics
POSTER SESSION			
16:40-16:45	A8-P-009	Mr. Keerakit Kaewket	Adsorptive Stripping Voltammetry of Environmental Contaminants at Activated Carbon Modified Electrodes: Adsorption Characteristics and Sensing Applications
16:45-16:50	A8-P-027	Asst.Prof.Dr. Ekasiddh Wongrat	Two Shapes of ZnO Nanostructure Modified with Metal Adding for n-Butanol Response Enhancement
16:50-16:55	A8-P-032	Miss Narumon Phonrung	Synthesis, characterization, and photophysical property of pyrazoline derivative
16:55-17:00	A8-P-137	Mr. Sarawut Kondee	Fabrication of Ammonia Gas Sensor Based on Carbon Quantum Dots
17:00-17:05	A8-P-138	Miss Alisa Saengsonachai	Development of Dual-Function Alternating Current Driven Electroluminescent Device
17:05-17:10	A8-P-200	Nadtinan Promphet	Thread-based Colorimetric Sensor for Sweat Glucose and Urea Detection

17:10-17:15	A8-P-201	Siraprapa Boobhpahom	Novel Paper-Based Electrochemical Sensor Based on CuO//ERGO Modified Electrode for Non-Enzymatic Creatinine Detection
17:15-17:20	A8-P-202	Jutiporn Yukird	Polyaniline Micellar Solution as A Label-Free Electrochemical Immunosensor for Sensitive Detection of Anti-Müllerian Hormone
17:20-17:25	A8-P-203	Surinya Traipop	Simple and effective fabrication of Cu-Pt bimetallic nanocatalysts modified boron-doped diamond electrodes for direct methanol oxidation
17:25-17:30	A8-P-204	Prinjaporn Teengam	Paper-based Fluorogenic DNA Sensor using PyrrolidinyI Peptide Nucleic Acids for Hepatitis C Virus Detection
17:30-17:35	A8-P-205	Sakda Jampasa	Sensitive Electrochemiluminescence Sensor Based on Nitrogen-decorated Carbon Dots as a Green Labeling Agent for Listeria Monocytogenes Determination

Symposium A9: Future energy materials**Chair** Assoc. Prof. Soorathep Kheawhom**Co-chair** Dr. Pimpa Limthongkul

Meeting room via Zoom application: Room 02

Thursday 8th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Associate Professor Dr. Soorathep Kheawhom Co-chair: Dr. Pimpa Limthongkul			
11:30-12:00	A9-I-214	Prof. Dr. Wei-Ren Liu	Graphene-based Materials for Li/Na ion Battery Applications
Break			
Chair: Associate Professor Dr. Soorathep Kheawhom			
13:30-13.50	A9-O-015	Mr. Natthapong Kamma	Silicon Anodes Encapsulated in Carbon to Improve Stability of Electrodes for Li-Ion Batteries
13:50-14.10	A9-O-016	Ms. Phontip Tammawat	Synthesis and Characterization of Ta-Substituted Cubic Garnet Li ₇ La ₃ Zr ₂ O ₁₂ via Solid-liquid Method for All-Solid-State Li-ion Batteries
14:10-14.30	A9-O-020	Ms. Panida Muangkasem	Effect of Electrode/Electrolyte Interphase formed by Multifunctional Lithium Salt Additive on Rate Capability and Cycling Performance Improvement of Lithium-ion Batteries
14:30-14.50	A9-O-077	Mr. Jaruwit Lohitkarn	Graphene Oxide-Supported Alpha-Manganese Dioxide Cathode in Laser-Treated Processing for High Rate Performance Zinc-Ion Battery
14:50-15.10	A9-O-134	Dr. Thanataon Pornphatdetadom	Catalytic Performances of M-doped MnO ₂ (M = Cu, Fe, or Ni) in Zn-air Flow Battery
Break			
Chair: Associate Professor Dr. Soorathep Kheawhom			
15:30-15.50	A9-O-036	Dr. Nattanaï Kunanusont	Degradation Diagnostics and Direct Recycling of Nickel-rich NMC cathode in Li-ion Batteries
15:50-16.10	A9-O-133	Dr. Theeranon Tankam	Upscale Zn and Mn Recycle Process from Spent Alkaline and Zinc-C Batteries
16:10-16.30	A9-O-037	Dr. Vituruch Goodwin	Activated Carbon from Palm oil Biomass via Hydrothermal Carbonization as Electrodes for Supercapacitors
16:30-16.50	A9-O-034	Dr. Parinya Jitreewas	Nitrogen-doped of Hydrothermal Palm Shell Activated Carbon for Supercapacitor Electrode Material
16:50-17.10	A9-O-017	Mr. Thanathon Sesuk	Microporous Activated Carbon from Wood Chip and Durian Peel for Application in Supercapacitor

Friday 9th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Associate Professor Dr. Soorathep Kheawhom			
11:00-11.20	A9-O-012	Ms. Pitchaporn Kansit	Effect of natural dyes on efficiency of dye-sensitized solar cells

11:20-11.40	A9-O-173	Dr. Mohammad Etesami	non-Precious Metals deposited on 3D Nitrogen-Doped Carbon Electrocatalyst for Oxygen Reduction Reaction
11:40-12.00	A9-O-011	Asst.Prof.Dr. Rangson Muanghlua	Enhanced Performance of Paper-based Triboelectric Nanogenerators using Additive Calcium Niobate Nanosheets
12:00-12.20	A9-O-167	Mr. Saman Kuntharin	Cement-based Composite For Large Scale Mechanical Energy Harvesting

Break

Chair: Dr. Pimpa Limthongkul

Co-chair: Associate Professor Dr. Soorathep Kheawhom

13:30-14.00	A9-I-222	Prof. Dr. Patchanita Thamyongkit	Phthalocyanine-based Polymer for Practical Heterogeneous Electrochemical Reduction of Carbon Dioxide
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POSTER SESSION

14:00-14.05	A9-P-147	Ms. Phonnapha Tangthuam	Anionic Polyelectrolyte as an anode Interface for Highly Stable Zinc Electrode
14:05-14.10	A9-P-131 (Withdrawn)	Dr. Rojana Pornprasertsuk	Preparation of MnOx/N-Doped Carbon Fiber by Electrospinning Technique for Zinc-Air Battery Application
14:10-14.15	A9-P-033	Mr. Chaithawat Waikhani	MnO ₂ Synthesis from Spent Alkaline and Zinc-Carbon Batteries for Zinc-ion Battery Application
14:15-14.20	A9-P-061	Dr. Chanade Wichasilp	Photocatalytic hydrogen production from aqueous glycerol solution using TiO ₂ – ZnO catalysts
14:20-14.25	A9-P-107	Ms. Ornuma Kalawa	PAN-Solution Route Synthesized Zn-doped MnCo ₂ O ₄ Nanoparticles as Electrode Material for High-Performance Supercapacitors
14:25-14.30	A9-P-169	Dr. Likkhasit Wannasen	Study of Effect of Electrolytes Solution on the Capacitance of Supercapacitor from Carbon nano Fibers from Bacteria Cellulose
14:30-14.35	A9-P-114	Ms. Suphawi Chaisit	Cassava starch-derived activated carbons as electrode materials for supercapacitors: Effects of NaOH activation temperatures
14:35-14.40	A9-P-135	Duangkamon Prasertdee	Supercapacitor Self-Discharge and Leakage Current Characterizations used for Hybrid Energy Storage System
14:40-14.45	A9-P-166	Mr. Guan Ting Lai	Delafossite-type CuCrO ₂ -CeO ₂ Nanocatalysts Prepared by Glycine Nitrate Process Use on Hydrogen Generation from Steam Reforming of Methanol
14:45-14.50	A9-P-165	Mr. Chung-Lun Yu	ZnO-ZnCr ₂ O ₄ Composite Fabricated by Glycine Nitrate Process and Application for Hydrogen Conversion with the Steam Reforming of Methanol
14:50-14.55	A9-P-019	Mrs. Kanyanut Konkate	Mn recovery from spent alkaline batteries via combined pyrometallurgical and hydrometallurgical methods for battery applications.
14.55-15.00	A9-P-065 (Withdrawn)	Dr. Achanai Buasri	River snail shell as highly effective renewable heterogeneous based catalyst for biodiesel production

Symposium A11 : Advanced Materials or Related Materials

Chair Dr. Pavadee Aungkavattana
Co-chair Assist. Prof. Dr. Niti Yongvanich

Meeting room via Zoom application: Room 03

Thursday 8th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Dr. Pavadee Aungkavattana			
Co-chair: Assoc. Prof. Dr. Niti Yongvanich			
11:00-11:30	A11-I-229	Prof. Hirofumi Tanaka	In-Materio Reservoir Computing Devices Consisted of Random Network Structures
11:30-11:50	A11-O-030	Dr. Chumphol Busabok	Synthesis of SiC Nanowires on Biochar Surfaces by Simple Direct Method
11:50-12:10	A11-O-073	Mr. Chatwarin Poochai	Preparation of polymeric solid electrolyte comprising of ionic liquid redox agent and organic salt and fabrication of carbon nanotube/activated carbon derived from palm shell for a high energy density flexible supercapacitor
12:10-12:30	A11-O-163	Mr. Ilias Klanurak	Fabrication of Encapsulated Graphene-Based Heterostructure Using Molybdenum as Edge-Contacts

Break

Chair: Dr. Pavadee Aungkavattana
 Co-chair: Assoc. Prof. Dr. Niti Yongvanich

POSTER SESSION

13:30-13:35	A11-P-118	Asst. Prof. Dr. Siriporn Phongtongpasuk	Impact of Biogenic Zinc Oxide Nano-Powder on Physiology, Antioxidant Response and Bromelain Production of In Vitro Shoot Culture of Ananas comosus
13:35-13:40	A11-P-121	Asst. Prof. Dr. Niti Yongvanich	Reduction in the Synthesis Temperature of Cobalt-doped Forsterite Pigments and their Stability in Ceramic Glazes
13:40-13:45	A11-P-122	Miss Surisara Phangkam	Preparation and characterization of expanded clay using a waste and industrial by-products
13:45-13:50	A11-P-123	Mrs. Pimpun Henpraserttae	The Effect of Alkali Activator Ratios on the Properties of Porous Geopolymer as Insulating Materials
13:50-13:55	A11-P-129	Miss Chonnipha Tangwongputti	Preparation of Visible-light responsive g-C ₃ N ₄ /Ag-TiO ₂ composite photocatalysts
13:55-14:00	A11-P-142	Assoc. Prof. Dr. Ratana Sananmuang	Removal of Chromium ions from Solution by the Modified Chitosan with Glycine Using the Batch Adsorption Technique
14:00-14:05	A11-P-162	Asst. Prof. Dr. Yuthapong Udnam	Characterization of Crab Shell Chitosan -Black Rice Husk Ash Composite Bead cross linking with Glutaraldehyde and Its Adsorption Behaviors for Reactive Red Dye
14:05-14:10	A11-P-172	Miss Chien-Ching Wang	Preparation, and Characterization of CuCrO ₂ -CeO ₂ Nanofibers by Electrospinning

Symposium S1 : International Collaboration on Materials Technology supported by AUN/SEED-Net, JICA**Chair** Assoc. Prof. Dr. Oratai Jongprateep**Co-chair** Assoc. Prof. Dr. Ratchatee Techapiesancharoenkij
Assoc. Prof. Dr. Rojana Pornprasertsuk

Meeting room via Zoom application: Room 04

Wednesday 7th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Assoc. Prof. Dr. Oratai Jongprateep Co-chair: Asst. Prof. Dr. Gasidit Panomsuwan			
11:00-11:15	Opening Remarks	Prof. Emeritus Dr. UEDA Tamon	AUN/SEED-Net and the Role in Enhancing the Capacity of Research and Development in Universities
11:15-11:45	S1-I-199	Prof. Dr. Jun Ohta	Implantable Optoelectronic Devices for Measuring and Controlling Biological Functions
11:45-12:15	S1-I-066	Prof. Dr. Jenn-Ming Song	Magnetically-controllable Hollow Multi-shell Magnetite Spheres as Highly Sensitive SERS Substrates
12:15-12:35	S1-O-052	Assoc. Prof. Dr. Ratchatee Techapiesancharoenkij	Characterization and Applications of ZnO Nanostructure Films: Transparent Conductive Film, Photocathodic Protection Coating, and Piezoelectric Nanogenerator

BreakChair: Assoc. Prof. Dr. Ratchatee Techapiesancharoenkij
Co-chair: Assoc. Prof. Dr. Rojana Pornprasertsuk

13:30-13:50	S1-O-149	Prof. Dr. Hem Raj Pant	Fabrication of Reduced Graphene Sheets Decorated with TiO ₂ Nanofibers
13:50-14:10	S1-O-014	Dr. Wei Lun Ang	Influence of Graphite Feedstock on the Characteristics of Silver-Decorated Graphene Oxide and Antimicrobial Property
14:10-14:30	S1-O-153	Prof. Dr. Mubarak Ali Davoodbasha	Synthesis and Characterization of Palladium Nanoparticles Using Solution Plasma Process and Their Cytotoxic Property
14:30-14:50	S1-O-078	Assoc. Prof. Dr. Oratai Jongprateep	Titanium Dioxide and Fluoropolymer-based Coating for Smart Gowns with Antimicrobial and Water Repellent Properties
14:50-15:10	S1-O-136	Prof. Dr. Aye Aye Thant	Controlled Synthesis of Carbon Nanotubes by Chemical Vapor Deposition Technique

BreakChair: Assoc. Prof. Dr. Oratai Jongprateep
Co-chair: Dr. Naray Pewnim

15:30-15:50	S1-O-021	Prof. Min Maung Maung	Sonication Effect on the growth of reduced Graphene Oxide (rGO) using Myanmar Coal (Graphite) Mineral as a Precursor
15:50-16:10	S1-O-076	Mr. Palani Krishnamurthya	Iron doped Nickel Hydroxide Nanosheets as Highly Efficient electrocatalysts for Hydrogen Evolution Reaction
16:10-16:30	S1-O-124	Dr. Khamhou Saphouvong	Properties of interlocking Clay Brick Mixing with Fly Ash from Hongsa Power Plant
16:30-16:50	S1-O-154	Prof. Dr. Mubarak Ali Davoodbasha	Synthesis of Cellulose-cobalt Nanobiocomposites Using Solution Plasma Process and Their Antimicrobial Property
16:50-17:10	S1-O-072	Prof. Dr. Yin Maung Maung	Modelling and Simulation of Solar Cell Considering Double Diode Equivalent Circuit Using Matlab/Simulink

Thursday 8th July, 2021

Time	Abstract No.	Presenter	Title
Chair: Assoc. Prof. Dr. Ratchatee Techapiesancharoenkij Co-chair: Assoc. Prof. Dr. Rojana Pornprasertsuk			
11:00-11:20	S1-O-008	Miss Kamolchanok Sarisuta	pH-Responsive Aggregation of Poly(L-lactide) Particles Bearing Hydrophilic Moiety Connected with Vanillin and Cyclic Acetal
11:20-11:40	S1-O-018	Miss Nicha Sato	Electrochemical Sensor for Dopamine Detection with Fe ₂ O ₃ Modified Microelectrode by Fast-scan Cyclic Voltammetry
11:40-12:00	S1-O-028	Miss Thanaree Treepetchkul	Development of Two Excitation Light Rejection Using Hybrid Filter for Dual-color Fluorescence Lensless Imaging Device

12:00-12:20	S1-O-035	Miss Natcha Kulmala	Development of Implantable Lens-free CMOS Image Sensor for Bioluminescence Resonance Energy Transfer (BRET) Observation
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Break

Chair: Asst. Prof. Dr. Gasidit Panomsuwan
 Co-chair: Assoc. Prof. Dr. Oratai Jongprateep

13:30-13:50	S1-O-055	Miss Myo Myo Thu	Thermal Oxidation of Nanocarbon Synthesized by Solution Plasma Process with Enhanced Supercapacitor Performance
13:50-14:10	S1-O-043	Miss Naw Blessing Oo	Development of ZnO-PVDF Piezoelectric Nanogenerator with Integration of Supercapacitor Electrode
14:10-14:30	S1-O-053	Miss Nu Myat Thazin	Kapok-Derived Porous Carbon Fibers with Controlled Morphology and Porosity for Supercapacitor Electrode Application
14:30-14:50	S1-O-046	Miss Khotamy Saphongxay	Effect of Hemp Yarn Reinforcement on Mechanical Properties of Lightweight Concrete Blocks
14:50-15:10	S1-O-044	Miss Siraprapa Pitiphatharabun	Graphene Oxide/ZnO Composite as Electrochemical Sensor for Acetylcholine Detection
15:10-15:30	S1-O-075	Mr. Barani Kumar Duvaragana	Simultaneous Phosphorous and Cobalt Doping on MoS ₂ supported with N, S-rGO for Improved Performance of Hydrogen Evolution Reaction Preference

Break

Chair: Assoc. Prof. Dr. Oratai Jongprateep
 Co-chair: Dr. Naray Pewnim

POSTER SESSION

15:30-15:40	S1-P-041	Mr Krittin Auewattanapun	Electrochemical Detection of Nitrite by Fe-doped CuO/MWCNTs Electrodes
15:40-15:50	S1-P-042	Miss Nonthaporn Jitnukul	Hydroxyapatite Coating on 3D Printed Aluminium/Bioplastic Scaffold for Bone Tissue Engineering
15:50-16:25	Discussion on collaborative projects		
16:25-16:30	Concluding remarks		