

# “Physics beyond disruption society”

Thursday, June 6, 2019 – Friday, June 7, 2019

Hansa JB Hotel, Hatyai, Songkhla, Thailand



SYNCHROTRON  
THAILAND  
CENTRAL LAB

ULVAC





## **SIAM PHYSICS CONGRESS 2019**

**Thursday, June 6, 2019 – Friday, June 7, 2019**

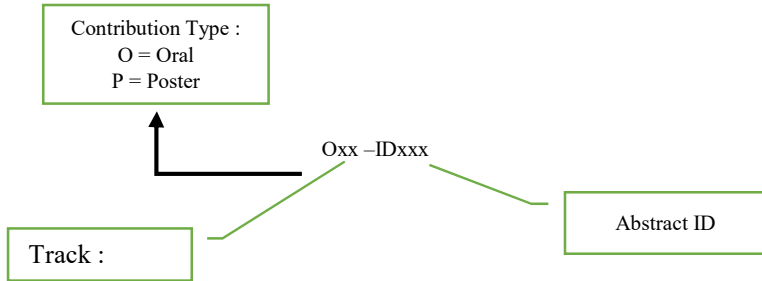
**Hansa JB Hotel, Hatyai, Songkhla, Thailand**

## **SCIENTIFIC PROGRAM**

SPC 2019 Program , Session Overview								
Thursday, June 6, 2019								
08:00-09:00 Registration : Takuapa room								
09:00-09:20 Opening ceremony : Takuapa room								
09:20-09:30 Group photo								
09:30-10:15 Plenary talk I : Prof. Dr. Sukit Limpajumung								
10:15-10:30 Coffee & Tea break								
10:30-11:15 Plenary talk II : Assoc. Prof. Dr. Thawatjai Onjan								
11:15-12:00 Special talk : Assoc. Prof. Boonrucksar Sonthorathum								
12:00-13:00 Lunch								
Parallel sessi	Takuapa A	Takuapa B	Songkhla room	Thong-Ake room	Koh Yor room		Pradtana room	Hatyai room
13:00-13:15		II	III	IV	V		VI	
13:15-13:30	Track 01	Track 12	Track 05	Track 04	Track 14		Project Competition	ThEP Meeting
13:30-13:45	Astronomy	Environmental Physics	High-energy	Statistical	Materials Physics,			
13:45-14:00	Astrophysics	Geophysics	and Particle Physics	Theoretical Physics	Nanoscale Physics			
14:00-14:15	and Cosmology	and Renewable Energy			Nanotechnology			
14:15-14:30								
14:30-14:45								
14:45-15:00								
15:00-15:15	Coffee & Tea break							
15:15-15:30	VII	VIII	IX	X	XI			
15:30-15:45	Track 01	Track 12	Track 05	Track 10	Track 14			
15:45-16:00	Astronomy	Environmental Physics	High-energy	Accelerators	Materials Physics,			
16:00-16:15	Astrophysics	Geophysics	and Particle Physics	Synchrotron Radiation	Nanoscale Physics			
16:15-16:30	and Cosmology	and Renewable Energy			and Nanotechnology			
16:30-17:30	Poster presentation A							

SPC 2019 Program , Session Overview							
Friday, June 7, 2019							
08:00 - 08:30 Registration							
08:30-09:15 Plenary talk III : Dr. Channarong Somdit							
09:15-10:00 Plenary talk IV : Prof. Paul Ho							
10:00-10:15 Coffee & Tea break							
Parallel sessior	Takuapa A	Takuapa B	Songkhla room	Thong-Ake room	Koh Yor A room		Koh Yor B room
10:15-10:30	XII	XIII	XIV	XV	XVI	Track 02	XVII
10:30-10:45	Track 01	Track 13	Track 18	Head of Physics Department Meeting	Atomic Physics,		Track 07
10:45-11:00	Astronomy	Instrumentation	Physics Teaching		Quantum Physics,		Condens Matter Physics
11:00-11:15	Astrophysics	Metrology			Molecular		Track 08
11:15-11:30	and Cosmology	and Standards			and Chemical Physics		Atmospheric Physics
11:30-11:45							
11:45-12:00							
12:00-13:00	Lunch time						
13:00-13:15	XVIII	XIX	XX	XXI	XXII		XXIII
13:15-13:30	TNAM meeting	Track 13	Track 18,19	Track 01	Track 06 , 09 ,17		Track 03,11
13:30-13:45		Instrumentation	Physics Teaching	Astronomy	Ion		Optics, Non-linear
13:45-14:00		Metrology	Information and Co	Astrophysics	and Plasma Physics		Laser Physics
14:00-14:15		and Standards		and Cosmology	Nuclear and Radiation		Biological Physics
14:15-14:30					Surface, Interface and		and Biomedical Engineering
14:30-14:45	Coffee & Tea break						
14:45-15:00	XXIV	XXV					
15:00-15:15	TNAM meeting	Track 13					
15:15-15:30		Instrumentation					
15:30-15:45		Metrology					
15:45-16:00		and Standards					
16:00-17:00	Poster Presentation B						
17:00-19:00	Thai Physics Society Annual Meeting (Sirinapha room)						
19:00-23:00	Conference Dinner & Closing Ceremony (Sirinapha room)						

## Guide to Presentation code



- 01 Astronomy, Astrophysics and Cosmology
- 02 Atomic Physics, Quantum Physics, Molecular and Chemical Physics
- 03 Optics, Non-linear Optics, Laser Physics, Ultrafast Phenomena
- 04 Statistical and Theoretical Physics
- 05 High-energy and Particle Physics
- 06 Ion and Plasma Physics
- 07 Condensed Matter Physics
- 08 Atmospheric Physics
- 09 Nuclear and Radiation Physics
- 10 Accelerators and Synchrotron Radiations
- 11 Biological Physics and Biomedical Engineering
- 12 Environmental Physics, Geophysics and Renewable Energy
- 13 Instrumentation, Metrology and Standards
- 14 Materials Physics, Nanoscale Physics and Nanotechnology
- 15 Magnetic and Semiconductor Devices
- 16 Photonics and Optoelectronics
- 17 Surface, Interface and Thin Films
- 18 Physics Teaching
- 19 Information and Communication Technologies in Teaching Physics

Example ; O01-ID024 , P10-ID156

## **Oral Session**

**Oral Session**  
**Thursday, June 6, 2019**

<b>Room</b>	<b>Takuapa A</b>
<b>Session</b>	<b>I</b>
<b>Chairperson</b>	<b>David Mkrtchian</b>
<b>Track</b>	<b>1 - Astronomy, Astrophysics and Cosmology</b>
13:00-13:15	O01-ID229 Confronting Galactic model and microlensing data with MaBULS <b>Supachai Awiphan</b>
13:15-13:30	O01-ID144 Effects of Moon Presence on the Transiting Exoplanet Light Curves: Theory and Empirical Relations <b>Pongpichit Chuanraksasat</b>
13:30-13:45	O01-ID196 Possible Circumbinary Planet around NSVS14256825 <b>Pranita Sappankum</b>
13:45-14:00	O01-ID045 A Study on the Physical Properties of Exoplanet HAT-P-43 b <b>Prangsutip Cherdwongsung</b>
14:00-14:15	O01-ID246 Physical Properties of RR Lyrae Variables in Galactic Globular Clusters and Dwarf Spheroidal Galaxies <b>Saruta Benkortem</b>
14:15-14:30	O01-ID139 Physical Properties Distribution of Galaxy Population in Abell 2142 Cluster <b>Kledsai Poopakun</b>
14:30-14:45	O01-ID060 Orbit Determination of Satellite in Geostationary orbit above Thailand's sky <b>Kanpatom Kasonsuwan</b>

<b>Room</b>	<b>Takuapa A</b>
<b>Session</b>	<b>VII</b>
<b>Chairperson</b>	<b>Koichiro Sugiyama</b>
<b>Track</b>	<b>I - Astronomy, Astrophysics and Cosmology</b>
15:00-15:15	O01-ID094
	Empirical Model of Magnetic Field Line Spreading in Isotropic Turbulence with Zero Mean Field
	<b>Wirin Sonsrettee</b>
15:15-15:30	O01-ID129
	Recurrent Forbush Decreases of Galactic Cosmic Ray Intensity in Positive and Negative Solar Magnetic Cycles
	<b>On-uma Kallaya</b>
15:30-15:45	O01-ID294
	Pitch Angle Diffusion Coefficients in Test Particle Simulations and Estimation of the Particle Parallel Mean Free Path
	<b>Chanidaporn Pleumreedaporn</b>
15:45-16:00	O01-ID106
	A Data-Driven Simulation Study of Magnetic Reconnection at the Leading edge of an Interplanetary Coronal Mass Ejection on 2005 January 21
	<b>Pakkapawn Prapan</b>
16:00-16:15	O01-ID241
	Can single secondary particles from cosmic rays explain the high counter multiplicity rate at the Princess Sirindhorn Neutron Monitor?
	<b>Hannarong Jantaloet</b>
16:15-16:30	O01-ID240
	Atmospheric water vapor correction to cosmic ray spectrum measurements from Princess Sirindhorn Neutron Monitor
	<b>Chanoknan Banglieng</b>
16:30-16:45	O01-ID312
	Galactic Cosmic-Ray Anisotropy During Forbush Decreases: A Case Study of Six Forbush Decrease Events
	<b>Grace Ihongo</b>

<b>Room</b>	<b>Takuapa B</b>
<b>Session</b>	<b>II</b>
<b>Chairperson</b>	<b>Jatuporn Kaew - On</b>
	<b>Panatcha Anusasananan</b>
	<b>Patanapol Meena</b>
<b>Track</b>	<b>12 – Environmental Physics, Geophysics and Renewable Energy</b>
13:00-13:15	O12-ID014
	An investigation of poleward expansion of the Hadley circulation using cloud cover
	<b>Wanchalerm Chanalert</b>
13:15-13:30	O12-ID093
	The Comparison of Accuracy and Efficiency of Finite Difference Method, Finite Element Method and Finite Volume method: 2-D Magnetotelluric Modeling Case
	<b>Thanapon Khampichit</b>
13:30-13:45	O12-ID134
	Comparing performance of Multi-frequencies Occam's receiver function inversion to standard linearized receiver function inversion
	<b>Sarun Trinakoon</b>
13:45-14:00	O12-ID188
	Characteristic of DBD Plasma Ozonation System and Its Application on Health Agricultural Products
	<b>Puthita Rodsong</b>
14:00-14:15	O12-ID198
	Investigation of Effect of Central Gap's Width and Length of Magnetic Material on Heat Transfer and Pressure Loss of Water Flow using Computational Fluid Dynamics
	<b>Jirattaya Thongjamroon</b>
14:15-14:30	O12-ID210
	The Study of the Flow Control Valve Effect on the Electricity Production Efficiency of Pico Hydro Generator
	<b>Monchai Thiwaworachai</b>
14:30-14:45	O12-ID225
	Effect of Blade Number and Angle on the Characteristics of the Savonius Type Wind Turbine
	<b>Tanate Chaichana</b>
14:45-15:00	O12-ID233
	Vehicular Traffic Simulation Using Cellular Automata Model for Traffic Light Management in Intersection System
	<b>Napat Srichan</b>



15:00-15:15	O12-ID249
	Development of Combined Heat Sources for In-store Paddy Drying
	<b>Chitsanu Taveesuvun</b>

<b>Room</b>	<b>Takuapa B</b>
<b>Session</b>	<b>VIII</b>
<b>Chairperson</b>	<b>Jatuporn Kaew – On</b>
	<b>Nares Chimres</b>
<b>Track</b>	<b>12 – Environmental Physics, Geophysics and Renewable Energy</b>

15:15-15:30	O12-ID269
	Investigation of Fluid Dynamic of Vertical-Axis Wind Turbine Blade for Low Wind Speed of Thailand by CFD
	<b>Thanaphat Akkarachaiphant</b>
15:30-15:45	O12-ID311
	Forward modeling of 2.5-dimensional controlled-source electromagnetic survey
	<b>Kittipong Phueak-Im</b>
15:45-16:00	O12-ID335
	Crustal density structure across Thailand delineated from 2D density modeling using gravity data and receiver function data
	<b>Nadprapa Nornin</b>
16:00-16:15	O12-ID345
	The spatio-temporal relation of seismic moment release of 2014 Chiang Rai Earthquake and its aftershocks: an implication for secondary aftershocks generating mechanism
	<b>Sutthipong Noisagool</b>
16:15-16:30	O12-ID341
	Wind Turbine Generators Parking Optimization over Complex Terrain in Thailand
	<b>Pongsak Makhampom</b>
16:30-16:45	O12-ID332
	Design and Test of DC Motor Drive System For Agriculture Electric Vehicle
	<b>Pornchai Pornharuthai</b>
16:45-17:00	O12-ID327
	Testing of WRF Atmospheric Modeling for Offshore Wind Resource Assessment in the Gulf of Thailand
	<b>Chana Chancham</b>
17:00-17:15	O12-ID318
	High Resolution Wind Resource Mapping for Small-Scale Wind Turbine Generator Integrated in the High-Rise Building in Bangkok, Thailand
	<b>Lattawan Niyomtham</b>

17:15-17:30	O12-ID227
	Characterization of Briquette from the mixture of Oil Palm Trunks (OPT), Oil Palm Shell (OPS) and Oil Palm Decanter Cake (OPDC)
	<b>Jompob Waewsak</b>

<b>Room</b>	<b>Songkhla room</b>
<b>Session</b>	<b>III</b>
<b>Chairperson</b>	<b>Mudtorlep Nisoa</b>
	<b>Nopparit Somboonkittichai</b>
<b>Track</b>	<b>05 – High – energy and Particle Physics</b>
13:00-13:15	O05-ID080
	Photon Signal from Non-Interacting Scalar Dark Matter Annihilation
	<b>Supalert Sukrakarn</b>
13:15-13:30	O05-ID135
	Quasinormal modes of Dirac field in dRGT massive gravity
	<b>Ratchaphat Nakarachinda</b>
13:30-13:45	O05-ID146
	Application of Adversarial Networks in search for four top quark production in CMS
	<b>Vichayanun Wachirapusanand</b>
13:45-14:00	O05-ID166
	Cosmic inflation in minimally modified gravity theories
	<b>Jakkrit Sangtawee</b>
14:00-14:15	O05-ID193
	Dark matter from the inert Higgs doublet model.
	<b>Wararat Treesukrat</b>
14:15-14:30	O05-ID211
	Quasinormal modes of spin-3/2 fields in general dimensional Schwarzschild AdS black hole spacetimes
	<b>Chun-Hung Chen</b>
14:30-14:45	O05-ID267
	Pair Productions from Gauge bosons Collision
	<b>Worapon Phatcharasirinawakun</b>

<b>Room</b>	<b>Songkhla room</b>
<b>Session</b>	<b>IX</b>
<b>Chairperson</b>	<b>Prasong Kessaratikoon</b>
	<b>Tosaporn Angsachon</b>
<b>Track</b>	<b>05 – High – energy and Particle Physics</b>
15:00-15:15	O05-ID285
	Spontaneous R-Symmetry Breaking in Broken Supersymmetric Vacuum
	<b>Sirapat Lookrak</b>
15:15-15:30	O05-ID261
	Upgrade of Eutelescope for the Characterization of Alpide Sensor
	<b>Jetnipit Kaewjai</b>
15:30-15:45	O05-ID018
	Azimuthal emission patterns of proton in $58\text{Ni} + 58\text{Ni}$ collision at intermediate energy by using the quantum molecular dynamics model
	<b>Pitchayapak Kunkaew</b>
15:45-16:00	O05-ID017
	Elliptic flow of proton in $197\text{Au} + 197\text{Au}$ collision reaction at intermediate energy by using quantum molecular dynamics model
	<b>Tanaporn Boonprasert</b>
16:00-16:15	O05-ID021
	The Effect of $K^+$ Potential on Nuclear Equation of State for $K^+$ Production in Heavy ion Collision by using The Quantum Molecular Dynamics Model
	<b>Jenitsata Jeerakad</b>

<b>Room</b>	<b>Thong-Ake</b>
<b>Session</b>	<b>IV</b>
<b>Chairperson</b>	<b>Yongyut Laosiritaworn</b>
	<b>Manit Klawtanong</b>
	<b>Anusorn Tong-on</b>
<b>Track</b>	<b>4 – Statistical and Theoretical Physics</b>
13:00-13:15	O04-ID232
	A simplified phase coherence index to characterize intermittent fluctuations
	<b>David Ruffolo</b>
13:15-13:30	O04-ID001
	Simulation of phase-ordering dynamics of 2d Ising model under influence of oscillatory shear
	<b>Srawut Sasom</b>
13:30-13:45	O04-ID009
	Shape transitions of rope coiling on a rotating plane
	<b>Sitichoke Amnuanpol</b>
13:45-14:00	O04-ID165
	Quantum random walk on a one-dimensional lattice with two entangled particles
	<b>Ibrahim Yahaya Muhammad</b>
14:00-14:15	O04-ID200
	Macroscopic model for multi-anticipation self-driving cars
	<b>Takla Nateeboon</b>
14:15-14:30	O04-ID265
	The Knowledge Based Solving of Time Dependent Schrödinger Equation Under Coulombic Interaction : The Deep Learning Analysis
	<b>Jayakrit Hirisajja</b>
14:30-14:45	O04-ID281
	Quantum commuting flows for discrete-time harmonic oscillator
	<b>Panus Sawetpiyakul</b>
14:45-15:00	O04-ID287
	Quantum Random Walks with Fluctuation in Coin Operator
	<b>Sujin Suwanna</b>

<b>Room</b>	<b>Thong-Ake</b>
<b>Session</b>	<b>X</b>
<b>Chairperson</b>	<b>Sampart Cheedket</b>
	<b>Sitti Buathong</b>
<b>Track</b>	<b>4 – Statistical and Theoretical Physics</b>
	<b>10 – Accelerators and Synchrotron Radiations</b>
15:15-15:30	O04-ID373
	Effect Structure in Physics and Hints to Economics Equation of State
	<b>Burin Gumjudpai</b>
15:30-15:45	O04-ID349
	Anomalous diffusion of particles in one dimension in the presence of quantum correlation
	<b>Suranchana Suchanacha</b>
15:45-16:00	O10-ID081
	Investigation of Fe Oxidation States on Purple- and Yellow-Quartz
	<b>Natthapong Monarumit</b>
16:00-16:15	O10-ID112
	Present Status of 4-MeV Electron Beam Accelerator System for Natural Rubber Irradiation
	<b>Sikharin Suphakul</b>
16:15-16:30	O10-ID114
	Simulation of Electron Beam Energy and Calibration of Alpha Magnet Energy Slits
	<b>Kittipong Techakaew</b>

<b>Room</b>	<b>Koh Yor A &amp; B</b>
<b>Session</b>	<b>V</b>
<b>Chairperson</b>	<b>Sorasak Danworaphong</b>
	<b>Methee Promsawut</b>
	<b>Kowit Lertwittanon</b>
<b>Track</b>	<b>14 – Materials Physics, Nanoscale Physics and Nanotechnology</b>
13:00-13:15	O14-ID107
	Near-Wall Molecular Ordering of Dilute Ionic Liquids
	<b>Monchai Jitvisate</b>
13:15-13:30	O14-ID141
	Characterizations of carbon nanotubes grown on clay
	<b>Supakporn Aodkeng</b>
13:30-13:45	O14-ID142
	Physical and chemical characterizations of Lopburi calcined clay
	<b>Phakin Chomyen</b>
13:45-14:00	O14-ID155
	L-Cysteine/Graphene Oxide for Electrochemical Determination of Ascorbic Acid in the Presence of Dopamine and Uric Acid
	<b>Worapot Prongmanee</b>
14:00-14:15	O14-ID187
	Prediction of the bitterness of pharmaceutical drugs using a taste sensor with representative group data by the center of mass
	<b>Sarika Pradhan</b>
14:15-14:30	O14-ID228
	Electronic structure of nontoxic-inorganic perovskites : CsMgBr <sub>3</sub> for solar cell application using DFT calculation
	<b>Chaiyawat Kaewmeechai</b>
14:30-14:45	O14-ID254
	Study of the relation between torsional shear stress and transverse torsion angle of cable
	<b>Jatuporn Puntree</b>
14:45-15:00	O14-ID257
	Theoretical-based Simulation of Natural Rubber Vulcanization Using Electron Beam Irradiation and Cross-linking Agents
	<b>Panat Nanthanasit</b>
15:00-15:15	O14-ID340
	Planar-structured single-walled carbon nanotube photodiodes using asymmetrical work function of metal contacts
	<b>Mongkol Sapankaew</b>

<b>Room</b>	<b>Koh Yor A &amp; B</b>
<b>Session</b>	<b>XI</b>
<b>Chairperson</b>	<b>Kowit Lertwittanon</b>
	<b>Methee Promsawut</b>
	<b>Voranuch Thongpool</b>
<b>Track</b>	<b>14 – Materials Physics, Nanoscale Physics and Nanotechnology</b>
15:15-15:30	O14-ID292
	Effect of Polyaniline Content on the Capacitance of Polyaniline/Carbon Powder Composite
	<b>Santi Rattanaveeranon</b>
15:30-15:45	O14-ID302
	Microstructure and Electrochemical Study of Equal Channel Angular Pressed Al-Zn Alloys
	<b>Phakkhanan Khamnantha</b>
15:45-16:00	O14-ID307
	Thermal stability of Ultrafine-grained Al Alloys containing Sc and Zr
	<b>Jesada Punyafu</b>
16:00-16:15	O14-ID066
	Study of carbide composites processed by spark plasma sintering for Gen IV reactors
	<b>Tanagorn Kwamman</b>
16:15-16:30	O14-ID163
	Influence of hydrothermal time on structural properties of ZnO nanorods grown on spin-coated ZnO seeding layer
	<b>Hambalee Mahamu</b>
16:30-16:45	O14-ID296
	Thermochromic behaviors of polydiacetyleneindium or gallium doped zinc oxide nanocomposites
	<b>Tin Htet Htet Lynn</b>
16:45-17:00	O14-ID248
	Fluorescence Carbon Material-Modified Electrode for Electrochemical Determination of Tyrosine
	<b>Jongkon Kaonin</b>

<b>Room</b>	<b>Pradtana</b>
<b>Session</b>	<b>VI</b>
<b>13:00-17:00</b>	<b>Special Project competition</b>

**Oral Session**  
**Friday, June 7, 2019**

<b>Room</b>	<b>Takuapa A</b>
<b>Session</b>	<b>XII</b>
<b>Chairperson</b>	<b>Maneenate Wechakarma</b>
<b>Track</b>	<b>1 - Astronomy, Astrophysics and Cosmology</b>
10:15-10:45	<b>Invited talk I :</b> Progress of the 40m Thai National Radio Telescope and Early Science Aspects
	<b>Phrudth Jaroenjittichai</b>
10:45-11:00	O01-ID123 Long-term with short-intervals monitor of 6.7 GHz CH <sub>3</sub> OH masers using Hitachi 32-m radio telescope to statistically research the periodic flux variability around high-mass protostars
	<b>Koichiro Sugiyama</b>
11:00-11:15	O01-ID118 Classifying maser features with Fortran and Shell script for proper motion study of water masers in W49N
	<b>Montree Phetra</b>
11:15-11:30	O01-ID120 Doubly excited helium : calculation and comparison to Diffuse Interstellar Bands
	<b>Aekawit Kittiya</b>
11:30-11:45	O01-ID077 CALLISTO spectrometer for solar radio bursts monitoring in Chiangmai
	<b>Nikom Prasert</b>
11:45-12:00	O01-ID300 Light curve analysis of a transitional millisecond pulsar PSR J1023+0038 with Kepler K2 mission
	<b>Chaiyaphorn Nilarat</b>

<b>Room</b>	<b>Takuapa A</b>
<b>Session</b>	<b>XVIII, XXIV</b>
<b>13:00-16:30</b>	<b>TNAM meeting</b>



<b>Room</b>	<b>Takuapa B</b>
<b>Session</b>	<b>XIII</b>
<b>Chairperson</b>	<b>Supakorn Harnsoongnoen</b>
	<b>Nares Chimres</b>
<b>Track</b>	<b>13 – Instrumentation Metrology and Standards</b>
10:15-10:45	O13-ID086
	Measurements of tin-palladium catalyst concentration by an optical method
	<b>Chulanita Promsawang</b>
10:45-11:00	O13-ID087
	Concentration Measurements of chromium passivation solutions by an optical method
	<b>Kwanruthai Sibsiri</b>
11:00-11:15	O13-ID098
	A development of a low-cost pyranometer for measuring broadband solar radiation
	<b>Korntip Tohsing</b>
11:15-11:30	O13-ID162
	Preliminary results of 3D Cosmic-ray Muon Tomography using a Portable Detector for Infrastructure Scale Object Investigation
	<b>Kullapha Chaiwongkhot</b>
11:30-11:45	O13-ID191
	Precision Temperature Measurement in Metrology Laboratory
	<b>Chayanit Thairat</b>
11:45-12:00	O13-ID203
	Analysis of adjacent track interference on perpendicular magnetic write heads with a fully wrap around shield
	<b>Natthaphon Choprathumma</b>

<b>Room</b>	<b>Takuapa B</b>
<b>Session</b>	<b>XIX</b>
<b>Chairperson</b>	<b>Jatuporn Keaw-On</b>
	<b>Rakdiaw Muangma</b>
<b>Track</b>	<b>13 – Instrumentation Metrology and Standards</b>
13:00-13:15	O13-ID219
	DC Characterization of Tunneling Magnetoresistive Read Heads
	<b>Joradol Jansawang</b>

13:15-13:30	O13-ID221
	Radial Force and Equilibrium Position Numerical Study of Microscale Spherical Particle under the Effect of Inertial Focusing in 2D Microchannel
	<b>Sirawut Natyanun</b>
13:30-13:45	O13-ID256
	The Cancellation of Human Sounds Using Synthesized Soundwaves
	<b>Chayanit Weerasakul</b>
13:45-14:00	O13-ID289
	LED Phase Sensitive Spectral Interference
	<b>Ekkarat Pongophas</b>
14:00-14:15	O13-ID005
	Determination of the Error of Contact Deformation Correction using a Digital Force Gauge on Gauge Block Calibration
	<b>Samana Peingbangyang</b>
14:15-14:30	O13-ID006
	Establishment of Thailand's National Primary Vacuum Standard by a Static Expansion Method
	<b>Jeerasak Pitakarnnop</b>

<b>Room</b>	<b>Takuapa B</b>
<b>Session</b>	<b>XXV</b>
<b>Chairperson</b>	<b>Nares Chimres</b>
	<b>Panupat Chaiworn</b>
<b>Track</b>	<b>13 – Instrumentation Metrology and Standards</b>
14:45-15:00	O13-ID036
	The effects of the characteristics of hydraulic oil on measurement/calibration of Hydraulic Pressure Balance
	<b>Chaveng Khamnounsak</b>
15:15-15:30	O13-ID154
	A Period-Based Measurement for Grounding Capacitance Meter with Arduino Using a Relaxation Oscillator
	<b>Thitinun Gasoth</b>
15:30-15:45	O13-ID161
	Thai Hom Mali rice purity test by using digital image analysis
	<b>Busara Pattanasr</b>
15:45-16:00	O13-ID247
	Uncertainty Estimation for Cylindricity Measurement by using Roundness Measuring Instrument
	<b>Thammarat Somthong</b>
16:00-16:15	O13-ID252
	Raspberry-Pi Control System of High Sensitive CCD Linear Image Sensor for a Low-cost Homemade Spectrometer
	<b>Tipsuda Chaipiboonwong</b>

<b>Room</b>	<b>Songkhla room</b>
<b>Session</b>	<b>XIV</b>
<b>Chairperson</b>	<b>Udom Tipparach</b>
	<b>Singha Prasitpong</b>
	<b>Suttida Rakkapao</b>
<b>Track</b>	<b>18 – Physics Teaching</b>
10:15-10:30	O18-ID004
	Development of Low-cost Experimental Package on Bernoulli's Principle of Fluid in the Pipe
	<b>Sumalee Tientongdee</b>
10:30-10:45	O18-ID035
	Hands-On Magnetic Field Projects for Classroom Demonstrations of Magnetization and Magnetic Force
	<b>Aungtinee Kittiravechote</b>
10:45-11:00	O18-ID110
	A Causal Model of Factors Affecting Azimuth and Altitude Learning by Smart Phone in Astronomy
	<b>Nuttavee Amphansiri</b>
11:00-11:15	O18-ID111
	Research and Development A Model of Solar System with Electric Motor Rotation via Control System on Smartphone
	<b>Jittawisut Wimuttipanya</b>
11:15-11:30	O18-ID224
	Application of Free Surface Synthetic Schlieren Method in Determining Surface Tension Force Acting on Floating Object
	<b>Chawapat Pathommapas</b>
11:30-11:45	O18-ID291
	The students' basic conceptions of Buoyant force
	<b>Wachirawut Wongsuwan</b>
11:45-12:00	O18-ID297
	Reflection of student on active learning experiences through physics classroom
	<b>Sukanlaya Tantiwisawaruij</b>

<b>Room</b>	<b>Songkhla room</b>
<b>Session</b>	<b>XX</b>
<b>Chairperson</b>	<b>Suwit Khongpakdee</b>
	<b>Jintawat Tanamatayarat</b>
	<b>Thanida Sujarittham</b>
<b>Track</b>	<b>18 – Physics Teaching</b>
	<b>19 – Information and Communication Technologies in Teaching</b>
	<b>Physics</b>
13:00-13:15	O18-ID299
	Physics as a core subject in project-based learning for engineering students: A case of KMUTT (Ratchaburi)
	<b>Banyat Lekprasert</b>
13:15-13:30	O18-ID337
	Computational study of heat conduction in laboratory
	<b>Yaowapa Saengpayab</b>
13:30-13:45	O18-ID353
	A system displaying equipotential line from electrodes in real time
	<b>Chayanon Fongsuwan</b>
13:45-14:00	O18-ID355
	Worksheet analysis for revealing students understanding of simple DC circuits
	<b>Tanatorn Kalaya</b>
14:00-14:15	O18-ID152
	Using mobile augmented reality to demonstrate physically-based rendering concepts in 3D animation
	<b>Tiantada Hiranyachattada</b>
14:15-14:30	O19-ID137
	Games for Learning Earth and Stars in Astronomy Virtual Classroom via Oculus Devices
	<b>Nadh Ditcharoen</b>
14:30-14:45	O19-ID151
	Using integrated learning and project-based learning for creating embedded systems based on internet of things
	Natawee Chaijum
14:45-15:00	O18-ID205
	Experiment for charging and discharging of capacitor in RC circuits
	<b>Tepin Waeuma</b>

<b>Room</b>	<b>Thong-Ake</b>
<b>Session</b>	<b>XV</b>
<b>10:15–12:00</b>	<b>Head of Physics Department meeting</b>

<b>Room</b>	<b>Thong-Ake</b>
<b>Session</b>	<b>XXI</b>
<b>Chairperson</b>	<b>Siramas Komonjinda</b>
<b>Track</b>	<b>01 – Astronomy, Astrophysics and Cosmology</b>
13:00-13:15	O01-ID298 Upper limits on dark matter annihilation with the teraelectronvolt cosmic ray spectrum of electrons and positrons from DAMPE <b>Maneenate Wechakama</b>
13:15-13:30	O01-ID149 Constraints on Dark Matter Annihilation with Electron Spectrum from VERITAS <b>Brandon Khan Cantlay</b>
13:30-13:45	O01-ID344 Dynamics of Background Universe with Degenerate Higher-Order Scalar-tensor Theories <b>Wittya Thipaksorn</b>
13:45-14:00	O01-ID277 TNT Photometric Reverberation Mapping Analysis of High-redshift Quasars <b>Grittiya Pongsupa</b>
14:00-14:15	O01-ID273 Luminosity Function of High-z Object Candidates at the Epoch of Reionization ( $z \gtrsim 6$ ) in Cosmic Evolution Survey (COSMOS) Field <b>Narenrit Thananusak</b>
14:15-14:30	O01-ID183 Reverberation mapping of the disc wind in ultraluminous X-ray source NGC5408 X-1 <b>Surasak Loekkesee</b>
14:30-14:45	O01-ID184 Thai National Telescope studies of ultraluminous X-ray source <b>Kewalin Thongpoyai</b>
14:45-15:00	O01-ID048 A Search for Multiply-gravitationally-lensed Images of Distant Star-forming Galaxies behind Massive Galaxy Clusters at 4-8 GHz <b>Karnchana Aroonrueang</b>
15:00-15:15	O01-ID251 Observations of the Earth's Gamma-ray Emission in Geographical Coordinates by Fermi LAT <b>Suttiwat Madlee</b>
15:15-15:30	O01-ID343 Timing noise of 133 pulsars in the southern hemisphere <b>Nakornping Namkham</b>

15:30-15:45	O01-ID058
	Observation and light curve analysis of a polar cataclysmic variable V2301 Oph
	<b>Pornisara Nuchvanichakul</b>

<b>Room</b>	<b>Koh Yor A</b>
<b>Session</b>	<b>XVI</b>
<b>Chairperson</b>	<b>Prasong Kessaratikoon</b>
	<b>Suriya Phankosol</b>
<b>Track</b>	<b>02 – Atomic Physics, Quantum Physics, Molecular and Chemical Physics</b>
	<b>09 – Nuclear and Radiation Physics</b>
10:15-10:30	O02-ID049
	Entangled photons source for experimental quantum teleportation
	<b>Werapong Rojpattanakul</b>
10:30-10:45	O02-ID092
	A simple technique for measuring the spatial correlation of photon pairs for complete interference in the Michelson interferometer
	<b>Kitisak Boonkham</b>
10:45-11:00	O02-ID317
	Mechanical and electronic properties of ZnX (X=O, S, and Se) monolayer under biaxial stress
	<b>Bhuri Jearanaitanakij</b>
11:00-11:15	O02-ID189
	The FTIR Spectroscopy for Analysis of Briquette based on Oil Palm Waste Products
	<b>Krit Koyvanich</b>
11:15-11:30	O02-ID357
	Half-Length Reduction of the Spectral Method's Sampling Period
	<b>Nontaphat Sinsunthithet</b>
11:30-11:45	O09-ID068
	Effect of Impurity Radiation on Plasma Performance, Pedestal width and Pedestal height
	<b>Jintana Pakdeewanich</b>
11:45-12:00	O09-ID356
	SOBP Generating Functions for the Depth-Dose Distribution Based on the Monte Carlo Simulation Using PHITS
	<b>Warisara Charuchinda</b>

<b>Room</b>	<b>Koh Yor A</b>
<b>Session</b>	<b>XXII</b>
<b>Chairperson</b>	<b>Mudtorlep Nisoa</b>
	<b>Rattachai Pinchaipat</b>
<b>Track</b>	<b>06 – Ion and Plasma Physics</b>
	<b>17 – Surface, Interface and Thin Films</b>
13:00-13:15	O06-ID047
	Comparison of Electron Temperature in DC glow discharge and AC glow discharge plasma
	<b>Dusit Ngamrunroj</b>
13:15-13:30	O06-ID192
	Ion cyclotron wave propagation and power absorption in tokamak plasmas
	<b>Suphachok Buaruk</b>
13:30-13:45	O06-ID220
	Dependence of electron temperature on breakdown voltage and gas flow rate in atmospheric argon plasma jet
	<b>Kasidapa Polprasarn</b>
13:45-14:00	O06-ID283
	Roles of Driven Current Locations on ETB and ITB based on Three-Field Bifurcation Concept
	<b>Apisit Dang-iad</b>
14:00-14:15	O06-ID358
	Optimization of TPF-I electrode based on pinch temperature and pinch duration
	<b>Rattacha Boonchoo</b>
14:15-14:30	O06-ID280
	Simulation Studies of Pellet Injection in Toroidal Rotation and Radial Electric Field in Tokamaks
	<b>Rattakorn Karnchanah</b>
14:30-14:45	O17-ID124
	Effects of Multiple Reflections and Interference in Photoluminescence of 135-CIGS/112-CIGS and 112-CIGS/135-CIGS Bi-layer Thin Films
	<b>Boonyaluk Namnuan</b>
14:45-15:00	O17-ID136
	Preliminary Testing for Reduction of Insertion Torque of Orthodontic Mini-screw Implant using Diamond-like Carbon Films
	<b>Chavin Jongwannasiri</b>

<b>Room</b>	<b>Koh Yor B</b>
<b>Session</b>	<b>XVII</b>
<b>Chairperson</b>	<b>Ronald Macatangay</b>
	<b>Tatnatchai Suwannasit</b>
<b>Track</b>	<b>07 – Condensed Matter Physics</b>
	<b>08 – Atmospheric Physics</b>
10:15-10:30	O07-ID007
	Effect of Inertia on Locally Favoured Structure in Supercooled Hard sphere
	<b>Rattachai Pinchaipat</b>
10:30-10:45	O07-ID169
	Effect of Formamidinium Cation on Electronic Structure of Formamidinium Lead Iodide
	<b>Wiwittawin Sukmas</b>
10:45-11:00	O08-ID037
	Estimation of hourly near infrared radiation using artificial neural network
	<b>Noppamas Pratummasoot</b>
11:00-11:15	O08-ID038
	Estimation of Global Solar Radiation from Meteorological Parameters under Clear Sky Condition at Lopburi Province using Artificial Neural Network
	<b>Pranomkorn Choosri</b>
11:15-11:30	O08-ID100
	Analyzing Tropical Storm Pabuk (2019)
	<b>Ronald Macatangay</b>
11:30-11:45	O08-ID101
	Potential Air Pollution Source Locations during the HALO-EMERGE Asia Southeast Asian Transfer and Manila Mission Flights
	<b>Thiranan Sonkaew</b>
11:45-12:00	O08-ID320
	Assessment of Direct Normal Irradiance Potential in Thailand for Concentrating Solar Power Plant
	<b>Nattakorn Suwanno</b>
12:00-12:15	O08-ID164
	Initial Atmospheric LiDAR Data Analysis over Songkhla, Southern Thailand
	<b>Raman Solanki</b>



<b>Room</b>	<b>Koh Yor B</b>
<b>Session</b>	<b>XXIII</b>
<b>Chairperson</b>	<b>Sorasak Danworaphong</b>
	<b>Meechai Thepnurat</b>
	<b>Tipsuda Chaibiboonwong</b>
<b>Track</b>	<b>03 – Optics, Non-linear Optics, Laser Physics and Ultrafast Phenomena</b>
	<b>11 - Biological Physics and Biomedical Engineering</b>
13:00-13:30	<b>Invited Speaker II</b>
	The NARIT Optical laboratory: current projects, results and future developments overview
	<b>Christophe Buisset</b>
13:30-13:45	O03-ID324
	Optical spectra of dielectric surface with hexagonal periodic pattern of half-nanosphere hole evaluated by finite-different time-domain
	<b>Nonthanan Sitpathom</b>
13:45-14:00	O03-ID372
	Cleaning Contactor Pins by Laser
	<b>Pisit Topisit</b>
14:00-14:15	O03-ID175
	Matter-wave interferometry from near-field to far-field diffraction
	<b>Wipawee Temnuch</b>
14:15-14:30	O03-ID351
	Topological Charge Counting from a Diffraction Pattern of an Incident Optical Vortex on an Oblique Vortex Grating
	<b>Watcharakiart Insri</b>
14:30-14:45	O11-ID237
	Impedance Measurement System Simulation for Trapped Cell Model in Various Microwell Geometries
	<b>Sorawit Sanin</b>
14:45-15:00	O11-ID381
	Electromagnetic fields enhance successful grafting of para-rubber trees
	<b>Raymond J. Ritchie</b>
15:00-15:15	O11-ID097
	Optical DNA-based sensor for cysteine detection
	<b>Sirirat Ouiganon</b>

## Poster Session

**Poster Session**  
**Thursday, June 6, 2019**

**Session**                      **Poster Presentation A**  
**16:30 – 17:30**

**Track 1**                      **Astronomy, Astrophysics and Cosmology**

- P01-ID116                      Slow-rolled Inflation in Brans-Dicke Cosmology  
**Pipitton Sanseecha**
- P01-ID176                      Photometric study of the short-period contact binary CW Canis Minoris  
**Patapong Panpiboon**
- P01-ID201                      Analysis of Physical Properties and Evolution of Binary System RW PsA  
**Sarawut Chulok**
- P01-ID209                      The Evolution of Stellar and Dark Matter Density in EAGLE Brightest Cluster Galaxies  
**Parinya Tangpakonsab**
- P01-ID238                      Searching for the electron/positron pair halo of the blazar H1426+428 using XMM-Newton  
**Atchara Kueathan**
- P01-ID364                      Measurement of Atmospheric Extinction at the Thai National Observatory (TNO) Using 0.5 meter Telescope  
**Prorawit Thaimai and Phanphaka Surophan**
- P01-ID369                      Light Curve Study and Physical Properties of the Planetary System HAT-P-12 with AstrolmageJ  
**Tharadol Chukaew**
- P01-ID171                      Spatial Extension of the [OII] $\lambda$ 3727 Emission Line as an Indicator for a Gas Outflow  
**Pannapat Viriyachanchai**
- P01-ID059                      Optical Morphology of the Ejected Shell of V339 Del (Nova Del 2013)  
**Suphitcha Sutham and Juthatip Sobong**
- P01-ID056\*                      The Mass Distribution and the Rotation Curve of the Milky Way Galaxy Using NARIT 4.5m Small Radio Telescope and the 2.3m Onsala Radio Telescope  
**Yasumin Mingmuang**
- P01-ID070\*                      Initial pointing model of the 40m Thai National Radio Telescope with an 8-inch optical telescope  
**Attasit Phakam**
- P01-ID079                      GADGET-2 Simulation for Active Galactic Nuclei Feedback in Galaxy NGC 5252  
**Manus Boonmalai**
- P01-ID104                      A Sky Survey of Neutral Hydrogen at 21 cm Using NARIT 4.5m Small Radio Telescope  
**Kwanjira Tisawech**

- P01-ID339 Benchmarking of GPU-based Pulsar Processing Pipeline of 40-m Thai National Radio Telescope  
**Tinn Thongmeearkom**
- P01-ID365 Measurement of Atmospheric Extinction at the Thai National Observatory (TNO) Using the 2.4 meter Telescope  
**Jansawang Panomprai\* and Sauwaporn Pongpaisirikul**
- P01-ID304 Pre-Cloud Condensation Nuclei Cluster Formation by Ion-Mediated Nucleation from Solar Energetic Particles: Example of the 2005 January 20 Ground Level Enhancement  
**Vichawan Sakulsupich**
- P01-ID282 Transmission spectroscopy analysis of the hot super-Neptune WASP-127b  
**Tanagodchapor Inyanya**
- P01-ID133 SYM/H and AE indices in corresponding with the variation of OI-5577Å emission spectrum  
**Paparin Jamlongkul**
- P01-ID065 Acceleration of Relativistic Electrons at Geosynchronous Orbit during High-Intensity, Long-Duration, Continuous AE Activity (HILDCAA) in 2015 - 2017  
**Thana Yeeram**
- P01-ID046 Water Vapor Correction to Cosmic Ray Flux Measurements with Neutron Counters at Doi Inthanon  
**Yanee Tangjai**
- P01-ID030 Finding the response function of neutron monitor through FLUKA simulations: A case study of the Changvan neutron monitor  
**Audcharaporn Pagwhan**
- P01-ID159 Kaluza-Klein  
**Nutthapat Loonrasri**
- P01-ID338 Atmospheric Study of KELT-3b  
**Sutthawee Yodmongkol**

## Track 2 Atomic, Quantum Physics, Molecular and Chemical Physics

- P02-ID130 Experimental apparatus and methods for synthesizing 1D single-atom array  
**Kritsana Srakaew**
- P02-ID230 Effects of Time Delay in No-Knowledge Quantum Feedback Control  
**Jirawat Saipheth**
- P02-ID368 Charged fermion in two-dimensional curved spaces of constant Gaussian curvature with constant magnetic flux  
**Trithos Rojjanason**
- P02-ID168 Study on electron and hole energies state in tilted quantum wells structure  
**Worachet Bukaew**
- P02-ID173 Effect of quantum well width on the electron hole states In different single quantum well structures  
**Natthakan Rueangnetr**

- P02-ID319\* Gibbs Energy Additivity Approaches of Isentropic Compressibility of pure FAEEs and Biodiesels  
**Suriya Phankosol**

**Track 4 Statistical and Theoretical Physics**

- P04-ID051 Effects of Surface Diffusion Length on Steady-State Persistence Probabilities  
**Rangsima Chanphana**
- P04-ID263 Phase transitions in the frustrated antiferromagnetic XY model on the triangular lattice  
**Manit Klawtanong**
- P04-ID377 Two Conserved Angular Momentums in the Schwarzschild Spacetime Geodesics  
**Suphot Musiri**
- P04-ID322\* Effect of Laboring Migration between Industrial and Farming Sectors on Agricultural Product Prices: The Econophysics Modeling  
**Yongyut Laosiritaworn**

**Track 9 Nuclear and Radiation Physics**

- P09-ID031 Measurement and Analysis of Specific Activities 40K, 226Ra and 232Th in Beach Sand Samples from Pamai beach of Mai Kaen district in Pattani province (Thailand) using Gamma Ray Spectrometry  
**Murnee Daoh**
- P09-ID102 The Measurement of Neutron Flux and the Calculation of Gamma Dose Rate in Self-Shielded Medical Cyclotron Vault  
**Tanapol Dachviriyakij**
- P09-ID182 Effects of hydrogen peroxide on 304 SS in high temperature water  
**Kotchaphan Kanjana**
- P09-ID216 Radiological Hazard Assessment and Excess Lifetime Cancer Risk Evaluation in Surface Soil Samples Collected from Ban Chang and Nikhom Phatthana Districts in Rayong Province, Thailand  
**Prasong Kessaratikoon**
- P09-ID274 Determination of Radiation Attenuation Coefficients of Polyvinyl Chloride and Polystyrene Containing Barite for X-ray Shielding  
**Sarawut Jaiyen**
- P09-ID276 Evaluation of energy deposition in digital thyroid phantom for proton therapy using FLUKA and PHITS Monte Carlo simulations  
**Chalermpon Mutuwong**
- P09-ID290 Study on gamma-ray shielding properties of lead tellurite glasses using PHITS  
**Chahkrit Sriwunkum**
- P09-ID181 Study of Natural Radioactivity (226Ra, 232Th and 40K) in Soil Samples from Thai Jasmine Rice 105 Cultivation Plot Grown Using Organic and Inorganic Fertilizers  
**Chonlada Raikham**

P09-ID158      Elemental quantification of airborne particulate matter at Nong kung tao, Thasongkhorn Sub-district, Muang district, Mahasarakham Province, by x-ray fluorescence technique  
**Piriya Praneekit**

**Track 10      Accelerators and Synchrotron Radiation**

P10-ID180      Photoemission Spectroscopy of bcc Nickel on GaAs(001)  
**Wiwat Wongkokua**

P10-ID321      Investigation on Current Transformers for Measuring of Electron Beam Pulse Current  
**Sakhorn Rimjaem**

P10-ID328      Design of Radiation Shielding for the 4-MeV RF Linac Using the Monte Carlo Simulation Program  
**Phanthip Jaikaew**

P10-ID329      Simulation and Measurement of Square-frame Dipole Coils for Steering of Electron Beam  
**Kanlayaporn Kongmali**

P10-ID167      Simulation and Measurement of Electromagnetic Undulator Prototype for THz Radiation Production  
**Pitchayapak Kitisri**

P10-ID069      Current Status and Performance of the SLRI Beam Test Facility  
**Kritsada Kittimanapun**

**Track 11      Biological Physics and Biomedical Engineering**

P11-ID040      Radiolabeling efficiency and stability study on Lutetium-177 labeled bombesin peptide  
**Boon-Uma Jowanaridhi**

P11-ID052      Aromatherapy Automatic Control System using Brain Computer Interface  
**Jakgarin Hongfongfah**

P11-ID055      Coupled nonlinear oscillators as a model for amplitude variations of intermodulation distortions in the auditory system  
**Ekkanat Prawanta**

P11-ID064      Influences of Magnetic Flux on the Growth and Direction of Plant Roots  
**Meechai Thepnurat**

P11-ID091      Surface enhanced Raman spectroscopy: an alternative approach to detect Malaria stains (3D7 and CS2) spectra in different conditions  
**Gunganist Kongklad**

P11-ID125      Plasma separation by microfluidic device  
**Manomai Thaweerat**

P11-ID140      Development of a highly sensitive label-free DNA based fluorescent sensor for cisplatin detection  
**Anuson Niammusik**

P11-ID150      Low-energy heavy-ion beam induced high-yield mutation breeding of Thai jasmine rice (*Oryza sativa* L. cv. KDML 105)  
**Liangdeng Yu**

- P11-ID160 Development of Penicillin Allergy Diagnosis Using Lateral Flow Immunochromatographic Assay  
**Natchira Dachoponchai**
- P11-ID194 Electrostatic Effects on Partition Coefficient of Spherical Colloids into Porous Membranes  
**Pongpitch Panyura**
- P11-ID218 Low Dose Gamma Radiation Effects on Seed Germination and Seedling Growth of Cucumber and Okra  
**Naruethai Jaipo**
- P11-ID270 The Effects of Atmospheric Plasma jet Treatment on the Germination and Enhancement Growth of Sunflower Seeds  
**Jirapat Nantapan**
- P11-ID306 The Effects of Dielectric Barrier Atmospheric Plasma Treatment to the Germination and Enhancement Growth of Sunflower Seeds  
**Sireetone Yawirach**
- P11-ID334 The Effect of Low-Pressure Plasma Treatment on Sunflower Seed Germination and Sprouts Growth Rate  
**Rodjana Lonlua**
- P11-ID109 Effect of Static Magnetic Field on the Ripening of Bananas  
**Narissara Mahathaninwong**
- P11-ID376\* Cellular localization and RNA expression profile of 17 $\alpha$ -methyltestosterone delivered through Tilapia eggs by electrical pulse inductions  
**Sakshin Bunthawin**

#### **Track 14 Material Physics, Nanoscale Physics and Nanotechnology**

- P14-ID002 Microstructure and Hardness of SKD11 Steel after Austempering  
**Pichaya Pitsuwan**
- P14-ID011 Photovoltaic Performance of DSSCs Prepared by Ce doped ZnO Hollow Microspheres Photoanode  
**Nititorn Kenyota**
- P14-ID012 Tarnish Resistance of Silver by Gold Microplates Coating  
**Pimthong Thongnopkun**
- P14-ID019 Linear aggregation of spherical nanogolds in carbon nanotube suspension under influence of AC electric field  
**Rung Muangkhong**
- P14-ID041 Enhanced visible-light driven photocatalytic property of g-C<sub>3</sub>N<sub>4</sub>/ZnAl<sub>2</sub>O<sub>4</sub> nanocomposites  
**Wararat Somraksa**
- P14-ID071 Electrocaloric Properties of Ferroelectric P(VDF-HFP)/PU Composites  
**Kunthisa Jehlaeh**
- P14-ID073 Improvement of Electrocaloric Properties of P(VDF-HFP)/GNPs Composites for Refrigerator Cooling  
**Ardian Agus Permana**

- P14-ID074 Electronic transport property in two dimensional of graphene at low phonon energy on SiO<sub>2</sub>  
**Anucha Pratumma**
- P14-ID113 Photoluminescence of ZnO Nanorods Prepared Hydrothermal Method  
**Voranuch Thongpool**
- P14-ID128 The Study of Acoustic Absorption Properties of Natural Fibrogranular-Polyvinyl Acetate Composites  
**Purintorn Chanlert**
- P14-ID145 Mechanical and Physical properties of Particleboard made with Scirpus grossus and Coconut Fiber  
**Pongsathorn Kongkaew**
- P14-ID186 The Characterization of N-doped activated carbon materials derived from coffee grounded wasted  
**Tanissara Pinijmontree**
- P14-ID202 Preparation of Nafion/SiO<sub>2</sub> electrospun membranes for proton exchange membrane fuel cell  
**Apirak Choonlasri**
- P14-ID204 Development of antimicrobial nano spray for clothing  
**Kamonchanok Parnkham**
- P14-ID206 Investigation of Nafion®/metal organic frameworks composite membranes for polymer electrolyte membrane fuel cells application  
**Teerapat Kotpatjim**
- P14-ID208 Mechanical and Thermal Properties of High-Density Polyethylene Composite Materials Reinforced with Borassus Fruit Fiber  
**Pitchpilai Khoonphunnarai**
- P14-ID212 Modeling and Simulation of a LaTiCoO<sub>3</sub> Nanofibers / CNT Asymmetric Supercapacitor  
**Pornchai Chinnasa**
- P14-ID239 Smart phone applications in color classification of fine-paste ware from 13th -14th centuries  
**Thanida Charoensuk**
- P14-ID243 Fabrication and properties of flexible CaCl<sub>2</sub>/P(VDF-HFP) composite films  
**Jureeporn Yuennan**
- P14-ID255 Simple Improvement in Latent Fingerprint Detection with Ninhydrin/water glue on Thermal Paper  
**Gedsirin Eksinitkun**
- P14-ID264 Scintillation Response of CdWO<sub>4</sub> Scintillator for Gamma-ray Detection  
**Akapon Phunpueok**
- P14-ID275 Investigations of physical and structural properties of calcium alumino silicate glasses doped with Sm<sub>2</sub>O<sub>3</sub>  
**Natthawut Suebsing**
- P14-ID316 Effect of the Activated Carbon deposited on TiO<sub>2</sub> nanotubes for photocatalytic water splitting  
**Watchareeya Chaiyarat**



- P14-ID003 Nanostructures of tin oxide by a simple chemical route: synthesis and characterization  
**Akeapol Winayong**
- P14-ID076 Synthesis and characterization of Fe-doped TiO<sub>2</sub> hollow nanospheres prepared by carbon sphere as hard template  
**Nattakan Kanjana**
- P14-ID170 A Study on the Molecular Mechanisms of Natural Rubber Reinforcement by Molecular Simulations  
**Thipjula Yolong**
- P14-ID331 Activated carbon derived from biomass-banana parts synthesized by K<sub>2</sub>CO<sub>3</sub> activation for supercapacitor application  
**Porntip Poomying**
- P14-ID034\* Fabrication of Activated Carbon Electrode for Supercapacitor Synthesized from a Sacred Lotus Leaf Natural Material  
**Tanachai Ponken**
- P14-ID033\* Fabrication and magnetic properties of perovskite La<sub>0.5</sub>Sr<sub>0.5</sub>TiO<sub>3</sub> nanofibers  
**Wichaid Ponhan**
- P14-ID078\* Physical Properties and Thermal Conductivity of Soil Geopolymer Block  
**Pongsak Jittabut**
- P14-ID085\* Nano-silica aerogels prepared by a facile method from bagasse ash under ambient pressure drying  
**Paphapin Teannava**
- P14-ID266 Free-Standing Graphene Oxide Films: Effect of Thermal Reduction on Structural and Electrical Properties  
**Kanokwan Buapan, Kamonrat Chiawchan**

#### **Track 15 Magnetic and Semiconductor Devices**

- P15-ID286 The Geometric Effects of One-dimensional Magnetocaloric Beds to the Efficiency of an Active Magnetic Regenerator: A Numerical Study  
**Sila Yaemphutthong**

#### **Track 16 Photonics and Optoelectronics**

- P16-ID043 High birefringence hollow core with nested anti-resonance nodeless fibers for terahertz guidance  
**Natthawat Phanchat**
- P16-ID090 Design of a Metamaterial Absorber in the terahertz regime  
**Natsima Sakda**
- P16-ID293 Photon flux density compensation of LED lighting system for plant tissue culture  
**Sirichai Sartpan**

- P16-ID301 The Effects of Layer Thickness and Charge Mobility on Performance of FAIMABrPbI<sub>2</sub>PbBr<sub>2</sub> Perovskite Solar Cells: GPVDM Simulation Approach  
**Maythawee Sittirak**
- P16-ID325 Test and Calibration of Pyroelectric Infrared Detector Using Light Bulb as a Black Body Radiation  
**Siriwan Paklua**

**Poster Session**  
**Friday, June 7, 2019**

**Session**                      **Poster Presentation B**  
**16:00 – 17:00**

**Track 3**                      **Optic, Non-linear Optics, Laser Physics, Ultrafast Phenomena**

- P03-ID108                      Extracting Overlapping 2D-Images by Central-Derivatives-Based Algorithm  
**Hataiwat Palasak**
- P03-ID119                      Effects of Few Optical Cycles Approximation to Spectral Broadening Generated in Two-Zero Dispersion Wavelengths Fibers  
**Phunsakorn Louicharoen**
- P03-ID174                      Simulation study of non-divergent Bessel-Gauss beam produced by an axicon doublet for km-range collimated laser  
**Sirawit Boonsit**
- P03-ID190                      Demonstration of Raman Random Lasing from Multiple Scattering Structure Pumped by Nanosecond-Pulsed Laser  
**Panuwat Srisamran**
- P03-ID122                      Progress on Quasi-Optical design for simultaneous K, Q, W-band receivers for NARIT 40-meter Thai National Radio Telescope (TNRT)  
**Dan Singwong**

**Track 5**                      **High – energy and Particle Physics**

- P05-ID185                      Free solution of the Dirac equation in R-spacetime  
**Tosaporn Angsachon**
- P05-ID231                      Thermodynamics of rotating black string in dRGT massive gravity theory  
**Pitayuth Wongjun**

**Track 6**                      **Ion and Plasma Physics**

- P06-ID115                      Experimental studies of dielectric barrier discharges  
**Pitchasak Chankuson**
- P06-ID253                      Motion of charged particles around the region of magnetic reconnection : a test charge approach  
**Suthipong Ngamkhum**
- P06-ID260                      Dust Transport from Main Poloidal Limiter of HT-6M  
**Nopparit Somboonkittichai**
- P06-ID271                      0D Numerical Characterization of a He/O<sub>2</sub> BIOPlasma Jet  
**Nattawut Palee**
- P06-ID278                      Absolute ozone density and gas temperature investigations of an atmospheric pressure plasma using two-beam UV-LED absorption spectroscopy  
**Waraporn Siriworakunchai**

P06-ID305 The Breakdown Voltage of Gas Discharge (Air, Argon) for Plasma Jet in Different Pressure to Generate Plasma Activated Water  
**Chayaphon Boonhot**

**Track 7 Condensed Matter Physics**

P07-ID095 Review of Magnetic Characteristic of Y<sub>2</sub>Cu<sub>2</sub>O<sub>5</sub> Powder Sample  
**Chinnatip Harnmanasvate**

P07-ID215 Josephson current in silicene-based SBS Josephson junction: Effect of perpendicular electric field  
**Tatnatchai Suwannasit**

P07-ID236 A first-principles study of the electronic structure of CsPb(X<sub>x</sub>Y<sub>1-x</sub>)<sub>3</sub> perovskites

**Atchara Punya Jaroenjittichai**  
Fabrication of twisted bilayer graphene superlattice

**Phongthep Wongsiri**

P07-ID075 A new method to calculate the stability diagram of a serial-island systems  
**Pipat Harata**

P07-ID088 Calculation of the Lorentz ratio in a metallic single-electron transistor by quantum Monte Carlo method

**Komkrit Nakaroerngrit**  
P07-ID089 Minimal conductance of the single-electron pump by the quantum Monte Carlo calculation  
**Prathan Srivilai**

**Track 8 Atmospheric Physics**

P08-ID359 Gaseous Air Pollutant Concentrations during the HALO-EMeRGe Aircraft Campaign Transfer Flights

**Pussaya Mankhong and Antika Maneewan**  
P08-ID360 Particulate Matter Concentrations during the HALO-EMeRGe Aircraft Campaign Transfer Flights  
**Tidarat Lamool and Phuttapong Chai-on**

**Track 12 Environmental Physics, Geophysics and Renewable Energy**

P12-ID023 Development and validation of portable X-ray fluoresce spectrometry for routine measurement of elemental in soil samples

**Sasikarn Nuchdang**  
P12-ID026 An empirical equation for the latent heat of vaporization of moisture in Dialium indum Linn. during its isothermal drying

**Marina Mani**  
P12-ID028 Crustal body-wave velocity beneath Thailand from teleseismic analysis

**Phayao Yongsiriwit**  
P12-ID032 Wavelet spectrum analysis of PM<sub>10</sub> data at Bangkok, Thailand

**Panatcha Anusasananan**  
P12-ID039 Measuring groundwater radon in Kamphaeng-Saen distric, Nakhon Pathom province and Ban-Pong district, Ratchaburi province  
**Santi Raksawong**

- P12-ID053 Efficiency of solar tree based on golden ratio  
**Saksun Srisai**
- P12-ID062 Drying Anchovy into Ready-to-eat Products  
**Samruay Puban**
- P12-ID096 Fluorescence Spectroscopy of Dye Adsorption by Fe<sub>3</sub>O<sub>4</sub> Magnetic Nanoparticles  
**Suwaphit Phoemphoonthanyakit**
- P12-ID126 Heat Transfer Rate of Close-loop Oscillating Heat Pipe with Check Valve using NiO on Working Fluid  
**Pattanapol Meena**
- P12-ID234 Design and Development of Rotary Magnetic Refrigeration Prototype with Active Magnetic Regeneration System  
**Vichagorn Luppunglung**
- P12-ID295 The Relationship between Raining and GPS – Precipitable Water Vapor  
**Nithiwatthn Choosakul**
- P12-ID314 Improvement the Quality of Rice Berry Products by Community Enterprises in the Maha Sarakham province  
**Watthanawong Kusol**
- P12-ID330 Gibbs Energy Additivity Approaches in Estimation of Densities of n-Alkane-1-ol  
**Natakron Sirimongkolgal**
- P12-ID347 Stable isotopes relationship between precipitation and surface water, Phitsanulok  
**Wutthikrai Kulsawat**
- P12-ID352 Comparative paralytic shellfish poisoning toxins accumulation in bivalves, Oyster (*Crassostrea iredalei*) and Green mussel (*Perna viridis*) in the Gulf of Thailand  
**Phatchada Nochit**
- P12-ID371 Study of making corn silk tea powder by microwave oven  
**Salinee Acharry**
- P12-ID015 Basic Automatics Weather Instrument  
**Supagorn katathikarnkul**
- P12-ID153\* Development of the greenhouse solar dryer for dried germinated parboiled Thunya-Sirin glutinous rice  
**Mali Sarobol**
- P12-ID103\* High pressure density equation of FAME and biodiesels  
**Thinnaphop Chum-In**
- P12-ID121\* The Progress of the Geodetic Station and Applications  
**Nattaporn Thoosaenggam**
- P12-ID213\* Effect of Heat Island on Atmospheric Variables over Northern Thailand  
**Krisada Soonthornnant**
- P12-ID310\* Industrial waste: using them for brick production in Nakhon Si Thammarat Province  
**Uraiwun Wanthong**
- P12-ID326\* Supercapacitor performance of activated carbon from *Mimosa pigra* by using sodium hydroxide as an electrolyte  
**Urit Charoen-In**

P12-ID374\* Aerosol Optical Depth for Laos, Vietnam and Philippines from satellite and AERONET during 2012-2018  
**Rusmadee Sabooding**

**Track 13 Instrumentation, Metrology and Standards**

P13-ID022 A low-cost Arduino-based NMR console  
**Klitsadee Yubonmhat**

P13-ID029 An Experimental Study: Mixing Rate of Granular Materials under Vertical Vibration  
**Panupat Chaiworn**

P13-ID042 Determination of Critical Micelle Concentration of Surfactant by Contact Angle Measurement Method  
**Charin Seesomdee**

P13-ID054 Non-contact active microwave sensor for glucose concentration sensing  
**Kisana Suwanna**

P13-ID072 Real-time and versatile laser-power stabilization with arbitrary amplitude modulation  
**Jindaratsamee Phrompao**

P13-ID117 Non-invasive microwave sensor for the detection of the cell culture medium residues  
**Supakorn Harnsoongnoen**

P13-ID131 Tree Tomography with Ultrasonic Wave  
**Sithichok Samutchaiyakit**

P13-ID132 Fall Detection System with 3-Axis Accelerometer  
**Deaw Aphairaj**

P13-ID138 Chemical agent monitor simulator (CAMSIM): Prototype  
**Pisutti Dararutana**

P13-ID177 The Analysis of the Perforation of the Bullet 11 mm. on the Metal Sheet  
**Noparat Phungyimnoi**

P13-ID178 Development of DAS for prototype of Brinell-macro-hardness tester using triplex of force-resistive-sensors manipulated by raspberry pi 3 model B  
**Rakdiaw Muangma**

P13-ID222 An effect of finite reservoir size on pressure gradient generation in a pinched injected sample plug generation in cross design electroosmotic microfluidic device  
**Pongsaran Chimsiri**

P13-ID268 3D printing of interdigital sensor based conductive ABS for salt and sucrose concentration sensing  
**Wuttigorn Ponan**

P13-ID288 Development of a low-cost miniaturized potentiostat for using in electrochemical analysis  
**Watcharin permwong**

P13-ID262\* A study of long term drift of an Electronic Thermo-Hygrometer at high temperatures  
**Photjanat Phimmom**

- P13-ID245 Beam Characterization for Neutron Imaging after Installation of the External Collimator at TRR-1/M1  
**Thawatchart Chulapakorn**
- P13-ID063\* Prototype of Salinity meter for semi-solid food  
**Sarin Udomphonchaicharoen**
- P13-ID061\* Technical Report of NARIT 4.5m Small Radio Telescope (SRT)  
**Kitiyanee Asanok**
- P13-ID044\* A study of Air Kerma measurement for Cs-137 gamma ray using graphite cavity chamber primary standard  
**Pongphanot Rindhatayathon**
- P13-ID008\* Application of magnetic field for improvement of longitudinal coherence of an electron beam and optimization of the experimental design  
**Kunaree Wongrach**
- P13-ID157\* The implementation of edge detection for line-scale measurement  
**Pananya Somwong**
- P13-ID244\* Design of Precision Irrigation System using Embedded System  
**Yaninee Jungjarassub**

#### **Track 17 Surface, Interface and Thin Films**

- P17-ID067 Effect of Treatment Time in PSF Membrane Surface Modification by Using Near Atmospheric Pressure Plasma Jet  
**Chaiporn Kaew-on**
- P17-ID099 Effects of anti-solvent in the two-step fabrication of absorber layer in perovskite solar cells  
**Kwanruthai Butsriruk**
- P17-ID375 High Transparent Titanium Aluminum Nitride (TiAlN) Films Deposited from DC Reactive Magnetron Co-Sputtering  
**Sayan Pudwat**

#### **Track 18 Physics Teaching**

- P18-ID025 Examination of Thai Freshmen's Understanding on Vectors Using a Model Analysis Technique  
**Michael Gavriel Reyes**
- P18-ID143 Development of the Ballistic Pendulum experiment with Gyro sensor and Arduino  
**Kanitta Supawan**
- P18-ID147 Training the Science Teachers on How to Promote the Experimental Design Skill in Laboratories towards a Guided Inquiry Based Learning Strategy  
**Thanida Sujarittham**
- P18-ID156 The Effects of Formative Tests on Achievement of Students in Science for Daily Use Faculty of Science and Technology Rajamangala University of Technology Thanyaburi  
**Janthanee Authisin**
- P18-ID179 Effect of thermally conductive energy propagated into uniaxial media of sirloin meat interpreted by Raspberry Pi 3 Model B and investigated using 5Es with active-based learning



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50<sup>th</sup> TSU Anniversary

