



2019 Research, Invention, and Innovation Congress (RI<sup>2</sup>C 2019)  
11-13 December 2019 at Arnoma Grand Hotel Bangkok

## Scientific Program

### Day 1 : Wednesday, 11 December 2019

13.00–16.30	Registration / Tutorial session (I – III) Room : Thip-Ubol, Subongkoj, Pathummas (3 <sup>rd</sup> floor) (I) Smart Grid “DC Microgrid: Stability Issue & Solutions” (Prof.Dr. Babak Nahid-Mobarakeh; University of Lorraine) (II) Innovative Sensors and LoRaWan Applications (Prof.Dr. Prayoot Akkaraekthalin et al.; KMUTNB) (III) Innovative Materials and Mechanics (Prof.Dr. Oh Seok Kwon; Korea Research Institute of Bioscience & Biotechnology and Prof.Dr. Joachim Kaschta; Friedrich-Alexander-University of Erlangen-Nürnberg) (15.00–15.15 : Coffee Break)
17.30–19.30	Welcome Reception and Dinner (Room : Patamachart, 23 <sup>rd</sup> floor)

### Day 2 : Thursday, 12 December 2019

08.00–09.00	Conference Registration (3 <sup>rd</sup> floor)
09.00–09.30	Opening Session (Room : Arnoma II - III) (3 <sup>rd</sup> floor)
09.30–10.00	<b>Keynote Lecture I</b> : Prof.Dr. Ashwani K. Gupta (University of Maryland) Topic : International Collaborations with Focus on Energy and Environment
10.00–10.30	<b>Keynote Lecture II</b> : Assoc.Prof.Dr. Yu-Shen Cheng (National Yunlin University of Science and Technology) Topic : Insect based biorefinery: a promising platform for conversion of agroindustrial wastes into value-added products
10.30–11.00	<b>Coffee Break</b>
11.00–11.30	<b>Keynote Lecture III</b> : Assoc.Prof.Dr. Rapeephun Dangtungee (KMUTNB) Topic : Novel functional polymers: Anti-ant and insect polymer masterbatch
11.30–12.00	<b>Keynote Lecture IV</b> : Mrs. Kalyaporn Ungsamatkosa (Robert Bosch Automotive Technologies (Thailand) Co., Ltd) Topic : Trend in Automotive Industry and Implication to Thailand
12.00–13.00	<b>Lunch</b> (Room : Arnoma I (3 <sup>rd</sup> floor) & Mango (1 <sup>st</sup> floor))



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Day 2 : Thursday, 12 December 2019						
13.00–15.00	Parallel sessions (6 rooms)					
	Arnoma II	Arnoma III	Thip-Ubol	Subongkoj	Pathummas	Sarochoa
	Special session for Council of University Presidents of Thailand	<ul style="list-style-type: none"> <li>Environmental &amp; Energy Technology</li> <li>Food Science</li> </ul> Chair: Prof.Dr.Yuchen Sheng Dr. Athasit Tawai RI2C-0121 RI2C-0162 RI2C-0067 RI2C-0057 RI2C-0060 RI2C-0028 RI2C-0061 RI2C-0085	Electromagnetic Waves and Its Applications Chair: Prof.Dr.Danai Torrungrueng Assoc.Prof.Dr.Sarawuth Chaimool RI2C-0155 RI2C-0157 RI2C-0158 RI2C-0160 RI2C-0190 RI2C-0073 RI2C-0164 RI2C-0165	Electrical Circuit Design and Systems Chair: Prof.Babak Nahid-Mobarakeh Assoc.Prof.Dr.Montree Siripruchyanun RI2C-0084 RI2C-0087 RI2C-0072 RI2C-0069 RI2C-0071 RI2C-0135 RI2C-0065 RI2C-0128 RI2C-0091	Innovative Materials and Mechanics I Chair: Asst.Prof.Pornsak Srisungsitthisunti Asst.Prof.Tanaporn Rojhirunsakool RI2C-0200 RI2C-0238 RI2C-0202 RI2C-0203 RI2C-0204 RI2C-0205 RI2C-0266	Innovative Materials and Mechanics II Chair: Asst.Prof Dr.Wanlop Harnnarongchai Dr.Wethaka Chaocharoen Invited Speaker I Invited Speaker II Invited Speaker III RI2C-0218 RI2C-0219 RI2C-0220 RI2C-0221 RI2C-0206
15.00–15.15	Coffee Break					
15.15–17.15	Parallel sessions (6 rooms)					
	Arnoma II	Arnoma III	Thip-Ubol	Subongkoj	Pathummas	Sarochoa
	Special session for Council of University Presidents of Thailand	<ul style="list-style-type: none"> <li>Environmental &amp; Energy Technology</li> <li>Food Science</li> </ul> Chair: Prof.Dr.Yuchen Sheng Dr. Athasit Tawai RI2C-0144 RI2C-0122 RI2C-0123 RI2C-0154 RI2C-0170 RI2C-0031 RI2C-0126 RI2C-0108 RI2C-0013	Electromagnetic Waves and Its Applications Chair: Asst.Prof.Dr.Kittisak Phaebua Dr.Somporn Sriwattapanol RI2C-0021 RI2C-0148 RI2C-0130 RI2C-0079 RI2C-0037 RI2C-0120 RI2C-0131	Fuel Cell Energy Source for Electric Vehicle Applications Chair: Assoc.Dr.Damien Guilbert Asst.Prof.Dr.Chainarin Ekkaravarodome RI2C-0178 RI2C-0184 RI2C-0175 RI2C-0049 RI2C-0064 RI2C-0140 RI2C-0141 RI2C-0038 RI2C-0019	Innovative Materials and Mechanics I Chair: Asst.Prof.Pornsak Srisungsitthisunti Asst.Prof.Tanaporn Rojhirunsakool RI2C-0208 RI2C-0201 RI2C-0210 RI2C-0211 RI2C-0212 RI2C-0213 RI2C-0244 RI2C-0132	Innovative Materials and Mechanics II Chair: Asst.Prof Dr.Wanlop Harnnarongchai Dr.Wethaka Chaocharoen RI2C-0222 RI2C-0223 RI2C-0224 RI2C-0225 RI2C-0226 RI2C-0227 RI2C-0228 RI2C-0271
18.00–20.00	Banquet Party & Best Paper Award presented (Room : Arnoma I - II) (3 <sup>rd</sup> floor)					



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Day 3 : Friday, 13 December 2019						
8:30–10:30	Parallel sessions (6 rooms)					
	Arnoma II	Arnoma III	Thip-Ubol	Subongkoj	Pathummas	Sarochoa
	Operation Systems and Data Information Management Technology <b>Chair:</b> Asst.Prof.Dr.Maleerat Sodanil Asst.Prof.Dr.Mahasak Ketcham RI2C-0102 RI2C-0103 RI2C-0032 RI2C-0035 RI2C-0005 RI2C-0119 RI2C-0007	<ul style="list-style-type: none"> <li>Food Science</li> <li>Applied Biotechnology</li> </ul> <b>Chair:</b> Assoc.Prof.Dr Malinee Sriariyanun Dr. Prapakorn Tantayotai RI2C-0025 RI2C-0042 RI2C-0099 RI2C-0145-0183 RI2C-0100 RI2C-0022 RI2C-0136 RI2C-0083	Wireless Controlling System and Related Topics <b>Chair:</b> Assoc.Prof.Dr.Phayung Meesad Dr.Watchareewan Jitsakul RI2C-0129 RI2C-0088 RI2C-0089 RI2C-0052 RI2C-0146 RI2C-0081 RI2C-0189 RI2C-0192	Computing and Information Technology <b>Chair:</b> Dr.Sucha Smachat Dr.Siranee Nuchitprasitchai RI2C-0010 RI2C-0012 RI2C-0062 RI2C-0093 RI2C-0115 RI2C-0118 RI2C-0016 RI2C-0197	Innovative Materials and Mechanics III <b>Chair:</b> Prof. Pitthaya Jamsawang Asst. Prof. Pijit jiemvarangkul RI2C-0230 RI2C-0231 RI2C-0232 RI2C-0233 RI2C-0234 RI2C-0235 RI2C-0236	Innovative Materials and Mechanics IV <b>Chair:</b> Asst. Prof. Natthapong Pinichka Prof.Chantaraporn Phalakornkule RI2C-0250 RI2C-0251 RI2C-0252 RI2C-0209 RI2C-0254 RI2C-0255 RI2C-0256 RI2C-0257
10.30–10.45	Coffee Break					
10.45–12.00	Parallel sessions (6 rooms)					
	Arnoma II	Arnoma III	Thip-Ubol	Subongkoj	Pathummas	Sarochoa
	Operation Systems and Data Information Management Technology <b>Chair:</b> Asst.Prof.Dr.Maleerat Sodanil Asst.Prof.Dr.Mahasak Ketcham RI2C-0152 RI2C-0117 RI2C-0173 RI2C-0188 RI2C-0111	<ul style="list-style-type: none"> <li>Food Science</li> <li>Applied Biotechnology</li> </ul> <b>Chair:</b> Assoc.Prof.Dr Malinee Sriariyanun Dr. Prapakorn Tantayotai RI2C-0156 RI2C-0002 RI2C-0080 RI2C-0133 RI2C-0149 RI2C-0150	Innovative Electricals and Electronics I <b>Chair:</b> Asst.Prof.Dr.Chanin Joochim Assoc.Prof.Dr.Prachyanun Nilsook RI2C-0109 RI2C-0110 RI2C-0074 RI2C-0195 RI2C-0196	Computing and Information Technology <b>Chair:</b> Dr.Sucha Smachat Dr.Siranee Nuchitprasitchai RI2C-0033 RI2C-0051 RI2C-0053 RI2C-0066 RI2C-0139	Innovative Materials and Mechanics III <b>Chair:</b> Prof. Pitthaya Jamsawang Asst. Prof. Pijit jiemvarangkul RI2C-0237 RI2C-0253 RI2C-0239 RI2C-0240 RI2C-0241	Innovative Materials and Mechanics IV <b>Chair:</b> Asst. Prof. Natthapong Pinichka Prof.Chantaraporn Phalakornkule RI2C-0258 RI2C-0259 RI2C-0260 RI2C-0261 RI2C-0262
12.00–13.00	Lunch (Room : Arnoma I (3 <sup>rd</sup> floor) & Mango (1 <sup>st</sup> floor))					



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<b>Day 3 : Friday, 13 December 2019</b>						
13.00–15.00	<b>Parallel sessions (5 rooms)</b>					
	<b>Arnoma II</b>	<b>Arnoma III</b>	<b>Thip-Ubol</b>	<b>Subongkoj</b>	<b>Pathummas</b>	<b>Sarochoa</b>
	Innovative Electricals and Electronics II <b>Chair:</b> Asst.Prof.Dr.Panee Noiyng Dr.Sitthichai Dentre RI2C-0023 RI2C-0114 RI2C-0077 RI2C-0026 RI2C-0180 RI2C-0082	Room preparation for Closing Remarks	Industrial Process Investigation and Related Topics <b>Chair:</b> Assoc.Prof.Dr.Vitawat Sittakul Asst.Prof.Dr.Wattana Kaewmanee RI2C-0105 RI2C-0176 RI2C-0036 RI2C-0169 RI2C-0041	Computing and Information Technology <b>Chair:</b> Dr.Sucha Smachat Dr.Siranee Nuchitprasitchai RI2C-0076 RI2C-0137 RI2C-0142 RI2C-0153 RI2C-0075 RI2C-0127 RI2C-0168	Innovative Materials and Mechanics III <b>Chair:</b> Dr.Jennarong Tungtrongpairoj Penpisuth Thongyoug RI2C-0242 RI2C-0243 RI2C-0245 RI2C-0246 RI2C-0247 RI2C-0248 RI2C-0249 RI2C-0207	Innovative Materials and Mechanics IV <b>Chair:</b> Asst.Prof.Thamrongsin Siripongsakul Dr.Mohammad Hassan Shirani Bidabadi RI2C-0263 RI2C-0264 RI2C-0265 RI2C-0267 RI2C-0268 RI2C-0269 RI2C-0270
15.00–15.30	<b>Closing Remarks (Room : Arnoma III)</b>					

**\*\* Oral Presentation 15 min (12 min presentation + 3 min Q&A) \*\***