

## Final Program

*The 21st International Symposium on Wireless Personal Multimedia Communications (WPMC- 2018) and The 6th Global Wireless Summit (GWS -2018)*

November 25-28, 2018  
Chiang Rai, Thailand

(updated 25/11/2018 – 3:30 pm)

November 25, 2018						
Time	3rd-4th Floors, M-square Building					
14:00-17:00	Registration (On-site) 3rd Floor, M-square					
14:00-15:30	<b>WPMC Tutorial Session</b> <i>"Multi Business Modelling in a world of advance human bond sensing technologies – How can CGC develop technology in the future and realize this vision" (part I)</i> Professor Dr. Peter Lindgren  ME-415 (Room 4) 4th Floor, M-square			<b>WPMC Tutorial Session</b> <i>"Low Power Wide Area Networks: the LoRaWAN system" (part I)</i> Associate Professor Dr. Lorenzo Vangelista  ME-416 (Room 5) 4th Floor, M-square		
15:30-15:45	Coffee Break					
15:45-17:15	<b>WPMC Tutorial Session</b> <i>"Multi Business Modelling in a world of advance human bond sensing technologies – How can CGC develop technology in the future and realize this vision" (part II)</i> Professor Dr. Peter Lindgren  ME-415 (Room 4) 4th Floor, M-square			<b>WPMC Tutorial Session</b> <i>"Low Power Wide Area Networks: the LoRaWAN system" (part II)</i> Associate Professor Dr. Lorenzo Vangelista  ME-416 (Room 5) 4th Floor, M-square		
18:00-20:00	<b>Welcome Party</b> (E4 Building)					
November 26, 2018						
Time	Kham Mok Luang - Main Hall 5th Floor, M-square	Puang Chom Poo Hall 5th Floor, M-square	ME-414 Room 4th Floor, M-square	ME-415 Room 4th Floor, M-square	ME-416 Room 4th Floor, M-square	Chong Co Room 3rd Floor, M-square
8:00-16:00	Registration (On-site) 3rd Floor, M-square					
8:45-9:50	<b>Opening Ceremony</b> Kham Mok Luang - Main Hall (Room 1)					
9:50-10:00	Coffee Break					
10:00-11:30	<b>Keynote Session 1</b> Professor Fredric J Harris <i>"Green Technology Filters Applied DSP Magic: Cascade Polyphase Filter Banks"</i>  Dr. Anand Raghawa Prasad <i>"5G Security: Small steps towards big leaps"</i>  Kham Mok Luang - Main Hall (Room 1)					
11:30-13:00	<b>Technical Session 1 (WPMC &amp; GWS)</b>					
	<b>WPMC-Room 1</b> Special Session: Technologies and Services on Public Safety LTE  Chair: Fumihiko Nakagawa	<b>WPMC-Room 2</b> Special Session: Antenna and Communication Circuits  Chair: Surapol Vorapatratorn	<b>WPMC-Room 3</b> Wireless Communications, Vehicular Technology, Information Theory and Aerospace & Electronic Systems 01  Chair: Seksan Laitrakun	<b>GWS-Room 4</b> Special Session: Wireless localization  Chair: Sathaphorn Promwong	<b>GWS-Room 5</b> Imperative Business Models for the Technology for Society: Intelligent Systems, Sustainable Energy, eHealth, and Big Data  Chair: Chayapol Kamyod	
	1570400005	1570485994	1570487316	1570487350	1570469689	
	1570400004	1570486345	1570482657	1570488480	2570400002	
	1570400007	1570485902	1570491067	1570498983	1570491080	
	1570400006	1570495385	1570486758	1570502257	1570487418	
	1570400025		1570489831	1570400027	1570487493	
13:00-14:00	Lunch					
14:00-14:45	<b>Keynote Session 2</b> Professor Tomoaki Ohtsuki <i>"Smart Healthcare"</i>  Kham Mok Luang - Main Hall (Room 1)					
14:45-16:15	<b>Technical Session 2 (WPMC &amp; GWS)</b>				<b>GWS Tutorial Session</b> "Propagation Channel in Wireless Communication Systems" (part I) Dr. Sataporn Phomwong  ME-416 (Room 5) 4th Floor, M-square	<b>GWS Steering Committee Meeting</b>  Chong Co Room 3rd Floor, M-square
	<b>WPMC-Room 1</b> Wireless Communications, Vehicular Technology, Information Theory and Aerospace & Electronic Systems 02  Chair: Thongchai Yooyatiwong	<b>WPMC-Room 2</b> Special Session: NICT's Challenge towards the Future Wireless Communication World with Collaborative Research, Development and Promotion Activities: Part I  Chair: Fumihide Kojima	<b>WPMC-Room 3</b> Special Session: THz Technologies and Systems 01  Chair: Hiroyo Ogawa	<b>GWS-Room 4</b> Multi business model innovation in a world of human bond communication  Chair: Santichai Wicha		
	1570468293	1570400010	1570491627	1570491540		
	1570487027	1570400009	1570487479	1570485683		
	1570490686	1570400012	1570489694	1570491356		
	1570487068	1570400011	1570501436	1570492825		
	1570495224			1570502781		
16:15-16:30	Coffee Break					
	<b>Technical Session 3 (WPMC &amp; GWS)</b>					

16:30-18:00	<b>WPMC-Room 1</b> <b>Wireless Physical Systems 01</b>  <b>Chair: Thongchai Yooyatiwong</b>	<b>WPMC-Room 2</b> <b>Wireless Communication and THz Technologies</b>  <b>Chair: Sirikan Chucherd</b>	<b>WPMC-Room 3</b> <b>Communications Services and Multimedia Applications</b>  <b>Chair: Nattapol Aunsri</b>	<b>GWS-Room 4</b> <b>Special Session: Chitt-Kaya Nivesh Sthaan (CNS: Home for Mind and Body)</b>  <b>Chair: Vandana Rohokale</b>	<b>GWS Tutorial Session</b> <b>"Propagation Channel in Wireless Communication Systems" (part II)</b> <b>Dr. Sataporn Phomwong</b>  <i>ME-416 (Room 5)</i> <i>4th Floor, M-square</i>	<b>WPMC Steering Committee Meeting</b>  <i>Chong Co Room</i> <i>3rd Floor, M-square</i>	
	1570490513	1570491466	1570502527	1570487294			
	1570478442	1570491229	1570503266	1570497776			
	1570487487	1570486333	1570502538	1570497965			
	1570491345	1570469404	1570503270	1570498092			
	1570487051	1570486845	1570469617	1570501537			
1570482477		1570490855	1570502580				
<b>November 27, 2018</b>							
Time	<b>Kham Mok Luang - Main Hall</b> 5th Floor, M-square	<b>Puang Chom Poo Hall</b> 5th Floor, M-square	<b>ME-414 Room</b> 4th Floor, M-square	<b>ME-415 Room</b> 4th Floor, M-square	<b>ME-416 Room</b> 4th Floor, M-square	<b>Chong Co Room</b> 3rd Floor, M-square	
8:00-16:00	Registration (On-site) <i>3rd Floor, M-square</i>						
9:00-10:30	<b>Technical Session 4 (WPMC &amp; GWS)</b>						
	<b>WPMC-Room 1</b> <b>Special Session: Signal processing, wireless communication, and measurement technologies for agriculture 01</b>  <b>Chair: Mitchai Chongcheawchamnan</b>	<b>WPMC-Room 2</b> <b>Special Session: NICT's Challenge towards the Future Wireless Communication World with Collaborative Research, Development and Promotion Activities: Part II</b>  <b>Chair: Fumihide Kojima</b>	<b>WPMC-Room 3</b> <b>Special Session: Signal processing, wireless communication, and measurement technologies for agriculture 02</b>  <b>Chair: Suppakarn Chansareewittaya</b>	<b>GWS-Room 4</b> <b>Special Session: CONASENSE</b>  <b>Chair: Ernestina Cianca</b>	<b>GWS-Room 5</b> <b>Special Session: Knowledge and Information Mangement</b>  <b>Chair: Waralak Chongdarakul</b>		
	1570478246	1570400015	1570491071	1570495797	1570491123		
	1570487616	1570400014	1570491105	1570497958	1570491387		
	1570486663	1570400013	1570469685	1570489738	1570491502		
	1570491154	1570400016	1570491224	1570497480	1570499001		
		1570491474	1570498323	1570499004			
		1570491440		1570499400			
10:30-10:45	Coffee Break						
10:45-12:15	<b>Keynote Session 3</b> <b>Professor Matti Latva-aho / Professor Nandana Rajatheva</b> <b>"Radio Access Networking Challenges Towards 2030"</b>  <b>Professor Dr. Prayoot Akkaraethalin</b> <b>"Innovative Sensor Systems for Thailand's Sustainability"</b>  <i>Kham Mok Luang - Main Hall (Room 1)</i>						
	<b>Lunch</b>						
12:15-13:15	<b>Keynote Session 4</b> <b>Professor Janhavi Inamdar</b> <b>"Importance of Collaboration Between Industries And Academia"</b>  <i>Kham Mok Luang - Main Hall (Room 1)</i>						
13:15-14:00	<b>Technical Session 5 (WPMC &amp; GWS)</b>						
14:00-15:30	<b>WPMC-Room 1</b> <b>Wireless Physical Systems 02</b>  <b>Chair: Suppakarn Chansareewittaya</b>	<b>WPMC-Room 2</b> <b>Wireless Communications, Vehicular Technology, Information Theory and Aerospace &amp; Electronic Systems 03</b>  <b>Chair: Seksan Laitrakun</b>	<b>WPMC-Room 3</b> <b>Wireless Networks 01</b>  <b>Chair: Banphot Nobaew</b>	<b>GWS-Room 4</b> <b>Special Session: AI in Education</b>  <b>Chair: Charoenchai Wongwatkit</b>	<b>GWS Tutorial Session</b> <b>"Innovative Sensor Technology for Industrial and Agriculture Applications" (part I)</b> <b>Professor Dr. Prayoot Akkaraethalin</b>  <i>ME-416 (Room 5)</i> <i>4th Floor, M-square</i>		
	1570485900	1570486306	1570486286	2570400001			
	1570490498	1570486681	1570485993	1570497101			
	1570486880	1570486207	1570490986	1570497492			
	1570487045	1570490942	1570487001	1570502840			
	1570486600	1570491493	1570486801	1570504210			
1570491282	1570469984	1570486296	1570508089				
15:30-15:45	Coffee Break						
15:45-17:15	<b>Technical Session 6 (WPMC &amp; GWS)</b>						
	<b>WPMC-Room 1</b> <b>Wireless Networks 02</b>  <b>Chair: Surapol Vorapatratom</b>	<b>WPMC-Room 2</b> <b>Special Session: Business Dimensions for Concurrent Technologies</b>  <b>Chair: Ambuj Kumar</b>	<b>WPMC-Room 3</b> <b>Microwave and Machine Learning in Communications</b>  <b>Chair: Soontarin Nupap</b>	<b>GWS-Room 4</b> <b>Digital Economy and Home for Mind and Body</b>  <b>Chair: Nattapol Aunsri</b>	<b>GWS Tutorial Session</b> <b>"Innovative Sensor Technology for Industrial and Agriculture Applications" (part II)</b> <b>Professor Dr. Prayoot Akkaraethalin</b>  <i>ME-416 (Room 5)</i> <i>4th Floor, M-square</i>		
	1570468304	1570400018	1570476610	1570503026			
	1570469383	1570400021	1570490626	1570498101			
	1570490680	1570400023	1570400003	1570502648			
	1570490835	1570400020	1570487242	1570505032			
1570486157	1570400019		1570499747				
1570483076	1570400022		1570502174				
18:00-21:00	<b>Award Banquet</b> <i>(Lan Dao Garden)</i>						
<b>November 28, 2018</b>							

Time	<b>Kham Mok Luang - Main Hall</b> 5th Floor, M-square	<b>Puang Chom Poo Hall</b> 5th Floor, M-square	<b>ME-414 Room</b> 4th Floor, M-square	<b>ME-415 Room</b> 4th Floor, M-square	<b>ME-416 Room</b> 4th Floor, M-square	<b>Chong Co Room</b> 3rd Floor, M-square	
8:00-12:00	Registration (On-site) 3rd Floor, M-square						
9:30-10:15	<b>Keynote Session 5</b> Associate Professor Dr. Mitchai Chongcheawchamnan <b>"Big Data Ecosystem in the Upstream of Palm Value Chain"</b>  Kham Mok Luang - Main Hall (Room 1)						
10:15-10:30	Coffee Break						
10:30-12:00	<b>Technical Session 7</b> (WPMC & GWS)						
	<b>WPMC-Room 1</b> Wireless Communications, Vehicular Technology, Information Theory and Aerospace & Electronic Systems 04  Chair: Nikorn Rongbutstri	<b>WPMC-Room 2</b> Next-Generation Communication and Security  Chair: Worasak Rueangsirarak	<b>WPMC-Room 3</b> Security and Privacy in Communications  Chair: Narong Chaiwut	<b>GWS-Room 4</b> Special Session: Digital Broadcasting Technology  Chair: Sathaporn Promwong	<b>GWS-Room 5</b> Special Session: Smart Device and Its Applications  Chair: Bharat Gupta		
	1570486810	1570486126	1570469336	1570495390	1570497773		
	1570469673	1570486273	1570469558	1570501909	1570497919		
	1570469640	1570486859	1570486962	1570502128	1570497951		
	1570487158	1570481958	1570486915	1570502228	1570506460		
	1570490327	1570486122	1570486689	1570502274	1570486786		
	1570477439	1570485860	1570469442	1570502283	1570497537		
12:00-13:00	<b>Lunch</b>						
13:00-14:30	<b>Technical Session 8</b> (WPMC & GWS)						
	<b>WPMC-Room 1</b> Special Session: Coding and Machine Learning in Communications and Mobile Applications  Chair: Surachet Kanprachar	<b>WPMC-Room 2</b> Wireless Networks 03  Chair: Sirikan Chucherd	<b>WPMC-Room 3</b> Next-Generation Communication and Security 02  Chair: Rounsang Chaisricharoen	<b>GWS-Room 4</b> AI and Innovation in Business  Chair: Peter Lindgren	<b>GWS-Room 5</b> Knowledge Management and Wireless Localization  Chair: Nilubon Kurubanjerdjit		
	1570498229	1570491436	1570487074	1570490757	1570502070		
	1570469572	1570487228	1570496969	1570507123	1570502249		
	1570487040	1570486287	1570469482	1570478051	1570499105		
	1570400002	1570486285	1570400026	1570486664	1570502262		
	1570485477	1570489887		1570503945	1570502290		
	1570486941		2570400003	1570502293			
14:30-14:45	Coffee Break						
14:45-16:15	<b>Technical Session 9</b> (WPMC & GWS)						
	<b>WPMC-Room 1</b> Special Session: Microwave and millimetre-wave materials for wireless industry  Chair: Taras Kolodiaznyh	<b>WPMC-Room 2</b> Wireless Physical Systems 03  Chair: Tossapon Boongoen	<b>GWS-Room 3</b> Persuasive Business Models for Next Generation Communications and Future Networks  Chair: Waralak Chongdarakul	<b>GWS-Room 4</b> Special Session: Cyber security  Chair: Geir Myrdahl Koiien / Vladimir Oleshchuk			
	1570491214	1570487060	1570502144	1570487682			
	1570490915	1570487484	1570497507	1570490862			
	1570491266	1570469456	1570480466	1570491180			
	1570491007	1570469466	1570486764	1570502274			
	1570469526	1570486893	1570487756	1570496343			
1570400008	1570486888	1570503290	1570489584				
	1570491030						