

2019 Thailand – Japan Microwave Advance Program



TJMW2019

June 26-28, 2019

Rajamangala University of Technology Suvarnabhumi (RUS),
North Campus, Nonthaburi, Thailand



THE INSTITUTE OF ELECTRONICS,
INFORMATION AND COMMUNICATION ENGINEERS

TJMW2019 Sessions and Related Events

Wednesday, June 26th, 2019		
Time		Session
12:30	13:00	Registration
13:00	13:30	WE1: Special Tutorial
13:30	14:10	WE2: Tutorial Session
14:10	14:20	Break
14:20	17:20	WE3: Student Design Competition
17:20	17:30	Photo Session

Thursday, June 27th, 2019		
Time		Session
9:30	10:00	Registration
10:00	10:30	Opening Ceremony
10:30	11:50	Plenary Session
11:50	12:50	Lunch
12:50	13:40	YE1: Young Engineers Session I (3min. Short Presentation: Part 1)
13:40	13:50	Break
13:50	15:10	TH1: Novel Material Evaluation Technologies
15:10	15:30	Break
15:30	16:15	YE2: Young Engineers Session II (3min. Short Presentation: Part 2)
16:15	16:25	Break
16:25	17:30	TH2: Innovative Electro Magnetic Technologies
17:30	19:30	TJMW Banquet

Friday, June 28th, 2019		
Time		Session
8:30	9:00	Registration
9:00	10:00	FR1: Novel Microwave Circuit Technologies
10:00	10:10	Break
10:10	12:10	YE3: Young Engineers Session III (Poster Presentation)
12:10	13:00	Lunch
13:00	14:20	FR2: Anniversary Session
14:20	14:50	Young Engineer Award Ceremony
14:50	15:00	Closing Session

<p style="text-align: center;">WE1: Special Tutorial Wednesday, June 26th, 2019, 13:00-13:30 RUS, Nonthaburi, Thailand</p> <p>Chairs: Satoshi Yoshida, Kagoshima Univ., Japan Nonchanutt Chudpooti, KMUTNB, Thailand</p>		<p style="text-align: center;">WE2: Tutorial Session Wednesday, June 26th, 2019, 13:30-14:10 RUS, Nonthaburi, Thailand</p> <p>Chairs: Satoshi Yoshida, Kagoshima Univ., Japan Nonchanutt Chudpooti, KMUTNB, Thailand</p>		<p style="text-align: center;">Photo Session Wednesday, June 26th, 2019, 17:20-17:30 RUS, Nonthaburi, Thailand</p> <p>Chairs: Satoshi Yoshida, Kagoshima Univ., Japan Nonchanutt Chudpooti, KMUTNB, Thailand</p>	
WE1-01	Recent Advance of Wireless Power Transfer Technologies and Systems	WE2-01	Basic of Microwave Lowpass Filter Design and Measurement for Student Design Competition (1) Basic of Lowpass Filter Theory and Design (2) Basic of Lowpass Filter Fabrication and Measurement		
13:00	Naoki Shinohara	13:30	Nonchanutt Chudpooti*, Satoshi Yoshida#	17:20	Photo Session
13:30	Kyoto Univ., Japan	14:10	*KMUTNB, Thailand, #Kagoshima Univ., Japan	17:30	
		<p style="text-align: center;">WE3: Student Competition Wednesday, June 26th, 2019, 14:12-17:20 RUS, Nonthaburi, Thailand</p> <p>Chairs: Satoshi Yoshida, Kagoshima Univ., Japan Nonchanutt Chudpooti, KMUTNB, Thailand</p>			
		WE2-01			
		14:20	Student Design Competition		
		17:10			
<p style="text-align: center;">Opening Ceremony Thursday, June 27th, 2019, 10:00-10:30 RUS, Nonthaburi, Thailand</p> <p>Chairs: Pramuk Unahalekhaka, RUS, Thailand Kensuke Okubo, Okayama Pref. Univ., Japan</p>		<p style="text-align: center;">TH1: Novel Material Evaluation Technologies Thursday, June 27th, 2019, 13:50-15:10 RUS, Nonthaburi, Thailand</p> <p>Chairs: Masahiro Horibe, AIST, Japan Tuptim Angkaew, CU, Thailand</p>		<p style="text-align: center;">TH2: Innovative Electro Magnetic Technologies Thursday, June 27th, 2019, 16:25-17:30 RUS, Nonthaburi, Thailand</p> <p>Chairs: Titipong Lertwiriyaprapa, KMUTNB, Thailand Kenjiro Nishikawa, Kagoshima Univ., Japan</p>	
Opening Remark		TH1-01	[Invited] Material Characterization for 5G and Beyond - Nano-scale measurement, Material Characterization and Circuit Application -	TH2-01	Geometry of Dispersion Surfaces in Bi-anisotropic Systems
10:00		13:50	Masahiro Horibe	16:25	Kei Sawada*, Kohei Iida#, Atsushi Sanada#
10:30		14:10	AIST, Japan	16:40	*RIKEN, Japan, #Osaka Univ., Japan
		<p style="text-align: center;">TH1-02 Determination of Effective Permittivity of Transverse Composite Dielectric by Waveguide Modal Analysis Technique</p>		<p style="text-align: center;">TH2-02 A Simple Interpretation for the Repeating WPT Characteristics</p>	
<p style="text-align: center;">Plenary Session Thursday, June 27th, 2019, 10:30-11:50 RUS, Nonthaburi, Thailand</p> <p>Chairs: Pramuk Unahalekhaka, RUS, Thailand Kensuke Okubo, Okayama Pref. Univ., Japan</p>		14:10	Tuptim Angkaew	16:40	Takashi Yoshikawa, Yuuki Kamuro
		14:25	Chulalongkorn Univ., Thailand	16:55	Kindai University Technical College, Japan
Plenary	[Invited] Quo Vadis, Microwaves and TJMW?	TH1-03	A Microstrip Folded Resonator Sensor for Measurement of Dielectric Constant	TH2-03	Holographic Control of Electric Field Distribution for Mobile Communication
10:30	Ikuo Awai	14:25	Somporn Seewattanapon*, Thanakit Wattakeekamthorn#, Tanee Somwong*, Prayoot Akkaraekthalin**	16:55	Masahiro Daibo*, Hiroshi Okazaki#, Yasunori Suzuki#
11:10	Ryutech, Japan	14:40	*RMUTSB, Thailand, #RMUTP, Thailand, **KMUTNB, Thailand	17:10	*Iwate Univ., Japan, #NTT DOCOMO, Japan
Plenary	[Invited] Thailand Microwave Research and TJMW	TH1-04	A Dual Microstrip Resonator for Liquid Dielectric Constant Measurement	TH2-04	[Invited] Study on Spectrum in the Frequency Range 100-450 GHz at ITU-R
11:10	Monai KRAIRIKSH	14:40	Warunee Krudpun*, Somporn Seewattanapon*, Prayoot Akkaraekthalin#	17:10	Hiroyo Ogawa
11:50	KMITL, Thailand	14:55	*RMUTSB, Thailand, #KMUTNB, Thailand	17:30	NICT, Japan
		TH1-05	PSE-Coated Interdigital Resonator for Selective Detection of Ammonia Gas Sensor		
		14:55	Warunee Krudpun*, Nonchanutt Chudpooti*, Panida Lorwongthagoool#, Somporn Seewattanapon#, Prayoot Akkaraekthalin*		
		15:10	*KMUTNB, Thailand, #RUS, Thailand		

YE: Young Engineers Session
 Thursday, June 27th, 2019, 12:50-13:40 & 15:30-16:15 3min. Oral
 Friday, June 28th, 2019, 10:10-12:10 Poster
 Chairs: Tubtim Angkaew, CU, Thailand
 Somporn Seewattanapon, RUS, Thailand,
 Toshihiko Hamasaki, Hiroshima Inst. of Tech., Japan
 Masataka Ohira, Saitama Univ., Japan

<p>YE-01 Analysis of Periodic Networks Using the Moment Method</p> <p>Pisit Sornla, Somsak Akatimagool, Danai Torrungrueng</p> <p>KMUTNB, Thailand</p>	<p>YE-06 Design of Substrate Integrated Waveguide Type Butler Matrix at 12.5GHz</p> <p>Kohei Fukuda, Koki Denda, Tadashi Kawai, Akira Enokihara</p> <p>Univ. of Hyogo., Japan</p>	<p>YE-11 A Miniurized Planar Sensor using Minkowski Fractal Technique for Material Characterization</p> <p>Nattapong Duangrit, Nonchanutt Chudpooti, Prayoot Akkaraekthalin</p> <p>KMUTNB, Thailand</p>
<p>YE-02 Analysis and Optimization of GaN Diode Structure for High Power and High Efficiency Rectifier</p> <p>Takuya Obara*, Kenjiro Nishikawa*, Shigeo Kawasaki#</p> <p>*Kagoshima Univ., Japan, #JAXA, Japan</p>	<p>YE-07 Ground Penetrating Radar C-Scan Imaging Using Migration Technique</p> <p>Sirisak Nongpromma, Kiattisak Yochanang, Akkarat Boonpoonga</p> <p>KMUTNB, Thailand</p>	<p>YE-12 Study on a sub-THz band grooved circular empty cavity for low loss dielectric material evaluations</p> <p>Taiki Kimura, Yoshinori Kogami, Takashi Shimizu</p> <p>Utsunomiya Univ., Japan</p>
<p>YE-03 Zeroth Order Resonator Based on Mushroom-like Structure for Glucose Liquid Mixture Characterization</p> <p>Tanaporn Pechrkool*, Nonchanutt Chudpooti*, Tanan Hongnara*, Sarawuth Chaimool#, Prayoot Akkaraekthalin*</p> <p>*KMUTNB, Thailand, #KKU, Thailand</p>	<p>YE-08 Design of 5.8 GHz band coaxial line type reaction chamber for microwave heating</p> <p>Hiroyuki Urushihara*, Mitsuyoshi Kishihara*, Kensuke Okubo*, Kazunori Yamashita#, Munetaka Kishi#, Takeko Matsumura**</p> <p>*Okayama Pref. Univ., Japan, #K-NEX Co.,Ltd., Japan, **Minerva Light Labo., Japan</p>	<p>YE-13 Watermelon meter based on reflection measurement</p> <p>Nakarin Insaeng, Chayanat Rattanajumngong, Paiboon Yoiyod</p> <p>RSU, Thailand</p>
<p>YE-04 Theory of 2-port noise parameter transformation by lossless feedback and its application to LNA design</p> <p>Kosuke Ono, Shuhei Amakawa</p> <p>Hiroshima Univ., Japan</p>	<p>YE-09 Experimentation for Electrical Properties of Layered-Soil using Ground Penetrating Radar</p> <p>Nattawat Chantasen*, Worrathep Chompoosawat*, Akkarat Boonpoonga*, Kamol Kaemarungsi#, Krit Athikulwongse#</p> <p>*KMUTNB, Thailand, #NSTDA, Thailand</p>	<p>YE-14 Development of a 5.8-GHz Magnetron Phased Array</p> <p>Jie Chu, Bo Yang, Naoki Shinohara, Tomohiko Mitani</p> <p>Kyoto Univ., Japan</p>
<p>YE-05 Planar Sensor using Combination Fractal Technique for Soil Moisture Measurement</p> <p>Chatchai Chokchai, Thitima Phuyanon, Jittima Kongkaew</p> <p>RMUTT, Thailand</p>	<p>YE-10 Evaluation of Electromagnetic Field in the Incubator for Evaluating Electromagnetic Field Effect on Cell</p> <p>Ryosuke Momiki, Naoki Shinohara, Jun Miyakoshi, Tomohiko Mitani</p> <p>Kyoto Univ., Japan</p>	

YE: Young Engineers Session

Thursday, June 27th, 2019, 12:50-13:40 & 15:25-16:15 3min. Oral

Friday, June 28th, 2019, 10:10-12:10 Poster

Chairs: Tubtim Angkaew, CU, Thailand

Somporn Seewattanapon, RUS, Thailand,

Toshihiko Hamasaki, Hiroshima Inst. of Tech., Japan

Masataka Ohira, Saitama Univ., Japan

YE-15 Design of a 30GHz band Coplanar type H-slot Resonator with High Temperature Superconductor Shota Kanaoto, Yoshinori Kogami, Takashi Shimizu Utsunomiya Univ., Japan	YE-20 Antenna Design for NFC Technology of First-Aided Information Neeranet Sawigun, Plairung Siripanthong, Pittayarat Yamyuean, Arnon Sakonkanapong, Chuwong Phongcharoenpanich KMITL, Thailand	YE-25 Fabrication of Rectenna with 10 kOhm Antenna and SOI-MOSFET Diode for RF Energy Harvesting Ryota Yanagi, Yasunori Tsuchiya, Jiro Ida, Takayuki Mori, Takuya Yamada, Keisuke Noguchi, Kenji Itoh KIT, Japan
YE-16 Low Cost and Alterable Planar Filters on Fabricated with Additive Manufacturing 3D Printing Technology Kamonpan Kaewheang, Chonnipa Thanomdumrongsak, Amornsak Rattanawongsawat, Sarawuth Chaimool KKU, Thailand	YE-21 Wide Dynamic Range Rectifier Circuit With Varactor Tuned Matching Circuit Hayato Shimizu, Ayako Suzuki, Koshi Hamano, Kenjiro Nishikawa Kagoshima Univ., Japan	YE-26 Experimental Investigation of Metasurface in Non-Radiative Mid-Range Wireless Power Transfer Chawalit Rakluea*, Sarawuth Chaimool#, Yan Zhao**, Prayoot Akkaraekthalin* *KMUTNB, Thailand, #KKU, Thailand, **CU, Thailand
YE-17 Design of Compact Wideband Bandstop Filters Using Microstrip Ring Structures Toshiki Tabei, Zhewang Ma, Masataka Ohira Saitama Univ., Japan	YE-22 The Study of Wideband Circularly Polarized Stacked Microstrip Patch Antenna Sathaporn Konjanthes, Wanwisa Thaiwirot, Prayoot Akkaraekthalin KMUTNB, Thailand	YE-27 Study on Estimation Method of Directions and Distances for Microwave Power Transmission to Moving Targets Hiroyuki Matsubara, Seishiro Kojima, Naoki Shinohara, Tomohiko Mitani Kyoto Univ., Japan
YE-18 A Compact Wide Slot Antenna with a Double-Shaped Feeding Strip for GPR Applications Thanakorn Sutham, Wanwisa Thaiwirot, Prayoot Akkaraekthalin KMUTNB, Thailand	YE-23 2.4GHz and 920MHz RF Propagation in the Grain Filling Stage of Paddy Field Yoshitaka Yamaoka, Daisuke Kuramoto, Toshihiko Hamasaki HIT, Japan	
YE-19 Investigation of Rectifier Operation with Pulse Wave Signals Runyuan Li, Kenjiro Nishikawa Kagoshima Univ., Japan	YE-24 A Tri-band Rhombic Ring Monopole Antenna with Strip Based on Fractal Geometries Norakamon Wongsin*, Thanakarn Suangun#, Chatree Mahatthanajatuphat#, Prayoot Akkaraekthalin# *RMUTT, Thailand, #KMUTNB, Thailand	

FR1: Novel Microwave Circuit Technologies Friday, June 28th, 2019, 9:00-10:00 RUS, Nonthaburi, Thailand		FR2: Special Session: Anniversary Session Friday, June 28th, 2019, 13:00-14:20 RUS, Nonthaburi, Thailand		Award Ceremony Friday, June 28th, 2019, 14:20-14:50 RUS, Nonthaburi, Thailand	
Chairs:	Prayoot Akkarakthalin, KMUTNB, Thailand Tadashi Kawai, Univ. of Hyogo, Japan	Chairs:	Pramuk Unahalekhaka, RUS, Thailand Kensuke Okubo, Okayama Pref. Univ., Japan	Chairs:	Tubtim Angkaew, CU, Thailand Toshihiko Hamasaki, Hiroshima Inst. of Tech., Japan
FR1-01	An X-band Portable 3D-printed Lens Antenna with Integrated Waveguide Feed for Microwave Imaging	FR2-01	[Invited] Ten-year history of TJMW and mobile phones		
9:00	Nonchanutt Chudpooti, Prayoot Akkarakthalin	13:00	Hiroshi Okazaki	14:30	
9:15	KMUTNB, Thailand	13:20	NTT DOCOMO, Japan	15:00	
FR1-02	A Fully Reconfigurable Microstrip Transversal Resonator Array Bandpass Filter	FR2-02	[Invited] Pathway to Progress of Thailand-Japan Microwave		
9:15	Masataka Ohira, Shuma Hashimoto, Zhewang Ma	13:20	Tuptim Angkaew		
9:30	Saitama Univ., Japan	13:40	CU, Thailand		
FR1-03	Auto-Encoder/Decoder for Planar Filter Analysis/Synthesis	FR2-03	[Invited] The Dawn of Thailand-Japan Microwave		Closing
9:30	Kosuke Katayama, Takaaki Baba	13:40	Atsushi Sanada	14:50	Friday, June 28th, 2019, 14:50-15:00 RUS, Nonthaburi, Thailand
9:45	Waseda Univ., Japan	14:00	Osaka Univ., Japan	15:00	Chairs: Pramuk Unahalekhaka, RUS, Thailand Kensuke Okubo, Okayama Pref. Univ., Japan
FR1-04	Dual-Band Phase Shifter for Mobile Communication System	FR2-04	[Invited] Thailand-Japan Microwave (TJMW) from the Pioneer to the Next Generation		Closing Remark
9:45	Yasunori Suzuki, Hiroshi Okazaki	14:00	Chuwong Phongcharoenpanich		
10:00	NTT DOCOMO, Japan	14:20	KMITL, Thailand		

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