

3GCMEA Scientific Programme

José Fayos-Fernández, Juan Monzó-Cabrera

Chair of the 3rd Global Congress on Microwave Energy Applications

<http://cpcd.upct.es/3gcmea/>



Monday 25.07.2016

Start Time	Place	Presentation
09:00	UPCT / FCE Room 305	Basics of microwave heating Dr. Antonio J. Lozano-Guerrero, Univ. Politécnica de Cartagena, Spain
10:00		Measurement of permittivity at microwave frequencies Dr. Felipe L. Peñaranda Foix, Univ. Politécnica de Valencia, Spain
11:00	UPCT / FCE Cafeteria	COFFEE BREAK
11:30	UPCT / FCE Room 305	From Characterisation to industrial applications of RF Andrew C. Metaxas, AMPERE Europe Association, United Kingdom
12:30		Microwaves and RF - scaling up equipment for chemical, plasma, food and drying industrial use Dr. Marilena Radoiu, UK Royal Society for Chemistry, France
13:30	UPCT / FCE Cafeteria	LUNCH
15:00	UPCT / FCE Room 305	Microwave Component Configurations for Industrial Heating Systems John F. Gerling, International Microwave Power Institute, United States
16:00		Multi-physics simulation of an electrical press with CST Jerome Mollet, Computer Simulation Technologies AG, Germany



More information and registration at
<http://cpcd.upct.es/3gcmea/index.php/short-courses>



Contact us by email



Monday 25.07.2016

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Tuesday 26.07.2016

Start Time	Place	Presentation			
09:00	UPCT / FCE Main Room	Microwave propagation in chemical reaction Ka-Ma Huang			
09:20		Cutting-edge developments in microwave chemistry and material processing: latest applications of the microwave semiconductor generator Satoshi Horikoshi			
09:40		The localized microwave-heating paradigm and its relevance to 3D printing Eli Jerby, Microwave Working Group, US			
10:00		New insights about material heating mechanism during microwave processing José Manuel Catalá-Civera			
10:30	UPCT / FCE Cafeteria	COFFEE BREAK			
		Session A (Room 302)	Session B (Room 305)		
11:15	UPCT / FCE 302 & 305 Rooms	DIELECTRIC & MAGNETIC MEASUREMENTS I	A dielectric test-set for monitoring curing processes of thermosetting resins D. Prastiyanto, Karlsruhe Inst. Tech., DE	Hydrogen from solids by microwave influence L. M. Sanz-Moral, Univ. Valladolid, ES	MATERIAL SYNTHESIS I
11:30			Advanced dual-mode resonator technique for <i>in-situ</i> dielectric measurements of lossy materials V. Ramopoulos, Karlsruhe Inst. Tech., DE	Microwave sintering of nanoporous ceramic membranes modified with carbon nanotubes V. A. Bolotov, Russian Academy Sci., RU	
11:45			Dielectric measurements with a kind of TM_{0np} at different harmonics F. L. Peñaranda-Foix, ITACA, ES	Microwave direct flash synthesis of the $SrFe_{12}O_{19}$ hexaferrite F. Molinari, CRISMAT, FR	
12:00			Dynamic measurement of dielectric properties of different zeolite Y at high temperature R. Mallada, Univ. Zaragoza, ES	Effects of microwave sintering on the microstructure and magnetoelectric properties of PZT/CoFe ₂ O ₄ composites R.H.G.A. Kiminami, Fed. Univ. São Carlos, BR	
12:15			Wideband permittivity measurement using coaxial line and capacitive cell M. W. Ben Ayoub, CETIAT, FR		
12:30	UPCT / FCE Cafeteria	LUNCH			
		ePoster Session			
14:15	UPCT / FCE Show Room	MATERIAL SYNTHESIS II Microwave treatments of MSWI bottom ash C. Leonelli, Univ. Modena and R. E., IT Microwave heating applied to polymer science A. Arenillas, INCAR-CSIC, ES Improved microwave-assisted synthesis of rare earth phthalocyanines R. Rosa, Univ. Modena and R. E., IT Two-step microwave sintering of nanostructured ZnO-based varistor R.H.G.A. Kiminami, Fed. Univ. São Carlos, BR Microwave assisted combustion synthesis of AlFe ₂ B ₂ for magnetic refrigeration P. Veronesi, Univ. Modena and R. E., IT			

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		MODELING AND NUMERICAL TECHNIQUES I Numerical and Experimental Investigation of Continuous-Flow Microwave Heating in a Cylindrical Applicator T. K. Palazoğlu, Mersin Univ., TR			
		DIELECTRIC & MAGNETIC MEASUREMENTS II Microwave heating of powders at high temperature: effect of grain size and bulk density B. García-Baños, ITACA, ES Study of microwave thermal processes through in-situ Raman and dielectric spectroscopy J. D. Gutiérrez-Cano, ITACA, ES			
		Session A (Room 302)	Session B (Room 305)		
16:00	UPCT / FCE 302 & 305 Rooms	DIELECTRIC & MAGNETIC MEASUREMENTS III	Permittivity of fresh vegetables smoothies at radiofrequency and microwave frequencies and various temperatures A. J. Lozano-Guerrero, Univ. P. Cartagena, ES	Microwave processing of solid-state electrolyte for Li-ion batteries M. M. Mahmoud, Karlsruhe Inst. Tech, DE	MATERIAL SYNTHESIS III
16:15			The study on the permittivity of pyridine-ethanol mixed solutions Z. Wu, Sichuan Univ., CN	Microwave synthesis of high entropy alloys comprising at least one ferromagnetic element P. Veronesi, Univ. Modena and R. E., IT	
16:30				Flash microwave sintering of ceramics K. Rybakov, Russian Academy Sci., RU	
16:45		MODELING & NUMERICAL TECHNIQUES II	Microwave drying kinetics and infusion characteristics of olive leaves Ö. Süfer, Osmaniye Korkut Ata Univ. TR	Effect of microwave mechanisms to fabricate efficient bioceramic components F. L. Peñaranda-Foix, ITACA, ES	
17:00			Finite element modeling of microwave tempering and experimental validation T. K. Palazoğlu, Mersin Univ., TR	Microwave synthesis of iridium complexes for OLED and their precise analysis by using a LC-TOF MASS method T. Matsumura, Minerva Light Lab. LLC, JP	
17:15	UPCT / FCE Cafeteria	COFFE BREAK			
		Session A (Room 302)	Session B (Room 305)		
18:00	UPCT / FCE 302 & 305 Rooms	MODELING & NUMERICAL TECHNIQUES III	A simulation-based methodology for designing microwave heating processes A. Rosin, Univ. Bayreuth, DE	Microwave assisted heterogeneous catalysts, how to deposit energy and measure temperature R. Mallada, Univ. Zaragoza, ES	ENHANCED CHEMICAL REACTIONS I
18:15			CAD of a dielectric insert supporting uniformity of microwave heating V. V. Yakovlev, Worcester Polytech. Inst. US	Efficient reduction of copper oxide with carbon using microwave local heating N. Haneishi, Tokyo Institute Tech., JP	
18:30			Analysis and design of multimode cavities including mode stirrers A. Sáez-Mtnez., Univ. Pol. Cartagena, ES	Microwave-enhanced dehydrogenation of 2-propanol over magnite catalyst S. Tsubaki, Tokyo Institute Tech., JP	
18:45			Multiphysics numerical modeling of microwave heated porous catalyst bed for biofuel production using COMSOL C. Sabliov, Louisiana State Univ. US	Insight into microwave-driven catalytic reactions: non-equilibrium local heating and acceleration of electron transfer S. Tsubaki, Tokyo Institute Tech., JP	

Wednesday 27.07.2016

Start Time	Place	Presentation			
09:00	UPCT / FCE Main Room	Creating ultra-high temperature ceramic matrix composites by microwave or RF assisted chemical vapour infiltration Jon Binner			
09:20		Bridging gaps in microwave technologies for industrial production of safe foods Juming Tang			
09:40		Microwave-assisted extraction in natural products Rafael B. Mato-Chaín			
10:00		Next generation energy efficient mineral processing achieved through high intensity microwave heating Chris Dodds			
10:30	UPCT / FCE Cafeteria	COFFEE BREAK			
		Session A (Room 302)	Session B (Room 305)		
11:15	UPCT / FCE 302 & 305 Rooms	ENERGY & ENVIRONMENT I	Microwave-induced growth acceleration in plants S. Horikoshi, Sophia Univ., JP	High-power industrial microwave applications and market trends J. Hofman, Muegge, DE	INDUSTRIAL, MANUFACTURING, PROCESSING I
11:30			Microwave pyrolysis of biomass in a fluidised-bed process M. Adam, Univ. Nottingham, UK	Experimental comparison of microwave and radio frequency tempering of frozen beef T. K. Palazoğlu, Mersin Univ., TR	
11:45			Impact of microwave susceptor on biochar properties obtained from biosolids MWAP E. Antunes, James Cook Univ., AU	Microwave tempering of frozen block of shrimp in a cylindrical cavity T. K. Palazoğlu, Mersin Univ., TR	
12:00			Microwave-driven plasma gasification for biomass waste treatment G. Sturm, Delft Univ. of Technology, NL	Drying of fruit and vegetables with the use of microwaves under low pressure R. Parosa, Promis-Tech, PL	
12:15			Arrangements for radio-frequency heating of building structures U. Roland, Helmholtz Cntr. Env. Res., DE	Microwave-vacuum drying of sage leaves T. K. Palazoğlu, Mersin Univ., TR	
12:30	UPCT / FCE Cafeteria	LUNCH			
		ePoster Session			
14:15	UPCT / FCE Show Room	<p>MICROWAVE ASSISTED EXTRACTION I</p> <p>Controlled release systems for rosemary and lavender essential oils obtained through microwave-assisted extraction M. Patrascu, Romanian Academy Sci., RO</p> <p>V-doped TiO₂ nanopowders obtained by microwave assisted sol-gel method M. Patrascu, Romanian Academy Sci., RO</p> <p><i>Cannabis sativa</i> ecosustainable microwave assisted extraction for cosmetic and nutraceutical applications C. Villa, Univ. Genova, IT</p> <p>INDUSTRIAL, MANUFACTURING, PROCESSING II</p> <p>Correlation to dipole moment of distillates as molecular mechanism on essential oils separation by microwave assisted distillation S. Ohjuchi, Kyushu Inst. Tech., JP</p>			

Wednesday 27.07.2016



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			<p>Impact of microwave drying on total phenolic content and colour of onion slices Ö. Süfer, Osmaniye Korkut Ata Univ., TR</p> <p>Effects of microwave irradiation on spore-forming bacteria S. Ohuchi, Kyushu Inst. Techn., JP</p> <p>Performance analyses of mechanically-assisted silent microwave-drills for concrete Y. Nerovny, Tel Aviv Univ., IS</p> <p>Incremental solidification (toward 3D-Printing) of metal powders by localized microwaves M. Fugenfirov, Tel Aviv Univ. IS</p>		
		Session A (Room 302)		Session B (Room 305)	
16:00	UPCT / FCE 302 & 305 Rooms	ENERGY & ENVIRONMENT II	Microwave-assisted energy-saving: organic hydride system for hydrogen energy storage S. Horikoshi, Sophia Univ., JP	Microwave assisted bonding of synthetic leather to plastic substrates S. Soldatov, Karlsruhe Inst. Tech., DE	INDUSTRIAL, MANUFACTURING, PROCESSING III
16:15			Reduction of CO ₂ with hydrogen in a microwave-driven plasma reactor J. Fernández, Delft Univ. Technology, NL	Microwave calcination of clays Á. M. López-Buendía, CEINMAT, ES	
16:30			Microwave treatment of asbestos and other wastes R. Parosa, Promis-Tech, PL	Microwave assisted reduction P. Veronesi, Univ. Modena and R. E., IT	
16:45		IND.MAN. PROC. IV	Description of microwave-assisted dewaxing process for artworks J. Monzó-Cabrera, Univ.P.Cartagena, ES	The development of microwave-assisted VOCs removal system S. J. Park, ECOPRO, KP	
17:00		RADIAT. SAFETY	Parameters stabilization for time-domain shielding effectiveness of enclosures in presence of a plane wave L.G. García-Pérez, Univ.Pol.Cartagena,ES	Microwave application to annealing of metal thin films N. Yoshikawa, Tohoku Univ. JP	
17:15	UPCT / FCE Cafeteria	COFFEE BREAK			
		Session A (Room 302)		Session B (Room 305)	
18:00	UPCT / FCE 302 & 305 Rooms	MICROWAVE ASSISTED EXTRACTION II	Methane dry reforming by microwave heating L. S. Gangurde, Delft Univ. Techn., NL	<i>In-situ</i> shrinkage-temperature measurement during microwave sintering: a useful tool to control the overall densification process R. Macaigne, CRISMAT Lab., FR	PROCESS CONTROL
18:15			Yield vs selectivity in grape pomace polyphenol microwave extraction A. Álvarez, Univ. Valladolid, ES	Application of the <i>in-situ</i> shrinkage-temperature measurement during microwave sintering of doped spinel R. Macaigne, CRISMAT Lab., FR	
18:30			Microwave-assisted extraction of phytochemicals R. Rosa, Univ. Modena e R. E., IT	Scale-up of internally transmitted microwave assisted crystallizer for process control M.Radoiu, Sairem SAS, FR	
18:45			Simultaneous microwave & ultrasound – assisted process for synthesis of functionalized metal nanoparticles used for control of mosquito vectors M. Patrascu, Chemspeed Ltd., RO	In-situ emission spectrophotometric analysis of TiO ₂ -x during microwave irradiation J. Fukushima, Tohoku Univ., JP	NANOTECH-NOLOGY I

Thursday 28.07.2016

Start Time	Place	Presentation				
09:00	UPCT / FCE Main Room	Encounter of microwave chemistry and microwave engineering Naoki Shinohara				
09:20		Microwave induced pyrolysis for producing syngas J. Ángel Menéndez				
09:40		Avoiding injury from microwavable products: an expert witness' suggestions R. F. Schiffmann				
10:00		Tools utilized for microwave cooking instruction development and validation Dhawan Sumeet, Nestlé R&D, US				
10:30	UPCT / FCE Cafeteria	COFFEE BREAK				
		Session A (Room 302)	Session B (Room 305)			
11:15	UPCT / FCE 302 & 305 Rooms	DEVICES	Design and optimization of an antenna for microwave heating of agglomerates T. Kinoshita, Nippon Steel & Sumitomo Metal Corp., JP	Comparative study and simulation of <i>ex-vivo</i> tumor cell inactivation by microwave and conventional heating A. Rosin, Univ. Bayreuth, DE	MICROWAVES IN EVERYDAY LIFE	
11:30			Compact microwave cavity for heating of liquid chemical samples at 915 MHz V. V. Komarov, Yuri Gagarin State Tech. Univ. Saratov, RU	Measurements and analysis of electromagnetic shielding properties of a conductive polymer double shield B. Sidi-Mohamed, Univ. Tlemcen, DZ		
11:45			Microwave heating pattern beamforming using cylindrical leaky-wave antennas A. Pérez-García, Univ. Pol. Cartagena, ES	Problems heating small samples in domestic microwave ovens R. Schiffmann, R. F. Schiffmann Assoc., US		
12:00			Design rules for large scale industrial microwave applicators G. Link, Karlsruhe Inst. Technology, DE	On proper use of magnetron antenna probes V. Bilik, Slovak Univ. Technology, SK		EQUIPMENTS
12:15			The effect of moving metal wall on microwave heating uniformity H. Zhu, Shichuan Univ., CN	Microwave wood modification technology and equipment for its commercialization G. Torgovnikov, Univ. Melbourne, AU		
12:30	UPCT / FCE Cafeteria	LUNCH				
		ePoster Session				
14:15	UPCT / FCE Show Room	<p>NANOTECHNOLOGY II Microwave-assisted synthesis of Cu₂ZnSnS₄ (CZTS) nanocrystals for photovoltaic application D. Bogdal, Cracow Univ. Technology, PL</p> <p>ENHANCED CHEMICAL REACTIONS II Catalytic revalorization of glycerol to fuel additives. Microwave effect in catalysts and in reaction Y. Cesteros, Univ. Rovira i Virgili, ES</p> <p>Microwave assisted Michael addition of phenols or anilines in the presence of DMAP H. Iida, Kanto Gakuin Univ., JP</p>				

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Microwave power dependence corresponding to temperature dependence on enzymatic reactions

S. Ohuchi, Kyushu Institute of Technology, JP

Enhanced chemical vapour infiltration of high temperature ceramic matrix composites (HT-CMCs)

M. Porter, University of Birmingham, UK

ENERGY AND ENVIRONMENT III

Effectiveness of innovative microwave wood modification technology applications in industry

A. Leshchinskaya, National Univ. Sci. Technology MISIS, RU

Microwave drying of seeds and vegetable products: a viable option for Ecuador

A. H. Moreno, Univ. Técnica Cotopaxi, EC

Selected topics on microwave application to green technology in our research group

N. Yoshikawa, Tohoku Univ., JP

Intensification of CO₂ capture processes using microwave heating

C. F. Martín, Univ. Aberdeen, UK

Friday 29.07.2016

Start Time	Place	Presentation
09:00	UPCT / FCE Main Room	Frequency control over energy efficiency and temperature patterns in solid-state-fed microwave cavities Vadim V. Yakovlev
09:20		A novel microwave assisted precipitation technique for nanonization of nutraceuticals Aditya Nayak
09:40		The Microwave Summit 2017 (MWS) Round Table Discussion sponsored by MWG. Moderators: Rebecca Schulz / Bernie Krieger <i>The Summit will consist of microwave experts, government officials and representatives from potential commercial/industrial end-users. The Summit's primary objective is to determine a method for advancing electromagnetic technology applications over the next decade. The goal of this Round Table Discussion is to solicit suggestions on how to formulate and carry out this objective and to recruit participants for the Summit from the global mw community.</i>
10:30	UPCT / FCE Cafeteria	COFFEE BREAK
11:10	UPCT / FCE Main Room	The presence and future of microwave applications in the food industry Round Table Discussion sponsored by IMPI <i>Food safety - industry requirements, concerns and opportunities. Industrial systems, current & future, prospects for solid-state microwave generation. Hardware & cost limitations (include a discussion of solid state opportunities).</i>
12:00	UPCT / FCE Main Room	CLOSING CEREMONY



More information and registration at
<http://cpcd.upct.es/3gcmea>



Contact us by email
3rdgcmea@upct.es

Friday 29.07.2016

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NOTES

SCIENTIFIC AGENDA: Configure your attendance preferences

Time	Monday 25	Tuesday 26	Wednesday 27	Thursday 28	Friday 29
9:00					
9:20					
9:40					
10:00					
10:30		Coffee Break	Coffee Break	Coffee Break	Coffee Break
11:15					
11:30					
11:45					
12:00	Short courses				
12:15					
12:30		Lunch	Lunch	Lunch	
14:15					
16:00					
16:15					
16:30					
16:45					
17:00					
17:15		Coffee Break	Coffee Break	Coffee Break	
18:00	Welcome Reception				
18:15					
18:30					
18:45					
19:00					
					Closing Ceremony

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Cartagena (Spain), 25-29 July 2016