

EFASII, Tomar, Portugal, Mar 11-15, 2019

NOTES

- This is a preliminary cut at the program. More contributions are coming in. Please expect changes.
- The contributions below include oral and posters. They will need to be split into Oral and Posters to achieve balance in representation and topics.
- This is a Discussion Oriented meeting. The final program will reflect this goal.
- Wednesday morning is reserved for a special session to discuss futuristic topics, and ideas.

Monday (AM)

Manufacturing		SPS	Large Scale	Additive Manufacturing
Bram	Martin	Jülich GmbH	Germany	Field assisted sintering of larger scaled ceramic parts using adapted tool design and hybrid heating
Grasso	Salvatore	Southwest	China	Field Assisted Material Engineering (FAME)
Van der Laan	Antoine	Toulouse, CNRS	France	Elaboration of complex shapes by Spark Plasma Sintering
Prette	Andre L. G.	LUCIDEON	UK	Flash sintering of injection molded zirconia under AC electric field for enhancement of optical properties
Guillon	Olivier	Forschungszentrum J	Germany	Electrical field assisted sintering of yttrium doped ceria investigated by sinter-forging

Monday (PM)

Characterization		X-ray	TEM	Optical Mechanical
Biesuz	Mattia	Queen Mary	UK	Electrochemical, Optical and Thermal Effects during Flash Sintering of 8YSZ
Kok	David	UC Irvine	USA	Increase in Hardness for Flash Sintered Ceramics
Ghose	Sanjit	Brookhaven	USA	In-Situ X-ray Characterization of Phase Evolution during Solid-State Reactions of Multicomponent Systems
Muccillo	R.	Federal U.	Brazil	Electrical Analysis of Flash Sintered Electroceramics
Cho	Jaehun	Purdue	USA	Field-induced mass transport phenomena in flash sintered high temperature ceramics explored by in situ SEM and TEM

Tuesday (AM)

Computational		First Principles	Molecular Dynamics Large Data	
Yu	Liping	U Maine	USA	First-principles studies of defect effects on conductivity and polarization at oxide interfaces
Jongmanns	Malte	Duisburg-Essen	Germany	Formation of defect-enriched phases far from equilibrium as a flash sintering mechanism

Winterer Engelke	Markus Lukas	Duisburg-Essen Duisburg-Essen	Germany Germany	Pattern Formation during Current Sintering (experiments) Pattern formation during current sintering (Simulation)
Kalia	Rajiv	USC	USA	Deep Learning of CVD Growth and Phase-Transition Pathways in Layered Materials*

Tuesday (PM)

Ionic and Glasses

Yttria Stabilized Zirconia Urania Ceria Liquid Phase

Kardoulaki	Erofilii	Los Alamos	USA	Progress in flash sintering of UO ₂ Kinetics of liquid-assisted densification during flash sintering of ceramic nanoparticles
Chaim	Rachman	Technion	Israel	Impedance characterization of calcia-stabilised zirconia as a function of applied field
Ramírez Gonz	Julia	Sheffield	UK	High Temperature Tensile Behavior of Zirconia Ceramics under dc Current
MORITA	Koji	NIMS	Japan	Densification and grain growth kinetics of 3mol% Y ₂ O ₃ stabilized zirconia during flash sintering
Ren	Ke	Northw. Poly	China	Deformation mechanisms of flash sintered yttria stabilized zirconia via in-situ micromechanical testing
Cho	Jaehun	Purdue	USA	Hybrid/FAST sintering on Glass/Alumina
Wesner	Anne	Fraunhofer IKTS	Germany	Enhanced ionic conductivity of 8 mol% Yttria Stabilised Zirconia by flash sintering
Vendrell	Xavier	Catalunya/Sheffield	Spain	Low temperature and high strain rate superplastic flow in structural oxide ceramics induced by flash event
Yoshida	Hidehiro	NIMS	Japan	The Onset of Flash Sintering 8YSZ
Liu	Jinling	Southwest U.	China	Dc Electric Field Assisted 3ysz Ceramic Superplastic Deformation
Liu	Dianguang	Southwest U.	China	Comparison of the Electrical and Structural Properties of Flash Sintered Yttria-stabilized Zirconia
Grimley	Carolyn	NC State	USA	Study of flash phenomena on single crystals of cubic 8 mol% yttria stabilized zirconia
Yadav	Devinder	IIT Patna	India	

Wednesday (AM)

Futuristic Discussion Topics

Heating Rate Ionic/Electronic Phonons/Electrons Interfaces

Garcia	Edwin	Purdue	USA	Charged Grain Boundaries and the Microstructural Evolution of Ionic Ceramics
Shoemaker	Daniel	U. of Illinois	USA	Local structure and kinetics of defect accumulation in titania flash events
Riess	ILan	Technion	Israel	Mixed ionic electronic conductivity and flash sintering
Avila	Viviana	Colorado	USA	Flash sintering of ceramic films: the influence of surface to volume ratio
Raj	Rishi	Colorado	USA	Lattice Softening

Wednesday (PM)

Free

Thursday (AM)

SPS and Microwave

			Common Themes	Linkage to Flash
Raethel	Jan	Fraunhofer IKTS	Germany	Reproducibility of Fast/sps Experiments
Rybakov	Kirill I.	Russian Acad Sci	Russia	Ultra-rapid microwave sintering of ceramics and powder metals
Suzuki	Tohru S.	NIMS	Japan	Effective colloidal processing for densification before SPS
Nakamura	Nathan J.	Carnegie Mellon	USA	The Role of Defects in Microwave-Assisted Synthesis of Cubic ZrO ₂
Mishra	Tarini Prasad	Jülich	Germany	Electric field assisted densification of 10 mol. % Gadolinium Doped Ceria (GDC 10)
Elissalde	Catherine	ICMCB/CNRS	France	Some strategies to (co)-sinter refractory functional oxides at low temperature by Spark Plasma Sintering
El Khoury	Liza	ICMCB/Bordeaux	France	Evidence for microstructure-dependent hysteresis in SCO molecular ceramics prepared by Cool-SPS
Josse	Michaël	ICMCB/Bordeaux	France	Cool-SPS: pulling down the temperature, pushing up the reactivity
Kim	Byung-Nam	NIMS	Japan	Grain growth behavior during spark plasma sintering of ceramics

Thursday (PM)

Metallic. Conductive and Non-Oxides

			Metals	Semi-Metallic	Carbon
Leich	Lennart	Ruhr-Universität	Germany	Densification of NdFeB Magnets by Electro-Discharge Sintering - Microstructure, Mechanical and Magnetic Properties	
Murray	Shannon	U. of Illinois	USA	Study of the phase transformation induced by flash sintering in Mn ₂ O ₃ and the investigation of the role of defects in flash sintering using in-situ Raman spectroscopy	
Wang	Yiguang	Beijing I. Tech.	China	Electrical-field assisted flash joining of ceramic oxide-ceramic oxide and ceramic oxide-metal	
Rosenberger	Andrew	Army Research Lab	USA	Flash Sintering of Armor Materials: Challenges and Opportunities	
Mégret	Alexandre	University of Mons	Belgium	Effect of the addition of doped-cobalt on the properties of recycled tungsten carbide powder sintered by SPS	
de Knoop	Ludvig	Chalmers University	Sweden	Electric field-induced surface roughening of gold observed in situ at atomic resolution using transmission electron microscopy	
Maccari	Fernando	Darmstadt	Germany	Effect of electric current annealing in phase transition of Mn-Al alloy	
Ingraci Neto	Rubens Rober	Colorado	USA	Flash induced graphitization on amorphous carbon fibers	
Vilémová	Monika	I. Plasma Physics	Czech Rep.	W-Cr solid solution: Comparison of alloying in SPS and by ball milling	

Friday (AM)

Complex Ceramics

			Energy	Functional	Structural	Optical
Perez-Maquec	Luis A.	Sevilla (CSIC-US)	Spain	Reaction flash sintering for producing high quality functional ceramics within seconds		

Andriamady HU	Niriaina YU	Colorado Ionotec Ltd	USA UK	Solid State Lithium Batteries: a Potential Application of Flash Sintering Flash sintering of beta"-alumina solid electrolytes for sodium battery applications
Mascotto Molinari	Simone Flora	Hamburg ICMCB-Bordeaux	Germany France	Triggering the catalytic activity of SrTiO ₃ -based ceramics by flash sintering Densification of classic and fragile ferroelectrics by Cool-SPS Insights into reactive flash sintering of MgO-Al ₂ O ₃ -(8YSZ) by in-situ synchrotron X-ray diffraction
Yoon Avila	Bola Viviana	Colorado Colorado	USA USA	Powders of four elemental oxides transformed and sintered by reactive flash