

2010_Program_Actual

Overview:

(i) Our challenge is to connect science to applications, and applications to science.

(ii) Porous structures, nanocomposites, coatings, and Li/H₂ are all examples of this new direction.

(iii) But, as recognized by this year's Aldinger Prizes, we can now embark on a search for new chemistries of PDCs, not simply as Si-based but as a broader, more general class of materials.

Note: The times for Skype presentations are firm.

Mon AM/PM *Applications: These talks need not be immediately related to PDCs. They are intended to spur discussion of future directions for PDC research.*

8:30 AM	Gian D. Soraru`	Trento	Applications	Keynote: Porous SiCO
9:30AM*	Satish Kailas*	IISc, India	Applications*	PDC for coating-on-demand in IC engine ap
	Yigal Blum	SRI-International	Applications	Chemistry for Applications
	Joe Braza	Green, Tweed & C.	Applications	Tribological Applications of CMC Materials
	Paolo Colombo	Padova	Applications	Porous PDCs, Past Present and Future
	Ron Eng	NASA	Applications	PDCs for Cryogenic Astronomical Mirrors
	Vincent Hammond	ARL	Applications	Light Weight (Mg) Nanocomposites
	Jim Zimmerman	Corning, Inc.	Applications	New Products and Future
	Rishi Raj	Colorado	Applications	High Performance Anode for Li+ Batteries

Tue AM/PM *Molecules: Please give consideration to new precursor chemistries for silicon and non-silicon based PDCs.*

8:30AM*	Fabrizia Poli*	New Orleans, FR	Molecules*	Li, in-situ NMR
	Gabriela Mera	Darmstadt	Molecules	Di-imide Derived SiCN
	Emanuel Ionescu	Darmstadt	Molecules	Nanocomposites for UHT Applications
	Isabel Kinski	Dresden	Molecules	Cubic Gallium Oxynitride from a Single Precursor
	Babak Kouchmeshky	UT-Arlington	Molecules	Thermal Transport in UHTCeramics
	Ningbo Liao	UT-Arlington	Molecules	Modelling SiCO Using Millions of Atoms
	Sushil Misra	Montreal	Molecules	EPR/FMR. FTIR, X-ray, Raman of Fe-Doped SiCN
	S. I. Andonenko, I Stiharu, D. Menard and C. Lacroix, and S. Misra			
	Aitana Tamayo-Hernandez	Madrid	Molecules	Silicon oxycarbide

Wed AM *Composites: Please attempt to bring forth scientific issues facing PDC-nanocomposites.*

8:30 AM	Enrico Bernardo	Padova	Composites	Oxide Nano-Sized Fillers
	Enzo Castellan	Colorado	Composites	Extreme Copper Nanocomposites

Zoltan Lences	Bratislava	Composites	Low Temp Densification of Non-Oxide Composites
Field Assisted Sintering:			
Marco Cologna	Colorado	Flash Sintering	Zirconia below 1000°C
Andre Prette	Trento/Colorado	Flash Sintering	Mixed Oxide Conductor

Wed PM Free (a local hike to be arranged – Conference Dinner starts at 6 PM)

Thu AM *Properties: No matter what is presented here, it will be new, for sure, and will encourage a great deal of discussion.*

8:30AM*	P. Jiminez-Sanchez*	Seville	Properties*	Onset of Fracture During Pyrolysis
	Luis Perez Maqueda			
	Dieter Hochheimer	Colorado State	Properties	Raman at High Pressure
	Aylin Karakuscu	LANL	Properties	Photoluminescence in Thin Films

Thu AM/PM *Coatings & Diffusion: This is a huge area for PDC applications and basic research. If your work is applications oriented think science. If your work is basic think of applications.*

8:30 AM	Raj Bordia	Washington	Coatngs&Diff	Coatings: Processing and Properties
	Ralf Hauser	Fraunhofer	Coatngs&Diff	HiTemp Protective Coatings for Metals
	Kalvis Terauds	Colorado	Coatngs&Diff	Coatings on SiC Single Crystals
	Jason Lonergan	Colorado	Coatngs&Diff	Coatings on SiC Fibers
	Aidan Taylor	Leoben, Austria	Coatngs&Diff	Metal-Polymer Adhesion
	John Pellegrino	Colorado	Coatngs&Diff	Membrane Science and Technology
	Scott Bunch	Colorado	Coatngs&Diff	Graphene Membranes
	Bin Xu	UT-Arlington	Coatngs&Diff	Oxygen Diffusion and Oxidation in SiCO
	C. Nagaraj & I. Saleh	Colorado	Coatngs&Diff	PDCs as a Barrier to Interfacial Reactions

Fri AM *Li & H2: This area hold the potential for the next big scale applications for the PDCs. Identify the technical barriers and the science needed to overcome them.*

8:30AM*	Peter Kroll*	UT-Arlington	Li & H2 & catalysis*	Li Insertion in SiCNO
	Lung-hao HU	Colorado	Li & H2 & catalysis	Catalysts for Hydrogen Generation
	Guenter Motz	Bayreuth	Li & H2 & catalysis	"Molecular" M@SiCN ceramics for catalytic applications
	Jianhong Shen	Colorado	Li & H2 & catalysis	Li+ Anodes: Design & Diffusion
	Michaela Wilhelm	Bremen	Li & H2 & catalysis	Porous Hybrid Catalysts

*Via Skype