

Session - Synthesis/Processing I

Chairperson: R. Riedel, Technical University of Darmstadt (Germany)



<p><u>Polymeric Precursor Approaches to Nano- and Micro-Structured Nonoxide Ceramics</u></p>	<p>L.G. Sneddon (Sp), U. Kusari, X. Wei, M. Guron, University of Pennsylvania, Philadelphia, PA (USA)</p>	<p>keynote C34-330</p>	<p>Mon</p>	<p>11:00</p>	<p>Stockholm</p>	
<p><u>Synthesis of WC-Co Cemented Carbides by Precursor Reactions and Spark Plasma Sintering</u></p>	<p>X. Song (Sp), W. Liu, J. Zhang, Beijing University of Technology (China); M. Rettenmayr, Friedrich Schiller University Jena (Germany)</p>	<p>lecture C34-105</p>	<p>Mon</p>	<p>11:40</p>	<p>Stockholm</p>	
<p><u>Mixed Oxide Xerogels Based on Titania or Silica with Non-linear Optical Properties</u></p>	<p>S. Lisinski (Sp), German Aerospace Center - DLR, Cologne (Germany); D. Schaniel, University of Cologne (Germany); L. Ratke, German Aerospace Center - DLR, Cologne (Germany); T. Wolke, University of Cologne (Germany)</p>	<p>lecture C34-1119</p>	<p>Mon</p>	<p>12:00</p>	<p>Stockholm</p>	
<p><u>Creating Nano-structured Films from Self-Encapsulated Inorganic-Organic Hybrid Materials</u></p>	<p>P. Müller-Buschbaum (Sp), J. Perlich, Technical University of München, Garching (Germany); M. Memesa, Max Planck Institute for Polymer Research, Mainz (Germany); S.V. Roth, HASYLAB, Hamburg (Germany); J.S. Gutmann, Johannes Gutenberg University, Mainz (Germany)</p>	<p>lecture C34-215</p>	<p>Mon</p>	<p>12:20</p>	<p>Stockholm</p>	

Session - Synthesis/Processing II
 Chairperson: S. Kaskel, Technical University of Dresden (Germany)



<u>Synthesis of Mesoporous SiO₂ and TiO₂ Nanoparticles by Miniemulsion Technique</u>	C. Weiß (Sp), R. Rossmannith, K. Landfester, J. Geserick, N. Hüsing, University of Ulm (Germany); P. Kubiak, M. Wohlfahrt-Mehrens, ZSW, Ulm (Germany); U. Hoermann, U. Kaiser, Y. Denkwitz, R. Behm, University of Ulm (Germany)	highlight C34-1723	Mon	14:40	Stockholm	
<u>Oligophenothiazines – Coupled Redox Systems for Hole Transporters, Surface Functionalization, and Hybrid Materials</u>	T.J.J. Müller, University of Düsseldorf (Germany)	lecture C34-271	Mon	15:00	Stockholm	
<u>Novel Organic/Inorganic Hybrid Materials by Covalent Anchoring Phenothiazines on Mesoporous Supports</u>	Z. Zhou, W.R. Thiel (Sp), University of Kaiserslautern (Germany); A. Franz, T.J.J. Müller, University of Düsseldorf (Germany)	lecture C34-449	Mon	15:20	Stockholm	
<u>Preparation of Hierarchically Structured SnO for Li ion Batteries by an Aqueous Solution System</u>	H. Uchiyama (Sp), H. Imai, Keio University, Yokohama (Japan); E. Hosono, Z. Haoshen, National Institute of Advanced Industrial Science and Technology, Tsukuba (Japan)	lecture C34-663	Mon	15:40	Stockholm	
<u>Metal Containing Precursor SiCN Ceramics - Molecular Precursor Design</u>	G. Glatz (Sp), T. Schmalz, G. Motz, R. Kempe, University of Bayreuth (Germany)	lecture C34-874	Mon	16:00	Stockholm	

Session - Properties and Applications I
 Chairperson: D. Rafaja, Technical University of Freiberg (Germany)



<u>Designing Inorganic Glasses to Meet Specific Elastic Properties</u>	T. Rouxel, University of Rennes (France)	highlight C34-255	Mon	<u>17:00</u>	Stockholm	
<u>Impact of Precursor Molecular Weight Distribution on Development and Properties of SiOC Ceramics</u>	M. Esfehanian (Sp), M. Haußmann, R. Oberacker, H. Bockhorn, University of Karlsruhe (Germany)	lecture C34-153	Mon	<u>17:20</u>	Stockholm	
<u>Transparent and Flexible Silica Aerogels - Synthesis and Properties</u>	B. Milow (Sp), M. Claas, L. Ratke, German Aerospace Center - DLR, Cologne (Germany)	lecture C34-541	Mon	<u>17:40</u>	Stockholm	
<u>Phase Transformation Behaviour and Enhancement of Piezoelectricity in Nanoscale NaNbO₃ Derived from Microemulsion Mediated Synthesis</u>	C. Pithan, Research Centre Juelich (Germany)	lecture C34-555	Mon	<u>18:00</u>	Stockholm	
<u>Metal Modified, Porous SiCN-Precursor Ceramics</u>	T. Schmalz (Sp), W. Krenkel, G. Motz, R. Kempe, G. Glatz, University of Bayreuth (Germany)	lecture C34-780	Mon	<u>18:20</u>	Stockholm	

Session - Properties and Applications III

Chairperson: M. Herrmann, Fraunhofer Institute for Ceramic Technologies and Systems, Dresden (Germany)

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<u>Mesoporous Silicon Carbide Materials – A New High Temperature Stable Catalyst Support</u>	E. Kockrick (Sp), Technical University of Dresden (Germany); U. Petasch, Fraunhofer-Institute for Ceramic Technologies and Systems, Dresden (Germany); P. Krawiec, Technical University of Dresden (Germany); H.-P. Martin, M. Herrmann, Fraunhofer-Institute for Ceramic Technologies and Systems, Dresden (Germany); S. Kaskel, Technical University of Dresden (Germany)	highlight C34-972	Mon	<u>17:00</u>	Budapest	
<u>Silica Hybrids Containing Ionic Substructures: Versatile Materials for Catalysis and Separation</u>	P. Hessemann (Sp), J.J.E. Moreau, CNRS UMR 5253, Ecole Nationale Supérieure de Chimie de Montpellier (France)	lecture C34-893	Mon	<u>17:20</u>	Budapest	
<u>Microporous Inorganic Hollow Fiber Membranes (SiO₂-MO_x) via Molecular Design of Sol-Gel-Based Inorganic-Organic Hybrid Polymers (ORMOCER®s)</u>	T. Ballweg, S. Metz (Sp), W. Storch, K.-H. Haas, Fraunhofer Institute for Silicate Research, Würzburg (Germany)	lecture C34-896	Mon	<u>17:40</u>	Budapest	
<u>On the Formation of Superhard Nanostructures in Bulk Materials Starting from Molecular and Solid State Precursors as Compared to Thin Films</u>	M. Schwarz (Sp), T. Barsukova, E. Kroke, D. Rafaja, M. Motylenko, V. Klemm, G. Schreiber, Technical University of Freiberg (Germany); B. Fürderer, H. Reinecke, University of Freiburg (Germany)	lecture C34-1523	Mon	<u>18:00</u>	Budapest	
<u>Modification of Micellar Solutions for Spin-Coating of Thick, Crack-Free Dielectric Layers and Their Properties</u>	K. Schindler (Sp), A. Dellert, A. Roosen, University of Erlangen-Nuremberg (Germany)	lecture C34-239	Mon	<u>18:20</u>	Budapest	

Session - Properties and Applications II
 Chairperson: P. Kroll, RWTH Aachen University (Germany)



<u>Carbonaceous Non-Crystalline Polymer-Like Multifunctional Ultrahigh-Temperature Ceramics</u>	R. Raj, University of Colorado, Boulder, CO (USA)	keynote C34-1234	Tue	<u>11:00</u>	Stockholm	
<u>2D Arranged Carbon Nanotubes as Scaffolds for Electrochemical Applications</u>	J. Schneider (Sp), A. Popp, Technical University of Darmstadt (Germany)	lecture C34-238	Tue	<u>11:40</u>	Stockholm	
<u>Polysiloxane Derived Si(Al,B)OC Bulk Ceramics for High-Temperature Resisting Sensors</u>	L. Toma (Sp), R. Hauser, R. Riedel, Technical University of Darmstadt (Germany)	lecture C34-287	Tue	<u>12:00</u>	Stockholm	
<u>Novel Membrane Materials for High Temperature PEM Fuel Cells Based on Polysiloxanes and Functionalized Mesoporous Oxides</u>	M. Wark (Sp), Leibniz Universität Hannover (Germany); R. Marschall, S. Frisch, J. Caro, Leibniz Universität Hannover (Germany); D. Koch, M. Jeske, M. Wilhelm, G. Grathwohl, C. Köhler, W.L. Cavalcanti, P. Tölle, T. Frauenheim, University of Bremen (Germany)	lecture C34-859	Tue	<u>12:20</u>	Stockholm	

Session - Characterisation/Microstructure I
 Chairperson: H. Bockhorn, University of Karlsruhe (Germany)



<p><u>Stereostructured SiC-Based Ceramics from Novel Inorganic Polymers: Diblock Copolymer and Inorganic Polymer Photoresist</u></p>	<p>D.-P. Kim (Sp), O.D. Nghiem, T.A. Pham, Chungnam National University, Daejeon (Korea, Republic)</p>	<p>highlight C34-257</p>	<p>Tue</p>	<p>14:40</p>	<p>Stockholm</p>	
<p><u>Microstructure of Ultra-Hard BN Nanocomposites as Seen by X-Ray Diffraction and Transmission Electron Microscopy</u></p>	<p>D. Rafaja (Sp), M. Motylenko, V. Klemm, G. Schreiber, M. Schwarz, T. Barsukova, E. Kroke, Technical University of Freiberg (Germany)</p>	<p>lecture C34-272</p>	<p>Tue</p>	<p>15:00</p>	<p>Stockholm</p>	
<p><u>Synthesis and Characterisation of Porous CeO₂-SiC-Composites for Catalytic Applications</u></p>	<p>M. Herrmann (Sp), U. Petasch, Fraunhofer-Institute for Ceramic Technologies and Systems, Dresden (Germany); E. Kockrick, Technical University of Dresden (Germany); H.-P. Martin, Fraunhofer-Institute for Ceramic Technologies and Systems, Dresden (Germany); P. Krawiec, S. Kaskel, Technical University of Dresden (Germany)</p>	<p>lecture C34-989</p>	<p>Tue</p>	<p>15:20</p>	<p>Stockholm</p>	
<p><u>Precursor-Derived Ceramics Reinforced by Single-Wall Carbon Nanotubes</u></p>	<p>L. Fernandez Recio (Sp), J. Bill, University of Stuttgart (Germany); M. Burghard, Max Planck Institute for Solid State Research, Stuttgart (Germany); Z. Burghard, J. Golczewski, F. Aldinger, University of Stuttgart (Germany); K. Kern, Max Planck Institute for Solid State Research, Stuttgart (Germany)</p>	<p>lecture C34-690</p>	<p>Tue</p>	<p>15:40</p>	<p>Stockholm</p>	
<p><u>Wet Chemical Deposition of Perovskite Nanoparticles Dispersed in Molecular Precursor Solutions and Control of Morphology</u></p>	<p>T. Schneller (Sp), S. Halder, RWTH Aachen University (Germany); C. Pithan, J. Dornseiffer, Research Centre Jülich, Juelich (Germany); S.B. Majumder, Indian Institute of Technology, Kharagpur (India); R. Waser, RWTH Aachen University (Germany)</p>	<p>lecture C34-988</p>	<p>Tue</p>	<p>16:00</p>	<p>Stockholm</p>	

Session - Characterisation/Microstructure II
 Chairperson: J. Bill, University of Stuttgart (Germany)

<u>New Insights into the Nanostructure of SiCO Glasses Obtained via Molecular Design</u>	G.D. Soraru (Sp), R. de la Pena, P. Dibandjo, R. Raj, University of Trento, Povo (Trento) (Italy)	highlight C34-518	Tue	<u>17:00</u>	Stockholm		
<u>Nanocrystals in Amorphous Matrices: Modeling, Simulation, and Prediction of Structure and Properties</u>	P. Kroll (Sp), R. Singh, RWTH Aachen University (Germany)	lecture C34-1180	Tue	<u>17:20</u>	Stockholm		
<u>Mesoscopic Organised Nanomaterials: Synthesis – Characterisation – Applications</u>	P. Kubiak, M. Wohlfahrt-Mehrens (Sp), N. Hüsing, ZSW, Ulm (Germany); R. Rossmanith, K. Landfester, U. Hörmann, U. Kaiser, University of Ulm (Germany)	lecture C34-1518	Tue	<u>17:40</u>	Stockholm		
<u>Nitrogen Reference Materials for Glow Discharge Optical Emission Spectroscopy (GDOS) of Coatings</u>	A. Schütz (Sp), R. Völkl, U. Glatzel, University of Bayreuth (Germany); M. Analytis, Spectruma Analytik GmbH, Eurasburg (Germany)	lecture C34-259	Tue	<u>18:00</u>	Stockholm		
<u>Conversion of Liquid Preceramic Polymers into Nanostructured Ceramics by Laser Induced Pyrolysis</u>	J. Wilden, G. Fischer (Sp), Technical University Ilmenau (Germany)	lecture C34-366	Tue	<u>18:20</u>	Stockholm		

Poster Session I

<u>Proton Conductors in Materials for Fuel Cell Applications</u>	W. Leite Cavalcanti (Sp), P. Tölle, C. Köhler, T. Frauenheim, University of Bremen (Germany)	poster C34-102	Mon-Tue				
<u>Oligophenothiazines in Mesoporous Silica: New Redox-Active, Covalent Hybrid Materials</u>	A.W. Franz (Sp), T.J.J. Müller, University of Düsseldorf (Germany)	poster C34-161	Mon-Tue				
<u>Comparison Between Semi-Conducting Polymer-Polymer and Polymer-Inorganic Hybrid Thin Films</u>	G. Kaune (Sp), M. Ruderer, P. Müller-Buschbaum, Technische Universität München, Garching (Germany)	poster C34-267	Mon-Tue				
<u>Characterization of Nanostructured Films of Inorganic-Organic Hybrid Materials with X-Ray Scattering under Grazing Incidence</u>	J. Perlich (Sp), Technische Universität München, Garching (Germany); M. Memesa, J.S. Gutmann, Max Planck Institute for Polymer Research, Mainz (Germany); P. Müller-Buschbaum, Technische Universität München, Garching (Germany)	poster C34-487	Mon-Tue				
<u>Microstructure Characterization of Ultra-hard BN Nanocomposites</u>	M. Motylenko (Sp), V. Klemm, G. Schreiber, D. Rataja, M. Schwarz, T. Barsukova, E. Kroke, Technical University of Freiberg (Germany)	poster C34-502	Mon-Tue				
<u>Effects of the Molecular Distribution of Siloxane Resin on the Pyrolysis of Precursors and Properties of SiOC-Ceramic</u>	M. Haußmann (Sp), H. Bockhorn, R. Oberacker, M. Esfahanian, University of Karlsruhe (Germany)	poster C34-594	Mon-Tue				
<u>Proton Conducting Nanohybrids Based on Polysiloxanes for Fuel Cells Operating above 100°C</u>	M. Wilhelm (Sp), M. Jeske, D. Koch, G. Grathwohl, University of Bremen (Germany)	poster C34-820	Mon-Tue				

<u>Integrated Approaches in Self Assembled Nanomaterials for Photovoltaic Applications</u>	M. Memesa, Y. Cheng, Max Planck Institute for Polymer Research, Mainz (Germany); J. Perlich, P. Müller-Buschbaum, Technische Universität München (Germany); S. Nett, J.S. Gutmann (Sp), University of Mainz (Germany)	poster C34-924	Mon-Tue				
<u>Modified Mesoporous Silicas: Inorganic Proton Conductors as Additives for Fuel Cell Membranes Application</u>	R. Marschall (Sp), M. Wark, J. Caro, Leibniz Universität Hannover (Germany)	poster C34-1145	Mon-Tue				
<u>Synthesis, Electrochemical and Surface Analysis of Olivine Phosphates - Novel Composite Materials for Li-Ion Batteries</u>	S. Bhuvaneswari (Sp), N. Bramnik, W. Jaegermann, H. Ehrenberg, Technical University of Darmstadt (Germany)	poster C34-1146	Mon-Tue				
<u>Laser Surface Treatments of AISI 420 Martensitic Stainless Steel – Microstructural Characterization</u>	M.A. Larosa, M.A. Pinto, M.C. Ierardi (Sp), State University of Campinas (Brazil)	poster C34-1174	Mon-Tue				
<u>Structure Formation at the Nano-Scale in Polymer-Derived-Ceramics</u>	P. Kroll (Sp), R. Singh, RWTH Aachen University (Germany)	poster C34-1185	Mon-Tue				
<u>Rheological Properties of Micelle-Stabilized BaTiO3 Nanoparticle and Zirconia Alkoxide Hybridsolutions and Their Thin Film Phase Formation Behavior</u>	K. Schindler (Sp), University of Erlangen-Nuremberg (Germany); J. Dornseiffer, Research Centre Juelich (Germany); S. Halder, RWTH Aachen University (Germany); S.B. Majumder, Indian Institute of Technology, Kharagpur (India); C. Pithan, Research Centre Juelich (Germany); A. Roosen, T. Schneller, University of Erlangen-Nuremberg (Germany); R. Waser, RWTH Aachen University (Germany)	poster C34-451	Mon-Tue				
<u>Mechanical Properties of Superhard Nanocomposites a Prepared under High Pressure-High Temperature</u>	T. Barsukova (Sp), M. Schwarz, E. Kroke, Technical University of Freiberg (Germany)	poster C34-1340	Mon-Tue				
<u>New Au/TiO2 Catalysts for the CO Oxidation Based on Mesoporous TiO2 Supports</u>	Y. Denkwitz (Sp), J. Geserick, U. Hörrmann, U. Kaiser, N. Hüsing, R.J. Behm, University of Ulm (Germany)	poster C34-1748	Mon-Tue				