

# VI International Conference on Mechanochemistry and Mechanical Alloying (INCOME2008)

1-4 December, 2008, Jamshedpur, INDIA

## Schedule for Oral Sessions

Monday, December 1, 2008

<b>9.30 – 10.45</b>	<b>Inauguration</b>	<b>Venue: Hall A</b>
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<b>11.30 – 12.45</b>	<b>Session : PSSL – I</b>	<b>Venue: Hall A</b>
PSSL-1.1	Structural stability and plasticity of nanostructured metals and alloys	<u>Horst Hahn</u>
PSSL-1.3	Applied mechanochemistry: an historical outline and present status	<u>P. Baláž</u>

<b>13.45 – 15:30</b>	<b>Session : NPNC – I</b>	<b>Venue: Hall A</b>
NPNC1.1 (Invited)	Dense hetero-nanostructured bulk ODS metallic parts processed by spark plasma sintering	<u>Thierry Grosdidier</u> , <u>Gang Ji</u>
NPNC1.3	Hybrid ceramic nanocomposites using mechanochemistry	<u>S. Ram</u> and H.-J. Fecht
NPNC1.4	Intermetallic coatings produced by mechanical alloying method	<u>Sergey Kaloshkin</u> , <u>Sergey Romankov</u> , <u>Sergey Komarov</u> , <u>Ekaterina Kaevitser</u>
NPNC1.5	Solid state synthesis in Al/Ni and Al/Au thin bilayer films	<u>S.M.Zharkov</u>

<b>15.45 – 17:30</b>	<b>Session : MPEM – I</b>	<b>Venue: Hall A</b>
MPEM2.3 (Invited)	Efficient synthesis of nanocrystalline cementite by reaction milling	<u>B.K. Mishra</u>
MPEM1.1	Combustion Processes in Activated Silumin Systems	<u>T.A.Ketegenov</u> , <u>D.A.Kasyzbekova</u> <u>F.H.Urakaev</u>
MPEM1.2	Study of the silver ions cementation after mechanical activation of cementator	<u>Martin Fabián</u> and <u>Peter Baláž</u>
MPEM1.4	Increasing gas sorption onto carbon by milling with alumina	<u>N. Setoudeh</u> and <u>N.J.Welham</u>
MPEM1.5	Influence of mechanical activation on alkylation and extractability of coal	<u>M.P. Kulikova</u> , <u>Yu.D. Kaminskii</u>

**PSSL** – Plenary Session Special Lectures; **NPNC** – Nano-particle and Nano-composites; **MAAM** – Mechanical Alloying and Advanced Materials; **SPDW** – Severe Plastic Deformation and Friction Stir Welding; **ACST** – Advance Ceramics Science and Technology; **MMA**- Mechanochemistry of Macromolecules and Applications in Pharmaceuticals; **MPEM** – Mineral Processing and Extractive Metallurgy; **BMEM** – Building Materials and Environment Management

**PLEASE NOTE: SCHEDULE IS LIKELY TO CHANGE FOR DAYS 2, 3 AND 4.**

**Tuesday, December 2, 2008**

<b>09.30 – 11.00</b>		<b>Session : PSSL - II</b>	<b>Venue: Hall A</b>
PSSL-2.1	Ultrafine grained materials through mechanical processing: An overview	K.A. Padmanabhan and S Balasivanandha Prabhu	
PSSL-2.2	Mechanochemistry of macromolecules and applications to pharmaceuticals: where are we now?	E. Boldyreva	
PSSL-2.3	Using mechanical properties of crystals to quantify intermolecular interactions	G. R. Desiraju	

<b>11.30 – 13.00</b>		<b>Session : MMAP – I</b>	<b>Venue: Hall A</b>
		<b>Session : SPDW – I</b>	<b>Venue: Hall B</b>
<b>Hall A</b>			
MMAP1.1 (Keynote)	Cocrystal design for pharmaceutical forms	Ashwini Nangia	
MMAP1.2 (Invited)	Structure–property correlations in shearing, bending and brittle organic crystals	C. Malla Reddy, Michael T. Kirchner, K. Anantha Padmanabhan, and Gautam R. Desiraju	
MMAP1.3	Solid state graft-copolymerization onto polysaccharides	T. Akopova, T. Demina, L. Vladimirov, V. Zhorin, S. Zelenetskii, A. Zelenetskii, A. Ozerin	
MMAP1.4	Cell wall transformation during mechanical activation	K.G. Korolev, A.L. Bychkov, E.I. Ryabchikova, O.I. Lomovsky	
<b>Hall B</b>			
SPDW1.1 (Keynote)	The microstructure, mechanical and texture properties of As-ECAE interstitial-free steel and copper	Azdiar A. Gazder, Florian H. Dalla Torre, Christopher H.J. Davies, Elena V. Pereloma	
SPDW1.2 (Invited)	Properties of ultra fine grained aluminum and Al alloys processed by equal channel angular pressing	R. Manna, N. K. Mukhopadhyay and G. V. S. Sastry	
SPDW1.3	Evaluation of interface microstructure for friction stir welded aluminium-stainless steel plate	M. Ghosh, A.Kar, K. Kumar, S. V. Kailas, S. K. Das, A.K. Ray	
SPDW1.4 (Student)	Microstructure and texture evolution of pure magnesium during ECAE	Somjeet Biswas, Satyaveer Singh D., Satyam Suwas	

<b>14.00 – 15.30</b>		<b>Session : MAAM – I</b>	<b>Venue: Hall A</b>
		<b>Session : BMEM – I</b>	<b>Venue: Hall B</b>
<b>Hall A</b>			
MAAM1.1 (Invited)	Mechano-chemical synthesis of Al-based nanocrystalline/ amorphous alloys for high specific strength applications	Indranil Manna	
MAAM1.2	Mechanical alloying of Al-C system	M. Besterci, K. Sülleiová	
MAAM1.3	Phase transformations in mechanically alloyed Al-Cu-Cr powders	V.V.Tcherdyntsev, A.P.Shevchukov, T.A.Sviridova, S.D.Kaloshkin	
MAAM1.4	Creep behavior of ball-milled nanocrystalline aluminum	S. Gollapudla, K. V. Rajulapati, I. Charit, K. M. Youssef, C. C. Koch, R. O. Scattergood and K. L. Murty	

MAAM1.5	Wear-resistant CuCrAg alloy with nano-ceramic Al <sub>2</sub> O <sub>3</sub> dispersion by mechanical alloying and consolidation by direct laser sintering	<u>S. Bera</u> , R.V. Subba Rao, R.K. Dayal, I. Manna
<b>Hall B</b>		
BMEM1.1 (Keynote)	Enhancing the potential of industrial use of the Indian fly ashes through mechano-chemical activation - prospects and problem	<u>A.K. Chatterjee</u>
BMEM1.2	Production and practical application of mechanically activated fly ash-based binding material	B. Csöke, <u>G. Mucsi</u> and Cs. Sík
BMEM1.3	Geopolymers, fly ash reactivity and mechanical activation	<u>Sanjay Kumar</u> , Rakesh Kumar S.P. Mehrotra
BMEM1.4	Mechanical activation in blended cement processing	<u>Sanjay Kumar</u> , Rakesh Kumar, S.P. Mehrotra

<b>16.00 – 17.30</b>	<b>Session : NPNC – II</b>	<b>Venue: Hall A</b>
	<b>Session : BMEM – II</b>	<b>Venue: Hall B</b>
<b>Hall A</b>		
NPNC2.1 (Invited)	Nanofluids as coolants: Applications in steel industries	<u>Debasish Bhattacharjee</u> , Sumitesh Das
NPNC2.2	Metal- oxidizer mechanoactivated energetic nano composites	<u>A.N. Streletskij</u> , A.Yu. Dolgoborodov, I.V. Kolbanev, M.N. Makhov
NPNC2.3	Magnetic behaviour of nanocrystalline iron –based multicomponent produced by high energy ball milling	T.T. Saravanan, <u>S. Kumaran</u> , T. Srinivasa Rao
NPNC2.4	Novel Titanium - hydroxyapatite biocomposites by mechanical milling	<u>A.Thirugnanam</u> , N.Veera Chakravarthi, Uday Chakkingal and <u>T.S.Sampath Kumar</u>
NPNC2.5	Production and stability of Cu and Al nanoparticles in nanofluids	S. Samal, <u>D. Chaira</u>
<b>Hall B</b>		
BMEM2.1	Recycling R&D program at the RRDC Korea	<u>Kang-In Rhee</u>
BMEM2.2	Mechanosorption of CO <sub>2</sub> by silicates: mechanism, kinetics and possible application	<u>A.M. Kalinkin</u>
BMEM2.3	Mechanical activation of fly ash : opportunities and limitations in blended cement manufacturing	Mohan Medhe, Narendra Kumar, <u>S.P. Pandey</u>
BMEM2.4	Application of mechanochemistry in development of composite material for separation of cesium from high level radioactive waste	<u>Amar Kumar</u> , Lalit Varshney, C.P. Kaushik and Kanwar Raj

**Wednesday, December 3, 2008**

09.30 – 11.00		Session : PSSL - III	Venue: Hall A
PSSL-3.1	Plastic deformation of fully dense nanocrystalline material	Y. Ivanisenko, H. J. Fecht	
PSSL-3.2	On the existence of dynamic critical points	J. Lino and G. Coquerel	
PSSL-3.3	Estimation of mechanochemical effects in heterogeneous processes	G.Mulas, F.Delogu	

11.30 – 13.00		Session : MMAP – II	Venue: Hall A
		Session : ACST – I	Venue: Hall B

Hall A			
MMAP2.1 (Keynote)	Mechanochemistry and solubilization of drugs	T.P. Shakhtshneider, V.V. Boldyrev	
MMAP2.2 (Invited)	Development of liquid-assisted grinding for the synthesis of hydrogen-bonded and coordination frameworks	T. Friščić, W. Jones	
MMAP2.3	The mechanical treatment as a method of substances passivation	N. Kosenko, L. Vinogradova, N. Filatova, M. Smirnova	
MMAP2.4	Dimerization of anthracene and related substances in diamond anvils and glass mill	A. Politov, V. Tapilin, N. Bulgakov, A. Chupakhin, A. Druganov	

Hall B			
ACST1.1	Influence of the anisotropy of elastic constants of substances on the kinetics of mechanochemical reactions	F.Kh. Urakaev, Yu.P. Savintsev, V.S. Shevchenko	
ACST1.2	Effect of mechanical activation on the in-situ production of Fe-TiC composite	S.Moradi, Sh.Raygan	
ACST1.3	Synthesis of nanostructured titanium carbide from Titanium oxide and Ferrotitanium through mechanical activation	Malek Ali, Projjal Basu	
ACST1.4	The effect of Al <sub>2</sub> O <sub>3</sub> content on the formation mechanism and properties of NiTi-Al <sub>2</sub> O <sub>3</sub> nanocomposite synthesized by mechanical alloying	T. Mousavi, M.H. Abbasi, F. Karimzadeh	
SPNSR1	Integrated automation solutions for top analytical performance and maximum efficiency	Bassin Marc, F. Hagen, L. Dolezal and Bassin Male	

14.00 – 15.30		Session : MAAM – II	Venue: Hall A
		Session : ACST – II	Venue: Hall B

Hall A			
MAAM2.1 (Invited)	Nanocrystalline materials by high energy ball milling	B.S. Murty	
MAAM2.2	Influence of micro and nanocrystalline powder matrix on mechanical properties of CNT reinforced Al-matrix composites	M.S. Senthil Saravanan, K. Sivaprasad, S.P. Kumares Babu	
MAAM2.3	Development of 2024 P/M Aluminium alloy- SiCp nanocomposites via mechanical alloying	Sandeep Kumar Chauhan and P.R.Soni	
MAAM2.4	Microstructure and mechanical properties of Al <sub>65</sub> Cu <sub>20</sub> Ti <sub>15</sub> composite developed by mechanical alloying and high pressure sintering	D. Roy, W. Lojkowski, R. Mitra, H. – J. Fecht, I. Manna	

MAAM2.5 (Student)	Mechanical –thermal synthesis and characterisation of aluminum based nanocomposites	J.J.S.Dilip, B.S.B.Reddy, Siddhartha Das, Karabi Das
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**Hall B**

ACST2.1	Influence of milling parameters on the amorphous/crystalline phase ratio in the $\text{Bi}_4\text{Ti}_3\text{O}_{12}$ compound	Miodrag Zdujić, Čedomir Jovalekić, Dejan Poleti, Ivana Veljković, Ljiljana Karanović
ACST2.2	Ion dynamics study in mechanochemically synthesized disordered systems	J.P Tiwari and K.Shahi
ACST2.3	New composite ‘nano-micro’ cathode materials for lithium-ion batteries prepared via mechanochemical route	N. Kosova, E. Devyatkina
ACST2.4	Mechanochemical synthesis of $\text{NaNbO}_3$ : a study of the reaction mechanism	T.Rojac, M.Kosec, B.Malič, J.Holc, P.Šegedin, B.Zalar

**16.00 – 17.30**

**Session : MAAM – III**

**Venue: Hall A**

**Session : MPEM – II**

**Venue: Hall B**

**Hall A**

MAAM3.1 (Invited)	Synthesis of nanocrystalline and amorphous phases in complex metallic alloys during mechanical milling	N.K. Mukhopadhyay
MAAM3.2	Mechanically alloyed magnesium-based materials for hydrogen storage	I. Konstanchuk, K.Gerasimov, J.-L. Bobet
MAAM3.3	Stimulating effect of boron admixture on hydrogen sorption-desorption properties of mechanically activated Titanium	O.S. Morozova, T.I. Khomenko, A.V. Leonov, E.Z. Kurmaev, Ch. Borchers
MAAM3.4	Activation energies for hydrides of nanocrystalline magnesium based composites prepared by high energy milling	R. Vijay and T.N. Rao
MAAM3.5 (Student)	Synthesis of in situ $\text{Al}_3\text{Zr}/\text{Al}_2\text{O}_3$ -Al nanocomposites by high energy ball milling	Mangam Venu, J.Kishan, B.S.B.Reddy, Siddhartha Das, Karabi Das

**Hall B**

MPEM2.1 (Invited)	Mechanochemical reactions of clay minerals with CsCl	S. Yariv, I. Lapidés
MPEM2.2 (Invited)	Theoretical and application aspects concerning material treatment in the Dynamic type mills	T.A. Ketegenov, F.H.Urakaev
MPEM1.3	Some basic studies on mechanical activation towards an improved Bayer process of alumina production	T.C. Alex, Rakesh Kumar, S.K. Roy, C.R. Mishra, S.P Mehrotra
MPEM2.4	Changes in the structure of talc by continuous jet milling in relation to imposed specific kinetic energy	Samayamutthirian Palaniandy, Khairun Azizi Mohd Azizli, Hashim Hussin and Syed Fuad Saiyid Hashim
SPNSR2	Innovation in atomic absorption spectrophotometry, and the application of graphite furnace analysis to the determination of arsenic and selenium in a complex matrix	Bernard Field

**Thursday, December 4, 2008**

09.30 – 11.00		Session : PSSL - IV	Venue: Hall A
PSSL-4.1	Glass formation	P. Ramachandra Rao	
PSSL-4.2	Local structure and size-dependent properties of nanooxides prepared by mechanochemical routes	V. Šepelák, P. Heitjans, K. D. Becker	
PSSL-4.3	Specifics of mechanically driven atomic distributions in interstitial alloys	J. Foct	

11.30 – 13.00		Session : MAAM – IV	Venue: Hall A
		Session : ACST – III	Venue: Hall B

Hall A		
MAAM4.1 (Invited)	Where does the energy go in high energy milling?	S.Srikanth, M. Ananda Rao, C.Sasikumar, T.C.Alex and S.P.Mehrotra
MAAM4.2	Hot isostatic pressing of yttria dispersed 9Cr martensitic steel synthesized by mechanical alloying	T. S. Kavithaa, R. Subramanian, P.C. Angelo, P. Shankar & G. Appa Rao
MAAM4.3	Design of the composite porous cermets synthesized through mechanical alloying of Cr-Al powder followed by hydrothermal treatment and calcination	S. Tikhov, V. Usoltsev, A. Salanov, S. Tsybulya, A.Kalinkin, Yu.Chesalov, G. Kustova, V. Sadykov, T. Larina, G. Golubkova, O. Lomovsky
MAAM4.4 (Student)	Magnetic properties of Cu-Ni-Co-Fe alloy prepared by mechanical alloying	B.N. Mondal, A. Basumallick and P.P. Chattopadhyay
MAAM4.5 (Student)	Composition dependent properties of mechanically alloyed amorphous Fe-Zr-B powders	Debabrata Mishra, A. Perumal, A. Srinivasan
MAAM4.6 (Student)	Size effect on phase transformation behaviour of bismuth particles embedded in silver matrix during mechanical milling	S. Chithra, K. Chattopadhyay

Hall B		
ACST3.1	Novel transport properties of nanostructured ferric oxide	P.Brahma, S.Dutta
ACST3.2	Blue-violet photoluminescence from colloidal suspension of nanocrystalline silicon-silicon oxide matrix prepared by ball milling	P. P. Chattopadhyay
ACST3.3	Effect of surfactant addition on magnetic properties of Fe <sub>3</sub> O <sub>4</sub> nanoparticles by ball milling	A.Radhika Devi, J.A.Chelvan, B.S.Murty
ACST3.4 (Student)	Effect of non-stoichiometric NiFe <sub>1.98</sub> O <sub>4</sub> ferrite on magnetoelectric properties of BaTiO <sub>3</sub> + NiFe <sub>1.98</sub> O <sub>4</sub> nanocomposite	G. Sreenivasulu, M. V. Ramana, G. Markandeyulu, B.S. Murty
ACST3.5 (Student)	Mechanochemical synthesis, characterization and photocatalytic properties of M <sub>2</sub> O <sub>3</sub> /TiO <sub>2</sub> (M = Fe, Mn) nano-composite under visible light	Tanmay K Ghorai, Panchanan Pramanik