

April 2  
Registration

8:00-9:00

Opening, Welcome

9:00-9:15

Plenary Session-1

Chair: A.Sternberg

1	T.Harper	NANOTECHNOLOGIES AS A POWERFUL INSTRUMENT IN IMPROVING AND CREATING NEW PROPERTIES FOR FUNCTIONAL MATERIALS	PI-1	9:15-9:40
---	----------	-------------------------------------------------------------------------------------------------------------	------	-----------

April 2  
Nanostructuring I

Chair: Ergo Nõmmiste

1	R.Evarestov, A.Bandura, E.Blokhin	THE WATER ADSORPTION ON THE SURFACES OF SrMO <sub>3</sub> (M=Ti, Zr, AND Hf) CRYSTALLINE OXIDES: QUANTUM AND CLASSICAL MODELLING	Inv-1	9:40-10:00
2	I.Shorubalko, A.Pfund, R.Leturcq, R.Krischek, F.Gramm, E.Müller, S.Schön, K.Ensslin	QUANTUM DOTS IN InAs NANOWIRES FOR SINGLE CHARGE AND SPIN STUDIES	OR-1	10:00-10:15
3	A.Gulans, M.Puska, I.Gerber, R.Nieminen	DFT STUDIES OF EXTENDED SYSTEMS INCLUDING VAN DER WAALS INTERACTIONS	OR-2	10:15-10:30
4	A.Jänes, H.Kurig, T.Thomberg, E.Lust	ADVANCED NANOSTRUCTURED CARBON MATERIALS FOR ELECTRICAL DOUBLE LAYER CAPACITORS	OR-3	10:30-10:45
5	R.Skudzius, A.Selskis, J.Pinkas, A.Kareiva	SYNTHESIS AND EVOLUTION OF CRYSTALLINE GARNET PHASES IN Y <sub>3</sub> Al <sub>5-x</sub> In <sub>x</sub> O <sub>12</sub>	OR-4	10:45-11:00

April 2  
Nanostructuring II

Chair: R.Evarestov

1	J.Tiliks, V.Tilika, G.Kizane, B.Leschinskis, A.Vitins, A.Actins	TRITIUM BREEDING CERAMIC PEBBLES SYNTHESIZED FROM NANOPWDERS	OR-5	11:30-11:45
2	J.Grabis, A.Orlovs, Dz.Rasmane	NANOSIZED LITHIUM TITANATES PRODUCED BY PLASMA TECHNIQUE	OR-6	11:45-12:00
3	Y.Shunin	NANO-SIZED SYSTEMS MODELLING	OR-7	12:00-12:15
4	A.Medvids, P.Onufrijevs, I.Dmytruk, I.Pundyk	PROPERTIES OF NANOHILLS FORMED ON A SURFACE OF Ge, Si AND GaAs BY LASER RADIATION: QUANTUM CONFINEMENT EFFECT	OR-8	12:15-12:30
5	J.Maniks, I.Manika	EFFECT OF THE SURFACE CHARGE ON HARDNESS AT THE SUB-MICROMETER SCALE INDENTATION ON CLEAVAGE SURFACES OF LiF	OR-9	12:30-12:45

April 2

**Ferroelectrics & Magnetic materials I**

Chair: A.Cebers

1	<u>M.Tyunina</u> , I.Jaakola, M.Plekh, J.Levoska	NANOSCALE ENGINEERING OF FERROELECTRIC FUNCTIONALITY	<b>Inv-2</b>	14:00-14:20
2	A.Badalyan, C.Azzoni, P.Galinetto, M.Mozzati, <u>V.Trepakov</u> , L.Jastrabik, A.Deyneka, J.Rosa	IMPURITY CENTERS AND HOST MICROSTRUCTURE IN WEAKLY CONCENTRATED SrTiO <sub>3</sub> :Mn CRYSTAL: NEW FINDINGS	<b>OR-10</b>	14:20-14:35
3	<u>C.Pithan</u> , Y.Shiratori, A.Magrez	SIZE EFFECTS IN NANOSCALE OF LEAD FREE PIEZOELECTRIC COMPOUNDS BASED ON ALKALINE NIOBATES	<b>OR-11</b>	14:35-14:50
4	<u>J. Grigas</u> , E.Talik, V.Lazauskas	XPS OF INCOMMENSURATE AND ELECTRONIC STRUCTURE OF MATERIALS	<b>OR-12</b>	14:50-15:05
5	<u>S.Davitadze</u> , B.Strukov	THERMOPHYSICAL CHARACTERIZATION OF NANOSTRUCTURED FERROELECTRIC THIN FILMS	<b>OR-13</b>	15:05-15:20
6	L.I.Ivleva, <u>I.S.Voronina</u> , P.A.Lykov, T.R.Volk	DOMAIN STRUCTURE AND POLING OF SBN CRYSTAL	<b>OR-14</b>	15:20-15:35
7	J.Macutkevic, S.Kamba, <u>J.Banys</u> , K.Bormanis, A.Sternberg, V.Zauls	FAR-INFRARED AND THz SPECTROSCOPY OF 0.4PMN-0.3PSN-0.3PZN RELAXOR FERROELECTRIC CERAMIC	<b>OR-15</b>	15:35-15:50

April 2

**Ferroelectrics & Magnetic materials II**

Chair: J.Banys

1	<u>A.Dziaugys</u> , J.Banys, V.Samulionis, Y.Vysochanskii	DIELECTRIC STUDIES OF MIXED CuIn <sub>04</sub> Cr <sub>06</sub> P <sub>2</sub> S <sub>6</sub> AND CuIn <sub>08</sub> Cr <sub>02</sub> P <sub>2</sub> S <sub>6</sub> CRYSTALS	<b>OR-16</b>	16:10-16:25
2	<u>M.Kinka</u> , A.Meskauskas, J.Banys, G.Völkel, W.Böhlmann, V.Umamaheswari, M.Hartmann, A.Pöpl	DIELECTRIC SPECTROSCOPY OF BETAINE PHODPHITE (BPI) CONFINED IN SBA – 15 MOLECULAR SIEVE MATERIALS WITH 6.5 nm AND 9 nm PORES	<b>OR-17</b>	16:25-16:40
3	<u>A. Mezulis</u> , E.Blums, G.Kronkalns	MAGNETOCONVECTIVE INTENSIFICATION OF HEAT TRANSFER FROM A HEATER BODY IN MAGNETIC FLUID	<b>OR-18</b>	16:40-16:55
4	<u>O.Petričenko</u> , E.Blūms, M.Maiorovs, A.Cēbers	SYNTHESIS OF MAGNETIC NANOPARTICLES AND THEIR PROPERTIES	<b>OR-19</b>	16:55-17:10
5	<u>A.Cebers</u> , A.Sharipo, A.Zeltinsh, K.Erglis	EXPERIMENTAL STUDY OF THE DYNAMICS OF MAGNETOTACTIC BACTERIA IN ROTATING MAGNETIC FIELDS	<b>OR-20</b>	17:10-17:25
6	<u>K.Erglis</u> , D.Zhulenkov, A.Sharipo, A.Cebers	BENDING MODULUS OF DNA LINKED MAGNETIC FILAMENTS IN DEPENDENCE ON IONIC STRENGTH	<b>OR-21</b>	17:25-17:40

**POSTER Session & Welcome Party**

18:00-20:00

April 3

**Materials for energetics****Chair:** I.Muzikante

1	<u>C.G.Granqvist</u>	OXIDE ELECTROCHROMICS FOR THE BUILT ENVIRONMENT: WHY, HOW AND WHITHER	<b>Inv-3</b>	9:00-9:20
2	<u>G.Vaivars</u> , V.Linkov	NANO COMPOSITE MEMBRANE-ELECTRODE ASSEMBLY FORMATION FOR FUEL CELL – MODELING ASPECTS	<b>OR-22</b>	9:20-9:35
3	<u>E.Lust</u> , G.Nurk, I.Kivi, P.Möller, S.Kallip	INFLUENCE OF ELECTRODE POROSITY ON THE OXYGEN REDUCTION KINETICS ON THE INTERMEDIATE TEMPERATURE SOFCs	<b>OR-23</b>	9:35-9:50
4	<u>A.I. Gavriilyuk</u>	PROTON-COUPLED ELECTRON TRANSFER TUNNELING REACTIONS IN WO <sub>3</sub> AND MoO <sub>3</sub> NANOSTRUCTURES	<b>OR-24</b>	9:50-10:05
5	L.Grinberga, J.Kleperis	DEVELOPMENT OF NEW COMPOSITE MATERIALS FOR HYDROGEN STORAGE	<b>OR-25</b>	10:05-10:20
6	<u>M.Vanags</u> , J.Kleperis, G.Bajars, A.Lusis	WATER ELECTROLYSIS USING ELECTRODES WITH MODIFIED SURFACE/VOLUME	<b>OR-26</b>	10:20-10:35
7	<u>G.Chikvaidze</u> , J.Gabrusenoks, J.Kleperis, G.Vaivars	APPLICATION OF MICRO RAMAN SPECTROSCOPY TO INDUSTRIAL FC MEMBRANES	<b>OR-27</b>	10:35-10:50

April 3

**Organic Materials****Chair:** D.Erts

1	<u>M.Rutkis</u> , V.Kampars, A.Jurgis, A.Vembris, A.Tokmakovs, V.Kokars	TOWARD DEVICE APPLICABLE POLYMER SECOND ORDER NONLINEAR OPTICAL MATERIALS	<b>OR-28</b>	11:10-11:25
2	<u>A.Vembris</u> , M.Rutkis, E.Laizane, J.Sipols	EFFECT OF CORONA POLING AND THERMO CYCLING SEQUENCE ON THE HOST-GUEST SYSTEM PROPERTIES	<b>OR-29</b>	11:25-11:40
3	<u>D.Saharov</u> , A.Ozols, V.Kokars, V.Kampars, G.Mezinskis, A.Maleckis, A.Pludons, M.Jansone	RELAXATION EFFECT OF STILBENE AZOBENZENE DERIVATIVES ON THEIR HOLOGRAPHIC PROPERTIES	<b>OR-30</b>	11:40-11:55
4	<u>I.Muzikante</u> , E.Fonavs, B.Stiller, D.Neher, V.Kampars, P.Pastors	LIGHT INDUCED ELECTRICAL AND MECHANICAL PROCESSES IN THIN FILMS OF INDANDIONE TYPE MOLECULES	<b>OR-31</b>	11:55-12:10
5	<u>I.Kaulach</u> , I.Muzikante, L.Gerca, M.Plotniece, M.Roze, J.Kalnachs, G.Shlihta, P.Shipkovs, V.Parra, V.Kampars	PV EFFECT IN MULTILAYER CELLS OF FULLERENE/ POLY (3-HEXYLTHIOPHENE) AND PHTHALOCYANINE HAVING NIR CHARGE TRANSFER ABSORPTION BAND	<b>OR-32</b>	12:10-12:25
6	<u>J.Latvels</u> , E.Fonavs, I.Muzikante, M.Bouvet, V.Parra, G.Juska, K.Genevicius	ELECTRICAL PROPERTIES OF HETEROJUNCTION-BASED DEVICE OF PHTHALOCYANINE DERIVATIVES	<b>OR-33</b>	12:25-12:40

**EUREKA project "BIONANOCOMPOSIT" meeting**

1	Discussions about collaboration among project partners for the period April 2007 - June 2008	11:10-12:40
2	Involving of new project partners	
3	Prolongation of the project	

April 3  
**Nanotubes**

Chair: M.Rutkis

1	C.Balasubramanian, S.Belluci, M.Cestelli Guidi, A.Ivanov, A.Popov, H.Schober, V.Savchyn, Yu.Zhukovskii	ALUMINIUM NITRIDE NANOTUBES: CHARACTERIZATION BY XANES, FTIR, INELASTIC NEUTRON SCATTERING AND LUMINESCENCE SPECTROSCOPIES	<b>OR-34</b>	14:00-14:15
2	Y.Zhukovskii, A.Popov, C.Balasubramanian, S.Bellucci	THEORETICAL SIMULATIONS OF REGULAR AND DEFECTIVE ALUMINIUM NITRIDE NANOTUBES	<b>OR-35</b>	14:15-14:30
3	J.Andzane, J.D.Holmes, D.Erts	In situ NANODEVICES BASED ON FREE STANDING NANOWIRES AND NANOTUBES	<b>OR-36</b>	14:30-14:45
4	K.Didriksone, P.Birjukovs, J.Svirksts, N.Petkov, J.D.Holmes, P.Gleeson, D.Erts	CROSSECTIONAL CHARACTERISATION OF SEMICONDUCTOR NANOWIRE ARRAYS	<b>OR-37</b>	14:45-15:00
5	J.Andzane, J.Prikulis, J.Tobin, Z.Li, J.D.Holmes, D.Erts	IN SITU INVESTIGATION OF ELECTRICAL PROPERTIES OF CARBON NANOTUBES GROWN BY DIFFERENT METHODS	<b>OR-38</b>	15:00-15:15
6	R.Poplausks, J.Andzane, U.Malinovskis, I.Muiznieks, J.Svirksts, A.Strauss, R.Gzibovskis, D.Erts	ELECTROCHEMICAL ETCHED AI TIPS WITH NANOPOROUS ALUMINIUM OXIDE COATINGS	<b>OR-39</b>	15:15-15:30

April 3  
**Glasses & fibers**

Chair: A.Silins

1	L.Maksimov, I. Alekseeva, A. Anan'ev, A.Lipovskii, V.Polukhin, D.Taganstev, B.Tatarintsev, A.Vetrov, O.Yanush	GLASSES FOR ELECTROOPTICAL FIBERS: DESIGN, STRUCTURE, PROPERTIES	<b>OR-40</b>	15:45-16:00
2	V.Bogdanov, A.Anan'ev, V.Golubkov, A.Golovnev, L.Maksimov, V.Solovyev, O.Yanush	MICRO- AND NANOHOMOGENEITIES IN GLASSES AND THEIR MELTS STUDIED BY OPTICAL, SAXS, ACOUSTICAL AND THERMODYNAMIC METHODS	<b>OR-41</b>	16:00-16:15
3	T.Tätte, M.Paalo, R.Talviste, J.Shulga, K.Saal, A.Löhmus, I.Kink	PREPARATION OF SEMI -1D TRANSITION METAL OXIDE STRUCTURES	<b>OR-42</b>	16:15-16:30
4	A. Kovalovs, E. Barkanov, S.Gluhihs	ACTIVE CONTROL OF STRUCTURES USING MACRO-FIBER COMPOSITE (MFC)	<b>OR-43</b>	16:30-16:45

April 4

**Spectroscopy & optical properties I**

Chair: A.Kuzmin

1	<u>N.E.Christensen</u> , R.Laskowski	AB INITIO CALCULATIONS OF OPTICAL PROPERTIES INCLUDING E-H CORRELATIONS	<b>Inv-4</b>	9:00-9:20
2	<u>W.Łojkowski</u> , J.D.Fidelus, T.Chudoba, R.Fedyk, A.Opalinska, T.Strachowski, R.Pielaszek	SYNTHESES AND CHARACTERISATION OF OXIDE NANOPOWDERS FOR OPTICAL APPLICATIONS	<b>OR-44</b>	9:20-9:35
3	<u>J.D.Fidelus</u> , <u>W.Łojkowski</u> , D.Millers, L.Grigorjeva, K.Smits	ADVANCED NANOSTRUCTURED ZIRCONIA MATERIALS FOR OXYGEN SENSOR	<b>OR-45</b>	9:35-9:50
4	<u>K.Smits</u> , L..Grigorjeva, J.D.Fidelus, <u>W.Łojkowski</u> , D.Millers	COMPARISON OF ZnO <sub>2</sub> NANOCRYSTALS AND MACROSCOPIC SINGLE CRYSTAL LUMINESCENCE	<b>OR-46</b>	9:50-10:05
5	<u>M.Kirm</u> , J.Aarik, V.Denks, E.Feldbach, A.Kotlov, P.Liblik, V.Nagirnyi	LUMINESCENCE SPECTROSCOPY OF HfO <sub>2</sub> AND ZrO <sub>2</sub> THIN FILMS	<b>OR-47</b>	10:05-10:20
6	<u>L.Grigorjeva</u> , D.Millers, J.Grabis, C.Monty	BLUE LUMINESCENCE IN ZnO CRYSTAL, NANOPOWDERS, CERAMIC	<b>OR-48</b>	10:20-10:35
7	<u>V.Pankratov</u> , L.Grigorjeva, D.Millers	TIME-RESOLVED LUMINESCENCE OF NANOCRYSTALLINE INORGANIC OXIDES	<b>OR-49</b>	10:35-10:50

April 4

**Spectroscopy & optical properties II**

Chair: M.Kirm

1	D.Pailharey, Y.Mathey, F.Jandard, S.Larcheri, F.Rocca, <u>A.Kuzmin</u> , R.Kalendarev, J.Purans, G.Dalba, R.Graziola, O.Dhez	NANO-SCALE X-RAY ABSORPTION SPECTROSCOPY USING XEOL-SNOM DETECTION MODE	<b>OR-50</b>	11:10-11:25
2	V.Aksenov, V.Kvardakv, V.Shaliapin, <u>S.Tyutyunnikov</u>	STATION OF THE ENERGY-DISPERSIVE EXAFS-SPECTROSCOPY AT THE RUSSIAN NATIONAL CENTER OF SR "KURCHATOV INSTITUTE"	<b>OR-51</b>	11:25-11:40
3	<u>N.Mironova-Ulmane</u> , A.Kuzmin, J.Grabis, I.Steins, I.Sildos, M.Pars	RAMAN SPECTROSCOPY IN NANOSIZED NICKEL OXIDE	<b>OR-52</b>	11:40-11:55
4	<u>B.Berzina</u> , L.Trinkler, V.Korsaks, R.Williams, B.Ucer, D.Carroll	LUMINESCENCE FROM NANOARCHES IN h-BN	<b>OR-53</b>	11:55-12:10
5	<u>L.Trinkler</u> , B.Berzina, D.Kasjan, Li-Chyong Chen	LUMINESCENCE PROPERTIES OF AlN NANOSTRUCTURES REVEALED UNDER UV LIGHT IRRADIATION	<b>OR-54</b>	12:10-12:25
6	<u>A.Sarakovskis</u> , L.Dimitrocenko, A.Misnevs, U.Rogulis, M.Springis	UP-CONVERSION PROCESS IN ERBIUM DOPED LITHIUM FLUORIDE BULK CRYSTAL, LITHIUM BORATE OXYFLUORIDE GLASS AND GLASS CERAMICS	<b>OR-55</b>	12:25-12:40

April 4

**Biomaterials & technologies I****Chair:** E.Palcevskis

1	<u>I.N.Mihailescu</u> , G.Socol, C.Ristoscu, F.Sima, A.Popescu, E.Palcevskis, A.Dindune, Z.Kanepe, A.Bigi, L. Zdrentu, S.M.Petrescu, I.Mayer, Dj.Janackovic, J.Werckmann, S.P.Lyngstadaas	NANOSTRUCTURED BIOACTIVE COATINGS FOR ADVANCED BIOMIMETIC IMPLANTS	<b>Inv-5</b>	14:00-14:30
2	<u>B.Bairamov</u> , V.Toporov, F.Bayramov, M.Petukhov, E.A.Glazunov, B.Shchegolev, M.Dutta, M.A.Stroscio, G.Irmer	INELASTIC LASER LIGHT SCATTERING SPECTROSCOPY AND NANOSCALE FUNCTIONALIZATION OF SEMICONDUCTOR QUANTUM DOTS WITH PEPTIDES AND INTEGRINS OF CANCER CELLS FOR BIOPHOTONICS APPLICATIONS	<b>Inv-6</b>	14:30-14:50
3	<u>A.Pavlenko</u> , N.Mironova-Ulmane, M.Polakov	INVESTIGATION OF EPR SIGNALS ON TOOTH ENAMEL	<b>OR-56</b>	14:50-15:05
4	<u>R.L.Sammons</u> , A.Thackray, P.M.Marquis, P.Yong, L.E.Macaskie, H.Medina Ledo, I.P.Jones	CHARACTERISATION AND SINTERING OF NANOPHASE HYDROXYAPATITE SYNTHESIZED BY A SPECIES OF SERRATIA	<b>OR-57</b>	15:05-15:20
5	<u>L.Pramatarova</u> , M.Dimitrova, E.Pecheva	HYDROXYAPATITE/DETONATION GENERATED NANODIMOND COMPOSITES: A NOVEL SURFACE MODIFICATION TO EXTEND IMPLANTS LIFETIME	<b>OR-58</b>	15:20-15:35

April 4

**Biomaterials & technologies II****Chair:** I.N.Mihailescu

6	<u>E.Palcevskis</u> , A.Dindune, Z.Kanepe, A.Lipe, J.Krastins	MANUFACTURING OF VARIOUS KINDS OF CALCIUM HYDROXYAPATITE POWDERS	<b>OR-59</b>	15:50-16:05
7	<u>I.Vavra</u> , F.Čiampor, J.Rosocha, M.Timko	DISTRIBUTION OF MAGNETITE NANOPARTICLES (USED FOR TARGETED DRUG TRANSPORT) IN THE CELLS OF BONE MARROW	<b>OR-60</b>	16:05-16:20
8	<u>L.Berzina-Cimdina</u> , A.Skagers	CALCIUM PHOSPHATE BIOCERAMICS AND GAINED EXPERIENCE IN USING IT IN MEDICAL TECHNOLOGIES	<b>OR-61</b>	16:20-16:35
9	W.Mróz	DEPOSITION OF HYDROXYAPATITE THIN FILMS BY ArF LASER SYSTEM AT DIFFERENT SUBSTRATE TEMPERATURES	<b>OR-62</b>	16:35-16:50

April 4

**Plenary Session II****Chair:** A.Sternberg

1	M.Van de Voorde	PERSPECTIVES OF FUNCTIONAL MATERIALS AND NANOTECHNOLOGY: FUTURE RESEARCH NEEDS	<b>PI-2</b>	17:00-17:30
---	-----------------	--------------------------------------------------------------------------------	-------------	-------------

**Closing**

17:30-17:45