

**Joint 15th Riga and 6th pamir International Conference on  
Fundamental and Applied MHD**

**PROGRAMME**

(Version: 06.06.2005)

**June 27 – July 1, 2005  
Jūrmala, Latvia**

**Monday, June 27**  
8h30-9h10 Opening

	<b>Dynamo</b>
9h10-9h50	<i>A. Gailitis</i> Keynote lecture: RIGA DYNAMO EXPERIMENT
9h50-10h10	<i>P. Frick, S. Denisov, V. Noskov, S. Khripchenko, D. Sokoloff, R. Stepanov, I. Shardakov and R. Volk</i> MAGNETIC FIELD IN NON-STATIONRY TOROIDAL SCREW FLOWS OF LIQUID METAL
10h10-10h30	<i>M. Schrunner, K.-H. Raedler, D. Schmitt, M. Rheinhardt and U. Christensen</i> MEAN-FIELD VIEW ON MAGNETOCONVECTION AND DYNAMO MODELS

10h30-11h00 Coffee break

	<b>Dynamo</b>
11h00-11h20	<i>Antonio Ferriz Mas</i> FLUID MECHANICAL ASPECTS IN SOLAR MAGNETISM: HOW CAN MAGNETIC FIELDS OF 100 KG BE PRODUCED?
11h20-11h40	<i>R. Stepanov, P. Frick, D. Sokoloff</i> GRID-SHELL MODEL OF TURBULENT DISC DYNAMO
11h40-12h00	<i>S. Kenjeres, S. Renaudier, K. Hanjalic and F. Stefani</i> COMPUTATIONAL STUDY OF FLOW AND MAGNETIC FIELD INTERACTIONS IN RIGA-DYNAMO
12h00-12h20	<i>F. Stefani, G. Gerbeth and U. Guenther</i> A PARADIGMATIC MODEL OF EARTH'S MAGNETIC FIELD REVERSALS

12h20-13h50 Lunch

	<b>Instability and Transition to Turbulence in MHD</b>	<b>Magnetic Liquids</b>
13h50-14h30	<i>S. Cuevas, S. Smolentsev, M.A. Abdou</i> Invited lecture: VORTICITY GENERATION IN NON-UNIFORM MHD FLOWS	
14h30-14h50	<i>G. Ruediger</i> MHD INSTABILITIES IN HYDROMAGNETIC TAYLOR-COUETTE FLOWS	<i>T. Ando, N. Hirota, A. Satoh and E. Beaunon</i> EXPERIMENT AND NUMERICAL ANALYSIS OF MAGNETIC DIPOLE INTERACTIONS AMONG FEEBLE MAGNETIC SUBSTANCES UNDER HIGH MAGNETIC FIELD
14h50-15h10	<i>E. Schartman, H. Ji, M. Burin, S. Raftopoulos, R. Cutler, P. Heitzenroeder, W. Liu, J. Goodman, J. Stone, A. Kageyama</i> THE PRINCETON MAGNETOROTATIONAL INSTABILITY EXPERIMENT	<i>R. Richter, I. V. Barashenkov, H. Knieling, Ch. Gollwitze and I. Rehberg</i> HEXAGONS AND SOLITON-LIKE SPIKES: RADIOSCOPY OF THE ROSENWEIG INSTABILITY
15h10-15h30	<i>E. Zienicke D. Krasnov</i> PARAMETRIC STUDY OF THE STREAK BREAKDOWN MECHANISM IN HARTMANN FLOW	<i>R. Ballou and P. Molho</i> MAGNETIC FIELD EFFECTS ON VISCOUS FINGERING OF A FERROFLUID IN AN ANISOTROPIC HELE-SHAW CELL
15h30-15h50	<i>I.R. Kirillov, D.M. Obukhov</i> MHD INSTABILITY IN ANNULAR LINEAR INDUCTION PUMPS (2D MODELS)	<i>A. Wiedenmann, R.P. May, A. Heinemann, M. Kammel, U. Keiderling</i> SANS STUDY OF TIME DEPENDENT ORDERING PROCESSES IN CONCENTRATED FERROFLUIDS INDUCED BY EXTERNAL MAGNETIC FIELDS

15h50-16h10 Coffee break

	<b>Instability and Transition to Turbulence in MHD</b> <b>Novel Problems</b>	<b>Fusion</b>
16h10-16h30	<i>A. Yu. Gelfgat and E. Kit</i> SKIN-EFFECT INFLUENCE ON THREE-DIMENSIONAL INSTABILITY OF A TRAVELING MAGNETIC FIELD DRIVEN FLOW IN A CYLINDRICAL CONTAINER	<i>Claude B. Reed, Jerry A. Nolen, Vincent J. Novick, James R. Specht, Perry T. Plotkin, Yoichi Momozaki, Itacil Gomes</i> A HIGH POWER WINDOWLESS LIQUID LITHIUM TARGET FOR RIA
16h30-16h50	<i>A. Pedchenko and I. Grants</i> INSTABILITY OF ROTATING MAGNETIC FIELD DRIVEN FLOW IN A COUNTER-ROTATING CYLINDER	<i>S. Smolentsev, N.B. Morley, M. Abdou, and R. Moreau</i> CURRENT APPROACHES TO MODELING MHD FLOWS IN THE DUAL COOLANT LITHIUM-LEAD BLANKET
16h50-17h10	<i>K. Frana, J. Stiller, R. Grundmann</i> TRANSITIONAL AND TURBULENT FLOW	<i>M. J. Burin, H. Ji, N. Katz, W. Fox, D. Raburn, E. Fredrickson</i>

	DRIVEN BY A ROTATING MAGNETIC FIELD IN A CYLINDRICAL CONTAINER	WIDE FREE-SURFACE FLOWS OF GALLIUM IN A VARIABLE MAGNETIC FIELD: PRELIMINARY INVESTIGATIONS
17h10- 17h30	<i>A. Bouabdallah, Y.Laghouti and M. Zizi</i> AN EXACT SOLUTION OF LINEARIZED BAROCLINIC STABILITY IN NON- HYDROSTATIC EQUILIBRIUM	<i>R. Moreau</i> TWO SHORT STORIES : THE U-SHAPED VELOCITY PROFILE AND THE ALIGNED JET
17h30- 17h50	<i>C. Vogin and A. Alemany</i> CONDUCTING WALLS MHD ALTERNATE GENERATOR AT A MODERATE REYNOLDS NUMBER	<i>L. Bühler and C. Wetzel</i> ASYMPTOTIC ANALYSIS OF THREE- DIMENSIONAL BUOYANT MAGNETOHYDRODYNAMIC FLOWS IN STRONG MAGNETIC FIELDS
17h50- 18h10	<i>J.E. Allen, A. Lukyanov, S. Molokov, and D. Wall</i> THE FRAGMENTATION OF WIRES BY HIGH PULSED CURRENTS	<i>C. Mistrangelo and L. Bühler</i> THREE-DIMENSIONAL MAGNETOHYDRODYNAMIC FLOWS IN SUDDEN EXPANSIONS
COST P17 MEETING		

Tuesday, June 28

<b>Magnetism and Magnetic Particles in Biology</b>	
8h30-9h10	<i>M. Winklhofer</i> Invited lecture: BIOGENIC MAGNETITE AND MAGNETIC SENSITIVITY IN ORGANISMS – FROM MAGNETIC BACTERIA TO PIGEONS
9h10-9h30	<i>J.-F. Berret, J.-P. Fortin, F. Gazeau, D. El kharrat and O. Sandre</i> SUPERPARAMAGNETIC NANOPARTICLES AND OPPOSITELY CHARGED POLYMERS: DESIGN OF NEW CONTRAST AGENTS FOR MAGNETIC RESONANCE IMAGING
9h30-9h50	<i>M. Timko, M. Koneracka, N. Tomapovičova, P. Končanský, V. Zavipova.</i> MAGNETIC PARTICLES FOR APPLICATION IN BIOMEDICINE
9h50-10h10	<i>D. Eberbeck, Ch. Bergemann, F. Wiekhorst, U. Steinhoff, S. Hartwig, L. Trahms</i> INVESTIGATION OF THE BINDING AND AGGREGATION OF FUNCTIONALISED MAGNETIC NANOPARTICLES IN DIFFERENT SUSPENSIONS BY MAGNETORELAXOMETRY
10h10-10h30	<i>J.-P. Fortin, M.-S. Martina, F. Gazeau, C. Menager, C. Wilhelm, J.-C. Bacri, S. Lesieur, O. Clement</i> MAGNETIC TARGETING OF MAGHEMITE NANOPARTICLES ENCAPSULATED INTO LIPOSOMES: AN IN VIVO STUDY OF MICE TUMORS MONITORED BY MRI

10h30-11h00 Coffee break

<b>Electromagnetic Levitation</b>	
11h00-11h20	<i>H. Yasuda, I. Ohnaka, S. Fujita, Y. Tamura, T. Mizuguchi, T. Nagira.</i> DYNAMICS AND SOLIDIFICATION BEHAVIOR OF THE METALLIC MELT LEVITATED BY SIMULTANEOUS IMPOSITION OF ALTERNATING AND STATIC MAGNETIC FIELDS
11h20-11h40	<i>J. Priede, J. Etay, Y. Fautrelle.</i> EDGE INSTABILITY OF A LIQUID METAL SHEET IN A TRANSVERSE HIGH-FREQUENCY AC MAGNETIC FIELD
11h40-12h00	<i>D. Bardet, J. Priede, J. Etay.</i> A METAL DROPLET LEVITATED IN THE AMPLITUDE-MODULATED AC MAGNETIC FIELD
12h00-12h20	<i>A. Sellier</i> MIGRATION OF A SOLID CONDUCTING SPHERE IMMERSSED IN A LIQUID METAL NEAR A PLANE BOUNDARY UNDER THE ACTION OF UNIFORM AMBIENT ELECTRIC AND MAGNETIC FIELDS

12h20-13h50 Lunch

	<b>MHD in Crystal Growth</b>	<b>Modelling of MHD Turbulence</b>
13h50-14h30	<i>W.v. Ammon, Yu. Gelfgat, L. Gorbunov, A. Mühlbauer, A. Muiznieks, Y. Makarov, J. Virbulis, G. Müller</i> Invited lecture: APPLICATION OF MAGNETIC FIELDS IN INDUSTRIAL GROWTH OF SILICON SINGLE CRYSTALS	
14h30-14h50	<i>J. Priede, G. Gerbeth, R. Hermann, G. Behr.</i> FLOAT-ZONE CRYSTAL GROWTH WITH A NOVEL MELT FLOW CONTROL	<i>B. Knaepen, Y. Dubief, R. Moreau.</i> HARTMANN EFFECT ON MHD TURBULENCE IN THE LIMIT $R_m \ll 1$
14h50-15h10	<i>K. Dadzis, A. Muiznieks, G. Ratnieks, H. Reimann, A. Ludge.</i> INFLUENCE OF HF EM FORCES AND MARANGONI FORCES ON THE MELT FLOW DURING FZ SILICON CRYSTAL GROWTH	<i>E. Golbraikh.</i> MHD TURBULENT SPECTRA FORMATION IN THE EXTERNAL MAGNETIC FIELD
15h10-15h30	<i>F. Bioul, N. Van Goethem, L. Wu, R. Rolinsky, N. Van den Bogaert, F. Dupre.</i> A SIMPLIFIED METHOD TO TAKE INTO ACCOUNT THE EFFECT OF HORIZONTAL MAGNETIC FIELDS IN THE NUMERICAL MODELING OF CZOCHRALSKI SILICON GROWTH	<i>O. Zikanov and A. Vorobev.</i> LES MODEL OF ANISOTROPIC MHD TURBULENCE
15h30-15h50	<i>R. Lantzsich, I. Grants, V. Galindo, O. Pätzold, G. Gerbeth, M. Stelter, A. Cröll.</i> FLUID FLOW ANALYSIS AND VERTICAL GRADIENT FREEZE CRYSTAL GROWTH IN A TRAVELING MAGNETIC FIELD	<i>M. Kirpo, A. Jakovičs, E. Baake, B. Nacke.</i> MODELLING VELOCITY PULSATIONS IN A TURBULENT RECIRCULATED MELT FLOW

15h50-16h10 Coffee break

Poster Session 1 <b>Dynamo / Instability and Transition / Jets and Surface Flows / MHD Turbulence Modeling / Strong Fields / Fusion / Novel MHD Problems and Applications</b>	Poster Session 2 <b>MHD in Crystal Growth / Electromagnetic Processing of Materials / Liquid Metal Technologies</b>
16h20-19h00	
<p><i>J. Brestensky, T. Soltis, S. Sevcik.</i>            LINEAR ROTATING MAGNETO-CONVECTION WITH ANISOTROPIC DIFFUSIVE COEFFICIENTS</p> <p><i>N. Leprovost, B. Dubrulle, F. Plunian</i>            INTERMITTENCY IN HOMOPOLAR DYNAMO JEAN-FRANCOIS PINTON MEAN FLOW (KINEMATIC) VS DYNAMICAL DYNAMOS</p> <p><i>J. Léorat</i>            LARGE SCALES FEATURES OF A TURBULENT FLOW DRIVEN BY PRECESSION</p> <p><i>T. Albrecht, R. Grundmann, G. Mutschke, G. Gerbeth</i>            NUMERICAL INVESTIGATION OF TRANSITION CONTROL IN LOW CONDUCTIVE FLUIDS</p> <p><i>V. Shatrov, G. Gerbeth.</i>            ON MAGNETOHYDRODYNAMIC DRAG REDUCTION AND ITS EFFICIENCY</p> <p><i>V. Kremenetsky</i>            TWISTED MHD JET FLOWS</p> <p><i>S. Satake, T. Kunugi, N. Naito, K. Takase, Y. Ose.</i>            DNS OF TURBULENT CHANNEL FLOW AT HIGH REYNOLDS NUMBER UNDER A UNIFORM MAGNETIC FIELD</p> <p><i>J. Mao, S. Aleksandrova, S. Molokov</i>            JOULE HEATING EFFECT IN MHD DUCT FLOWS</p> <p><i>S. Horanyi and L. Bühler</i>            EXPERIMENTS ON MAGNETOHYDRODYNAMIC FLOWS IN A SUDDEN EXPANSION OF RECTANGULAR DUCTS AT HIGH HARTMANN NUMBERS</p> <p><i>Claude B. Reed, Jerry A. Nolen, Vincent J. Novick, Yoichi Momozaki, James R. Specht, Itacil Gomes</i>            A LIQUID LITHIUM HIGH POWER THIN FILM STRIPPER FOR RIA</p> <p><i>I. Bucenieks, R. Krišbergs, E. Platacis, G. Lipsbergs, A. Shishko, A. Zik, F. Muktupavela.</i>            INVESTIGATION OF CORROSION EFFECTS OF EUROFER STEEL IN PB-17LI STATIONARY FLOW IN THE MAGNETIC FIELD</p> <p><i>J. Freibergs, J. Kļaviņš, O. Lielausis, A. Miķelsons, J. Zandarts</i>            MHD TECHNOLOGY FOR THE PRODUCTION OF PBLI EUTECTIC ALLOYS</p> <p><i>M.Ya. Antimirov, E.S. Ligere.</i>            SOLUTION OF A THREE-DIMENSIONAL</p>	<p><i>F. Bioul, F. Dupret.</i>            FREE SURFACE SHEAR FLOWS INDUCED BY ALTERNATING ELECTROMAGNETIC FORCES. APPLICATION TO LIQUID BRIDGES IN MICRO-GRAVITY AND TO FLOATING ZONE PROCESS</p> <p><i>V. Golyshev, M. Gonik, Yu. Gelfgat, L. Gorbunov.</i>            MODELLING AND CONTROLLING OF WEAK LAMINAR FLOWS WHEN GROW CRYSTALS FROM THE MELT BY THE AHP METHOD</p> <p><i>C. Stelian, D. Vizman</i>            NUMERICAL MODELING OF CONVECTION INDUCED BY ALTERNATING MAGNETIC FIELDS IN SEMICONDUCTOR MELTS</p> <p><i>L. Gorbunov, A. Feodorov, J. Virbulis.</i>            STUDY OF 3D PHENOMENA IN CZOCHRALSKI LARGE DIAMETER SILICON SINGLE CRYSTAL GROWTH IN A TRANSVERSE MAGNETIC FIELD</p> <p><i>A. Prostomolotov, N. Verezub.</i>            MODELING OF HEAT TRANSFER DURING SEMICONDUCTOR CRYSTAL GROWTH WITHIN CUSP AND ROTATING MAGNETIC FIELDS</p> <p><i>O.A. Khlybov, T.P. Lyubimova, V.D. Golyshev, M.A. Gonik and B. Roux.</i>            ROTATING MAGNETIC FIELD INFLUENCE ON HEAT AND MASS TRANSFER DURING AXIAL HEATING PROCESS SEMICONDUCTOR CRYSTAL GROWTH</p> <p><i>K. Lācis, A. Muižnieks, G. Ratnieks.</i>            3D MODELING OF HF EM, HD AND DOPANT CONCENTRATION FIELDS FOR THE FZ GROWTH PROCESS</p> <p><i>A. Krauze, A. Muižnieks, L. Gorbunov, A. Pedchenko, A. Sattler</i>            NUMERICAL MODELING OF 2D AXISYMMETRIC FLOW UNDER THE INFLUENCE OF AC OR DC EM FIELDS FOR INDUSTRIAL CZ SINGLE-CRYSTAL SILICON GROWTH FACILITIES</p> <p><i>A. Rudevics, A. Muižnieks, G. Ratnieks.</i>            TRANSIENT MODELING OF FZ CRYSTAL GROWTH PROCESS AND AUTOMATIC ADJUSTING OF THE HF INDUCTOR CURRENT AND FEED ROD VELOCITY</p> <p><i>F. Mokhtari, A. Bouabdallah, M. Zizi.</i>            CRYSTAL GROWTH IN THE PROCESS OF MODIFIED CZOCHRALSKI</p> <p><i>A. Kapusta, B. Mikhailovich, P. Terhoeven.</i>            PHENOMENOLOGICAL MODEL OF PINCH EFFECT IN THE WORKING CHAMBER OF A LIQUID METAL COMMUTATING DEVICE</p>

<p>PROBLEM TO THE MHD FLOW OVER THE ROUGHNESS ELEMENTS IN A STRONG MAGNETIC FIELD</p> <p><i>M.Ya .Antimirov, I.A. Chaddad.</i> SOLUTION OF A PROBLEM TO THE FLOW OVER THE ROUGHNESS ELEMENTS OF A SPECIAL FORM IN A STRONG MAGNETIC FIELD</p> <p><i>M.Narula, A.Ying, M.A.Abdou and R.Moreau.</i> LIQUID METAL FREE SURFACE FLOW THROUGH A NON UNIFORM MAGNETIC FIELD: AN EXPERIMENTAL STUDY</p> <p><i>C. Vogin and A. Alemany.</i> END EFFECT AND EFFICIENCY IN A NON COUPLED ALTERNATE FLOW</p>	<p><i>A. Kapusta and B. Mikhailovich.</i> TURBULENT MHD FLOWS EXCITED BY ROTATING MAGNETIC FIELDS</p> <p><i>M. Abricka, Yu. Gelfgat, J. Krūmiņš.</i> MHD FLOWS IN A CLOSED CYLINDRICAL VESSEL EXPOSED TO CONCURRENT INFLUENCE BY DIFFERENT ALTERNATING ELECTROMAGNETIC FIELDS</p> <p><i>A. Kapusta, B. Mikhailovich, P. Terhoeven</i> TURBULENT MHD ROTATION OF LIQUID METAL IN A HOMEOPOLAR DEVICE</p> <p><i>P. Nikrityuk, K. Eckert, R. Grundmann.</i> NUMERICAL STUDY OF A MIXING OF TWO MISCIBLE LIQUID METALS DRIVEN BY A ROTATING MAGNETIC FIELD</p> <p><i>B. Halbedel, U. Krieger, D. Hülsenberg, U. Lüdtke, Y. Kolesnikov, A. Thess</i> INFLUENCE OF LOW AC MAGNETIC FIELD IN GLASS MELTS WITH PARAMAGNETIC IONS</p> <p><i>K. Iwai.</i> SN-PB ALLOY STRUCTURE SOLIDIFIED IN THE SIMULTANEOUS IMPOSITION OF DC MAGNETIC FIELD AND AC ELECTRIC CURRENT</p> <p><i>S. Krysko, A. Poznaks, S. Dementjev.</i> HEAT EXCHANGER WITH AN ELECTROMAGNETIC PUMP FOR APPLICATION IN ENERGY PLANT INSTALLATIONS</p> <p><i>S.Krysko, A.Poznaks, I.Buceniaks, A.Zik, S.Dementjev.</i> HELICAL HEAT EXCHANGER FOR APPLICATION IN ENERGY INSTALLATIONS UNDER IRRADIATION</p> <p><i>Z. Lipnicki, D. Waloryszek.</i> EVAPORATION OF THE HETEROGENEOUS LIQUID FLOW FORCED BY THE MAGNETIC FIELD OVER A WALL</p> <p><i>E. Sherbinins and Ya. Kompan.</i> MHD TECHNOLOGIES OF ELECTROSLAG WELDING AND MELTING OF TITANIUM ALLOYS FOR AEROSPACE INDUSTRY</p> <p><i>A. Mikelsons and J. Klaviņš.</i> THERMO E.M.F. PHENOMENA IN CONTINUOUS ELECTRICALLY CONDUCTING BODIES AND PREDICTION OF EARTHQUAKES</p>
<p>Poster sessions along with COST P17 Meeting (from 16h00 until 20h00)</p>	

20h00 Conference Dinner

Wednesday, June 29

	<b>Electromagnetic Processing of Materials / Liquid Metal Technologies/ Experimental and Numerical Methods</b>
8h30-9h10	<i>S. Taniguchi, N. Yoshikawa and K. Takahashi.</i> Invited lecture: APPLICATION OF EPM TO THE SEPARATION OF INCLUSION PARTICLES FROM LIQUID METAL
9h10-9h30	<i>S.Ivanov, E.Platacis, A.Zik, P.Ming, F.Groeshel, S.Dementjev</i> EXPERIENCE OF CALCULATION, DESIGN, FABRICATION AND TESTING OF ELECTROMAGNETIC PUMPS SYSTEM FOR MEGAPIE TARGET
9h30-9h50	<i>B. Nacke, T. Behrens, M. Kudryash, A. Jakovics.</i> SKULL MELTING TECHNOLOGY FOR OXIDES AND GLASSES
9h50-10h10	<i>O. Andreev, Yu. Kolesnikov and A. Thess.</i> MHD-CHANNEL FLOW OF LIQUID METAL UNDER AN INHOMOGENEOUS MAGNETIC FIELD - PART 1: EXPERIMENT
10h10-10h30	<i>E. Ramos, F. Demiaux, S. Cuevas and H. Salas.</i> ELECTRICALLY DRIVEN VORTICES IN A NON-HOMOGENEOUS MAGNETIC FIELD IN SHALLOW FLUID LAYERS

10h30-11h00 Coffee break

	<b>EPM / Liquid Metal Technologies</b>	<b>Magnetic Liquids</b>
11h00-11h20	<i>V. Avilov, G. Ambrosy, P. Berger.</i> MHD MELT CONTROL SYSTEMS FOR HIGH-POWER BEAM WELDING OF METALS	<i>T. Völker, S. Odenbach.</i> HERMODIFFUSION IN MAGNETIC FLUIDS
11h20-11h40	<i>Z. Ren, X. Li, K. Deng, H. Wang, Y. Zhuang.</i> INVESTIGATION ON SOLIDIFICATION OF BI-MN ALLOYS UNDER A HIGH MAGNETIC FIELD	<i>A. Mežulis, E. Blūms.</i> EXPERIMENTAL INVESTIGATIONS ON THE MICROCONVECTIVE INSTABILITY IN OPTICALLY INDUCED GRATINGS
11h40-12h00	<i>I.Furuhashi, K.Iwai, S.Asai</i> OBSERVATION OF BUBBLE BEHAVIOR AFFECTED BY LORENTZ FORCE	<i>E. Blūms, V Frišfelds, G. Kronkalns, A. Mežulis, M.Maiorov.</i> MAGNETICALLY INDUCED MASS TRANSFER THROUGH A GRID IN NON-ISOTHERMAL FERROFLUIDS
12h00-12h20	<i>G. Zimmermann, A Weiss.</i> IMPACT OF A ROTATING MAGNETIC FIELD ON THE MICROSTRUCTURE FORMATION DURING DIRECTIONAL SOLIDIFICATION OF ALSI7-BASED ALLOYS	<i>V. Frišfelds, E. Blūms.</i> MICROCONVECTION AND MASS TRANSFER NEAR BODIES IN A NON-UNIFORMLY MAGNETIZED FERROFLUID
12h20-12h40	<i>B. Willers, P.A. Nikrityuk, K. Eckert, S. Eckert.</i> FLOW STRUCTURES DURING SOLIDIFICATION OF METALLIC ALLOYS AFFECTED BY A ROTATING MAGNETIC FIELD	<i>L. Tomčo, K. Marton, M. Koneracká, P.Kopčanský, M. Timko, I. Potočová</i> THE INFLUENCE OF MAGNETIC NANOPARTICLES CONCENTRATION ON THE DIELECTRIC BREAKDOWN IN TRANSFORMER OIL-BASED MAGNETIC FLUIDS

12h40-14h10 Lunch

14h10 Excursion / Ampere meeting (from 14h00 until 16h30)

16h30 Fusion meeting

**Thursday, June 30**

<b>Magnetoelectrolysis</b>	
8h30-9h10	<i>R. Aogaki, E. Ito and M. Ogata</i> Invited lecture: APPLICATION OF MAGNETIC MICRO-FLUID CHIP TO CHEMICAL AND ELECTROCHEMICAL REACTIONS
9h10-9h30	<i>P. Olivas, A. Alemany and F. Bark.</i> ELECTROMAGNETIC CONTROL OF ELECTROPLATING
9h30-9h50	<i>D. Bograchev, V. Volgin, A. Davydov.</i> THE EFFECT OF UNIFORM MAGNETIC FIELD ON STABILITY OF RAYLEIGH-BENARD CONVECTION IN THE ELECTROCHEMICAL SYSTEM
9h50-10h10	<i>I. Mogi and K. Watanabe.</i> CHIRAL ELECTRODES OF MAGNETO-ELECTROPOLYMERIZED POLYANILINE FILMS
10h10-10h30	<i>A. Krause, M. Uhlemann, A. Gebert, L. Schultz</i> THE EFFECT OF MAGNETIC FIELDS ON THE ELECTRODEPOSITION OF Cu AND Co

10h30-11h00 Coffee break

<b>Aluminium Reduction Cells / Numerical and Experimental Methods</b>	
11h00-11h20	<i>V. Bojarevičs, K. Pericleous.</i> NONLINEAR MHD STABILITY OF ALUMINIUM REDUCTION CELLS
11h20-11h40	<i>D. Munger and A. Vincent.</i> DIRECT SIMULATION OF MHD INSTABILITIES IN ALUMINIUM REDUCTION CELLS
11h40-12h00	<i>S. Khripchenko, R. Khalilov, I. Kolesnichenko.</i> VORTEX FLOWS GENERATED BY A VARYING MAGNETIC FIELD IN A CONDUCTING FLUID LAYER
12h00-12h20	<i>J.-U. Mohring, A. Potherat.</i> STABILITY OF A LIQUID METAL FREE SURFACE IN AN ANNULUS AFFECTED BY AN ALTERNATING MAGNETIC FIELD

12h20-13h50 Lunch

	<b>Magnetic Liquids</b>	<b>Metallurgical Applications</b>
13h50-14h30	<i>A. Engel</i> Invited lecture: THERMAL RATCHET EFFECT IN FERROFLUIDS	
14h30-14h50	<i>R. Krauss, M. Liu, B. Reimann, R. Richter and I. Rehberg.</i> PUMPING MAGNETIC LIQUID WITHOUT ANY MOVING PARTS, BUT BY MAGNETIC STRESS	<i>V. Kacourek, Ch. Karcher, D. Schulze</i> OSCILLATIONS OF LIQUID METAL DROPS IN A HIGH-FREQUENCY MAGNETIC FIELD
14h50-15h10	<i>M. Ozols, A. Cēbers.</i> AUTOOSCILLATIONS IN DIELECTRIC SUSPENSION WITH A "NEGATIVE" VISCOSITY EFFECT	<i>A. Jakovičs, I. Javāitis, B. Nacke, E. Baake</i> SIMULATION OF MELTING PROCESS IN COLD AND INDUCTOR CRUCIBLE
15h10-15h30	<i>A. Tatulchenkov, A. Cēbers</i> COMPLEX DYNAMICS OF THE BUBBLE RISING IN THE VERTICAL HELE-SHAW CELL WITH A MAGNETIC FLUID	<i>Yu. Gelfgat, M. Skopis, J. Grabis</i> ELECTROMAGNETIC FUNNEL FOR STIRRING UP SOLID REAGENTS INTO MOLTEN METALS
15h30-15h50	<i>L. Pop, S. Odenbach, A. Wiedenmann.</i> THE MICROSCOPIC MECHANISMS OF THE MAGNETOVISCOUS IN FERROFLUIDS INVESTIGATED BY SMALL ANGLE NEUTRON SCATTERING	<i>A. Umbraško, E. Baake, B. Nacke, M. Kirpo, A. Jakovičs</i> IMPROVEMENT OF THE COLD CRUCIBLE MELTING PROCESS USING LES MODELING



15h50-16h10 Coffee break

<p>Poster Session 3 <b>Ferrofluids / Magneto-electrolysis</b></p>	<p>Poster Session 4 <b>Numerical and Experimental Methods / MHD Power Generation / Flow Propulsion and Control / Metallurgical Applications / Measurement Techniques / Novel MHD Problems and Applications</b></p>
<p>16h10-18h00</p>	
<p><i>A. Bozhko, Yu. Bratuhin, G. Putin.</i> EXPERIMENTS ON FERROFLUID CONVECTION IN A SPHERICAL CAVITY</p> <p><i>A. Bozhko, G. Putin, P. Bulychev, T. Tynjälä, P. Sarkomaa.</i> EXPERIMENTAL AND NUMERICAL STUDY OF OSCILLATORY CONVECTION IN FERROFLUIDS</p> <p><i>E. Elfimova.</i> FRACTAL AGGREGATE FORMATION PROCESS IN FERROFLUID: THE VARIOUS KINETIC OF GROWTH</p> <p><i>B. Kashevski, I. Prokhorov, S. Kashevski, V. Ivanov</i> ORIENTATIONAL DYNAMICS AND ENERGY DISSIPATION IN SUSPENSIONS OF FERROMAGNETIC PARTICLES WITH MAGNETIC HYSTERESIS UNDER THE ACTION OF LINEARLY POLARIZED MAGNETIC FIELD</p> <p><i>I. Javaitis, A. Cēbers</i> DYNAMICS OF ANISOTROPIC FLEXIBLE MAGNETIC FILAMENTS</p> <p><i>S. Kantorovich, V. Mendeleev, E. Pjanzina, A. Ivanov</i> MAGNETIC PROPERTIES OF FERROFLUIDS: AN INFLUENCE OF CHAIN AGGREGATES</p> <p><i>V. Kiryushin, V. Naletova, V. Bashtovoy, A. Reks, M. Ivanov.</i> AMBIGUITY OF THE SHAPE OF A MAGNETIC FLUID DROP IN A MAGNETIC FIELD OF A LINE CONDUCTOR</p> <p><i>J. Štelina, C. Musil, J. Bracinik, P. Kopčanský, M. Timko, M. Hnatič, M. Repašan, I. Potočova, E. Ayrjan.</i> LIGHT INDUCED STRUCTURALIZATION IN MAGNETIC FLUIDS WITH NEGATIVE SORET CONSTANT</p> <p><i>G. Kronkalns, M.M. Maiorov.</i> INVESTIGATION OF THE MAGNETIC FLUID MASS TRANSFER IN POROUS MEDIA</p> <p><i>O. Kuznetsova, M. Davidjuk, A. Ivanov</i> MAGNETIC GRANULOMETRY OF FERROFLUIDS</p> <p><i>M. M. Maiorov, D. Y. Zablotsky</i> MEASUREMENTS OF ROTARY AND TRANSLATION DIFFUSION OF MAGNETITE NANOPARTICLES IN HYDROCARBON BASED MAGNETIC FLUID</p> <p><i>M. Ozols, A. Cēbers</i> DETERMINISTIC CHAOS PHENOMENA IN DIELECTRIC SUSPENSIONS UNDER THE ACTION OF AC ELECTRIC FIELD</p> <p><i>R. Saldívar-Guerrero, R. Richter, I. Rehberg, N. Aksel, L. Heymann and O. S. Rodríguez-Fernández.</i> LIQUID TO SOLID TRANSITION OF INVERSE FERROFLUIDS</p>	<p><i>K. Ueno and R. Moreau.</i> EIGENFUNCTIONS ON DISSIPATION OF MHD TURBULENT VORTICES</p> <p><i>A. Potherat.</i> MODES MISSING THE DISSIPATION IN LOW RM MHD TURBULENCE BETWEEN WALLS</p> <p><i>C. Zhang, S. Eckert, G. Gerbeth.</i> MOTION OF SINGLE GAS BUBBLES RISING IN A LIQUID METAL EXPOSED TO A DC MAGNETIC FIELD</p> <p><i>I. Kolesnichenko, S. Khripchenko, D. Buchenau, G. Gerbeth</i> ELECTRO-VORTEX FLOWS IN SHALLOW LIQUID METAL LAYERS</p> <p><i>A.P. Ogorodnikov, I.R. Kirillov, G.V. Preslitsky, H. Araseki.</i> INTEGRAL CHARACTERISTICS AND DOUBLE SUPPLY FREQUENCY PRESSURE PULSATIONS IN ELECTROMAGNETIC PUMPS WITH SINGLE-STAGE LINEAR CURRENT LOAD GRADING</p> <p><i>T. Tagawa.</i> NUMERICAL COMPUTATIONS FOR A FREE-SURFACE FLOW OF LIQUID METAL UNDER A UNIFORM MAGNETIC FIELD</p> <p><i>F. Dubois, J. Etay, O. Widlund and Y. Delannoy.</i> MHD-CHANNEL FLOW IN AN INHOMOGENEOUS MAGNETIC FIELD -PART 3: NUMERICAL MODELLING OF THE MEAN FLOW</p> <p><i>E.V. Votyakov, E. Zienicke, A. Thess.</i> MHD-CHANNEL FLOW OF LIQUID METAL UNDER AN INHOMOGENEOUS MAGNETIC FIELD. PART 2: DIRECT NUMERICAL SIMULATION</p> <p><i>A. Chandra and G.K. Pandey</i> CONCEPTUAL DESIGN AND APPLICATION OF LIQUID METAL MHD SYSTEM FOR HYDROGEN PRODUCTION</p> <p><i>T. Ando, K. Ueno, S. Taniguchi and T. Takagi</i> EXPERIMENT AND NUMERICAL SIMULATION OF NEW TYPE MHD PUMP USING ROTATING TWISTED MAGNETIC FIELD</p> <p><i>M. Zake, I. Barmina, A. Meijere.</i> THE ELECTRIC FIELD CONTROL OF HEAT GENERATION BY CO-FIRING THE RENEWABLE WITH GASEOUS FOSSIL FUEL</p> <p><i>M. Zake, I. Barmina, A. Meijere.</i> THE ELECTRIC FIELD-FORCED FORMATION OF</p>

<p><i>I. Segal, A. Zablotzkaya, E. Lukevics, M. Maiorov, D. Zablotsky</i> FERROMAGNETIC NANOPARTICLES CONTAINING BIOLOGICALLY ACTIVE ALKANOLAMINES</p> <p><i>G.A. Shaposhnikova, V.A. Buchin.</i> UNSTEADY ELECTRODYNAMIC PROCESSES ON THE PLANE</p> <p><i>K. Zimmermann, I. Zeidis, V.A. Naletova, V.A. Turkov, P.A. Gonchrov</i> SURFACE OF A MAGNETIC FLUID CONTAINING A SPHERICAL BODY IN THE UNIFORM MAGNETIC FIELD</p> <p><i>A.Yu. Zubarev, L.Yu. Iskakova</i> RHEOLOGICAL PROPERTIES OF FERROFLUIDS WITH DROP-LIKE AGGREGATES</p> <p><i>A. Harrach, J. Douglade, M. Dupuis, J. Amblard, J.-P. Chopart</i> CHARACTERISATION OF Co-Fe ALLOYS ELECTRODEPOSITED WITH MAGNETIC FIELD SUPERIMPOSITION</p> <p><i>H.H. Kuehnlein, A. Bund</i> MAGNETOHYDRODYNAMIC AND PARAMAGNETIC GRADIENT EFFECTS DURING ELECTROCHEMICAL PROCESSES AT MICROSTRUCTURES</p> <p><i>M. Waskaas</i> ON AXIAL ELECTRIC POTENTIAL DISTRIBUTIONS AND WATER FLOW IN PIPES WITH COATED INNER SURFACE</p> <p><i>M. Alradi, G. Cognet</i> CONTROL OF THE INSTABILITY OF A LIQUID / LIQUID METAL INTERFACE BY A MAGNETIC FIELD. CONSEQUENCE ON THE MASS TRANSFER</p> <p><i>V. Heresanu, R. Ballou and P. Molho</i> ELECTRODEPOSITION OF FE UNDER IN-PLANE MAGNETIC FIELD IN THIN GAP GEOMETRY</p> <p><i>S. Chouchane, J. Douglade, J. Amblard, R. Rehamnia, J.-P. Chopart</i> MAGNETIC FIELD EFFECTS ON ZN-NI ELECTRODEPOSITION</p> <p><i>S. Köhler, A. Bund</i> POLYPYRROLE: MAGNETIC FIELD INFLUENCES ON THE ELECTROPOLYMERIZATION AND ITS REDOX BEHAVIOR</p> <p><i>M. Uhlemann, A. Krause, H. Schlörb, K. Msellak, L. Rabah and J.-P. Chopart</i> THE EFFECT OF HIGH MAGNETIC FIELDS ON THE ELECTRODEPOSITION OF METALS</p> <p><i>A.-L. Daltin, J.-P. Chopart</i> THE EFFECT OF MAGNETIC FIELDS ON CUPROUS OXIDE ELECTRODEPOSITION</p> <p><i>Y. Zhong, Z. Ren, Q. Huang, K. Deng, K. Xu.</i> SHAPE AND STRUCTURE EVALUATION OF COPPER CRYSTAL ELECTRODEPOSITED IN DIFFERENT MAGNETIC FIELD</p>	<p>THE SWIRLING FLAME FLOW FIELD</p> <p><i>G. Arkhipov, A. Rozin.</i> NUMERICAL SIMULATION OF METAL-BATH MOTION IN AN ALUMINUM REDUCTION CELL</p> <p><i>V.I. Dubodelov, I.P. Kondratenko, A.A. Kuchaev, E. I. Petrushenko, A.P. Rashepkin, G.A. Fillipova, R.J. Jakobshe.</i> MODELLING OF 2D DISTRIBUTION ELECTROMAGNETIC FORCES IN LIQUID STEEL AT ITS INDUCTION STIRRING IN MOLD OF CONTINUOUS CASTER</p> <p><i>I. Bucenieks, R. Krishbergs, K. Kravalis, G. Lipsbergs, A. Shishko</i> MAGNETIC FIELD DISTRIBUTION IN THE ROTOR OF PERMANENT MAGNETS</p> <p><i>M. Conrath and Ch. Karcher.</i> ANALYTICAL STUDY OF ELECTROMAGNETIC SHAPING OF LIQUID METAL DROPS IN TRANSIENT MAGNETIC FIELDS</p> <p><i>Z. Lei, Z. Ren, K. Deng, H. Wang.</i> EXPERIMENTAL STUDY ON MOULD OSCILLATION-LESS CONTINUOUS CASTING PROCESS UNDER HIGH FREQUENCY AMPLITUDE-MODULATED MAGNETIC FIELD</p> <p><i>L. Gorbunov.</i> MULTI-CHANNEL METHOD FOR MEASURING THE VELOCITY FLOW PATTERN IN CLOSED VOLUMES</p> <p><i>A. Cramer, K. Varshney and G. Gerbeth.</i> EXPERIMENTAL INVESTIGATIONS OF ROTATING MAGNETIC FIELD DRIVEN FLOW BY HIGHLY SENSITIVE POTENTIAL PROBE MEASUREMENTS</p> <p><i>S. Ivanov and S. Dementjev</i> TEMPERATURE MONITORING OF LEAD BISMUTH EUTRCTIC FLOW IN THE MEGAPIE TARGET</p>
Round Table	

Friday, July 01

	Magnetoelectrolysis	Metallurgical Applications
8h30-9h10	<i>Antoine Alemany</i> Keynote lecture <TITLE TO BE PRECISED>	
9h10-9h30	<i>A. Ispas, A. Bund</i> INFLUENCE OF A MAGNETIC FIELD ON THE ELECTRODEPOSITION OF NICKEL AND NICKEL-IRON ALLOYS	<i>A. F. Lehman, O.B. Sjoden, A.A. Kuchaev</i> ELECTROMAGNETIC EQUIPMENT FOR NON-CONTACTING TREATMENT OF LIQUID METAL IN METALLURGICAL PROCESSES
9h30-9h50	<i>C. Rousse-Bertrand, K. Msellak, P. Fricoteaux, E. Merienne, J.-P. Chopart</i> MAGNETIC AND ELECTROCHEMICAL STUDIES ON ELECTRODEPOSITED FE-NI ALLOYS	<i>H. Branover, E. Golbraikh, A. Kapusta, B. Mikhailovich, I. Dardik, S. Lesin, M. Khavkin and R. Thomson.</i> NOVEL POTENTIALITIES OF ELECTROMAGNETIC STIRRING OF MELTS IN METALLURGY
9h50-10h10	<i>F. Rhen, D. Fernandez, G. Hinds and J. Coey.</i> THE INFLUENCE OF A MAGNETIC FIELD ON THE ELECTROCHEMICAL REST POTENTIAL	<i>V. Dubodelov, V. Fixsen, N. Slazhnev, A. Gorshkov.</i> APPLICATION OF ELECTROMAGNETIC FORCE AMPLITUDE MODULATION IN THE MAGNETODYNAMIC UNIT FOR THE ALUMINIUM CASTING TECHNOLOGIES IMPROVEMENT
10h10-10h30	<i>T. Weier, J. Hueller, G. Gerbeth, F.-P. Weiss.</i> VELOCITY MEASUREMENTS AND CONCENTRATION FIELD VISUALIZATIONS IN NATURAL CONVECTION COPPER ELECTROLYSIS UNDER MAGNETIC FIELD INFLUENCE	<i>R. Stieglitz, J. Zeininger</i> A SIMPLE TWO-DIMENSIONAL MODEL TO DESIGN MHD INDUCTION PUMPS
10h30-10h50	<i>K.L. Rabah, A. Harrach, J.-P. Chopart, J. Douglade, J. Amblard, O. Aboubi.</i> MHD AND OTHER MAGNETIC CONVECTIVE EFFECTS ON ELECTROCHEMICAL REACTIONS	<i>S. Denisov, V. Dolgikh, S. Khripchenko, I. Kolesnichenko</i> ELECTROVORTEX PUMPS

10h50-11h20 Coffee break

	Magnetoelectrolysis / Novel Problems / Measuring Techniques for Liquid Metals	Magnetic Liquids
11h20-11h40	<i>X. Adolphe, S. Martemianov, J.P. Maye, A. Piteau, T. Weier, G. Gerbeth</i> EXPERIMENTAL INVESTIGATION OF THE INFLUENCE OF LORENZ FORCES ON LOCAL MASS TRANSFER AND NEAR WALL TURBULENCE BY MEANS OF ELECTRODIFFUSION PROBES	<i>M. Belov, A. Cēbers, .I. Javaitis.</i> BENDING OF FLEXIBLE MAGNETIC RODS
11h40-12h00	<i>T. Gundrum, G. Gerbeth, F. Stefani, M. Xu</i> EXPERIMENTAL ASPECTS OF CONTACTLESS INDUCTIVE FLOW TOMOGRAPHY	<i>H. Bönnemann, N. Matoussevitch, H.-W. Hofstadt, W. Brijoux, R. Brinkmann, R. A. Brand</i> PREPARATION AND PROPERTIES OF METALLIC AND BIMETALLIC MAGNETIC FLUIDS
12h00-12h20	<i>A. Bojarevičs and Yuri Gelfgat</i> VISUALIZATIONS OF VARIOUS MHD-PHENOMENA CAUSED BY INTERACTION OF THE DC AND AC MAGNETIC FIELDS WITH THE LIQUID METAL FLOW	<i>M. Balasoiu, M.V. Avdeev, V.L. Aksenov, V. Genescu, D. Hasegan, Gy. Török, A. Len, L. Rosta, D. Bica, L. Vékas</i> INTERACTION EFFECTS IN NON-POLAR AND POLAR FERROFLUIDS BY SMALL-ANGLE NEUTRON SCATTERING
12h20-12h40	<i>S. Men, Ch. Resagk, H. Brauer, M. Ziolkowski, M. Kuilekov</i> RECONSTRUCTION OF INTERFACE BETWEEN TWO ELECTRICALLY CONDUCTING FLUIDS FROM MAGNETIC FIELD MEASUREMENT	<i>B. Kashevsky, I. Prokhorov, S. Kashevsky, Yu. Istomin, E. Aleksandrova</i> STUDY OF THE MAGNETOPHORESIS AND MAGNETIC SUSCEPTIBILITY OF HELA TUMOR CELLS

12h40-13h00 Closing

13h00-14h30 Lunch

Reception (under invitation) at the French Embassy