

**MMA2015 – Sigulda - Program  
25.05.2015.**

**Tuesday, May 26**

11.00-14.00	<b>Registration</b> , hotel „Sigulda”	
13.00	Lunch, hotel „Sigulda”	
14.00	<b>Opening</b> , Hall „Sigulda”	
<b>14.30-16.00 Plenary session Hall "Sigulda"</b>		
<b>Chairman U.Strautins</b>		
14.30-15.10	<b>BUIKIS Andris</b>	CONSERVATIVE AVERAGING METHOD: THEORY AND APPLICATIONS
15.15-15.55	<b>VALUEV Andrey</b>	METHODS FOR SOME TYPES OF PROBLEMS OF PATH OPTIMIZATION ON AN ORIENTED GRAPH AND THEIR APPLICATION TO MINE DESIGN
16.00-16.20	Coffee break	
<b>16.20- 18.20 Paralell sessions and Minisimposiums , halls „Sigulda”, „Krimulda”, „Turaida”</b>		
<b>Hall „Sigulda”</b>		
<b>Chairman A.Pedas</b>		
16.20-16.40	<b>HALLIK Halle,</b> OJA Peter	EXISTENCE AND UNIQUENESS OF THE QUADRATIC/LINEAR RATIONAL SPLINE HISTOPOLANT
16.40-17.00	<b>HALLIK Halle,</b> <b>OJA Peter</b>	METHODS FOR SOME TYPES OF PROBLEMS OF PATH OPTIMIZATION ON AN ORIENTED GRAPH AND THEIR APPLICATION TO MINE DESIGN
17.00-17.20	<b>IRK Dursun,</b> KESKIN Pinar, DAG Idris	NUMERICAL SOLUTION OF THE BURGERS' EQUATION USING TRIGONOMETRIC B-SPLINE
17.20-17.40	GORGULU Zorsahin, <b>DAG Idris,</b> IRK Dursun	GALERKIN METHOD FOR THE NUMERICAL SOLUTION OF THE RLW EQUATION BY USING EXPONENTIAL B-SPLINES
17.40-18.00	<b>MALOLEPSZY Tomasz</b>	BLOW-UP SOLUTIONS TO A CERTAIN CLASS OF VOLTERRA INTEGRAL EQUATIONS
18.00-18.20	<b>VIKERPUUR Mikk,</b> PEDAS Arvet, TAMME Enn	NUMERICAL SOLUTION OF FRACTIONAL INTEGRO-DIFFERENTIAL EQUATIONS
<b>Hall „Krimulda”</b>		
<b>Chairman A.Buikis</b>		
16.20-16.40	NIKIFOROVA Eva, <b>VALUEV Andrey</b>	OPTIMAL PROJECT SCHEDULING WITH DISCRETE CAPACITY SHARING
16.40-17.00	<b>OZOLINŠ Ansis</b>	IMPROVED DYNAMIC PROGRAMMING METHOD FOR JOB SHOP SCHEDULING
17.00-17.20	KALIS Harijs, <b>KANGRO Ilmars,</b> STRAUTIŅŠ Uldis	EXPONENTIAL TYPE SPLINES FOR SOLUTIONS OF DIFFUSION PROBLEM IN MULTILAYERED DOMAIN
17.20-17.40	<b>BILGIC Bogac,</b> OZGUNEY Omur Can	VIBRATION CONTROL OF THE PLUNGING DISPLACEMENT IN THE HYPERSONIC FLOW BY USING FLC

17.40-18.00	<b>OZGUNEY Omur Can,</b> BILGIC Bogac	DEVELOPMENT OF A BACKSTEPPING CONTROLLER FOR AIRFOIL CONTROL IN HYPERSONIC FLOW
<b>Hall „Turaida” Minisimposium „Mathematical modelling of thermal processes in medium in high voltage cables”</b>		
<b>Chairman R.Čiegis</b>		
16.20-16.40	<b>TUMANOVA Natalija,</b> JANKEVIČIŪTE Gerda, STARIKOVIČIUS Vadimas	NUMERICAL ANALYSIS OF MULTIPHYSICS MODEL IN UNDERGROUND HIGH VOLTAGE CABLES
16.40-17.00	<b>ČIEGIS Raimondas,</b> ILGAVIČIUS Audrius, JANKEVIČIŪTE Gerda, MEILŪNAS Mečislavas, SUBOČ Olga	A TECHNICAL-ECONOMICAL MODEL OF POWER CABLES
17.00-17.20	<b>BUGAJEV Andrej,</b> ČIEGIS Raimondas, STARIKOVIČIUS Vadimas	THE ANALYSIS OF PARALLEL SOLVER FOR THE HEAT TRANSFER IN ELECTRICAL POWER CABLES
17.20-17.40	<b>ČIEGIS Raimondas</b>	ON OPTIMALITY OF ADAPTIVE TIME INTEGRATION METHODS FOR SOLVING SYSTEMS OF ODE
17.40-18.00	<b>LEONAVICIENE Terese,</b> BALTRENAS Pranas	MODELLING OF AIR FLOW IN THE MULTI-CHANNEL CYCLONE
<b>Hall „Turaida” Minisimposium „Mathematical models including non-local conditions” (beginning)</b>		
<b>Chairmen M.Sapagovas, A.Štikonas</b>		
18.00-18.20	<b>ŠTIKONAS Arturas,</b> <b>SAPAGOVAS Mifodijus,</b> ŠTIKONIENE Olga	ON THE STABILITY OF SOME THREE-LAYER *DIFFERENCE SCHEMES FOR TWO-DIMENSIONAL PSEUDO-PARABOLIC EQUATION WITH INTEGRAL BOUNDARY CONDITIONS
<b>19.00 Welcoming party, Hotel „Sigulda”</b>		
<b>Wednesday, May 27</b>		
<b>9.00-10.30 Plenary session Hall „Sigulda”</b>		
<b>Chairman A.Filinovskiy</b>		
9.00-9.40	<b>KOLYSHKIN Andrei,</b> KREMENETSKY Vladislav	WEAKLY NONLINEAR INSTABILITY OF SHALLOW FLOWS WITH FREE SURFACE
9.45-10.25	<b>RADZIUNAS Mindaugas</b>	COMPUTATION AND ANALYSIS OF LONGITUDINAL OPTICAL MODES IN MULTISECTION RING AND EDGE-EMITTING SEMICONDUCTOR LASERS
10.30-10.50	Coffee break	
<b>10.50- 13.10 Paralell sessions and Minisimposiums , halls „Sigulda”, „Krimulda”, „Turaida” Hall „Sigulda”</b>		
<b>Chairman M.Radziunas</b>		
10.50-11.10	<b>FILINOVSKIY Alexey</b>	ON THE EIGENVALUE PROBLEM WITH BOUNDARY CONDITION CONTAINING A PARAMETER
11.10-11.30	<b>ILTIŅA Marija,</b> IILTINŠ Ilmārs, Kolyshkin Andrei	STABILITY ANALYSIS OF SHALLOW FLOWS WITH VARIABLE FRICTION FORCE

11.30-11.50	<b>LIGERE Elena,</b> DZENĪTE Iļona, MATVEJEVS Aleksandrs	ANALYTICAL SOLUTION TO A PROBLEM ON MHD FLOW IN A RECTANGULAR DUCT UNDER SLIP CONDITION ON ITS SIDE WALLS
11.50-12.10	<b>REINFELDS Andrejs,</b> JANOVSKA Sandra	REDUCTION PRINCIPLE IN THE THEORY OF STABILITY FOR DYNAMIC SYSTEMS ON TIME SCALE
12.10-12.30	<b>STALIARCHUK I.I.,</b> KORZYUK V.I.	MIXED PROBLEM FOR KLEIN-GORDON-FOCK-EQUATION WITH CURVE DERIVATIVES ON BOUNDS
12.30-12.50	<b>ABDULLAH Saleem,</b> ALI Mumtaz	APPLICATION OF NUETROSOPHIC SOFT EXPERT SET IN S-BOX IMAGE ENCRYPTION

**Hall „Krimulda” Minisimposium „Mathematical models including non-local conditions”  
(continuation)**

**Chairmen M.Sapagovas, A.Štikonas**

10.50-11.10	<b>ŠTIKONIENE Olga,</b> CIUPAILA Regimantas, JOKŠIENE Zivile, SAPAGOVAS Mifodijus	ON THE TWO-LAYER EXPLICIT DIFFERENCE SCHEME FOR THE NONLINEAR TWO-DIMENSIONAL PSEUDO-PARABOLIC EQUATION WITH NONLOCAL BOUNDARY CONDITIONS
11.10-11.30	<b>SERGEJEVA Natālija,</b> PEČIULYTE Sigita, URBONAITE R.	INVESTIGATION OF FUČIK SPECTRUM FOR A PROBLEM WITH TWO-POINT NONLOCAL BOUNDARY CONDITION
11.30-11.50	<b>JAKUBELIENE Kristina</b>	A DIFFERENCE SCHEME FOR A TWO-DIMENSIONAL PARABOLIC EQUATION WITH AN INTEGRAL CONDITION
11.50-12.10	<b>PAUKŠTAITE Gaile,</b> ŠTIKONAS Artūras	GENERALIZED GREEN'S FUNCTIONS FOR $M$ -TH ORDER DISCRETE NONLOCAL PROBLEMS
12.10-12.30	<b>SKUČAITE Agne,</b> ŠTIKONAS Artūras	INVESTIGATION OF A SPECTRUM FOR STURM-LIOUVILLE PROBLEM WITH PARTIAL INTEGRAL CONDITION
12.30-12.50	<b>NOVICKIJ Jurij,</b> ŠTIKONAS Artūras	SPECTRUM ANALYSIS OF THE WEIGHTED FINITE DIFFERENCE SCHEME FOR THE WAVE EQUATION WITH INTEGRAL BOUNDARY CONDITIONS
12.50-13.10	JACHIMAVIČIENE Justina, <b>SAPAGOVAS Mifodijus</b>	ON THE TWO-LAYER EXPLICIT DIFFERENCE SCHEME FOR THE NONLINEAR TWO-DIMENSIONAL PSEUDO-PARABOLIC EQUATION WITH NONLOCAL BOUNDARY CONDITIONS

**Hall „Turaida”**

**Chairman P.Oja**

10.50-11.10	<b>ORLOVS Pavels,</b> ASMUSS Svetlana	FUZZY EQUIVALENCE RELATION BASED APPROXIMATIONS OF A T-NORM EXTENSION OF AGGREGATION OPERATORS
11.10-11.30	<b>ELKINS Aleksandrs,</b> ŠOSTAKS Aleksandrs	AN ALTERNATIVE APPROACH TO LOWER AND UPPER APPROXIMATION OPERATORS
11.30-11.50	<b>GREČ Michal,</b> HORAČEK Matej, NOVAK Vilem	FUZZY DECISION MAKING SYSTEM FOR DETERMINATION OF SOIL QUALITY
11.50-12.10	<b>GREČOVA Svetlana,</b> MORILLAS Samuel, ŠOSTAK Alexander	PERCEPTUAL COLOR IMAGE SIMILARITY USING FUZZY METRICS
12.10-12.30	<b>HURTIK Petr,</b> HODAKOVA Petra, PERFILIEVA Irina, LIBERTS Mārtiņš, ASMUSS Jūlija	REAL-TIME NETWORK ATTACK DETECTION

12.30-12.50	<b>KOKAINIS Mārtiņš,</b> ASMUSS Svetlana	ON HIGHER DEGREE F-TRANSFORMS BASED ON B-SPLINES
12.50-13.10	<b>KODORANE Irina,</b> ASMUSS Svetlana	APPROXIMATION OF DERIVATIVES USING F-TRANSFORMS BASED ON HIGHER DEGREE SPLINES
13.30	Lunch	
14.30-22.00	<b>Excursion: Sigulda-Straupe-Vaidava-Valmiera</b>	
<b>Thursday, May 28</b>		
<b>9.00-10.30 Plenary Session Hall „Sigulda”</b>		
<b>Chairman I.Astashova</b>		
9.00-9.40	<b>SYTOVA Svetlana</b>	NONLINEAR DYNAMICS IN RADIATION OF CHARGED PARTICLES MOVING IN MULTIDIMENSIONAL SPATIALLY-PERIODIC STRUCTURES
9.45-10.25	<b>GARUNKSTIS Ramunas,</b> LAURINČIKAS Antanas	ZETA FUNCTIONS. UNIVERSALITY, ZEROS AND MOMENTS
10.30-10.50	Coffee break	
<b>10.50- 12.50 Paralell sessions and Minisimposiums , halls „Sigulda”, „Krimulda”, „Turaida”</b>		
<b>Hall „Sigulda”</b>		
<b>Chairman A.Kolyshkin</b>		
10.50-11.10	<b>STONKIENE Liana,</b> IVANAUSKAS Feliksas	MATHEMATICAL MODELING OF AMPEROMETRIC BIOSENSORS ACCORDING TO THE DYNAMICS OF ACTIVE ENZYME REGIONS
11.10-11.30	TROFIMOV Vyacheslav, <b>TRYKIN Evgeny</b>	INCREASING EFFICIENCY OF USING ARTIFICIAL BOUNDARY CONDITIONS FOR 1D NONLINEAR SCHRODINGER EQUATION DESCRIBING LASER PULSE IN PHOTONIC CRYSTAL
11.30-11.50	<b>KOLISKINA Valentina,</b> VOLODKO Inta	SOLUTION OF DIRECT EDDY CURRENT TESTING PROBLEMS FOR MEDIA WITH AXISYMMETRIC CYLINDRICAL FLAWS
11.50-12.10	<b>KAMENCHENKO Sergey</b>	RECURSIVE INVOLUTORY MATRIX GENERATION ALGORITHM, WHICH IS BASED ONLY WITH ELEMENTS 1 AND 2
12.10-12.30	SUMBATYAN Mezhlum, <b>REMIZOV Michael</b>	ON THREE-DIMENSIONAL ELASTIC WAVE PROPAGATION THROUGH A DOUBLY-PERIODIC SYSTEM OF CRACKS
12.30-12.50	<b>CHARAPITSA Sjarhei,</b> SYTOVA Svetlana, GUGUCHKINA Tatiana, MARKOWSKI Michail	NUMERICAL METHODS FOR CORRECT DETERMINATION OF VOLATILE COMPOUNDS IN THE ALCOHOL-CONTAINING PRODUCTS
<b>Hall „Krimulda”</b>		
<b>Chairman A.Reinfelds</b>		
10.50-11.10	<b>GRICĀNS Armands,</b> SADYRBAEV Felix	ON SOME FUNCTIONS DEFINED BY ORDINARY DIFFERENTIAL EQUATIONS
11.10-11.30	<b>ATSLEGA Svetlana,</b> SADYRBAEV Felix	ON THE PLANAR SYSTEM ARISING IN THE NETWORK CONTROL THEORY
11.30-11.50	<b>ASTASHOVA Irina</b>	CLASSIFICATION OF SOLUTIONS TO THE 4-ORDER SINGULAR EMDEN-FOWLER TYPE EQUATIONS
11.50-12.10	<b>RADIN Michael</b>	PERIODIC AND EVENTUALLY PERIODIC SOLUTIONS OF PIECEWISE LINEAR AND MAX-TYPE DIFFERENCE EQUATIONS

12.10-12.30	<b>AVOTIŅA Maruta,</b> BULA Inese	DISCRETE MODELLING OF NEURONS
12.30-12.50	<b>ŠUSTE Agnese,</b> BULA Inese	DISCRETE - TIME EPIDEMIC MODELS
<b>Hall „Turaida” Minisimposium “Application of probabilistic model in approximation of analytic functions” (beginning)</b>		
<b>Chairman A.Laurincikas</b>		
10.50-11.30	<b>LAURINČIKAS Antanas</b>	JOINT DISCRETE UNIVERSALITY OF HURWITZ ZETA-FUNCTIONS
11.30-11.50	<b>GARBALIAUSKIENE Virginija,</b> LAURINCİKAS Antanas	DISTRIBUTION THEOREMS FOR TWISTED L-FUNCTIONS OF ELLIPTIC CURVES
11.50-12.10	<b>GRIGUTIS Andrius</b>	THE SIZE OF THE SELBERG ZETA-FUNCTION AT PLACES SYMMETRIC WITH RESPECT TO THE LINE $1/2$
12.10-12.30	<b>KAČINSKAITE Roma,</b> MATSUMOTO Kohji	JOINT MIXED LIMIT THEOREM FOR A CLASS OF ZETA-FUNCTIONS
12.30-12.50	<b>MACAITIENE Renata</b>	ON MIXED JOINT UNIVERSALITY
13.00	Lunch	
<b>14.30-16.00 Plenary session Hall „Sigulda”</b>		
<b>Chairman M.Braš</b>		
14.30-15.10	GASPAR Francisco J., HU Xiaozhe, <b>RODRIGO Carmen,</b> ZIKATANOV Ludmil	RELATION BETWEEN MIMETIC FINITE DIFFERENCE SCHEMES AND FINITE ELEMENT METHODS FOR SOME MODEL PROBLEMS IN $H(\text{CURL})$ AND $H(\text{DIV})$
15.15-15.55	<b>SHISHKIN Grigorii</b>	STANDARD DIFFERENCE SCHEME IN THE PRESENCE OF PERTURBATIONS FOR A SINGULARLY PERTURBED PARABOLIC CONVECTION-DIFFUSION EQUATION
16.00-16.20	Coffee break	
<b>16.20- 18.20 Paralell sessions and Minisimposiums , halls „Sigulda”, „Krimulda”, „Turaida”</b>		
<b>Hall „Sigulda”</b>		
<b>Chairman C.Rodrigo</b>		
16.20-16.40	<b>SHISHKINA Lidia</b>	DIFFERENCE SCHEME OF HIGHEST ACCURACY ORDER BASED ON THE SOLUTION DECOMPOSITION METHOD FOR A SINGULARLY PERTURBED REACTION-DIFFUSION EQUATION
16.40-17.00	<b>BRAŠ Michal</b>	SEARCH FOR IMEX GENERAL LINEAR METHODS
17.00-17.20	<b>VAINIKKO Gennady</b>	WHICH FUNCTIONS ARE FRACTIONALLY DIFFERENTIABLE?
17.20-17.40	<b>BELOV Pavel,</b> NUGUMANOV Eduard, YAKOVLEV Sergey	DECOMPOSITION METHOD FOR A BLOCK-TRIDIAGONAL MATRIX SYSTEM
17.40-18.00	<b>LIETUVIETIS Ojārs</b>	ON INTEGRATION MATRIX DEFINED BY CHEBYSHEV DIFFERENTIATION MATRIX
18.00-18.20	VASILYEV Alexander, <b>VASILYEV Vladimir</b>	ON DIFFERENCE AND DISCRETE EQUATIONS
<b>Hall „Krimulda”</b>		
<b>Chairman G.Hilkevica</b>		
16.20-16.40	JIMENEZ-GAMERO M.D., <b>JODRA Pedro</b>	SOME INFERENTIAL ISSUES ON THE LOG-LINDLEY DISTRIBUTION
16.40-17.00	<b>VALEINIS Jānis</b>	SPATIAL STATISTICS WITH R

17.00-17.20	<b>VĒLIŅA Māra,</b> VALEINIS Jānis	APPLICATIONS OF ROBUST ANOVA METHODS
17.20-17.40	<b>DĀMIS Artis,</b> VALEINIS Jānis	GENERALIZED CONFIDENCE INTERVALS IN REGRESSION PROBLEMS
17.40-18.00	<b>DĀME Lidiņa</b>	MOSUM PROCEDURES FOR CHANGE POINT DETECTION
18.00-18.20	<b>PAHIRKO Leonora</b>	TWO-SAMPLE PROBLEMS OF SURVIVAL DATA
<b>Hall „Turaida” Minisimposium “Application of probabilistic model in approximation of analytic functions” (continuation)</b>		
<b>Chairman A.Laurincikas</b>		
16.20-16.40	<b>RIMKEVIČIENE Audrone</b>	A DISCRETE LIMIT THEOREM FOR THE PERIODIC HURWITZ ZETA-FUNCTION
16.40-17.00	<b>MOCHOV Dmitrij</b>	ON THE DISCRETE UNIVERSALITY OF THE PERIODIC HURWITZ ZETA-FUNCTION
17.00-17.20	STONCELIS Mindaugas, <b>ŠIAUČIŪNAS Darius</b>	ON THE DISCRETE UNIVERSALITY OF THE PERIODIC HURWITZ ZETA-FUNCTION
<b>Hall „Turaida”</b>		
<b>Chairman A.Gricāns</b>		
17.20-17.40	<b>GAIKO Valery</b>	GLOBAL LIMIT CYCLE BIFURCATIONS OF LOW-DIMENSIONAL DYNAMICAL SYSTEMS
17.40-18.00	<b>CEPĪTIS Jānis</b>	MULTIPLICITY OF SOLUTIONS FOR BOUNDARY VALUE PROBLEMS ARISING IN MATHEMATICAL MODELS OF ENZYME-CATALYZED REACTIONS
<b>19.30 Conference dinner, Hotel „Sigulda”</b>		
<b>Friday, May 29</b>		
<b>9.00-10.30 Plenary Session Hall "Sigulda"</b>		
<b>Chairman A.Valuev</b>		
9.00-9.40	GUO Xixiong, <b>CAO Jun</b>	SIMULATION OF TORNADIC WIND OVER BUILDING USING IMMERSED BOUNDARY LATTICE BOLTZMANN METHOD
9.45-10.25	<b>STRAUTINS Uldis</b>	SOME MODELS OF SPECIES INTERACTING IN FLUIDS
10.30-10.50	Coffee break	
<b>10.50- 12.50 Paralell sessions, halls „Sigulda”, „Krimulda”</b>		
<b>Hall „Sigulda”</b>		
<b>Chairman J.Cao</b>		
10.50-11.10	<b>KAVALIOU Klim,</b> TOBISKA Lutz, POLEVIKOV Viktor	DIFFUSION OF MAGNETIC PARTICLES IN A FERROFLUID SEAL IN THE PRESENCE OF MAGNETIC AND CENTRIFUGAL FORCES
11.10-11.30	DUMBRAJS Olgerts, <b>KALIS Harijs</b>	ON NUMERICAL SIMULATION OF NONSTATIONARY OSCILLATIONS IN GYRATRONS
11.30-11.50	KALIS Harijs, <b>MARINAKI Maksims,</b> STRAUTIŅŠ Uldis, LIETUVIETIS Ojars	ON THE VORTEX FORMATION IN THE COMBUSTION PROCESS WITH SIMPLE CHEMICAL REACTION AND AXIAL MAGNETIC FIELD
11.50-12.10	<b>OZOLA Līva,</b> STRAUTIŅŠ Uldis	MODELING THE INFLUENCE OF MAGNETIC FIELDS ON OXYGEN DISTRIBUTION

12.10-12.30	<b>HILKEVICA Galina,</b> HILKEVICS Sergejs	STOCHASTIC OPTIMIZATION ALGORITHMS FOR MANY-DIMENSIONAL TASKS OF PORTFOLIO THEORY
12.30-12.50	<b>LOZKINS Aleksejs</b>	CLUSTERING OF EUROPEAN COUNTRIES BY AN INFLATION RATE AND CLUSTERS RESEARCH
<b>Hall „Krimulda”</b>		
<b>Chairman J.Cepītis</b>		
10.50-11.10	<b>VASILYEV Nickolay,</b> LEPIN Arnold, LEPIN Leonid	ON EXTREMAL SOLUTIONS OF SIXTH-ORDER BOUNDARY VALUE PROBLEMS
11.10-11.30	<b>YERMACHENKO Inara,</b> SADYRBAEV Felix	BOUNDARY VALUE PROBLEMS FOR TWO-DIMENSIONAL DIFFERENTIAL SYSTEMS WITH PERIODIC FUNCTIONS IN PHASE VARIABLES
11.30-11.50	<b>SMIRNOV Sergey</b>	BOUNDARY VALUE PROBLEM WITH MULTIPOINT CONDITIONS FOR A THIRD ORDER
11.50-12.10	<b>DOBKEVICH Maria,</b> SADYRBAEV Felix	SOLUTION SETS FOR TWO-POINT NONLINEAR BOUNDARY VALUE PROBLEMS
12.10-12.30	<b>SVEIKATE Nadežda</b>	ON THREE POINT BOUNDARY VALUE PROBLEM
12.30-12.50	<b>KIRIČUKA Anita</b>	NONLINEAR BOUNDARY VALUE PROBLEM WITH STEPWISE FUNCTION
13.00	<b>Closing, Hall „Sigulda”</b>	
13.30	Lunch	