

# PROGRAMME

of the International Conference  
 “*RELIABILITY and STATISTICS in  
 TRANSPORTATION and COMMUNICATION (RelStat’03)*”

16–17 October 2003. Riga, Latvia

## Thursday, October 16

### Tutorial day

Time	Transport and Telecommunication Institute Aud. 703
10:30–12:00	Chaos, fractals, the "neurofinancial theory" and quantum financial mathematics in the new risk management paradigm. <i>Mikhail Rogov</i> (Russia, International State University “Dubna”)
12:15–13:45	The use of formal methods for integrated analysis of telecommunication and logistic systems. <i>Henrikas Pranevicius</i> (Lithuania, Kaunas Technical University)

## Friday, October 17

8:30–9:30	<b>Registration</b> Air Navigation Services, 3 Floor, Foyer
9:30–11:00	<b>Opening Session</b> (Air Navigation Services, 3 Floor, Main Hall) Session Chair – <i>Igor Kabashkin</i> (Latvia) <ul style="list-style-type: none"> <li>• <i>Igor Kabashkin</i>, Chairman of the Organising Committee, Vice-Rector of the Transport and Telecommunication Institute (Latvia)</li> <li>• <i>Eugene Kopytov</i>, Rector of the Transport and Telecommunication Institute (Latvia)</li> <li>• <i>Inna Kordonsky-Frankel</i>, President of the Kh. Kordonsky Charitable Foundation (USA)</li> <li>• <i>Peter Maximilian de Heidendorf</i>, President of European Board of Trade (Austria)</li> <li>• <i>Edmundas Zavadskas</i>, Vice-Rector of Vilnius Gediminas Technical University (Lithuania)</li> </ul> <b>Plenary Session</b> (Air Navigation Services, 3 Floor, Main Hall) Session Chair – <i>Igor Kabashkin</i> (Latvia) <ul style="list-style-type: none"> <li>• Reliability Theory: with Applications to Preventive Maintenance. Presentation of new monograph by I. Gertsbakh. <i>Vladimir Rikov</i> (Russia)</li> <li>• Transportation Security Response, Reliability, Safety and Performance Issues. <i>Ernst G. Frankel</i> (USA)</li> </ul>
11:00–11:30	<b>Coffee Break</b>
11:30–13:00	<b>Thematic Sessions</b>
13:00–14:00	<b>Lunch (for those who require it)</b>
14:00–15:45	<b>Thematic Sessions</b>
15:45–16:15	<b>Coffee Break</b>
16:15–18:30	<b>Thematic Sessions</b>
18:45	<b>Closing Session</b>

Time	Hall #1	Hall #2	Hall #3
<b>11:30-13:00</b>	<b>Session 1. Transport</b> Session Chair – <i>Alexander Pankov, Boriss Mishnevs</i>	<b>Session 2. Statistical Applications</b> Session Chair – <i>Irina Yatskiv</i>	<b>Session 3. Computing Mathematics</b> Session Chair – <i>Eugene Kopytov</i>
	<p>Model of Intelligent Transport System Development for City Agglomeration. <i>Igor Kabashkin</i> (Latvia)</p> <p>Mathematical Models with Application of Statistical Information in Transportation Management Process. <i>Adolfas Baublys</i> (Lithuania)</p> <p>Monte-Carlo Simulation of Resource Planning in Supply and Transportation. <i>Leonidas Sakalauskas</i> (Lithuania)</p> <p>Analysis of Resource Cycles in Marine Container Terminals. <i>Andrey Solomennikov, Vladimir Bardatchenko, Yuri Merkurjev, Fred Kamperman</i> (Latvia)</p> <p>Investigation of the Lithuanian Road Traffic Structure. <i>Alvydas Pikūnas, Vidmantas Pumputis, Vigilijus Sadauskas</i> (Lithuania)</p> <p>New Priority Ways in International Freight Transport and Estimation of Business Strategy of the Lithuanian Customs. <i>Aldona Jarasuniene</i> (Lithuania)</p>	<p>Parameter Estimation and Hypotheses Testing for Nonhomogeneous Poisson Process: Part 2. Numerical Examples. <i>I. B. Frenkel, I. B. Gertsbakh and L. V. Khvatskin</i> (Israel)</p> <p>Applications of Resampling Approach to Statistical Problems of Reliability Systems. <i>Alexander Andronov, Maxim Fioshin</i> (Latvia)</p> <p>Renewable Networks: Sequential Bounds on the Interval Reliability. <i>Y. Shpungin</i> (Israel)</p> <p>Preventive Maintenance Policy For Lamp Replacement Problem. <i>I. B. Frenkel, L. V. Khvatskin and A. Shendelis</i> (Israel)</p> <p>Application of the Packet Means for the Tasks of Regression Models Parameters Estimation. <i>Viktor Lumkis</i> (Latvia)</p> <p>Validation Methods of Cluster Decisions. <i>Lada Gusarova, Irina Yatskiv</i> (Latvia)</p> <p>Combinatorial and Probabilistic Properties of M. V. Lomonosov's "Turnip". <i>I. Gertsbakh, Y. Shpungin</i> (Israel)</p>	<p>To Over-Reliability Through Adequacy for Stochasticity Nature of Future. <i>A. V. Rutkauskas, V. Rutkauskas, L. Kaleininkaitė</i> (Lithuania)</p> <p>Solution Making Support System under the Conditions of Uncertainty. <i>Edmundas Zavadskas, Leon Ustinovich</i> (Lithuania)</p> <p>Investigation of a Two-Dimensional Retrospective Reverse Thermal Conductivity Task. <i>Sharif Guseinov</i> (Latvia)</p> <p>Exact Analytical Solution and Some of its Approximations for Two-Dimensional Systems with Rectangular Fin. <i>A. Buikis, M. Buike, Sh. Guseinov</i> (Latvia)</p> <p>Invariant Problems in the Control Discrete Systems under the Regular Chaos Conditions. <i>Valery Nikolsky, Dmitry Pliachko</i> (Latvia)</p> <p>Control over Tasks Staying Time in One-Channel Mass Service System. <i>Valery Nikolsky, Alexander Zinoviev</i> (Latvia)</p> <p>Optimization of Aircraft Route for Assurance of Arrival Time. <i>Dalia Ziliene, Jonas Stankunas</i> (Lithuania)</p>
<b>13:00-14:00</b>	<b>Lunch (for those who require it)</b>		

Time	Hall #1	Hall #2	Hall #3
14:00-15:45	<p><b>Session 1. Transport</b></p> <p>Session Chair – <i>Adolfas Baublys</i></p>	<p><b>Session 4. Management and Economics of Transport</b></p> <p>Session Chair – <i>Rostislav Kopitov</i></p>	<p><b>Session 5. Reliability of Mechanical and Aviation Systems</b></p> <p>Session Chair – <i>Vitaly Pavelko</i></p>
	<p>Inventory Control Model for the Typical Railways Company. <i>Eugene Kopytov, Fedor Tissen, Leonid Greenglaz</i> (Latvia)</p> <p>Application of Functions with Flexible Structure for Forecasting of Freight Turnover in Logistical System. <i>Mindaugas Mazura, Olga Fadina</i> (Lithuania)</p> <p>Methodology for Multimodal Network Analysis by Using Concept of Virtual Links and Nodes. <i>Aidas Vasilis Vasiliuskas</i> (Lithuania)</p> <p>Application of Virtual Data Models in the Analytical System of the Latvian Railway. <i>Vasilijs Demidovs</i> (Latvia)</p> <p>Principles of Development of Complex Security Systems in Relational Databases on the Example of Latvian Railway. <i>Nataly Petoukhova</i> (Latvia)</p> <p>Investigation of the Possibility to Establish a Logistics Centre in Vilnius Region and its Potential Benefits. <i>Leonas Povilas Lingaitis, Olga Fadina</i> (Lithuania)</p> <p>Products Distribution Optimisation in the Logistics Network. <i>Ramunas Palsaitis, Kestutis Vislavicius</i> (Lithuania)</p>	<p>Cost of Business as an Advantageous Indicator of Assessing the Judgement of Shareholders about Keeping the Managers' Rights and Responsibilities. <i>Rostislav Kopytov</i> (Latvia)</p> <p>Development of a Complex System Providing Efficient Running of an Enterprise from the Point of View of Cost Increasing under the Conditions of Risk and Uncertainty. <i>Eugene Kolesnichenko</i> (Latvia)</p> <p>Impact of Electronic Commerce on Forming Competitive Advantages. <i>Daiva Novikoviene</i> (Lithuania)</p> <p>Diagnostics of Real Estate Object Cost Components. <i>Rostislav Kopytov, Alexander Krasov</i> (Latvia)</p> <p>Information Technologies and Public Procurement. <i>Vita Narnicka</i> (Latvia)</p> <p>Application of Self-Organizing Concepts in Organization Structures Modelling. <i>Roman Zakharov</i> (Latvia)</p> <p>Distribution of Market Shares Among Competitors in Lithuanian Transport Sector. <i>Jonas Lazauskas</i> (Lithuania)</p>	<p>Influence of Turbo-Prop Engine PW125B Parameters Measuring Errors on the Diagnostics Reliability of its Setting Condition. <i>Eugene Kopytov, Vladimir Labendik, Arvids Osis</i> (Latvia)</p> <p>Inspection Policies for Detection of Initial Cracks in Aircraft Structural Components. <i>Konstantin N. Nechval</i> (Latvia)</p> <p>The Design of Low Speed Wing Section for Safety and Performance. <i>Eduardas Lasauskas</i> (Lithuania)</p> <p>Estimation of Parameters of Fatigue Curve of Composite Material. <i>A. Yu. Paramonova, M. A. Kleinhof, Yu. M. Paramonov</i> (Latvia)</p> <p>The Investigation of Aerobatic Pilot's Fatigue. <i>Darius Ereminas</i> (Lithuania)</p> <p>The Statistical Criterion of Fatigue Crack Detection by Intensity of an Acoustic Emission. <i>Vitaly Pavelko, Erik Ozolinsh</i> (Latvia)</p> <p>Influence of Corrosion on the Required Number of an Airframe Inspection. <i>M. Shujauddin Wahab, Yu. M. Paramonov</i> (Latvia)</p>
15:45-16:15	<b>Coffee Break</b>		

Time	Hall #1	Hall #2	Hall #3
16:15-18:30	<b>Session 1. Transport</b> Session Chair – <i>Leonidas Sakalauskas</i>	<b>Session 4. Management and Economics of Transport</b> Session Chair – <i>Ilia Frenkel</i>	<b>Session 5. Reliability of Mechanical and Aviation Systems</b> Session Chair – <i>Yuri. M. Paramonov</i>
	<p>Evaluation of the DME Sitting Factors with Application to Palanga Airfield. <i>Algimantas Jakucionis, Romualdas Malinauskas, Jonas Stankunas</i> (Lithuania)</p> <p>Statistical Evaluations of Automobile Separate Models Reliability. <i>Valentinas Mickūnaitis</i> (Lithuania)</p> <p>Urban Traffic Flows Measurement in the Automated Centralized Transport Control Systems. <i>Alexandr Berezhnoj</i> (Latvia)</p> <p>Bus Research of the Reliability in the Joint Stock “Vilniaus Autobusų Parkas”. <i>Aurelijus Vestartas, Saulius Nagurnas</i> (Lithuania)</p> <p>Investigation of Dynamic Processes in the Hydraulic Braking System of Transport Vehicle with Antilock Brake System. <i>Marijonas Bogdevicius, Oleg Vladimirov</i> (Lithuania)</p> <p>Definition of a Trajectory of the Vehicle Movement, Taking into Account Interaction of its Wheel and Road Surface. <i>Olegas Prentkovskis, Marijonas Bogdevicius</i> (Lithuania)</p> <p>Operational Research of Front Mounting Reliability of „KAROSA“ Bus. <i>Kęstutis Lukoševičius, Egidijus Diržys, Nijolė Lukoševičienė</i> (Lithuania)</p> <p>Fleet of Lithuanian Road-transport means and actions on its renovation. <i>Alydas Pikūnas, Valdas Valiūnas</i> (Lithuania)</p>	<p>Special Financing Form and Possibilities for Companies. <i>Peter Maximilian de Heidendorf</i> (Austria)</p> <p>Simulation Approach to the Weekend Effect's Problem. <i>B. I. Frenkel and D. Alberg</i> (Israel)</p> <p>Dynamics of Notions Mastering the Course "Educational Management". <i>Agris Upenieks</i> (Latvia)</p> <p>Social and Economic Principles of Developing an Integrated Public Transport Network in Vilnius. <i>Daiva Griskeviciene, Algirdas Griskevicius</i> (Lithuania)</p> <p>Diagnostics Concepts of Company Economical Activity on the Basic of its Cost Measurement Taking into Account Dynamics of Inner Processes. <i>Victor Siperkovsky</i> (Latvia)</p> <p>Research of Passenger Transportation Market in Lithuania. <i>Jonas Butkiavichus</i> (Lithuania)</p> <p>Enterprise Management with Franchising Advantages Application <i>Yury Senuto</i> (Latvia)</p> <p>Business Incubator as a Mean of Company Stable Development. <i>Cyril Petsevich</i> (Latvia)</p> <p>Review of Poster Session</p> <ul style="list-style-type: none"> <li>▪ <i>Martin Richard G. Kristek</i> (Germany)</li> </ul>	<p>The Investigation of a Possible Trajectory of the Fatigue Crack Growth in Structure of Helicopter Mi-8. <i>Vitaly Pavelko, Jelena Goncharova</i> (Latvia)</p> <p>Aircraft Gas Turbine Engine’s Technical Condition Identification Technique. <i>A. M. Pashaev, R. A. Sadiqov, P. S. Abdullayev</i> (Azerbaijan)</p> <p>The Influencing of Sizes on Fatigue Durability of Sheet Details. <i>Vitaly Pavelko, Julia Timoschenko</i> (Latvia)</p> <p>Cross-Ply Bending And Stability of the Compressed Rod with Crack. <i>Igor Pavelko, Vitaly Pavelko</i> (Latvia)</p> <p>Application of Statistical Methods for Quality Evaluation of Asphalt Concrete Mixture Production. <i>Henrikas Siviliavichus</i> (Lithuania)</p> <p>Influence of Variable Stiffness of Cable for traction to vibrating parameters and Reliability of System "Trailed Vibrating Roller and Cable for Traction" Operating on the Inclined Surface. <i>Vilius Bartulis</i> (Lithuania)</p> <p>Review of Poster Session</p> <ul style="list-style-type: none"> <li>▪ <i>Nickolas A. Nechval</i> (Latvia)</li> </ul>
18:45	<b>Closing Session. Get Together Party in Pilot Club “High Sky”</b>		

Time	Hall #4
14:00-15:45	<b>Session 6. Efficiency of Electronics Systems and Devices</b> Session Chair – <i>Yuri Shunin</i>
	<p>Analysis of Difference Schemes in Modelling of Gyrotron equations. <i>Olgerts Dumbrajs</i> (Finland), <i>Harijs Kalis, Andrejs Reinfelds</i> (Latvia)</p> <p>Chaotic Phenomena in Nanostructures of Semiconductor Electronics. <i>Yu. Shunin, V. I. Gopeyenko, A. V. Gopeyenko</i> (Latvia)</p> <p>Exploratory Signal Analysis Using Fractal Dimension. <i>Alexander V. Grakovski, Alexander I. Alexandrov, Roman Kivlyonok</i> (Latvia)</p> <p>Homomorphy Suppression of Noise in Pulse Signals on the Basis of Decomposition on Elementary Waves. <i>Yuri Krasnitsky</i> (Latvia)</p> <p>Phase Filters with High Linearity of PFC. <i>Takhir Mamirov</i> (Latvia)</p> <p>Techkor Wireless Condition Monitoring System. <i>Victor Boytsov, Andrey Volkov</i> (Latvia)</p> <p>Recursive Polyphase Filters in Multi-Channel Signal Filtration. <i>Eduard V. Matosov</i> (Latvia)</p> <p>Studies of the Theory of Probability in Electronics and Telecommunications Specialists Training at TTI. <i>Oleg Schiptzov</i> (Latvia)</p>

Main Hall
Poster Session
<p>Finding Efficient Estimators on Small Data Samples. <i>Edgars K. Vasermanis, Nicholas A. Nechval, Uldis Rozevskis &amp; Kristine Rozite</i> (Latvia)</p> <p>Optimal Ordering Policy for Multi-Period Version of Inventory Control Problem. <i>Max Moldovan, Konstantin N. Nechval, Nicholas A. Nechval, Edgars K. Vasermanis, Uldis Rozevskis &amp; Kristine Rozite</i> (Latvia)</p> <p>Technique for Deriving Shortest Statistical Intervals. <i>Nicholas A. Nechval, Konstantin N. Nechval, Edgars K. Vasermanis</i> (Latvia)</p> <p>The Distribution of Conditional on Realised Volatility Financial Returns. <i>Max V. Moldovan, Andrew C. Worthington, Nicholas A. Nechval and Hellen Higgs</i> (Latvia)</p> <p>The Simulation-Free Simple Test for Normality: Some Comparisons of Size and Power. <i>Max V. Moldovan, Konstantin N. Nechval and Nicholas A. Nechval</i> (Latvia)</p> <p>Health, Security and Environment (HSE) Engineer – a New Education Form for Latvian Business. <i>Martin Richard G. Kristek</i> (Germany)</p> <p>HSE and the Flight and Transport Security. <i>Martin Richard G. Kristek</i> (Germany)</p> <p>HSE Management System and the Conform Way the Right and Liability in the European Union. <i>Martin Richard G. Kristek</i> (Germany)</p>