

# OAS2013

2nd International Conference on Optimization and Analysis of Structures

August 25–27, 2013

Tartu, Estonia

## Conference Program

### Sunday, August 25th

12.00 – 14.00 **Registration.** J. Liivi 2, foyer.

14.00 – 19.30 **Guided conference tour** (including lunch). Bus leaves from Liivi 2 at 14.00.  
Alatskivi Castle and park  
Lunch in Kolkja Fish and Onion Restaurant  
Old-Believers Museum in Kolkja  
Center of Tartu – Town Hall Square, Jaani church, University of Tartu

### Monday, August 26th

9.00 – 9.30 **Registration.** J. Liivi 2, foyer.

9.30 – 9.40 **Opening.** Room 111.

9.40 – 10.40 **Lecture Session.** Room 111.

*Janis Brauns.* Topology optimisation of laminated composite structures: in-plane and out of plane design.

*Nikolay I. Vatin, Jarmo Havula, Lassi Martikainen, Alexey S. Sinelnikov, Anna V. Orlova, Stepan V. Salamakhin.* Thin-walled cross-sections and their joints: tests and FEM-modelling.

*Janis Auziņš, Eduards Skukis, Kaspars Kalniņš, Rihards Prieditis.* Accuracy analysis of vibration-based identification of elastic parameters.

10.40 – 11.00 **Coffee Break**

11.00 – 12.40 **Lecture Session.** Room 111.

*Andrey Abramyan, Dmitry Indeitsev, Boris Semenov, Sergey Vakulenko.* Influence of dynamic processes in a film on damage development in an adhesive base.

*Martin Heinvee, Annika Urbel, Kristjan Tabri.* Dynamic grounding analysis.

*Els-Hedvig Kerge, Hendrik Naar, Kristjan Tabri.* A theory of coupled beams for non-prismatic ship structure.

*Svetlana Bauer, Andrey Ermakov.* Buckling of a spherical segment under the flat base load.

*Amir Mosavi.* A MCDM software tool for automating the optimal design environments, with an application in shape optimization.

12.40 – 14.00 **Lunch**

14.00 – 15.40 **Lecture Session.** Room 405.

*Mikhail R. Petrichenko, Dmitry W. Serow.* The variables doubling in ordinary differential equations and equations systems.

*Harri Lille, Jakub Kõo, Alexander Ryabchikov, Renno Reitsnik, Valdek Mikli, Fjodor Sergejev.* Investigation of some properties of brush-plated gold and silver galvanic coatings.

*Alexander Safonov, Andrey Ushakov.* Pultrusion process optimization of thick composite profiles.

*Madis Ratassepp, Farid Chati, Aleksander Klauson.* Using orthogonality-relation for the separation of Lamb modes at a plate edge.

*Tiit Riismaa.* A method for description and optimization the structure of multi-level selection procedure.

15.40 – 16.00 **Coffee Break**

16.00 – 18.00 **Lecture Session.** Room 405

*Normunds Jekabsons, Roberts Joffe, Sabine Upnere.* Structural deformation and vibrational stability of radio telescope RT-32 with respect to the accuracy of astronomical measurements.

*Rimantas Belevičius, Dmitrij Šešok, Darius Mačiūnas.* Optimization of engineering structures using stochastic algorithms.

*Antanas Žiliukas, Jolanta Janutėnienė, Saulius Razmas.* Probability model of ship ageing.

*Paul Ziemann.* Optimal thickness of a cylindrical shell.

*Fritjof Nilsson, Mikel Unge.* FEM conductivity models for polymer nano-composites.

*Pekka Neittaanmäki, Sergei Repin.* Two-sided guaranteed estimates of the cost functional for optimal control problems with elliptic state equations.

19.00 – 22.00 **Conference Dinner** in [The Gunpowder Cellar](#) (Lossi 28, Tartu)

## **Tuesday, August 27th**

9.00 – 10.40 **Lecture Session.** Room 405.

*Ljubov Feklistova, Helle Hein.* Crack localization in Euler-Bernoulli beams.

*Tiina Kraav, Jaan Lellep.* Buckling of beams and columns on elastic foundations.

*Esta Kägo, Jaan Lellep.* Vibrations of a cracked anisotropic plate.

*Jaan Lellep, Annely Mürk.* Asymmetric dynamic plastic behaviour of circular plates.

*Jaan Lellep, Annika Paltsepp.* Inelastic cylindrical shells with elastic supports.

10.40 – 11.00 **Coffee Break**

**11.00 – 12.40 Lecture Session.** Room 405.

*Jaan Lellep, Julia Polikarpus.* Elastic plastic bending of stepped circular plates.

*Jaan Lellep, Ella Puman.* Finite element analysis of ring-stiffened conical shells.

*Jaan Lellep, Boriss Vlassov.* Elastic plastic elliptical plates.

*Jaan Lellep, Alexander Liyvapuu.* Natural vibrations of elastic arches with cracks.

*Larissa Roots.* Effect of a multiscale factor on the Young's modulus of a cylindrical shell.

**12.40 – 14.00 Lunch**

**14.00 - 15.40 Lecture Session.** Room 405.

*Balkia E. Akitay, A. Baimahanuly, Bolatkan A. Kozhamkulov, T. Tolendinev, A. A. Kyrykbaeva, B. Baimukhambetkyzy.* Radiation defects the plastic deformed optical composite.

*Balkia E. Akitay, Bolatkan A. Kozhamkulov, A. I. Kupchishin, A. A. Kyrykbaeva, B. Baimukhambetkyzy.* Physical-mechanical aspects creation radiation composites.

*K. K. Koksalov, Bolatkan A. Kozhamkulov, Balkia E. Akitay, J. M. Bitibaeva, A. A. Kyrykbaeva.* After critical deformation multilayered plates of regular structure.

*K. K. Koksalov, Bolatkan A. Kozhamkulov, D. E. Kuvatbaeva, J. M. Bitibaeva, Talgat B. Tulendinov.* The mathematical description of sustainability layered composites.

*Vitauts P. Tamuzs, Bolatkan A. Kozhamkulov, A. Kupchishin, Balkia E. Akitay, Talgat B. Tulendinov.* Modern concept of fracture of composite materials.

**15.40 – 16.00 Coffee Break**

**16.00 – 17.00 Lecture Session.** Room 405.

*Samvel H. Sargsyan, Knarik A. Zhamakochyan.* The method of power series in constructing mathematical model of the dynamics of micropolar elastic thin bars.

*Isaac Kuma Yeboah, Florin Nedelcuț.* Optimization of ultrasonic flow meters for crude oil metering and export.

*Darius Zabulionis.* An analysis of rolling contact of a spherical particle subject to varying load.

**Closing**