

**THE FIRST ANNUAL MEETING  
OF THE GEORGIAN MECHANICAL UNION  
20-22 DECEMBER, 2010, TBILISI**

**P R O G R A M**

**Opening – Monday, December 20, 13:30,  
Ilia Vekua Lecture Hall (VIAM)**

## Monday, December 20

### Room of VIAM Council

14:00-14:35 **R. Bantsuri.** Scientific heritage of Nikoloz Muskhelishvili.

14:35-15:10 **R. Tskhvedadze,** M. Bibiluri, N. Charkhauri, G. Rekhviashvili, N. Pailodze.  
Increasing of reliability of plates by neutronic irradiation.

15:10-15:30 **A. Aptsiauri.**  $T - s$  diagram and friction. Entropy diminution in the channel by the acceleration of the flux.

15:30-15:50 **V. Tsutskiridze.** Approximate solutions of non-stationary conjugated problems of heat transfer by laminar flow of fluid in channels.

15:50-16:10 **B. Gulua.** Non-shallow spherical shells.

16:10-16:25 *Coffee Break*

16:25-17:00 **G. Gabrichidze.** Ideology of quakeproof construction, history of development, new points of view, and mathematical models.

17:00-17:20 J. Peradze, **Z. Tsiklauri.** An error of the iteration method for the Timoshenko nonhomogeneous equation.

17:20-17:40 **L. Qajaia,** K. Chkhikvadze, Ts. Tsiskreli, N. Chlaidze. Seismic assessment of a high-rise dual (frame-wall) structural system RC building.

17:40-18:00 **Y. F. Gülver,** M. A. Guler, E. Nart. Contact mechanics of thin films bonded to graded coatings.

18:00-18:20 **M. Kalabegashvili,** D. Tabatadze, L. Kakhishvili, L. Kuparadze, M. Chkhitunidze. On nonlinear oscillations of buildings caused by ground impulsive displacements.

## Tuesday, December 21

### Room of VIAM Council

13:30-14:05 **D. Gordeziani,** T. Davitashvili, E. Gordeziani. On mathematical models and numerical algorithms for solution of some problems of water pollution.

14:05-14:40 **G. Jaiani.** On investigation of cusped structures.

14:40-15:00 **Z. Megrelishvili,** I. Didmanidze, G. Kakhiani, D. Didmanidze Software support for the exchanger regeneration process.

15:00-15:20 **N. Chinchaladze.** Vibration problems for cusped plates on a basis of the refined theories.

15:20-15:40 **T. Meunargia.** On the application of Muskhelishvili and Vekua-Bitsadze methods for the nonlinear and non-shallow shells.

15:40-16:00 *Coffee Break*

16:00-17:30 Report of Presidium. Election

## Wednesday, December 22

### Room of VIAM Council

13:30-14:05 **T. Vashakmadze**, G. Kipiani. On development of deformable solids mechanics.

14:05-14:25 **A. Tvalchrelidze**. Mathematical modeling of process of obtaining of polymer film by extrusive-inflating method.

14:25-14:45 **A. Papukashvili**, N. Khatiashvili, J. Bolqvadze. An approximate solution of three-dimensional mixed boundary value problem of elasticity theory and some of its applications to nano structures.

14:45-15:05 **A. Papukashvili**, D. Gordeziani, T. Davitasvili. Some questions of approximate solutions for composite bodies weakened by cracks in the case of antiplanar problems of elasticity theory.

15:05-15:25 M. Basheleishvili, **L. Bitsadze**. On two-dimensional static problems of thermoelasticity with microtemperatures.

15:25-16:15 *Coffee Break*

16:15-16:50 **J. Sharikadze**. Hydrodynamics in Georgia in the XX century.

16:50-17:10 **N. Kobadze**, K. Mshvenieradze. On a method of approximate solution of a steady boundary layer problem of non-Newtonian conducting fluid with variable electro conductivity.

17:10-17:30 **J. Sharikadze**. On an approximate solution of a boundary layer equation of non-Newtonian fluid with regard to the mass volume sources and sinks.

17:30-17:50 **L. Shapakidze**. Bifurcations to periodic, quasiperiodic and chaotic regimes in non-isothermal Couette flow with radial flow and a radial temperature gradient.

17:50-18:10 **D. Patariaia**. The calculation of rope-rod structures on the basis of the new approach - computer realization of discrete model of rod and relaxation of efforts.

18:10-18:30 D. Patariaia, G. Nozadze, **E. Tsotseria**, G. Javakhishvili, T. Javakhishvili, R. Maisuradze. Suspension transport system with flexible auto parts - problems and perspective.