STAMM XVIII, Haifa, September 3-6, 2012

The STAMM meeting was held at the Faculty of Aerospace Engineering of the Technion, Israel Institute of Technology, Haifa, on September 3-6, 2012. The focus of the meeting has been mathematical modeling applied to a variety of number of problems originating from physics, engineering and other disciplines.
On September 1 there has been a special workshop celebrating Prof. Ingo Muller as the Winner of the ISIMM PRIZE 2012. The award was given in recognition of his outstanding contributions to mathematics and mechanics.

Below a list of some of the lectures delivered at the Symposium:
- Daniel Weihs **Learning from Nature - A Grand Challenge**
- Marcelo Epstein **Remodelling, Aging and Growth**
- Hans Herrmann, Norbert Stoop, Roman Vetter, Falk Wittel **Packing of wires in Cavities and Growing Surfaces**
- Andrea Braides **Asymptotic Analysis of Atomistic Systems**
- Per Stahle **Modelling of Stress Corrosion**
- Leslie Banks-Sills, Maya Gohfeld, Rami Eliasi **Delaminations in Multi-Directional and Woven Composites**
- Marc-Andre Keip, Jorg Schroder **Two-Scale Homogenization of Functional Materials with Electromechanical Coupling**
- Ingo Muller **Thermodynamics of Flames and Detonations**
- Wolfgang Dreyer**On the 2nd Law of Thermodynamics**
- Ratul Dasgupta, H .George, E. Hentschel, Itamar Procaccia **The Fundamental Physics of Shear Bands in Amorphous Solids**
- Y. Benveniste **Two Models of Three-Dimensional Thin Interphases and their Fulfillment of the Reciprocal Theorem**
- Oded Gottlieb **Self-Excited Chaotic Dynamics in Nonlinear Thermo-Visco-Elastic Mechanical Systems**
- Baruch Karp **Mathematical and Engineering Aspects of Dynamic Saint-Venant's Principle**
- Stuart S. Antman **Heavily Burdened Bodies**
- Reuven Segev, Joe Goddard **Notes on Radiation and Flux Theory**
- D. Bigoni, D. Misseroni, G. Noselli, D. Zaccaria **Effects of the Constraint's Curvature on Structural Instability of Simple Elastic Structures**
- Massimiliano Lucchesi, Miroslav Silhavy, Nicola Zani **Dual Variational Problems and Limit Analysis for Masonry Bodies**
- Tomas Roubicek **Modelling of Phase Transformations in Magnetostrictive Materials like NiMnGa**
- Sefi Givli, Yair Adler **A Theoretical Study of Lamellipodia Dynamics**
- L. Truskinovsky **Mechanical Modeling of Cell Motility**
- Yoram Lanir **Biological Tissues as Living Adaptive Composites**
- J. D. Goddard **Edelen's Dissipation Potentials and the Viscoplasticity of Particulate Media**
- T. Cohen, D. Durban **Longitudinal Shock Waves in Solids: The Piston Shock Analogue**
- Hans-Dieter Alber **A Hybrid Phase Field Model for Phase Evolution in a Material with Three Phase States**
- Alexander Mielke **Small-Strain Elastoplasticity is the Evolutionary Gamma Limit of Finite-Strain Elastoplasticity**
- M.B. Rubin **Removal of Unphysical Arbitrariness in Constitutive Equations for Elastically Anisotropic Nonlinear Elastic-Viscoplastic Solids**