

## IMPORTANT DATES

Abstract submission:	February	15, 2013
Submission of a visa form (required to issue the invitation to Russia):	February	15, 2013
Notification of acceptance:	March	15, 2013
Paper submission:	March	15, 2013
APM 2013 Conference:	July	1-6, 2013
International workshop:	July	1-2, 2013

**PLEASE REFER TO THE FOLLOWING WEBSITE FOR FURTHER DETAILS ABOUT THE WORKSHOP**

**[http://apm-conf.spb.ru/hydrofracture\\_2013](http://apm-conf.spb.ru/hydrofracture_2013)**

**We are looking forward to your participation in our workshop**

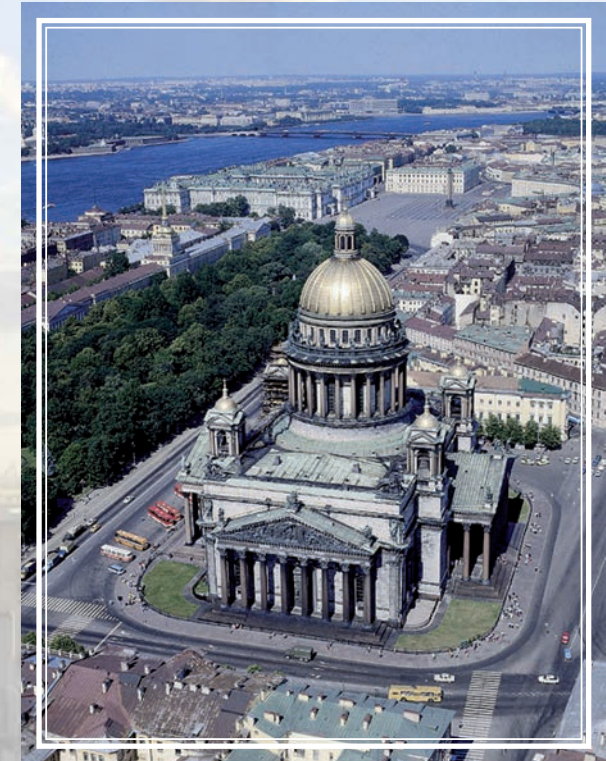
The APM 2013 is organized by:  
Institute for Problems in Mechanical Engineering of the Russian Academy of Sciences (IPME RAS)  
St. Petersburg State Polytechnic University (SPbSPU)

## TOPICS

- mechanics of media with microstructure
- nanomechanics
- molecular and particle dynamics
- biomechanics and mechanobiology
- phase transitions
- computational mechanics
- wave motion
- nonlinear dynamics, chaos and vibrations
- dynamics of rigid bodies and multibody dynamics
- solids and structures
- fluid and gas
- mechanical and civil engineering
- applications
- aerospace mechanics

The 7th consecutive young scientists' school-conference "Modern Ways in Mechanics" will be held within of APM'2013.

# APM 2013



XLI Summer School  
Advanced Problems  
in Mechanics (APM 2013)  
July 1-6, 2013  
Repino

St. Petersburg, Russia

## ACCOMPANYING INTERNATIONAL WORKSHOP:

### Recent advances in numerical simulation of hydraulic fracture

**Chair:** Gennady Mishuris (UK)

**Co-Chair:** Alexander Linkov (Russia, Poland)

#### Organising Committee:

Marwan Al Heib (France)  
Andrew Bunger (Australia)  
Simon Cox (UK)  
Dmitry Garagash (Canada)  
Anton Krivtsov (Russia)  
Alexei Savitski (USA)  
Igor Sevostianov (USA)

#### Scientific secretary:

Vitaly Kuzkin (Russia)

In recent years, new drilling technologies and hydraulic fracturing have allowed access to unconventional gas reservoirs that have been left untouched for decades. Current estimates suggest that the gas extracted from unconventional reservoirs could supply the world's energy needs both for this century and the next. The challenge for researchers is to suggest methods and to develop numerical techniques to facilitate efficient and environmentally-safe hydraulic fracturing. This Workshop aims to provide a platform for exchanging results in this area.

- ✓ The topics of the Workshop include, but are not limited to discussion of
- ✓ The theoretical rationale for hydraulic fracturing,
- ✓ The application of Newtonian and shear-thinning fluids for hydraulic fracturing,
- ✓ Enhanced models of proppant movement,
- ✓ Improved and novel numerical techniques,
- ✓ Modeling of hydraulic fracture in low-permeable shales and coals,
- ✓ Simulation of seismicity accompanying hydraulic fracture,
- ✓ Inversion of microseismic data,
- ✓ Using observed seismicity and/or tilts for calibration of input data.

This one day International Workshop is supported by the **EU PEOPLE IAPP** project **HYDROFRAC**. Limited funding is available on application to support PhD students and Early Stage Researchers (ESRs) working in this area who are based in low income EU countries and associated states, and from countries having special agreements with the EU.

