

MEMS-FORUM 2012. Modeling, production, testing

EVENT ORGANIZERS

Russian MEMS Association (Russia), Moscow Power Engineering Institute (Russia), Sovtest ATE (Russia), Silicon Saxony e.V., (Germany)

MPEI , Moscow, October 3-4, 2012

OCTOBER, 3

Section 1 DESIGN AND MODELING OF MEMS DEVICES AND SYSTEMS

9.00-9.20 **Welcome and Opening**
- S.V. Serebryannikov, EngDr., prof., MPEI President;
- D.M. Urmanov, Dr.Sc (Tech), Executive Director , RAMEMS

MEMS devices design

Chairman *S.V. Serebryannikov, Dr.Eng., prof., MPEI President*
Cochairmen *D.M. Urmanov, Dr.Sc. (Tech), RAMEMS*
I.V. Merkuryev, Eng Dr., prof., MPEI

9.20-11.00 **Coventor platform for MEMS design, - from device design and process development to system optimization (gyroscope, accelerometer and resonator),**
Dr. C. Welham, Worldwide Application Engineering Manager, Coventor, USA

11.00-11.20 **Coffee break**

11.20-12.15 **MEMS design (RF Switch, microphone, pressure sensor, energy harvester),**
Dr. C. Welham, Worldwide Application Engineering Manager, Coventor, USA.

12.15-12.40 **Testing and Design Issues of Inertial Measurement Units Based on MEMS-Sensors,**
A. M. Boronahin, Dr.Sc. (Tech), LETI, Russia

12.40-13.00 **Dynamics of micromechanics devices on the electrostatic rolling,**
A.S. Stepanov, MPEI, Russia

OCTOBER,4

Sections 2 and 3 MEMS PRODUCTION AND TESTING

9.00-10.00 **Different aspects of MEMS devices and systems production and testing**

Chairman *D.M. Urmanov, Dr.Sc. (Tech), RAMEMS*
Cochairmen *I.V. Merkuryev, Dr.Eng, prof., MPEI*
Dr. T. Thieme, Silicon Saxony, Microelectronics Association

9.00-10.00 **A monolithic integrated MEMS in a 350nm technology for filter monitoring applications,**
Dr.-Ing. Steffen Heinz, General Director, Electronic Design Chemnitz, Germany

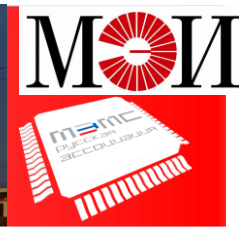
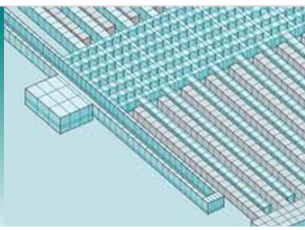
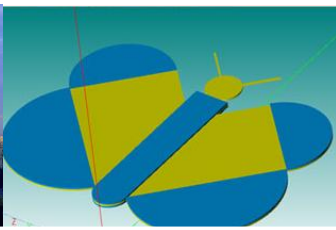
10.00-10.30 **Chances of Russian-German cooperation in the high-tech area,**
Dr. Torsten Thieme, Managing Director of "Intellectual systems" department, Microelectronics Association Silicon Saxony e.V., Germany

10.30-11.00 **Production Equipment for Microfabrication,**
Dr. Tino Petsch, CEO, 3D-Micromac, Germany

11.00-11.20 **Coffee break**

11.20-12.20 **MEMS process technologies in technical research centre of Finland (VTT),**
V. Ermolov, Dr.Sc. (Tech), leading scientist of sensors and wireless devices group, VTT, Finland

12.20-13.00 **Technological aspects of MEMS volume production,**
PhD. Denis Petrov, technology engineer, MEMS Foundry Itzehoe GmbH, Germany



13.00-14.00

Lunch

Modeling of MEMS sensors and systems

**Chairman
Cochairman**

*D.M. Urmanov, Dr.Sc. (Tech), RAMEMS
I.V. Merkurjev, Dr.Eng, prof., MPEI*

14.00-14.15

Modeling of elastic minirobot motion in pipe,
M.S. V.V. Pokhzhai, MPEI, Russia

14.15- 14.40

Development of a new mathematical model, algorithm, software, and bench testing procedure for micromechanical gyroscope with monocrystal resonator,
I.V. Merkurjev, Dr.Eng, prof., MPEI, Russia

14.40-16.00

MEMS and System Design: MEMS+ for Matlab/ Simulink,
Dr. C. Welham, Worldwide Application Engineering Manager, Coventor, USA

16.00-16.20

Coffee break

16.20-17.00

Design of models of systems based on MEMS models in Simulink,
D.S. Shidlovsky, Softline, Russia

17.00-18.00

MEMS and ASIC Integration, Optimization issues: MEMS+ for Cadence Virtuoso,
Dr. C. Welham, Worldwide Application Engineering Manager, Coventor, USA

18.00-18.30

Closing. Discussion

18.30-20.30

Culture program. City tour

13.00-14.00

Lunch

14.00-15.15

Development and Characterization of a High Precision Vibratory MEMS Gyroscope System, Dipl.-Ing. Daniel-Kohler, Development Engineer, EDC Electronic Design Chemnitz GmbH, Germany

15.15-15.30

Stages of MEMS Assembly,
I.S. Barmashov, Head of microelectronics production department, Sovtest ATE, Russia

15.30-16.00

Encapsulation of the Next Generation Advanced MEMS & Sensor Microsystems,
Ton van Weelden vice-president, Boschman Technologies /Advanced packaging Center, the Netherlands

16.00-16.20

Coffee break

16.20-16.35

Microsystems testing. Test techniques for accelerometers, gyroscopes and other MEMS,
A. Dr. Shaporin, Dipl.Ing, Chemnitz University of Technology, Germany

16.35-16.50

Systems assembly and testing,
Denis V.Volynsky, Concern CSRI Elektropribor,JSC

16.50-17.20

MEMS-packaging – a mostly underestimated problem,
Dr. Gregor Zwinge, managing Director, Microelectronic Packaging Dresden, Germany

17.20-18.00

Low Pressure Plasma For Cleaning And Etching On Mems, Dr. Matthias Bess, PINK GmbH Thermosysteme, Germany

18.00-18.10

Development concept of modern MEMS-devices production in Russia, D.M. Urmanov,Dr.Sc. (Tech),Russian MEMS Association, Russia

18.10-18.30

Summation. Program closing

18.00-19.00

Evening Reception