

# WORKSHOP

## Piezo electrical technology for micro and nano positioning



**Piezosystem jena** is a world leading company in the development, design and engineering of piezo actuator, piezo electrical positioning systems for micro and nano-positioning and nano-automation. In addition to the positioning stages the company also offers the fitting electronics as well as optical fiber switches.

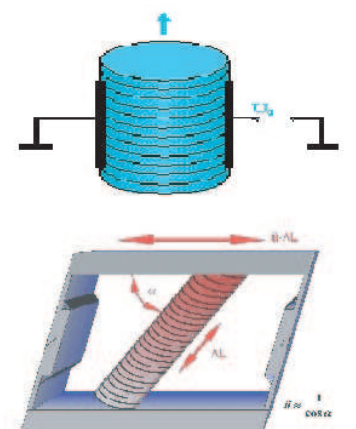
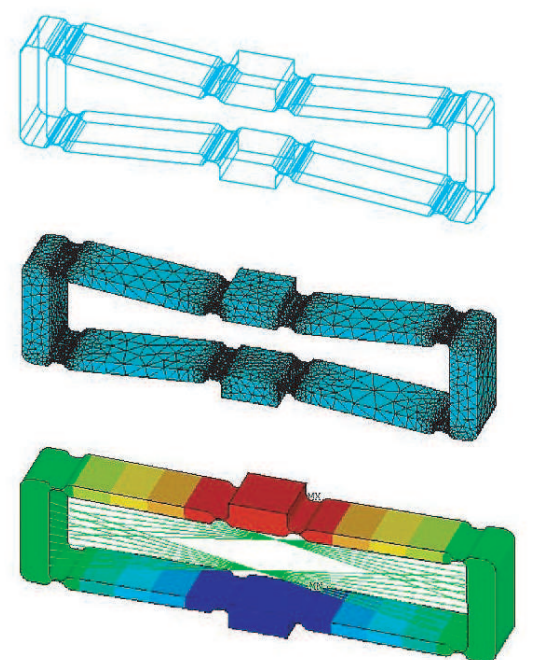
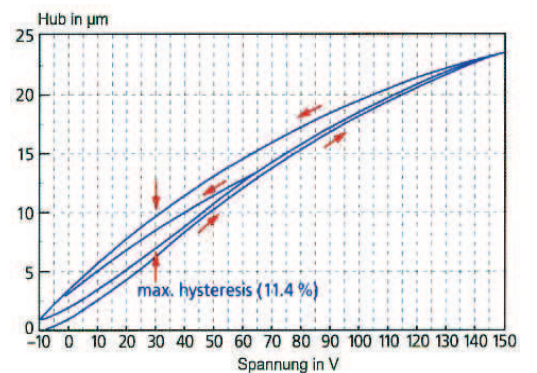
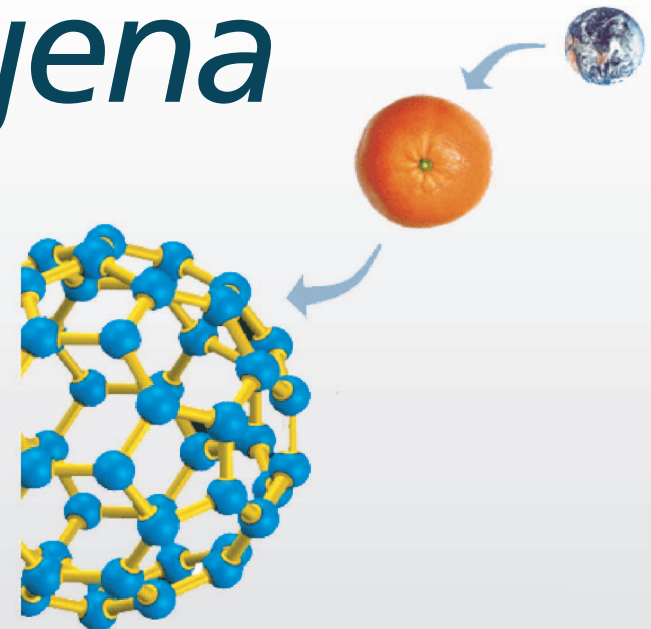
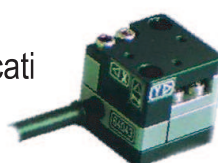
The vast experience in developing and manufacturing of nano-positioning systems, enables to provide special systems and also OEM manufacturing.

The piezo actuators and positioning stages are characterized by a unique precision in the range of nanometer and sub-nanometer, generate forces of several thousand Newton and realize precise positionings in micro seconds.

**8 ottobre 2008 ore 9:30 - 12:00**  
**INFN - Laboratori Nazionali di Frascati**  
**via E. Fermi, 40 - Frascati**

### AGENDA:

- **Introduction** - a few words on miCos Italia and *piezosystem jena*. (about 5 min.)  
Dr. Davide FABRIS Field Sales Engineer - miCos Italia GmbH
- **What are micro and nano positioning** - basic theory of piezo actuators. (about 15 min.)  
Dipl.-Ing. (FH) Waldemar STAFFEL Sales and Technical Support - *piezosystem jena* GmbH
- **Technical analysis** - stack actuators versus translation stages. (about 25 min.)  
Dipl.-Ing. (FH) Waldemar STAFFEL Sales and Technical Support - *piezosystem jena* GmbH
- **Mechanical design** - examples of translation stages' design. (about 20 min.)  
Dipl.-Ing. (FH) Waldemar STAFFEL Sales and Technical Support - *piezosystem jena* GmbH
- Coffee break (about 15 min.)
- **Electronics** - open loop versus closed loop and calibration. (about 25 min.)  
Dipl.-Ing. (FH) Waldemar STAFFEL Sales and Technical Support - *piezosystem jena* GmbH
- **Measurement of a piezo positioner** - we tell the truth. (about 15 min.)  
Dipl.-Ing. (FH) Waldemar STAFFEL Sales and Technical Support - *piezosystem jena* GmbH
- **Field of application** - examples of typical use of piezo positioning system. (about 30 min.)  
Dipl.-Ing. (FH) Waldemar STAFFEL Sales and Technical Support - *piezosystem jena* GmbH



1 µm

1 nm

Host and location information:

Istituto Nazionale di Fisica Nucleare - Laboratori Nazionali di Frascati  
 Via E. Fermi,40 -- I-00044 Frascati (Roma) - <http://www.lnf.infn.it/>