

MINERALS, METALS AND MATERIALS TECHNOLOGY CENTRE (M3TC)  
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We are organising a series of public lectures that will highlight some of the research activities by M3TC

<b>TOPIC</b>	<b>Plastic Optical Fibre Sensor for Structural Health Monitoring</b>
<b>SPEAKER</b>	<b>Prof. Dr. Hans Poisel</b> (Georg-Simon-Ohm-University of Applied Sciences Nuremberg, Germany)
<b>CHAired BY</b>	<b>Dr. Kevin SC Kuang</b> (co-Principal Investigator, M3TC)
<b>DATE</b>	<b>14 September 2009 (Monday)</b>
<b>TIME</b>	<b>2pm to 3pm</b>
<b>VENUE</b>	<b>E1A-03-13, Faculty of Engineering, National University of Singapore</b> <b><u>NUS Campus Map &amp; NUS: Faculty of Engineering</u></b>

Please register via email: [m3tc@nus.edu.sg](mailto:m3tc@nus.edu.sg)

#### SYNOPSIS

**Optical fiber** can be successfully used as sensors offering unique properties. After giving a brief introduction to these sensors in general, the focus will be on sensors for structural monitoring. Polymer Optical Fiber (POF) elongation sensors have been proposed as a low-cost alternative to FBG (single mode Fiber Bragg Gratings) sensors targeting the lower sensitivity range. A recently recovered detection system known from laser distance meters turned out to be very sensitive while staying simple. The approach is based on measuring the phase shift of a sinusoidally modulated light signal guided in a POF under different tensions resulting in different transit times and thus different phase shifts.

#### BIOGRAPHY

**Hans Poisel** received his M.Sc. in 1977 in physics at the Technical University Munich and his PhD in 1983 at the Faculty of Electrophysics. In 1985 he joined MBB in Ottobrunn / Munich, active in development of fiber optic sensors, leading the fiber optic gyro project and furthermore coordinating all fiber optic activities of the company as a whole. Since 1991 he is professor for Technical Optics and Optical Communication at the Georg-Simon-Ohm-University of Applied Sciences Nuremberg, Germany. He published more than 100 contributions devoted to optical properties of Plastic Optical Fibers and their applications in international conferences and journals and holds more than 50 patents in the area of fiber optics. Currently he is a member of the International Committee for Plastic Optical Fibers (ICPOF) and director of Polymer Optical Fiber Application Center (POF-AC) in Nuernberg. He is a member of OSA, IEEE, VDE and DPG.

**All Are Welcome. Admission is Free**

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