

Wednesday 18th November

08:30–09:30 Registration

09:30–09:40 Welcome Words

Xander Campman and Steve Vanlanduit

09:40–10:00 Opening

TBD

10:00–10:40 Keynote 1

Optical fiber based sensors: Unique tools for light-based measurements in the International Year of Light 2015 – Francis Berghmans (Vrije Universiteit Brussel)

10:40–10:50 Speed Matching Information

10:50–11:10 Coffee Break

11:10–12:30 Parallel Session Round 1

Session A1: Dynamic strain and vibration measurement

A11 Use of Advanced Signal Processing Methods for Measuring Vibrations of Loudspeaker Membranes with a Laser Doppler Vibrometer – Angelo Farina

A12 On the Application of Optical Fibers for Dynamic Strain Measurements in a High Pressure, Supercritical CO₂ Environment – Hajo Pereboom

A13 3D Laser Scanning Vibrometry for Complete Visualization of Lamb Wave Fields – Jochen Schell

A14 Laser Vibrometry Sheds Light on Shaping Surface Acoustic Waves with Phononic Crystals in Microfluidics – Rab Wilson

Session I1: Biomedical applications

I11 Nature's Ears: Ideal Models to Engineer Acoustic Sensors? – James Windmill

I12 Stroboscopic Digital Holography as a Quantitative Validation Tool for the Characterization of the Mammal and Avian Eardrum – Daniel de Greef

I13 Monitoring Pulsatile Flow Using Dynamic Speckle Patterns – Mahsa Nemat

I14 New Applications of Laser Doppler Vibrometry in Neurosurgery – Emilio Gomez-Gonzalez

Session P1: Optical fiber sensors I

P11 Miniature Integrated Interrogator for Fiber Bragg Grating Sensors – Danaë Delbeke

P12 Temperature and Strain Measurement in Harsh Environments Based on fs-Laser-written Fiber Bragg Gratings – Margharete Kampling

P13 Fiber Sensors for Oil Storage and Petrochemical Applications – Jan Mink

P14 Next Generation Specialty Optical Fibers for Sensing Applications: Challenges, Advancements and Opportunities – Saeed Rehman

Session R1: Laser interferometry I

R11 Correction of Laser Doppler Vibrometry Measurements Affected by Base Motion – Ben Halkon

R12 2D MEMS Scanner Based Lidar with Sub-Nyquist Sampling – Joachim Janes

R13 Multichannel Laser-Doppler Vibrometry: Challenges and Opportunities – Christian Rembe

R14 Ultrasound Sensors Based on Silicon Photonics Technology – HP Urbach

12:30–13:50 Lunch

13:50–14:30 Keynote 2

Optical measurement of the three dimensional vibration of small lightweight objects – Peter Eberhard (University of Stuttgart)

14:40–15:40 Parallel Session Round 2

Session A2: Health monitoring and machine diagnosis

A21 Finding the Origin of Transformer Noise in Close Look on Submerged Winding Vibrations – Michal Kozupa

A22 Get Smart, Go Optical: Example Uses of Optical Fibre Sensing Technology for Process Optimisation and Asset Condition Monitoring – Chris Staveley

A23 Integration of FBG Into Bearings to Measure Crucial Operating Parameters – Eric van Genuchten

Session I2: Microstructures

I21 Laser Doppler Vibrometry Methodologies for Mechanical Characterization of Soft Materials and MEMS – Francesco Rizzi

I22 The Cantilever Dynamics of High-Speed AFM – Loren Picco

Session P2: Optical fiber sensors II

P21 Miniaturized Spectral Sensors – Technology and Applications – Marco Meinig

P22 A Reliable Method for the Spectrometric Detection of Fiber Bragg Grating Peaks – Filipe Magalhães

P23 Planned Development and Testing of FBG Optical Fiber Sensors for the European Modern 2020 Project – Lou Areias

Session R2: Tracking vibrometry, continuous scanning

R21 Use of Continuous Scanning Method for Structural Health Monitoring – Dario Di Maio

R22 Camera Assisted Fully Automated Scanning Laser Vibrometer Measurements – Steve Vanlanduit

R23 Continuous Scanning Laser Doppler Vibrometry: Technology and Application – Enrico Primo Tomasin

15:40–16:10 Coffee Break

16:10–17:30 Parallel Session Round 3

Session A3: Composite materials

A31 Structural and Shape Monitoring of CFRP Racing Yacht Structures with FBG Sensors – Daniele Costantini

A32 Measuring Techniques for Quality Control of Composite Bicycle Frames – Joachim van Wallegem

A33 Time Reversal and Scanning Laser Vibrometry for Nondestructive Characterization of Composites – Lukasz Pieczonka

Session I3: Micromechanics, material characterization

I31 Measurement of a MEMS Relaxation Oscillator Prototype – Guilherme Brondani

I32 Modelling and Experimental Validation of CMUT Cells – Shengping Mao

I33 Characterization of Resonating Micro and Nanosensors for Single Particle Detection – Stefano Stassi

I34 Automated and Reliable Optical Surface Metrology for Industrial Quality Assurance – Özgür Tan

Session P3: Integrated photonic sensing

- P31 Control the light where you need it; new development in accurate delivery of visible laser light – Douwe Geuzebroek
- P32 Multi-Parameter Sensing Platform Based on Micro-Ring Resonators – Bart de Boer
- P33 Fiber Optic Sensing with an Optical Chip – Rolf Evenblij
- P34 Ft. Nanophotonic Sensors for Oil Sensing – Yazhao Liu

Session R3: Laser interferometry II

- R31 Interferometric Dimensional Stability Measurements with Picometer Resolution – Arthur van de Nes
- R32 Advanced Interferometric Displacement Measurements – Jo van den Brand
- R33 Laser Vibrometer Calibration Up to 350 KHz – Halger Nicklich
- R34 Comparison of IR and VIS in Laser Doppler Vibrometry – Lisa Kadner

17:30–17:40 **Group Photo**

17:40–18:40 **Panel Discussion**

18:50–22:20 **Reception and Dinner (World Hotel Grand Winston)**

Thursday 19th November

08:30–09:30 **Registration**

09:00–09:40 **Keynote 3**

FBG based photonic sensing: What is possible? – Johannes Singer (Fugro)

09:40–09:55 **Plenary presentation of TNO Geo Energy**

09:55–10:10 **Plenary presentation of TNO Optics**

10:10–10:25 **Coffee Break**

10:25–11:45 **Parallel Session Round 4**

Session A4: Nondestructive testing I

- A41 Fluorescence based dynamic thermometry with nanosecond time resolution – Christ Glorieux
- A42 Bicontinuous Microemulsion Structure Determination by Spin-echo Small Angle Neutron Scattering Technique (SESANS) – Marten Buijs
- A43 State of the Art and Future Measurement Systems – Marcus Güttler
- A44 Parallel Data Acquisition with IDV for Characterizing Transient Phenomena – Jörg Sauer

Session I4: Flow measurement and fluids, chemical sensing

- I41 Particle Image Velocimetry in Fracture Flow – David Dogon
- I42 Proppant Placement Fluids Assessed by Particle Tracking Velocimetry – Michael Golombok
- I43 Real-Time Imaging of Microemulsion Formation Using Fluorescence Microscopy – Evren Unsal
- I44 The need for cross-correlated measurements in liquids research – Adam Wexler

Session P4: Seismic and soil analysis

- P41 Seismic Measurements with a Broadside-Sensitive Fibre-optic Cable Using Rayleigh Scattering – JC (Kees) Hornman
- P42 Temprei – A Moving Camera for Earth Characterization – Paul Meldahl
- P43 Application of Fiber Optic Sensors to Ensure the Safety of Earth-work and Buried Structures – Eli Voet
- P44 Fiber Optic Based In-well Reservoir Surveillance – Juun van der Horst

Session R4: Chemical and temperature sensing

- R41 Optical Fiber Enhanced Infrared Thermography – Alfredo Lamberti
- R42 Strain Independent Multiplexed Temperature Sensing Through PM-DTG Technology – Bram Van Hoe
- R43 Fibre Optic Chemical Sensing, Towards Industrial Applications – Rob Jansen
- R44 Inline Ion-selective Sensor for Fluids Using Laser Induced Breakdown Spectroscopy – Frerik van Beijnum

11:45–12:00 **Coffee Break**

12:00–13:00 **Parallel Session Round 5**

Session A5: Nondestructive testing II

- A51 Measuring with Light - Applications from Surface Plasmon Resonance to Laser Doppler Vibrometry – Helge Pfeiffer
- A52 Identification of Tensile and Compressive Stressed thin Beam Structures by Vibrometry – Steffen Michael
- A53 Ultrasonic Fatigue Testing of Lightweight Materials and the Application of Laser Doppler Vibrometry – A Study of Fundamental Aspects for Very High Cycle Fatigue (VHCF) Experiments – Frank Balle

Session P5: Energy: oil and gas

- P51 Measuring Sound and Vibration with Light: High-Accuracy Fiber Optic Sensor Solutions – Devrez Karabacak
- P52 Distributed Acoustic Sensing for In-Well Production Monitoring – Hans den Boer
- P53 Test Results of a Low Noise Distributed Acoustic Sensing (DAS) System – Lun-Kai Cheng

13:00–14:00 **Lunch**

14:00–16:30 **Demos and Speed Matching**

- TNO Demos
- Speed Matching
- Polytec Demos

16:30–17:30 **Drinks**