

Measuring By Light 2025

Wednesday 2 April 2025

Registration and coffee	9:00	9:30	Registration and coffee - foyer
Keynote 3 Auditorium	9:30	10:10	The LISA Mission <i>Martin Hewitson</i> European Space Agency, Noordwijk, the Netherlands
Keynote 4 Auditorium	10:10	10:50	Measuring By Light - Down Under <i>Benjamin Halton</i> University of Technology Sydney, Sydney, Australia
Coffee Break	10:50	11:20	Foyer

Parallel session			
Parallel Session 3	11:20	12:40	Auditorium: "Non-Destructive Testing" 11:20 - 11:40 <i>Radial vibration measurements directly from rotors using laser vibrometry: a practical guide (36)</i> <i>Steve Robinson¹, Ben Gunn²</i> 1Manchester Metropolitan University, Manchester, United Kingdom. 2Independent, Cambridge, United Kingdom 11:40 - 12:00 <i>Surface displacement and thermal diffusion measurements of metals using reflection-based phase mask interferometer (68)</i> <i>Sumit Kumar Yadav¹, Ruosong Li¹, Qi Wei¹, Paolo Bison², Bingwen An³, Cheng Qian⁴, Christ Glorieux¹</i> 1KU Leuven, Leuven, Belgium. 2Consiglio Nazionale delle Ricerche, Padova, Italy. 3Chinese Academy of Sciences, Beijing, China. 4Xi'an Jiaotong University, Xi'an, China 12:00 - 12:20 <i>Defining Acoustic Radiation Efficiency Using Laser Vibration Measurements (15)</i> <i>Michał Kozup¹, Jadwiga Hyla, Jakub Wierwinski</i> 1Hitachi Energy Research, Krakow, Poland 12:20 - 12:40 <i>Non-destructive resonance testing using data mining techniques applied to scanning LDV data (59)</i> <i>Daniela Candelaresi^{1,2}, Giancarlo Kasog², Emilio Di Lorenzo², Milena Martarelli¹</i> 1Università Politecnica delle Marche, Ancona, Italy. 2Siemens Digital Industries Software, Leuven, Belgium
			Senaatszaal: "Optomechanics II" 11:20 - 11:40 <i>Photonic and Quantum Sensors for Practical Integrated Primary Thermometry (30)</i> <i>Clara Baboux</i> 1LNE, Paris, France 11:40 - 12:00 <i>Optothermal analysis for increasing the reproducibility in nanomechanical resonators. (64)</i> <i>Alberto Mariani-Silvestri, Farhad Aljani, Peter Steeneken</i> 1Delft University of Technology, Delft, Netherlands 12:00 - 12:20 <i>First-principles prediction of the Raman shift in silicon for major strain configurations (16)</i> <i>Nicolas Rossin, Denis Flandre, Jean-Pierre Raskin</i> 1Université de Louvain-la-Neuve, Belgium 12:20 - 12:40 <i>Advancing Non-Contact, Non-invasive Photoacoustic and Photothermal Microscopy for High-Resolution Biomechanical Characterization of Biological Cells (11)</i> <i>SLWeg, Christ Glorieux</i> 1KU Leuven, Leuven, Belgium
Parallel Session 3	11:20	12:40	Frans van Hasseltzaal: "Aerospace II" 11:20 - 11:40 <i>Experimental validation of a versatile full Stokes spectropolarimeter (26)</i> <i>Bastien Kissel¹, Jerome Loicq^{1,2}, Pierre Piron¹, Fabien Schmutz¹, Ralph Snel³, Eugenio Di Iorio³, Mireille Queller³, Quentin Chave³, Ivan Ferrario³, Martin Eschen³</i> 1Technische Universiteit Delft - Aerospace Engineering, Delft, Netherlands. 2Université de Liège - STAR Institute, Liège, Belgium. 3TNO, Delft, Netherlands 11:40 - 12:00 <i>A framework for description of Mid-Spatial Errors in optical systems (61)</i> <i>Tiberiu Cosco²</i> 1TNO, Delft, Netherlands. 2TU Delft, Delft, Netherlands 12:00 - 12:20 <i>Advanced Fibre Optic Sensor Technologies for Structural Health Monitoring of Cryogenic Liquid Hydrogen Storage in Aviation (66)</i> <i>Kasun Dissanayake, Nan Tao, Mirko Simonetto, Herman Schreuders, Sandra Dewi, Theo Travers, Aycan Altı, Lars Bannenberg, Roger M. Groves</i> 1Delft University of Technology, Delft, Netherlands 12:20 - 12:40 <i>Design and fabrication of a coated D-shaped Photonic Crystal Fiber sensor for hydrogen detection (42)</i> <i>Theo Travers¹, Kasun Dissanayake², Herman Schreuders³, Lars Bannenberg³, Roger Groves²</i> 1TU Delft, Aerospace Engineering, Delft, Netherlands. 2Aerospace Engineering, TU Delft, Delft, Netherlands. 3Applied Sciences, TU Delft, Delft, Netherlands
			Lunch - exhibition 12:40 - 13:40 Foyer

Parallel session			
Parallel Session 4	13:40	15:00	Auditorium: "Composites" 13:40 - 14:00 <i>Multidomain inspection using 3D optical light scanning, active lock-in thermography, shearography and laser ultrasonics (10)</i> <i>Patrick Jansse, Jacco Platenkamp, Arnold Bosch, Benjamin van Elburg</i> 1NLR (Dutch Aerospace Centre), Marknesse, Netherlands 14:00 - 14:20 <i>Damage detection in anisotropic structures using full-field local wavenumber estimation (13)</i> <i>Jakub Spatke, Lukasz Pieczonka</i> 1AGH University of Krakow, Krakow, Poland 14:20 - 14:40 <i>Tomographic-Holographic Imaging of the 3D Nonlinear Acoustic Emission of Defects in Composites using SLDV (43)</i> <i>Yusheng Mo¹, Cédric Debusschere², Koen Van den Abeele², Mathias Kerssemans¹</i> 1Ghent University, Ghent, Belgium. 2KULAK-KULeuven, Kortrijk, Belgium 14:40 - 15:00 <i>Leveraging guided waves to create digital twins for non-destructive evaluation of composite materials (34)</i> <i>Henrik Thomsen¹, Dirk-Jan van Manen¹, Sabrina Böttig², João Francisco², Christian Brauner², Lars Gebraad³, Christian Boehm³</i> 1ETH Zürich, Zürich, Switzerland. 2Fachhochschule Nordwestschweiz, Windisch, Switzerland. 3Mondair AG, Zürich, Switzerland
			Senaatszaal: "Fundamentals" 13:40 - 14:00 <i>VSL's twin heterodyne interferometer for characterizing (sub)nanometer displacement sensors (4)</i> <i>Walter Krauß</i> 1VSL - National Metrology Institute, Delft, Netherlands 14:00 - 14:20 <i>Squeezed Light in Quantum Sensing (6)</i> <i>Axel Schönleber¹, Jan Südekamp¹, Jascha Zander¹, Roman Schnabel²</i> 1AGH University of Krakow, Krakow, Poland 14:20 - 14:40 <i>Decoding Turbulence Using LDV in Airflows through Correlation Techniques (8)</i> <i>Kristina Tolchikova, Christian Rembe</i> 1TU Clausthal, Clausthal-Zellerfeld, Germany 14:40 - 15:00 <i>Exploring the benefit of signal diversity in challenging laser Doppler vibrometer measurement scenarios (48)</i> <i>Benjamin Halton¹, Steve Rothberg²</i> 1UTS, Sydney, Australia. 2MMU, Manchester, United Kingdom
Parallel Session 4	13:40	15:00	Frans van Hasseltzaal: "Biomedical" 13:40 - 14:00 <i>Robust interpolation of digital image correlation data to finite element meshes to study eardrum mechanics (5)</i> <i>Bjelle Luyens¹, Stéphane Avril², Joris Dirckx¹</i> 1University of Antwerp, Antwerp, Belgium. 2SANBIOSE, Saint-Etienne, France 14:00 - 14:20 <i>Non-Contact Characterization of Skin Viscoelastic Properties Using Surface Wave Elastography and Laser Doppler Vibrometry (17)</i> <i>Nasser Ghaderi, Navid Hasheminejad, Joris Dirckx, Steve Vanlanduit</i> 1AGH University of Krakow, Krakow, Poland 14:20 - 14:40 <i>Non-invasive Hemoglobin Measurement in the Retina (56)</i> <i>Amerens Bekkers¹, Arjen Amelink^{1,2}</i> 1TNO, Delft, Netherlands. 2VU Amsterdam, Amsterdam, Netherlands 14:40 - 15:00 <i>Recording speech in the human cochlea using Optical Coherence Tomography (12)</i> <i>Tristan Putzeys¹, Lore Kerkhofs¹, Mirte Van Steenweghen¹, Nicolas Verhaert^{1,2}</i> 1KU Leuven, Leuven, Belgium. 2UZ Leuven, Leuven, Belgium
			Coffee break + Exhibition 15:00 - 15:30 Foyer

Parallel session			
Parallel Session 5	15:30	16:50	Auditorium: "Industrial Applications" 15:30 - 15:50 <i>TBA</i> <i>Bent Gruber</i> 1Optanon, Norway 15:50 - 16:10 <i>3D based Video Motion Estimation for Vibration Analysis (41)</i> <i>Davide Mastrodicasa¹, Francesco Cosco², Lorenzo Chittano^{1,3}, Alessandra Cesaretti³, Serena Occhipinti³, Emilio Di Lorenzo¹, Daniele Botti³</i> 1Siemens Industry Software NV, Leuven, Belgium. 2University of Calabria, Rende, Italy. 3Politecnico Di Torino, Turin, Italy 16:10 - 16:30 <i>Vision-based motion tracking for the extraction of flexible deformation modes on a rotating tire setup (21)</i> <i>Thijs Willems^{1,2}, Yonggang Wang^{1,2}, Davide Mastrodicasa³, Emilio Di Lorenzo³, Matteo Kirchner^{1,2}, Frank Woets^{1,2}</i> 1Department of Mechanical Engineering, KU Leuven, Leuven, Belgium. 2Flanders Make @ KU Leuven, Leuven, Belgium. 3Siemens Industry Software, Leuven, Belgium 16:30 - 16:50 <i>Laser ultrasonic measurement of anisotropic properties of heated and rolled metal using photorefractive interferometer (60)</i> <i>Bussag Li¹, Bingwen An², Sumit Yadav¹, Qi Wei¹, Paolo Bison³, Cheng Qian⁴, Christ Glorieux¹</i> 1Laboratory for Soft Matter and Biophysics, KU Leuven, Heverlee, Belgium. 2University of Chinese Academy of Sciences, Beijing, China. 3ICNR, ISTITUTO PER LE TECNOLOGIE DELLA COSTRUZIONE, Padova, Italy. 4State Key Laboratory for Strength and Vibration of Mechanical Structures, Xi'an Jiaotong University, Xi'an, China
			Senaatszaal: "Sensing" 15:30 - 15:50 <i>Accurate estimation of Young's modulus of VO2 thin film integrated on polyimide for high-strain studies (10)</i> <i>LaBage Loïc, Raskin Jean-Pierre, Flandre Denis</i> 1Université de Louvain-la-Neuve, Belgium 15:50 - 16:10 <i>A Method for Optical Characterization of 2D van der Waals Heterostructures for Photonic Integrated Circuits (71)</i> <i>Mohammadavval EbrahimiPour, R. Tufan Erdoğan, Gerard Verbeest</i> 1TU Delft, Delft, Netherlands 16:10 - 16:30 <i>Intra-wafer variations and design parameter optimization for photonic integrated circuits (27)</i> <i>Daniel Schmidt¹, René Eismann¹, Stephan Krenke¹, Lars Zimmermann^{2,3}</i> 1PTB, Berlin, Germany. 2IHR, Frankfurt (Oder), Germany. 3TUB, Berlin, Germany 16:30 - 16:50 <i>High accurate length measurement with optics by Mitutoyo</i> <i>Vuaces Bergmann</i> 1Mitutoyo Europe GmbH, Neuss, Germany
Parallel Session 5	15:30	16:50	Frans van Hasseltzaal: "Nature" 15:30 - 15:50 <i>Using Laser-Doppler vibrometry and acoustic tomography to study how animals camouflage themselves against their predators. (50)</i> <i>Wouter Halfwerk</i> 1Alife - Vrije Universiteit Amsterdam, Amsterdam, Netherlands 15:50 - 16:10 <i>Optical caliper for contactless plant stem measurement (13)</i> <i>Noamit van der Kolk, Daan Boesten, Willem van Valenberg, Steven van den Berg</i> 1The Hague University of Applied Sciences, Delft, Netherlands 16:10 - 16:30 <i>Performance characterization of an illumination-based low-cost multispectral camera (46)</i> <i>Heide van Hoort, Angel Schraven, Arjan Lock, Steven van den Berg</i> 1The Hague University of Applied Sciences, Delft, Netherlands
			Foyer & Vides 17:00 - 18:30 Foyer & Vides

Poster session and Reception at Foyer			
Foyer & Vides	17:00	18:30	Polarized fingerprints of planetary materials: Investigation of planetary surface analogue samples using a novel spectro-polarimetry instrument (22) <i>Wouter van Stralen, Adyn Miles, Niels Ligterink, Sandra Potin, Jérôme Loicq</i> 1TU Delft, Delft, Netherlands Impact and control of polarisation in nulling-interferometry (23) <i>Antonin Besse, Ida Sigusch, Pierre Piron, Imran Khan, Jérôme Loicq</i> 1TU Delft, Delft, Netherlands QStEM: A Testbed For Mechanical Sensing (25) <i>Letizia Catalini¹, Giorgos Markas¹, Harmen Smedes², Jin Chang², Fons van der Loan¹, Ewald Verhagen¹, Simon Gröblicher²</i> 1IAMOLF, Amsterdam, Netherlands. 2TU Delft, Delft, Netherlands Towards the development of a four beam combination and phase shifting testbench for Spaceborne Nulling Interferometry (28) <i>Ida Sigusch¹, Antonin Besse¹, Pierre Piron¹, Imran Khan¹, Aurele Adam¹, Jérôme Loicq^{1,2}</i> 1TU Delft, Delft, Netherlands. 2CSL, Liege, Belgium Metasurfaces for spectro-polarimetry: analysis of sensitivities and manufacturing limitations. (22) <i>Ida Sigusch¹, Pierre Piron¹, Jérôme Loicq^{1,2}</i> 1TU Delft, Delft, Netherlands. 2Université de Liège, Liège, Belgium Single-cell Nanomotion Spectroscopy combined with Fluorescence Microscopy <i>Ida Sigusch¹, Farhad Aljani²</i> 1Institute of Solid State Physics, University of Latvia, 8 Kengaroga St., LV-1063 Riga, Latvia 2Delft University of Technology, Mekelweg 2, Delft 2628 CD, the Netherlands Large-range pressure sensor based on a nanomechanical resonator <i>Fons van der Loan^{1,2}, Giorgos Markas^{1,2}, Harmen Smedes^{1,3}, Jin Chang^{1,3}, Simon Gröblicher^{1,3}, Ewald Verhagen^{1,2}, Letizia Catalini^{1,2}</i> 1QStEM, Delft, Netherlands. 2IAMOLF, Amsterdam, Netherlands. 3TU Delft, Delft, Netherlands
			Reception + poster 17:00 - 18:30 Foyer & Vides
Virtual ESA tour	18:30	20:00	Auditorium Dominic Doyle & Robert Willemsen