Tuesday, 9 October, 2018

09:00 Opening
by José Gavira Izquierdo, Head of ESA's Mechatronics and Optics Division

Session 1: Plenary Session

Optical Instruments in ESA's Earth Observation Missions
Mr Jean-Loup Bezy, CSC Expansion CO2 Mission Study Manager, ESA

Optics in Japan's Space Missions
D.Sc Toshiyoshi Kimura, Director, Sensor System Research Group,R&D Directorate, JAXA

11:00 Coffee break

Session 2a: Spectrometers for EO 1

11:20 Sentinel-5
Juan Irizar, Airbus DS

11:40 Sentinel 4 UVN – A Geostationary Imaging UVN Spectrometer for Air Quality Monitoring – Performance, Measurement Modes and Model Philosophy
Stefan Riedl, Airbus Defence and Space GmbH

12:00 IASI-NG Development Status
Bertrand Calvel, Airbus Defence And Space France

12:20 The Hyperspectral Instrument Onboard EnMAP, Overview and Current Status
Dr Manuela Sornig, DLR - German Aerospace Center

Session 2b: Active / Deployable Optics

11:20 Active optics : next generation of space instruments
Thierry Viard, Thales Alenia Space

11:40 A novel deployable telescope to facilitate a low-cost <1m GSD video rapid-revisit small satellite constellation
David Gooding, Surrey Satellite Technology Ltd.

12:00 Active Correction System of a Deployable Telescope for Earth Observation
Ir. Dennis Dolkens, Delft University of Technology

12:20 On Orbit Real-time Position and Attitude Metrology of Long Focal Length Optical System
Ms. Yun Wang, Beijing Institute Of Mechanics And Electricity

Session 2c: Laser Systems and Technologies

11:20 A New Laser Technology for LISA
Katrin Dahl, SpaceTech GmbH,

11:40 LISA laser system and European development strategy
Dr Linda Mondin, Esa

12:00 Progress and Plans for a US Laser System for the LISA Mission

Dr. Kenji Numata, Nasa Goddard Space Flight Center

12:20 Diode-Pumped Alexandrite Laser Instrument for Next Generation Satellite-Based Earth Observation
Dr. Michael Strotkamp, Fraunhofer Institute For Laser Technology ILT

Session 2d: Optical Communication Programs and Missions 1

11:20 ESAs ScyLight Programme, Activities and status of the High thRoughput Optical Network "HydRON"
Harald Hauschildt, European Space Agency, ESA-ESTEC

11:40 Optical Communications Systems for NASA's Human Space Flight Missions
Antonios Seas, NASA Goddard Space Flight Center, [2]MIT Lincoln Laboratory

12:00 Update on DLR's OSIRIS program
Christian Fuchs, German Aerospace Center (DLR)

12:20 Optical Communications Downlink from a 1.5U Cubesat: NASA OCSD Program
Todd Rose, The Aerospace Corporation

13:00 Optical Satellite Communication Space Terminal Technology at TNO
Ivan Ferarrio, TNO Technical Sciences

12:40 Lunch

Session 3a: Spectrometers for EO 2

14:00 SPEXone compact multi-angle polarimeter
Aaldert van Amerongen, SRON

14:20 The European Carbon Dioxide Monitoring Mission (CO2M): Observing anthropogenic greenhouse gas emissions from space
Dr. Bernd Sierk, ESA/ESTEC

14:40 In-flight validation of SPEX airborne spectro-polarimeter onboard NASA's research airfraft ER-2
Dr Martijn Smit, SRON Netherlands For Space Research

15:00 Integration and testing of an imaging spectrometer for earth observation
Dr. Thomas Peschel, Fraunhofer Institute Of Applied Optics And Precision Engineering

Session 3b: Telescope Design

14:00 Freeform optics design, fabrication & testing technologies for space applications
Mr. Roland Geyl, Safran Reosc

14:20 Development of a low cost space telescope for Earth remote sensing from a 12U CubeSat
Dr Helcio Vieira Junior, University Of Brasilia

14:40 Design of All-Reflective Space-borne 1-m Aperture Solar Optical Telescope
Dr Yoshinori Suematsu, National Astronomical Observatory Of Japan

15:00 Design and Manufacture of 1.3 Meter Large Aperture Light-weighted Space Optical Components
Dr. Xiaoyong Wang, Beijing Institute Of Mechanics And Electricity

Session 3c: Frequency stabilized lasers

14:00 Frequency stabilized infrared laser based on iodine hyperfine transition
Joannes Barbarat, Observatoire De Paris

14:20 2.0 micron wavelength injection seed semiconductor laser for space borne lidar transmitter for global-scale measurements of CO2
Siamak Forouhar, Jet Propulsion Laboratory

14:40 Stable and high power 515-nm lasers for the space gravitational wave detector: DECIGO
Ms Aru Suemasa, University of Electro-communications

15:00 Correlated Atom Accelerometers for Mapping the Earth Gravity Field from Space
Thomas Lévèque, Centre National d'Etudes Spatiales

Session 3d: Optical Communication Programs and Missions 2

14:00 Global Quasi-Real-Time-Services back to Europe : EDRS Global
Harald Hauschildt, Esa

14:20 The CubeSat Laser Infrared CrosslinK Mission (CLICK)
Kerri Cahoy, MIT

14:40 Optical Intersatellite Links for Navigation Constellations
Dr. Herwig Zech, Tesat Spacecom

15:00 1550 nm combined transmission booster amplifier and receiver preamplifier for satellite to satellite laser communication
Dr. François Gonthier, MPB Communications Inc.

15:20 Coffee break

Session 4a: Components for Spectrometers 1

15:40 An all-silicon, high precision double slit device for hyperspectral imager EnMAP
Dr. Gerhard Huber, OHB System

16:00 Slit homogenizers for Earth observation spectrometers: overview on performance, present and future designs
Jerome Caron, TNO

16:20 Optical performance of NISP grisms flight models for EUCLID mission
Mrs Anne Costille, Laboratoire d'Astrophysique de Marseille

16:40 All-dielectric Prism-Grating-Prism component realized by direct hydrophilic bonding technology for optical applications in space
Dr Thomas Flügel-Paul, Fraunhofer Institute For Applied Optics

Session 4b: Telescope Technology

15:40 Additive Manufacturing of an AlSi40 mirror coated with electroless Nickel for cryogenic space applications
Arnd Reutlinger, Kampf Telescope Optics GmbH

16:00 Manufacturing of thin glass shells for future space telescopes
Dr. Gabriele Vecchi, INAF- Brera Astronomical Observatory

16:20 ZERODUR® as a dimensionally stable mirror substrate material for spaceborne telescopes
Professor Ralf Jedamzik, SCHOTT AG

16:40 Metal mirror based VIS freeform telescope with smart integration approach
Dr. Matthias Beier, Fraunhofer IOF

Session 4c: Laser Design and Testing Techniques

15:40 Space- and Ground-Based Non-Accelerated Long Lifetime Data for Ruggedized Commercial NPRO Lasers
Cheryl Asbury, Jet Propulsion Laboratory

16:00 Laser Source Electronics (LASE) for the Infrared Atmospheric Sounder Interferometer Next Generation (IASI-NG)
Ph.D. Lars Lierstuen, Kongsberg Defence & Aerospace

16:20 UV-DPSS Laser Flight Model for the MOMA Instrument of the ExoMars 2020 Mission
Peter Wessels, Laser Zentrum Hannover e.V

16:40 Highly efficient mJ level laser amplifiers at 2 microns for frequency comb spectroscopy
Phd Sébastien Vidal, ALPhANOV

Session 4d: Atmospheric propagation Technologies

15:40 3 Years of Optical Satellite to Ground Links with the T-AOGS: Data Transmission and Characterization of Atmospheric Conditions
Karen Saucke, Tesat Spacecom

16:00 Demonstrated pre-compensation of a focused laser beam with up to 0.273 mrad point-ahead-angle over a 1 km horizontal communication path
Ms Aoife Brady, Fraunhofer Iof

16:20 Impact of molecular absorption on the design of free space optical communications
Mrs. Géraldine Artaud, CNES (French Space Agency)

16:40 Cloud Free Line of Sight Prediction Modeling for Low Earth Orbit Optical Satellite Networks
Mr. Nikolaos Lyras, School of Electrical and Computer Engineering, National Technical University Of Athens

17:00 **Poster and Cocktail session**
- Lasers
- Optical and Quantum Communications
- Spectometers

Wednesday, 10 October, 2018

Session 5: Plenary Session

09:00 Innovative Optics for the ESA Space Science Program
Mr Marcos Bavdaz, Head of ESA's Technology Preparation Section for Space Science, ESA

10:00 Optics in NASA's Earth Science Program
Steven P. Neeck, Earth Science Division NASA Headquarters, NASA

11:00 Coffee break

Session 6a: Components for Spectrometers 2

11:20 Binary blazed reflection grating for UV/VIS/NIR/SWIR spectral range
Thomas Flügel-Paul, Fraunhofer Institute for Applied Optics and Precision Engineering

11:40 Tailored dispersive elements for adapted spectrometric sensing
Dr. Peter Triebel, Carl Zeiss Spectroscopy Gmbh

12:00 Manufacturing and optical performance of silicon immersed gratings for Sentinel-5
Dr. Ralf Kohlhaas, SRON Netherlands Institute for Space Research

12:20 UV Ruled Grating for the Mars Atmosphere and Volatile EvolutioN (MAVEN) mission
Dr. Arnaud Cotel, Horiba Scientific

Session 6b: Telescope Integration

11:20 ATHENA Telescope: alignment and integration of SPO Mirror Modules
Giuseppe Valsecchi, Media Lario

11:40 Optical Alignment of the Solar Orbiter EUI flight instrument
Alexandra Mazzoli, Centre Spatial de Liege

12:00 Full-SiC EUCLID's very large telescope
Michel Bougoin, Mersen Boostec SAS

12:20 Development of the wide-swath and high-resolution optical imager onboard Advanced Optical Satellite (ALOS-3)
Hidenori Watarai, Japan Aerospace Exploration Agency

Session 6c: Lidar Systems 1

11:20 Aeolus First Light – First Glimpse
Dr Denny Wernham[1], Esa

11:40 ATLID, ESA Atmospheric LIDAR: integration of instrument and tests
Géraud de Villele, Airbus Defence And Space

12:00 SCALE: validations and prospects for a novel type of sounding lidar using short frequency combs
Philippe Hébert, Cnes

12:20 LIDAR Echo Emulator
Monica Rodriguez Cortina, Alter Technology Tüv Nord

Session 6d: Quantum Key Distribution Technologies

11:20 Q³Sat: Quantum Communications Uplink to a 3U CubeSat – Feasibility & Design
Mr Sebastian Philipp Neumann, Institute for Quantum Optics and Quantum Information (IQOQI)

11:40 Space-to-Ground Quantum Key Distribution
Dr. Thomas Scheidl, Institute for Quantum Optics and Quantum Information (IQOQI), Austrian Academy of Sciences, Vienna Center for Quantum Science & Technology (VCQ), Faculty of Physics, University of Vienna

12:00 Nanobob: A Cubesat Mission Concept For Quantum Communication Experiments In An Uplink Configuration
Mr. Guillaume Bourdarot, CSUG, University of Grenoble Alpes

12:20 Effects of atmospheric turbulence and misalignment-induced fading on the secrecy performance of IM/DD free-space CV-QKD systems using a Gaussian beam
Dr. Phuc V. Trinh, National Insitute of Information and Communications Technology

12:40 Lunch break

Session 7a: Compact Spectrometers

14:00 Technologies and Designs for Small Optical Missions
Alessandro Zuccaro Marchi, Esa/estec

14:20 In-Orbit Demonstration of the first hyperspectral imager for nanosatellites
Dr Marco Esposito[1], Cosine Measurement Systems

14:40 NanoCarb part 1: Compact snapshot imaging interferometer for CO2 monitoring from space
Dr Yann Ferrec, Onera

15:00 Freeform Optics Design Tool for Compact Spectrometers
Jerome Caron, TNO

Session 7b: X Ray Optics

14:00 Silicon Pore Optics Mirror Module Production and Testing
Dipl.-Ing. Maximilien Collon, Cosine

14:20 X-ray Testing at PANTER of Optics for the ATHENA and Arcus Missions
Dr. Vadim Burwitz, MPI für extraterrestrische Physik

14:40 A vertical facility based on raster scan configuration for the X-ray scientific calibrations of the ATHENA optics
Dr Giovanni Pareschi, INAF - Osservatorio Astronomico di Brera

15:00 BEaTriX (Beam Expander Testing X-ray facility) for testing ATHENA's SPO modules: advancement status
Dr. Giovanni Pareschi, Inaf - Osservatorio Astronomico Brera

Session 7c: Lidar Systems 2

14:00 The challenge of measuring Methane from space with a lidar
Haris Riris, Nasa Gsfc

14:20 MERLIN: Overview of the design status of the Lidar Instrument
Markus Bode, Airbus Defence & Space

14:40 Demonstration of a compact and universal Doppler Lidar based on a novel diode pumped alexandrite ring laser
Dr Josef Höffner, Leibniz Institute Of Atmospheric Physics

15:00 Robust optical design for optimal performance of the MERLIN Lidar instrument
Susanne Nikolov, Airbus Defence And Space GmbH

Session 7d: Optical Feeder Link Techologies

14:00 Optical Feeder Link Architectures for very HTS: Issues and Possibilities
Mr. Pantelis-Daniel Arapoglou, Esa/estec

14:20 Adaptive optics pre-compensation for GEO feeder links: the FEEDELIO experiment
Aurelie Montmerle Bonnefois, ONERA, The French Aerospace Lab

14:40 Adaptive Optics pre-correction for Optical Feeder Links – breadboard performance
Ivan Ferrario, Tno Technical Sciences

15:00 How effective is tip-tilt pre-compensation for optical uplinks based on the received downlink optical signal?
Dr David Alaluf, ESA

15:20 Coffee break

Session 8a

15:40 Round Table: **Small Optics for Earth Science**
moderated by Alessandro Zuccaro Marchi, ESA's Optics Section

Session 8b: Stray – Light

15:40 Stray Light Reduction of Silicon Particle reinforced Aluminum for Optical Systems
Dr. Jan Kinast, Fraunhofer IOF

16:00 Straylight analysis on ASPIICS, PROBA-3 coronagraph
Camille Galy, Centre Spatial De Liège (CSL)

16:20 Stray light calibration for the Solar Orbiter/Metis solar coronagraph
Dr Federico Landini, INAF - Osservatorio Astrofisico di Arcetri

16:40 Modelization, measurement and correction of a cross-talk image ghost in the Ingenio/SEOSAT payload
Mr. Carlos Miravet, Sener Ingenieria y Sistemas, S.A.

Session 8c: Lidar Technologies & Techniques

15:40 Time-of-flight Calibration of an MCT-APD sensor for a Flash imaging LiDAR system
Victor Emanuel Saraiva Parahyba, Cea - Leti

16:00 Flight Design of the Absolute Frequency Reference Unit for the Methane-sensing LIDAR Mission MERLIN
Dr. Hanjo Schaefer, Spacetech GmbH

16:20 Improved conduction cooled compact laser for LIBS – Raman instruments
Eric Durand, Thales

16:40 IPDA LIDAR measurements on atmospheric CO2 and H2O using dual comb spectroscopy
Mr Jeremy Oudin, Onera

Session 8d

15:40 Round Table: **Constellations, optical feeder-links and beyond**
moderated by Clemens Heese of ESA's Optoelectronics section and Xavier Lobao ESA's Head of Future Projects Division

17:00 **Poster and Cocktail session**
- Detectors and Focal Plane Technologies
- Lidars and Libs
- Scientific and Focal Plane Instrumentation
- Telescopes and Large Optics

Thursday, 11 October, 2018

Session 9: Plenary Session

09:00 Recent CNES developments in Optronics (Earth Observation, Science, Telecom)
Mr Bruno Cugny, Deputy Director of Instrumental Systems, CNES

10:00 Optics in Russia's Space Science Program
Mr Oleg Korablev, IKI- Space Research Institute, Russian Academy of Science

11:00 Coffee break

Session 10a: Straylight / Performance Characterization

11:20 Out-of-field stray light analysis for the COPERNICUS Sentinel 4 instrument
Mr. Semen Grabarnik, European Space Agency, ESTEC

11:40 Evaluation of Straylight Characteristics of the Sentinel-5 NIR Spectrometer Optics
Dr. Paul Petruck, Jena-Optronik GmbH

12:00 Modelization and validation of the Diffraction Effects in the Microcarb Instrument for accurately computing the Instrumental Spectral Response Function
Matthieu Castelnau, CNES

12:20 PHEBUS Spectrometer on board BepiColombo Mission - Optical Calibrations, Performance Results and experience feedback
Jean-François Mariscal, LATMOS, CNRS

Session 10b: Scientific and Focal Plane Instrumentation 1

11:20 Cheops optical calibration campaign
Dr Bruno Chazelas, Observatoire de l'université de Genève

11:40 Opto-mechanical Alignment Results of the Euclid Near Infrared Spectro-Photometer Optical Assembly NI-OA
Hans Thiele, OHB System AG

12:00 MESSIER: exploring the ultra-low surface brightness universe with a curved focal plane based satellite
Dr. Simona Lombardo, Aix Marseille Univ, CNRS, CNES, LAM

12:20 Development of a space-based nulling interferometer to detect and characterize exoplanets
Professor Jerome Loicq, Centre Spatial de Liege, STAR Research institute, University Of Liege

Session 10c: Visible and MCP Detectors

11:20 Curved sensors: experimental performance of CMOS prototypes and wide field related imagers
Dr Emmanuel Hugot, Aix Marseille Univ, Cnrs, Cnes, Lam, CURVE-ONE S.A.S

11:40 Development and qualification of a miniaturised CMOS Camera for space applications
Mr. Wissam Mouallem, 3D Plus

12:00 Resistance and Gain of the Microchannel Plate (MCP) detector as a function of temperature
Mr Olivier Chassela, Institut de Recherche en Astrophysique et Planétologie (IRAP)

12:20 High-detection efficiency MCP-PMTs with single photon counting capability for LIDAR applications
Dr. Dmitry Orlov, PHOTONIS Netherlands BV

Session 10d: Technology Developments for Optical Communications

11:20 Optimized Performance of Multi-Level Pulsed Signaling with Photon Counting
Don Boroson, MIT Lincoln Laboratory

11:40 Experimental results of high power Double-Pass, Double Clad EYDFA
Mr. Tomohiro Araki, Jaxa

12:00 Development Status and Breadboard Results of a Laser Communication Terminal for Large LEO Constellations
Mr. Csaba Gal, Mynaric Lasercom GmbH

12:20 High power 10W PM optical amplifiers in the 1.5 µm for space applications
Dr. Emile Haddad, MPB Communications Inc.

12:40 Lunch break

Session 11a: Spectrometers for Planetary Observation

14:00 An integrated payload design for the Atmospheric Remote-sensing Infrared Exoplanet Large-survey (ARIEL): results from phase A and forward look to phase B1
Kevin Middleton, STFC RAL Space

14:20 The SuperCam infrared instrument on the NASA MARS2020 mission: Performance and qualification results
M. Jean-Michel Reess, LESIA / CNRS / Observatoire de Paris

14:40 RAMAN spectrometer: development of SPU FM based on enhanced qualification model for Exomars 2020
Juan Francisco Cabrero, ISDEFE_INTA external contractor

15:00 Scientific Objectives and Observational Requirements of Spectrometers for Main Belt Comet 133P/Elst-Pizarro Exploration
Professor Weigang Wang, Beijing Institute of Space Mechnics & Electricity

Session 11b: Scientific and Focal Plane Instrumentation 2

14:00 SCOPE: A Coronagraph for Operational Space Weather Prediction – Phase A/B1 Design and Breadboarding
Kevin Middleton, STFC RAL Space

14:20 SUAVE: an innovative far UV telescope for space weather and solar variability studies
Dr. Luc Damé, Latmos, IPSL, CNRS, Paris-Saclay University

14:40 Metis coronagraph for the Solar Orbiter ESA mission: Ground Calibration Overview
Prof. Silvano Fineschi, INAF - Astrophysical Observatory of Torino

15:00 Metis/Solar Orbiter Polarimetric Visible Light Channel Calibration
Marta Casti, INAF - Astrophysical Observatory of Torino

Session 11c: IR Detectors 1

14:00 Teledyne's High Performance Infrared Detectors for Space Missions
Dr Paul Jerram, Teledyne-e2v

14:20 Status of space activity and science detectors development at Sofradir
Bruno Fieque, Sofradir

14:40 VIS/SWIR IR detectors for space applications at AIM: models and qualification status.
Holger Höhnemann, Aim Infrarot-module Gmbh

15:00 Progress in thin film coating on space IR detectors
Mr. El-Houcine Oubensaid, Safran Reosc

Session 11d: Qualifying Photonics

14:00 Optical Switch Matrix development for new concepts of Photonic based flexible Telecom Payloads
Karen Ravel, Sodern

14:20 Functional, mechanical and thermal vacuum qualification testing of G&H Proto-flight Erbium Doped Fiber Amplifier
Dr Efstratios Kehayas, Gooch & Gousego

14:40 High-Performance DFB laser module for space applications : the FP7 HiPPO achievements from chip fabrication to system validation
Mickael Faugeron, Thales Alenia Space

15:00 Packaging Improvement of LiNbO3 Modulators and Space Evaluation Results
Dr Joël Tchahame, iXblue

15:20 Coffee break

Session 12a

15:40 Round Table: **Small Optics for Space Science**
moderated by Alessandro Zuccaro Marchi, ESA's Optics Section

Session 12b: Scientific and Focal Plane Instrumentation 3

15:40 PLATO FPA. Focal Plane Assembly of PLATO Instrument
Javier Moreno, LIDAX

16:00 Innovative focal plane arrangement for future wide-field and high-resolution planetary observation missions
PhD Student Grégoire Hein, Laboratoire d'Astrophysique de Marseille

16:20 Optical design and performance analysis of a CubeSat-sized limb sounder utilizing a spatial heterodyne spectrometer for the measurement of mesospheric temperature
Dr. Martin Kaufmann, Research Centre Juelich, University of Wuppertal

16:40 NanoCarb part 2: Performance assessment for total column CO2 monitoring from a nano-satellite
Dr. Silvère Gousset, University of Grenoble Alpes

Session 12c: IR Detectors 2

15:40 Detector development activities supported by the European Space Agency
Dr. Heidrun Weber, ESTEC

16:00 HgCdTe APDs detector developments at CEA/Leti for atmospheric LIDAR and Free space optical communications
Dr. Johan Rothman, Cea/leti

16:20 Antimonides Type-II Superlattice Digital Focal Plane Arrays for Space Remote Sensing Instruments
Dr. Sarath Gunapala, NASA Jet Propulsion Laboratory

16:40 Low Flux NGP Characterisation for Microcarb Application
Alain Bardoux, Cnes

Session 12d

15:40 Round Table: **The Challenge of Photonic Components Space Qualification, is there a better way?**
moderated by Mustapha Zahir, ESA's Optoelectronics section

17:00 **Poster and Cocktail session**
- Fiber Optics and Microphotonics
- Imagers and Radiometers
- Metrology
- Passive Optical Components

19:00 **Conference Dinner**
Busses will depart at 18:30 from the Minoa Palace Resort

Friday, 12 October, 2018

Session 13: Plenary Session

09:00 Optics in NASA's Astrophysics Missions
Lee Feinberg, NASA's Goddard Space Flight Center

10:00 **Special Guest Speaker**
The Voyager mission 41 years after: Limits of the Solar System and Echoes from the Galaxy
Stamatios Krimitzis, Emeritus Head of the Space Exploration Sector, Johns Hopkins Applied Physics Laboratory (APL)

11:00 Coffee break

Session 14a: Imagers and Radiometers: Mission status

11:20 Fire detection from LEO: trade-offs for selection of spectral bands and a wide-swath optical design using MWIR and visible bands
Mr Dan Lobb, Dloptics Ltd

11:40 Design, Calibration, and On-Orbit Testing of the Geostationary Lightning Mapper on the GOES-R Series Weather Satellite
Mr Clemens Tillier, Lockheed Martin Space

12:00 A high-resolution land imaging mission: SEOSAT/Ingenio
Andrea Marini, ESA/ESTEC

12:20 SIMBIOSYS-STC ready for launch: a technical recap
Emanuele Simioni, INAF Astronomical Observatory of Padova

Session 14b: Coatings 1

11:20 Broadband antireflection coatings for visible and infrared ranges
Dr. Julien Lumeau, Institut Fresnel

11:40 Development of linear variable filter and black coatings by PARMS technology for FLORIS HR focal plane array of FLEX mission
Dr. Thomas Weber, Optics Balzers Jena GmbH

12:00 Advances in IBS Coatings for space applications on the topics of curved surfaces and laser damage
Tammo Böntgen, Laser Zentrum Hannover

12:20 Uniformity and wavefront control of optical filters
Dr. Michael Vergöhl, Fraunhofer Institute For Surface Engineering And Thin Films

Session 14c: Inter-Satellite Ranging

11:20 Towards a Tilt-to-Length Coupling Calibration on the GRACE Follow-On Laser Ranging Instrument
Henry Wegener, Max Planck Institute for Gravitational Physics (Albert Einstein Institute), Leibniz Universität Hannover

11:40 Laser metrology concept consolidation for NGGM
Kolja Nicklaus, Spacetech GmbH (STI)

12:00 Optical Metrology Terminal for Satellite-to-Satellite Laser Ranging
Oliver Mandel, Airbus Defence and Space GmbH, University of Bremen, Center of Applied Space Technology and Microgravity (ZARM

12:20 Novel satellite positioning system using Acousto-Optic Deflector
Dr. Mitsuru Musha, Institute for Laser Science, University of Electro-communications

Session 14d: Optical Interconnections for Digital Payloads

11:20 A new disruptive generation of on-board digital transparent processor (Spaceflex) with optical digital interconnects
Norbert Venet, Thales Alenia Space

11:40 High-speed, low-power and board-mountable optical transceivers for scalable & energy efficient advanced on-board digital processors
Dr Leontios Stampoulidis, Leo Space Photonics R&D, Gooch & Gousego

12:00 Mass-reduction of high-speed spacecraft datalinks enabled by rugged photonic transceivers
Dr. Ron Logan, Glenair Inc.

12:20 Fiber Optical Flexible Routing Assembly (FOFRA)
Terje Sund Mjaaland, Terje Sund Mjåland

12:40 Lunch break

Session 15a: Imagers and Radiometers: Straylight

14:00 Measuring, modeling and removing optical stray-light from Venμs Super Spectral Camera images
Mr Philippe Gamet, CNES

14:20 Digital Correction of Residual Straylight in FLEX Images
Dr. Sylvain Abdon, Thales Alenia Space

14:40 Post-processing correction of stray-light in space instruments: application to the 3MI earth observation instrument
Dr Yvan Stockman, Centre Spatial De Liège

15:00 Characterisation and Performance Verification of the EarthCARE Multi Spectral Imager VNS Camera
Bryan de Goeij, TNO

Session 15b: Coatings 2

14:00 Wavefront control in single-wavelength and broadband optical coatings
Dr. Angela Piegari, ENEA

14:20 Conceptual approaches to the study of efficient bandpass filter design for ultraviolet spaceborn instruments
Dr. Ulf Brauneck, SCHOTT Suisse SA

14:40 Radiation Testing of Optical Coatings - Better Testing with Simulations
Dr. Jochen Kuhnhenn, Fraunhofer INT

15:00 Protected silver coatings for reflectors
Stefan Schwinde, Fraunhofer IOF

Session 15c: Optical Metrology 1

14:00 JUICE Navigation Camera design
Frederic Gorog, Sodern

14:20 Title: UFSS (Ultra Fine Sun Sensor) – CCD Sun Sensor with sub-arc second accuracy for the next solar observing satellite SOLAR-C.
Mr. Katsuhiko Tsuno, Riken

14:40 Stray-light measurements on gratings: challenges and limitations
Dr Dana Tomuta, Esa/Estec

15:00 On ground demonstrator of digital stabilization for high-resolution Earth observation Time of Delay Integration imaging
Sophie Petit Poupart, Cnes

Session 15d: Microwave Photonic Payloads

14:00 Advanced photonic payloads for broadband telecom satellites : Integration and tests of a representative repeater demonstrator
PhD Sophie Roux, Thales Alenia Space

14:20 A Flight Demonstration Photonic Payload for up to Q/V-Band implemented in a satellite Ka-Band hosted payload aimed at Broadband High Throughput Satellites
Dr Miguel A. Piqueras, DAS Photonics

14:40 Towards Demonstration Of Photonic Payload For Telecom Satellites
Mr Javad Anzalchi, Airbus Defence And Space

15:20 Coffee break

Session 16a: Imagers and Radiometers: Innovative Instrument

15:40 SEEING: the SAFRAN EO payload for microsats
Mr. Roland Geyl, Safran Reosc

16:00 Far Ultra-Violet Polarimeter by reflection for Pollux (LUVOIR)
Maëlle Le Gal, LESIA, Observatoire De Paris

16:20 Design Study of a Hosted Arctic Imager for Weather and Climate Monitoring in the Polar Regions
Dr. Stephan Gulde, OHB-System AG

16:40 Space flight-model multichannel photometer for spectral detection of stratospheric transient luminous events in Taranis mission
Wilfried Glastre, Bertin Technologies

Session 16b: Components Technologies

15:40 Black Coatings for Combined Stray Light and Thermal Passive Management for the Challenging Environmental Conditions of Solar Orbiter
Mr. Reuven Okun, Acktar Ltd.

16:00 Solar rejection window and narrow band pass filters for the Meteosat Third Generation Lighting Imager
Claude Montcalm, Iridian Spectral Technologies

16:20 An automated system for hydroxide catalysis bonding of precision-aligned optical systems
Dr David Robertson, SUPA, School of Physics and Astronomy, University of Glasgow

16:40 Convex blazed gratings for high throughput spectrographs in space missions
Dr Frederic Zamkotsian, Laboratoire d'Astrophysique de Marseille (LAM)

Session 16c: Optical Metrology 2

15:40 Highly stable Zerodur based optical benches for microgravity applications and other adverse environments
Jean Pierre Marburger, Institute of Physics, Johannes Gutenberg University of Mainz (JGU Mainz)

16:00 Optical Beam Steering on distribution boards and its application for atom quantum experiments in space
Dr Wolf von Klitzing, IESL-FORTH

16:20 Temperature control of a PM ring fiber cavity for long-term laser frequency stabilization
Duy-Ha Phung, ARTEMIS, Universite Cote d'Azur, Observatoire de la Cote d'Azur

16:40 Interferometric Multi-Core Fiber Optic Gyroscope Under Temperature Changing Environment
Mr. Kenichiro Nigo, Jaxa

Session 16d

15:40 Round Table: **EU Cost Action on Integrated Microwave Photonics**
moderated by Chris Roeloffzen of LIONIX International and Paul van Loock of ESA's Telecommunications Department

17:00 **Special Guest Speaker**
The Antikythera Mechanism: Decoding an astonishing 2000 years old astronomical computer
Professor Emeritus John H. Seiradakis
Aristotle University of Thessaloniki, Greece

Poster Presentations

Lasers

P1 Semiconductor laser modules for precision spectroscopy applications in space
Dr. Ahmad Bawamia, Ferdinand-braun-institut

P2 2-µm pulsed Holmium laser for a future CO2/ H2O space lidar mission
Fabien Gibert, Laboratoire de Météorologie Dynamique, Ecole Polytechnique

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