PRELIMINARY PROGRAMME

3AF
Association Aéronautique et Astronautique de France

OPTRO 2026

12th International Symposium on Optronics in Defence & Security

Marseille • France, 3-5 February 2026

Call For Papers

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OPTRO2026 PRELIMINARY PROGRAMME

DAY1 - TUESDAY 03 FEBRUARY 2026	
09:00	TECHNICAL VISITS (on registration only)
10:00	WELCOME COFFEE & EXHIBITION
12:30	LUNCH BREAK & EXHIBITION
	PLENARY SESSION
	WELCOME ADDRESSES
14:00	**Jean-François COUTRIS**, General Secretary - 3AF, FR **Florence DE LA BARRIERE**, OPTRO 2026 General Chair - ONERA, The French Aerospace Lab, FR
	OPTRO 2026 HONORARY PRESIDENT KEYNOTE ADDRESS
14:30	**Général Jean-Paul PALOMEROS**, former Supreme Allied Command at NATO, FR
	KEYNOTES ADDRESSES Chair: **René MATHURIN Director of ONERA Defense Programs**
14:50	**Mr Nick JOAD**, Director Science & Technology MoD, UK
15:10	**Mr Patrick AUFORT**, Director of French Defense Innovation Agency, FR
15:30	**Mr Emmanuel HUGOT**, Marseille Astrophysics Laboratory Director, FR
15:50	**Mr Adrien CHAN HON TONG**, ONERA, FR
16:10	COFFEE BREAK & EXHIBITION
	KEYNOTES ADDRESSES Chair:
16:40	**Mr Gabriele FACCIOLO**, Centre Borelli, ENS Paris-Saclay, FR
17:00	**Mrs Judith DIJK**, EDA
17:20	**Mrs Myriam ZERRAD**, Fresnel Institute, FR
17:40	END OF FIRST DAY PROGRAMME
19:30	OPTRO2026 GALA DINNER

DAY 2 - WEDNESDAY 04 FEBRUARY 2026

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
08:00	WELCOME COFFEE & EXHIBITION			
	SESSION 1	SESSION 2	SESSION 3	SESSION 4
	IMAGING AND SYSTEMS - 1	LASER AND SYSTEMS - 1	SENSORS AND COMPONENTS - 1	Photonics R&T (NEW) and Emerging Technologies - 1
Chair	Chairperson : Dietmar LETALICK, FOI	Chairperson : Gilles FOURNIER, Arianegroup	Chairperson : Olivier GRAVRAND, CEA	Chairperson : ,
09:00	110 **Hyperspectral, high dynamic range and 360 degrees camera for optronic scene measurement** Josselin DEFRANCE - Onera, France	95 **Experimental investigation of the reflection from a high energy laser focused on melting steel targets for laser safety assessments** Adrian AZARIAN - Fraunhofer IOSB, Germany	88 **Colloidal quantum dot imagers and sensors for infrared detection.** Surama MALIK - Emberion Ltd, United Kingdom	23 **Real-Time Embedded Remote Sensing Road Segmentation: A Novel Approach for Transformer-Based Networks** Nicolas VIGNE - THALES, France
09:20	33 **Hyperspectral Imaging of Greenhouse Gases and Signature Measurements with Telops' Spatially Resolved InfraRed Spectrometer (SpIRS)** Chris GIESIGE - Telops-Exosens, Canada	108 **Characterization of high-performance optics: Absorption and damage threshold** Hansjoerg ROHDE - Laser Components Germany GmbH, Germany	7 **Design, modelling and characterization of a square patch antenna for the SWIR-MWIR range detection** Bilel CHERGUI - CEA - Grenoble, France	64 **Femtosecond laser writing of mid-wave infrared waveguides in a germanate glass** Alexis TRYOEN - ONERA, France
09:40	51 **Impact of structured illumination for 3D laser imaging through turbid media** Képhren NGASSA - ONERA, France	40 **High-Power (> 20 W) Single-Mode Fiber Optic Connector with Integrated Mode-Size Conversion** Davinder BASUITA - Bakman Technologies, United States	56 **Characterization of vertical transport of minority carriers in gallium-free type-II superlattices characterization by deep electron beam induced current.** Baptiste GONON-MATHIEU - CEA / DGA, France	70 **Optimisation of metasurface production technologies based on absolute measurement of complex amplitudes Look Up Tables** Jérôme PRIMOT - Onera, France
10:00	104 **Optimizing Mirror-Based Off-Axis Optical Systems for SWAP-C Constraints using Advanced Local Surface Descriptions** Guillaume DRUART - ONERA, France	68 **PISTIL interferometry for the control and diagnosis of intense coherent combined lasers** Cindy BELLANGER - Onera, France	97 **Getting small and HOT for low SWaP MCT LWIR modules** Holger LUTZ - AIM Infrarot-Module GmbH, Germany	76 **Development of a camera system hardened against laser radiation by defocus imaging** Juergen LIMBACH - Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB, Germany
10:20	COFFEE BREAK & EXHIBITION			

DAY 2 - WEDNESDAY 04 FEBRUARY 2026

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	SESSION 5	SESSION 6	SESSION 7	SESSION 8
	IMAGING AND SYSTEMS - 2	LASER AND SYSTEMS - 2	SENSORS AND COMPONENTS - 2	Photonics R&T (NEW) and Emerging Technologies - 2
Chair	Chairperson : ,	Chairperson : Nicolas PÉRÉ-LAPERNE, LYNRED	Chairperson : Mark SILVER, THALES	Chairperson : ,
10:50	38 **Progress in Cooled Thermal Imager Technology at HENSOLDT Optronics** Christofer Robert SIEMENS - HENSOLDT Optronics GmbH, Germany	114 **Laboratory setup for measuring the laser cross section** Luisa ARANGO GOMEZ - Fraunhofer IOSB, Germany	10 **Latest HOT II-VI technologies development at LYNRED** Laurent RUBALDO - LYNRED, France	63 **Free-space data transmission in the long wave infrared window using a high-speed ridge Quantum Cascade Laser and Detector** Salvatore PES - III-V Lab, France
11:10	25 **Evolution of VIS-SWIR imagers with integrated ALPD pixel design and in-field performance measurements.** Oliver PETERSEN - Raptor Photonics Ltd., United Kingdom	67 **ADAPTIVE OPTICS FOR LASER MOMENTUM TRANSFER APPLIED TO ORBIT MODIFICATION OF SPACE DEBRIS** Léonard PRENGÈRE - Fraunhofer IOSB, Germany	11 **5um pitch product family for a wide range of applications** Itay HIRSH - SCD, Israel	98 **Ultrastable Photonic Microwave Oscillators for RADAR Applications** Tiphaine DELSALLE - Menlo Systems GmbH, Germany
11:30	45 **An advanced SWaP-C imaging module for low light applications** Ariane LE BON - Teledyne E2V -Grenoble, France	100 **Architectures for High-Power Quantum Cascade Laser Generation at mirSense: Scaling from Watt-Level to Multi-Ten-Watt Output for Next-Generation DIRCM** Mathieu CARRAS - mirSense, France	59 **Optimization of an InGaAs/GaAsSb on InP superlattice for extended SWIR: a comprehensive study from photodiode to focal plane array** Jordi ROUBICHOU - Thales LAS, France	122 **Introduction of metasurface optical components into conventional optical design** Michel JÉGOUZO - Safran Electronics & Defense, France
11:50	48 **Unlocking Sub-Microsecond Exposure for Infrared Imaging of Hypersonic Projectiles** Joseph CARROCK - Telops, United States	8 **Impact and modeling the turbulence effects on semi active laser seeker** Olivier MEYER - DGA MI, France	115 **High-sensitivity VLWIR MCT IDCA for spaceborne FTIR limb sounders** Max SEGEL - AIM, Germany	118 **Assessment of emerging optical technologies for defence ISR applications within MEFREGRA EDA feasibility study** Mane-Si LEE - Thales Research & Technology, Campus Polytechnique, 1 Avenue Augustin Fresnel, 91767 Palaiseau, France, France
12:10	39 **Parallax-Free Visible/SWIR Imaging with a Mechanically Simplified Dual-Camera System** Christofer Robert SIEMENS - HENSOLDT Optronics GmbH, Germany	69 **High-speed direct modulation GaAs lasers for Cesium CPT clocks** Sylvain BOUST - III-V Lab, France	71 **Diode-based bolometer for high-sensitivity detection and imaging in the terahertz band** Laurent DUSSOPT - CEA, France	18 **The power of coupling: unlocking realistic atmospheric sources in Speos with MODTRAN** Fiona DESPLATS - Ansys, France
12:30	LUNCH BREAK & EXHIBITION			

DAY 2 - WEDNESDAY 04 FEBRUARY 2026

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	SESSION 9	SESSION 10	SESSION 11	SESSION 12
	IMAGING AND SYSTEMS - 3	LASER AND SYSTEMS - 3	SENSORS AND COMPONENTS - 3	Signal & Image Processing / Airborne
Chair	Chairperson : Magnus HAAKESTAD, FFI	Chairperson : Pierre CHAZAN, Laser Components	Chairperson : Holger LUTZ, AIM	Chairperson : ,
14:00	121 **VIS-NIR Multispectral for anomaly Detection** Eloi FOUCHER - SAFRAN ELECTRONIC & DEFENSE, France	21 **CHRISTIE: flying bench for tactical laser weapon performance evaluation** Geoffrey BALLE - DGA, France	106 **Extended short wave infrared technological developments at Lynred** Nicolas PÉRÉ-LAPERNE - LYNRED, France	75 **Limits of Quantitative Metrics in Image Fusion: A Defence-Oriented Evaluation of Classical and Deep Learning Methods** Jeanne CLARET - Bertin Technologies, France
14:20	5 **PROVIDENCE: a 2.5m adaptive telescope optimized for Optical Space domain Awareness** Thierry FUSCO - ONERA, France	58 **Passively Q-switched 1030-nm laser oscillator optimization by comparison between numerical simulation and experimental data** Pierre BOURDON - ONERA, France	102 **T2SL detectors at IRnova from eSWIR to dual band MW/LW** Eric COSTARD - IRnova, Sweden	79 **Towards Satellite Attitude Retrieval through Inversion of Light Curves in the Visible and Thermal Infrared Bands: Application to the ENVISAT and CROCUS Cases** Cèdre MERCIER - ONERA, France
14:40	117 **Event-based asynchronous laser pulse detection integrated into a multispectral SWIR/VIS single aperture dual-sensor zoom camera** Sk. Shaid-Ur RAHMAN - HENSOLDT Optronics GmbH, Germany	49 **MPLC-Based Incoherent Beam Combining of Fibered Quantum Cascade Lasers for Compact High-Power DIRCM Applications** Louis ANDREOLI - Cailabs, France	65 **T2SL technology developments with a High Operating Temperature at LYNRED** Nicolas PÉRÉ-LAPERNE - LYNRED, France	80 **CMC Electronics InGaAs Quadrant Detector Module for Precision Beam Tracking, Alignment and Laser Warning Systems** Patrick LEPAGE - CMC Electronics Inc., Canada
15:00	57 **Toward a Hyperspectral Imaging Camera Based on a Three-Dimensional Direct Laser Written Photonic Integrated Circuit** Olivier GAZZANO - ONERA, France	91 **Asymmetric free-space optical communications links in the short and mid-infrared regions: toward low-cost and compact FSOC transceivers.** Bruno MARTIN - THALES RESEARCH AND TECHNOLOGY FRANCE, France	126 **The High Alps project : on the path for a commercial offer of high operating temperature HgCdTe APD detectors for FSO and Lidar** Johan ROTHMAN - CEA-Leti, France	47 **Flight tests of a piloting system for helicopters: from demonstrator to operational product** Denis PETIPAS - DGA EV, France
15:20	COFFEE BREAK & EXHIBITION			
	ROOM 1			ROOM 2
	SYMPOSIUM ROUNDTABLE Chair: **Jean-François COUTRIS,** President of the 3AF Optronics Technical Committee			EPIC ROUNDTABLE Chair : Jeremy Picot-Clemente, Photonics Technologies Manager - EPIC
16:00	**Optronic engagement in current combat theaters**			**EPIC Technology session - Laser Systems for Defense Applications**
18:00	COCKTAIL & OPTRO AWARDS - EXHIBITION AREA			
20:00	END OF SECOND DAY PROGRAMME			

DAY 3 - THURSDAY 05 FEBRUARY 2026

08:00	WELCOME COFFEE & EXHIBITION			
	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	SESSION 13	SESSION 14	SESSION 15	SESSION 16
	IMAGING AND SYSTEMS - 4	LASER AND SYSTEMS - 4	SENSORS AND COMPONENTS - 4	Simulation and Augmented Reality
Chair	Chairperson : Florent COLAS, Thales	Chairperson : Martin WALTHER, Fraunhofer -IAF	Chairperson : ,	Chairperson : ,
09:00	27 **Multispectral microbolometer LWIR sensor with integrated on-chip filters** Laurent DUSSOPT - CEA, France	89 **Towards a 3D LiDAR System for long-range Small Object Detection** Sara GIMENEZ-ARAGON - CD6-UPC, Spain	94 **InAs/InAsSb interband cascade detectors and their applications in IR imaging** Jacek KULAKOWSKI - VIGO System S.A., Poland	55 **On the contribution of alumina particles in rocket engine plume IR signature** Thomas DECKER - ONERA, France
09:20	129 **New generation of quad-tube NVGs** Gabriel NARCY - Thales, France	31 **Coherent beam combining of wavelength-division-multiplexed signal for free space optical telecommunications** Pierre PICHON - ONERA, France	13 **Reliability approach for High-Availability cryocoolers** Schot HIDDE - Thales LAS France SAS, France	66 **Restitution of temperature and gas concentrations in propellant flames using metamodeling and Global Optimization** Claire LAVIGNE - ONERA, France
09:40	37 **Single photon imaging for night situational awareness** Nicolas BOEHRER - TNO, The Netherlands	3 **Efficient non-linear conversion of a high-power all-fiber laser source delivering low-energy picosecond pulses at high repetition rate** Julien DIDIERJEAN - BLOOM Lasers, France	4 **Enhancing availability of Thales rotary Stirling cryocoolers for 24/7 Applications** Simon-Didier VENZAL - Thales LAS France SAS, France	26 **Image-based metrics for target discrimination range modeling** Jean-Paul FOING - DGA Maîtrise de l'Information, France
10:00	93 **Active polarimetric imaging in route opening scenarios/ for IED detection** Aude MARTIN - Thales, France	112 **Lightweight Passively Q-Switched Nd:YAG Laser for LIBS on Martian Helicopter** Baya BENNAI - Thales LAS France, France	113 **Dual Mode operation of High Gain Low Noise InGaAs Avalanche Photodiode as a PIN photodiode** Pierre CHAZAN - Laser Components, United States	109 **Advances of SIRIUS in modeling the optical signature of a satellite in the VIS and thermal IR bands** Ugo TRICOLI - ONERA, France
10:20	COFFEE BREAK & EXHIBITION			

DAY 3 - THURSDAY 05 FEBRUARY 2026

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	SESSION 17	SESSION 18	SESSION 19	SESSION 20
	LAND, SEA, AIR & SPACE DEFENSE APPLICATIONS - 1	LASER AND SYSTEMS - 5	SENSORS AND COMPONENTS - 5	Artificial Intelligence for optronics - 1
Chair	Chairperson : Emmanuel KLING,	Chairperson : François GUTTY, Thales, TRT	Chairperson : Claire VALENTIN, EXOSENS	Chairperson : ,
10:50	43 **Experimental Evaluation of Mid- and Long-Infrared Free-Space Optical Propagation in Foggy Conditions** Alberto BRETON VICENTE - ONERA, France	123 **LIDAR 3D in MWIR spectral band** Michel JOUFFROY - SAFRAN ELECTRONIC & DEFENSE, France	54 **Study of the processing-properties relationship of zinc sulfide windows** Guillaume DURAND - Solcera, France	32 **Synthetic data features enhancement for spectral visible colored images** Thomas GONZALEZ - Oktak-SE, France
11:10	92 **A multimodal perception system based on lidar for underwater color restoration in turbid environments** Aleix.r BOBI-OLMO - UPC, Spain	84 **Use of polarized lidar imaging system to improve contrast in fog** Maria BALLESTA-GARCIA - Universitat Politècnica de Catalunya, Spain	62 **Progress in Piezoelectric Fine Steering Mirrors for Optical Inter-Satellite Links in space constellations** François BARILLOT - CEDRAT TECHNOLOGIES, France	44 **EDF-STORE, the European database for the development of military optronics AI** Samuel LEGOUPIL - Thales, France
11:30	6 **IR Sensor Solutions for Missile Seeker and Drone Applications** Rinat RAICHMAN - Semiconductor Devices - SCD, Israel	60 **Coherent combining of 7 fiber lasers in a tiled-aperture geometry: a long-range target-in-the-loop coherent-beam-combining and deep-learning assisted phase-control test platform** Pierre BOURDON - ONERA, France	96 **CASPEX : A Generic Camera Heads Family for Space Imaging Applications** Julien BEZINE - 3D PLUS, France	101 **Contribution of semantic segmentation to drone detection** Benedicte BASCLE - Thales LAS, France
11:50	41 **Predicting and Assessing Collateral Damage in Operational Scenarios for LIDAR- and Laser-based C-sUAS Systems** François HARMEL - Royal Military Academy, Belgium	34 **Coherent Beam Combining of QCL Amplifiers** Stefan HUGGER - Fraunhofer IAF, Germany	90 **Integration and calibration of a multimodal data acquisition prototype for enhanced situational awareness in AGVs** Gerard DEMAS-GIMÉNEZ - Universitat Politècnica de Catalunya, Spain	24 **AI modules for defence image analysis: intermediate results from the EDF-STORE project** Nicolas BOEHRER - TNO, The Netherlands
12:10	86 **ArianeGroup Helix system: Sensors and C2 development for an all-orbit data provisioning and characterization service** Gabriel DAGUERRE - ArianeGroup, France	46 **High-Power Coherent Beam Combining For HEL Systems** Thomas BINHAMMER - FiberBridge Photonics, Germany	42 **Surface Integrity and Reflectivity of Ultra-Precision Machined RSA Alloys for IR Mirrors** Daniel Alexandre ROLON - Fraunhofer IPK, Germany	128 **Challenges in creating an experimental database for artificial intelligence: the EDF STORE Project** Stephane LANGLOIS - ONERA, France
12:30	LUNCH BREAK & EXHIBITION			

DAY 3 - THURSDAY 05 FEBRUARY 2026

	ROOM 1	ROOM 2	ROOM 3	ROOM 4
	SESSION 21	SESSION 22	SESSION 23	SESSION 24
	LAND, SEA, AIR & SPACE DEFENSE APPLICATIONS - 2	LASER AND SYSTEMS - 6	SENSORS AND COMPONENTS - 6	Artificial Intelligence for optronics - 2
Chair	Chairperson : ,	Chairperson : ,	Chairperson : François COURSAGET, NIT	Chairperson : Sylvaine PICARD, Thales
14:00	105 **Towards a high resolution imager for Emissary** Guillaume DOVILLAIRE - Imagine Optic, France	119 **High-Power Erbium and Thulium Fiber Amplifiers: Vertically Integrated Solutions from Fiber Components to Laser Systems** Thomas BINHAMMER - FiberBridge Photonics, Germany	99 **Damage thresholds of Avalanche Photodiodes for laser detection applications** Denis BOIREAU - Excelitas Technologies, Canada	120 **Artificial Intelligence applied to clutter suppression capabilities in optronics detection processes** Dominique MALTESE - SAFRAN, France
14:20	28 **Analysis of signature of IEDs and landmines in the EM spectrum** Matéo TUNON DE LARA RAMOS - Royal Military Academy, Belgium	20 **Robust High-Power Er:Yb Fiber Lasers for Eye-Safe Defense and LIDAR Applications at 1.5 µm** Omar SAHNI - Exail, France	82 **Engineering Trade-offs at 2.1 µm: MWIR Detector-Limited Performance and Custom Integration Beyond NIR** Eric DESFONDS - CMC Electronics Inc., Canada	74 **Balancing Performance and Efficiency: Neural Network Deployment in Low-SWaP Imagers for Surveillance** Sylvain FAVIER - Bertin Technologies, France
14:40	35 **Design and control of a 6 degrees of freedom mechanism for mirror alignment in a high performance telescope** Antoine COURTEAU - Safran Electronics & Defense, France	12 **Advances on 2 µm high-power fiber lasers for countering drones** Anne DHOLLANDE - French-German Research Institute of Saint-Louis, France		73 **Uncertainty quantification for infrared small target detection** Ambroise BOURU-GAZEAU - ONERA, France
15:00	124 **High-Speed Laser Optical Communication for Naval Platforms** Adrien-Richard CAMBOULIVES - SAFRAN ELECTRONIC & DEFENSE, France	15 **Optical-injection-locking based dual-frequency dual-polarization optical generator for Cs CPT atomic clock** Tristan BARTHELEMY - Thales Research & Technology, France	83 **CMC Electronics NIR Hybrid Receivers for Defense, Detection, and Communication** Jean-François RIOUX - CMC Electronics Inc., Canada	
15:20	36 **A Laboratory-Based Approach for Evaluating Camouflage Nets in the Thermal Infrared Domain for Defense Applications** Robert RANETE - Royal Military Academy Brussels, Belgium	17 **Next-Generation 1550 nm Pulsed Laser Diodes with enhanced power and efficiency: surpassing industry benchmarks** Saïd ROUIFED - Laser Components, France	111 **Coopetition as a successful scheme for European sovereignty in the infrared detector domain** Pierre BOUILLON - Lynred, France	14 **Considering weather conditions in AI processing of infrared images for night maritime surveillance** Lionel GARDENAL - CS GROUP, France
15:40	END OF OPTRO2026			

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VENUE: MARSEILLE CHANOT EXHIBITION AND CONVENTION CENTER

Marseille Chanot Exhibition and Convention Center,
Rond Point du Prado, 13008 Marseille

Accessibility:

Marseille Chanot, the Marseille Exhibition and Convention Centre is located at the heart of the city and is easy to access:

- 10 minutes from the Vieux Port
- 5 metro stops on a direct line from Saint Charles TGV station
- 30 minutes from Marseille Provence international airport
- 3 hours from Paris by TGV (17 connections every day)
- 1800 on-site parking spaces and quick access to major motorways

Language

Symposium official language is English.
All documents must be in English

Organizing Committee

Florence de la Barrière, ONERA
Jean-Baptiste Moullec, DGA
Gérard Berginc, 3AF
Florent Colas, Thales
Emmanuel Kling, Safran
Claire Valentin, Exosens,
Olivier Gravrand, CEA
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