

Day 1 –Tuesday, February 6, 2018

UPDATED 31 JAN 2018

09:00

REGISTRATION – MORNING COFFEE

PLENARY SESSION

WELCOME ADDRESSES

09:40

Michel **SCHELLER** - President of 3AF, FR
Claudine **BESSON**, OPTRO 2018 Chairwoman - ONERA - The French Aerospace Lab, FR

OPTRO 2018 HONORARY PRESIDENT KEYNOTE ADDRESS

Introduced by Michel **SCHELLER**– President of 3AF, FR

09:50

Bruno **SAINJON**, President of ONERA - The French Aerospace Lab, FR

INTRODUCTION TO OPTRO 2018

10:10

“Scientific Perspectives”

Mathias **FINK**, Professor - Collège de France - French Academy of Sciences - Langevin Institute, ESPCI Paris Tech, FR

KEYNOTE ADDRESSES

10:50

“ESO Extremely Large Telescope”

Adrian **RUSSELL**, Director of Programmes - ESO - European Southern Observatory, EU

11:10

IGA HC François **COTÉ**, Technical Director - French Armament Directorate DGA, FR

11:30

“Overview of Barrier Infrared Photodetectors”

Philippe **CHRISTOL**, Professor - IES Institute of Electronics and Systems, CNRS - University of Montpellier, FR

11:50

Sébastien **TANZILLI**, Deputy Director - Physics Institute of Nice INPHYNI, CNRS - University of Nice-Sophia Antipolis, FR

12:10

“ELI Extreme Light Infrastructure: Science and Technology with Ultra Intense Lasers”

Georg **KORN**, Science and Technology Director - ELI Beamlines - Institute of Physics of the Academy of Science, CZ

12:30

LUNCH BREAK

	PLENARY SESSION
	KEYNOTES ADDRESSES Chairman: Jacques LONNOY , OPTRO2018 Co-Chairman – 3AF, FR
14:30	ICA Marc SIRVEN , Head of Sensor Guidance Navigation Department - French Armament Directorate DGA, FR
15:00	“Almost 50 years in Military Laser Research” Ove STEINVALL , Research Director - Department of Electro-Optical Systems, Swedish Defence Research Agency FOI, SE
15:30	"Directions in Sensor Technologies at NVESD" Donald REAGO , Director - Night Vision and Electronic Sensors Directorate NVESD - US Army, US
16:00	COFFEE BREAK
	SYMPOSIUM ROUND TABLE <i>Moderator:</i> Jean-François COUSTRIS , Co-President of the Optronics Technical Committee - 3AF, FR
16:30	OPTRONICS: A DISCRIMINANT TECHNOLOGY ON THE BATTLEFIELD Col Pierre VERBORG , OPS Division Chief - French Army Aviation Command COMALAT, French Army EMAT, FR Lt Col Patrick BRYANT , “Rafale” Programme Officer - French Air Force EMAA, FR CF Jérôme HENRY , Combat Systems Programme Officer - French Navy EMM, FR <i>Representative of the French Army, FR</i>
18:00	END OF FIRST DAY PROGRAMME
20:00	OPTRO2018 DINNER (Optional)

Day 2 - Wednesday, February 7, 2018

	ROOM 1	ROOM 2	ROOM 3
	SPACE APPLICATIONS – 1	LASER SENSORS AND SYSTEMS – 1	AIR LAND & SEA DEFENCE APPLICATIONS – 1
	CHAIRMAN: Frédéric FABRE, Airbus Defense & Space, FR	CHAIRMAN: Stephen McGEOCH, Thales, UK	CHAIRMAN: Jean-François COUTRIS, 3AF, FR
08:20	SPACE APPLICATIONS	GAS LASER SENSORS AND SYSTEMS	AIR, LAND & SEA DEFENCE APPLICATIONS KEYNOTE
	106 Recent CNES developments in Optronics (Earth Observation, Science, Telecom) <u>CUGNY B.</u> CNES, FR	58 Lidars for gas detection at ONERA CÉZARD N., LIMERY A., BENOIT P., LE MÉHAUTÉ S., AUGÈRE B., <u>DOLFI-BOUTEYRE A.</u> , DURÉCU A., FLEURY D., GOULAR D., LOMBARD L., LE GOUET J., PLANCHAT C., VALLA M. ONERA, FR	84 Advances in Hyperspectral Sensors and Phenomenology for Army Applications <u>ZEIBEL J.</u> US Army Night Vision Lab, US
08:40	SPACE APPLICATIONS	GAS LASER SENSORS AND SYSTEMS	AIR, LAND & SEA DEFENCE APPLICATIONS
	31 Fully Space Qualified and Miniaturized CMOS Camera for Space Applications <u>SELLIER C.</u> (1), GAMBART D.(2) (1) 3D Plus, FR (2) Analog Design Engineer, FR	18 Detection of Persistent Chemical Agents using an Amplified Tunable LWIR QCL <u>THOLL H.D.</u> (1), MÜNZHUBER F.(1), KUNZ J.(1), GUTTY F.(2), GRISARD A.(2), LARAT C.(2), PAPILLON D.(2), SCHWARZ M.(2), LALLIER E.(2), KASTEK M.(3), PIATKOWSKI T.(3), BRYGO F.(4), AWANZINO C.(4), WILSENAK F.(5) (1) Diehl Defence, DE (2) Thales Research & Technology, FR (3) Military University of Technology, Institute of Optoelectronics, PL (4) Bertin Technologies, FR (5) Wehrwissenschaftliches Inst. für Schutztechnologien - ABC-Schutz, DE	01 Visible contrast analysis for new aircraft countermeasure development <u>HOULES P.</u> (1), CORRE D.(1), DE LATAILLADE A.(2) (1) DGA MI, FR (2) Lacroix, FR
09:00	NANO/MICRO - SPACE APPLICATIONS	GAS LASER SENSORS AND SYSTEMS KEYNOTE	AIR, LAND & SEA DEFENCE APPLICATIONS
	11 Nanosat-based detection and tracking of launch vehicles <u>SCHWEITZER C.</u> (1), HORCH C.(2), GULDE M.(2), SCHERER-NEGENBORN N.(1), WENDELSTEIN N.(1), STEIN K. (1) Fraunhofer IOSB, DE (2) Fraunhofer EMI, DE	38 Lidar based on nonlinear optics for standoff detection of chemical warfare agents in the LWIR <u>MELKONIAN J.M.</u> (1), ARMOUGOM J.(1), DHERBECOURT J.B.(1), RAYBAUT M.(1), GORJU G.(1), GODARD A.(1), PASISKEVICIUS V.(2), COETZEE R.(2), KADLČÁK J.(3) (1) ONERA, FR (2) KTH, SE (3) VVU, CZ	74 A new Infrared Search & Track based on Distributed Arrays <u>BARANI G.</u> , POZZI A.P. Leonardo, IT
09:20	NANO/MICRO - SPACE APPLICATIONS	LASER SENSORS AND SYSTEMS	AIR, LAND & SEA DEFENCE APPLICATIONS
	45 Compact high performance imaging payloads for small sat <u>GEYLR.</u> , RODOLFO J. Safran Reosc, FR	04 High sensitivity mid-infrared detection at room temperature by upconversion in Orientation-Patterned GaAs <u>DEMUR R.</u> (1), GRISARD A.(1), LALLIER E.(1), MORVAN L.(1), TREPS N.(2), FABRE C.(2) (1) Thales Research & Technology, FR (2) Laboratoire Kastler Brossel, UPMC-Sorbonne University, CNRS, ENS-PSL Research University, Collège de France, FR	93 Antares: the Scorpion Land Situational awareness <u>MIDAVAINÉ T.</u> Thales Optronique, FR
09:40	NANO/MICRO - SPACE APPLICATIONS	LADAR - LASER SENSORS AND SYSTEMS	AIR, LAND & SEA DEFENCE APPLICATIONS
	55 Design & preparation for fabrication of the optics for MicroCarb, first full freeform satellite in Europe <u>GEYLR.</u> (1), RUCH E.(1), LOPEZ S.(2) (1) Safran Reosc, FR (2) Airbus Defense & Space, FR	52 New generation of Laser Rangefinder <u>KRAUSE U.</u> , MAAß H. Jenoptik Advanced Systems GmbH, DE	10 Electro-optical muzzle flash detection <u>EISELE C.</u> , KRIEG J., SEIFFER D. Fraunhofer IOSB, DE
10:00	SPACE APPLICATIONS	LADAR - LASER SENSORS AND SYSTEMS	AIR, LAND & SEA DEFENCE APPLICATIONS
	54 Aeolus Aladin: validation results BARTHES J.C.(1), LECRENIER O.(1), <u>LOCHARD J.</u> (1), WIMMER R.(1), MCGOLDRICK P.(2), ELFVING A.(3), WERNHAM D.(3) (1) Airbus Defense & Space, FR (2) Airbus Defense & Space, UK (3) ESA, NL	48 Demonstration of Frequency Modulated Continuous Wave (FMCW), eye-safe, coherent LIDAR to See Through Clouds <u>SILVER M.</u> (1), FENEYROU P.(2), LEVIANDER L.(2), MARTIN A.(2), PARSONS J. (1) Thales Research & Technology, UK (2) Thales Research & Technology, FR	30 Parametric sub-optimal H[∞] controllers for an optro-mechanical system modeled by a time-delay 4th order system <u>RANCE G.</u> (1), BOUZIDI Y.(2), QUADRAT A.(2), QUADRAT A.(1) (1) Safran Electronics & Defense, FR (2) INRIA Lille - Nord Europe, FR
10:20	COFFEE BREAK AND EXHIBITION		

	ROOM 1	ROOM 2	ROOM 3
	SPACE APPLICATIONS - 2	LASER SENSORS AND SYSTEMS - 2	AIR, LAND & SEA DEFENCE APPLICATIONS - 2
	CHAIRMAN: Bruno CUGNY, CNES, FR	CHAIRMAN: Eric LALLIER, TRT, FR	CHAIRMAN: Dietmar LETALICK, FOI, SE
10:50	<i>OPTICAL COMMUNICATION - SPACE APPLICATIONS</i>	<i>LASER SENSORS AND SYSTEMS</i>	<i>AIR, LAND & SEA DEFENCE APPLICATIONS</i>
	25 Air-to-Space FSO Communication Demonstrator: system overview <u>HAAN H.</u> , DURM M., MARYNOWSKI T., SIEMENS C. Hensoldt Optronics GmbH, DE	44 Design and performance evaluation of a SWaP-optimized short-range fully fibered monostatic laser rangefinder coupled in various climatic conditions <u>PALLIER G.P.</u> (1), CANAT G.C.(2), PORTALIS A.P.(1), BURINI A.B.(1), CHIQUET F.C.(2), AUFFRAY P.A.(1), LE FLOHIC M.L.F.(2) (1) SensUp, FR (2) Keopsys, FR	39 Active imaging system at 830 nm offers original “unhiding” capacities <u>PINOT H.</u> (1), PEYRONNEAUD B.(2) 1) Safran Electronics & Defense, FR (2) CILAS, FR
			HOMELAND SECURITY APPLICATIONS
11:10	<i>OPTICAL COMMUNICATION - SPACE APPLICATIONS</i>	<i>LASER SENSORS AND SYSTEMS</i>	<i>HOMELAND SECURITY APPLICATIONS</i>
	26 Air-to-Space FSO Communication Demonstrator: opto-mechanical design <u>SIEMENS C.</u> (1), HAAN H.(1), HINZ M.(1), MÜNZ H.(2) (1) Hensoldt Optronics GmbH, DE (2) Zeiss AG, DE	69 Phase-locked dual-polarization fiber lasers as compact optical-microwave sources <u>BRUNEL M.</u> (1), GUIONIE M.(1), FREIN L.(1), BONDU F.(1), CARRÉ A.(1), LOAS G.(1), PINSARD E.(2), CADIER B.(2), ALOUINI M.(1), ROMANELLI M.(1), VALLET M.(1) (1) University of Rennes 1-CNRS, FR (2) IXblue Photonics, FR	75 LEOS: Ultimate gyrostabilization for demanding optronics <u>CREPY B.</u> , GINESTET J.L., VAU B., VALLEE G., BAUR M., GILBERT G. IXblue Photonics, FR
11:30	<i>OPTICAL COMMUNICATION - SPACE APPLICATIONS</i>	<i>LASER SENSORS AND SYSTEMS</i>	<i>HOMELAND SECURITY APPLICATIONS KEYNOTE</i>
	97 Cross layer optimisation for adaptive-optics corrected satellite-to-ground laser links <u>CANUET L.</u> (1), LACAN J. (2), VÉDRENNE N. (1), RISSONS A. (2), ARTAUD G. (3) (1) ONERA, FR (2) ISAE-SUPAERO, FR (3) CNES, FR	59 Strain gradients for up-scaling the peak power of single frequency pulsed fiber amplifiers <u>DOLFI-BOUTEYRE A.</u> , BOURDON P., LE GOUËT J., DURÉCU A., LOMBARD L., <u>GUSTAVE E.</u> , JACQMIN H. ONERA, FR	34 Towards a portable laser scanner for real-time detection of explosives <u>MACARTHUR J.</u> (1), CARSON C.(1), WARDEN M.(1), STOTHARD D.(1), HUGGER S.(2), JARVIS J.P.(2), HARTELT M.(2), BUTSCHEK L.(2), OSTENDORF R.(2), MERTEN A.(3), SCHWARZENBERG M.(3), GRAHMANN J.(3), RATAJCZYK M.(4) (1) Fraunhofer UK, UK (2) Fraunhofer IAF, DE (3) Fraunhofer IPMS, DE (4) VIGO Systems, PL
11:50	<i>SPACE APPLICATIONS</i>	<i>LASER SENSORS AND SYSTEMS KEYNOTE</i>	<i>SENSORS AND COMPONENTS</i>
	108 Visible Light Communication system in LiFi technology for harsh environment <u>MAANANE H.</u> (1), Mc KENDRY J. (2), VIDEV S. (3), MERLET T. (1) (1) THALES Optronique, FR (2) University of Strathclyde, UK (3) University of Edinburgh, UK	33 Femto second coherent beam combining of fiber amplifiers <u>HEILMANN A.</u> (1), LE DORTZ J.(2), DANIAULT L.(1), <u>ESAIFES J.</u> (1), BELLANGER S.(1), ANTIER M.(3), BRIGNON A.(2), BOURDERIONNET J.(2), LALLIER E.(2), LARAT C.(2), SIMON BOISSON C.(3), CHANTELOUP J.C.(1) (1) LULI, Ecole Polytechnique, FR (2) Thales Research & Technology, FR (3) Thales Optronique, FR	64 Wide dynamic logarithmic InGaAs sensor suitable for eye-safe active imaging <u>NLY.</u> , BOUVIER C., ARION B., NOGUIER V. New Imaging Technologies, FR
	AIRBORNE APPLICATIONS - 1		SENSORS AND COMPONENTS - 1
12:10	<i>AIRBORNE APPLICATIONS</i>	<i>LASER SENSORS AND SYSTEMS</i>	<i>SENSORS AND COMPONENTS</i>
	95 TALIOS: Multifunction Targeting Pod: help crew through a new approach to face complexity <u>DEPARDON B.</u> Thales Optronique, FR	49 DPSS laser development at Quantel for industrial and military application <u>MASSON L.</u> , WAZEN P., YVERNAULT P. Quantel, FR	43 First steps in ELT optics polishing & testing <u>GEYL R.</u> , BARDON D., BOURGOIS R. Safran Reosc, FR
12:30	LUNCH BREAK AND EXHIBITION		

Day 2 - Wednesday, February 7, 2018

ROOM 1

ROOM 2

ROOM 3

AIRBORNE APPLICATIONS – 2

LASER SENSORS AND SYSTEMS - 3

SENSORS AND COMPONENTS – 2

CHAIRMAN: Philippe ADAM, DGA, FR

CHAIRMAN: Eric LALLIER, TRT, FR

CHAIRMAN: Frédéric PISTONE, Thales Alenia Space, FR

14:40

AIRBORNE APPLICATIONS

LASER SENSORS AND SYSTEMS KEYNOTE

SENSORS AND COMPONENTS KEYNOTE

101

Sysiphe, an airborne hyperspectral imaging system from visible to thermal infrared. Results from the 2015 airborne campaign

ROUSSET-ROUVIERE L.(1), COUDRAIN C.(1), FABRE S.(1), FERREC Y.(1), POUTIER L.(1), VIALLEFONT F.(1), RIVIERE T.(1), BOUCHER Y.(1), LØKE T.(2), BAARSTAD I.(2), SKAULI T.(3), SISAKOUN I.(4)
(1) ONERA, FR
(2) NorskElektroOptikk AS, NO
(3) FFI, NO
(4) DGA, FR

107

Challenges for optronics in future laser weapons

MOHRING B.(1)
MBDA, DE

56

Combining compactness and high performance: Next Generation of cooled MCT IR-modules

LUTZ H., BENECKE M., BREITER R., EICH D., FIGGEMEIER H., WEBER A., WENDLER J.
AIM-Infrarot-Module GmbH, DE

15:00

AIRBORNE APPLICATIONS KEYNOTE

LASER SENSORS AND SYSTEMS

SENSORS AND COMPONENTS

36

EO/IR Sensor for UAV Detect and Avoid

FARJON J., MALTESE D.
Safran Electronics & Defense, FR

15

140 W peak power laser system tunable from 8-10 µm

GUTTY E.(1), GRISARD A.(1), LARAT C.(1), PAPILLON D.(1), SCHWARZ M.(1), GERARD B.(2), OSTENDORF R.(3), RATTUNDE M.(3), WAGNER J.(3), LALLIER E.(1)
(1) Thales Research & Technology, FR
(2) III-V LabCampus of Polytechnique, FR
(3) Fraunhofer IAF, DE

40

Performance evaluation of state-of-the-art uncooled focal plane detectors for sub-millimeter imaging

MEILHAN J.(1), DELPLANQUE B.(2), DUSSOPT L.(2), HAMELIN A.(2), MONNIER N.(2), NICOLAS J.A.(2), ODEN J.(2), SICARD G.(2), SIMOENS F.(2), CEOLATO R.(3), GUÉRINEAU N.(3), HESPEL L.(3), ROMMELUÈRE S.(3)
(1) CEA-LETI, FR
(2) Grenoble Alpes University, CEA-LETI, FR
(3) ONERA, FR

PHOTONICS R&T AND EMERGING TECHNOLOGIES - 1

15:20

THZ - PHOTONICS R&T AND EMERGING TECHNOLOGIES

ACTIVE IMAGING - LASER SENSORS AND SYSTEMS

SENSORS AND COMPONENTS

85

Scattering of sub-THZ waves in brownout condition

PROPHÈTE C.(1), PIERRAT R.(1), SIK H.(2), KLING E.(2), CARMINATI R.(1), DE ROSNY J.(1)
(1) Langevin Institute, ESPCI Paris, CNRS, PSL Research University, FR
(2) Safran Electronics & Defense, FR

29

Active imaging for LDEW systems

SIJAN A., COPLEY J., MACDONALD J.
Leonardo, UK

63

Wide Dynamic Logarithmic CMOS Night Vision Sensor by using Front-Side Electron Bombardment

NI Y., NOGUIER V.
New Imaging Technologies, FR

15:40

LIDAR - PHOTONICS R&T AND EMERGING TECHNOLOGIES KEYNOTE

ACTIVE IMAGING - LASER SENSORS AND SYSTEMS

SENSORS AND COMPONENTS

17

Photonic integrated circuit based FMCW coherent LiDAR

MARTIN A.(1), BOURDERIONNET J.(1), LEVIANDIER L.(1), NAUGHTON A.(2), O'BRIEN P.(2), SPUESSENS T.(3), BAETS R.(3), LEPAGE G.(4), VERHEYEN P.(4), DE HEYN P.(4), ABSIL P.P.(4), DOLFI D.(1), FENEYROU P.(1)
(1) Thales Research & Technology, FR
(2) Tyndall National Institute, University College Cork, IE
(3) Ghent University, IMEC, BE
(4) IMEC, BE

82

Day & night handheld camera with active imagery

HARDY-BARANSKI B., GAILLARD B., PETRETO A., MENARD P.
Lheritier, FR

71

Study of the diffusion current in InGaAs PIN photodiodes

BONVALOT C., NEDELCOU A.
Sofradir, FR

16:00

SWIR - PHOTONICS R&T AND EMERGING TECHNOLOGIES

ACTIVE IMAGING - LASER SENSORS AND SYSTEMS

SENSORS AND COMPONENTS

03

Near-infrared to visible upconversion for active imaging: experiments and simulations

DEMUR R.(1), GRISARD A.(1), LALLIER E.(1), MORVAN L.(1), LEVIANDIER L.(1), TREPS N.(2), FABRE C.(2)
(1) Thales Research & Technology, FR
(2) Kastler Brossel Laboratory, UPMC-Sorbonne Universities, CNRS, ENS-PSL Research University, Collège de France, FR

100

2D LmAPD and 3D GmAPD flash laser imaging for long range surveillance in maritime border security and identification in Counter UAS System

HESPEL L., RIVIERE N.(1), FRACES M.(1), DUPOUY P.E.(1), COYAC A.(1), BARILLOT P.(1), FAUQUEUX S.(1), PLYER A.(1), TAUZY M.(1), JACQUART M.(1), VIN I.(1), NASCIMBEN E.(2), PEREZ C.(2), VELAYGUET J.P.(2), GORCE D.(3)
(1) ONERA, FR
(2) Exavision, FR
(3) ISSM, FR

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Low dark current HgCdTe p-on-n technology for space applications

PERÉ-LAPERNE N.(1), BAIER N.(2), CERVERA C.(2), SANTAILLER J.L.(2), LOBRE C.(2), CASSILLO C.(1), BERTHOZ J.(1), DESTEFANIS V.(1), SAM GIAO D.(1), LAMOURE A.(1)
(1) Sofradir, FR
(2) Grenoble Alpes University, CEA-LETI, FR

16:20

COFFEE BREAK AND EXHIBITION

	ROOM 1	ROOM 2	ROOM 3
	PHOTONICS R&T AND EMERGING TECHNOLOGIES - 2	LASER SENSORS AND SYSTEMS - 4	SENSORS AND COMPONENTS - 3
	CHAIRMAN: Patricia CYMBALISTA, MESRI, FR	CHAIRMAN: Nikolaus SCHMITT Airbus Group Innovations, DE	CHAIRMAN: Donald REAGO, NVESD, US
16:50	<i>PLASMONICS - PHOTONICS R&T AND EMERGING TECHNOLOGIES</i>	<i>ACTIVE IMAGING - LASER SENSORS AND SYSTEMS KEYNOTE</i>	<i>SL SENSORS AND COMPONENTS</i>
	102 Ultra compact tunable optical devices based on Bloch surface waves GROSJEAN T.(1), KOVALEVITCH T.(2), WANG M.(2), ZHAN H.(2), SALUT R.(2), KIM M.S.(3), LU H.(4), SUAREZ M.A.(2), HERZIG H.P.(3), BERNAL M.P.(2) (1) University of Bourgogne Franche-Comté, FR (2) FEMTO-ST, FR (3) Optics & Photonics Technology Laboratory, EPFL, CH (4) Key Laboratory of Optoelectronic Information and Sensing Technologies of Guangdong Higher Educational Institutes, CH	21 Ultra-Compact Short-Pulse Laser Diode Illuminators for Portable Gated Active Imaging Systems CANAL C., LAUGUSTIN A., RABOT O., KOHL A. Quantel Laser, FR	42 Performance and Manufacturability of MWIR/LWIR FPAs based on III-V Superlattices NOSHO B., GURGA A., TERTERIAN S., RAJAVEL R. HRL Laboratories LLC, US
17:10	<i>PLASMONICS - PHOTONICS R&T AND EMERGING TECHNOLOGIES</i>	<i>ACTIVE IMAGING - LASER SENSORS AND SYSTEMS</i>	<i>SL SENSORS AND COMPONENTS</i>
	103 Doubly Resonant Photonic Antenna for Single Infrared Quantum Dot Imaging at Telecommunication Wavelengths GROSJEAN T.(1), XIE Z.(2), LEFIER Y.(2), SUAREZ M.A.(2), MIVELLE M.(2), SALUT R.(2), MEROLLA J.M.(2) (1) University of Bourgogne Franche-Comté, FR (2) FEMTO-ST, FR	105 A compact long-range lidar imager for high spatial resolution operation in daytime ROYO S.(1), RIU J.(2) (1) Technical University of Catalonia, SP (2) Beamagine, SP	47 Advances in Sb-based Bulk and Superlattice MWIR Detector Array Technology Operating at High Temperature (HOT) SHARIFI H.(1), TERTERIAN S.(1), JENKINS J.(1), TU B.A.(1), ROEBUCK M.(1), DE LYON T.(1), RAJAVEL R.(1), CAULFIELD J.(2), CURZAN J.(2) (1) HRL Laboratories LLC, US (2) Cyan, US
17:30	<i>MICRO-NANO - PHOTONICS R&T AND EMERGING TECHNOLOGIES</i>	<i>LASER SENSORS AND SYSTEMS</i>	<i>SENSORS AND COMPONENTS</i>
	98 Nanostructured diode for infrared photodetection through nondegenerate two-photon absorption FIX B. ONERA, FR	89 High power directly modulated lasers and high speed high power handling photodiodes for analog signal transport over fibre VAN DIJK F.(1), FAUGERON M.(1), CHTIOUI M.(2), ENARD A., FR, PARILLAUD O.(1), LELARGE F., ACHOUCHE M.(3) (1) III-V Lab Campus of Polytechnique / Thales Research & Technology, FR (2) Thales Research & Technology, FR (3) III-V Lab Campus of Polytechnique, FR	83 Theoretical considerations and system performance issues for dual band IR imaging: the FPA point of view GRAVRAND O., CASTELEIN P. CEA-LETI, FR
17:50	<i>MICRO-NANO - PHOTONICS R&T AND EMERGING TECHNOLOGIES</i>	<i>LASER SENSORS AND SYSTEMS</i>	<i>SENSORS AND COMPONENTS</i>
	96 Subwavelength gratings for infrared multispectral imaging VINCENT G. ONERA, FR	88 Development of lasers emitters, high power optical amplifiers and high sensitivity photodetectors for LIDAR systems DUPORT E.(1), PHAM C.(2), GARCIA M.(3), LARRUE A.(3), PARET J.F.(3), CAILLAUD C.(3), KRAKOWSKI M.(3), GOMEZ C., BRENOT R.(3), ACHOUCHE M.(3), VAN DIJK F.(3) (1) III-V Lab Campus of Polytechnique / Thales Research & Technology, FR (2) Thales Research & Technology, FR (3) III-V Lab Campus of Polytechnique, FR	27 Photodiodes for Munitions Laser Guidance BOIREAU D. Excellitas Technologies, CA
18:10	<i>MICRO-NANO - PHOTONICS R&T AND EMERGING TECHNOLOGIES</i>	<i>LASER SENSORS AND SYSTEMS</i>	<i>SENSORS AND COMPONENTS</i>
	87 Harnessing blackbody radiation with metasurfaces WOJSZVZYK L., SAKAT É., HUGONIN J.P., BESBES M., SAUVAN C., GREFFET J.J. Charles Fabry Laboratory, IOGS, CNRS, FR	91 DFB ridge laser diodes at 894 nm for Cesium atomic clocks KRAKOWSKI M.(1), RESNEAU P.(2), VON BANDEL N.(2), GARCIA M.(2), LARRUE A.(2), ROBERT Y.(2), VINET E.(2), CALO C.(2), LEGOEC J.P., PARILLAUD O.(2), SCHMEISSNER R.(3), BALDY M.(3) (1) III-V Lab Campus of Polytechnique / Thales Research & Technology, FR (2) III-V Lab, Campus of Polytechnique, FR (3) Thales Electron Devices, FR	76 Beam Steering Mirrors: from Space applications to Optronic applications CLAEYSSEN F. Cedrat Technologies, FR
18:30	OPTRO 2018 PhD Best Paper Award OPTRO Award COCKTAIL SOCIAL EVENT		
20:00	END OF SECOND DAY PROGRAMME		

Day 3 - Thursday, 8 February 2018

	ROOM 1	ROOM 2	ROOM 3
	IMAGING AND SYSTEMS - 1	SIMULATION - 1	SENSORS AND COMPONENTS - 4
	CHAIRMAN: Roland GEYL, Safran Reosc, FR	CHAIRMAN: Gérard BERGINC, TOSA, FR	CHAIRMAN: Jacques LONNOY, 3AF, FR
08:40	<i>IMAGING AND SYSTEMS</i>	<i>SIMULATION</i>	<i>SENSORS AND COMPONENTS</i>
	<p>66 Thermal Infrared Hyperspectral Imaging for chemical mapping of an open mine BOUBANGA TOMBET S. (1), HUOT A.(2), VITINS I.(3), <u>GUYOT E.</u>(1), MARCOTTE F.(2), CHAMBERLAND M.(2) (1) Telops, FR (2) Telops, CA (3) Schweizerische Geotechnische Kommission,CH</p>	<p>09 Empirical process to model dazzled FPA sensor for DIRCM application <u>MEYER O.</u>(1), MELLIER B.(2) (1) DGA MI, FR (2) DGA, FR</p>	<p>50 Mid-Infrared glass optical fibers : Tools for versatile, robust and compact spectroscopic systems <u>TROLES J.</u>(1), BRILLAND L.(2), BOUSSARD C.(1), BUREAU B.(1), NAZABAL V.(1), ADAM J.L., CAILLAUD C.(2), CHARPENTIER F.(3), TARIEL H.(3), POULAIN S.(4), COZIC S.(4), POULAIN M.(4) (1) University of Rennes 1, FR (2) Selen Optics, FR (3) Diafir, FR (4) Le Verre Fluoré, FR</p>
09:00	<i>IMAGING AND SYSTEMS</i>	<i>SIMULATION</i>	<i>SENSORS AND COMPONENTS</i>
	<p>110 Recent achievements in hyperspectral polarimetric BRDF measurements in the visible and infrared <u>CEOLATO R.</u> ONERA, FR</p>	<p>32 HESPERIDES : an optronic sensor performance prediction tool in the stochastic and spatiotemporally variable marine environment <u>GARDENAL L.</u> (1), TEDESCHI G. (2), FAJAN F.(3), FAUQUEUX S.(3), LAPIERRE F. (4) (1) CS-SI, FR (2) MIO – University of Toulon, FR (3) ONERA, FR (4) OS-Engineering, BE</p>	<p>73 New developments in the definition of Cryocoolers <u>BENSCHOP T.</u>(1), SEGUINEAU C.(2), DE JONGE G.(1) (1) Thales Cryogenics BV, NL (2) Thales Cryogenie, FR</p>
09:20	<i>IMAGING AND SYSTEMS</i>	<i>SIMULATION</i>	<i>CHALCO SENSORS AND COMPONENTS</i>
	<p>62 Illumination-less Multi-Point Non-Uniformity Correction by using Free Carrier Injection NI Y., <u>NOQUIER V.</u> New Imaging Technologies, FR</p>	<p>53 Recent improvement of the "FAST" version of SE-Workbench-EO <u>CATHALA T.</u>, LATGER J. Oktal-SE, FR</p>	<p>68 High-performance photodetectors beyond the visible regime from UV to IR <u>REHM R.</u>, AIDAM R., BRONNER W., DAUMER V., DRIAD R., GRAMICH V., HUGGER T., HAHN L., LUPPOLD W., MÜLLER R., NIEMASZ J., PASSOW T., RUTZ F., SCHMIDT J., STADELMANN T., WÖRL A. Fraunhofer Institute for Applied Solid State Physics, DE</p>
09:40	<i>IMAGING AND SYSTEMS</i>	<i>SIMULATION</i>	<i>CHALCO SENSORS AND COMPONENTS</i>
	<p>81 ULIS Bolometer improvement for fast imaging applications <u>TINNES S.</u> ULIS,FR</p>	<p>72 Strategy to model the thermo-dynamical cycle of a gas-turbine from open source data <u>LE GOFF A.</u>, KERSAUDY P. DGA MI, FR</p>	<p>51 IR optics of chalcogenide glasses made by mechanical alloying and sintering <u>NOVIKOVA A.</u>(1), CALVEZ L.(2), TARIEL H.(1), ZHANG X.H.(2) (1) Diafir, FR (2) Institut des Sciences Chimiques de Rennes, CNRS UMR 6226, University of Rennes 1, FR</p>
10:00	<i>IMAGING AND SYSTEMS</i>	<i>SIMULATION</i>	<i>CHALCO SENSORS AND COMPONENTS</i>
	<p>92 Cryogenicinfrared cameras: a review DRUART G., DE LA BARRIÈRE F., DOMEL R., COUDRAIN C., ROUSSET-RIVIERE L ONERA, FR</p>	<p>02 Validation of SE-Workbench-EO in the visible spectral band <u>CATHALA T.</u>(1), BARBÉ S.(2) (1) Oktal-SE, FR (2) ONERA, FR</p>	<p>65 Gradient Refractive INdex (GRIN) Lenses of Chalcogenide Glasses for Infrared Application <u>LAVANANT E.</u>(1), CALVEZ L.(1), HINGANT T.(2), ROSÉ M.(2), GUIMOND Y.(2), ZHANG X.H.(1) (1) Institut des Sciences Chimiques de Rennes, CNRS UMR 6226, University of Rennes 1, FR (2) Umicore IR Glass, FR</p>
10:20	COFFEE BREAK AND EXHIBITION		

	ROOM 1	ROOM 2	ROOM 3
	IMAGING AND SYSTEMS - 2	SIMULATION - 2	SENSORS AND COMPONENTS - 5
	CHAIRMAN: Richard HOLLINS, DSTL, UK	CHAIRMAN: Karin STEIN, Fraunhofer-IOSB, DE	CHAIRMAN: Pierre CASTELEIN, CEA-LETI, FR
10:50	<i>HX IMAGING AND SYSTEMS</i>	<i>SIMULATION</i>	<i>SENSORS AND COMPONENTS KEYNOTE</i>
	67 Passive Thermal Infrared remote sensing of gas leaks using Hyperspectral Imaging cameras BOUBANGA TOMBET S.(1), WATREMEZ X.(2), BARON T.(2), GUYOT E.(1), CHAMBERLAND M.(3) (1) Telops, FR (2) Total, FR (3) Telops, CA	35 Active turbulent imaging simulation on weakly specular targets POTVIN P. DRDC - Valcartier Research Center, CA	8 10µm pitch detectors for MWIR applications SHKEDY L., GERSHON G., AVNON E., BRUMER M., FREIMAN W., NIDERMAN T., OFER O., FISHLER N., SEREF D., SHOVAL R., SHILOAH N., TESSLER R., SHTRICHMAN I. Semi Conductor Devices (SCD), IL
11:10	<i>IMAGING AND SYSTEMS</i>	<i>SIMULATION KEYNOTE</i>	<i>SENSORS AND COMPONENTS</i>
	24 Characterizing atmospheric turbulence and its impact on electro-optical systems GLADYSZ S., STEIN K. Fraunhofer Institute of Optronics, System Technologies and Image Exploitation IOSB, DE	37 CUBI experiment and simulation for infrared scene modelling validation LE GOFF A., HURTAUD Y., FLOCH E., CORBIHAN P., JAU C. DGA MI, FR	28 A new read-out method of dielectric bolometers with a few µK sensitivity WALENTA A.(1), SCHENK H.W.(2) (1) University of Siegen, DE (2) DND, DE
11:30	<i>IMAGING AND SYSTEMS</i>	<i>SIMULATION</i>	<i>SENSORS AND COMPONENTS</i>
	109 C-RED One and C-RED2: SWIR high-performance cameras using Saphira e-APD and Snake InGaAs detectors GACH J.L.(1,2), FEAUTRIER P.(1,3), STADLER E.(1,3), CLOP F.(1), LEMARCHAND S.(1), CARMIGNANI T.(1), WANWANSCHAPPEL Y.(1), BOUTOLLEAU D.(1) (1) First-Light Imaging, FR (2) Aix-Marseille University, CNRS, LAM, FR (3) Grenoble Alpes University, CNRS, IPAG, FR	41 High-fidelity rainfall effects on thermal infrared scene simulation BALLARD J.(1), HOWINGTON S.(1), KALA R.(1), MILLER B.(2) (1) US Army ERDC, US (2) US Army CERDEC/NVESD, US	77 Influence of current and future developments in IR CMOS detectors on the performances of their testing systems BARRAT C., LEBOUCHER V., GUESTIN L., AUVRAY G., VIOLLEAU S. HGH Systèmes Infrarouges, FR
11:50	<i>SIGNAL AND IMAGE PROCESSING</i>	<i>SIMULATION</i>	<i>SENSORS AND COMPONENTS</i>
	104 Polarimetric imaging, contrast optimization GOUDAIL E., BOFFETY M., ROUSSEL S. Charles Fabry Laboratory, IOGS, FR	22 Experimental and numerical study of a supersonic plume with afterburning for plume infrared signature prediction RIALLAND V., NICOLE A., ROMMELUERE S., LANGLOIS S., LAVIGNE C., BROSSARD C., DORVAL N., ORAIN M., RISTORI A., VINGERT L. ONERA, FR	07 Low SWaP video engine for SWIR Low Light Level imaging LOUZON E.(1), AHARON A.(1), GAZIT R.(1), BAR D.(1), HIRSH I.(1), KONDRASHOV P.(1), WEINSTEIN M.(1), SAVCHENKO M.(1), REGENSBURGER M.(1), MEDIOUNI A.(1), MOR E.(1), SHAY A.(1), ROZENSHEIN K.(1), SYREL N.(1), IOSEVICH R.(1), GILADI A.(1), BERKOWICZ E.(1), BEN EZRA M.(2), TUITO A.(3), FRAENKEL R.(1) (1) SemiConductor Devices (SCD), IL (2) Israeli DF, IL (3) Israeli MOD, IL
12:10	<i>SIGNAL AND IMAGE PROCESSING</i>	<i>SIMULATION</i>	<i>SENSORS AND COMPONENTS</i>
	70 Automatic recognition of small objects in UAV image using "segnet" deep network LAMBERT M. DGA, FR	06 Estimation of the accuracy of 3D reconstruction methods of 2D gated imaging system MEYER Q.(1), LE GOFF A.(2) (1) DGA MI, FR (2) DGA, FR	80 SWIR MCT IR-modules for active imaging applications EICH D., BENECKE M., BREITER R., OELMAIER R., SIECK A., WENDLER J., DEFIGGEMEIER H. AIM Infrarot Module GmbH, DE
12:30	LUNCH BREAK AND EXHIBITION		

Day 3 - Thursday, 8 February 2018

	ROOM 1	ROOM 2	ROOM 3
	SIGNAL AND IMAGE PROCESSING	SIMULATION - 3	EPIC
	CHAIRMAN: Mario MÜNZBERG, Hensoldt, DE	CHAIRMAN: Karin STEIN, Fraunhofer-IOSB, DE	CHAIRMAN : Carlos LEE, EPIC, FR
14:00	SIGNAL AND IMAGE PROCESSING	SIMULATION	<p>14:00 -16:00</p> <p>MEETING BETWEEN SMES AND MAJOR COMPANIES (Optional)</p> <p>Lidar Technology for Defense and Security</p>
	79 Sea Surface Targets Detection, Tracking and Classification with a Camera OLIVEAU Q., LANEUVILLE D., NÈGRE A., DUFOUR P. Naval Group Research, FR	20 Electro-optical propagation effects: in-situ versus path-averaged transmission measurements VAN ELJK A.(1), VAN BINSBERGEN S.(1), STEIN K.(2) (1) TNO, NL (2) Fraunhofer IOSB, DE	
14:20	SIGNAL AND IMAGE PROCESSING KEYNOTE	SIMULATION	
	12 Automatic Vehicle Detection in Aerial Images Using Deep Neural Networks MASSON C., HENAFF G. Thales Optronique SA, FR	05 Simulation of incoherent and coherent laser beam focused through the turbulence MEYER O. DGA MI, FR	
14:40	SIGNAL AND IMAGE PROCESSING	SIMULATION	
	90 Ultra-fast brain-inspired photonic information classification LARGER L.(1), BAYLÓN-FUENTES A.(1), JACQUOT M.(1), BRUNNER D.(1), CHEMBO Y.(2) (1) FEMTO-ST, FR (2) Georgia Tech-CNRS Joint International Laboratory, School of Electrical and Computer Engineering, USA	86 High performance controllers for ELT-sized adaptive optics systems PRENGERE L.(1), KULCSÁR C.(2), RAYNAUD H.F.(2), CONAN J.(3) (1) Charles Fabry Laboratory, IOGS / ONERA, FR (2) Charles Fabry Laboratory, IOGS, FR (3) ONERA, FR	
15:00	SIGNAL AND IMAGE PROCESSING	SIMULATION	
	94 Smart fleet: big data analytics for predictive maintenance and fleet management BAYSSE C. Thales Optronique, FR	13 NV-IPM as a Tool to Link Results from DRI Campaigns and Laboratory Measurements in the I2 Domain SWIATHY G.(1), REYNOLDS J.P.(2), CERVANTES OROZCO P.(1), DURAND J.P.(1), GUESNIER A.(3), VALLAS T.(3) (1) DGA TA, FR (2) US Army RDECOM CERDEC / NVESD, US (3) STAT, FR	
15:20	SIGNAL AND IMAGE PROCESSING	SIMULATION	
	19 Analysis of joint impact of optical refractivity and turbulence on laser beam and image characteristics VORONTSOV M., KULIKOV V., YANG Z. University of Dayton, US (NO SHOW)	99 Channel based spectral image rendering of aircraft for optronic sensor dimensioning HOARAU R.(1), COIRO E.(1), THON S.(2), RAFFIN R.(2) (1) ONERA, FR (2) Aix Marseille University / Toulon University / CNRS / ENSAM / LIS, FR	
15:40			
16:00	END OF OPTRO2018		