



Deliverable

WP5 – Dissemination and exploitation

D5.14 Workshops and Events (2)

Project Information

Grant Agreement n°	863227
Dates	01-12-2019 / 30-06-2023

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 863227.

Document status

Document Information

Deliverable name	PULSE-COM_D5.14_Workshops and Events (2)_30062023_VF
Responsible beneficiary	Lucia Petti / CNR
Contributing beneficiaries	Jean Herisson / BENKEI
Contractual delivery date	M43 – 30/06/2023
Actual delivery date	M43 – 30/06/2023
Dissemination level	Public

Document approval

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Document history

Version	Date	Modifications	Authors
V1	27/06/2023	First version	J. HERISSON / BENKEI
VF	28/06/2023	Inclusion of new entries for SITEX 45 and picture of the gadgets.	J. HERISSON / BENKEI

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Executive summary

1 Executive summary

1.1. Description of the deliverable content and purpose

This deliverable intends to inform the public about all conferences, workshops, seminars or training sessions where the consortium has disseminated its results. It is also supposed to provide information on the different seminars organized by the consortium.

Thereby, this deliverable is divided into two parts. The first one lists all events attended by each partner of the consortium while the second part is addressing the event organized by the consortium.

1.2. Brief description of the state of the art and the innovation breakthroughs

This deliverable is following the D5.13 - Workshops and Events (1) that had been produced for the first period of the project, i.e., from December 2019 to November 2020. To obtain the vision on all the content created or attended by the consortium, it is necessary to read these two deliverables.

1.3. Corrective action (if relevant)

N/A

1.4. IPR issues (if relevant)

N/A

Deliverable report

1 Presentations at conferences, workshops, seminars and training sessions

From May 2022, the PULSE-COM consortium has been involved in 16 different events to disseminate its findings, as stated in the Table 1. At that time of the project, 7 above 8 partners have communicated at least in one conference.

Table 1: List of events attended by the PULSE-COM consortium.

	Conference title	Date	Place	Website	Production	Title	Authors
CNR	NOMA 2022	22-28/05/22	Cetraro (Italy)	https://www.nomameeting.com/	Oral presentation	Improved responsivity of ZnO-doped LC-photo mobile polymers	Domenico Sagnelli
	European Optical Society Annual Meeting 2022	12-16/09/22	Porto (Portugal)	https://www.europeanoptics.org/events/eos/eosam2022.html	Oral presentation	Heliconical Cholesterics: new opportunities for optofluidics?	Francesco Simoni
	Notte dei Ricercatori	30/09/22	Napoli (Italy)		Posters	Multiwavelength and mechanical improvement in doped azo-PMPs	Amalia D'Avinoj, Domenico Sagnelli, Massimo Ripa, Ambra Vestri, Valentina Marchesano, Sonia Centi, Fulvio Ratto and Lucia Petti
	Futuro Remoto	22-27/11/22	Napoli (Italy)	https://www.futuroremoto.eu/prorama-edizione-2022/	Demonstrations		Lucia Petti, Domenico Sagnelli, Ambra Vestri, Valentina Marchesano, Amalia D'Avino, Massimo Ripa
	SPIE Conference on Optics and Optoelectronics	24-27/04/23	Prague (Czech Republic)	https://spie.org/conferences-and-exhibitions/optics-and-optoelectronics?SSO=1	Oral presentation	Optimization of PMP films' preparation and mechanical properties using ZnO nanoparticles as dopant	Amalia D'Avino, Domenico Sagnelli, Ambra Vestri, Massimo Ripa, Valentina Marchesano, Veronica Ambrogi, Anna De Girolamo, Fausta Loffredo, Fulvia Villani, Giuseppe Nenna, Lucia Petti
ENEA	Futuro Remoto	22-27/11/22	Napoli (Italy)	https://www.futuroremoto.eu/prorama-edizione-2022/	Demonstrations		Fausta Loffredo, Giuseppe Nenna, Fulvia Villani, Anna De Girolamo Del Mauro, Tommaso Fasolino, Maria Montanino, Giuliano Sico, Riccardo Miscioscia
	SPIE Conference on Optics and Optoelectronics	24-27/04/23	Prague (Czech Republic)	https://spie.org/conferences-and-exhibitions/optics-and-optoelectronics?SSO=1	Oral presentations	Printed ZnO nanoparticle seed layers to grow ZnO nanowires on flexible substrates	Fulvia Villani, Fausta Loffredo, Giuliano Sico, Maria Montanino, Anna De Girolamo Del Mauro, Maria Federica Caso, Manojit

						Pusty, Thomas Jalabert, Giuseppe Nenna, Gustavo Ardila	
					Visible photomobile response of azobenzene-based	Anna De Girolamo Del Mauro, Fausta Loffredo, Fulvia Villani, Maria Federica Caso, Tommaso Fasolino, Ambra Vestri, Domenico Sagnelli, Amalia D'Avino, Lucia Petti, Giuseppe Nenna	
				Poster	Photomobile films based on liquid crystal polymer carbon black composites	F. Loffredo, A. De Girolamo Del Mauro, F. Villani, M. F. Caso, T. Fasolino, R. Miscioscia, A. Vestri, D. Sagnelli, A. D'Avino, L. Petti, G. Nenna	
UGA	6th International Conference on Nanogenerators and Piezotronics NGPT 2022	20-23/06/22	Sundsvall (Sweden)	https://www.ngpt2022.org/	Oral presentation (invited)	The impact of free carriers and surface traps on semiconducting piezoelectric devices	G. Ardila, A. J. Lopez Garcia, Q. C. Bui, T. Jalabert, M. Pusty, V. Consonni, B. Salem, A. Cresti, G. Ghibaudo and M. Mouis
	Electronics for Sustainable Societies	13-16/09/22	Liverpool (UK)	https://efutures2.com/ess2022/	Oral presentation	Semiconducting Piezoelectronic Transducers based on ZnO Nanowires	Gustavo Ardila
	Journées nationales des nanofils semiconducteurs	28/09/2022	Nice (France)	http://www.crhea.cnrs.fr/j2n-2022/#:~:text=Les%20Journ%C3%A9es%20Nationales%20des%20Nanofils,vendredi%20de%2014h%20%C3%A0%2016h.	Oral presentation	Probing the local piezoelectric response of semiconducting ZnO nanowires by Piezoresponse Force Microscopy	Thomas Jalabert
	World congress of Nano science and technology - Nano-S&T	8-10/02/23	Sapporo (Japan)	https://www.bitcongress.com/nanobio2023/default.asp	Oral presentation	Nanowire-based piezoelectric transducers: the impact of semiconducting properties	Gustavo Ardila
	Forum des microscopies à sonde locale	3-7/04/23	Obernai (France)	http://www.sondeslocales.fr/accueil	Oral presentation	The impact of free carriers and surface traps on semiconducting piezoelectric structures and related devices	Thomas Jalabert

	SPIE Conference on Optics and Optoelectronics	24-27/04/23	Prague (Czech Republic)	https://spie.org/conferences-and-exhibitions/optics-and-optoelectronics?SSO=1	Oral presentation	ZnO nanowires based piezoelectric energy transducers: the role of size and semiconducting properties	Thomas Jalabert, Manojit Pusty, Andrés Jenaro Lopez Garcia, A. Cresti, Mireille Mouis, Gustavo Ardila
CTEC	SPIE Conference on Optics and Optoelectronics	24-27/04/23	Prague (Czech Republic)	https://spie.org/conferences-and-exhibitions/optics-and-optoelectronics?SSO=1	Oral presentation	New range of light driven actuation devices	Patrick Meneroud, Jolan Gauthier, Sylvain Duc, Mathieu Thomachot, Frank Claeysen
SITEX 45	EMRS Spring Meeting 2022, Symposion C: "Semiconductor Nanostructures Towards Opto-Electronic and Photonic Device Applications - VIII"	30/05-3/06/22	Remote	https://www.european-mrs.com/semiconductor-nanostructures-towards-opto-electronic-and-photonic-device-applications-%E2%80%93-viii-emrs	Poster	Sol-gel IV-VI semiconductor quantum dots-doped inorganic thin films for temperature detection devices	Elisa, M., Iordache, S. M., Iordache, A-M., Vasiliu, I. C., Pana, I., Enculescu, M., Elosua Aguado, C., Arregui, F. J., Lopez D., Ulieru, D., Vila, X., Caridad Hernández, J., Casanova González, M. Á., de Paz Santana, J. F., Nicoara A-I., Eftimie M.
	26 th International Congress on Glass	3-8/07/22	Berlin (Germany)	https://www.hvg-dgg-events.com/icg2022	Poster	Advanced sol-gel IV-VI quantum dots-doped thin films for temperature sensing systems	Elisa, M.; Arregui, FJ; Caridad Hernandez, J; Casanova Gonzalez, MA; Elosua Aguado, C.; Elosua Aguado, C.; Enculescu, M.; Iordache, A.-M.; Iordache, S-M.; Lopez, D.; Pana, I.; Ulieru, D.; Vasiliu, I.C.; Vila, X.; de Paz Santana, J.F.
	24 th International Conference Materials, Methods & Technologies	19-21/08/22	Burgas (Bulgaria)	https://www.sciencebg.net/en/conferences/materials-methods-and-technologies/	Poster	Complex sol-gel IV-VI quantum dots-doped inorganic thin films for temperature sensing instrumentation	M. Elisa, I. C. Vasiliu, S. M. Iordache, A. M. Iordache, I. Pana, M. Enculescu, A. I. Nicoara, M. Eftimie, C. Elosua Aguado, D. Lopez, F. J. Arregui, D. Ulieru, X. Vila, J. Caridad Hernández, M. Á. Casanova González, J. F. de Paz Santana
	SPIE Conference on Optics and Optoelectronics	24-27/04/23	Prague (Czech Republic)	https://spie.org/conferences-and-exhibitions/optics-and-optoelectronics?SSO=1	Oral presentation	The comparative analysis of 2D photonic crystals applications based on	Dumitru Ulieru, Oana-Maria Ulieru

						specific modeling/simulation results	
INFLPR	International Conference on Lasers, Plasma and Radiation-Science and Technology	7-10/06/22	Bucharest (Romania)	https://www.inflpr.ro/en/node/11169	Oral presentation	Photo-Mobile-Polymer new functionalities by plasmonic resonance, opal/reverse opal structures and laser polymerization	Bogdan Alexandru Sava, Rares Victor Medianu, Lucica Boroica, Ana Violeta Filip, Marius Catalin Dinca, Ion Sandu, Bogdan Calin, Marius Dumitru, Antoniu Moldovan, Rovena Pascu, Mihai Oane, and Mihai Eftimie
	Global Experts Meet on Condensed Matter Physics	16-18/06/22	Rome (Italy)	https://www.msconferences.com/CondensedMatterPhysics/19/home.html	Oral presentation (invited)	Ultrathin silver plasmonic films	Bogdan Alexandru Sava, Rares Victor Medianu, Ana Violeta Filip, Lucica Boroica, Marius Catalin Dinca, Rovena Pascu, Nicolae Tigau, Andreea Andrei, Antoniu Moldovan, Marius Dumitru, Mihai Oane, and Mihai Eftimie
	SPIE Conference on Optics and Optoelectronics	24-27/04/23	Prague (Czech Republic)	https://spie.org/conferences-and-exhibitions/optics-and-optoelectronics?SSO=1	Poster	Optical effects by opal/reverse opal structures, laser polymerizing and plasmonic Ag ultra-thin films	Bogdan Alexandru Sava, Ion Sandu, Bogdan Stefanita Calin, Lucica Boroica, Ana Violeta Filip, Marius Cătălin Dincă, Alexandra Maria Isabel Trefilov, Claudiu Teodor Fleacă, Marius Dumitru, Marian Zamfirescu, Dumitru Ulieru
CBRTP	14th European Exhibition of Creativity and Innovation	26-28/05/22	Iasi (Romania)	http://www.euroinvent.org/Report_Euroinvent_2022.pdf	Oral presentation	Smart optical device for temperature sensing, based on innovative luminescent IV-VI quantum dots-doped complex nanostructured thin films	M. Elisa, I. C. Vasiliu, S-M. Iordache, A-M. Iordache, I. Pana, C. Elosua Aguado, F. J. Arregui, D. Lopez, D. Ulieru, X. Vila, J. Caridad Hernández, M. Á. Casanova González, J. F. de Paz Santana, M. Enculescu, A-I. Nicoara and M. Eftimie
	SPIE Conference on Optics and Optoelectronics	24-27/04/23	Prague (Czech Republic)	https://spie.org/conferences-and-exhibitions/optics-and-optoelectronics?SSO=1	Oral presentation	Photo-mobile polymer in energy harvesting applications under simulated solar light	Wojciech Andrysiewicz, Dominik Wojcieszczak, Robert Socha, Domenico Sagnelli, Amalia D'Avino, Lucia Petti

2 Organisation of seminars

Following the success of its first Short School on Smart Materials for Opto-electronic applications, the PULSE-COM consortium has decided to conduct a new summer school (2nd edition). A final conference has also been organised in conjunction with a SPIE conference on Optics and Optoelectronics. The organisation of that event, scheduled by the grant agreement, allowed us to validate the milestone MS8 (Workshop organization).

2.1. Description of the 2nd summer school on Smart Materials for Opto-electronic applications

The second summer school on smart materials for opto-electronic applications has been organized by CNR, ENEA and Benkei. As for the first edition, it has been structured around 6 different advanced technologies:

- Piezo-electric Materials
- Photo-active Materials
- Nano-fabrication by top down and bottom up approaches: Electron Beam Lithography and Colloidal Lithography
- Advanced printing technologies & additive manufacturing
- Characterization techniques and their implementation in Smart Materials and devices
- Application of Smart Materials

The aim was to bring to the attendees the concepts and basic working principles of the above Smart Materials Technologies from experts in the fields coming from both Academy and industries. Moreover, lectures have been given for addressing complete understanding of how the Smart Materials have been exploited for achieving recent significant results in ground-breaking research of the FET project PULSE-COM as well as in applied sciences by investigators working in the PULSE-COM Consortium.

The detailed agenda of the two days event is provided hereafter (Figure 1 and Figure 2).

2nd Summer School on Smart Materials for Opto-Electronic Applications				
Monday 12/09/2022				
Agenda Item	Remark	Leader	Starting Time	Duration
Opening	General introduction	Lucia Petti, CNR	08:55	00:05
	Plenary on how to create new businesses based on development of innovative solutions in the advanced materials sector and accelerating their market entry	Luigi Nicolais, Materias	09:00	00:40
Topic 1 - Piezo-electric Materials	Piezo measures on ZnO nanowires	Thomas JALABERT - UGA	09:40	00:20
	Pyroelectric polymeric materials and devices	Riccardo MISCIOSCIA - ENEA	10:00	00:20
Coffee Break			10:20	00:15
Topic 2 - Photo-active Materials	Spatial solutions to mold and route random lasing in liquid crystals	Gaetano ASSANTO - Università Roma Tre	10:35	00:30
	Orientation approach to light-induced deformations in azobenzene polymers	Marina GRENZER (SAPHIANNIKOVA) - Leibniz Institute of Polymer Research Dresden	11:05	00:30
	Smart, photoaddressable liquid crystal systems	Malgosia KACZMAREK - University of Southampton	11:35	00:30
	Stimuli-response polymers: from design to application	Veronica AMBROGI - DICMaPI	12:05	00:30
	Synthesis, characterization and application of the carbon nanodots	Katarzyna MATCZYŹYŹN - Politechnika Wrocławska	12:35	00:30
Plasmonic analysis techniques for Smart Materials			13:05	00:20
Lunch break on the beach			13:25	02:35
Topic 2 - Photo-active Materials	Life-like materials: from stimuli-responsive deformation, self-oscillation to light driven locomotion.	Hao ZENG - Tampere University	16:00	00:30
	Photomechanical Effects in Polymeric Materials	Timothy J. WHITE - University of Colorado Boulder	16:30	00:30
	Synthesis and characterization of liquid crystal based photomobile polymers	Domenico SAGNELLI - CNR	17:00	00:20
	Piezoelectric nanocomposites based on piezoelectric semiconducting nanowires	Gustavo ARDILA - UGA	17:20	00:20
Coffee Break			17:40	00:20
Student contest	3' per presentation		18:00	01:00
Meeting closed				19:00
Dinner in the dining room				20:00

Figure 1: Agenda of the first day of the 2nd Summer school organised by the PULSE-COM consortium.

2nd Summer School on Smart Materials for Opto-Electronic Applications				
Tuesday 13/09/2022				
Agenda Item	Remark	Leader	Starting Time	Duration
Opening	General introduction	Lucia Petti, CNR	08:15	00:05
Topic 3 - Nano-fabrication by top down and bottom up	Technologies for implantable photonic interfaces in the brain	Massimo DE VITTORIO - IIT	08:20	00:30
	Inkjet printing in opto-electronics: from single droplet to complete device	Fulvia VILLANI - ENEA	08:50	00:20
	Gravure printed ZnO seed layer for nanowires growth	Maria MONTANINO - ENEA	09:10	00:20
	Opal/Reverse Opal structures	Bogdan SAVA - INFILPR	09:30	00:20
	Photonics and Plasmonic Metasurfaces: Design and Fabrication	Lucia PETTI - CNR	09:50	00:20
Coffee Break			10:10	00:15
Topic 4 - Advanced printing technologies & additive manufacturing	Pressure sensors with liquid crystals and carbon nanotube networks	Giusy SCALIA - Université du Luxembourg	10:25	00:30
	The innovative temperature sensors based on nanomaterials for visible and IR application domains	Oana-Maria Ulieiru - SITEX 45	10:55	00:20
Topic 5 - Characterization techniques and their implementation in Smart Materials and devices	Thermal and morphological characterization of smart materials	Anna DE GIROLAMO DEL MAURO - ENEA Fausta LOFFREDO - ENEA	11:15	00:20
	Organic materials for flexible electronics - impedance spectroscopy measurements	Giuseppe NENNA - ENEA	11:35	00:20
Topic 6 - Application of Smart Materials	Piezoelectric Actuator based on ZnO used to present Braille text	Leszek FRAŚ - IPPT	11:55	00:30
	Plasmonic nanoparticles for bioanalytics	Wolfgang FRITZCHE - Leibniz Institute of Photonic Technology (IPHT)	12:25	00:30
Lunch Break on the beach			12:55	03:05
Topic 6 - Application of Smart Materials	Revealing stress and strain by color change using cholesteric liquid crystal elastomers	Jan Lagerwall - Faculty of Science, Technology and Medicine	16:00	00:30
	Concentrating light with plasmonic nanomaterials for solar-to-chemical energy conversion	Alberto NALDONI - Palacky University	16:30	00:30
	Piezo mechanisms for optronics and space industry	Mathieu THOMACHOT - Cedrat technologies	17:00	00:20
Student contest	Announcement of the winner by the jury and award ceremony	Jury	17:20	00:10
Conclusion	General conclusion of the event	Lucia PETTI - CNR	17:30	00:05
Summer School closed				17:35
Dinner in the dining room				20:00

Figure 2: Agenda of the second day of the 2nd Summer school organised by the PULSE-COM consortium.

The free online school was mainly oriented toward PhD, MSc students and postdocs, but also researchers from any branch of science who wish to increase their knowledge and awareness about Smart Materials, micro and nanotechnologies were very welcome.

We had the chance to have a lot of external speakers who accepted our invitation to attend this summer school, including: Luigi NICOLAIS (Materias), Gaetano ASSANTO (Università Roma Tre), Marina GRENZER-SAPHIANNIKOVA (Leibniz Institute of Polymer Research Dresden), Malgosia KACZMAREK (University of Southampton), Veronica AMBROGI (DICMaPI), Katarzyna MATCZYSZYN (Polytechnika Wroclawska), Hao ZENG (Tampere University), Massimo DE VITTORIO (IIT), Giusy SCALIA (Université du Luxembourg), Leszek FRAŚ (IPPT), Wolfgang FRITZCHE (Leibniz Institute of Photonic Technology), Jan Lagerwall (Faculty of Science, Technology and Medicine) and Alberto NALDONI (Palacky University).

One novelty of this second edition was the possibility for students to attend a speech talk contest. They had 3 min to present their work to the whole participants. The two winners were Sidrish ZAHRA and Elena DE VITA from Univeristà di Napoli "Parthenope" (Figure 3).



Figure 3: Group picture of the two winning students at the summer school contest.

In total 40 students attended to the short school.

All sessions have been recorded and uploaded onto a dedicated page of the PULSE-COM website (<https://www.pulsecom-h2020.eu/2nd-short-school-on-smart-materials-for-opto-electronic-applications-2/>) and onto the PULSE-COM YouTube channel. The idea is to widely share the content generated for that short school.

2.2. Description of the Final Event organised jointly with the SPIE conference

After multiple exchanges, the PULSE-COM consortium decided to organise its final event in marge of a larger conference to facilitate the participation of external people. Based on the agenda of the conferences that would fit with our field of research, it has been decided to contact the SPIE committee. The discussion between CNR and them were concluded by the creation of a new conference topic: Conference 12584 - Smart Materials for Opto-Electronic Applications. As for the rest of the 2023 Optics + Optoelectronics event, this conference had been open external contribution.

The program committee was composed of Gaetano Assanto (Univ. degli Studi di Roma Tre (Italy)), Malgosia Kaczmarek (Univ. of Southampton (UK)), Katarzyna Matczyszyn (Wroclaw Univ. of Science and Technology (Poland)), Alberto Naldoni (Univ. di Torino (Italy)), Hao Zeng (Tampere Univ. (Finland)) and Joseph Zyss (École normale supérieure Paris-Saclay (France)).

It had a great success and it had been possible to organise 4 complete days of presentations including 4 plenary sessions, 4 keynotes, 19 invited talks, 6 presentations, 10 posters and a presentation to introduce the project itself.

The conference had been chaired by Ivo Rendina (CNR), Lucia Petti (CNR), Domenico Sagnelli (CNR) and Giuseppe Nenna (ENEA).

The agenda split by day is provided by the Figure 4 to Figure 7.

SPIE Conference Tuesday 25/04/2023 - Thursday 27/04/2023				
Agenda Item	Remark	Leader	Starting Time	Duration
25/04/2023				
Tuesday Plenary Session - Room: Nadir				
Fusion ignition at the National Ignition Facility	Plenary presentation	Thomas M. Spinka, Lawrence Livermore National Lab. (United States)	08:55	09:40
AI and deep learning for microscopy	Plenary presentation	Giovanni Volpe, Göteborgs Univ. (Sweden)	09:45	10:30
Session 1: Smart Materials I - Chaired by Domenico Sagnelli (CNR) - Room: Aquarius				
Spin-orbit optical phenomena and their applications	Keynote Presentation	Lorenzo Marrucci, Univ. degli Studi di Napoli Federico II (Italy)	15:30	16:10
Mechanochromic luminescent derivatives based on xanthenone and thioxanthenone for the fabrication of OLED devices as emitter layer	Invited Paper	Sohrab Nasiri, Giedrius Janusas, Kaunas Univ. of Technology (Lithuania)	16:10	16:40
A light-driven light valve for metal additive manufacturing	Invited Paper	Selim Elhadj et al., Seurat Technologies (United States)	16:40	17:00
Hot electrons injection effects on ultrafast exciton dynamics at van der Waals/metal interface		Kilian Keller et al., Univ. du Luxembourg (Luxembourg)	17:20	17:40
Posters-Tuesday - Room: Meridian Hall - 17h45 - 19h10				
Synthesis, structural, and optical study of a lead-devoid halide-based double perovskite (MA) ₂ NaBiCl ₆ for optoelectronic applications		Neelu Neelu et al., Indian Institute of Technology Bombay (India)	17:45	19:10
Effects of nanodiamonds layer in organic light emitting diode		Guang Liang Ong et al., Multimedia Univ. (Malaysia)		
A light-fueled cilium		Zixuan Deng, Tampere Univ. (Finland)		
Optically controlled latching and launching LCE actuators		Hongshuang Guo, Tampere Univ. (Finland)		
Structural studies of alkali-germanate glass-ceramics with manganese		Anastasiia N. Babkina et al., ITMO Univ. (Russian Federation)		
Electromagnetic modelling of near-field plasmonic switches based on fractal nanoantennas		Yashna Sharma et al., Delhi Technological Univ. (India)		
Investigation of self-powered photoresponse performance of all inorganic lead-free halide perovskites (CsSnCl ₃) nanocrystals (NCs) decorated Er:ZnO nanowires/Si heterojunctions		Ajay Kumar et al., Indian Institute of Technology Bombay (India)		
Optical properties of ceria nanoparticles doped-PVDF electrospun multifunctional nanofibers mat		Nader Shehata, Remya Nair, Kuwait College of Science and Technology (Kuwait)		
Optical characteristics of copper-doped-perovskite materials		Nader Shehata et al., Kuwait College of Science and Technology (Kuwait)		
Structural and luminescent properties of dysprosium ions-doped tungstate phosphor for w-LEDs		Anu et al., Delhi Technological Univ. (India)		
Enhanced light trapping by investigating several plasmonic nanostructures in PM ₆ Y ₆ organic solar cells		Shymaa Sanad et al., The American Univ. in Cairo (Egypt)		
Photomobile films based on liquid crystal polymer-carbon black composites		Fausta Loffredo et al., ENEA (Italy)		

Figure 4: Agenda of the first day of the Smart Materials for Opto-Electronic Applications conference within the SPIE conference on Optics and Opto-Electronics.

SPIE Conference Tuesday 25/04/2023 - Thursday 27/04/2023				
Agenda Item	Remark	Leader	Starting Time	Duration
26/04/2023				
Wednesday Plenary Session - Room: Nadir				
Nonlinear integrated quantum optics with AlGaAs	Plenary Presentation	Sara Ducci, Lab. Matériaux et Phénomènes Quantiques (France)	08:55	09:40
Photonic crystal fibres: three decades of novel science	Plenary Presentation	Philip St. John Russell, Max-Planck-Institut für die Physik des Lichts (Germany)	09:45	10:30
Session 2: Keynote Session - Chaird by Ivo Rendina (CNR) - Room: Aquarius				
Efficiency roll-off in TADF OLEDs: don't just maximise the RISC	Keynote Presentation	Le Zhang et al., Univ. of St. Andrews (United Kingdom)	10:50	11:30
Mass-customised optical metasurfaces	Keynote Presentation	Anders Kristensen, Technical Univ. of Denmark (Denmark)	11:30	12:10
Photonic materials and technologies for the brain	Keynote Presentation	Ferruccio Pisanello, Istituto Italiano di Tecnologia (Italy)	12:10	12:45
Session 3: Smart Materials II - Chaird by Lucia Petti (CNR) - Room: Aquarius				
Plasmonic nanomaterials for solar-to-chemical conversion technologies	Invited Paper	Alberto Naldoni, Univ. degli Studi di Torino (Italy)	13:45	14:15
Defect engineering in photoactive semiconductors	Invited Paper	Stepan Kment et al., Palacký Univ. Olomouc (Czech Republic)	14:15	14:45
Widely tunable long period gratings using 3D printed periodic grooved plates	Invited Paper	Sidrish Zahra et al., Univ. degli Studi di Napoli Parthenope (Italy)	14:45	15:15
Programmable unitary gates for photonic quantum information processing	Invited Paper	Rodrigo Thomas et al., Niels Bohr Institute (Denmark)	15:15	15:45
Session 4: Smart Materials III - Chaird by Domenico Sagnelli (CNR) - Room: Aquarius				
Self-organized quantum dots in marginally twisted bilayers of transition metal dichalcogenides	Invited Paper	Vladimir Falco, The Univ. of Manchester (United Kingdom)	16:05	16:35
Surface lattice resonances and bound states in nanoparticle arrays for opto-electronic applications	Invited Paper	Jaime Gómez Rivas, Technische Univ. Eindhoven (Netherlands)	16:35	17:05
Smart integration of organic optoelectronic and photonic components for a miniaturized fluorescence sensing device		Emilia Benvenuti et al., Istituto per lo Studio dei Materiali Nanostrutturati (Italy)	17:05	17:25
New liquid crystal systems for photochemical energy storage		Osama K. Abou-Zied, Sultan Qaboos Univ. (Oman)	17:25	17:45

Figure 5: Agenda of the second day of the Smart Materials for Opto-Electronic Applications conference within the SPIE conference on Optics and Opto-Electronics.

SPIE Conference Tuesday 25/04/2023 - Thursday 27/04/2023				
Agenda Item	Remark	Leader	Starting Time	Duration
27/04/2023				
Session 7: Smart Materials IV - Chaird by Giuseppe Nenna (ENEA) - Room: Aquarius				
Gold nanorods for integration in hybrid devices for biomedical applications	Invited Paper	Fulvio Ratto et al., Istituto di Fisica Applicata "Nello Carrara" (Italy)	14:15	14:45
Feedbacks in light-active soft materials	Invited Paper	Jianfeng Yang et al., Tampere Univ. (Finland)	14:45	15:15
Light active plastic glides in the air		Jianfeng Yang, Tampere Univ. (Finland)	15:15	15:35
Session 8: Smart Materials V - Chaird by Domenico Sagnelli (CNR) - Room: Aquarius				
High-frequency light rectification by nanoscale plasmonic conical antenna in point-contact-insulator-metal architecture	Invited Paper	Denis Garoli et al., Istituto Italiano di Tecnologia (Italy)	16:00	16:30
Optoelectronic devices based on scalable 2D materials	Invited Paper	Gerd Bacher, Univ. Duisburg-Essen (Germany)	16:30	17:00
Wafer-scale fabrication of size-controlled GaN nanorod arrays for optoelectronic devices		Hak-Jong Choi et al., Korea Institute of Machinery & Materials (Korea, Republic of)	17:00	17:20
Transient absorption spectroscopy of photochemical reactions in different photoinitiators		Marius Navickas, Mikas Vengris, Vilnius Univ. (Lithuania)	17:20	17:40
Laser-driven data writing in borogermanate glass with perovskite nanocrystals		Anastasiia N. Babkina et al., ITMO Univ. (Russian Federation)	17:40	18:00

Figure 6: Agenda of the third day of the Smart Materials for Opto-Electronic Applications conference within the SPIE conference on Optics and Opto-Electronics.

SPIE Conference - PULSE-COM Workshop Thursday 27/04/2023				
Agenda Item	Remark	Leader	Starting Time	Duration
Session 5: PULSE-COM I Workshop - Chaired by Lucia Petti (CNR) - Room: Aquarius				
Introduction to the PULSE-COM Workshop		Lucia Petti, Ivo Rendina, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)	08:05	08:15
Heliconical cholesteric liquid crystals as advanced optoelectronic materials	Invited Paper	Francesco Simoni, Istituto di Scienze Applicate e Sistemi Intelligenti "Eduardo Caianiello" (Italy)	08:15	08:40
Optimization of PMP doping with ZnO nanoparticles to tune mechanical properties and actuation	Invited Paper	Amalia D'Avino et al., Consiglio Nazionale delle Ricerche (Italy)	08:40	09:05
ZnO nanowires based piezoelectric energy transducers: the role of size and semiconducting properties	Invited Paper	Thomas Jalabert et al., Univ. Grenoble Alpes, CNRS, Grenoble INP, IMEP-LAHC (France)	09:05	09:30
New range of light-driven devices	Invited Paper	Jolan Gauthier, Mathieu Thomachot, CEDRAT TECHNOLOGIES SA (France)	09:30	09:55
ZnO nanorods as a piezoelectric energy harvester from light induced flexions	Invited Paper	Maciej Haras et al., CENTERA Labs., Institute of High-Pressure Physics (Poland),	09:55	10:20
Session 6: PULSE-COM II Workshop - Chaired by Giuseppe Nenna (ENEA) - Room: Aquarius				
Photo-mobile polymers in energy harvesting applications under simulated solar light	Invited Paper	Wojciech Andrysiewicz et al., Ctr. for Research and Development of Technologies for Industry SA (Poland),	10:40	11:05
Printed ZnO nanoparticle seed layers to grow ZnO nanowires on flexible substrates	Invited Paper	Fulvia Villani et al., ENEA (Italy)	11:05	11:30
Visible photomobile response of azobenzene-based polymer/carbon black films	Invited Paper	Anna De Girolamo Del Mauro et al., ENEA (Italy)	11:30	11:55
The comparative analysis of 2D photonic crystals applications based on specific modeling /simulation results	Invited Paper	Dumitru Ulrieru, Oana-Maria Ulrieru, SITEX 45 S.R.L. (Romania)	11:55	12:20
Workshop Roundtable - Moderated by Giuseppe Nenna (ENEA) - Room: Aquarius				
Round table			12:20	13:05

Figure 7: Agenda of the workshop of the Smart Materials for Opto-Electronic Applications conference within the SPIE conference on Optics and Opto-Electronics.

For that event, two dissemination documents had been prepared by CNR, ENEA and Benkei (Figure 8).



Figure 8: Visual of the front pages of the triptych brochure (on left) and of the extended brochure (on right).

- First a triptych brochure to summarize the main information of project. This leaflet is accessible on our website, here: https://www.pulsecom-h2020.eu/wp-content/uploads/2023/06/Brochure-PULSE-COM_V3bis.pdf.
- Then an extended brochure of 36 pages had been created to gather all the public information of the project. It is accessible here: https://www.pulsecom-h2020.eu/wp-content/uploads/2023/06/PULSE-COM_Extended-brochure_Vweb-site.pdf.

These documents had been printed by CB RTP and distributed during the conference to people attending. Some goodies had also been ordered to enhance the visibility of the project: tote bags, laser pens, USB sticks, notebooks... As seen on the Figure 9, all of these items were customised with the logo of the project.



Figure 9: Gadgets customized with the PULSE-COM logo.

During the workshop, corresponding to the final event of the PULSE-COM project, all of the presentations had been done by the consortium. Some pictures taken from the presentations are introduced in the Figure 10. Also, a group picture had been taken at the end of the conference with almost all of the PULSE-COM partners attending the conference (Figure 11).



Figure 10: Pictures of some of the speakers from the PULSE-COM project during the workshop.



Figure 11: Picture taken at the end of the conference with most of the PULSE-COM attendees.

The proceedings of that event are now available online and accessible here: <https://www.spiedigitallibrary.org/conference-proceedings-of-spie/12584.toc?SSO=1>.

This event considered as a real success as already raise the interest of the SPIE group. They have asked the chair committee if it should be possible to replicate that event for the next edition of their Optics and Optoelectronics meeting.