

# ICPOF 2007 Conference Program

## MONDAY

		9.00-10.00	10.00-12.00	14.00-16.00	16.30-18.30
ROOM A		Registration/Welcome	Opening speeches	Technical session M-1	Technical session M-2
ROOM B				<b>SENSORS-I</b>	<b>DATAKOM-I</b>

## TUESDAY

		9.00-10.30	11.00-12.30	14.00-16.00	16.30-18.00	20.00-23.00
ROOM A		Technical session T-1	Exhibit session	Technical session T-2	Technical session T-3	Social Dinner
ROOM B		<b>COMPONENTS-I</b>	Poster Session	Industrial Presentation	<b>COMPONENTS-II</b>	
		<b>FIBERS-I</b>		<b>SENSORS-II</b>	<b>SENSORS-III</b>	

## WEDNESDAY

		9.00-10.30	11.00-12.30	14.00-16.00	16.00-16.30
ROOM A		Technical session W-1	Technical session W-2	Technical session W-3	Closing speeches
ROOM B		<b>DATAKOM-II</b>	<b>DATAKOM-III</b>	<b>STANDARDS</b>	
		<b>FIBERS-II</b>		<b>MATERIALS</b>	

## Monday 10<sup>th</sup> September

**10.00 – 12.00**

### Room A

#### Opening Speeches

Yasuhiro Koike – Keio University  
David Cunningham – AVAGO Technologies  
Roberto Saracco – Telecom Italia

**14.00 – 16.00**

### Room A

#### SENSORS-I

SEN-I-1	Zang, Webb, Kalli, Emiliyanov, Bang, Kjaer (Aston University, Higher Technical Institute Nicosia, Technical University of Denmark)	Bragg grating inscription in TOPAS microstructured polymer optical fibre
SEN-I-2	Khotiaintsev, Arrue, Svyryd, Zubia (National Autonomous University of Mexico, University of the Basque Country)	Numerical modeling of polymer optical fiber refractometric sensors with hemispherical detection elements
SEN-I-3	Hambley, Canning (University of Sidney)	Ultra-fast tapering of polymer fibres for sensing applications
SEN-I-4	Vaughan, Woodyatt, Scully (The University of Manchester)	Polymer optical fibre sensor to monitor skin moisture and perspiration
SEN-I-5	Lenke, Krebber, Wingand, Thiele (BAM, Saxon Textile Research Institute)	Distributed strain measurement with polymer optical fiber integrated in technical textiles using the optical time domain reflectometry technique
SEN-I-6	Werneck, Yague, Maciel, Silva-Neto, Carvalho, Miguel, Ribeiro (Universidade Federal do Rio de Janeiro)	Application of a POF and ruby florescence based temperature system in an electric power substation
SEN-I-7	Poisel, Luber, Loquai, Neuener, Bachmann (POF-AC)	POF strain sensor using phase measurement techniques

**16.30 – 18.30**

### Room A

#### DATACOM-I

DAT-I-1	Hung, McGarvey, Duggan, Barrow, Calvert,	Red VCSEL transceivers for Gigabit data transmission over plastic optical fibre
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	Lambkin, Wipiejewski (Firecomms Ltd)	
DAT-I-2	Lee, Randel, Vinogradov, Ziemann, Offenbeck, Koonen (Eindhoven University of Technology, Siemens AG, POF-AC, Fraunhofer Institute for Integrated Circuits)	10Gbit/s over large diameter polymer optical fibers
DAT-I-3	Hirscher (Reichle&DeMassari)	Triple play realization of Swisscom with POF
DAT-I-4	Gaudino (Istituto Superiore Mario Boella, Politecnico di Torino)	<b>Invited paper:</b> The POF-ALL European project
DAT-I-5	Offenbeck, Weber, Vinogradov (Fraunhofer Institute for Integrated Circuits IIS, POF-AC)	Analog GHz transmission over large core fibres for DVB satellite links of sophisticated coding schemes
DAT-I-6	Koonen, Larrodè, Ng'oma, Yang, Van den Boom (Eindhoven University of Technology)	In-house broadband wireless service delivery using Radio over Multimode Fibre
DAT-I-7	Breyer, Lee, Randel, Hanik (Technische Universität München, Eindhoven University of Technology, Siemens AG)	10Gbit/s transmission over 220 m perfluorinated graded-index polymer optical fiber using PAM-4 modulation and simple equalization schemes

## Tuesday 11<sup>th</sup> September

**9.00 – 10.30**

### Room A COMPONENTS-I

COM-I-1	Sklarek, Danielzik, Vinogradov, Ziemann, Lednický, Offenbeck, Kragl (Schott AG Mainz, POF-AC, Fraunhofer Institute for Integrated Circuits Erlangen, DieMount GmbH)	The influence of photo diode diameter on maximum data rate and sensitivity of POF systems
COM-I-2	Swoboda, Fortsch, Leeb, Zimmermann (A3PICS Electronics Development GmbH, Vienna University of Technology)	A highly sensitive 1.25Gbps POF receiver
COM-I-3	Offenbeck, Weber (Fraunhofer Institute for Integrated Circuits IIS)	Versatile alterable gigabit transceiver for large core fibers ready for mass production
COM-I-4	Moellers, Gindera, Bulters, Hung, Jager (Universität Duisburg-Essen)	High-speed transceiver for Radio-Over-POF applications
COM-I-5	Cox, Large (University of Sydney)	Microstructured polymer optical fibre for chemical and biochemical sensing
COM-I-6	Uehara, Kondo, Takahashi, Koike (Keio University, ERATO-SORST)	High efficiency optical concentrator for a plastic optical fiber communication

### Room B FIBERS-I

FIB-I-1	Wang, Kang, Yang, Chen (Chinese Academy of Science)	Progress in extrusion technology of big-size holey POF preforms
FIB-I-2	Xue, Barton, Large (University of Sydney)	Inverse prediction of die shape in the direct extrusion of preforms for microstructured optical fibres
FIB-I-3	Argyros, Pla (University of Sydney)	Hollow-core polymer fibres with a kagome lattice cladding.
FIB-I-4	Kurashima, Watanabe, Murofushi (Asahi Glass Company)	Development of perfluorinated GI-POF with double cladding layer
FIB-I-5	Poulin, Argyros, Large, Kashyap (University of Sydney, Ecole Polytechnique de Montreal)	Fabrication and characterisation of a large-core bridged air-clad high numerical aperture microstructured polymer optical fibre
FIB-I-6	Furukawa, Tagaya, Iwata, Koike (Keio University, Japan Science and Technology Agency)	Design of a polarization maintaining graded index plastic optical fiber by random co-polymerization

## 11.00 – 12.30

### Room A POSTERS

POS-1	Zirkelbach, Bachmann, Ziemann (POF-AC)	Mechanical properties of POF at different temperatures
POS-2	Poisel, Pai-Soler, Ziemann (POF-AC)	Design and properties of POF star couplers
POS-3	Bobitski, Yaremchuk, Bartkiv, Poisel (Lviv Polytechnic National University, University of Rzeszow, POF-AC)	Design and optimization of thin-film filters for WDM demultiplexers for POF systems
POS-4	Takenaka, Namikawa, Mawatari, Yamazaki, Sato, Tabata, Imai (Mururoan Institute of Technology)	Mechanism of fiber Bragg grating formed in polymer optical fiber with some additives
POS-5	Haupt, Fischer (Harz University of Applied Sciences)	Computer-aided simulation of a demux/mux-element for POF in the visible spectrum
POS-6	Zeng, Yang, Van den Boom, Koonen (Eindhoven University of Technology)	5-Subcarrier multiplexed 16-QAM transmission over a 50 $\mu$ m-core-diameter graded index perfluorinated polymer multimode fibre
POS-7	Ribeiro, da Silva, Barbero (Universidade Federal Fluminense)	Spectral filtering effect on visible wavelength channels propagating along PMMA-based plastic optical fibre links
POS-8	Emiliyanov, Bang, Hoiby, Pedersen, Kjaer, Lindvold (Technical University of Eindhoven, Technical University of Denmark)	Multi-antibody biosensing with TOPAS microstructured polymer optical fiber
POS-9	Arcos, Chana, Contreras, Coello, Baldwin, Rueda, Lomer (Pontificia Universidad Catolica del Perú, University of Cantabria)	Design and fabrication of a novel plastic optical sensor for temperature measurements using a chemical transducer
POS-10	Rodriguez, Diaz, de la Mora, Romo-Medrano (Tecnologico de Monterrey Campus Ciudad de México)	Low-cost gasoline/ethanol plastic optic fibre sensor
POS-11	Silva, Werneck, Yague, Maciel, Beres, Correa, Carvalho, Silva-Neto, Miguel (Universidade Federal do Rio de Janeiro)	POF tapering for evanescent field sensors
POS-12	Beres, Correa, Silva, Miguel, Werneck, Yague, Maciel, Carvalho, Silva-Neto (Universidade Federal do Rio de Janeiro)	Use of a biosensor based on plastic optic fiber for the evaluation of the microbiological quality of the milk
POS-13	Poisel, Meedt, Luber, Niewisch (POF-AC)	Fiberoptic Liquid Level Sensor – FOLLS
POS-14	Poisel, Weigert, Babchenko (POF-AC)	Imperfected POF for bending sensors
POS-15	Poisel, Gabel, Schutz, Kist, Bachmann, Bloos (POF-AC)	Daylighting with POF
POS-16	Ribeiro, da Silva, Germano, Barbero (Universidade Federal Fluminense)	Beam profiling measurements of light fields emanating from plastic optical fibres and passive devices
POS-17	Founaud, Mateo, Losada (Universidad de Zaragoza)	Prospective study of the alternatives for triple-play networks into the home

## **14.00 – 16.00**

### **Room B SENSORS-II**

SEN-II-1	Konstantaki, Franghiadakis, Mavromataks, Zacharopoulos, Kalymnios, Koudoumas (Foundation for Research and Technology Heraklion, Technological Educational Institute Heraklion, London Metropolitan University)	The effect of concentrated sunlight transfer of the transmission characteristics of plastic optical fibres
SEN-II-2	Vázquez, Nombela, de Vega, Sobrino, Montero (Carlos III University of Madrid)	Plastic fiber-optic probes for characterizing fluidized beds in bubbling regime
SEN-II-3	Ribeiro, Xavier, Mitrione, Barbero (Universidade Federal Fluminense)	Optoelectronic rectenna for RF electromagnetic sensing linked to remote site using plastic optical fibre
SEN-II-4	Witt, Bunge, Shukar, Schluter, Krebber (Federal Institute for Material Research and Testing, Technical University Berlin)	Real-time strain sensing based on POF OTDR
SEN-II-5	Yang, Wang, Kang, Yang (Chinese Academy of Science)	Nanosilver modified polymer crystal optical fibers for electroanalysis and fluorescence detection
SEN-II-6	Carroll, Webb, Kalli, Zang, Argyros, Large (Aston University, Higher Technical Institute Nicosia, University of Sidney)	Extending the working temperature range of Bragg gratings in microstructured polymer optical fibre by annealing
SEN-II-7	Scully, Spagni (The University of Manchester)	Sensing and measurement in hydrogen and fuel cells stationary applications

## **16.30 – 18.00**

### **Room A COMPONENTS-II**

COM-II-1	Camatel, Nespola, Cádrenas, Abrate, Gaudino (Istituto Superiore Mario Boella, Politecnico di Torino)	LED non-linearity characterization and compensation
COM-II-2	Lomer, Contreras, Rueda, Quintela, Arrue, Zubia, López-Higuera (University of Cantabria, Pontificia Universidad Católica del Perú, University of the Basque Country)	Optical fiber coupler-switch controlled in temperature
COM-II-3	Taniguchi, Kawakami, Sueyoshi (Sekisui Chemical Co. LTD)	The ultimate easy-connection and its experiment results with GI-POF
COM-II-4	Lallana, Vázquez, Montero, Heggarty, Vinouze (Carlos III University of Madrid, Ecole Nationale Supérieure des Télécommunications de Bretagne)	Dual 3x1 multiplexer for POF networks
COM-II-5	Namikawa, Takenaka, Mawatari, Sato, Yamazaki, Tabata, Imai	Bragg gratings formation at a visible region of polymer optical fibers

(Mururoan Institute of Technology)

**Room B**  
**SENSORS-III**

SEN-III-1	Oyadiji, Sun (University of Manchester)	Performance of light intensity-based plastic optical fibre strain sensors
SEN-III-2	Krebber, Grillet, Witt, Schukar, Kinet, Thiel, Pirotte, Deprè (BAM, Multitel, Advanced Optics Solutions GmbH, Centexbel, Elasta)	<b>Invited paper:</b> Optical fibre sensors embedded into technical textile for healthcare (OFSETH)
SEN-III-3	Olivero, Perrone, Vallan, Abrate, Cacciatore, Perale, Perale (Politecnico di Torino, Istituto Superiore Mario Boella, Politecnico di Milano, Impresa di Costruzioni Ing. Antonio Perale)	Plastic optical fiber based sensing system for crack monitoring
SEN-III-4	Arrue, Jimenez, Durana, Alabaldetrekue, Zubia, Lomer (University of the Basque Country, University of Cantabria)	Analysis of the parameters of tapers in graded-index POFs for the design of a refractive-index sensor
SEN-III-5	Correia, Beres, Silva, Miguel, Werneck, Yugue, Maciel, Carvalho, Silva-Neto (Universidade Federal do Rio de Janeiro)	Detection of Escherichia coli in water using plastic fiber optic biosensor

## Wednesday 12<sup>th</sup> September

**9.00 – 10.30**

### Room A DATACOM-II

DAT-II-1	Evano, Bouffant, Mercier, Francois, Goudeau (France Telecom, Nexans)	PF GI-POF: a very attractive solution for home networking
DAT-II-2	Ziemann, Vinogradov, Zimmermann, Fortsch, Swoboda, Offenbeck (POF-AC, Vienna University of Technology, A3PICs Electronics Development GmbH, Fraunhofer Institute for Integrated Circuits IIS)	Messively parallel transmission over polymer optical fibre for backplane applications and interconnects
DAT-II-3	Vinogradov, Junger, Offenbeck, Weber, Weickert, Bauernshmitt, Ziemann, Hartl (POF-AC, Fraunhofer Institute for Integrated Circuits IIS, Loewe Opta GmbH, SGT Spritzgietechnik)	HDTV data transmission over POF ribbon cables
DAT-II-4	Yang, Van den Boom, Koonen (Eindhoven University of Technology)	Wavelength multiplexed quadrature amplitude modulation for low cost high capacity data transmission over plastic optical fibre
DAT-II-5	Randel, Lee, Breyer (Siemens AG, Eindhoven University of Technology, Technische Universitat Munchen)	1Gbit/s transmission over POF using light-emitting diodes
DAT-II-6	Nespola, Camatel, Abrate, Cárdenas, Gaudino (Istituto Superiore Mario Boella, Politecnico di Torino)	Fast-Ethernet transmission over extended reach SI-POF links

### Room B FIBERS-II

FIB-II-1	Yu, Argyros, Barton, Van Eikelenborg, Barbe, Finnie, Kong, Ladouceur, McNiven (University of Sidney, Australian Nuclear Science and Technology Organization, University of New South Wales)	Universal dopant delivery method for polymer optical fibre
FIB-II-2	Kruglov, Shbelgut, Zadorin, Poisel, Chernov (Tomsk State University, POF-AC)	Calculation of the waveguide mode profile in the microstructured fibres on the basis of stratification method
FIB-II-3	Kondo, Noguchi, Miyamoto, Takahashi, Koike (ERATO-SORST, Keio University, Scalar Corporation)	High numerical aperture graded index polymer optical fiber
FIB-II-4	Kang, Wang, Yang, Chen, Li (Chinese Academy of Science)	Fabrication of hollow-core photonics band-gap microstructured polymer optical fiber by extrusion
FIB-II-5	Bunge, Poisel (POF-AC)	Report on the POF modelling workshop 2007 in Nuernberg
FIB-II-6	Plochberger, Chow, Large (University of Sidney, POF-AC)	End-face preparation of microstructured polymer optical fibres



## 11.00 – 12.30

### Room A DATACOM-III

DAT-III-1	Terada, Tojo, Taniguchi, Kawakami, Oguchi (Seikei University, Sekisui Chemical Co. LTD)	Next generation home network and its applications
DAT-III-2	Bergaglio, Gnazzo, Gregori, Marranzino, Palma (Telecom Italia)	POF use for IPTV in home distribution
DAT-III-3	Kawakami, Sueyoshi, Taniguchi (Sekisui Chemical Co. LTD)	Requirements and wiring methods for POF in existing houses, and its experimental results
DAT-III-4	Kragl, Bluschke, Ziemann (DieMount GmbH, Teleconnect GmbH, POF-AC)	POF data link applications in the field of local access networks
DAT-III-5	Gaudino, Bosco, Bluschke, Hofmann, Kiss, Rietzsch, Randel, Lee, Breyer (Istituto Superiore Mario Boella, Politecnico di Torino, Teleconnect GmbH, Siemens AG, Eindhoven University of Technology, Technische Universität München)	On the ultimate capacity of SI-POF links and the use of OFDM: recent results from the POF-ALL project

## 14.00 – 16.00

### Room A STANDARDS

STD-1	Harris, Ferguson (National Physical Laboratory Middlesex)	Development of an optical launch system for polymer optical fibre and its application to spectral attenuation and bandwidth measurements
STD-2	Wandschneider, Dietz, Eckhardt, Klein, Hillrichs (University of Applied Sciences Merseburg, University of Applied Sciences Giessen-Friedberg)	Transmission properties of POFs for pulsed UV laser light
STD-3	Schramm (BMW Group)	<b>Invited paper:</b> Sheer driving pleasure with POF
STD-4	Losada, Mateo, Serena (Universidad de Zaragoza.)	Analysis of propagation properties of step index plastic optical fibers at non-stationary conditions
STD-5	Durana, Aldabaldetrek, Zubia, Arrue, Jiménez (University of the Basque Country)	Numerical measurement of coupling losses in perfluorinated multi-core polymer optical fibres
STD-6	Heredia, Mateo, Losada (Universidad de Zaragoza)	Transmission capabilities of large core GI-POF based on BER measurements

**Room B**  
**MATERIALS**

MAT-1	Harbach, Limberger, Salathé (Advanced Photonics Laboratory)	UV induced fiber Bragg gratings (FBG) written in fully polymerized polymer optical fibers (POF)
MAT-2	Koike, Teng, Okamoto, Koike (ERATO-SORST, Keio University)	Design of low-loss photonics polymer and its application to GI POF
MAT-3	Asai, Koike (Keio University)	Control of refractive index distribution for high-bandwidth graded index plastic optical fiber by dopant diffusion co-extrusion process.
MAT-4	Baum, Scully (University of Manchester)	Photomodification of polymethyl methacrylate for structuring polymer optical fibre
MAT-5	Rodrigues, André (Universidade de Aveiro)	Rayleigh backscattering constrains on POF bidirectional links
MAT-6	Bazzana, Lanzani, Xia, Morgado, Schrader, Lidzey (Luceat S.p.A., Politecnico di Milano, Imperial College London, Istituto Superior Tecnico Lisboa, University of Applied Science Wildau, The University of Sheffield)	Plastic optical fibers with embedded organic materials for ultra-fast switching
MAT-7	Ribeiro, da Silva, Barbero (Universidade Federal Fluminense)	Material dispersion effects on PMMA-based plastic optical fibre high capacity links