Research interests
Next Generation PONs, MAC Protocols, 5G RANs, Optical/Wireless Convergence, SDN Cellular/Satellite IP Networks

Commercial and public engagement
Member of IEEE, IEEE Communications Society, IEEE Standards Association, Optical Society of America (OSA)

Recent Research Journals
Achievable Rate Optimization for Large Stacked Intelligent Metasurfaces Based on Statistical CSI
Papazafeiropoulos, A., Kourtessis, P., Chatzinotas, S., Kaklamani, D. I. & Venieris, I. S., 31 May 2024, In: IEEE Wireless Communications Letters. p. 1-5 5 p., 3407863.

Achievable Rate Optimization for Stacked Intelligent Metasurface-Assisted Holographic MIMO Communications
Papazafeiropoulos, A., An, J., Kourtessis, P., Ratnarajah, T. & Chatzinotas, S., 17 May 2024, In: IEEE Transactions on Wireless Communications. p. 1-14 14 p.

STAR-RIS-Assisted Communication Radar Coexistence: Analysis and Optimization
Papazafeiropoulos, A., Kourtessis, P. & Chatzinotas, S., 29 Apr 2024, In: IEEE Transactions on Vehicular Technology. p. 1-14 14 p.

Two-Timescale Design for Active STAR-RIS Aided Massive MIMO Systems
Papazafeiropoulos, A., Ge, H., Kourtessis, P., Ratnarajah, T., Chatzinotas, S. & Papavassiliou, S., 19 Feb 2024, In: IEEE Transactions on Vehicular Technology. 72, 9, p. 11975 - 11989 15 p.

Impact of Channel Aging on Reconfigurable Intelligent Surface Aided Massive MIMO Systems with Statistical CSI
Papazafeiropoulos, A., Krikidis, I. & Kourtessis, P., 30 Jan 2023, In: IEEE Transactions on Vehicular Technology. 72, 1, p. 689-703 15 p., 3203796.
Intelligent Reflecting Surface-assisted MU-MISO Systems with Imperfect Hardware: Channel Estimation and Beamforming Design
Papazafeiropoulos, A., Pan, C., Kourtessis, P., Chatzinotas, S. & Senior, J. M., 2021, (Accepted/In press) In: IEEE Transactions on Wireless Communications.

Multipair Two-Way DF Relaying with Cell-Free Massive MIMO
Papazafeiropoulos, A. K., Kourtessis, P., Chatzinotas, S. & Senior, J. M., 2021, In: IEEE Open Journal of the Communications Society. 2, p. 423-438 16 p., 9360649.

Deep Channel Learning For Large Intelligent Surfaces Aided mm-Wave Massive MIMO Systems
Elbir, A. M., Papazafeiropoulos, A., Kourtessis, P., Chatzinotas, S. & Senior, J., Sept 2020, In: IEEE Wireless Communications Letters. 9, 9, p. 1447-1451 5 p., 9090876.

Performance Analysis of Cell-Free Massive MIMO Systems: A Stochastic Geometry Approach
Papazafeiropoulos, A., Kourtessis, P., Renzo, M. D., Chatzinotas, S. & Senior, J., Apr 2020, In: IEEE Transactions on Vehicular Technology. 69, 4, p. 3523-3537 15 p., 8972478.

Efficient T-CONT-agnostic Bandwidth and Wavelength Allocation for NG-PON2
Kourtessis, P., Lim, W., Merayo, N., Yang, Y-M. & Senior, J., 1 Jul 2019, In: Journal of Optical Communications and Networking. 11, 7, p. 393-396 14 p., 8746767.

Co-existence of OFDM and FBMC for resilient photonic millimeter-wave 5G mobile fronthaul
Latunde, A. T., Papazafeiropoulos, A., Kourtessis, P. & Senior, J. M., 3 May 2019, (E-pub ahead of print) In: Photonic Network Communications. 37, 3, p. 335-348 14 p.

SDN-enabled MIMO Heterogeneous Cooperative Networks with Flexible Cell Association
Papazafeiropoulos, A., Kourtessis, P., Renzo, M. D. & Chatzinotas, S., 1 Apr 2019, In: IEEE Transactions on Wireless Communications. 18, 4, p. 2037-2050 14 p., 8637958.

Nuts and Bolts of a Realistic Stochastic Geometric Analysis of mmWave HetNets: Hardware Impairments and Channel Aging
Papazafeiropoulos, A., Ratnarajah, T., Kourtessis, P. & Chatzinotas, S., 28 Mar 2019, In: IEEE Transactions on Vehicular Technology. 68, 6, p. 5657-5671 15 p., 8676087.

Dynamic bandwidth allocation for OFDMA-PONs using Hidden Markov Model
Kourtessis, P. & Senior, J., 25 Oct 2017, In: IEEE Access. 5, p. 2169-3536

Low Latency, Optical Back-and-Front-hauling for 5G Networks
Kourtessis, P., Milosavljevic, M. & Robinson, M., 15 Sept 2017, Access, Fronthaul and Backhaul Networks for 5G & Beyond. Imran, M. A., Zaidi, S. A. R. & Shakir, M. Z. (eds.). The Institution of Engineering and Technology, p. 419 –460 42 p.

Dynamic Bandwidth Allocation in Heterogeneous OFDMA-PONs Featuring Intelligent LTE-A Traffic Queuing
Lim, W., Kourtessis, P., Kanonakis, K., Milosavljevic, M., Tomkos, I. & Senior, J. M., 15 May 2014, In: Journal of Lightwave Technology. 32, 10, p. 1877-1885

Colorless FDMA-PON with flexible bandwidth allocation and colorless, low-speed ONUs [Invited]
Schindler, P. C., Schmogrow, R., Dreschmann, M., Meyer, J., Tomkos, I., Prat, J., Krimmel, H-G., Pfeiffer, T., Kourtessis, P., Ludwig, A., Karnick, D., Hillerkuss, D., Becker, J., Koos, C., Freude, W. & Leuthold, J., Oct 2013, In: IEEE/OSA Journal of Optical Communications and Networking. 5, 10, p. A204 - A212 9 p.

Dynamic Subcarrier Allocation for 100 Gbps, 40 km OFDMA-PONs with SLA and CoS
Lim, W., Kourtessis, P., Milosavljevic, M. & Senior, J. M., 1 Apr 2013, In: Journal of Lightwave Technology. 31, 7, p. 1055-1062 8 p.
An OFDMA-Based Optical Access Network Architecture Exhibiting Ultra-High Capacity and Wireline-Wireless Convergence
Kanonakis, K., Tomkos, I., Krimmel, H., Schaich, F., Lange, C., Weis, E., Leuthold, J., Winter, M., Romero, S., Kourtessis, P., Milosavljevic, M., Cano, I. N. & Prat, O., Aug 2012, In: IEEE Communications Magazine. 50, 8, p. 71–78 8 p.

Analytical time-domain model for radio over free space optical (RoFSO) systems considering the scintillation effect
Lim, W., Cho, T-S., Yun, C., Kourtessis, P., Kim, K. & Yang, Y-M., 2012, In: IEEE Transactions on Aerospace and Electronic Systems. 48, 2, p. 1759 - 1763

Demonstration of wireless backhauling over long-reach PONs
Milosavljevic, M., Thakur, M. P., Kourtessis, P., Mitchell, J. E. & Senior, J. M., 2012, In: Journal of Lightwave Technology. 30, 5, p. 811-817

NetWorld2020 European Technology Platform White Paper on "Candidate Solutions for NGPON2", 2012: FP7 ACCORDANCE consortium contribution
Kourtessis, P., 2012, NetWorld2020 European Technology Platform White Paper.

Multi-wavelength WiMAX-PONs with overlapping cells
Milosavljevic, M., Kourtessis, P. & Senior, J. M., 2011, In: Journal of Optical Communications and Networking. 3, 2, p. 172-177 6 p.

Full-Service MAC Protocol for Metro-Reach GPONs
Chang, C-H., Alvarez, N. M., Kourtessis, P., Lorenzo, R. M. & Senior, J. M., 2010, In: Journal of Lightwave Technology. 28, 7, p. 1016-1022

Demonstration of Coarse-Fine Grooming in Coarse-WDM-Routed PONs
Shachaf, Y., Polo, V., Kourtessis, P., Prat, J. & Senior, J. M., 2009, In: Journal of Optical Communications and Networking. 1, 4, p. 274-278

Interoperability of GPON and WiMAX for network capacity enhancement and resilience
Milosavljevic, M., Shachaf, Y., Kourtessis, P. & Senior, J. M., 2009, In: Journal of Optical Networking. 8, 3, p. 285-294

Towards Digital Optical Networks* in Lecture Notes in Computer Science 5412, Springer, Germany 2009: Lecture Notes in Computer Science 5412, Springer, Germany 2009
Kourtessis, P., 2009, Springer.

A complete 8-GHz QPSK-MODEM featuring novel subcarrier and data synchronization for optical communications
Kourtessis, P. & Walker, S. D., 2007, In: IEEE Transactions on Communications. 55, 5, p. 987-995

Multi-PON access network using a coarse AWG for smooth migration from TDM to WDM PON
Shachaf, Y., Chang, C-H., Kourtessis, P. & Senior, J. M., 2007, In: Optics Express. 15, 12, p. 7840-7844

Invited Workshops
IEEE 5G World Forum 2018 (WF-5G)
Pandelis Kourtessis (Invited speaker)
2018

SPIE Photonics West, OPTO, San Francisco, CA, February 2015
Pandelis Kourtessis (Invited speaker)
2015
Future Networks and Mobile Summit
Pandelis Kourtessis (Invited speaker)
2014

Next Generation Broadband Access Networks*, International Workshop, Optical Communication Systems and Networks, Athens, April 2014
Pandelis Kourtessis (Invited speaker)
2014

Optical-Wireless Integrated Technology for Systems and Networks workshop in collocation with the IEEE International Conference on Communications
Pandelis Kourtessis (Invited speaker)
2013

Joint SARDANA/ACCORDANCE Workshop in the framework of the FTTH Council Europe Conference
Pandelis Kourtessis (Invited speaker)
2011

Next Generation Optical Access Networks Workshop*, Future Network & Mobile Summit
Pandelis Kourtessis (Invited speaker)
2011

Joint FP7 ACCORDANCE/OASE Workshop in collocation with BROADNETs Conference
Pandelis Kourtessis (Invited speaker)
2010

London Communications Symposium (LCS09)
Pandelis Kourtessis (Member of programme committee)
2009

Awarded research projects
CPU GPU Based Satellite Modem Software System Development - software engineer
Kourtessis, P.
2/01/24 → 1/01/25

Research projects completed (funded)

Technical Programme Committees
IEEE 5G World Forum 2018 (WF-5G)
Pandelis Kourtessis (Member of programme committee)
2018 → ...

IEEE Global Communications Conference (Globecom)
Pandelis Kourtessis (Invited speaker)
2016 → 2017

2015 IEEE Int Conf on Communications (ICC)
Pandelis Kourtessis (Invited speaker)
2015 → 2017

OSA Photonics Congress
Pandelis Kourtessis (Chair)
2012
OSA Photonics Congress
Pandelis Kourtessis (Chair)
2011

OSA Photonics Congress, Access Networks and In-house Communications (ANIC10)
Pandelis Kourtessis (Member of programme committee)
2010

IEEE/IET International Conference on Access Technologies (ICAT08)
Pandelis Kourtessis (Member of programme committee)
2008

International Conference on Transparent Optical Networks (ICTON)
Pandelis Kourtessis (Invited speaker)
2008 → 2017

Memberships
NetWorld2020 European Technology Platform, 5GPPP expert group (External organisation)
Pandelis Kourtessis (Member)
2015

Optical Society of America (OSA) (External organisation)
Pandelis Kourtessis (Member)
2010 → …

IEEE CS (External organisation)
Pandelis Kourtessis (Member)
2003 → 2017

Institute of Electrical Engineers (External organisation)
Pandelis Kourtessis (Member)
2003 → …

Visiting Professor
Athens Information of Technology (AIT)
Pandelis Kourtessis (Visiting professor)
2010

University College London (UCL)
Pandelis Kourtessis (Visiting professor)
2010

Universidad Politecnica Catalunia
Pandelis Kourtessis (Visiting professor)
2007

Research examinations
Adewale ABE, "High Speed 802.11ad Wireless Video Streaming", Essex University, July 2017
Pandelis Kourtessis (Examiner)
2017
David MUIRHEAD, "Low Complexity Multiple Antenna Techniques for Energy Efficient Indoor Small Cell Base Stations", Surrey University, Apr 2016
Pandelis Kourtessis (Examiner)
2016

Alaa ALSEBAE, "Network Coding and its Application in Computer Networks", Warwick University, Apr 2015
Pandelis Kourtessis (Examiner)
2015

Geza KOCZIAN, "Use of Visible Lasers in Standard and Few-Mode Fibre Networks", University of Essex, Jul 2014
Pandelis Kourtessis (Examiner)
2014

I. Karamitsos, "Quality of Service Methods for Optical Networks", Sunderland University, Oct 2013
Pandelis Kourtessis (Examiner)
2013

K. Banias, "Reinforcement Learning Based Control Mechanism for Elastic resource Scheduling in Cognitive Optical Networks", Essex University, Jul 2013
Pandelis Kourtessis (Examiner)
2013

O. O. Omomukuyo, "Orthogonal frequency Division Multiplexing for Optical Access Networks", UCL, May 2013
Pandelis Kourtessis (Examiner)
2013

Mr Bo Cao, PhD Examination, "Performance analysis and centralised optical processing in next generation access network", 23 February 2012
Pandelis Kourtessis (Examiner)
2012

Marilet De Andrade Jardin, PhD examination, "Resource Optimisation in PONs: DBA Evolution and cost-effective Capacity Upgrades", UPC, Spain, 23 Nov 2010
Pandelis Kourtessis (Examiner)
2010

Media/Releases

Edinburgh Fringe
Pandelis Kourtessis (Invited speaker)
6 Aug 2017 → 28 Aug 2017