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h-index (Scopus):

**16**

Citations (Scopus):

**723**

**Supervised MSc Theses**

#	Thesis title	By	Date
1	optimization of power allocation in non-orthogonal multiple access VLC systems	Saba Nikooravesh Rad & Hamzeh Beiranvand	September 2021
2	Routing and spectrum allocation in elastic optical networks with machine learning algorithms	Fatemeh Ehsani & Hamzeh Beiranvand	September 2021
3	Analysis and optimization of achievable sum-rate of distributed MIMO systems with optical fronthaul links	Pouya Agheli & Hamzeh Beiranvand	April 2021
4	Optimal Resource Allocation In MIMO Visible Light Communication Systems	Parisa Ghorbaniankaleybar & Hamzeh Beiranvand	April 2021
5	Performance Comparison of Multi-Carrier Modulation Schemes in Underwater Wireless Optical Communication Systems	Mostafa Mojahed & Hamzeh Beiranvand	October 2020
6	Resource Allocation in IoT Access Networks in order to Optimization Energy Harvesting	Kamran Ebrahimi & Hamzeh Beiranvand	March 2020
7	Resource allocation in 5G access networks with limited backhaul capacity using machine learning	Babak Azkayee & Hamzeh Beiranvand	February 2020
8	Joint communication and Computation Resource Allocation in Access Networks with FSO and Fiber Optics backhaul Links	Parisa Foughi & Hamzeh Beiranvand	October 2019
9	gpr image reconstruction using bayesian approach	Ahmad Abbasi & Hamzeh Beiranvand	December 2018
10	Backhaul-Aware Resource Allocation in HetNet FiWi Networks	Ramin Hashemi & Hamzeh Beiranvand	October 2018

## Journal Papers

### Portal Records

- 1 Mahdieh Mehrabi, Hamzeh Beiranvand, Mohammad Javad Emadi, "Multi-Band Elastic Optical Networks: Inter-Channel Stimulated Raman Scattering-aware Routing, Modulation Level and Spectrum Assignment", JOURNAL OF LIGHTWAVE TECHNOLOGY, March 2021 Vol. 0, Num. 0, Page 1-10, March 2021,
- 2 Pouya Agheli, Mohammad Javad Emadi, Hamzeh Beiranvand, "Designing Cost- and Energy-Efficient Cell-Free Massive MIMO Network with Fiber and FSO Fronthaul Links", AUT Journal of Electrical Engineering, January 2021 Vol. 0, Num. 0, Page 0-0, January 2021,
- 3 Ramin Hashemi, Hamzeh Beiranvand, Hami Rabani, "Joint channel power and amplifier gain optimization in coherent DWDM systems", OPTICS COMMUNICATIONS, November 2020 Vol. 475, Num. 15, Page 126212-126212, November 2020,
- 4 Ramin Hashemi, Hamzeh Beiranvand, "Backhaul-Aware Decoupled Uplink and Downlink User Association, Subcarrier Allocation, and Power Control in FiWi HetNets", AUT Journal of Electrical Engineering, August 2020 Vol. 50, Num. 7, Page 1-10, August 2020,
- 5 Mohammad Amir Dastgheib, Hamzeh Beiranvand, Jawad A. Salehi, "Optimal Placement of Access Points in Cellular Visible Light Communication Networks: An Adaptive Gradient Projection Method", IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, July 2020 Vol. 19, Num. 10, Page 6813-6825, July 2020,
- 6 Farhad Arpanaei, Nahid Ardalani, Hamzeh Beiranvand, Behnam Shariati, "QoT-aware performance evaluation of spectrally-spatially flexible optical networks over FM-MCFs", JOURNAL OF OPTICAL COMMUNICATIONS AND NETWORKING, July 2020 Vol. 12, Num. 8, Page 288-300, July 2020,
- 7 Ramin Hashemi, Mehdi Habibi, Hamzeh Beiranvand, Ali Emami, Mahdi Hashemi, Davood Ranjbar Rafi, "Transmit Power Optimization in Optical Coherent Transmission Systems: Analytical, Simulation, and Experimental Results", International Journal of Information and Communication Technology(IJICT), January 2020 Vol. 11, Num. 1, Page 1-11, January 2020,
- 8 Elham Ehsani Moghadam, Hamzeh Beiranvand, Jawad Salehi, "Crosstalk-Aware Resource Allocation in Survivable Space-Division-Multiplexed Elastic Optical Networks Supporting Hybrid Dedicated and Shared Path Protection", JOURNAL OF LIGHTWAVE TECHNOLOGY, November 2019 Vol. 38, Num. 6, Page 1095-1102, November 2019,
- 9 Mehdi Habibi, Hamzeh Beiranvand, "Impairment-aware manycast routing, modulation level, and spectrum assignment in elastic optical networks", JOURNAL OF OPTICAL COMMUNICATIONS AND NETWORKING, May 2019 Vol. 11, Num. 5, Page 179-189, May 2019,
- 10 Farhad Arpanaei, Nahid Ardalani, Hamzeh Beiranvand, S. Ali Alavian, "Three-Dimensional Resource Allocation in Space Division Multiplexing Elastic Optical Networks", JOURNAL OF OPTICAL COMMUNICATIONS AND NETWORKING, December 2018 Vol. 10, Num. 12, Page 959-974, December 2018,
- 11 Mohammad A. Dastgheib, Hamzeh Beiranvand, Jawad A. Salehi, Martin Maier, "Mobility-Aware Resource Allocation in VLC Networks Using T-Step Look-Ahead Policy", JOURNAL OF LIGHTWAVE TECHNOLOGY, October 2018 Vol. 0, Num. 0, Page 1-13, October 2018,
- 12 Elham Ehsani Moghaddam, Hamzeh Beiranvand, Jawad A. Salehi, "Routing, Spectrum and Modulation Level Assignment, and Scheduling in Survivable Elastic Optical Networks Supporting Multi-Class Traffic", JOURNAL OF LIGHTWAVE TECHNOLOGY, October 2018 Vol. N, Num. 0, Page 1-11, October 2018,
- 13 Ali Lotfi Rezaabad , Hamzeh Beiranvand, Jawad A. Salehi, Martin Maier, "Ultra-Dense 5G Small Cell Deployment for Fiber and Wireless Backhaul-Aware Infrastructures", IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, October 2018 Vol. N, Num. 0, Page 1-13, October 2018,
- 14 Mehrdad Moharrami, Ahmad Fallahpour , Hamzeh Beiranvand, Jawad Salehi, "Resource Allocation and Multicast Routing in Elastic Optical Networks", IEEE TRANSACTIONS ON COMMUNICATIONS, May 2017 Vol. 65, Num. 5, Page 2101-2113, May 2017,



- 15 Hamzeh Beiranvand, Dr. Martin Lévesque, Prof. Martin Maier, Prof. Jawad A. Salehi, DR. Christos Verikoukis, Prof. David Tipper, "Toward 5G: FiWi Enhanced LTE-A HetNets With Reliable Low-Latency Fiber Backhaul Sharing and WiFi Offloading", IEEE-ACM TRANSACTIONS ON NETWORKING, September 2016 Vol. N, Num. 0, Page 1-18, September 2016,
- 16 Farhad Akhoundi, Mohammad Vahid Jamali, Navid Bani Hassan, Hamzeh Beiranvand, Amir Minoofar, Jawad Salehi, "Cellular Underwater Wireless Optical CDMA Network: Potentials and Challenges", IEEE Access, July 2016 Vol. 4, Num. 1, Page 4254-4268, July 2016,
- 17 Ahmad Fallahpour, Hamzeh Beiranvand, Jawad Salehi, "Energy-Efficient Multicast Routing and Spectrum Assignment in Elastic Optical Networks for Cloud Computing Environment", JOURNAL OF LIGHTWAVE TECHNOLOGY, October 2015 Vol. 33, Num. 19, Page 4008-4018, October 2015,





## Conference Papers

### Portal Records

- 1 Parisa Foroughi, Hamzeh Beiranvand, Maurice Gagnaire, Sawsan Al Zahr, "User Association in Hybrid UAV-cellular Networks for Massive Real-time IoT Applications ", IEEE INFOCOM 2020 - IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), July 2020
- 2 Hamzeh Beiranvand, Mohammad Javad Emadi, Shahryar Sabouri, Kambiz Jamshidi, Frank H.P. Fitzek, "Converged 5G and Fiber-Wireless Access Networks Enhanced with Visible Light Communications and Steerable Infrared Beam ", 2019 2nd West Asian Colloquium on Optical Wireless Communications (WACOWC), August 2019
- 3 Hamzeh Beiranvand, Mohammad Javad Emadi, Shahryar Sabouri,, Kambiz Jamshidi, Frank H.P. Fitzek, "Converged 5G and fiber-wireless access networks enhanced with visible light communications and steerable infrared beam ", 2nd West Asian Colloquium on Optical Wireless Communications, WACOWC 2019, April 2019
- 4 Amir Mohammad Dastgheib, Hamzeh Beiranvand, Jawad Salehi, "Anticipatory approaches for resource allocation in LiFi networks(Conference Paper) ", 2nd West Asian Colloquium on Optical Wireless Communications, WACOWC 2019, April 2019
- 5 Ali Mirani ;, Hamzeh Beiranvand, Jawad Salehi, "Analytical Derivation of Channel Capacity in Uncompensated Optical Space-Division Multiplexing systems ", Iran Workshop on Communication and Information Theory, May 2017
- 6 Shadi Shahsavari, Hamzeh Beiranvand, Jawad Salehi, "Multi-quality of service routing and spectrum assignment in elastic optical networks ", IEEE ICC 2017 Optical Networks and Systems Symposium, May 2017
- 7 Mehrdad Moharami, Hamzeh Beiranvand, Ahmad Fallahpour, Jawad Salehi, "Spectrum-usage-aware resource allocation and multicast routing in elastic optical networks ", 8th International Symposium on Telecommunications (IST), September 2016

## Taught Courses

#	Course title	Description	Headlines	Date
1	Communication Systems (I)	Introduction to Fundamental Principles of Communication Systems, Investigating Analog Modulation Techniques, and Analyzing The Effect of Thermal Noise on the Analog Communication Systems		Fall 2021
2	Optical communication systems	The main purpose of this course is to introduce different types of optical telecommunication systems, including fiber optic telecommunication systems, free space optic and indoor optical communication systems. For this purpose, first different types		Fall 2021

3	Optical Communication Networks	Introduce the fundamental principles of optical networks, in particular, describing the enabling technologies and investigating the main building blocks of optical networks. Furthermore, in this course we present algorithms for optical network planni		Spring 2021
4	Signals & Systems	To be familiar with different signals in the time and frequency domains, and learning how to analyze linear and time invariant systems in the time and frequency domains.		Spring 2021
5	Communication Systems (I)	Introduction to Fundamental Principles of Communication Systems, Investigating Analog Modulation Techniques, and Analyzing The Effect of Thermal Noise on the Analog Communication Systems		Fall 2020
6	Optical Communication Systems	optical communication systems		Fall 2020