

Ehsan Soleimani-Nasab

Assistant Professor

Graduate University of Advanced Technology, Kerman, Iran

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Research Interests

- Optical Wireless Communications
- MIMO systems
- Cooperative Communications
- Cognitive Radio Networks
- Resource Allocation and Optimization

Teaching Courses

- Wireless Communications (Level: Graduate) Fall 2018
- Broadband Communications (Level: Graduate) Spring 2019
- Advanced Communication Theory (Level: Graduate) Fall 2018
- Digital Communications (Level: Undergraduate) Fall 2015

Education

- 2009 - 2013 **Ph.D. in Electrical Engineering, Communication Systems**, *Faculty of Electrical and Computer Engineering, K. N. Toosi University of Technology, Tehran, Iran.*
My interests were Multi-User Cooperative and Cognitive Radio Networks.
- 2006 - 2009 **M.Sc. in Electrical Engineering, Communication Systems**, *Faculty of Electrical and Computer Engineering, K. N. Toosi University of Technology, Tehran, Iran.*
My interests were Cross Layer Design for Ad-Hoc and Sensor Networks.
- 2002 - 2006 **B.Sc. in Electrical Engineering, Communications**, *Faculty of Electrical Engineering, Iran University of Science and Technology, Tehran, Iran.*

Research Experiences

- 2014 **Research Associate (under supervision of Prof. Murat Uysal)**, *Department of Electrical and Electronics Engineering, Ozyegin University, Istanbul, Turkey.*
My interests were Optical Wireless Networks.
- 2012 **Visiting Scholar (under supervision of Prof. Michail Matthaiou and in collaboration with Prof. George K. Karagiannidis)**, *Department of Signals and Systems, Chalmers University of Technology, Gothenburg, Sweden.*
My interests were Cooperative Communications and Interference Channels.

2008 - 2013 **Spread Spectrum and Wireless Communication Lab. (under supervision of Prof. Ardebilipour)**, Faculty of Electrical and Computer Engineering, K. N. Toosi University of Technology, Tehran, Iran.
My interests were MIMO Communication, Relay Systems and Cognitive Radio Networks

Honors and Awards

- 2016, 2019 **Awarded research fund by Iran National Science Foundation.**
- 2014 **Awarded research scholarship by Ozyegin University.**
- 2014 **Winner, Best Student Researcher**, K. N. Toosi University of Technology.
- 2013 **Winner, IEEE COMSOC student travel grant (ICC 2013).**
- 2012 **Awarded research scholarship by Chalmers University of Technology.**

Publications: Journal Papers

- J16 **B. Ashrafzadeh, E. Soleimani-Nasab, M. Kamandar and M. Uysal**, "A Framework on the Performance Analysis of Dual-Hop Mixed FSO-RF Cooperative Systems", **Accepted for Publication** in IEEE Transactions on Communications, Vol. 67, February 2019.
- J15 **A. Asgari, M.R. Aghabozorgi, E. Soleimani-Nasab and M.A. Khalighi**, "Performance Analysis of Mixed RF/FSO Cooperative Systems with Wireless Power Transfer", **Published** in Physical Communication, Vol. 33, pp. 187-198, April 2019.
- J14 **H. Arezumand, H. Zamiri-Jafarian and E. Soleimani-Nasab**, "Outage and Diversity Analysis of Underlay Cognitive Mixed RF-FSO Cooperative Systems", **Published** IEEE/OSA Journal of Optical Communications and Networking, Vol. 9, No. 10, pp. 909-920, October 2017.
- J13 **S. Vahidian, E. Soleimani-Nasab, S. Aïssa and M. Ahmadian**, "Bidirectional AF Relaying with Underlay Spectrum Sharing in Cognitive Radio Networks", **Published** in IEEE Transactions on Vehicular Technology, Vol. 66, No. 3, pp. 2367–2381, March 2017.
- J12 **V. Ozduran, E. Soleimani-Nasab and B. S. Yarman**, "Opportunistic Source-Pair Selection for Multiuser Two-Way AF Relaying Networks", **Published** in IET Communications, Vol. 10, No. 16, pp. 2106–2118, November 2016.
- J11 **E. Soleimani-Nasab and M. Uysal**, "Generalized Performance Analysis of Mixed RF/FSO Cooperative Systems", **Published** in IEEE Transactions on Wireless Communications, Vol. 15, No. 1, pp. 714-727, January 2016.
- J10 **M. Najafi, M. Ardebilipour, E. Soleimani-Nasab and S. Vahidian**, "Multi-Hop Cooperative Communication Technique for Cognitive DF and AF Relay Networks", **Published** in Wireless Personal Communications, Vol. 83, No. 4, pp. 3209-3221, July 2015.
- J9 **N. Razmi, M. Ahmadian, E. Soleimani-Nasab and A. Ghasemi**, "Single and Dual Relay Selection in Two-Way Network-coded Relay Networks", **Published** in Wireless Personal Communications, Vol. 83, No. 1, pp. 99-115, July 2015.
- J8 **E. Soleimani-Nasab, A. Kalantari and M. Ardebilipour**, "Performance Analysis of Selective DF Relay Networks over Nakagami- n and Nakagami- q Fading Channels", **Published** in Wireless Communications and Mobile Computing, Vol. 14, No. 16, pp. 1564-1581, November 2014.

- J7 **B. Mahboobi, E. Soleimani-Nasab and M. Ardebilipour**, “*Outage Probability Based Robust Distributed Beam-forming in Multi-User Cooperative Networks with Imperfect CSI*”, **Published** in *Wireless Personal Communications*, Vol. 77, No. 3, pp. 1629-1658, August 2014.
- J6 **E. Soleimani-Nasab and M. Ardebilipour**, “*Multi-Antenna AF Two-Way Relaying Over Nakagami- m Fading Channels*”, **Published** in *Wireless Personal Communications*, Vol. 73, No. 3, pp. 717-729, December 2013.
- J5 **E. Soleimani-Nasab, M. Matthaiou and M. Ardebilipour**, “*Multi-Relay MIMO Systems with OSTBC over Nakagami- m Fading Channels*”, **Published** in *IEEE Transactions on Vehicular Technology*, Vol. 62, No. 8, pp. 3721-3736, October 2013.
- J4 **A. Kalantari, M. Ardebilipour, B. Mahboobi and E. Soleimani-Nasab**, “*Robust Cooperative Relay Beamforming*”, **Published** in *IEEE Wireless Communications Letters*, Vol. 2, No. 4, pp. 399-402, August 2013.
- J3 **E. Soleimani-Nasab, M. Matthaiou, M. Ardebilipour and G. K. Karagiannis**, “*Two-Way AF Relaying in the Presence of Co-Channel Interference*”, **Published** in *IEEE Transactions on Communications*, Vol. 61, No. 8, pp. 3156-3169, August 2013.
- J2 **E. Soleimani-Nasab, M. Ardebilipour, A. Kalantari and B. Mahboobi**, “*Performance Analysis of Multi-Antenna Relay Networks with Imperfect Channel Estimation*”, **Published** in *International Journal of Electronics and Communications*, Vol. 67, No. 1, pp. 45-57, January 2013.
- J1 **E. Soleimani-Nasab, A. Kalantari and M. Ardebilipour**, “*Performance Analysis of Multi-Antenna DF Relay Networks over Nakagami- m Fading Channels*”, **Published** in *IEEE Communications Letters*, Vol. 15, No. 12, pp. 1372-74, December 2011.

Publications: Conference Papers

- C30 **A. Asgari, M.R. Aghabozorgi, and E. Soleimani-Nasab**, “*Outage Probability of Mixed RF/FSO Cooperative Systems with Wireless Energy Harvesting*”, **Accepted for Publication** in 27th Iranian Conference on Electrical Engineering (ICEE), May 2019, Tehran, Iran.
- C29 **B. Ashrafzadeh, A. Zaimbashi, E. Soleimani-Nasab, and M. Uysal**, “*On the Performance of Multi-Hop Free Space Optical Cooperative Systems*”, **Published** in 2018 IEEE Global Communications Conference (GLOBECOM), December 2018, Abu Dhabi, UAE.
- C28 **V. Ozduran, E. Soleimani-Nasab and B. S. Yarman**, “*Sum-Rate Based Relay Selection with Feedback Delay For A Multiple Half/Full-Duplex Two-Way Relaying*”, **Published** in International Conference on Intelligent Transport Systems Telecommunications (ITST), May 2017, Warsaw, Poland.
- C27 **V. Ozduran, E. Soleimani-Nasab and B. S. Yarman**, “*Sum-Rate Based Opportunistic Relay Selection With Channel Estimation Error For A Dual-Hop Multiple Half/Full-Duplex Bi-directional Wireless Relaying Networks*”, **Published** in Wireless and Optical Communications Conference (WOCC), April 2017, New Jersey, USA.

- C26 **S. Javadi and E. Soleimani-Nasab**, "Performance Analysis of Cognitive Two-Way AF Relaying Systems with Wireless Energy Harvesting over Nakagami-m Fading Channels", **Published** in Iran Workshop on Communication and Information Theory (IWCIT), May 2017, Tehran, Iran.
- C25 **S. Javadi and E. Soleimani-Nasab**, "Outage Analysis of Cognitive Two-Way AF Relaying Systems with Wireless Power Transfer", **Published** in 25th Iranian Conference on Electrical Engineering (ICEE), May 2017, Tehran, Iran.
- C24 **M. Abbaspour and E. Soleimani-Nasab**, "Performance Analysis of Dual-Hop Fixed-Gain AF Relaying Systems in Wireless Body Area Networks over Gamma Fading Channels", **Published** in Smart Grid Conference (SGC), December 2016, Kerman, Iran.
- C23 **P. Nikookar and E. Soleimani-Nasab**, "Physical Layer Security in the Presence of the Eavesdroppers in Cooperative Networks", **Published** in Smart Grid Conference (SGC), December 2016, Kerman, Iran.
- C22 **V. Ozduran, E. Soleimani-Nasab and B. S. Yarman**, "Impact of Co-Channel Interference on Sum-Rate Based Opportunistic Relay Selection (SR-ORS) Method for A Dual-Hop Multiple Full-Duplex Bi-directional Wireless Relaying Networks", **Published** in International Conference on Electrical and Electronics Engineering (ELECO), December 2016, Bursa, Turkey.
- C21 **V. Ozduran, E. Soleimani-Nasab and B. S. Yarman**, "Sum-Rate Based Opportunistic Relay Selection Method For Dual-Hop Multiple Half/Full-Duplex Bi-directional Wireless Relaying Networks", **Published** in 24th Telecommunication Forum (TELFOR), November 2016, Belgrade, Serbia.
- C20 **B. Ashrafzadeh, E. Soleimani-Nasab and M. Kamandar**, "Performance Analysis of Mixed DGG and Generalized Nakagami-m Dual-Hop FSO/RF Transmission Systems", **Published** in 24th Telecommunication Forum (TELFOR), November 2016, Belgrade, Serbia.
- C19 **B. Ashrafzadeh, E. Soleimani-Nasab and M. Kamandar**, "Outage Analysis of Mixed RF/FSO Cooperative Systems with Multiple Antennas and Apertures", **Published** in 24th Telecommunication Forum (TELFOR), November 2016, Belgrade, Serbia.
- C18 **S. Javadi and E. Soleimani-Nasab**, "Two-Way Interference-Limited AF Relaying with Wireless Power Transfer", **Published** in 24th Telecommunication Forum (TELFOR), November 2016, Belgrade, Serbia.
- C17 **M. Abbaspour and E. Soleimani-Nasab**, "Performance Analysis of Cooperative Wireless Body Area Networks over Gamma Fading Channels", **Published** in 24th International Symposium on Telecommunications (IST), September 2016, Tehran, Iran.
- C16 **E. Soleimani-Nasab and M. Uysal**, "Generalized Performance Analysis of Mixed RF/FSO Systems", **Published** in 3rd International Workshop on Optical Wireless (IWOW), September 2014, Madeira Island, Portugal, pp. 16-20.
- C15 **N. Razmi, M. Ahmadian, E. Soleimani-Nasab and A. Ghasemi**, "Single Relay Selection in Physical-Layer Network-Coded Two-Way Relay Networks", **Published** in 7th International Symposium on Telecommunications (IST), September 2014, Tehran, Iran, pp. 1030 - 1034.

- C14 **E. Soleimani-Nasab, M. Matthaiou, G. K. Karagiannidis and M. Ardebilipour**, “*Performance Analysis of Two-Way Interference-Limited Relaying over Nakagami- m Fading Channels*”, **Published** in 2013 IEEE Global Communications Conference (GLOBECOM), December 2013, Atlanta, USA, pp. 4380-4386.
- C13 **E. Soleimani-Nasab, M. Matthaiou and M. Ardebilipour**, “*Performance Analysis of Multi-Antenna AF Relaying Systems over Nakagami- m Fading Channels*”, **Published** in 2013 IEEE International Conference on Communications (ICC), June 2013, Budapest, Hungary, pp. 1634-1639.
- C12 **E. Soleimani-Nasab, M. Matthaiou and G. K. Karagiannidis**, “*Two-Way Interference-Limited AF Relaying with Selection Combining*”, **Published** in 38th International Conference on Acoustics, Speech, and Signal Processing (ICASSP), May 2013, Vancouver, Canada, pp. 4992-4996 .
- C11 **E. Soleimani-Nasab and M. Ardebilipour**, “*On the Performance of Multi-Antenna AF Two-Way Relay Networks over Nakagami- m Fading Channels*”, **Published** in 6th International Symposium on Telecommunications (IST), November 2012, Tehran, Iran, pp. 200-204.
- C10 **A. Kalantari, E. Soleimani-Nasab and M. Ardebilipour**, “*Performance Analysis of Multi-Antenna Relay Systems with Imperfect Channel Estimation*”, **Published** in 20th Telecommunication Forum (TELFOR), November 2012, Belgrade, Serbia, pp. 823-826.
- C9 **E. Soleimani-Nasab, A. Kalantari , M. Ardebilipour and O. Rajabi**, “*On the Performance of Multi-Antenna AF Two-Way Relay Networks over Rayleigh Fading Channels* ”, **Published** in 19th Telecommunication Forum (TELFOR), November 2011, Belgrade, Serbia, pp. 517-519.
- C8 **O.Rajabi, A. Kalantari, E. Soleimani-Nasab and M. Ardebilipour**, “*Uplink and Downlink Beamforming in Two Way Relay Networks*”, **Published** in 19th Telecommunication Forum (TELFOR), November 2011, Belgrade, Serbia, pp. 373-376.
- C7 **E. Soleimani-Nasab, A. Kalantari and M. Ardebilipour**, “*On the Performance of Selective DF Relay Networks over Rician Fading Channels*”, **Published** in 16th IEEE Symposium on Computers and Communications (ISCC), June 2011, Corfu, Greece, pp. 117-122.
- C6 **A. Kalantari, E. Soleimani-Nasab and M. Ardebilipour**, “*Performance Analysis of Best Selection DF Relay Networks over Nakagami- n Fading Channels*”, **Published** in 19th Iranian Conference on Electrical Engineering (ICEE), May 2011, Tehran, Iran.
- C5 **M. Kashiha, M. Ardebilipour and E. Soleimani-Nasab**, “*An Adaptive Method for Multi-User MIMO Power Controlled Systems*”, **Published** in IEEE International Conference on Wireless Communications, Networking and Information Security (WCNIS), June 2010, Beijing, China, pp. 68-72.
- C4 **E. Soleimani-Nasab, M. Ardebilipour and M. Kashiha**, “*MIMO Ad hoc Network Meets Cross Layer Design*”, **Published** in IEEE 17th Signal Processing and Communication Applications Conference (SIU), April 2009, Antalya, Turkey, pp. 153-156.
- C3 **M. Kashiha, M. Ardebilipour, E. Soleimani-Nasab and M.A. Mohammadi**, “*An Adaptive Method for Multi-User MIMO Power Controlled Systems*”, **Published** in IEEE 17th Signal Processing and Communication Applications Conference (SIU), April 2009, Antalya, Turkey, pp. 149-152.

- C2 **E. Soleimani-Nasab, M. Ardebilipour and M. Kashiha**, "A New Cross Layer MAC Protocol Design for MIMO Ad Hoc Networks", **Published** in 17th Telecommunication Forum (TELFOR), November 2009, Belgrade, Serbia, pp. 193-197.
- C1 **E. Soleimani-Nasab and M. Ardebilipour**, "Improve Efficiency of Ad hoc Networks with MIMO Communication and Cross Layer MAC Design", **Published** in IEEE 11th International Conference on Advanced Communication Technology (ICACT), February 2009, Seoul, South Korea, pp. 907-912.

Publications: Books

- B2 **E. Soleimani-Nasab, A. Kalantari and M. Ardebilipour**, "Performance Analysis of Multi-Antenna Relay Networks over Nakagami-m Fading Channel", 11th chapter in "Integrated Models for Information Communication Systems and Networks: Design and Development", **Published**.
IGI-Global Publisher, USA , 2013.
- B1 **E. Soleimani-Nasab, M. Ardebilipour and M. Kashiha**, "Cross Layer Design in Wireless Ad-Hoc Networks with Multiple Antennas", 8th chapter in "Mobile Ad-Hoc Networks: Protocol Design", **Published**.
INTECH Publisher, Austria , 2011.

Academic and Professional Membership

- 2014-Present **IEEE Member**, *IEEE Communications Society Member*.
2011-2014 **IEEE Graduate Student Member**, *IEEE Communications Society Member*.

Editorship and Review Experiences

Journal Reviewer

IEEE:

IEEE Journal on Selected Areas in Communications (JSAC),
IEEE Transactions on Communications (TCOM),
IEEE Transactions on Wireless Communications (TWC),
IEEE Transactions on Vehicular Technology (TVT),
IEEE Transactions on Signal Processing (TSP),
IEEE Access,
IEEE Communications Letters (CL),
IEEE Wireless Communications Letters (WCL)

IET:

IET Communications (IET-COM),
IET Networks (IET-NET).

Wiley:

Wireless Communications and Mobile Computing (WCMC),
International Journal of Communication Systems (IJCS),
Transactions on Emerging Telecommunications Technologies (ETT).

Other:

EURASIP Journal on Wireless Communications and Networking (JWCN),
Elsevier International Journal of Electronics and Communications (AEUE),
International Journal of Electronics (IJE),
China Communications (CC).

Conference Technical Program Committee member

2019:

IEEE International Conference on Telecommunications (ICT)

2018:

Iranian Conference on Communications Engineering (ICCE),
West Asian Colloquium on Optical Wireless Communication (OWC)

2015:

IEEE Symposium on Computers and Communications (ISCC)

2014:

IEEE Symposium on Computers and Communications (ISCC)

2013:

IEEE Symposium on Computers and Communications (ISCC)

2011:

IEEE Conference on Information and Communication Technologies (ICT)

Conference Reviewer

2019:

International Wireless Communications and Mobile Computing Conference (IWCMC).

2018:

IEEE Military Communications Conference (MILCOM),
IEEE Wireless Communications and Networking Conference (WCNC).

2017:

IEEE Global Communications Conference (GLOBECOM).

2016:

IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WIMOB),
IEEE Global Communications Conference (GLOBECOM),
International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC),
IEEE Wireless Communications and Networking Conference (WCNC).

2015:

IEEE Global Communications Conference (GLOBECOM),
IEEE International Symposium on Wireless Communication Systems (ISWCS),
IEEE International Wireless Communications and Mobile Computing Conference (IWCMC).

2014:

IEEE/CIC International Conference on Communications in China (ICCC).

2013:

IEEE Global Communications Conference (GLOBECOM),
International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC),
IEEE Wireless Communications and Networking Conference (WCNC).

2012:

IEEE Wireless Communications and Networking Conference (WCNC).

2011:

IEEE International Wireless Communications and Mobile Computing Conference (IWCMC).