

## Farshad Miramirkhani, Ph.D.

Assistant Professor

### Contact Information

Department of Electrical and Electronics Engineering

Isik University, Istanbul, Turkey, 34980

Email: [farshad.miramirkhani@isikun.edu.tr](mailto:farshad.miramirkhani@isikun.edu.tr)

Website: <https://sites.google.com/view/fmiramirkhani/home>

---

### Educations

✓ Ozyegin University, Istanbul, Turkey

**Ph.D.** in Electrical and Electronics Engineering (Optical Wireless Communications-Visible Light Communications), Department of Electrical and Electronics Engineering, 2014-2018.

**Supervisor:** Prof. Dr. Murat Uysal

**Total GPA:** 3.96/4

✓ University of Isfahan, Isfahan, Iran

**M.Sc.** in Electrical and Electronics Engineering (Communication Engineering), Department of Electrical and Electronics Engineering, 2011-2014.

**Supervisor:** Assoc. Prof. Mohamad Farzan Sabahi

**Total GPA:** 3.50/4

✓ University of Isfahan, Isfahan, Iran

**B.Sc.** in Electrical and Electronics Engineering, Department of Electrical and Electronics Engineering, 2007-2011.

**Supervisor:** Assoc. Prof. Mohamad Farzan Sabahi

**Total GPA:** 3.44/4

---

### Research Areas

**OPTWiCOM Research Group** is directed by Dr. Farshad Miramirkhani under the Department of Electrical and Electronics Engineering, ISIK University, and conducts fundamental and applied research on the physical layer aspects of Optical Wireless Communications. Current research projects address physical layer design of indoor, vehicular and underwater visible light communications. Research interests of OPTWiCOM are optical wireless communication with a particular emphasis on channel modelling and characterization. Current research topics are listed in the following:

- ✓ Optical Wireless Communications
  - ✓ Indoor Visible Light Communications
  - ✓ Vehicular Visible Light Communications
  - ✓ Underwater Visible Light Communications
  - ✓ Ultraviolet Non-Line-of-Sight Communications
  - ✓ Infrared Communications
  - ✓ Channel Modeling
- 

### Publications

<i>Google Scholar</i>	
<i>Citations</i>	<b>876</b>
<i>h-index</i>	<b>13</b>
<i>Publications</i>	
<i>Journal Papers</i>	<b>15</b>
<i>Book Chapters</i>	<b>2</b>
<i>Standard Contributions</i>	<b>10</b>
<i>International Conference Papers</i>	<b>18</b>
<i>National Conference Papers</i>	<b>5</b>

## ✓ Journal Papers

- [J-15] M. Karbalayghareh, F. Miramirkhani, H. B. Eldeeb, R. C. Kizilirmak, S. M. Sait, and M. Uysal, "Channel Modelling and Performance Limits of Vehicular Visible Light Communication Systems", accepted for publication in *IEEE Transactions on Vehicular Technology*, 2020.
- [J-14] F. Miramirkhani, and M. Uysal, "Channel Modelling for Indoor Visible Light Communications", *Philosophical Transactions of the Royal Society A, Special Issue on The Cross-Disciplinary Challenges towards Mobile Optical Wireless Networks*, vol. 378, no. 2169, pp. 1-35, Mar. 2020.
- [J-13] H. Abuella, F. Miramirkhani, S. Ekin, M. Uysal, and S. Ahmed, "ViLDAR-Visible Light Sensing Based Speed Estimation using Vehicle's Headlamps", *IEEE Transactions on Vehicular Technology*, vol. 68, no. 11, pp. 10406-10417, Nov. 2019.
- [J-12] O. Narmanlioglu, R. C. Kizilirmak, F. Miramirkhani, S. Safaraliev, S. M. Sait, and M. Uysal, "Effect of Wiring and Cabling Topologies on the Performance of Distributed MIMO OFDM VLC Systems", *IEEE Access*, vol. 7, pp. 52743-52754, Apr. 2019.
- [J-11] R. Mitra, F. Miramirkhani, V. Bhatia, and M. Uysal, "Mixture-Kernel Based Post-Distortion in RKHS for Time-Varying VLC Channels", *IEEE Transactions on Vehicular Technology*, vol. 68, no. 2, pp. 1564-1577, Feb. 2019.
- [J-10] M. Elamassie, F. Miramirkhani, and M. Uysal, "Performance Characterization of Underwater Visible Light Communication", *IEEE Transactions on Communications*, vol. 67, no. 1, pp. 543-552, Jan. 2019.
- [J-9] F. Miramirkhani, M. Uysal, O. Narmanlioglu, M. Abdallah, and K. Qaraqe, "Visible Light Channel Modeling for Gas Pipelines", *IEEE Photonics Journal*, vol. 10, no. 2, pp. 1-10, Apr. 2018.
- [J-8] F. Miramirkhani, and M. Uysal, "Visible Light Communication Channel Modeling for Underwater Environments with Blocking and Shadowing", *IEEE Access*, vol. 6, pp. 1082-1090, Feb. 2018.
- [J-7] A. Yesilkaya, E. Basar, F. Miramirkhani, E. Panayirci, M. Uysal, and H. Haas, "Optical MIMO-OFDM with Generalized LED Index Modulation", *IEEE Transactions on Communications*, vol. 65, no. 8, pp. 3429-3441, Aug. 2017.
- [J-6] O. Narmanlioglu, R. C. Kizilirmak, F. Miramirkhani, and M. Uysal, "Cooperative Visible Light Communications with Full-Duplex Relaying", *IEEE Photonics Journal*, vol. 9, no. 3, pp. 1-11, Jun. 2017.
- [J-5] F. Miramirkhani, O. Narmanlioglu, M. Uysal, and E. Panayirci, "A Mobile Channel Model for VLC and Application to Adaptive System Design", *IEEE Communications Letters*, vol. 21, no. 5, pp. 1035-1038, May 2017.
- [J-4] M. Uysal, F. Miramirkhani, O. Narmanlioglu, T. Baykas, and E. Panayirci, "IEEE 802.15.7r1 Reference Channel Models for Visible Light Communications", *IEEE Communications Magazine*, vol. 55, no. 1, pp. 212-217, Jan. 2017.
- [J-3] F. Miramirkhani, and M. Uysal, "Channel Modeling and Characterization for Visible Light Communications", *IEEE Photonics Journal*, vol. 7, no. 6, pp. 1-16, Dec. 2015. (**Listed among IEEE Photonics Journal's top 10 most frequently downloaded papers from December 2016 to November 2017**).
- [J-2] P. Moallem, F. Miramirkhani, and M. Sabahi, "Application of Elliptic Discrete Fourier Transform Type (I) in Denoising and Receiver Design", *Analog Integrated Circuits and Signal Processing*, Springer, vol. 85, no. 3, pp. 505-512, Dec. 2015.
- [J-1] A. Yesilkaya, F. Miramirkhani, H. F. Alsan, E. Basar, E. Panayirci, and M. Uysal, "Modelling of Visible Light Channels and Performance Analysis for Optical OFDM Systems" (in Turkish), *EMO Scientific Journal*, vol. 5, no. 9, pp. 19-31, Jun. 2015.

## ✓ Book Chapters

- [BC-2] F. Miramirkhani, M. Uysal, and E. Panayirci, "Channel Modeling for Visible Light Communications", Chapter in *Optical Wireless Communications-An Emerging Technology*, Springer, 2016.
- [BC-1] O. Narmanlioglu, R. C. Kizilirmak, F. Miramirkhani, and M. Uysal, "Cooperative Visible Light Communications", Chapter in *Optical Wireless Communications-An Emerging Technology*, Springer, 2016.

## ✓ IEEE 802.11bb Standard Contributions

- [S-10] M. Uysal, F. Miramirkhani, T. Baykas, and K. Qaraqe, "IEEE 802.11bb Reference Channel Models for Indoor Environments", doc.: IEEE 11-18-1582-00-00bb, Sept. 2018. [Online]. Available: <https://mentor.ieee.org/802.11/dcn/18/11-18-1582-00-00bb-ieee-802-11bb-reference-channel-models-for-indoor-environments.pdf>

[S-9] M. Uysal, F. Miramirkhani, and T. Baykas, "IEEE 802.11bb Channel Model for Conference Room Environment", doc.: IEEE 11-18-1365-00-00bb, Jul. 2018. [Online]. Available: <https://mentor.ieee.org/802.11/dcn/18/11-18-1365-00-00bb-ieee-802-11bb-channel-model-for-conference-room-environment.docx>

**Note:** Channel impulse responses (CIRs) discussed in the above documents were selected as "**IEEE 802.11bb Reference Channel Models**". These channel models allow a fair comparison of different physical layer proposals submitted to TGbb in response to the Call for Proposals. They are available for public use with instructions in: M. Uysal, F. Miramirkhani, T. Baykas, and K. Qaraqe, "CIRs of IEEE 802.11bb Reference Channel Models", doc.: IEEE 11-18-1603-00-00bb, Sept. 2018. [Online]. Available: <https://mentor.ieee.org/802.11/dcn/18/11-18-1603-00-00bb-cirs-of-ieee-802-11bb-reference-channel-models.zip>.

[S-8] M. Uysal, F. Miramirkhani, T. Baykas, K. Qaraqe, and M. Abdallah, "IEEE 802.11bb Reference Channel Models for Gas Pipelines", doc: IEEE 11-18-1239-01-00bb, Jul. 2018. [Online]. Available: <https://mentor.ieee.org/802.11/dcn/18/11-18-1239-01-00bb-ieee-802-11bb-reference-channel-models-for-gas-pipelines.pdf>

[S-7] M. Uysal, F. Miramirkhani, T. Baykas, K. Qaraqe, and M. Abdallah, "IEEE 802.11bb Reference Channel Models for Underwater Environments", doc: IEEE 11-18-1238-01-00bb, Jul. 2018. [Online]. Available: <https://mentor.ieee.org/802.11/dcn/18/11-18-1238-01-00bb-ieee-802-11bb-reference-channel-models-for-underwater-environments.pdf>

[S-6] M. Uysal, F. Miramirkhani, T. Baykas, E. Kinav, and O. Rustu, "IEEE 802.11bb Reference Channel Models for Vehicular Communications", doc: IEEE 11-18-1237-01-00bb, Jul. 2018. [Online]. Available: <https://mentor.ieee.org/802.11/dcn/18/11-18-1237-01-00bb-ieee-802-11bb-reference-channel-models-for-vehicular-communications.pdf>

[S-5] M. Uysal, F. Miramirkhani, T. Baykas, N. Serafimovski, and V. Jungnickel, "IEEE 802.11bb Reference Channel Models for Indoor Environments", doc: IEEE 11-18-1236-01-00bb, Jul. 2018. [Online]. Available: <https://mentor.ieee.org/802.11/dcn/18/11-18-1236-01-00bb-ieee-802-11bb-reference-channel-models-for-indoor-environments.pdf>

#### ✓ IEEE 802.15.7r1 (802.15.13) Standard Contributions

[S-4] M. Uysal, T. Baykas, F. Miramirkhani, N. Serafimovski, and V. Jungnickel, "TG7r1 Channel Model Document for High-Rate PD Communications", doc: IEEE 802.15-15/0746r1, Sept. 2015. [Online]. Available: <https://mentor.ieee.org/802.15/dcn/15/15-15-0746-01-007a-tg7r1-channel-model-document-for-high-rate-pd-communications.pdf>

**Note:** Channel impulse responses (CIRs) discussed in the above document were selected as "**IEEE 802.15.7r1 Reference Channel Models**". These channel models allow a fair comparison of different physical layer proposals submitted to TG7r1 in response to the Call for Proposals. They are available for public use with instructions in: M. Uysal, F. Miramirkhani, T. Baykas, N. Serafimovski, and V. Jungnickel, "TG7r1 CIRs Channel Model Document for High-Rate PD Communications", doc: IEEE 802.15-15/0747r0, Sept. 2015. [Online]. Available: <https://mentor.ieee.org/802.15/dcn/15/15-15-0747-00-007a-tg7r1-cirs-channel-model-document-for-high-rate-pd-communications.zip>.

Further information on channel modeling method can be found in the following documents:

[S-3] M. Uysal, F. Miramirkhani, T. Baykas, N. Serafimovski, and V. Jungnickel, "LiFi Channel Models: Office, Home and Manufacturing Cell", doc: IEEE 802.15-15/0685r0, Sept. 2015. [Online]. Available: <https://mentor.ieee.org/802.15/dcn/15/15-15-0685-00-007a-lifi-reference-channel-models-office-home-manufacturing-cell.pdf>

[S-2] M. Uysal, and F. Miramirkhani, "LiFi Reference Channel Models: Office, Home, and Hospital", doc: IEEE 802.15-15/0514r1, Jul. 2015. [Online]. Available: <https://mentor.ieee.org/802.15/dcn/15/15-15-0514-01-007a-lifi-reference-channel-models-office-home-hospital.pptx>

[S-1] M. Uysal, and F. Miramirkhani, "Channel Modeling for Visible Light Communications", doc: IEEE 802.15-15/0352r1, May 2015. [Online]. Available: <https://mentor.ieee.org/802.15/dcn/15/15-15-0352-01-007a-channel-modeling-for-visible-light-communications.pptx>

#### ✓ International Conference Papers

[IC-18] H. B. Eldeeb, F. Miramirkhani, and M. Uysal, "A Path Loss Model for Vehicle-to-Vehicle Visible Light Communications", *IEEE 15th International Conference on Telecommunications (ConTEL 2019)*, Graz, Austria, Jul. 2019.

[IC-17] M. Elamassie, M. Karbalayghareh, F. Miramirkhani, M. Uysal, M. Abdallah, and K. Qaraqe, "Resource Allocation for Downlink OFDMA in Underwater Visible Light Communications", *IEEE*

*International Black Sea Conference on Communications and Networking (BlackSeaCom 2019)*, Sochi, Russia, Jun. 2019.

[IC-16] I. Marin-Garcia, F. Miramirkhani, M. Uysal, and R. Perez-Jimenez, "Performance Evaluation of Vehicle-to-Vehicle Visible Light Communications in the Presence of Denial of Service Attacks", *Global LiFi Congress*, Paris, France, Jun. 2019.

[IC-15] M. Elamassie, M. Karbalayghareh, F. Miramirkhani, and M. Uysal, "Adaptive DCO-OFDM for Underwater Visible Light Communications", *IEEE 27th Signal Processing, Communication and Applications Conference (SIU)*, Sivas, Turkey, May 2019.

[IC-14] M. Karbalayghareh, F. Miramirkhani, M. Safari, and M. Uysal, "Vehicular Visible Light Communications with SPAD Receivers", *IEEE Wireless Communications and Networking Conference (WCNC'19)*, Marrakech, Morocco, Apr. 2019.

[IC-13] H. Abuella, S. Ekin, S. Ahmed, F. Miramirkhani, B. Kebapci, and M. Uysal, "Wireless Sensing using Vehicle Headlamps for Intelligent Transportation Systems: Proof of Concept", *Transportation Consortium of South Central States (Tran-SET) Conference*, San Antonio, TX, USA, Apr. 2019.

[IC-12] M. Elamassie, M. Karbalayghareh, F. Miramirkhani, R. C. Kizilirmak, and M. Uysal, "Effect of Fog and Rain on the Performance of Vehicular Visible Light Communications", *IEEE 87th Vehicular Technology Conference (VTC2018-Spring)*, Porto, Portugal, Jun. 2018.

[IC-11] M. Elamassie, F. Miramirkhani, and M. Uysal, "Channel Modeling and Performance Characterization of Underwater Visible Light Communications", *IEEE 4th Workshop on Optical Wireless Communications* (co-located with IEEE ICC'18), Kansas City, MO, USA, May 2018.

[IC-10] S. Safaraliev, F. Miramirkhani, and M. Uysal, "Effect of LED Wiring and Cabling Topologies on Visible Light Communication Channels", *10th International Conference on Electrical and Electronics Engineering (ELECO 2017)*, Bursa, Turkey, Nov. 2017.

[IC-9] O. Narmanlioglu, R. C. Kizilirmak, F. Miramirkhani, and M. Uysal, "Rate-Adaptive OFDM MIMO VLC System", *10th International Conference on Electrical and Electronics Engineering (ELECO 2017)*, Bursa, Turkey, Nov. 2017.

[IP-8] F. Miramirkhani, and M. Uysal, "Channel Modeling and Characterization for Visible Light Communications", *Communications Technologies and Applications Workshop*, Istanbul, Turkey, Aug. 2017.

[IC-7] B. Kebapci, F. Miramirkhani, H. Nouri, and M. Uysal, "A Custom-Design Atmospheric Channel Emulator for the Performance Evaluation of Free Space Optical Communication Systems", **Invited Paper**, *19th International Conference on Transparent Optical Networks (ICTON)*, Girona, Spain, Jul. 2017.

[IC-6] M. S. Demir, F. Miramirkhani, and M. Uysal, "Handover in VLC Networks with Coordinated Multipoint Transmission", *IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom 2017)*, Istanbul, Turkey, Jun. 2017.

[IC-5] A. Yesilkaya, F. Miramirkhani, E. Basar, E. Panayirci, and M. Uysal, "Performance of MIMO Enhanced Unipolar OFDM with Realistic Indoor Visible Light Channel Models", *IEEE Workshop on Optical Wireless Communication* (co-located with the IEEE WCNC'16), Doha, Qatar, Apr. 2016.

[IC-4] V. Jungnickel, M. Uysal, N. Serafimovski, T. Baykas, D. O'Brien, E. Ciaramella, Z. Ghassemlooy, R. J. Green, H. Haas, P. A. Haigh, V. Jimenez, F. Miramirkhani, M. Wolf, and S. Zvanovec, "A European View on the Next Generation Optical Wireless Communication Standard", *IEEE Conference on Standards for Communications and Networking (CSCN)*, Tokyo, Japan, Oct. 2015.

[IC-3] A. Yesilkaya, H. F. Alsan, F. Miramirkhani, E. Panayirci, H. Senol, and M. Uysal, "Performance Analysis of DCO-OFDM Systems in the Presence of Realistic Indoor Visible Light Channels", *European Conference on Networks and Communications (EuCNC)*, Jun. 2015.

[IC-2] A. Yesilkaya, H. Alsan, F. Miramirkhani, E. Panayirci, H. Senol, and M. Uysal, "Modeling of Visible Light Channels and Performance Analysis of ACO-OFDM" (in Turkish), *IEEE 23rd Signal Processing, Communication and Applications Conference (SIU)*, Malatya, Turkey, May 2015.

[IC-1] F. Miramirkhani, M. Uysal, and E. Panayirci, "Novel Channel Models for Visible Light Communications", **Invited Paper**, *SPIE Photonics West*, San Francisco, California, United States, Feb. 2015.

#### ✓ National Conference Papers (In Persian)

[NC-5] F. Miramirkhani, M. F. Sabahi, M. Mivehchy, and M. Yadegari, "Receiver Selection and Data Fusion in Multi-Static Radars Based on Minimization of 2D Error", *2nd Passive Surveillance Systems Conference (PSSC)*, 2014.

[NC-4] F. Miramirkhani, M. F. Sabahi, M. Mivehchy, and M. Yadegari, "Offering A Novel and Efficient Method Based on Fuzzy Track-to-Track in Track Fusion", *22nd Iranian Conference on Electrical Engineering (ICEE)*, 2014.

- [NC-3] F. Miramirkhani, P. Moallem, and M. F. Sabahi, “Elliptic Discrete Fourier Transform in Denoising of Communication Signals”, *21st Iranian Conference on Electrical Engineering (ICEE)*, 2013.
- [NC-2] E. Naghsh, and F. Miramirkhani, “An Algorithm for Noise Reduction from EEG and ECG Signals Using Distributed Time-Delay Neural Networks”, *11th Sharif Conference on Future Electronics (SCFE)*, 2013.
- [NC-1] F. Miramirkhani, and E. Naghsh, “An Algorithm for Noise Reduction Using Distributed Time-Delay Neural Networks”, *1st National Conference New Idea on Electrical Engineering (NCNIEE)*, 2013.

---

## Professional Activities

### ✓ Editorial Positions

- Review Editor, Wireless Communications for Frontiers in Communications and Networks
- Telecommunications Advisory Board Member, Cambridge Scholars Publishing
- Academic Editor, IntechOpen
- Editorial Board Member, Optical Communications-Clausius Scientific Press

### ✓ Executive Positions in Conferences

- Technical Program Committee Member, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2020), London, UK, Sept. 2020
- Technical Program Committee Member, IEEE Middle East & North Africa COMMunications (MENACOMM 2019) Conference, Manama, Bahrain, Nov. 2019
- Technical Program Committee Member, International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT 2019), University of Bahrain, Bahrain, Sept. 2019
- Technical Program Committee Member, IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2019), Istanbul, Turkey, Sept. 2019
- Technical Program Committee Member, International Conference on Electrical Engineering (ELE 2018), Dubai, UAE, Feb. 2018

### ✓ Reviewer Services

- IEEE Communications Magazine
- IEEE Vehicular Technology Magazine
- IEEE Transactions on Communications
- IEEE Transactions on Signal Processing
- IEEE Transactions on Vehicular Technology
- IEEE/OSA Journal of Lightwave Technology
- Journal of the Optical Society of America A
- IEEE Photonics Journal
- IEEE Access
- IEEE Communications Letters
- IEEE Wireless Communications Letters
- IEEE Photonics Technology Letters
- Chinese Optics Letters
- IET Communications
- The Journal of Engineering (IET)
- Physical Communication (Elsevier)
- International Journal of Electronics and Communications (Elsevier)
- International Journal of Communication Systems (Wiley)
- Journal of Optical Communications
- Infocommunications Journal
- International Journal of Sensors, Wireless Communications and Control
- Advances in Science, Technology and Engineering Systems Journal
- Turkish Journal of Electrical Engineering and Computer Sciences
- IEEE 87th Vehicular Technology Conference (VTC2018-Spring), Porto, Portugal, Jun. 2018
- IEEE Wireless Communications and Networking Conference (WCNC), Barcelona, Spain, Apr. 2018
- IEEE 14th International Wireless Communications and Mobile Computing Conference (IWCMC 2018), Limassol, Cyprus, Jun. 2018
- IEEE 84th Vehicular Technology Conference (VTC2016-Fall), Montreal, Canada, Sept. 2016

### ✓ Memberships

- Institute of Electrical & Electronics Engineers (IEEE): Student Member
- The Optical Society of America (OSA): Student Member
- The International Society for Optics and Photonics (SPIE): Early Career Professional
- Telecommunication Company of Iran (TCI): Member of Technical Staff (Oct. 2013-Dec. 2013)
- Isfahan Association of Electrical and Electronics Engineers: Member (Jan. 2012-Jan. 2013)
- Isfahan Science & Technology Town: Technical Support Engineer (Aug. 2010-Aug. 2011)

### ✓ Research Assistant

- Communication Theory and Technologies (CT&T) Research Group, Turkey, Ozyegin University (Feb. 2014-May 2018)

### ✓ Teaching Assistants

- **Ozyegin University**
  - ✓ Linear Algebra (Sept. 2017-Jan. 2018 & Feb. 2018-May 2018)
  - ✓ Probability and Statistics (Feb. 2016-May 2016)
  - ✓ Math (Feb. 2014-Jan. 2016 & Sept. 2016-Jan. 2017 & Feb. 2017-May 2017)
- **University of Isfahan**
  - ✓ Communication Systems (I) (Feb. 2010-Jun. 2013)
  - ✓ Digital Communications (Sept. 2012)
  - ✓ Stochastic Processes (Sept. 2012)

---

### *Contributed Projects*

- ✓ Channel Modeling and Characterization for Vehicular Visible Light Communications – Nazarbayev University, Astana, Kazakhstan: “Physical Layer Design for the Advancement of VLC Based Intelligent Transportation Systems”
  - Nazarbayev University (Asst. Prof. Refik Caglar Kizilirmak), Apr. 2017-Dec. 2017
- ✓ Channel Modeling and Characterization for Indoor and Vehicular Visible Light Communications – The Scientific & Technological Research Council of Turkey (TUBITAK), 1003: “Innovative Optical Wireless Communication Technologies for 5G and Beyond”
  - Ozyegin University (Prof. Murat Uysal), Apr. 2016-Apr. 2019
- ✓ Channel Modeling and Characterization for Underwater Visible Light Communications – The Scientific & Technological Research Council of Turkey (TUBITAK), 1001: “Visible Light Communication Techniques for Future Generation of Underwater Networks”
  - Ozyegin University (Prof. Murat Uysal), Mar. 2016-Mar. 2019
- ✓ Channel Modeling and Characterization for Indoor Visible Light Communications – The Scientific & Technological Research Council of Turkey (TUBITAK), COST 2515 – 113E307: “MIMO-OFDM Based Visible Light Communications”
  - Ozyegin University (Prof. Murat Uysal) & Kadir Has University (Prof. Erdal Panayirci), Feb. 2014-Nov. 2016

---

### *Developed Code/Simulator*

- ✓ M. Elamassie, M. Uysal, F. Miramirkhani, T. Baykas, and K. Qaraqe, “IEEE 802.11bb Reference Channel Models”, Dec. 2018. <https://www.mathworks.com/matlabcentral/fileexchange/69553-ieee-802-11bb-reference-channel-models>
  - This MATLAB Toolbox generates visible light communication (VLC) channel impulse responses based on the document: M. Uysal, F. Miramirkhani, T. Baykas, and K. Qaraqe, “IEEE 802.11bb Reference Channel Models for Indoor Environments”, IEEE 802.11-18/1582r4, Nov. 2018.

---

### *Attended Trainings*

- ✓ “4th COST Action IC1101 (OPTICWISE) Training School” on optical wireless communications, Sept. 7th-10th, 2015 at Ozyegin University, Istanbul, Turkey
- ✓ “3rd COST Action IC1101 (OPTICWISE) Training School” on optical wireless communications, Apr. 27th-May 3rd, 2014 at University of Aveiro, Aveiro, Portugal

---

## Teaching

EE582	Special Topics: Statistical Signal Processing	Spring 2019-2020
ELEC4704	Communication Simulation Techniques and Laboratory	Spring 2019-2020
COMP1101	Introduction to Programming in MATLAB	Spring 2019-2020
EE572	Wireless Communications	Fall 2019-2020
ELEC4702	Digital Communication Systems	Fall 2019-2020
ELEC3502	Simulation Tools	Fall 2019-2020
ELEC2205	Electrical Circuits	Fall 2019-2020
ELEC2501	Signals and Systems	Summer 2018-2019
EE501	Probability and Stochastic Processes	Spring 2018-2019

---

## Honors & Awards

- ✓ The 2019 IEEE Turkey Ph.D. Thesis Award
    - I received the 2019 IEEE Turkey Ph.D. Thesis Award with the PhD thesis title “Channel Modeling and Characterization for Visible Light Communications: Indoor, Vehicular, and Underwater Channels” under the supervision of Prof. Murat Uysal.
  - ✓ The 2019 Ord. Prof. Bedri Karafakioglu Research Incentive Award, Istanbul Technical University, Istanbul, Turkey, Oct. 2019
    - I received the 2019 Ord. Prof. Bedri Karafakioglu Research Incentive Award in recognition of my contributions to the Visible Light Communication Channel Modelling.
  - ✓ Researcher of the Year in International Business and Academic Excellence Awards (IBAE-2019), American College of Dubai, Dubai, UAE, Oct. 2019
    - In recognition of my exceptional and outstanding performance in the area of Academic and Research.
  - ✓ Best Paper Award, IEEE International Black Sea Conference on Communications and Networking (BlackSeaCom 2019), Jun. 2019
    - Best Paper Award at IEEE BlackSeaCom 2019 has been awarded to the paper “Resource Allocation for Downlink OFDMA in Underwater Visible Light Communications” authored by Mohammed Elamassie (Ozyegin University, Turkey), Mehdi Karbalayghareh (Ozyegin University, Turkey), Farshad Miramirkhani (Isik University, Turkey), Murat Uysal (Ozyegin University, Turkey), Mohamed M. Abdallah (Hamad Bin Khalifa University, Qatar), and Khalid A. Qaraqe (Texas A&M University at Qatar, USA).
  - ✓ IEEE Standard Reference Channel Models, Dec. 2018
    - The LiFi channels developed by Prof. Murat Uysal and Dr. Miramirkhani were selected as the “LiFi Reference Channel Models” by the IEEE 802.11bb Task Group.
  - ✓ Best Research Assistant Award of the Graduate School of Engineering, Ozyegin University, Aug. 2018
  - ✓ Outstanding Contribution in Reviewing, Physical Communication (Elsevier), May 2018
  - ✓ Third Prize of 1000 TL in Best Poster Award, Communications Technologies and Applications Workshop, Istanbul, Turkey, Aug. 2017
  - ✓ IEEE Standard Reference Channel Models, Sept. 2015
    - The LiFi channels developed by Prof. Murat Uysal and Dr. Miramirkhani were selected as the “LiFi Reference Channel Models” by the IEEE 802.15.13 Task Group during the IEEE’s latest meeting held in Bangkok, Thailand, in September. Accordingly, all companies, universities and research institutions are required to use these channel models as reference for their performance assessments and comparative analysis in the standardization proposals they will submit over the coming months. The channel models developed by them are the most realistic models available in the literature and pointed out the significance of recognition and adoption of these models by industry.
  - ✓ Top 10% Student in Department of Electrical & Electronics Engineering at University of Isfahan, Isfahan, Iran, Sept. 2011
    - Exempted from M.Sc. entrance exam in Iran as an exceptionally talented student
-

## *Computer Skills*

- ✓ Zemax<sup>®</sup>
- ✓ MATLAB<sup>®</sup>
- ✓ Latex
- ✓ Office (Word, Excel, Power Point)