

EMILY W LAM

Boston University Department of Electrical & Computer Engineering

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INTERESTS

Future Technologies, Indoor Positioning, Augmented Reality, Optical Wireless Communications, Internet-of-Things, Cyber-Physical & Embedded Systems, Electronics, Visual Art, Design, and Writing

EDUCATION

2010 – Present **PhD, MS, and BS in Electrical Engineering**
Boston University, Boston, MA

WORK EXPERIENCE

2014 – Present **Graduate Research Assistant**
Multimedia Communications Lab (MCL), Boston University, Boston, MA
NSF Center for Lighting Enabled Systems & Applications (LESA)
Advisor: Prof. Thomas DC Little

2014 **Electrical Engineer Intern**
IDEO, Chicago, IL

2013 – 2014 **Undergraduate Research Assistant**
Multimedia Communications Lab (MCL), Boston University, Boston, MA
NSF Smart Lighting Engineering Research Center
Advisor: Prof. Thomas DC Little

2012 – 2013 **Undergraduate Research Assistant**
Applied Electromagnetics Lab, Boston University, Boston, MA
Advisor: Prof. Mark Horenstein

TEACHING EXPERIENCE

2016 – Present **Graduate Teaching Assistant**
ENG EC444: Smart and Connected Systems
ENG EC544: Networking the Physical World
Department of Electrical & Computer Engineering, Boston University, Boston MA

2018 **Instructor**
Summer Challenge: Electrical Engineering Seminar

LEADERSHIP AND COMMUNITY WORK

2017 – Present	BU ECE Senior Design Client & Mentor , MCL
2015 – Present	Outreach Workshop Leader , BU Summer Pathways
2015 – Present	Mentor , BU Graduate Women in Science and Engineering (GWISE)
2017 – 2018	Vice President , LESA/Smart Lighting ERC Student Leadership Council
2015 – 2017	University Chair , LESA/Smart Lighting ERC Student Leadership Council
2013 – 2014	Student Advisor , BU College of Engineering
2011 – 2014	Dean's Host , BU College of Engineering

ORGANIZATIONS

2018 – Present	Member , IEEE Communications Society
2018 – Present	Member , Association for Computing Machinery (ACM)

AWARDS

2019	Student Travel Grant , ICC 2019, IEEE Communications Society
2016 – 2017	Distinguished Electrical Engineering Fellowship , BU ECE
2011 – 2014	Cum Laude , BU College of Engineering
2014	Student Advisor Service Award , BU College of Engineering
2014	Best Hardware , BU Make'athon
2013	Clare Boothe Luce Scholar , Henry Luce Foundation
2013	UROF Faculty Matching Grant , Boston University
2013	Summer Term Alumni Research Scholar , Boston University

REFEREED PUBLICATIONS

1. **E. W. Lam** and T. D. C. Little, "Visible Light Positioning for Location-Based Services in Industry 4.0," *ISWCS19-SS10 - Visible Light Communications for the Industry 4.0*, Oulu, Finland, 2019.
2. **E. W. Lam** and T. D. C. Little, "Indoor Localization with Low-Cost LiFi Components," *Second Global LiFi Congress*, Paris, France, 2019.
3. **E. W. Lam** and T. D. C. Little, "Angle Diversity to Increase Coverage and Position Accuracy in 3D Visible Light Positioning," *IEEE ICC'19 - Optical Networks and Systems (ONS) Symposium*, Shanghai, P.R. China, 2019.
4. **E. W. Lam** and T. D. C. Little, "Visible Light Positioning: Moving from 2D Planes to 3D Spaces," *Chinese Optics Letters*, Volume 17, Issue 3, 2019.
5. **E. W. Lam** and T. D. C. Little, "Refining Light-Based Positioning for Indoor Smart Spaces," *4th ACM Workshop on Experience with the Design and Implementation of Smart Objects (SMARTOBJECTS'18)*, Los Angeles, USA, 2018.
6. **E. W. Lam** and T. D. C. Little, "Resolving Height Uncertainty in Indoor Visible Light Positioning Using a Steerable Laser," *IEEE ICC 2018 Workshop - The 4th Workshop on Optical Wireless Communications (OWC)*, Kansas City, USA, 2018.

7. T. Little, M. Rahaim, I. Abdalla, **E. Lam**, R. Mcallister, and A. M. Vegni, "A Multi-Cell Lighting Testbed for VLC and VLP," *First Global LiFi Congress*, Paris, France, 2018.

OTHER PUBLICATIONS AND POSTERS

1. **E. W. Lam** and T. D. C. Little, "Improving Position Accuracy for VLP with Directional Beams," at *Center for Lighting Enabled Systems and Applications Industry-Academia Days*, Troy, NY, 2019
2. **E. Lam** and T. D. C. Little, "Visible Light Communication and Positioning Testbed," at *Center for Lighting Enabled Systems and Applications Industry-Academia Days*, Troy, NY, 2018.
3. J. Intoy and **E. Lam**, "Room Occupancy Sensing Using a Thermal Tripwire," *Boston University Electrical and Computer Engineering Technical Report*, Boston, MA, 2017.
4. **E. Lam**, H. Elgala, and T. D. C. Little, "Subcarrier Allocation for Communication and Positioning," at *Center for Lighting Enabled Systems and Applications Industry-Academia Days*, Troy, NY, 2017.
5. **E. Lam**, H. Elgala, and T. D. C. Little, "SEE-OFDM Compared to Other Combination Optical OFDM Techniques," at *Center for Lighting Enabled Systems and Applications Industry-Academia Days*, Troy, NY, 2016.
6. J. Jean-Michel, C. Morleo, **E. Lam**, M. Rahaim, and T. D.C. Little, "Indoor Positioning using SDR-Based Visible Light Communications," at *New England Workshop on Software Defined Radio (NEWSDR)*, Northeastern University, Boston, MA, 2016.
7. **E. Lam**, S. K. Wilson, H. Elgala, and T. D. C. Little, "Spectrally and Energy Efficient OFDM (SEE-OFDM) for Intensity Modulated Optical Wireless Systems," *AirXiv*, 2015.
8. A. Mellen, C. Feldman, and **E. Lam**, "brACE: A Slouch-Detection Wearable," *Circuit Cellar*, Issue 304, 2015.
9. **E. Lam**, H. Elgala, and T. D. C. Little, "Optical OFDM and Dimming in Visible Light Communications," at *GE Global Research Student Research Summit*, Niskayuna, NY, 2015.
10. **E. Lam**, H. Elgala, and T. D. C. Little, "Optical OFDM and Dimming in Visible Light Communication Systems," at *Smart Lighting ERC Industry-Academia Days*, Troy, NY, 2015.
11. **E. Lam**, J. Chege, J. Glynn, J. Jones, N. Madonna, M. Siwkiewicz, and T. D. C. Little, "TiLED (Tiled LED) Smart Room," at *Boston University Undergraduate Research Symposium*, Boston, MA, 2013.

PRESENTATIONS AND PANELS

1. **Presenter** for "Indoor Localization with Low-Cost LiFi Components," *Second Global LiFi Congress*, Paris, France, 2019.
2. **Presenter** for "Angle Diversity to Increase Coverage and Position Accuracy in 3D Visible Light Positioning," *IEEE ICC'19 - Optical Networks and Systems (ONS) Symposium*, Shanghai, P.R. China, 2019.
3. **Panelist** on "Math and Fiber Art," "Lighting It Up: Adding Sparkle to Your Projects," and "Just the Facts: Electronics Addiction," *Arisia Sci-Fi & Fantasy Convention*, Boston, MA, 2019.
4. **Presenter** for "Refining Light-Based Positioning for Indoor Smart Spaces," *4th ACM Workshop on Experience with the Design and Implementation of Smart Objects (SMARTOBJECTS'18)*, Los Angeles, USA, 2018.

5. **Presenter** for “Resolving Height Uncertainty in Indoor Visible Light Positioning Using a Steerable Laser,” *IEEE ICC 2018 Workshop - The 4th Workshop on Optical Wireless Communications (OWC)*, Kansas City, USA, 2018.
6. **Panelist** on “Making Things Wireless” and “The State of Microcontrollers,” *Arisia Sci-Fi & Fantasy Convention*, Boston, MA, 2018.
7. **Invited Alumni Speaker**, Senior Banquet, *National Honor Society*, Lowell High School, Lowell, MA, 2011.