

# ALBERT LIU

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## EDUCATION

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### The University of Michigan, Ann Arbor

- 2015 - 20xx **Ph.D. Applied Physics**
- 2015 - 2016 **M.S.E. Electrical Engineering**
- 2011 - 2015 **B.S.E. Electrical Engineering**
- 2011 - 2015 **B.S. Interdisciplinary Physics**

## PUBLICATIONS

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1. [Albert Liu](#), Diogo B. Almeida, Wan Ki Bae, Lazaro A. Padilha, Steven T. Cundiff. “Non-Markovian Exciton-Phonon Interactions in Core-Shell Colloidal Quantum dots at Femtosecond Timescales”. *Phys. Rev. Lett.* (accepted). ARXIV: [1806.06112](#).
2. [Albert Liu](#), Francesco Sessa, Diogo B. Almeida, Byeong Guk Jeong, Jun Hyuk Chang, Wan Ki Bae, Lazaro A. Padilha, Steven T. Cundiff. “Band-Alignment Cross-Over and Photoluminescence Instability in Colloidal Quantum Shells”. *In preparation*.
3. [Albert Liu](#), Diogo B. Almeida, Ronald Ulbricht, Steven T. Cundiff. “Spectral Broadening and Ultrafast Spectral Diffusion of a Nitrogen-Vacancy Center Ensemble in Diamond”. *In preparation*.
4. [Albert Liu](#), Diogo B. Almeida, Luiz G. Bonato, Gabriel Nagamine, Luiz F. Zagonel, Ana F. Nogueira, Lazaro A. Padilha, Steven T. Cundiff. “Triplet State Coherences in Cesium Lead-Halide Perovskite Nanocrystals”. *In preparation*.
5. [Albert Liu](#), Diogo B. Almeida, Wan Ki Bae, Lazaro A. Padilha, Steven T. Cundiff. “Simultaneous Existence of Discrete and Continuum Acoustic Phonon Modes in Colloidal Quantum Dots”. *In preparation*.
6. [Albert Liu](#), Diogo B. Almeida, Luiz G. Bonato, Gabriel Nagamine, Luiz F. Zagonel, Ana F. Nogueira, Lazaro A. Padilha, Steven T. Cundiff. “Protected Optical Coherences in Perovskite Nanocrystals”. *In preparation*.
7. Cameron Nelson, Saniya Deshpande, [Albert Liu](#), Shafat Jahangir, Pallab Bhattacharya, Duncan Steel. “High Resolution Nonlinear Optical Spectroscopy of InGaN Quantum Dots in GaN Nanowires”. *J. Opt. Soc. Am. B*, **34**, 6 (2017). DOI: [10.1364/JOSAB.34.001206](#)

## ORAL PRESENTATIONS

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1. [Albert Liu](#). “Electronic and Vibrational Properties of Colloidal Nanocrystals”, Stonybrook University CM-AMO Seminar, April 15 2019. Stonybrook, NY.
2. [Albert Liu](#), Diogo B. Almeida, Wan Ki Bae, Lazaro A. Padilha, Steven T. Cundiff. “Triplet State Dynamics in Perovskite Nanocrystals”, Oral Presentation. CLEO 2019, May 6, 2019.
3. [Albert Liu](#), Diogo B. Almeida, Wan Ki Bae, Lazaro A. Padilha, Steven T. Cundiff. “Evidence of Non-Markovian Dynamics in CdSe/CdZnS Colloidal Quantum Dots Revealed by 2D Coherent Spectroscopy”, Oral Presentation. CLEO 2018, May 18, 2018.

## AWARDS AND HONORS

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2018 - CLEO Poster Award (Ultrafast Optical Phenomena Technical Group)  
2018, 2017 - Rackham Travel Grant (\$700)  
2017 - Rackham Research Grant (\$2500)  
2013 - Hellwarth Award Finalist  
2012 - Second Place - XSEDE12 Student Programming Competition  
2012 - SC12 HPC Undergraduate Program (One of 25 Students Selected)

## TEACHING EXPERIENCE

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2013-2014 - **Supplemental Instruction Leader:** Physics 240 (E&M), Math 215 (Calculus III)  
2012-2014 - **Study Group Leader:** Physics 240 (E&M)  
2013 - **Teaching Assistant:** Physics 235 (Life Science Physics II), Physics 240 (E&M)

## SERVICE

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Referee for publications in *Nanophotonics*  
2015-2018 - Michigan Engineering Admissions Alumni Interviewer  
2015 - Hellwarth Award Selection Committee

## MENTORING

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Jesil Jose (Summer 2017) - *Absorption/Fluorescence Characterization of Colloidal Quantum Dots*  
Havel Liu (Summer 2016) - *Mechanical Analogue of 2D Coherent Spectroscopy*

## LANGUAGES

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English (Native)  
Chinese (Fluent/Non-Science)  
Japanese (Working Proficiency)