

## **PROFESSIONAL POSITIONS:**

- 2014 – present **Assistant Professor**, *Electrical and Computer Engineering Department, Affiliate Faculty, Micro and Nanotechnology Laboratory (MNTL), University of Illinois at Urbana-Champaign, IL, USA*
- 2011 – 2014 **Postdoctoral Research Scientist**, *IBM Research, Thomas J. Watson Research Center, Yorktown Heights, NY, USA*

## **EDUCATION:**

- 2005 – 2011 Ph.D. ([Electrical Engineering](#)) [Northwestern University](#), Illinois, USA  
*Ph.D. focus on Solid State Devices and Photonics*
- 2001 – 2005 B.S. ([Electrical Engineering](#)) [Bilkent University](#), Ankara, TURKEY  
*B.S. focus on Physical Electronics*

**RESEARCH STATEMENT:** Our current research interests lie in the intersection of novel III-V materials and hetero-structures & photonic and electronic quantum devices. Particularly, we explore novel materials, devices, and their 3D hetero-integration on unconventional platforms such as graphene and silicon, heat transport across/through semiconductors, efficiency droop mechanisms and remedies in AlInGaN emitters, and ultra-fast THz photonics/electronics. Our work is interdisciplinary. Our team demonstrates strong skills in solid state physics, TCAD simulation, micro/nano-fabrication, and reliability characterization and analysis of semiconductor devices.

## **SELECT RESEARCH HONORS, AWARDS, & RECOGNITION:**

- **(2018) IEEE Nanotechnology Council Early Career Award in Nanotechnology** *in recognition of his seminal contributions to III-V quantum devices and their hetero-integration on silicon and graphene platforms through nanotechnology. (awarded annually to **one in the world** - by [IEEE Nanotechnology Council](#))*
- **(2018) Dean's Award for Excellence in Research for Assistant Professor** *for the best research conducted during the last academic year (awarded to **6 assistant professors amongst the eligible pool of 135+** (tenure-track) [College of Engineering](#) assistant professors)*
- **(2018) Turkish American Scientists & Scholars Association (TASSA) Young Scholar Award** *in recognition of his accomplishments as a young Turkish American scholar.*
- **(2018) OSA Society Senior Membership Elevation** *in recognition of his experience and professional accomplishments in the field of optics and photonics.*
- **(2017) NSF CAREER Award** *for a five-year \$500K grant funding for the project titled “CAREER: Cubic Phase Light Emitting Diodes for Advanced Solid State Lighting” (awarded to **156 scientists amongst > 3,050 applicants** (success rate of ~5%) by [National Science Foundation](#))*
- **(2017) CS MANTECH Best Student Paper Award (Mr. Richard Liu)** *at the 2017 International Conference on Compound Semiconductor Manufacturing Technology ([CS MANTECH](#)) (awarded to **only 1 amongst 22 student presenters** (success rate of < 5%)).*
- **(2016) AFOSR Young Investigator Award** *for a three-year \$360K grant funding for the project titled “YIP: Investigating Heteroepitaxy Principles and Transport Characteristics of Vertically-Integrated GaN-on-Graphene Heterostructures” (awarded to **56 scientists amongst > 265 applicants** (success rate of ~20%) by [Air Force Office of Scientific Research](#))*

- **(2016) IEEE Society Senior Membership Elevation** (*awarded to only 9% of IEEE's approximately 428,000 members, which requires extensive experience, and reflects professional maturity and documented achievements of significance*)
- **(2014) IEEE Electron Devices Society Early Career Award** *for his seminal contributions to GaN-based electron devices and their heterointegration on silicon (awarded annually to one in the world - by [IEEE Electron Devices Society](#))*
- **(2014) Doцент (Associate Professor)** title in Electrical Engineering from the [Turkish Council of Higher Education](#)
- **(2014, 2013, 2013) IBM Invention Achievement Awards** (by [International Business Machines Corporation](#))
- **(2013) SPIE Society Senior Membership Elevation** *for significant technical accomplishments in GaN devices and for significant contributions as an educator in the field of electronics, optics, and photonics.*
- **(2012) Best Paper Award** *at Infrared Optoelectronics Materials and Devices Conference, (MIOMD-XI) (co-chaired by Franklin Medal Laureate Prof. Manijeh Razeghi, Nobel Laureates Profs. Leo Esaki, and Klaus von Klitzing)*
- **(2010) IBM Ph.D. Fellowship** (*awarded annually to select researchers in the world by [International Business Machines Corporation](#)*)
- **(2010) Link Foundation Energy Fellowship** (*awarded annually to three in USA and Canada by [Link Foundation](#)*)
- **(2010) IEEE Electron Devices Society PhD Fellowship** (*awarded annually to three in the world - one in USA - by [IEEE Electron Devices Society](#)*)
- **(2009) Boeing Engineering Student of the Year** (*awarded annually to one in the world by [Boeing Company](#)*)
- **(2009) IEEE Photonics Society Graduate Student Fellowship** (*awarded annually to twelve in the world - seven in USA - by [IEEE Photonics Society](#)*)
- **(2009) SPIE Laser Technology, Engineering and Applications Scholarship** (*awarded annually to one in the world - third top recognition - by [SPIE Society](#)*)
- **(2009) Ludo Frevel Crystallography Scholarship** (*awarded annually to ten in the world by [ICDD](#)*)
- **(2008) Dow Sustainability Innovation Award** (*awarded to one in select worldwide universities by [Dow Chemical Company](#)*)

### **SELECT TEACHING HONORS, AWARDS, & RECOGNITION:**

- **(2015) Collins Scholar** (The Academy for Excellence in Engineering Education, College of Engineering, UIUC)

### **SELECT RESEARCH ACCOMPLISHMENTS:**

- 2018 [ACS Photonics 5 \(3\), pp 955–963](#) ○ Record internal quantum efficiency (of 29%)  
- HIGHLIGHTED BY 20+ NEWS ultraviolet emission from cubic GaN  
AGENCIES
- 2017 [IEEE Electron Device Lett. 38 \(8\) 1094 – 1096](#) ○ First integrated GaN HEMTs on CMOS-Si platform  
- HIGHLIGHTED BY SEMICONDUCTORTODAY

- 2017 [J. Appl. Phys. 121, 245109](#) ○ First theory capturing the uniaxial nature of wurtzite semiconductors for transport
- 2017 [J. Phys. D: Appl. Phys. 50, 055103](#) ○ GaN-on-Si technology for 200-mm scalability  
**- HIGHLIGHTED BY 20+ NEWS AGENCIES**
- 2016 [APL 109, 151904](#) ○ A new passive cooling technology for GaN power devices
- 2016 [APL 109, 042103](#) ○ First cubic GaN-on-Si(100)  
**- HIGHLIGHTED BY 20+ NEWS AGENCIES** ○ Cubic Phase GaN via Phase-transition  
○ Entire cubic phase GaN surface coverage by aspect ratio patterning
- 2014 [Nat. Commun. 5, 4836](#) ○ Thinnest/Flexible light emitting diode  
**- DOWNLOADED > 1,000 TIMES IN FIRST TWO WEEKS** ○ First GaN-on-Graphene technology  
○ Demonstration of graphene as a cleave layer  
○ Demonstration of an infinitely-reusable substrate
- 2014 [Adv. Funct. Mater. 24 \(28\), 4492](#) ○ First polarization-free visible emitters  
**-FRONTISPIECE COVER** ○ First CMOS-compatible integration of GaN on Si (100) substrates (8-inch)
- 2013 [Appl. Phys. Express 6, 112301](#) ○ New class of vertical/thin-film LEDs enabled via mechanical release
- 2013 [Adv. Energy Mater. 3, 566](#) ○ Highest specific power ( $\geq 1995$  W/kg) flexible III-V tandem solar cells  
**-INSIDE COVER ARTICLE**
- 2013 [APL 102, 011106](#) ○ Highest power ultraviolet LED on Si
- 2012 [APL 100, 053901](#) ○ Highest efficiency Ge/GaAs/InGaP- based thin film solar cell  
**-EDITOR'S PICK 2012**  
**-TOP 20 MOST READ**
- 2010 [APL 97, 181109](#) ○ First reliable GaN-based resonant tunneling diode
- 2009 [APL 95, 131109](#) ○ First mid-infrared GaN-based intersubband device
- 2009 [AP A 96, 403](#) ○ First green emitting InGaN quantum dots
- 2008 [APL 93, 08111](#) ○ First ZnO-InGaN hybrid light emitting diodes  
**-TOP 20 MOST READ**
- 2008 [APL 93, 211107](#) ○ Highest efficiency AlGaIn-based ultraviolet detector
- 2007 [APL 91, 041104](#) ○ First AlGaIn-based ultraviolet single photon detector

**SELECT ARTICLES ABOUT RESEARCH THAT HAVE APPEARED IN POPULAR PRESS AND JOURNALS:**

- “Phase-transition cubic gallium nitride doubles ultraviolet emission efficiency”, [EurekAlert](#), [Physics.org](#), [PhotonicsOnline](#), [SolidStateTechnology](#), [NSF](#) 02/19/2018.
- “Hexagonal-to-cubic phase transition in GaN via aspect ratio nano-patterning of silicon substrate”, [SemiconductorToday](#) 01/19/2018.
- “Phase-transition Cubic GaN Doubles UV Efficiency”, [CompoundSemiconductor](#) 01/15/2018.
- “Towards gallium nitride integration with silicon CMOS”, [SemiconductorToday](#) 07/26/2017.
- “GaN-on-Silicon for scalable high electron mobility transistors”, [ScienceDaily](#), [EurekAlert](#), [CompoundSemiconductor](#), [SemiconductorToday](#), [R&D Magazine](#), [ElectroIQ](#), [Physics.org](#) 01/09/2017.
- “Thinner Is Cooler For GaN Devices”, [Compound Semiconductor](#), 10/11/16.
- “Making green LEDs more efficient and brighter”, [EETimes Europe](#), 08/12/2016.
- “Cubic GaN-on-Si Makes More Efficient Green LEDs, According to Researchers”, [Solid State Lighting](#), 08/01/2016.  
“UIUC uses MOCVD growth of cubic GaN on silicon to boost efficiency and brightness of green LEDs”, [Semiconductor Today](#), 08/01/2016.
- “US Researchers Make Better Green LEDs With Cubic GaN-On-Silicon”, [Compound Semiconductor](#), 07/30/16.
- “New method for making green LEDs enhances their efficiency and brightness”, highlighted by 20+ press organizations including [Science Daily](#), [EurekAlert](#), [Science Newline Technology](#), [Physics.org](#) 7/30/2016.
- “Big Blue Ambition”, [Compound Semiconductor](#), 10/2014.
- “IBM Shows Graphene as Epi Template”, [Solid State Technology](#), 10/2014.
- “Van der Waals epitaxy of GaN and blue LEDs”, [Semiconductor Today](#), 10/2014.
- “Graphene gets another real use – blue LED fabrication”, [Electronics Weekly](#), 10/2014.
- “IBM Conquers Wafer-Scale Graphene”, [EE Times](#), 10/2014.
- “Growing single-crystalline materials on reusable graphene”, [IBM Research](#), 09/2014.
- “US Researchers Use Graphene To Make Flexible Blue LEDs On Plastic”, [Compound Semiconductor](#), 09/2014.
- “Exfoliated single-crystalline GaN films grown on graphene lead to new types of LEDs”, [Laser Focus World](#), 09/2014.
- “Cubic Phase GaN on Nano-grooved Si (100) via Maskless Selective Area Epitaxy”, [FRONTISPIECE COVER](#), [Advanced Functional Materials](#), 07/2014.
- “Growing cubic and hexagonal GaN on standard (100) silicon substrates”, [Semiconductor Today](#), 05/2014.
- “GaN On CMOS-Compatible On-Axis Silicon (100) For Hetero-Integration”, [Power Electronics World](#), 04/2014.
- “Polarisation-free GaN shows promise for visible photonics”, [Compound Semiconductor](#), 04/2014.

- “Ultra-Light High-Efficiency Flexible InGaP/(In)GaAs Tandem Solar Cells on Plastic”, [INSIDE COVER, Advanced Energy Materials, 05/2013](#).
- “High-efficiency thin-film InGaP/InGaAs/Ge tandem solar cells enabled by controlled spalling technology”, [TOP 20 Most Downloaded Articles, Applied Physics Letters, 02/2012](#). [Editor's Choice 2012](#): Selected as one of “The Best of Papers of 2012” published in Applied Physics Letters, the most cited journal in Applied Physics.
- “UV APD improved by m-plane free-standing GaN substrate”, [Semiconductor Today, 05/26/2010](#).
- “Nitrides push performance of UV photodiodes”, [Laser Focus World, 9/2009](#).
- “ZnO does away with green-LED problem”, [Laser Focus World, 11/2008](#).
- “ZnO/GaN hybrid shows green LED promise”, [Compound Semiconductor, 11/2008](#).
- “A hybrid green light emitting diode comprised of n-ZnO/(InGaN/GaN)/ multi- quantum-wells/ p-GaN”, [TOP 20 Most Downloaded Articles, Applied Physics Letters, 09/2008](#).
- “Tiny Avalanche Photodiode Detects Single UV Photons”, [ScienceDaily, 1/2/2008](#).
- “Tiny Avalanche Photodiodes Target Bioterrorism Agents”, [Science Daily, 09/14/2005](#).

#### **PROFESSIONAL AND HONORARY SOCIETIES:**

Senior Member	2018-present	OSA (Optical Society of America) ( <i>member since 2005</i> )
Senior Member	2016-present	IEEE Electron Devices Society ( <i>member since 2009</i> )
Senior Member	2016-present	IEEE Photonics Society ( <i>member since 2007</i> )
Senior Member	2016-present	IEEE Society ( <i>member since 2005</i> )
Senior Member	2013-present	SPIE Society ( <i>member since 2006</i> )
Member	2008-present	MRS (Materials Research Society)

#### **PROFESSIONAL ACTIVITIES:**

<b>Proposal Reviewer</b>	German Research Foundation, 2018
	Croatian Science Foundation, 2017
	French National Research Agency, 2017
	Singapore National Research Foundation, 2017
	Advanced Research Projects Agency – Energy, 2018, 2017
	National Science Foundation (NSF), 2018, 2017, 2013
	Air Force Office of Scientific Research (AFOSR), 2018, 2017, 2016
	Israeli Ministry of Science, Technology and Space, 2017
	Dutch Research Council, 2016
	European Research Council (ERC), 2015
Department of Energy (DOE), 2012	
<b>Conference Co-Chair</b>	SPIE Optics + Photonics, San Diego, USA, August 28-Sept. 1, 2016
	SPIE Optics + Photonics, San Diego, USA, August 9-13, 2015

<b>Conference Organizing Committee</b>	SPIE Photonics West, <i>San Francisco, USA, February, 2018</i> International Conference on Electron Devices and Solid-State Circuits, <i>Taipei, October, 2017</i> SPIE Optics + Photonics, <i>San Diego, USA, August 6-10, 2017</i> CNST 14th Annual Nanotechnology Workshop, University of Illinois at Urbana-Champaign, <i>IL, USA, May 5-6, 2016</i> SPIE NanoScience + Engineering, <i>San Diego, USA, August 9-13, 2015</i> SPIE Photonics West, <i>San Francisco, USA, February 7-12, 2015</i> SPIE Photonics West, <i>San Francisco, USA, February 1-6, 2014</i> OPTIC, <i>Chungli City, TAIWAN, Dec 5-7, 2013</i>
<b>Session Chair</b>	SPIE Photonics West, <i>2018, 2017, 2010</i> International Workshop on Nitrides, <i>2016</i>
<b>Fellowship Committee</b>	SPIE Scholarship, <i>2017 to present</i> Link Foundation, <i>2013, 2014, 2015, 2016</i>
<b>Technical Committee</b>	EDS Optoelectronic Devices, <i>2017 to present</i>
<b>Editorial Board</b>	Recent Patents on Nanotechnology, <i>2014 to present</i> International Journal of Nanomedicine and Nanosurgery, <i>2015 to 2018</i>
<b>Journal Referee</b>	<b>ACS</b> Journals ( <i>ACS Nano</i> ); <b>APS</b> Journals ( <i>Applied Physics Letters, Journal of Applied Physics, AIP Advances</i> ); <b>OSA</b> Journals ( <i>Optics Express, Optical Materials Express, Optics Letters, Journal of the Optical Society of America A, Applied Optics</i> ); <b>IOP</b> Journals ( <i>Reports on Progress in Physics, New Journal of Physics, Journal of Physics D, Nanotechnology, Semiconductor Science and Technology</i> ); <b>IEEE</b> Journals ( <i>Electron Device Letters, Journal of Quantum Electronics, Transactions on Electron Devices, Photonics Technology Letters, Photonics Letters</i> ); <b>ECS</b> Journals ( <i>Journal of the Electrochemical Society, Electrochemical and Solid-State Letters, Solid State Letters, Measurement Science and Technology, Solid State Science and Technology</i> ); <b>Elsevier</b> Journals ( <i>Superlattices and Microstructures, Materials Chemistry and Physics, Solid State Electronics, Thin Solid</i>

**SERVICE TO UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN:**

**ECE DEPARTMENT COMMITTEE:**

Curriculum Committee,	2014 Fall to present
Colloquium Committee,	2014 Fall to present
ECE Qualifying Exam Committee,	(11 students)
ECE Preliminary Exam Committee,	(7 students)
ECE PhD Final Exam Committee,	(4 student)
Panelist, ECE Faculty Retreat	2018 Spring
Panelist, ECE Town Hall	2017 Fall
Panelist, HKN Power Lunch	2017 Spring
Reviewer, Andrew T. Yang Research and Entrepreneurship Award	2017 Spring

**MNTL COMMITTEE:**

Equipment Committee Chair,	2015/01 to present
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Search Committee, <i>MOCVD Research Engineer</i> ,	2016/04 to 2018/05
Search Committee, <i>MOCVD Research Engineer</i> ,	2016/04 to 2018/05
Search Committee, <i>Grants and Contracts Specialist</i> ,	2017/09 to 2018/03
Search Committee, <i>Visiting Research Scientist</i> ,	2017/04 to 2017/07
Search Committee Chair, <i>Cleanroom Manager Position</i> ,	2015/12 to 2016/10
Search Committee, <i>Research (Etch) Engineer Position</i> ,	2015/04 to 2016/06

### **ENGINEERING COLLEGE:**

Mentor, Academic Redshirt in Science and Engineering Program,	2017 – present
Judge, Undergraduate Research Symposium	2017 Spring
Judge, Introduce a Girl to Engineering Day,	2017 Spring
Judge, Introduce a Girl to Engineering Day,	2016 Spring
Session Chair, BioNanotechnology Summer Institute,	2015 Summer
Judge, Promoting Undergraduate Research in Engineering (PURE),	2014 Fall

### **SERVICE TO OTHER UNIVERSITIES:**

EECS PhD Final Exam Committee, ( <i>Northwestern University, IL, USA</i> )	(2 students)
EECS Qualifying Exam Committee, ( <i>Northwestern University, IL, USA</i> )	(1 student)

### **TEACHING / COURSES:**

ECE 397 Individual Study in ECE Problems,	2018 Spring	(Supervision of 2 Student)
ECE 496 Senior Research Project,	2018 Spring	(Supervision of 1 Student)
ECE 498 LEDs and Solar Cells,	2018 Spring	(Class of 20 Students)
ECE 297 Individual Study in ECE Problems,	2017 Fall	(Supervision of 1 Student)
ECE 397 Individual Study in ECE Problems,	2017 Fall	(Supervision of 1 Student)
ECE 445 Senior Design Laboratory,	2017 Fall	(Class of 45 Students)
ECE 340 Semiconductor Electronics,	2017 Spring	(Class of 42 Students)
ECE 397 Individual Study in ECE Problems,	2017 Spring	(Supervision of 3 Students)
ECE 497 Senior Research Project,	2017 Spring	(Supervision of 2 Students)
ECE 498 LEDs and Solar Cells,	2017 Spring	(Class of 10 Students)
ECE 340 Semiconductor Electronics,	2016 Fall	(Class of 15 Students)
ECE 396 Individual Study in ECE Problems,	2016 Fall	(Supervision of 1 Student)
ECE 397 Individual Study in ECE Problems,	2016 Fall	(Supervision of 2 Students)
ECE 496 Senior Research Project,	2016 Fall	(Supervision of 2 Students)
ECE 396 Individual Study in ECE Problems,	2016 Spring	(Supervision of 3 Students)
ECE 397 Individual Study in ECE Problems,	2016 Spring	(Supervision of 3 Students)
ECE 498 LEDs and Solar Cells,	2016 Spring	(Class of 23 Students)
ECE 499 Senior Thesis,	2016 Spring	(Supervision of 2 Students)
ECE 340 Semiconductor Electronics,	2015 Fall	(Class of 46 Students)
ECE 397 Individual Study in ECE Problems,	2015 Fall	(Supervision of 4 Students)
ECE 496 Senior Research Project,	2015 Fall	(Supervision of 2 Students)
ECE 397 Individual Study in ECE Problems,	2015 Summer	(Supervision of 1 Students)
ECE 340 Semiconductor Electronics,	2015 Spring	(Class of 50 Students)
ECE 397 Individual Study in ECE Problems,	2015 Spring	(Supervision of 5 Students)

ECE 597 Individual Study in ECE	2015 Spring	(Supervision of 1 Student)
ECE 340 Semiconductor Electronics,	2014 Fall	(Class of 28 Students)
ECE 397 Individual Study in ECE Problems,	2014 Fall	(Supervision of 1 Student)

### **SELECT OUTREACH ACTIVITIES:**

- **Callan McCormick (of Colorado College, CO)** Research Experience for Undergraduates Program, May 30 – Aug 25, 2017.
- **Kelly Jolley (of Canby High School, Canby, OR)** Research Experience for Teachers Program, June 28 – August 8, 2017.
- **Larissa Del Rosario (of University of Puerto Rico, Mayaguez, Puerto Rico)** Research Experience for Undergraduates Program, May 23 – July 29, 2016.
- **Kelly Jolley (of Abilene High School, Abilene, TX)** Research Experience for Teachers Program, June 13 – July 22, 2016.
- **Geoffrey W. Freymuth (of Jefferson Middle School, Champaign, IL),** Research Experience for Teachers Program, June 15 – July 24, 2015.

### **SELECT GRADUATE STUDENT AWARDS (EXTERNAL)**

- 1 Invitation to [Siegman School on Lasers](#), hosted by the Technical University Denmark on the Spirit of Hven Backafallsbyn, Island of Hven, AB, Sweden on 28 July 2018 – 04 August.
  - (2018) Richard Liu
- 1 [NASA Space Technology Research Fellow](#)
  - (2018, 2017) Richard Liu
- 1 [NSF Graduate Research Fellow](#)
  - (2017) Richard Liu {declined}
- 1 [CS MANTECH Best Student Paper Awardee](#)
  - (2017) Richard Liu;
- 2 [CS MANTECH Travel Awardees](#)
  - (2017) Richard Liu; Hsuan-Ping Lee

### **SELECT GRADUATE STUDENT AWARDS (INTERNAL)**

- 1 [UIUC Graduate College Travel Grant for Dissertation Research](#)
  - (2018) Richard Liu
- 1 [UIUC College of Engineering Yunni & Maxine Pao Memorial Fellowship](#)
  - (2018) Richard Liu
- 1 [UIUC ECE Nick and Katherine Holonyak, Jr. Outstanding Research Award](#)
  - (2018) Richard Liu
- 1 [UIUC ECE Ernest A. Reid Fellowship](#)
  - (2018) Hsuan-Ping Lee
- 1 [UIUC Graduate College Conference Travel Grant](#)
  - (2017) Hsuan-Ping Lee

### **SELECT UNDERGRADUATE STUDENT AWARDS (EXTERNAL)**

- 1 [SPIE Optics and Photonics Education Scholarship](#)
  - (2018) Yifan Yao
- 2 [NSF Graduate Research Fellows](#)
  - (2017) Ryan Grady; (2016) Connor Bailey
- 1 [NSF Graduate Research Honorable Mention](#)
  - (2017) Josh Perozek

- **1 [Goldwater Scholar](#)**
  - (2017) *Dennis Rich*
- **2 Summer School Invitees**
  - (2017) *Jose Ignacio Vergara Panzone*, invitation to the Summer Undergraduate Research Program for Diversity in Chemistry at the Department of Chemistry at Princeton University.
  - (2016) *Yifan Yao*, invitation to the Summer School "[Finding Nano - Nanoscience, Research and Industry in Germany](#)" (from June 13th - July 14th) at the Technical University of Munich..
- **1 [League of Railway Industry Women Scholar](#)**
  - (2016) *Connor Bailey*

### **SELECT UG STUDENT AWARDS (INTERNAL)**

- **1 [UIUC Office of Undergraduate Research Support Grant](#)**
  - (2018) *Dennis Rich*
- **1 [UIUC ECE Michael Edward Napier Memorial Award](#)**
  - (2018) *Dennis Rich*
- **1 [UIUC MATSCI Alfred W. Allen Award](#)**
  - (2018) *Yifan Yao*
- **1 [UIUC Campus Honors Program Summer Research Grant](#)**
  - (2018) *Dennis Rich*
- **1 [UIUC Office of Undergraduate Research Support Grant](#)**
  - (2017) *Josephine Melia*
- **1 [UIUC Illinois Distinguished Fellow](#)**
  - (2017) *Josh Perozek (declined)*
- **1 [UIUC ECE Distinguished Research Fellow](#)**
  - (2017) *Josh Perozek(declined)*
- **2 [UIUC ECE A. R. "Buck" Knight Award](#)**
  - (2017) *Josh Perozek; Ryan Grady*
- **1 [UIUC MATSCI Earl J. Eckel Scholarship](#)**
  - (2017) *Yifan Yao*
- **1 [UIUC ECE Robert C. MacClinchie Scholarship](#)**
  - (2016) *Ryan Grady*
- **1 [UIUC College of Engineering Scholarship](#)**
  - (2016) *Josh Perozek*
- **2 [UIUC Office of Undergraduate Research Conference Travel Award](#)**
  - (2017) *Yifan Yao*
  - (2016) *Josh Perozek*

### **M.S. THESIS**

- [Structural and optical properties of phase transition cubic phase gallium nitride for photonic devices](#)  
(*M.S. Thesis, Dec. 2017, Richard Liu*).

### **SENIOR THESES**

- "[Thin-film GaN HEMTs For Flexible Electronics](#)"  
(*Senior Thesis, May 2017, Joshua Perozek*).
- "[Simulation of Zinc-blende Gallium Nitride High Electron Mobility Transistors For Normally-off Operation](#)"  
(*Senior Thesis, May 2017, Ryan Grady*).
- "[Optimization of Off-State Breakdown Voltage in GaN High Electron Mobility Transistors](#)"  
(*Senior Thesis, May 2016, Begum Kasap*).

- "[Normally-off GaN Transistors](#)"  
(Senior Thesis, May 2016, Philip Tsai).

**BIBLIOGRAPHY** (students supervised: underlined)

**Patents:**

45. C. Bayram, R. Grady, and K. Park, "Normally-Off, Cubic Phase GaN Field Effect Transistors" [US Patent Application 20180083133](#).
44. C. Bayram and R. Liu, "Maximizing cubic phase group III-nitride on patterned silicon," [US Patent Application 20170310076](#).
43. C. Bayram, C.P. D'Emic, J. Kim, and D.K. Sadana, "Hetero-integration of III-N material on silicon," [US Patent Application 20170092483](#).
42. C. Bayram, S. W. Bedell, N. Li, K.T. Shiu, and D. K. Sadana "Back contact LED through spalling," [US Patent Application 20160284930](#).
41. C. Bayram, C.P. D'Emic, W.J. Gallagher, E. Leobandung, and D.K. Sadana "Group III nitride integration with CMOS technology," [US Patent Application 20160284832](#).
40. C. Bayram, C.P. D'Emic, W.J. Gallagher, E. Leobandung, and D.K. Sadana, "Group III nitride integration with CMOS technology," [US Patent Application 20160233244](#).
39. C. Bayram, C.P. D'Emic, J. Kim, and D.K. Sadana, "Hetero-integration of III-N material on silicon," [US Patent Application 20160020283](#).
38. C. Bayram, C.P. D'Emic, W.J. Gallagher, E. Leobandung, and D.K. Sadana, "Group III nitride integration with CMOS technology," [US Patent Application 20150318283](#).
37. C. Bayram, C.P. D'Emic, W.J. Gallagher, E. Leobandung, and D.K. Sadana, "Group III nitride integration with CMOS technology," [US Patent Application 20150318276](#).
36. C. Bayram, S. W. Bedell, and D. K. Sadana,, "Engineered base substrates for releasing III-V epitaxy through spalling," [US Patent Application 20150318168](#).
35. C. Bayram, C.-W. Cheng, D.K. Sadana, and K.-T. Shiu, "Selective gallium nitride regrowth on (100) silicon," [US Patent Application 20150287790](#).
34. C. Bayram, C.-W. Cheng, T.H. Ning, D.K. Sadana, and K.-T. Shiu, "Heterogeneous integration of group III nitride on silicon for advanced integrated circuits," [US Patent Application 20150235838](#).
33. C. Bayram, S.W. Bedell, K.E. Fogel, J.A. Ott, and D.K. Sadana, "Controlled spalling of group III nitrides containing an embedded spall releasing plane," [US Patent Application 20150179428](#).
32. C. Bayram, C. Dimitrakopoulos, K. Fogel, J. Kim, J.A. Ott, and D.K. Sadana, "Gallium nitride material and device deposition on graphene terminated wafer and method of forming the same," [US Patent Application 20150084074](#).
31. C. Bayram, C. Dimitrakopoulos, K. Fogel, J. Kim, J.A. Ott, and D.K. Sadana, "Gallium nitride material and device deposition on graphene terminated wafer and method of forming the same," [US Patent Application 20150083036](#).
30. C. Bayram, S.W. Bedell, and D.K. Sadana, "Curvature compensated substrate and method of forming the same," [US Patent Application 20150035123](#).

29. C. Bayram, J. O. Chu, C. Dimitrakopoulos, J. Kim, H. Park, and D.K. Sadana, “*Thin film wafer transfer and structure for electronic devices*,” [US Patent Application 20140220764](#).
28. C. Bayram, J. O. Chu, C. Dimitrakopoulos, J. Kim, H. Park, and D.K. Sadana, “*Thin film wafer transfer and structure for electronic devices*,” [US Patent Application 20140217356](#).
27. C. Bayram, D.K. Sadana, and K.-T. Shiu, “*Group III-nitrides on nanopatterned substrates*,” [US Patent Application 20140191284](#).
26. C. Bayram, D.K. Sadana, and K.-T. Shiu, “*Group III-nitrides on nanopatterned substrates*,” [US Patent Application 20140191283](#).
25. C. Bayram, C.-W. Cheng, D.K. Sadana, and K.-T. Shiu, “*Selective gallium nitride regrowth on (100) silicon*,” [US Patent Application 20140134830](#).
24. C. Bayram, C.-W. Cheng, D.K. Sadana, and K.-T. Shiu, “*Selective gallium nitride regrowth on (100) silicon*,” [US Patent Application 20140131724](#).
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64. **R. Liu**, R. Schaller, C.-Q. Chen, and **C. Bayram**, “Phase-transition Cubic GaN with ~29 % Internal Quantum Efficiency,” [Compound Semiconductor Week, Massachusetts Institute of Technology, MA, USA, May 29 - June 1, 2018](#).
63. (INVITED) **C. Bayram**, “Al<sub>x</sub>Ga<sub>(1-x)</sub>N-based intersubband devices” [Room Temperature High-Power Terahertz Frequency Sources Symposium, Drexel University, PA, USA, April 18, 2018](#).
62. (INVITED) **C. Bayram**, “Vertical thinking in light emitting diodes” [Nanotechnology Lecture, University of California at Los Angeles, CA, USA, April 9, 2018](#).
61. (INVITED) **C. Bayram**, R. Grady, and K. Park “Novel cubic phase III-nitride complementary metal-oxide-semiconductor transistor technology,” [SPIE Photonics West, San Francisco, CA, USA, Jan. 27 - Feb. 1 \(2018\)](#).

60. **(INVITED) C. Bayram**, “*Next Generation Gallium Nitride Microelectronics & Photonics*,” Air Force Research Laboratory - Wright-Patterson Air Force Base, Dayton, OH, USA, Jan. 10 (2018).
59. **(INVITED) C. Bayram**, “*Vertical thinking in light emitting diodes*” Nanotechnology Lecture, University of Illinois at Chicago, IL, USA, Nov. 30, 2017.
58. **C. Bayram** “*InGaN-based flexible light emitting diodes*,” The 11th International Symposium on Semiconductor Light Emitting Devices, Banff, Alberta, Canada, Oct. 8-12, 2017.
57. **C. Bayram**, J. Kim, H. Park, C.W. Cheng, C. Dimitrakopoulos, J. Ott, K.B. Reuter, S.W. Bedell, and D.K. Sadana, “*A Novel Thin-film Blue Light Emitting Diode via GaN-on-Graphene Technology*,” IEEE Photonics Conference, FL, USA, Oct. 1-5, 2017.
56. **C. Bayram** and R. Liu “*Cubic Phase Light Emitters Hetero-integrated on Silicon*,” IEEE Photonics Conference, FL, USA, Oct. 1-5, 2017.
55. **(INVITED) C. Bayram**, “*Next Generation Gallium Nitride Microelectronics & Photonics*,” NANOTAM Seminar, Bilkent University, Ankara, Turkey, Aug. 4 (2017).
54. **(INVITED) C. Bayram** “*Investigating Thermal Properties of Vertically-Integrated GaN Heterostructures*,” AFOSR GHz-THz Electronics Review, Arlington, VA, USA, July. 10- 13, (2017).
53. K. Park, M. A. Strosio, and **C. Bayram**, “*Electron momentum relaxation rates via Frohlich interaction with polar-optical-phonons in bulk wurtzite gallium nitride*,” International Workshop on Computational Nanotechnology, Windermere, UK, June 5-9, 2017.
52. H.-P. Lee, J. Perozek, and **C. Bayram**, “*Scaling AlGaIn/GaN High Electron Mobility Transistor Structures onto 200-mm Silicon (111) Substrates through Novel Buffer Layer Configurations*,” International Conference on Compound Semiconductor Manufacturing Technology, Indian Wells, CA, USA, May 22 - 25, 2017.
51. R. Liu and **C. Bayram**, “*Cubic Phase GaN Integrated on CMOS-Compatible Silicon (100)*,” International Conference on Compound Semiconductor Manufacturing Technology, Indian Wells, CA, USA, May 22 - 25, 2017.
50. **(INVITED) C. Bayram** “*InGaN-based flexible light emitting diodes*,” SPIE Photonics West, San Francisco, CA, USA, Jan. 28 - Feb.2 (2017).
49. **(INVITED) C. Bayram** and R. Liu, “*Polarization-free integrated gallium-nitride photonics*,” SPIE Photonics West, San Francisco, CA, USA, Jan. 28 - Feb.2 (2017).
48. **C. Bayram**, J. Kim, C. Dimitrakopoulos, and D. K. Sadana, “*A Novel Thin-Film Blue Light Emitting Diode via GaN-on-Graphene Technology*,” MRS Fall Meeting, Boston, MA, USA, Nov. 27-Dec. 2, (2016).
47. **C. Bayram** and R. Liu, “*Polarization-Free Integrated Gallium Nitride Photonics*,” International Workshop on Nitride Semiconductors, Orlando, FL, USA, Oct. 2-7, (2016).
46. **(INVITED) C. Bayram**, “*GaN Devices Gearing up for the 21st Century*,” NANOTAM Seminar, Bilkent University, Ankara, Turkey, July 27 (2016).
45. **(INVITED) C. Bayram**, “*Vertical thinking in light emitting diodes*,” Nano@Illinois RET Research Seminar, University of Illinois at Urbana-Champaign, Urbana, IL, USA, June 28 (2016).

44. **(INVITED) C. Bayram**, “*GaN devices gearing up for the 21st century*,” Company Seminar, Veeco Company, Somerset, NJ, USA, January 11 (2016).
43. **K.-T. Lee, C. Bayram, W. Gallagher, D. Sadana, D. Piedra, T. Palacios, B. Krishnan, G. Papanoulis, A. Paranjpe, E. Aklimi, and K. L. Shepard**, “*A Scalable CMOS Technology Platform for Co-integrating GaN on Si*,” Compound Semiconductors Week 2, 45 (2015).
42. **(INVITED) C. Bayram**, “*Vertical thinking in light emitting diodes*,” Nano@Illinois RET Research Seminar, University of Illinois at Urbana-Champaign, Urbana, IL, USA, July 21 (2015).
41. **(INVITED) C. Bayram**, “*Vertical thinking in light emitting diodes*,” CNST 13th Annual Nanotechnology Workshop, University of Illinois at Urbana-Champaign, Urbana, IL, USA, May 7-8 (2015).
40. **(INVITED) C. Bayram**, “*Light emitting diode gearing up for the 21st century*,” ECE Explorations, University of Illinois at Urbana-Champaign, Urbana, IL, USA, Feb. 25 (2015).
39. **(INVITED) C. Bayram, J. Kim, H. Park, C.-W. Cheng, C. Dimitrakopoulos, J. A. Ott, K. B. Reuter, S. W. Bedell, and D.K. Sadana**, “*Vertical thinking in blue light emitting diodes: GaN-on-graphene technology*,” SPIE Photonics West, San Francisco, CA, USA, February 7-12 (2015).
38. **(INVITED) C. Bayram, J. Ott, K. T. Shiu, C. W. Cheng, Y. Zhu, J. Kim, D. K. Sadana, and M. Razeghi**, “*Polarization-free GaN emitters in the ultraviolet and visible spectra via heterointegration on CMOS-compatible Si (100)*,” SPIE Photonics West, San Francisco, CA, USA, February 7-12 (2015).
37. **(INVITED) C. Bayram**, “*Vertical thinking in light emitting diodes*” ECE Colloquium, University of Illinois at Urbana-Champaign, Urbana, IL, USA, Nov. 13, 2014.
36. **C. Bayram, J. Kim, H. Park, C.-W. Cheng, C. Dimitrakopoulos, J. Ott, K.B. Reuter, S.W. Bedell, and D. K. Sadana**, “*Thin-film blue light emitting diodes via revolutionary GaN-on-graphene technology*,” International Symposium on Graphene Devices (ISGD-4), Bellevue, WA, USA, Sep. 21-25, 2014.
35. **(INVITED) C. Bayram**, “*Gallium nitride compound semiconductors for ultraviolet, visible, and terahertz photonics*” 2nd International Conference and Exhibition on Lasers, Optics, and Photonics, Philadelphia, PA, USA, Sep. 08-10, 2014.
34. **(INVITED) C. Bayram**, “*LED lighting*” International Summer School on Advanced TV Technologies, Antalya, TURKEY, Aug. 25-29, 2014.
33. **C. Bayram, J. Kim, H. Park, C.-W. Cheng, C. Dimitrakopoulos, J. Ott, K.B. Reuter, S.W. Bedell, and D. K. Sadana**, “*Revolutionary GaN-on-graphene technology*,” 5th International Symposium on Growth of III-Nitrides, Atlanta, GA, USA, May 18-22, 2014.
32. **C. Bayram, J. Ott, K.-T. Shiu, C.-W. Cheng, Y. Zhu, J. Kim, M. Razeghi, and D.K. Sadana**, “*Cubic phase GaN on nano-grooved Si (100) via maskless selective area epitaxy*,” 5th International Symposium on Growth of III-Nitrides, Atlanta, GA, USA, May 18-22, 2014.

31. **(INVITED) D. K. Sadana**, N. Li, **C. Bayram**, K.-T. Shiu, and C.-W. Cheng, "Technologies for high speed III-V optical links on silicon optoelectronics," International Conference and Exhibition on Lasers, Optics & Photonics, Hilton San Antonio Airport, TX, USA, Oct. 07-09 (2013).
30. **(INVITED) C. Bayram**, "Renewable energy and energy-efficiency in Turkey: Research and development trends," 2nd TUBITAK Workshop for Turkish Scientist Residing Abroad (hosted by Scientific and Technological Research Council of Turkey), Grand Cevahir Otel, Istanbul, TURKEY, July 4-5 (2013).
29. D. Shahrjerdi, S. W. Bedell, **C. Bayram**, and D. K. Sadana, "Flexible InGaP/(In)GaAs tandem solar cells with very high specific power," 39th IEEE Photovoltaic Specialists Conference, Tampa, Florida, USA, June 16-21 (2013).
28. **(INVITED) C. Bayram**, "Gallium nitride compound semiconductors for ultraviolet, visible, and terahertz photonics," Special Materials Science & Engineering Seminar, Columbia University, Morningside Campus, NY, USA, June 12 (2013).
27. **(INVITED) C. Bayram**, K.T. Shiu, Y. Zhu, C.W. Cheng, D.K. Sadana, F.H. Teherani, D.J. Rogers, V. E. Sandana, P. Bove, Y. Zhang, S. Gautier, C.-Y. Cho, E. Cicek, Z. Vashaei, R. McClintock, and M. Razeghi, "Engineering light-emitting diodes with inexpensive materials: Integrating ZnO and Si into solid state lighting," SPIE Photonics West, San Francisco, CA, USA, February 2-7 (2013).
26. **(INVITED) C. Bayram**, K.T. Shiu, Y. Zhu, C.W. Cheng, D.K. Sadana, Z. Vashaei, E. Cicek, R. McClintock, and M. Razeghi, "Gallium nitride on silicon for cheap, scalable, and sustainable photonics," SPIE Photonics West, San Francisco, CA, USA, February 2-7 (2013).
25. **(INVITED) D. K. Sadana**, S.W. Bedell, D. Shahrjerdi, B. Hekmatshoar, N. Li, **C. Bayram**, and J. Kim, "Advanced PV technologies: Challenges & Opportunities," SPIE Photonics West, San Francisco, CA, USA, February 2-7 (2013).
24. **(INVITED) D. Shahrjerdi**, S. W. Bedell, B. Hekmatshoar, **C. Bayram**, and D. Sadana, "New paradigms for cost-effective III-V photovoltaic technology," Pacific Rim Meeting on Electrochemical and Solid-State Science, Honolulu, Hawaii, USA, October 7-12 (2012).
23. **C. Bayram**, Z. Vashaei, R. McClintock, D.K. Sadana, and M. Razeghi, "Al<sub>x</sub>Ga<sub>1-x</sub>N-based engineered intersubband devices," Infrared Optoelectronics: Materials & Devices (MIOMD-XI) Conference, Chicago, IL, USA, September 4-8 (2012).
22. D. Shahrjerdi, S. W. Bedell, C. Ebert, **C. Bayram**, B. Hekmatshoar, K. Fogel, P. Lauro, M. Gaynes, T. Gokmen, J. A. Ott, and D. K. Sadana, "High-efficiency thin-film InGaP/InGaAs/Ge tandem solar cells enabled by controlled spalling technology," 38th IEEE Photovoltaic Specialists Conference, Austin, Texas, USA, June 3-8 (2012).
21. **(INVITED) C. Bayram**, "Applied photonics for a sustainable earth: High efficiency light emitting diodes and solar cells," TASSA Annual Conference, University of Maryland, College Park, MD, USA, March 3-4 (2012).
20. **(INVITED) C. Bayram**, D. K. Sadana, Z. Vashaei, and M. Razeghi, "Reliable GaN-based resonant tunneling diodes with reproducible room-temperature negative differential resistance," SPIE Photonics West, San Francisco, CA, USA, January 22-27 (2012).

19. **(INVITED) C. Bayram** and M. Razeghi, "*AlGaInN gap engineering from ultraviolet and visible wavelengths towards terahertz regime*," ICDD Spring Meetings, Pennsylvania, USA, March 17 (2011).
18. **(INVITED) C. Bayram** and M. Razeghi, "*III-Nitride optoelectronic devices*," ICDD Spring Meetings, Pennsylvania, USA, March 15 (2011).
17. Z. Vashaei, **C. Bayram**, R. McClintock, and M. Razeghi, "*Effects of substrate quality and orientation on the characteristics of III-nitride resonant tunneling diodes*", SPIE Photonics West, San Francisco, CA, USA, January 22-27 (2011).
16. E. Cicek, Z. Vashaei, **C. Bayram**, R. McClintock, and M. Razeghi, "*Comparison of ultraviolet APDs grown on free-standing GaN and sapphire substrates*", SPIE Optics + Photonics, San Diego, California, USA, August 1-5 (2010).
15. **(INVITED) R. McClintock**, E. Cicek, Z. Vashaei, **C. Bayram**, M. Razeghi, and Melville P. Ulmer, "*III-nitride based avalanche photodetectors*," SPIE Optics + Photonics, San Diego, USA, August 1-5 (2010).
14. M. Razeghi, **C. Bayram**, and Z. Vashaei, "*III-Nitride intersubband absorption devices and resonant tunneling diodes*," 3rd International Symposium on Growth of III-Nitrides (ISGN-3) Corum - Montpellier, France, July 4-8 (2010).
13. M. Razeghi, Z. Vashaei, and **C. Bayram**, "*High quality metal-organic chemical vapor deposition of (Al)GaN-based resonant tunneling diodes*," 3rd International Symposium on Growth of III-Nitrides (ISGN-3) Corum - Montpellier, France, July 4-8 (2010).
12. **(INVITED) M. Razeghi**, **C. Bayram**, R. McClintock, F.H. Teherani, D.J. Rogers, and V.E. Sandana, "*Novel green light emitting diodes: Exploring droop-free lighting solutions for a sustainable Earth*", LED 2010: The 4<sup>th</sup> International Conference on LED and Solid State Lighting, COEX (Seoul), Korea, Feb. 3-5 (2010).
11. **(INVITED) C. Bayram**, F. H. Teherani, D. Rogers, and M. Razeghi, "*Novel green light emitting diodes*", Dow Chemical Company Sustainability Innovation Student Challenge Recognition Event, University of Michigan Ann Arbor, Oct. 19 (2009).
10. **(INVITED) F. H. Teherani**, **C. Bayram**, D. J. Rogers, M. Razeghi, and R. McClintock, "*Hybrid Green LEDs with n-type ZnO Substituted for n-type GaN in an Inverted p-n Junction*", 2009 Annual Meeting of IEEE Photonics Society, Antalya - Belek, Turkey, Oct. 4-8 (2009).
9. **(INVITED) C. Bayram** and M. Razeghi, "*III-nitride optoelectronic devices*", 2009 Annual Meeting of IEEE Photonics Society, Antalya - Belek, Turkey, Oct. 4-8 (2009).
8. **(INVITED) C. Bayram**, F. H. Teherani, D. Rogers, R. McClintock, and M. Razeghi, "*Novel green light emitting diodes: Innovating droop-free lighting solutions for sustainable Earth*", 2009 symposium of the Chicago AIChE (American Institute of Chemical Engineers), Chicago, IL, Oct. 4-5 (2009).
7. **(INVITED) M. Razeghi**, **C. Bayram**, R. McClintock and N. Péré-Laperne, "*III-nitride optoelectronic devices: High performance GaN avalanche photodiodes, novel green light emitting diodes and III-nitride intersubband devices*", AFOSR Joint Electronics Program Review, Arlington, VA, May 27 (2009).

6. **C. Bayram**, D. J. Rogers, F. Hosseini Teherani, and M. Razeghi, “*Novel hybrid green LEDs based on substituting n-type ZnO for n-type GaN in an inverted p-n junction*,” Proc. of the 5th International Workshop on ZnO and Related Materials, Sept. 22-24, Michigan (2008).
5. V. E. Sandana, D. J. Rogers, F. H. Teherani, R. McClintock, **C. Bayram** M. Razeghi, H.-J. Drouhin, V. Sallet, G. Garry, F. Falyouni,, “*Comparison of ZnO nanostructures grown using PLD, MOCVD & PVT*,” Proc. of the 5th Int. Workshop on ZnO and Related Materials, Sept. 22-24, Michigan (2008).
4. (INVITED) M. Razeghi, J. L. Pau, **C. Bayram**, B. Fain, P. Giedraitis, and R. McClintock, “*UV single photon detection based on III-nitride Geiger mode avalanche photodiodes*,” 2nd International Symposium on Growth of III-Nitrides (ISGN-2). Laforet Shuzenji Izu, Japan, July 6 (2008).
3. (INVITED) M. Razeghi, J. L. Pau, **C. Bayram**, R. McClintock, K. Kim, P. Giedraitis, and B. Fain, “*GaN Avalanche Photodiodes and Green Emitters*,” AFRL-AFOSR Nanotechnology Initiative Review, Dayton, OH, USA, May 6 (2008).
2. (INVITED) R. McClintock, J. L. P. Vizcaino, K. Minder, **C. Bayram** and M. Razeghi, “*III-nitride photon counting avalanche photodiodes*,” SPIE Photonics West, San Francisco, CA, USA, January 20-25 (2008).
1. (INVITED) K. Minder, F. H. Teherani, D. Rogers, **C. Bayram**, R. McClintock, P. Kung, and M. Razeghi, “*Etching of ZnO towards the development of ZnO homostructure LEDs*,” SPIE Photonics West, San Francisco, CA, USA, January 20-25 (2008).

**Other Presentations & Posters: (presenter: underlined)**

5. R. Liu and C. Bayram, “*Cubic Phase Gallium Nitride Emitters*,” Siegman School on Lasers, Technical University Denmark, Island of Hven, AB, Sweden, July 28 – August 04, 2018. [Poster]
4. (INVITED) R. Liu and **C. Bayram**, “*Cubic Phase Gallium Nitride Emitters*,” Turkish American Scientists & Scholars Association (TASSA) Conference, Boston University, MA, USA, June 2-3, 2018. [Poster]
3. Y. Yao, “*Investigation of Stress and Structural Evolution in Electrodeposited Thick Nickel*,” Gulf Coast Undergraduate Research Symposium, Rice University, TX, USA, Oct. 4, 2017. [Presentation]
2. Y. Yao, “*Investigation of Stress and Structural Evolution in Electrodeposited Thick Nickel*,” MRL Fall Conference, University of Illinois at Urbana-Champaign, IL, USA, Nov. 8-9, 2017. [Presentation]
1. J. Perozek, “*GaN Transistors for Next Generation Electronics*,” Gulf Coast Undergraduate Research Symposium, Rice University, TX, USA, Oct. 22, 2016. [Presentation]

**Magazine Articles & Interviews:**

6. (INVITED) **C. Bayram**, “*The power for change: van der Waals Epitaxy*,” [Compound Semiconductor Magazine 24 \(3\), 52 \(April/May 2018\)](#).
5. (INVITED) **C. Bayram**, “*Green LEDs: The case for cubic GaN*,” [Compound Semiconductor Magazine 22 \(8\), 27 \(Dec. 2016\)](#).

4. **(INVITED) C. Bayram**, “*Link Fellows, Where are they now,*” [Link Foundation Newsletter, Sept. 2015](#).
3. **(INVITED) C. Bayram**, “*Featured Engineer,*” [EEWeb.com, 7 Sept. 2015](#).
2. **(INVITED) C. Bayram**, “*ICORLAB Gearing Up for the 21st Century,*” [IEEE Electron Devices Society Newsletter, 22 \(2\) Apr. 2015](#).
1. **(INVITED) C. Bayram**, “*Doç. Dr. Can Bayram ile Söyleşi,*” [TUBITAK, 22 Aug. 2014](#).

**Workshops/Meetings:**

14. *Franklin Institute Awards*, Philadelphia, PA. (April 19, 2018).
13. *Naval Future Force Science and Technology Expo*, Washington, D.C. (July 20-21, 2017).
12. *GHz-THz Electronics Review*, Arlington, VA (July 11-13, 2017).
11. *ARPA-E SWITCHES Annual Review*, Philadelphia, PA, USA (March 28-29, 2017).
10. *ARL Open House*, Adelphi Laboratory Center, MD, USA (November 16-17, 2016).
9. *CLEO Conference*, San Jose, CA, USA (June 05-10, 2016).
8. *CS Man Tech Conference*, Miami, FL, USA (May 15-20, 2016).
7. *NSF CAREER Proposal Writing Workshop*, St. Louis, MO, USA (March 21-22, 2016).
6. *ARL Open House*, Aberdeen Proving Ground, MD, USA (November 3-4, 2015).
5. *AFOSR YIP Annual Meeting*, Arlington, VA, USA (June 15-18, 2015).
4. *NSF Spring Grants Conference*, Tampa, FL, USA (June 1-2, 2015).
3. *Illinois Partnership for Ophthalmology Engineering Workshop*, Urbana, IL, USA (May 18, 2015).
2. *NSF CAREER Proposal Writing Workshop*, Northeastern University, Boston, MA, USA (April 27-28, 2015).
1. *DOE Solid State Lighting R&D Workshop*, San Francisco, CA, USA (January 27-29, 2015).