

# Linda J. Olafsen (nee Blue)

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## Education:

Duke University                      Physics                      Ph.D., 1997  
Dissertation: "Photoluminescence and Tunneling in GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As Single Quantum Wells"  
Supervisor: Stephen W. Teitsworth

Duke University                      Physics                      M.A., 1994  
Prospectus: "Optical Studies of  $\Gamma$ -X transitions in AlAs/GaAs/AlAs Heterostructures"  
Supervisor: Stephen W. Teitsworth

Princeton University, *cum laude*                      Physics                      A.B., 1991  
Thesis: "High Current Breakdown of the Dissipationless Quantum Hall Effect"  
Supervisor: Albert M. Chang

## Research Experience:

2015–present    Associate Professor    Baylor University, Dept. of Electrical & Computer Engineering  
2006–2014      Associate Professor    Baylor University, Dept. of Physics  
2005–2006      Associate Professor    University of Kansas, Dept. of Physics & Astronomy  
1999–2005      Assistant Professor    University of Kansas, Dept. of Physics & Astronomy  
1997–1999      Postdoctoral Fellow    Naval Research Laboratory

Mid-infrared, antimonide-based semiconductor lasers, processing and optoelectronic characterization; integration of high-conductivity, transparent graphene contact layers; biomedical devices; demonstrated first room temperature (300 K) interband laser; demonstrated interband cascade laser operation to 286 K; negative electroluminescence of InAs/GaSb superlattice detector.

1993–1997      Research Assistant      Duke University, Dept. of Physics  
Optical and electronic studies of GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As heterostructures, constructed low-temperature photoluminescence measurement system; Molecular Beam Epitaxy growth of GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As, In(Al,Ga)As heterostructures; sample processing, including photolithography, evaporation, annealing; wirebonding and current-voltage characterization.

1990              Laboratory Assistant    AT&T Bell Laboratories  
Summer Research Program  
Integer Quantum Hall Effect studies; high magnetic field, low temperature measurements; Hall bar design and processing; electron beam lithography, photolithography, annealing, contacting.

Summer 1989    Laboratory Assistant    Princeton University, Dept. of Physics  
Cosmic microwave background studies; designed and fabricated chopping mirror used in cosmic microwave background measurements in Antarctica (Viper, Python).

## Teaching Experience:

- 2015–present Associate Professor Baylor University, Dept. of Electrical & Computer Engineering  
Introduction to Engineering (EGR 1301)—Fall 2015, Fall 2016  
Electrical Circuit Theory (ELC 2330)—Spring 2016, Spring 2017, Spring 2018, Spring 2019  
Circuit Theory for Non-ECE (ELC 2320)—Fall 2017, Fall 2018  
Introduction to Semiconductor Devices (ELC 4396/5396)—Fall 2016, Fall 2017, Spring 2019  
Electronic Materials/Solid State Physics (ELC 4396/PHY 4372)—Spring 2017, Spring 2018, Fall 2019  
Fundamentals of Lasers (ELC 4396/5396)—Fall 2018, Spring 2020  
Master’s Thesis (ELC 5V99)—Spring 2018, Summer 2018, Spring 2019, Summer 2019  
Doctoral Prospectus Research (ELC 6V10)—Fall 2019, Spring 2020
- 2006–2014 Associate Professor Baylor University, Dept. of Physics  
General Physics I Honors (Physics 1420H)—Fall 2007, 2008, 2011  
General Physics I-A (Physics 1422)—Fall 2006, Spring 2007  
Special Research Problems (Physics 1V95)—Spring 2007, Fall 2009, Fall 2010  
Special Research Problems (Physics 3V95)—Fall 2013, Spring 2014  
Solid State Physics (Physics 4372)—Spring 2008–2014 (each Spring semester)  
Graduate Physics Colloquium (Physics 5180)—Fall 2007–Spring 2009, Fall 2011–Spring 2013 (8 semesters)  
Graduate Solid State Physics (Physics 5342)—Fall 2010, Fall 2012  
Graduate Quantum Mechanics I (Physics 5370)—Fall 2013  
Graduate Research (Physics 5V95)—Fall 2007–Summer 2009, Summer 2011, Fall 2011  
Dissertation (Physics 6V99)—Summer 2008–Spring 2009, Spring 2012–Spring 2013
- 2005–2006 Associate Professor University of Kansas, Dept. of Physics & Astronomy  
1999–2005 Assistant Professor University of Kansas, Dept. of Physics & Astronomy  
Quantum Mechanics I (Physics 711)  
First semester graduate level—Fall 2002, Fall 2003, Fall 2004, Fall 2005  
Solid State Physics Seminar (Physics 987)—Fall 2004  
Introduction to Solid State Physics (Physics 681)  
Upper level undergraduate—Spring 2003  
Solid State Physics II (Physics 881)  
Second graduate level course in solid state physics—Spring 2004  
Optics and Modern Physics (Physics 313/351)  
Sophomore level course for engineering students and physics majors—  
Fall 1999, Spring 2000, Fall 2000, Spring 2001, Fall 2001, Spring 2002  
General Physics I (Physics 211)—Spring 2006  
Freshman Honors Tutorial (Honors 190)  
*Color: Art? Science? Both? Neither?*—Fall 2001  
Supervised reading courses in semiconductor physics (Physics 800)  
Fall 2000, Fall 2001

**Teaching Experience (continued):**

1992–1996	Guest Lecturer	Duke University, Department of Physics Mathematical Methods, Statistical Mechanics Duke University, Electrical Engineering Semiconductor Physics
1992–1994	Tutor	Duke University, Department of Physics Introductory physics (engineers, pre-med), Mathematical Methods
1991–1993	Teaching Assistant	Duke University, Department of Physics Introductory physics (engineers, pre-med), Mathematical Methods

**Honors:**

2018	Outstanding Faculty Award for Teaching, Baylor University
2018	IEEE, Senior Member
2013	Laboratory Experience for Faculty Fellowship (NNIN)
2001	Office of Naval Research Young Investigator Award (for early career faculty)
2000	Kansas Science and Technology Advanced Research First Award
1999–2005	Faculty Scholarly Travel Award, University of Kansas (3 awards)
1997–1999	National Research Council Postdoctoral Research Associateship
1995, 1997	Duke University Conference Travel Fellowship
1991–1994	Charles Townes Fellowship, Duke University, Department of Physics
1991	Allen G. Shenstone Prize for Experimental Physics, Princeton University
1987–1991	Garden State Distinguished Scholar

**Societies:**

Institute of Electrical and Electronics Engineers, Senior Member (*Photonics Society*)  
Materials Research Society (*Chair of the Book Review Board, Congressional Visits Day Subcommittee*)  
American Physical Society, Lifetime Member (*Division of Condensed Matter Physics, Division of Laser Science, Forum on Education, Forum on Industrial and Applied Physics*)  
Optical Society of America  
SPIE (The International Society for Optics and Photonics)  
American Chemical Society  
Directed Energy Professional Society  
Sigma Pi Sigma Society

**Professional Service:**

National/International

Materials Research Society Congressional Visits Day Subcommittee (2010–present), Vice-chair (2011–2012), Chair (2012–2016)  
Materials Research Society Congressional Visits (19 visits to Washington, DC, 2007–2019)  
Materials Research Society Government Affairs Committee (2011–present), Leadership (2012–2016)  
*MRS Bulletin* Book Review Committee, Chair (2009–present), Member (2003–present)  
*MRS Bulletin* Editorial Board (2009–present)  
Materials Research Society Symposium Organizer  
*Progress in Semiconductor Materials V: Electronic and Optoelectronic Applications* (Fall 2005)  
Session Chair, March Meeting of the American Physical Society (2011), Materials Research Society Fall Meeting (1999)  
Graduate Record Exam in Physics, Committee of Examiners (2010–2020), Chair (2016–2020)  
Problem author, Educational Testing Service Physics GRE and Texas Teacher Certification exams

Referee, *Applied Physics Letters*, *IEEE Journal of Quantum Electronics*, *IEEE Photonics Technology Letters*, *IEEE Journal of Selected Topics in Quantum Electronics*, *Journal of Applied Physics*, *Journal of Vacuum Science and Technology B*, *AIP Conference Proceedings*, *MRS Proceedings*

Textbook review, *Addison Wesley*, *Pearson Education*, *W. H. Freeman*

Proposal Review, *U.S. Army Research Office*, *Kansas NSF EPSCoR*, *Kansas Technology Enterprise Corporation*, *National Science Foundation*, *U. S. Civilian Research & Development Foundation*, *National Defense Science and Engineering Graduate Program*

### Local

Judge, Science Fairs (Central Texas Science and Engineering Fair, First Woodway Christian School, Live Oak Classical School) (2007–present)

Parent Council, Science Fair co-Chair, Live Oak Classical School (2010–present)

Member of the Laser Electro-Optics Technology and Nanotechnology Advisory Committee (Texas State Technical College, Waco, TX) (2009–2019)

### Department/University

*(Baylor University)*

Graduate Studies Committee, Electrical and Computer Engineering (2015–present)

Search Committee, Electrical and Computer Engineering (2017–present)

Copple Chair Search Committee, School of Education (Spring 2019)

Faculty Advisor/Reviewer for *Scientia* (2016–2020)

Graduate Studies Committee, Physics (2006–2014)

Chemical Physics Committee (2006–2014, Chair 2013–2014)

Preliminary Exam Committee (2007–2009, Chair 2008–2009)

Faculty Partner, Community Living and Learning (2007–2011)

Outstanding Faculty Nomination Committee (2011–2013)

Laser Safety Committee (2007–present)

Graduation lead marshal

*(University of Kansas, Department of Physics and Astronomy)*

Environment, Health & Safety Council, Laser Safety Subcommittee, Chair (2005–2006)

Engineering Physics Committee (2005–2006)

Evaluation Committee (2004–2006)

Nanofabrication Steering Committee (2004–2006)

Computer Committee (2004–2005)

Search Committee for Faculty position in Condensed Matter Theory (2004–2005)

Undergraduate Advising (2002–2006)

Graduate Committee (1999–2004)

Graduate Recruitment Committee (2001–2004)

Instructional Laboratories Committee (2000–2001)

*(Duke University, Department of Physics)*

Library Committee (1993–1994)

### **Synergistic Activities:**

- Selected as a Fellow of the Summer Faculty Institute at Baylor University (Summer 2019)
- Taught physics (4<sup>th</sup> grade), chemistry (5<sup>th</sup> grade) and life science (6<sup>th</sup> grade) to grammar students at Live Oak Classical School, Waco, TX (2014–2015)
- Visiting Waco schools with support from SPIE to present history and applications of the laser in celebration of the 50<sup>th</sup> anniversary of the laser; distributing optics discovery kits and laser pointers

- Participated in Congressional Visits Day representing the Materials Research Society (sponsored by the Science-Engineering-Technology Workgroup) to address need for increased and balanced federal investment in research and development (19 visits May 2007–April 2019)
- Participated in Best Practices Institute (May 2004) sponsored by the University of Kansas Center for Teaching Excellence—developed plan for Quantum Mechanics course revision for Fall 2004; poster presentation of previous strategy to enhance student learning and engagement:
- Hosted Professor Carlos Stroud through the Distinguished Traveling Lecturer Series of the Division of Laser Science of the American Physical Society, organizing a colloquium, public lecture on “Quantum Weirdness,” and lunch with undergraduate students to learn about careers in optics and quantum mechanics (Baylor University, Spring 2011; University of Kansas, Fall 2002)
- Supervised undergraduate Honors theses completed by Ian Reeves (Physics major, 2011) and Windrik Lynch (University Scholar, 2008) and undergraduate engineering design projects completed by Engineering Physics majors Andrew Giebler and Armando Noriega to develop computerized control of a polarization filter
- Presented introductory talks on semiconductors to high school and junior high school students at the Junior Science and Humanities Symposium and the Talent Identification Program
- Submitted poster presentations (2010, 2012, 2013) and a journal article (Spring 2019) to Creations exhibit to support the Baylor vision to “produce research and creative work at the highest levels” and to celebrate academic accomplishments.

## Students Supervised

### *Graduate students*

#### At Baylor University:

Kyler Stephens, Ph.D. student, August 2019–present

Daniella Sugijanto, Ph.D. student, August 2019–present

Nazifa Rumman, M.S., August 2019: “Characterization of Optically Pumped Interband Cascade Lasers”  
Ph.D. student, Rensselaer Polytechnic Institute, Troy, New York

Jeremy Kunz, Ph.D. candidate

Passed Physics written preliminary examination in 2011 and trained in laboratory techniques and reading relevant literature. Completed training for semiconductor processing/fabrication at the Microelectronics Research Center facility at the University of Texas at Austin (Spring 2012).

Angela Douglass, Ph.D. candidate; selected new research area and completed Ph.D. in 2012

Alex Price, Master’s candidate; selected new research area and completed M.S. in 2011

#### At the University of Kansas:

Katherine R. Greene, M.S., May 2004: “A Comparative Study of Electrically Pumped and Optically Pumped Mid-Infrared Light Emitting Diodes”  
Freelance science and technology journalist, San Francisco

Todd C. McAlpine, Ph.D., August 2006: “Cavity Length Study of a Resonantly Pumped W-OPIC Semiconductor Laser”

M.S., December 2003: “Measuring the Impulse Response of a Photoconductive HgCdTe Detector for Pulsed Semiconductor Laser Applications”

Lecturer in Physics and Mathematics at Ohio Northern University, Ada, Ohio

Michael R. Santilli, Ph.D., December 2006: “Cavity length study of an electrically pumped W-well Laser”

M.S. June 2004: “Device Fabrication and Characterization for Infrared Detection of Glucose”  
Vice President Global Marketing at Carl Zeiss Microscopy, Jena, Thuringia, Germany

Delora C. Tanner, Graduate Research Assistant, Summer 2002  
Senior Systems Engineer, Raytheon, Vail, Arizona

Kristina G. Young-Fisher, M.S., Summer 2006: “Resonant Pump Wavelength Variation in an Optical Pumping Injection Cavity Laser”  
Technical Program Manager, Packaging Development, GlobalFoundries, Albany, New York

### ***Undergraduate students***

#### *At Baylor University:*

Ryan Rogers (Electrical and Computer Engineering), Baylor University, Summer 2019  
Benjamin Jones (Mechanical Engineering), Baylor University, Summer 2017–Summer 2018  
Logan Sparks (Electrical and Computer Engineering), Baylor University, Summer 2018  
Taylor Hetrick (Electrical and Computer Engineering), Baylor University, Fall 2017–Spring 2018  
Michael Glasgow (Electrical and Computer Engineering), Baylor University, Summer 2017  
Joshua Miller (Electrical and Computer Engineering), Baylor University, Summer 2017  
Dillon Todd (Electrical and Computer Engineering), Baylor University, Summer 2017  
Michael Hu (Electrical and Computer Engineering), Baylor University, Spring 2016–Summer 2016  
Jones Reed (Electrical and Computer Engineering), Baylor University, Summer 2016  
Rui Zhang (Electrical and Computer Engineering), Baylor University, Summer 2016  
Sara Tupponce (Mechanical Engineering), Baylor University, Fall 2015–Spring 2016  
Nethmi Ariyasinghe, Baylor University REU program (Summer 2009)  
Lauren Bain, Baylor University REU program (Summer 2010)  
Ben Ball, Baylor University REU program (Summer 2010)  
Lauren Ice, Baylor University REU program (Summer 2009)  
Charles Jester, Baylor University, University Scholars major, NSF EAGER REU supplement (Summer 2013)  
Windrik Lynch, Physics 1V95 Special Research Problems (Spring 2007, 2008)  
University Scholar thesis: “Laser Beam Profiling from an Electrically Stimulated W-Well Semiconductor”  
Sean O’Connor, Baylor University, Physics major, NSF EAGER REU supplement (Summer 2013–Spring 2015)  
Ian (Eaves) Reeves, Baylor University, Physics major, undergraduate researcher  
Undergraduate Research and Scholarly Activity award (Summer 2009), SURPh (2010)  
Physics 1V95 Special Research Problems (Fall 2009, Fall 2010)  
Honors thesis: “Computational Mid-infrared Beam Analysis”

#### *At the University of Kansas:*

Andrew Giebler, Physics 601 Electromechanical Design project, Physics major (KU)  
Armando Noriega, Physics 601 Electromechanical design project, Engineering Physics major (KU)

### ***Research Experience for Teachers (RET) program***

Dr. Daniel Mixson (Naval Academy Preparatory School), Summer 2007

**Refereed Publications (44) (\*undergraduate authors underlined)**

1. **L. J. Olafsen** and J. S. Olafsen, “Multi-wavelength beam profile measurement of near-infrared pulses for optical pumping,” *Infrared Physics and Technology* **105**, 103228 (2020). <https://doi.org/10.1016/j.infrared.2020.103228>
2. **L. J. Olafsen**, B. Jones, L. Sparks, H. H. Nguyen, A. Tanner, K. E. Schubert, J. S. Olafsen, S. Dayawansa, E. Fonkem, and J. H. Huang, “Current-controlled Nitinol wire for improved arterial navigation,” *Proceedings of the SPIE* **10868**, 108681E (2019). <https://doi.org/10.1117/12.2511670>.
3. **L. J. Olafsen**, J. S. Olafsen, and I. K. Eaves, “Time-dependent spatial intensity profiles of near-infrared idler pulses from nanosecond optical parametric oscillators,” *Applied Physics B* **124**, 110 (2018). <https://doi.org/10.1007/s00340-018-6975-0>
4. John Miller and **Linda Olafsen**, “Miniature Wind Turbine Student Design Project,” *Proceedings of the 2016 ASEE Gulf-Southwest Annual Conference*, 165 (2016).
5. **L. J. Olafsen**, “Tunable Optical Pumping Technique for the Development of Mid-Infrared Semiconductor Lasers,” Chapter 11, *New Developments in Photon and Materials Research*, edited by J. I. Jang, Nova Science Publishers (2013). [BOOK CHAPTER]
6. **L. J. Olafsen**, J. Kunz, A. P. Ongstad, and R. Kaspi, “Tunable excitation of mid-infrared optically pumped semiconductor lasers,” *Proceedings of the SPIE* **8631**, 86312N (2013). <https://doi.org/10.1117/12.2008808>
7. **L. J. Olafsen**, L. D. Ice, and B. Ball, “Nonlinear Temperature Dependence of Resonant Pump Wavelengths in Optical Pumping Injection Cavity Lasers,” *IEEE Journal of Selected Topics in Quantum Electronics* **17**, 1453–1459 (2011). <https://doi.org/10.1109/JSTQE.2011.2151177>
8. **L. J. Olafsen**, I. K. Eaves, and J. S. Olafsen, “Synchronized Mid-infrared Beam Characterization of Narrow Gap Semiconductors,” *AIP Conference Proceedings* **1416**, 88–90 (2011). <https://doi.org/10.1063/1.3671705>
9. **L. J. Olafsen**, L. E. Bain, W. W. Bewley, I. Vurgaftman, J. R. Meyer, H. Lee, and R. U. Martinelli, “Room-temperature 4.0- $\mu\text{m}$  broadened optical pumping injection cavity lasers,” *Proceedings of the SPIE* **7953**, 795314 (2011). <https://doi.org/10.1117/12.875218>
10. **L. J. Olafsen** and T. C. McAlpine, “Transparency pump intensity and differential gain in resonantly pumped W optical pumping injection cavity lasers,” *Journal of Applied Physics* **108**, 053106 (2010). <https://doi.org/10.1063/1.3475504>
11. *Progress in Semiconductor Materials V – Novel Materials and Electronic and Optoelectronic Applications*, edited by **Linda J. Olafsen**, Robert M. Biefeld, Michael C. Wanke, Adam W. Saxler (*Materials Research Society Symposium Proceedings* **891**, Warrendale, PA, 2006). [EDITED VOLUME]
12. J. P. Prineas, J. R. Yager, J. T. Olesberg, S. Seydmohamadi, C. Cao, M. Reddy, C. Coresopoulos, J. L. Hicks, T. F. Boggess, M. Santilli, and **L. J. Olafsen**, “PIN versus PN homojunctions in GaInAsSb 2.0–2.5 micron mesa photodiodes,” *Proceedings of the SPIE* **6119**, 611903 (2006). <https://doi.org/10.1117/12.647109>

13. J. T. Olesberg, C. Cao, J. R. Yager, J. P. Prineas, C. Coretsopoulos, M. A. Arnold, **L. J. Olafsen**, and M. Santilli, "Optical microsensor for continuous glucose measurements in interstitial fluid," *Proceedings of the SPIE* **6094**, 609403 (2006).  
<https://doi.org/10.1117/12.646751>
14. J. P. Prineas, M. Reddy, J. T. Olesberg, C. Cao, S. Veerasamy, M. E. Flatté, E. Koerperick, T. F. Boggess, M. R. Santilli, and **L. J. Olafsen**, "Quaternary GaInAsSb 2.0-2.5 micron back-illuminated focal plane array for blood glucose monitoring," *Proceedings of the SPIE, Semiconductor Photodetectors II*, **5726**, 113–121 (2005). <https://doi.org/10.1117/12.590820>
15. T. C. McAlpine, K. R. Greene, M. R. Santilli, **L. J. Olafsen**, W. W. Bewley, C. L. Felix, I. Vurgaftman, J. R. Meyer, M. J. Yang, H. Lee, and R. U. Martinelli, "Resonantly pumped optical pumping injection cavity lasers," *Journal of Applied Physics* **96**, 4751 (2004).  
<https://doi.org/10.1063/1.1801164>
16. **L. J. Olafsen**, I. Vurgaftman, and J. R. Meyer, "Antimonide Mid-IR Lasers," for Long-wavelength Infrared Semiconductor Lasers, ed. H. K. Choi (John Wiley, New York, 2004). [BOOK CHAPTER]
17. T. C. McAlpine, K. R. Greene, M. R. Santilli, **L. J. Olafsen**, W. W. Bewley, C. L. Felix, I. Vurgaftman, J. R. Meyer, M. J. Yang, H. Lee, and R. U. Martinelli, "Pump Wavelength Tuning of Optical Pumping Injection Cavity Lasers for Enhancing Mid-Infrared Operation," *Materials Research Society Symposia Proceedings* **799**, 211–216 (2004).  
<https://doi.org/10.1557/PROC-799-Z4.7>
18. S. Cho, Y. Kim, **L. J. Olafsen**, I. Vurgaftman, A. J. Freeman, G. K. L. Wong, J. R. Meyer, C. A. Hoffman, and J. B. Ketterson, "Large magnetoresistance in post-annealed polycrystalline and epitaxial Bi thin films," *Journal of Magnetism and Magnetic Materials* **239**, 201 (2002).  
[https://doi.org/10.1016/S0304-8853\(01\)00557-1](https://doi.org/10.1016/S0304-8853(01)00557-1)
19. S. Cho, Y. Kim, S. J. Youn, A. DiVenere, G. K. L. Wong, A. J. Freeman, J. B. Ketterson, **L. J. Olafsen**, I. Vurgaftman, J. R. Meyer, and C. A. Hoffman, "Artificially ordered Bi/Sb superlattice alloys: Fabrication and transport properties," *Physical Review B* **64**, 235330 (2001). <https://doi.org/10.1103/PhysRevB.64.235330>
20. S. Cho, Y. Kim, A. J. Freeman, G. K. L. Wong, J. B. Ketterson, **L. J. Olafsen**, I. Vurgaftman, J. R. Meyer, and C. A. Hoffman, "Large magnetoresistance in postannealed Bi thin films," *Applied Physics Letters* **79**, 3651–3653 (2001). <https://doi.org/10.1063/1.1416157>
21. **L. J. Olafsen**, T. Daniels-Race, R. E. Kendall, and S. W. Teitsworth, "Photoluminescence of *n-i-n* single quantum well structures under electric field bias," *Superlattices and Microstructures* **27**(1), 39–51 (2000). <https://doi.org/10.1006/spmi.1999.0818>
22. S. Cho, Y. Kim, A. DiVenere, G. K. L. Wong, A. J. Freeman, J. B. Ketterson, **L. J. Olafsen**, I. Vurgaftman, J. R. Meyer, C. A. Hoffman, and G. Chen, "Artificially Atomic-scale Ordered Superlattice Alloys for Thermoelectric Applications," *Materials Research Society Symposia Proceedings* **626**, Z2.4.1–Z2.4.6 (2000). <https://doi.org/10.1557/PROC-626-Z2.4>
23. **L. J. Olafsen**, W. W. Bewley, I. Vurgaftman, C. L. Felix, E. H. Aifer, D. W. Stokes, J. R. Meyer, H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, M. Maiorov, J. C. Connolly, A. R. Sugg, and G. H. Olsen, "High Temperature W Diode Lasers Emitting at 3.3  $\mu\text{m}$ ,"



- Materials Research Society Symposia Proceedings* **607**, 95–100 (2000).  
<https://doi.org/10.1557/PROC-607-95>
24. J. R. Meyer, W. W. Bewley, I. Vurgaftman, C. L. Felix, **L. J. Olafsen**, E. H. Aifer, D. W. Stokes, M. J. Yang, H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, J. C. Connolly, M. Maiorov, A. R. Sugg, and G. H. Olsen, "Type-II Mid-Infrared Lasers," *Proceedings of the SPIE* **3947**, 100–109 (2000). <https://doi.org/10.1117/12.382087>
  25. C. L. Felix, W. W. Bewley, I. Vurgaftman, **L. J. Olafsen**, D. W. Stokes, J. R. Meyer, and M. J. Yang, "High-Efficiency Mid-IR 'W' Laser with Optical Pumping Injection Cavity (OPIC)," *Applied Physics Letters* **75**, 2876–2878 (1999). <https://doi.org/10.1063/1.125176>
  26. D. W. Stokes, **L. J. Olafsen**, W. W. Bewley, I. Vurgaftman, C. L. Felix, E. H. Aifer, J. R. Meyer, and M. J. Yang, "Type-II 'W' Lasers Emitting at  $\lambda = 5.4\text{--}7.3\ \mu\text{m}$ ," *Journal of Applied Physics* **86**, 4729–4733 (1999). <https://doi.org/10.1063/1.371436>
  27. C. L. Felix, W. W. Bewley, **L. J. Olafsen**, D. W. Stokes, E. H. Aifer, I. Vurgaftman, J. R. Meyer, and M. J. Yang, "Continuous-Wave Type-II 'W' Lasers Emitting at  $\lambda = 5.4\text{--}7.1\ \mu\text{m}$ ," *IEEE Photonics Technology Letters* **11**, 964–966 (1999). <https://doi.org/10.1109/68.775314>
  28. W. W. Bewley, C. L. Felix, E. H. Aifer, D. W. Stokes, I. Vurgaftman, **L. J. Olafsen**, J. R. Meyer, M. J. Yang, and H. Lee, "Thermal Characterization of Diamond-Pressure-Bond Heat Sinking for Optically Pumped Mid-Infrared Lasers," *IEEE Journal of Quantum Electronics* **35**, 1597–1601 (1999). <https://doi.org/10.1109/3.798081>
  29. H. Lee, **L. J. Olafsen**, R. J. Menna, W. W. Bewley, R. U. Martinelli, I. Vurgaftman, D. Z. Garbuzov, C. L. Felix, M. Maiorov, J. R. Meyer, J. C. Connolly, A. R. Sugg, and G. H. Olsen, "Pulsed operation to 300 K of  $\lambda = 3.30\ \mu\text{m}$  type-II W quantum well diode laser with broadened waveguide," *Electronics Letters* **35**, 1743–1745 (1999).  
<https://doi.org/10.1049/el:19991204>
  30. W. W. Bewley, C. L. Felix, I. Vurgaftman, D. W. Stokes, E. H. Aifer, **L. J. Olafsen**, J. R. Meyer, M. J. Yang, B. V. Shanabrook, H. Lee, R. U. Martinelli, and A. R. Sugg, "High-temperature continuous wave 3–6.1  $\mu\text{m}$  'W' lasers with diamond-pressure-bond heat sinking," *Applied Physics Letters* **74**, 1075–1077 (1999). <https://doi.org/10.1063/1.123486>
  31. **L. J. Olafsen**, I. Vurgaftman, W. W. Bewley, C. L. Felix, E. H. Aifer, J. R. Meyer, J. R. Waterman, and W. Mason, "Negative Luminescence from Type-II InAs/GaSb Superlattice Photodiodes," *Applied Physics Letters* **74**, 2681–2683 (1999).  
<https://doi.org/10.1063/1.123935>
  32. W. W. Bewley, C. L. Felix, I. Vurgaftman, E. H. Aifer, **L. J. Olafsen**, J. R. Meyer, L. Goldberg, and D. H. Chow, "Mid-IR Vertical-Cavity Surface-Emitting Lasers for Chemical Sensing," *Applied Optics–Lasers, Photonics, and Environmental Optics* **38**, 1502–1505 (1999). <https://doi.org/10.1364/AO.38.001502>
  33. W. W. Bewley, C. L. Felix, I. Vurgaftman, **L. J. Olafsen**, E. H. Aifer, and J. R. Meyer, "Addendum: 'Midinfrared vertical-cavity surface-emitting laser' [Appl. Phys. Lett. **71**, 3483 (1997)]," *Applied Physics Letters* **74**, 625–627 (1999). <https://doi.org/10.1063/1.123185>
  34. C. L. Felix, W. W. Bewley, E. H. Aifer, I. Vurgaftman, **L. J. Olafsen**, D. W. Stokes, J. R. Meyer, M. J. Yang, H. Lee, R. U. Martinelli, and J. C. Connolly, "Optically-Pumped Mid-

- Infrared Type-II Lasers: Advances in High Temperature Performance,” *Proceedings of the SPIE, In-Plane Semiconductor Lasers III*, **3628**, 130–139 (1999).  
<https://doi.org/10.1117/12.344539>
35. W. W. Bewley, C. L. Felix, E. H. Aifer, I. Vurgaftman, **L. J. Olafsen**, J. R. Meyer, H. Lee, R. U. Martinelli, J. C. Connolly, A. R. Sugg, G. H. Olsen, M. J. Yang, B. R. Bennett, and B. V. Shanabrook, “Above-Room-Temperature Optically-Pumped Mid-Infrared W-lasers,” *Applied Physics Letters* **73**, 3833–3835 (1998). <https://doi.org/10.1063/1.122909>
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  39. **L. J. Olafsen**, E. H. Aifer, I. Vurgaftman, W. W. Bewley, C. L. Felix, J. R. Meyer, D. Zhang, C.-H. Lin, and S. S. Pei, “Near-Room-Temperature Mid-IR Interband Cascade Laser,” *Applied Physics Letters* **72**, 2370–2372 (1998). <https://doi.org/10.1063/1.121359>
  40. R. Q. Yang, C.-H. Lin, B. H. Yang, D. Zhang, S. J. Murry, S.-S. Pei, W. W. Bewley, **L. J. Olafsen**, E. H. Aifer, C. L. Felix, I. Vurgaftman, and J. R. Meyer, “Type-II Quantum Cascade Lasers,” *Proceedings of the SPIE* **3284**, 308–317 (1998). <https://doi.org/10.1117/12.304455>
  41. **L. J. Blue**, T. Daniels-Race, R. Kendall, C. R. Schmid, and S. W. Teitsworth, “Dependence of I-V Characteristics on Al Mole Fraction in GaAs/Al<sub>x</sub>Ga<sub>1-x</sub>As Asymmetric Double Barrier Structures,” *Journal of Vacuum Science and Technology* **B15**, 696–701 (1997).  
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  42. **L. J. Blue**, T. Daniels-Race, C. N. Yeh, and L. E. McNeil, “Effect of well width variation on type-I/type-II photoluminescence in GaAs/AlAs single quantum wells,” *Superlattices and Microstructures* **21**, 187–193 (1997). <https://doi.org/10.1006/spmi.1995.0162>
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### Non-refereed Publications (9)

1. S. Dayawansa, E. A. Benardete, P. T. Noonan, **L. J. Olafsen**, J. S. Olafsen, K. E. Schubert, and J. H. Huang, "Optimum wide neck bifurcation aneurysm angle change (BSW index) promotes better coiling of the aneurysm," 2018 American Association of Neurological Surgeons Annual Scientific Meeting.
2. **L. J. Olafsen**, "The Dual-Career 'Problem'," Blazing the Trail: Essays by Leading Women in Science, edited by Emma Ideal and Rhiannon Meharchand (CreateSpace Independent Publishing Platform, 2013).
3. **L. J. Olafsen**, T. C. McAlpine, K. R. Greene, M. R. Santilli, W. W. Bewley, C. L. Felix, I. Vurgaftman, J. R. Meyer, M. J. Yang, H. Lee, and R. U. Martinelli, "Optical Pumping Injection Cavity Lasers Toward High Power Conversion Efficiency at Room Temperature," *17<sup>th</sup> Annual Solid State and Diode Laser Technology Review* (Technical Digest, paper MIR-6, 2004).
4. J. R. Meyer, W. W. Bewley, I. Vurgaftman, C. L. Felix, **L. J. Olafsen**, D. W. Stokes, M. J. Yang, H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, J. C. Connolly, M. Maiorov, A. R. Sugg, G. H. Olsen, Conference on Lasers and Electro-Optics (7–12 May, 2000, San Francisco, CA), "Optically- and electrically-pumped type-II 'W' quantum-well lasers for the mid-IR," pp. 62–63.
5. W. W. Bewley, **L. J. Olafsen**, I. Vurgaftman, C. L. Felix, E. H. Aifer, D. W. Stokes, J. R. Meyer, M. J. Yang, H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, J. C. Connolly, M. Maiorov, A. R. Sugg, and G. H. Olsen, "High-Temperature Diode and Optically-Pumped Mid-IR Lasers with Type-II 'W' Quantum Wells," *Optics and Photonics News: Optics in 1999* (December, 1999), p. 18.
6. S. Cho, Y. Kim, A. DiVenere, G. K. L. Wong, A. J. Freeman, J. B. Ketterson, **L. J. Olafsen**, I. Vurgaftman, J. R. Meyer, and C. A. Hoffman, "Artificially Ordered BiSb Alloys: Growth and Transport Properties," *Proc. 18<sup>th</sup> Int. Conf. Thermoelectrics* (29 August – 2 September, 1999, Baltimore, MD).
7. C. L. Felix, W. W. Bewley, I. Vurgaftman, **L. J. Olafsen**, D. W. Stokes, J. R. Meyer, M. J. Yang, H. Lee, and R. U. Martinelli, '99 IEEE-LEOS Annual Meeting (8-11 November, 1999, San Francisco, CA), "Optical Pumping Injection Cavity (OPIC) for High-Efficiency Mid-IR W Lasers," pp. 603-604.
8. J. R. Meyer, I. Vurgaftman, **L. J. Olafsen**, E. H. Aifer, W. W. Bewley, C. L. Felix, C.-H. Lin, D. Zhang, R. Q. Yang, S.-S. Pei, K. Vodopyanov, K. O'Neill, C. C. Phillips, and M. Hopkinson, "Phase-Matched Second-Harmonic and Cascade Laser Mid-IR Sources," in *Intersubband Transitions in Quantum Wells: Physics and Devices*, ed. S. S. Li and Y.-K. Su (Kluwer, Boston, 1998).
9. I. Vurgaftman, **L. J. Olafsen**, E. H. Aifer, W. W. Bewley, C. L. Felix, J. R. Meyer, C.-H. Lin, D. Zhang, S. J. Murry, and S.-S. Pei, Conference on Lasers and Electro-Optics (3–8 May, 1998, San Francisco, CA), "Interband Cascade and Type-II Superlattice Mid-Infrared Lasers," p. 337–338.

### Book Reviews

1. **L. J. Olafsen**, “Review of Quantum Mechanics for Nanostructures,” *MRS Bulletin*, **37**(5), 531 (2012).
2. **L. J. Olafsen**, “Review of Introduction to the Electronic Properties of Materials, 2<sup>nd</sup> Ed.,” *MRS Bulletin*, **28**(11), 867 (2003).
3. **L. J. Olafsen**, “Review of Mesoscopic Systems: Fundamentals and Applications,” *MRS Bulletin*, **28**(4), 323 (2003).

### In preparation

1. **L. J. Olafsen** and N. Rumman, “Optically Pumped Interband Cascade Lasers,” submitted to the 2020 Conference on Lasers and Electro-Optics.
2. G. Ledford, J. Boline, M. Leitch H. Nguyen, D. Agu, B. Ni, A. Tanner, H. H. Nguyen, D. Sugijanto, K. Stephens, **L. J. Olafsen**, J. S. Olafsen, and K. E. Schubert, “Ultrasound imaging of Nitinol wire of subwavelength dimension”
3. **L. J. Olafsen**, R. Zhang, Z. Yan, Z. Peng, and J. M. Tour, “Infrared optical conductivity and transmissivity of graphene,” in preparation for submission to *Physical Review B*.
4. **L. J. Olafsen**, I. K. Eaves, J. S. Olafsen, “Spatiotemporal analysis of mid-IR semiconductor light-light stimulus and response,” in preparation for submission to *Physical Review E*.
5. **L. J. Olafsen**, N. Rumman, Z. Peng, and J. M. Tour, “Optically pumped interband cascade lasers,” in preparation for submission to *IEEE Journal of Quantum Electronics*.

### Funding

6/1/16–5/31/17	University Research Council “Electrical and Thermal Conductivity of Graphene Contacts”	\$7,500
3/15/13–2/28/17	National Science Foundation “EAGER: Enhanced Optoelectronic Devices Through Integration of Single-Crystal Graphene and Bernal Bilayer and Trilayer Graphene” (co-I with James Tour, Rice University)	\$120,129
	REU supplement	\$6,000
7/1/13–8/31/13	Laboratory Experience for Faculty National Nanotechnology Infrastructure Network Microelectronics Research Center, University of Texas at Austin	\$14,000
6/1/10–5/31/12	University Research Council “Transparent Contacts for Dual Optical and Electronic Excitation in Mid-Infrared Semiconductor Lasers”	\$7,500
9/1/10–3/31/11	Directed Energy Professional Society (Capstone Projects) “Optically Pumped Semiconductor Analysis in the Mid-Infrared”	\$2,500

4/1/10–3/31/11	SPIE Education Outreach Grant Celebrating the 50th anniversary of the laser in Central Texas and educating, students, the general public and other scientists about the research and technologies enabled by lasers.	\$1,500
6/1/09–5/31/10	Undergraduate Research and Scholarly Achievement Program (URSA) “Undergraduate Research Experience in Infrared Laser Beam Profiling”	\$5,000
6/1/07–5/31/08	Faculty Research Investment Program, Baylor University “Beam quality in high-efficiency IR semiconductor lasers” (co-I with Jeffrey Olafsen)	\$25,000
6/1/04–8/4/06	Department of Defense EPSCoR “High Efficiency, Room Temperature Mid-Infrared Semiconductor Laser Development for IR Countermeasures”	\$457,601
9/30/02–7/31/06	University of Iowa/National Institute of Health “Continuous Near-Infrared Glucose Sensor”	\$249,706
7/1/02–6/30/03	University of Kansas General Research Fund (FY03) “Procuring a Black Body Radiation Source for Biophotonic Device Research and Physics Education”	\$8,882
8/1/01–7/31/02	National Science Foundation Instrumentation for Materials Research “Acquisition of a Deep Ultraviolet/Infrared Mask Aligner for Microscale/Nanoscale Device Research and Education”	\$173,700
7/1/01–6/30/02	University of Kansas General Research Fund (FY02) “Enhancing Acquisition of High-Quality Semiconductor Heterostructures”	\$5,736
6/1/01–5/31/04	Office of Naval Research, Young Investigator Program “Mid-Infrared Semiconductor Heterostructures for IRCM and Sensing”	\$384,000
7/1/00–6/30/01	University of Kansas General Research Fund (FY01) “Negative Electroluminescence in Type-II Antimonide-Based Semiconductors”	\$6,240
2/1/00–4/30/01	Kansas NSF EPSCoR “Optoelectronic Investigation of Antimonide-Based Mid-Infrared Semiconductor Heterostructures”	\$31,021
2/1/00–6/30/01	University of Kansas, New Faculty General Research Fund “Preliminary Investigation of Optoelectronic III-V Semiconductor Devices”	\$9,417

**Invited Presentations (42):**

1. Army Research Laboratory, Adelphi, MD, April 2019, “Integrating Graphene with Semiconductor Heterostructures to Reduce Droop and Increase Efficiency in Mid-Infrared Lasers.”
2. Calvin College, Grand Rapids, MI, April 2017, “More Efficient Mid-Infrared Lasers Through Integration of Graphene on Semiconductors.”

3. Oral Roberts University, Tulsa, OK, February 2017, “Integrating Graphene and Semiconductors Toward More Efficient Mid-Infrared Lasers.”
4. Baylor University, Waco, TX, February 2015, “Integration of Graphene for Enhancement of Mid-Infrared Semiconductor Laser Performance.”
5. Hamline University, Saint Paul, MN, February 2014, “Mid-Infrared Semiconductor Lasers: A Practical Application of Quantum Mechanics.”
6. Tarleton State University, Stephenville, TX, April 2013, “Optical Pumping of Mid-Infrared Semiconductor Lasers” and “Mid-Infrared Semiconductor Lasers: Achieving Efficient High Temperature Operation.” (2 presentations)
7. Texas A&M University-Commerce, Commerce, TX, April 2013, “Mid-infrared Semiconductor Lasers: Toward Achieving Efficient High Temperature Operation.”
8. SPIE Photonics West, San Francisco, CA, February 2013, “Tunable excitation of mid-infrared optically pumped semiconductor lasers.”
9. University of Texas, Complex Quantum Systems/Condensed Matter Seminar, Austin, TX, October 2012, “Novel Optical Pumping Configurations of Mid-Infrared Semiconductor Lasers.”
10. Conference for Undergraduate Women in Physics, Lincoln, NE, October 2011, “Semiconductor Materials: A Practical Application of Quantum Mechanics.”
11. Texas State University, San Marcos, Department of Physics, San Marcos, TX, March 2010, “Resonantly Pumped Optical Pumping Injection Cavity Lasers.”
12. Texas A&M University, Department of Physics, College Station, TX, April 2008, “Resonantly Pumped Optical Pumping Injection Cavity Lasers.”
13. LeTourneau University, Department of Chemistry and Physics, Longview, TX, February 2007, “Practical Quantum Mechanics: Mid-Infrared Semiconductor Lasers.”
14. Baylor University, Department of Physics, Waco, TX, January 2007, “Novel Configurations of Optically Pumped Mid-Infrared Semiconductor Lasers.”
15. Wheaton College, Department of Physics, Wheaton, IL March 2006, “So You Want To Be a Quantum Mechanic?”
16. Baylor University, Department of Physics, Waco, TX, February 2006, “Antimonide-Based Semiconductor Heterostructures for Infrared Applications.”
17. Rochester Institute of Technology, Department of Physics, Rochester, NY, February 2006, “Practical Quantum Mechanics: Semiconductor Heterostructures for Infrared Applications.”
18. University of Louisville, Department of Physics, Louisville, KY, January 2006, “Development and Fabrication of Antimonide-based Semiconductor Heterostructures for Infrared Detection.”
19. Iowa State University, Materials Science and Engineering, Ames, IA, December 2005, “Development of Antimonide-based Semiconductor Heterostructures for Near- and Mid-Infrared Optoelectronic Devices.”

20. University of Southern Mississippi, Hattiesburg, MS, February 2005, “Quantum Device Design of Semiconductor Heterostructures for Near- and Mid-Infrared Applications.”
21. Virginia Polytechnic Institute and State University, Blacksburg, VA, October 2004, “Optical Pumping Injection Cavity Lasers: Toward Efficient Mid-Infrared Semiconductor Sources.”
22. University of Kansas, Department of Chemical and Petroleum Engineering, October 2004, “Development of Semiconductor LEDs and Detectors for a Continuous Near-Infrared Glucose Spectrometer.”
23. University of Kansas, Department of Physics and Astronomy, August 2004, “Quantum Device Design Through a Fundamental Picture of Electron Distribution in Semiconductor Heterostructures.”
24. University of Oklahoma, Norman, OK, April 2004, Colloquium: “Optical Pumping Injection Cavity Lasers: Toward Efficient Mid-Infrared Semiconductor Sources.” Condensed Matter Seminar: “Semiconductor Laser Optics at KU—An Overview.”
25. University of Kansas, Physical Chemistry Seminar, February 2001, “Developing Room-Temperature Antimonide-Based Semiconductor Lasers.”
26. Kansas State University, Manhattan, KS, November 2000, “Room Temperature Operation of Mid-Infrared Type-II ‘W’ Lasers.”
27. Benedictine College, Atchison, KS, September 2000, “Building Efficient Semiconductor Lasers for Mid-Infrared Applications.”
28. Sandia National Laboratories, Albuquerque, NM, January 2000, “Room Temperature W Diode Laser Emitting at 3.3  $\mu\text{m}$ .”
29. Mount Holyoke College, Department of Physics, South Hadley, MA, March 1999, “The Interband Cascade Laser: Converting Electrons to Photons in the Mid-Infrared.”
30. University of Kansas, Department of Physics and Astronomy, Lawrence, KS, March 1999, “The Interband Cascade Laser: Near-Room-Temperature Operation in the Mid-Infrared.”
31. Wake Forest University, Department of Physics and Astronomy, Winston-Salem, NC, February 1999, “The Interband Cascade Laser: Stepping Toward Efficient Room Temperature Emission in the Mid-Infrared.”
32. Towson University, Department of Physics, Astronomy, and Geosciences, Towson, MD, February 1999, “Taking the Next Steps Toward Viable Interband Cascade Lasers.”
33. Georgetown University, Department of Physics, Washington, DC, February 1999, “The Interband Cascade Laser: A Wave Function Engineering Approach to Mid-Infrared Emission.”
34. Ohio University, Department of Physics and Astronomy, Athens, OH, January 1999, “The Interband Cascade Laser: Up the Down Staircase Toward Room-Temperature Emission in the Mid-Infrared.”
35. Washington and Lee University, Department of Physics and Engineering, Lexington, VA January, 1999, “Interband Cascade Lasers: A Staircase Approach to Efficient Mid-infrared Emission.”
36. University of Delaware, Materials Science and Engineering Department, Newark, DE, December 1998, “Interband Cascade Lasers: Near-Room-Temperature Emitters for the Mid-infrared.”

37. State University of New York, Department of Physics and Astronomy, Geneseo, NY, December 1998, “Understanding Interband Cascade Lasers from the Lattice Up.”
38. Lucent Technologies, Breinigsville, PA, May 1997, Host: Dan Wilt, “Photoluminescence in GaAs/AlAs Single Quantum Wells.”
39. Los Alamos National Laboratory, May 1997, Host: Brad Edwards, “Photoluminescence in Type-I/Type-II Single Quantum Wells.”
40. Northwestern University, February 1997, Host: Manijeh Razeghi, “Photoluminescence in GaAs/AlGaAs Single Quantum Wells under Electric Field.”
41. Ohio University, February 1997, Host: Gerald Harp, “Photoluminescence in GaAs/AlAs Single Quantum Well Structures under Electric Field Bias.”
42. North Carolina State University, January 1997, Host: Jan Schetzina, “Photoluminescence in GaAs/AlAs Single Quantum Wells under Electric Field Bias.”

#### **Contributed Presentations (61):**

1. S. Dayawansa, J. W. Choi, **L. J. Olafsen**, B. Jones, L. Sparks, H. H. Nguyen, A. Tanner, K. E. Schubert, J. S. Olafsen, J. H. Huang, Congress of Neurological Surgeons 2019 Annual Meeting (19–23 October 2019, San Francisco, CA), “Current-controlled Nitinol wire for improved arterial navigation.”
2. B. Jones, L. Sparks, and **L. J. Olafsen**, Undergraduate Research and Scholarly Achievement Scholars Week, Baylor University (1–5 April 2019, Waco, TX), “Surgical Applications of Nitinol” (poster).
3. **L. J. Olafsen**, B. Jones, L. Sparks, H. H. Nguyen, A. Tanner, K. E. Schubert, J. S. Olafsen, S. Dayawansa, E. Fonkem, and J. H. Huang, 2019 SPIE Photonics West (2–7 February 2019, San Francisco, CA), “Current-controlled Nitinol wire for improved arterial navigation.”
4. T. Hetrick and **L. J. Olafsen**, Undergraduate Research and Scholarly Achievement Scholars Week, Baylor University (28–29 March 2018, Waco, TX), “Optical Transmission through Coconut Oil during Phase Change” (poster).
5. B. Jones and **L. J. Olafsen**, Undergraduate Research and Scholarly Achievement Scholars Week, Baylor University (28–29 March 2018, Waco, TX), “Graphene Transfer and Spectrum Analysis” (poster).
6. T. Hetrick and **L. J. Olafsen**, Engineering and Computer Science Scholars Day, Baylor University (23 March 2018, Waco, TX), “Optical Transmission through Coconut Oil during Phase Change” (poster).
7. B. Jones and **L. J. Olafsen**, Engineering and Computer Science Scholars Day, Baylor University (23 March 2018, Waco, TX), “Graphene Transfer and Spectrum Analysis” (poster).
8. S. Dayawansa, E. A. Benardete, P. T. Noonan Jr., **L. Olafsen**, J. Olafsen, K. Schubert, and J. H. Huang, 2018 American Association of Neurological Surgeons Annual Scientific Meeting (28 April–2



- May 2018, New Orleans, LA), “Optimum wide neck bifurcation aneurysm angle change (BSW index) promotes better coiling of the aneurysm.”
9. S. Dayawansa, E. A. Benardete, P. T. Noonan Jr., **L. Olafsen**, J. Olafsen, S. Lee, K. E. Schubert, and J. H. Huang, Texas Association of Neurological Surgeons (8–11 February 2018, Houston, TX), “Endosurgical Remodeling of Wide-Necked Bifurcation Aneurysms.”
  10. John Miller and **Linda Olafsen**, 2016 ASEE Gulf-Southwest Annual Conference (6–8 March 2016, Fort Worth, TX), “Miniature Wind Turbine Student Design Project.”
  11. **L. J. Olafsen**, International Conference and Exhibition on Lasers, Optics, and Photonics (7–9 October 2013, San Antonio, TX), “Investigating High-Temperature Operation Limitations in Antimonide-Based Mid-Infrared Semiconductor Lasers.”
  12. **L. J. Olafsen**, L. D. Ice, and B. Ball, 11th International Conference on Infrared Optoelectronics: Materials and Devices (MIOMD-XI) (4–8 September 2012, Northwestern University, Evanston, IL), “Nonlinear Temperature Variation of Resonant Pump Wavelength in Optically Pumped Mid-Infrared Semiconductor Lasers.” (poster + 5 min talk)
  13. **L. J. Olafsen**, 2012 TAMU-Casper College Summer School on Quantum Science and Engineering (15–21 July 2012, Casper College, Casper, WY), “Optical Pumping of Type-II W Antimonide-Based Semiconductor Lasers.”
  14. **L. J. Olafsen**, I. K. Eaves, and J. S. Olafsen, 15th International Conference on Narrow Gap Systems (1–5 August 2011, Blacksburg, VA), “Synchronized Mid-infrared Beam Characterization of Narrow Gap Semiconductors.”
  15. I. Reeves, J. S. Olafsen, and **L. J. Olafsen**, Undergraduate Research and Scholarly Achievement Scholars Week, Baylor University (6–7 April 2011, Waco, TX), “Spatio-Temporal Beam Profiling of Pulsed Infrared Laser Sources” (poster).
  16. **L. J. Olafsen**, L. E. Bain, L. D. Ice, and B. Ball, 2011 March Meeting of the American Physical Society (21–25 March 2011, Dallas, TX), “Gain-Induced Refractive Index Changes in Resonantly Pumped Optical Pumping Injection Cavity Lasers.”
  17. I. E. Reeves, **L. J. Olafsen**, and J. S. Olafsen, 2011 March Meeting of the American Physical Society (21–25 March 2011, Dallas, TX), “Spatio-temporal beam profiling of pulsed infrared laser sources” (poster).
  18. **L. J. Olafsen**, L. E. Bain, W. W. Bewley, I. Vurgaftman, J. R. Meyer, H. Lee, and R. U. Martinelli, 2011 SPIE Photonics West (22–27 January 2011, San Francisco, CA), “Room-temperature 4.0- $\mu\text{m}$  broadened optical pumping injection cavity lasers.”
  19. **L. J. Olafsen**, 2010 IEEE Photonics Society Semiconductor Laser Workshop (21 May 2010, San Jose, CA), “Resonantly Pumped Optical Pumping Injection Cavity Lasers.”
  20. I. Reeves and **L. J. Olafsen**, Undergraduate Research and Scholarly Achievement Scholars Week, Baylor University (25 March 2010, Waco, TX), “Infrared Imaging and Semiconductor Analysis” (poster).
  21. I. Reeves and **L. J. Olafsen**, Undergraduate Research and Scholarly Achievement Scholars Week, Baylor University (28 April 2009, Waco, TX), “Laser Beam Profiling in the Infrared” (poster).
  22. **L. J. Olafsen**, K. G. Young, T. C. McAlpine, W. W. Bewley, I. Vurgaftman, J. R. Meyer, H. Lee, and R. U. Martinelli, 2008 March Meeting of the American Physical Society (10–14 March 2008, New

- Orleans, LA), “Temperature-Dependence of the Resonant Pump Wavelength in Optical Pumping Injection Cavity Lasers.”
23. J. P. Prineas, J. R. Yager, J. T. Olesberg, S. Seydmohamadi, C. Cao, M. Reddy, C. Coresopoulos, J. L. Hicks, T. F. Boggess, M. Santilli, and **L. J. Olafsen**, Photonics West (21–26 January 2006, San Jose, CA), “PIN versus PN homojunctions in GaInAsSb 2.0–2.5 micron mesa photodiodes.”
  24. J. T. Olesberg, C. Cao, J. R. Yager, J. P. Prineas, C. Coresopoulos, M. A. Arnold, **L. J. Olafsen**, and M. Santilli, Photonics West (21–26 January 2006, San Jose, CA), “Optical microsensor for continuous glucose measurements in interstitial fluid.”
  25. J. P. Prineas, M. Reddy, J. T. Olesberg, C. Cao, S. Veerasamy, M. E. Flatté, E. Koerperick, T. F. Boggess, M. R. Santilli, and **L. J. Olafsen**, International Symposium on Integrated Optoelectronic Devices, SPIE Photonics West (22–27 January 2005, San Jose, CA), “Quaternary GaInAsSb 2.0–2.5  $\mu\text{m}$  Back-Illuminated Focal Plane Array for Blood Glucose Monitoring.”
  26. **L. J. Olafsen**, University of Kansas Symposium on Biophysical Sciences (18 January 2005, Lawrence, KS) “Development of Semiconductor LEDs and Detectors for a Continuous Near-Infrared Glucose Spectrometer.” (poster)
  27. **L. J. Olafsen**, Statewide EPSCoR Conference (8 September 2004, Manhattan, KS) “Resonantly pumped optical pumping injection cavity lasers.” (poster)
  28. **L. J. Olafsen**, T. C. McAlpine, K. R. Greene, M. R. Santilli, W. W. Bewley, C. L. Felix, I. Vurgaftman, J. R. Meyer, M. J. Yang, H. Lee, and R. U. Martinelli, 17<sup>th</sup> Annual Solid State and Diode Laser Technology Review (8–10 June 2004, Albuquerque, NM), “Optical Pumping Injection Cavity Lasers Toward High Power Conversion Efficiency at Room Temperature.”
  29. T. C. McAlpine, K. R. Greene, M. R. Santilli, **L. J. Olafsen**, W. W. Bewley, C. L. Felix, I. Vurgaftman, J. R. Meyer, M. J. Yang, H. Lee, and R. U. Martinelli, 2003 Fall Meeting of the Materials Research Society (1–5 December 2003, Boston, MA), “Pump Wavelength Tuning of Optical Pumping Injection Cavity Lasers for Enhancing Mid-Infrared Operation.”
  30. **L. J. Olafsen**, T. C. McAlpine, K. R. Greene, M. R. Santilli, D. C. Tanner, W. W. Bewley, C. L. Felix, I. Vurgaftman, J. R. Meyer, M. J. Yang, H. Lee, R. U. Martinelli, 2003 March Meeting of the American Physical Society (3–7 March 2003, Austin, TX), “Comparative Investigation of Optical Pumping Injection Cavity Lasers Using Variable Wavelength Excitation.”
  31. J. R. Meyer, W. W. Bewley, I. Vurgaftman, C. L. Felix, **L. J. Olafsen**, D. W. Stokes, M. J. Yang, H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, J. C. Connolly, M. Maiorov, A. K. Sugg, and G. H. Olsen, Conference on Lasers and Electro-Optics (7–12 May 2000, San Francisco, CA), “Optically- and electrically-pumped type-II ‘W’ quantum-well lasers for the mid-IR.”
  32. **L. J. Olafsen**, Kansas Statewide EPSCoR Conference (26 April 2000, Manhattan, KS), “Optoelectronic Investigation of Antimonide-Based Mid-Infrared Semiconductor Heterostructures” and poster presentation: “Antimonide-Based Mid-Infrared Semiconductor Heterostructures.”
  33. S. Cho, Y. Kim, A. DiVenere, G. K. L. Wong, A. J. Freeman, J. B. Ketterson, **L. J. Olafsen**, I. Vurgaftman, J. R. Meyer, and C. A. Hoffman, Materials Research Society Spring Meeting (24–28 April 2000, San Francisco, CA), “Atomic-Scale Ordered Superlattice Alloys for Thermoelectric Applications.”
  34. **L. J. Olafsen**, H. Lee, W. W. Bewley, R. J. Menna, I. Vurgaftman, R. U. Martinelli, D. W. Stokes, D. Z. Garbuzov, C. L. Felix, M. Maiorov, J. R. Meyer, J. C. Connolly, A. R. Sugg, G. H. Olsen, March

- Meeting of American Physical Society, (20–24 March 2000, Minneapolis, MN), “ $\lambda = 3.3 \mu\text{m}$  Broadened Waveguide ‘W’ Quantum Well Diode Laser Operating at Room Temperature.”
35. **L. J. Olafsen**, W. W. Bewley, I. Vurgaftman, C. L. Felix, E. H. Aifer, D. W. Stokes, J. R. Meyer, H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, M. Maiorov, J. C. Connolly, A. R. Sugg, and G. H. Olsen, 1999 Fall Meeting of the Materials Research Society (29 November–3 December 1999, Boston, MA), “High Temperature W Diode Lasers Emitting at  $3.2 \mu\text{m}$ .”
  36. **L. J. Olafsen**, Workshop for Enhancing Materials Science Research in Kansas (16–17 November 1999, Emporia, KS), “Antimonide-Based Mid-Infrared Semiconductor Lasers at Room Temperature” (poster).
  37. H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, J. C. Connolly, **L. J. Olafsen**, W. W. Bewley, I. Vurgaftman, C. L. Felix, E. H. Aifer, D. W. Stokes, J. R. Meyer, M. Maiorov, A. R. Sugg, and G. H. Olsen, '99 IEEE-LEOS Annual Meeting (8–11 November 1999, San Francisco, CA), “Broadened-Waveguide W Quantum-Well Diode Lasers Operating at  $\lambda = 3.2 \mu\text{m}$ .”
  38. C. L. Felix, W. W. Bewley, I. Vurgaftman, **L. J. Olafsen**, D. W. Stokes, J. R. Meyer, M. J. Yang, H. Lee, and R. U. Martinelli, '99 IEEE-LEOS Annual Meeting (8–11 November 1999, San Francisco, CA), “Optical Pumping Injection Cavity (OPIC) for High-Efficiency Mid-IR W Lasers.”
  39. D. W. Stokes, **L. J. Olafsen**, W. W. Bewley, I. Vurgaftman, C. L. Felix, E. H. Aifer, M. J. Yang, and J. R. Meyer, Optical Society of America Annual Meeting (26–30 September 1999, Santa Clara, CA), “Pulsed and CW Operation of Type-II W Lasers Emitting from  $5.0$  to  $7.3 \mu\text{m}$ .”
  40. I. Vurgaftman, C. L. Felix, W. W. Bewley, E. H. Aifer, **L. J. Olafsen**, D. W. Stokes, J. R. Meyer, M. J. Yang, and H. Lee, 5<sup>th</sup> Int. Conf. Intersubband Transitions in Quantum Wells (7–11 September 1999, Bad Ischl, Austria), “Antimonide Interband and Intersubband Mid-IR and Terahertz Lasers.”
  41. **L. J. Olafsen**, W. W. Bewley, I. Vurgaftman, C. L. Felix, E. H. Aifer, D. W. Stokes, J. R. Meyer, H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, J. C. Connolly, M. Maiorov, A. R. Sugg, and G. H. Olsen, 3<sup>rd</sup> Int. Conf. Mid-Infrared Optoelectronics Materials and Devices (5–7 September 1999, Aachen, Germany), “Room-Temperature W Mid-IR Quantum Well Lasers.”
  42. W. W. Bewley, C. L. Felix, I. Vurgaftman, **L. J. Olafsen**, D. W. Stokes, E. H. Aifer, J. R. Meyer, M. J. Yang, H. Lee, R. U. Martinelli, and A. R. Sugg, 3<sup>rd</sup> Int. Conf. Mid-Infrared Optoelectronics Materials and Devices (5–7 September 1999, Aachen, Germany), “Optically-Pumped W and W-OPIC Mid-IR Lasers.”
  43. S. Cho, Y. Kim, A. DiVenere, G. K. L. Wong, A. J. Freeman, J. B. Ketterson, **L. J. Olafsen**, I. Vurgaftman, J. R. Meyer, and C. A. Hoffman, 18<sup>th</sup> Int. Conf. Thermoelectrics (29 August – 2 September 1999, Baltimore, MD), “Artificially Ordered BiSb Alloys: Growth and Transport Properties.”
  44. W. W. Bewley, I. Vurgaftman, C. L. Felix, D. W. Stokes, **L. J. Olafsen**, E. A. Aifer, J. R. Meyer, M. J. Yang, B. V. Shanabrook, H. Lee, R. U. Martinelli, and J. C. Connolly, Advanced Semiconductor Lasers and Applications Conference (21–23 July 1999, Santa Barbara, CA), “High-Temperature Continuous Wave Operation of Optically-Pumped W Lasers with  $\lambda = 3\text{--}7.1 \mu\text{m}$ .”
  45. E. H. Aifer, W. W. Bewley, C. L. Felix, **L. J. Olafsen**, I. Vurgaftman, D. W. Stokes, J. R. Meyer, H. Lee, R. J. Menna, R. U. Martinelli, D. Z. Garbuzov, M. Maiorov, J. C. Connolly, A. R. Sugg, and G. H. Olsen, 41st Electronic Materials Conference (30 June–2 July 1999, Santa Barbara, CA), “New Techniques for Epi-Down Mounting of Mid-IR Type-II Quantum-Well Lasers.”

46. **L. J. Olafsen**, D. W. Stokes, W. W. Bewley, C. L. Felix, I. Vurgaftman, E. H. Aifer, J. R. Meyer, and M. J. Yang, Semiconductor Laser Workshop (28 May 1999, Baltimore, MD), “Long-wavelength optically-pumped type-II W lasers.”
47. W. W. Bewley, C. L. Felix, I. Vurgaftman, D. W. Stokes, **L. J. Olafsen**, E. H. Aifer, J. R. Meyer, M. J. Yang, B. V. Shanabrook, H. Lee, R. U. Martinelli, J. C. Connolly, and A. R. Sugg, Conference on Lasers and Electro-Optics (23–28 May 1999, Baltimore, MD), “High Temperature Continuous Wave Operation of Optically-Pumped Type-II W Lasers from 3–7.1  $\mu\text{m}$ .”
48. J. R. Meyer, W. W. Bewley, E. A. Aifer, C. L. Felix, D. W. Stokes, **L. J. Olafsen**, I. Vurgaftman, M. J. Yang, B. V. Shanabrook, H. Lee, R. U. Martinelli, and J. C. Connolly, 12<sup>th</sup> Annual Diode Laser Technology Review (11–13 May 1999, Fort Walton Beach, FL), High-Temperature cw W Lasers Emitting at  $\lambda = 3\text{--}7.1 \mu\text{m}$ .”
49. **L. J. Olafsen**, I. Vurgaftman, W. W. Bewley, C. L. Felix, E. H. Aifer, J. R. Meyer, J. R. Waterman, W. Mason, 1999 Centennial Meeting of the American Physical Society (20–26 March 1999, Atlanta, GA), “Negative IR Luminescence in Type-II InAs/GaSb Superlattice Photodiodes.”
50. W. W. Bewley, E. H. Aifer, C. L. Felix, I. Vurgaftman, D. W. Stokes, **L. J. Olafsen**, J. R. Meyer, M. J. Yang, B. R. Bennett, B. V. Shanabrook, H. Lee, R. U. Martinelli, and A. R. Sugg, 1999 Centennial Meeting of the American Physical Society (20–26 March 1999, Atlanta, GA), “Long Wavelength High Temperature CW Operation of Optically-Pumped Type-II W Mid-IR Lasers.”
51. W. W. Bewley, C. L. Felix, E. A. Aifer, I. Vurgaftman, **L. J. Olafsen**, J. R. Meyer, H. Lee, R. U. Martinelli, J. C. Connolly, A. R. Sugg, and G. H. Olsen, '98 IEEE-LEOS Annual Meeting (1–4 December 1998, Orlando, FL), “High-Temperature cw Operation of Optically-Pumped W-Lasers.”
52. W. W. Bewley, C. L. Felix, E. H. Aifer, I. Vurgaftman, **L. J. Olafsen**, J. R. Meyer, M. J. Yang, H. Lee, R. U. Martinelli, J. C. Connolly, A. R. Sugg, and G. H. Olsen, Materials Research Society Fall Meeting (30 November–4 December 1998, Boston, MA), “Characterization of High-Temperature Optically-Pumped Mid-Infrared W-Lasers.”
53. H. Lee, R. U. Martinelli, J. C. Connolly, W. W. Bewley, C. L. Felix, E. H. Aifer, I. Vurgaftman, **L. J. Olafsen**, J. R. Meyer, A. R. Sugg, and G. H. Olsen, 10<sup>th</sup> Int. Conf. Molecular Beam Epitaxy (31 August–4 September 1998, Cannes, France), “Molecular Beam Epitaxy of Type-II Interband InAs/GaInSb/InAs/AlAsSb Quantum Well Lasers Operating at High Temperatures.”
54. E. H. Aifer, **L. J. Olafsen**, W. W. Bewley, C. L. Felix, I. Vurgaftman, J. R. Meyer, D. Zhang, C.-H. Lin, and S. S. Pei, Electronic Materials Conference, (24–26 June 1998, Charlottesville, VA), “Processing and Characterization of Antimonide Mid-IR Diode and Interband Cascade Lasers.”
55. I. Vurgaftman, **L. J. Olafsen**, E. H. Aifer, W. W. Bewley, C. L. Felix, J. R. Meyer, C.-H. Lin, D. Zhang, S. J. Murry, and S.-S. Pei, Conference on Lasers and Electro-Optics (3–8 May 1998, San Francisco, CA), “Interband Cascade and Type-II Superlattice Mid-Infrared Lasers.”
56. **L. J. Olafsen**, E. H. Aifer, I. Vurgaftman, W. W. Bewley, C. L. Felix, J. R. Meyer, D. Zhang, C.-H. Lin, and S. S. Pei, 1998 March Meeting of the American Physical Society (16–20 March 1998, Los Angeles, CA), “Near-Room-Temperature Operation of Interband Cascade Lasers Emitting at 3.6  $\mu\text{m}$ .”
57. J. R. Meyer, W. W. Bewley, **L. J. Olafsen**, C. L. Felix, E. H. Aifer, I. Vurgaftman, M. J. Yang, L. Goldberg, D. H. Chow, D. Zhang, C.-H. Lin, and S.-S. Pei, 11th Diode Laser Technology Conference (2–4 March 1998, Albuquerque, NM), “Vertical-Cavity, Interband Cascade, and W Mid-IR Lasers.”

58. C. L. Felix, W. W. Bewley, **L. J. Olafsen**, I. Vurgaftman, E. H. Aifer, J. R. Meyer, C.-H. Lin, D. Zhang, S. J. Murry, R. Q. Yang, and S.-S. Pei, '97 IEEE-LEOS Annual Meeting (10–13 November 1997, San Francisco, CA), “Mid-IR Interband Cascade W-Laser.”
59. **L. J. Blue**, S. W. Teitworth, T. Daniels-Race, and H. O. Everitt, 1997 March Meeting of the American Physical Society (17–21 March 1997, Kansas City, MO—Bulletin Am. Phys. Soc., **42**, 189, (1997)), “Photoluminescence of Type-I/Type-II Transitions in GaAs/AlAs Single Quantum Wells.”
60. **L. J. Blue**, S. W. Teitworth, T. Daniels-Race, C. N. Yeh, and L. E. McNeil, 1995 March Meeting of the American Physical Society (20–24 March 1995, San Jose, CA—Bulletin Am. Phys. Soc., **40**, 75 (1995)), “Photoluminescence in GaAs/AlAs Single Quantum Wells under Electric Field Bias.”
61. C.-N. Yeh, L. E. McNeil, **L. J. Blue**, and T. Daniels-Race, 1994 March Meeting of the American Physical Society (21–25 March 1994, Pittsburgh, PA—Bulletin Am. Phys. Soc. **39**, 542 (1994)), “Photoluminescence Study of  $\Gamma$ -X Mixing in GaAs/AlAs Quantum Wells.”