

Dennis Derickson received his BS, MS and Ph.D. in electrical engineering from South Dakota State University (1981), the University of Wisconsin- Madison (1982) and the University of California – Santa Barbara in 1992. His farming background and youth ham radio hobby heavily influenced his career in engineering. He joined the research and development laboratories of Hewlett Packard (HP) in Santa Rosa, CA in 1982. 1980's project development activities included spectrum analyzer and network analyzer electronic measurement instrumentation. His Ph.D. work (1988-1992) involved design, fabrication and test of single-chip pulsed semiconductor lasers for data communication applications. Dr. Derickson managed multiple project teams at HP for high-speed communication test systems in the 1990s. He moved into the director of product marketing role at a start-up company called Cierra Photonics in Santa Rosa, CA in 2000. After 16 years in industry, he joined the Electrical Engineering Department at California Polytechnic State University in 2005 and has been department chair since 2010. Research activities have focused on biomedical applications of semiconductor lasers and wireless communication systems. His outreach activities have focused on running summer science camps and robotics programs for Jr. High and Sr. High groups. As department chair, he has focused on Industry/Alumni/Partner outreach, enabling a project-rich hands-on environment for students, and supporting a strong graduate program.

### **Dennis J. Derickson Ph.D.**

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#### **Education:**

1988-1992	University of California-Santa Barbara	Ph.D. Electrical Engineering
1981-1982	University of Wisconsin-Madison	M.S. Electrical Engineering
1977-1981	South Dakota State University	B.S. Electrical Engineering
1974-1977	Lamberton, MN High School	Valedictorian

#### **Employment Summary:**

2005-Present	Cal Poly State University	San Luis Obispo	EE Department Chair
2003-2005	Bookham /(acquired Cierra)	Santa Rosa, CA	Applications Engineering
2000-2003	Cierra	Santa Rosa, CA	Director of Prod Marketing
1995	Sonoma State University	Rohnert Park, CA	Lecturer
1992-2000	Agilent/HP	Santa Rosa, CA	R and D Project Manager
1988-1992	University of California	Santa Barbara, CA	Research Assistant
1982-1988	HP Signal Analysis Division	Santa Rosa, CA	R and D Engineer
1981	HP RF Signal Division	Spokane, WA	R and D Engineer
1980	EF Johnson 2-Way Radio	Waseca, MN	R and D Engineer

#### **Employment History:**

**2005 to Present:** I am currently the Department Chair and Graduate Program Coordinator for the Electrical Engineering (EE) Department at California Polytechnic State University in San Luis Obispo, CA. The EE department has approximately 650 undergraduate students and 65 graduate students. The EE department also co-manages the 500 student computer engineering program in conjunction with the Computer Science department. The Electrical Engineering annual budget is \$3.9M with 25 full time faculty, 3 full time lecturers, 8 part time lecturers and 20

graduate teaching associates, laboratory assistants and 4 full time support staff. Annual research expenditures are about \$900,000.

**Department Chair (2010- Present):** A near-term goal is to utilize the new laboratory space that has been made available to the EE department in 2011. The state has been short on funding to the University and I have utilized outside sources of funding to achieve the department's vision for this new lab space. Improvement of our students' senior project experience is another priority. The senior project improvement project includes industrial funding of projects and an improved end of year presentation experience.

**Key accomplishments as chair:**

- **Established Department senior project expo event in 2009**
- **Established College of Engineering Senior Project Expo in 2012**
- **Established Senior Project Design Review Event in 2014.**
- **Enabled over \$1M in equipment grants and donations to department.**
- **Established industry funded EE senior project fund for faculty and students (\$60k/yr) in 2010**
- **Established 400k "Learn by Doing" Endowment with advancement organization (2013)**
- **Established EE summer camp for grades 7 to 12 in 2011**
- **Established freshman robotics program with industrial donations (2010)**
- **Established Annual Northern and Southern California department Alumni Events with Industrial Advisory board (2013)**
- **Established teaching associate opportunities for graduate program with key training activities (2010)**
- **Incubation of International Exchange Programs with the Electrical Engineering Departments at Karlsruhe University of Applied Science, Munich University of Applied Sciences and Lucerne University of Applied Sciences.**

**Electrical and Computer Engineering Graduate Coordinator:** Our graduate program has experienced significant growth since I started as graduate coordinator in 2009. My initial efforts are to admit and advise the students. As chair, I increased the graduate teaching associate opportunities for incoming graduate students. I also help them connect with research programs in the Electrical Engineering Department and Computer Engineering Program.

**Teaching Program:** I have taught a wide range of classes including:

*Freshman:* Orientation and introduction class for our new incoming freshman class.

*Sophomore:* Circuit Analysis I, II, and III.

*Junior:* Semiconductor device physics, Amplifier/Circuit design at the transistor level, Electromagnetics

*Senior:* Electronic Circuit Design, Senior Project, Advanced Circuit Design, Analog and Digital Filters

*Graduate:* Microwave frequency circuit design/Electronic and Photonic Device Design.

**Research Program:** I have supervised 33 graduate students to date. There are two main areas of concentration. First I am interested in radio frequency (rf) / microwave circuit and system design. This student group has worked on power amplifiers, satellite communication hardware, rf spectrum analysis, and biological applications using rf concepts. The second area of concentration is the design, fabrication and test of high repetition rate frequency-swept lasers for biomedical imaging applications. These lasers are used for optical coherence tomography (OCT) and sensor interrogation. I have a partner company, Insight Photonic Solutions that is currently commercializing the OCT laser work. I like to work on research problems that have can have financial impact for industry.

**July 2003 – 2005 at Bookham:** Bookham Technology acquired Cierra in July of 2003. Bookham is a provider of telecommunications and industrial components and subsystems. I provided technical support, laboratory work, and selected account management for the Bookham sales and marketing team. The areas of responsibility were 10 Gb/s digital communications products, optical amplification, channel add and drop subsystems, and filtering solutions.

**2000-2003 Cierra (Venture Capital –backed start up company):** I joined Cierra one month after the company was founded. Early on I worked in the research and development group to define our initial product offering and fabrication process. I organized several off-site visioning events that helped the company decide which projects were to be funded. I was involved with presentations for our second round of venture capital funding (\$40 Million in October of 2000). We developed a new generation deposition process called AED (advanced energetic deposition). The AED process allows for very accurate layer deposition (+- 1 nm accuracy) that enables superior filter characteristics. The process also allows a larger number of layers enabling a new class of steep sidewall filters. I then transitioned to marketing and sales as our products came to market in the beginning of 2001. I hired and managed the initial sales and marketing team until we hired a separate director of sales in July of 2002. Cierra was acquired by

Bookham in 2003 and I transitioned into an applications engineering role for a range of Bookham products. The most valuable part of this experience was to watch (and help) a company grow from an empty building to a successful business. The business is still in operation today in Santa Rosa, CA under the name Oclaro.

**1996-2000 at HP/Agilent (Lightwave Division in Santa Rosa, CA):** I was a project manager for several test and measurement products. Project managers at HP receive extensive training on the mechanics of project management and much more importantly the management of interpersonal relationships. The “soft skills” of keeping a team motivated and focused in the same direction is key and I am still learning today how this is done effectively. A list of projects that I managed is given here:

- a. A 50 GHz Component analyzer for measuring rf/microwave components (E/E mode), modulators (E/O transfer function), and receivers (O/E transfer function) was developed. This product is based on a vector network analyzer with calibrated optical interfaces. This project coordinated with the National Institute of Standards and Technology (NIST) for calibration of the measurements. I had management responsibility for the software, hardware, and system verification. The target market was 40 Gb/s communication link development.
- b. Amplifier Test System: A \$6M custom test system for Corning was developed tested and delivered over a 9 month schedule. This large project involved software co-development with Corning engineers, a detailed qualification program and on-site verification at the customer site. I managed the hardware, software, and performance verification efforts of the program. The software and measurement algorithm management tasks were by far the most complicated part of this team project.
- c. 83430A 2.5 Gb/s DFB direct modulation laser source. This was an instrument grade transmitter that operated both in digital and analog electrical input modes.
- d. 83437A/83438A Amplified Spontaneous Emission (ASE) sources. This instrument used the edge emitting laser diodes I had developed earlier for HP. This was a smaller size project. I had circuit board design responsibility and project leadership for the entire instrument introduction process.
- e. 8504B Precision Reflectometer (measures reflectivity versus distance with micron accuracy). This was an update of the “A” version of the instrument. This involved improving the transimpedance amplifiers and broadband source section of the instrument.
- f. High Speed Oscilloscope Electrical Sampling Circuit Update: The sampling circuit is the heart of the rf front end of the oscilloscope. This modification of the sampling circuit improved the stability of the sampling process as measured over long periods of time.

**1995 Sonoma State University:** I taught a 3-credit course in science for non-engineers at Sonoma State University in the department of Physics and Astronomy, Rohnert Park, CA.

**1992-1996 HP (Technology Center in Santa Rosa Division):** I worked in the III-V semiconductor development laboratory for the lightwave test and measurement group. My main project was to develop custom components that were not available on the commercial market for test and measurement applications. I developed wide gain-width semiconductor quantum well optical amplifiers for use in tunable lasers. This amplifier allowed HP’s tunable lasers to have a wider wavelength tuning range and higher output power. I developed and introduced edge-emitting LEDs for broad spectral emission in the 1250 – 1650 nm range. I had fabrication process responsibility for developing the CH<sub>4</sub>/H<sub>2</sub> reactive ion etching for waveguide formation, ohmic contact and metal deposition process, and the test procedure. My contribution to the MOCVD (metal organic chemical vapor deposition) wafer growth process was in specifying the material bandgap and the layer thicknesses. Later in the project, I managed the packaging outsourcing activity for the components.

**1998-1992 University of California Santa Barbara:** My Ph.D. work was in the area of high-speed semiconductor lasers. These lasers were intended to be used as high-speed clock sources using RZ (return to zero) modulation. In particular, I examined methods for reducing jitter generation for these clock sources. The first monolithically integrated structure for 850 nm was demonstrated. Further prototypes at 1310 nm and 1550 nm were developed later during my research. This program involved device fabrication, device modeling, and extensive experimental measurements. My advising professor was John Bowers. I published and coauthored about 35 publications during this period in graduate school. I was on a leave of absence from Hewlett Packard and continued to provide optical calibrations services to HP during that time. My 2004-2005 consulting work with Zia Laser was in the area of high-speed clock distribution to multiple points of an electronic system.

**1982-1988 HP (HP Signal Analysis Division in Santa Rosa, CA):** I worked in a division that made electrical spectrum analyzers and accessories. My R and D contributions were in the following areas.

- a. 11982A 10Gb/s receiver. This was an amplified receiver using a custom photodiode and GaAs IC amplifier. This product sold into research groups doing the first experiments at 10Gb/s rates.

- b. 22 GHz Bandwidth optical receiver for the 71400 Lightwave Component Analyzer (LCA). This instrument measures modulation and noise properties of signals. My contribution was the 22 GHz receiver and supporting circuit boards.
- c. HP11974 millimeter-wave pre-selector filter using Barium Hexaferrite (75-110 GHz). These were the first commercially available tunable filters for this frequency range. This allowed for unambiguous signal identification in the millimeter wave spectrum, a major step forward for spectrum analysis in this frequency range.
- d. H70907A millimeter-wave mixer driver plug-in (26.5 – 110 GHz). These mixers allowed operation of electrical spectrum analyzers and network analyzers to millimeter wave frequencies.
- e. GaAs monolithically integrated circuit design of a 3-7 GHz amplifier. This was the first instrumentation application of a GaAs monolithic integrated circuit in the industry. I did everything from circuit simulation to IC layout to final test of the custom integrated circuit.

**1981 HP:** (Spokane, Washington Division) I worked on low-distortion output amplifier drivers for a 1 GHz signal source. Linearity of the design was of key importance.

**1981-1982:** University of Wisconsin: Microwave balun design master's thesis. The goal was to make a very broadband single-ended to differential signal converter. This research group was involved with GaAs monolithic integrated circuit design. My thesis advisor was Professor Byers.

**1980 EF Johnson** (Waseca, MN): Prototype 900 MHz cell phone and propagation experiments. I had to convert a 450 MHz radio to 900 MHz operation and then map out the propagation characteristics of a 900 MHz radio link. This was the early days of the wireless phone industry.

### **Book Publishing Activities:**

**2005-2008:** “**Digital Communication Test and Measurement**”, **Dennis Derickson (Cal Poly) and Marcus Mueller (Agilent)**, ISBN- 978-0-13-220910-6, Prentice Hall 2008 The main thrust of the book is to put together in a single volume many of the high-speed digital communication test and measurement issues that are of current interest. The main topic headings are:

1. Bit Error Ratio Measurements of digital links.
2. Jitter in High Speed Digital Systems.
3. Waveform analysis using real time and sampling scope architectures.
4. Analysis of interconnection channels using frequency and time domain techniques.

**1995 to 1998:** “**Fiber Optic Test and Measurement**”, ISBN-0-13-534330-5 ,Prentice Hall 1998

I wrote a book proposal in 1995 to put together a multi-author book covering a comprehensive narrative on fiber optic test and measurement topics. Both frequency domain and time domain topics are covered in detail. I wrote the outline, gathered the relevant authors, and managed the project. It took about 2.5 years of calendar time to put the project together. I wrote approximately 25% of the work. I spent countless hours editing everyone's chapters and getting to the final product. The results have been very gratifying in that we have sold over 14,000 copies to date. The book made it pretty high on the Amazon.com ranking during its peak and has been very well received.

### **Short Courses:**

**1998 – 2006: Optical Fiber Communications (OFC) conference:** I present a short course on Lightwave Component Measurements at OFC. In 2000 and 2001, I had over 160 attendees for my 3-hour short course at the conference.

**2001 – 2003: Conference on Lasers and Electro Optics (CLEO).** From 2001 to 2003, I gave the short course at CLEO.

**2002: University of California Los Angeles (UCLA) Extension Course (with Phil Baumeister) :** I covered test and measurement issues for filters.

### **Awards/Professional Societies:**

1. Merit scholarship to South Dakota State University
2. I was awarded a full-ride merit scholarship for graduate school at the University of Wisconsin-Madison.
3. I have authored and coauthored over 60 articles in journals, conferences and books.
4. I have been a co-author on 5 U.S. patents.
5. I am a senior member of the IEEE/LEOS, IEEE/MTT, IEEE/Communications, SPIE, OSA, and the American Society of Engineering Education (ASEE). I have reviewed technical papers and participated in conference

review committees for SPIE and the IEEE. I am involved with the North Bay and Central California Coast local chapter of the IEEE.

6. I am a licensed amateur radio operator (AC0P). I have also had a first class radio telephone license. I also am the faculty advisor for the RF/Microwave and Photonics Club at Cal Poly for the last 5 years.
7. I am a member of Eta Kappa Nu (electrical engineering honor society) and Tau Beta Pi (all engineering honor society).
8. I have received teaching and leadership recognition from the local IEEE student branch for many years at our annual department banquet.

#### **Other Leadership Activities of Interest:**

1. I serve on the San Luis Obispo County (CA) 4H Science, Engineering and Technology Council for the last three years. I have led several county-wide 4H events including, Rocketry, Electronics, Alternative Energy Projects, Geocaching, Bridge Building Competition, and Catapult Contest. I also served as the 4H engineering project leader when I was in Sonoma County 4H (CA).
2. I was a SEED (Summer Educational Experience and Development) supervisor for 5 years while at HP. The SEED program brings in summer engineering interns in from universities and exposes them to engineering life at HP. This involved meeting with the students on a regular basis, organizing seminar activities, and making sure that the students felt like they had a valuable experience while at HP.
3. I was part of the PION (Physics In our Neighborhood) program organized by the Physics Department at Sonoma State University. The purpose of this organization was to connect high school Physics instructors with the University and local industry. I attended meetings and organized seminars at HP for the group.

## **Books**

**1. Dennis Derickson and Marcus Mueller (editors), *Digital Communications Test and Measurement; High Speed Physical Layer Characterization*”, Prentice- Hall 2008. ISBN-13: 978-0-13-220910-6 .**

**2. Dennis Derickson (editor), *Fiber Optic Test and Measurement*, Prentice- Hall 1998. ISBN0-13-534330-5. This is a book that has sold over 14,000 copies to date.**

3. P.A. Morton, D. J. Derickson, R. J. Helkey, A. Mar, and J.E. Bowers , Book Chapter 2 ” Mode-locked semiconductor lasers” in Laser Optics of Condensed Matter vol. 2, E. Garmire, A.A. Maradudin and K.K. Rebane (editors), Plenum Press, New York, 1991

## **Patents**

1. Michael Minneman, Jason Ensher, Dennis Derickson, Michael Crawford “System and method for multiple laser sources using high semiconductor optical amplifier extinction” US patent 8724667 B2, May 2014

2. Michael A Scobey , Lucien P. Ghislain; ,Dennis J Derickson and Loren F. Stokes, “Optical filter elements and methods of making and using same” US Patent Number 6,798,553, September 28, 2004

3. Michael A Scobey , Lucien P. Ghislain; ,Dennis J Derickson and Loren F. Stokes “Optically coupled etalons and methods of making and using same” US Patent Number 6,678,093, January 13, 2004

4. Michael A Scobey , Lucien P. Ghislain; ,Dennis J Derickson and Loren F. Stokes “Optical system with 1.times.N interleaver and methods of making and using same” US Patent Number 6,658,172, December 2, 2003

5. James R. Stimple, Dennis Derickson, and , Eugene Rudkevich, “Multi-wavelength polarization scrambling device”, US Patent Number 6,137,925, October 24, 2000

6. Dennis Derickson and Roger Jungerman, “Signal monitoring apparatus for wavelength division multiplexed optical telecommunication networks”, US Patent Number 5,796,479, August 18, 1998

## Publications (1998 to 2015)

71. Marcel Steiber, Stanton Wu, and Dennis Derickson,, “1<sup>st</sup> Year Amateur Radio Licensing for Electrical Engineering Students”, Submitted to the 2016 ASEE Annual Meeting, June 26-29, 2016 in New Orleans, LA “
70. M.P. Minneman, E. Hoover, P. Boshchert, J. Ensher, M. Crawford, A.D. Kersey, and D. Derickson,, “Very High Sensor-Density Multiplexing Using a Wavelength-to-Time Domain Reflectometry Approach Based on a Rapidly Swept Akinetic Laser” 24<sup>th</sup> International Conference on Optical Fiber Sensors, Sept 2016, Curitiba, Brazil,
69. Greg Bergdoll, Jason Enser, Derrnis Derickson. "1060 nm Vernier Tuned Distributed Bragg Reflector (VT-DBR) Laser for Swept-Source OCT" In *SPIE/OSA FIOS*, International Society for Optics and Photonics, October 22, 2015.
68. Christian Martens, Jason Enser, Derrnis Derickson. ". Frequency Sweep Jitter and Wander of a Vernier-Tuned Distributed Bragg Reflector (VT-DBR) Laser at 1550 nm in OCT Applications" In *SPIE ECBO*, International Society for Optics and Photonics, June 2015.
- 67 Marcel Steiber, Sean O'Brien and Dennis Derickson “Incorporations of Amateur Radio Elements into the Electrical Engineering curriculum” ASEE Pacific Southwest Conference, San Diego, CA, April 10, 2015
66. Tossoun, Bassem, Dennis Derickson, Sudharsanan Srinivasan, and John Bowers. "Hybrid silicon mode-locked laser with improved RF power by impedance matching." In *SPIE OPTO*, pp. 93670P-93670P. International Society for Optics and Photonics, January 2015.
65. Desmond Talkington, Jason Ensher and Dennis Derickson, “O-Band (1310 nm) Vernier-Tuned Distributed Bragg Reflector (VT-DBR) Device Characterization for OCT” in *Coherence Domain Optical Methods and Optical Coherence Tomography in Biomedicine XVIII*, edited by Joseph A. Izatt, James G. Fujimoto, Valery V. Tuchin, Proceedings of SPIE (SPIE, Bellingham, WA 2014)
- 64 Michael Masuda, and Dennis Derickson, “Effects of Gate Stress Evaluated using Low Frequency Noise Measurements in GaN on Si HEMTs” **Proceedings of the IEEE - 2013 IEEE International Integrated Reliability Workshop (IIRW)**
- 63.Dennis Derickson, Ryan White, Matthew Bloom, Matthew Porter and Todd Weatherford, ““RF Characterization of DC Stressed GaN-on-Si HEMTs”, Proceedings of the [IEEE - 2012 IEEE International Integrated Reliability Workshop \(IIRW\)](#)
- 62.Jason Ensher, Paul Boschert, Kathy Featherston, Jonathan Huber, Michael Crawford and Michael MinnemanChris Chiccone, and Dennis Derickson, “Long Coherence Length and Linear Sweep without an External Optical K-Clock in a Monolithic Semiconductor Laser for Inexpensive Optical Coherence Tomography” in *Coherence Domain Optical Methods and Optical Coherence Tomography in Biomedicine XVI*, edited by Joseph A. Izatt, James G. Fujimoto, Valery V. Tuchin, Proceedings of SPIE (SPIE, Bellingham, WA 2012)
- 61.Dennis Derickson, Michael Crawford Michael Minneman and Jason Ensher, “Vernier-Tuned Single-Chip Semiconductor Laser for Optical Coherence Tomography Applications” Optical Society of America Biomedical Optics Conference, Paper BTU3A.89, Miami, Fla, May 2012
- 60.Michael P Minneman, Jason Ensher, Michael Crawford and Dennis Derickson, “All-Semiconductor High-Speed Akinetic Swept-Source for OCT” 2011 ACP Conference, Shanghai, China.

59. Andrew L. Huard, Molly Piels, Anand Ramaswamy, John E. Bowers and Dennis Derickson "Improved RF Power Extraction from 1.55 $\mu$ m Ge-on-SOI PIN Photodiodes with Load Impedance Optimization" 2010 IEEE Photonics Society Annual Meeting, Paper WK3, Denver, CO
58. Brandon George and Dennis Derickson, "High-Speed Concatenation of Frequency Ramps Using Sampled Grating Distributed Bragg Reflector Laser Diode Sources for OCT Resolution Enhancement" in *Coherence Domain Optical Methods and Optical Coherence Tomography in Biomedicine XIV*, edited by Joseph A. Izatt, James G. Fujimoto, Valery V. Tuchin, Proceedings of SPIE Vol. 7554-96 (SPIE, Bellingham, WA 2010)
57. X. Jin, D. Derickson, S. Trieu, and S. O. Agbo, "Photonics Research and Education at California Polytechnic State University", American Society for Engineering Education-Pacific Southwest (ASEE/PSW) Conference at National University in San Diego, CA, March 19-20, 2009.
56. Brandon George, Shane O'Connor and Dennis Derickson, "Swept-Wavelength Optical Sensor Interrogation with 10 Microsecond Sweep Period Utilizing Sampled Grating Distributed Bragg Reflector Lasers", Optical Society of America Frontiers in Optics Conference, Oct. 12, 2009, San Jose, CA
55. Brandon George, Octavio Rico, and Dennis Derickson, "Characterization of Carbon Fiber Wind Turbine Blades Using a Single Chip Wavelength Tunable SGDBR Laser Interrogator", Optoelectronics Industry Development Association OPTOMISM Executive Forum and Conference: Photonics Products for Green Technology, May 18-20 2009, Santa Clara, CA
54. Shane O'Connor, Michael A. Bernacil, Andrew DeKelaita, Ben Maher, and Dennis Derickson "100 kHz Axial Scan Rate Swept-Wavelength OCT using Sampled Grating Distributed Bragg Reflector Lasers" in *Coherence Domain Optical Methods and Optical Coherence Tomography in Biomedicine XIII*, edited by Joseph A. Izatt, James G. Fujimoto, Valery V. Tuchin, Proceedings of SPIE Vol. 7168 (SPIE, Bellingham, WA 2009).
53. Shane O'Connor, Michael A. Bernacil, and Dennis Derickson "Generation of High Speed, Linear Wavelength Sweeps Using Sampled Grating Distributed Bragg Reflector Lasers" 2008 IEEE LEOS Annual Meeting, Newport Beach, CA, paper TuB 2
52. Michael A. Bernacil, Shane O'Connor, Ben Maher, Andrew DeKelaita, and Dennis Derickson, "Microwave Signal Generation Using Single-Chip Fast Wavelength-Tunable Sampled Grating Distributed Bragg Reflector Lasers," IEEE *International Microwave Symposium: IMS 2008*, paper WE4D-05, June 2008
51. Bumjin Kim, Cheng Sun, and Dennis Derickson "Efficient Class-F amplifier using GaN transistors" by Asia-Pacific Microwave Symposium, Bangkok, Thailand Dec. 2007.
50. Derickson, D., Bernacil, M., DeKelaita, A., Maher, B., O'Connor, S., Sysak, M. N., Johanssen, L., "SGDBR single-chip wavelength tunable lasers for swept source OCT" in *Coherence Domain Optical Methods and Optical Coherence Tomography in Biomedicine XII*, edited by Joseph A. Izatt, James G. Fujimoto, Valery V. Tuchin, Proceedings of SPIE Vol. 6847 (SPIE, Bellingham, WA 2008) 68472P.
49. "Photonics Education Program at California Polytechnic State University" by Dennis Derickson, Sam Agbo, John Sharpe (Physics), Dan Wasche (former student), and Xioamin Jin., ETOP (Education and Training for Optics and Photonics) 2007 June 2-5, 2007 in Ottawa Canada.
48. Dennis Derickson "Optical noise sources for fiber optic measurements" IEEE Communications Systems Magazine, Jan. 1, 1996

47. Mike Scobey, Loren Stokes, Rance Fortenberry and Dennis Derickson, "Chromatic Dispersion in thin film filters for telecommunications applications" Invited paper given at The optical fiber communications conference 2005 Anaheim, CA
46. D. J. Derickson, P Beck, T. Bagwell, D. Braun, F. Kellert, J. Fouquet, R. Ranganath, and S. Sloan "High Power , Low internal reflection edge emitting LEDs, Hewlett Packard Journal, Feb. 1995
45. Derickson, D. J., Fortenberry, R., Scobey, M., Sommer, R., Stokes, L., "Advancements in thin film filters for telecommunications applications" in *Active and Passive Optical Components for WDM Communications III*, edited by Achyut K. Dutta, Abdul Ahad S. Awwal, Niloy K. Dutta, Kazuo Fujiura, Proceedings of SPIE Vol. 5246 (SPIE, Bellingham, WA 2003) pp. 595-607.
44. M. A. Scobey, R. M. Fortenberry, L.F Stokes, W. P. Kastanis, D. J. Derickson, "Thin film interference filters for 25GHz channel spacing," in Technical Digest Optical Fiber Communications (OFC) Conference 2002, paper ThC5, page 398.
43. R. M. Fortenberry, M. E. Wescott, L. P. Ghislain and M. A. Scobey, "Low Chromatic Dispersion Thin Film DWDM Filters for 40 Gb/s Transmission Systems," in Technical Digest Optical Fiber Communication (OFC) Conference 2002, paper WS2, page 319.
42. R. M. Fortenberry, D. Derickson, and M. A. Scobey, "Optical Filter Dispersion in 40 Gb/s DWDM Transmission Systems," in Technical Proceedings National Fiber Optic Engineers Conference (NFOEC) 2001, page 670.
41. Rad Sommers, Rance Fortenberry, Loren Stokes, Dennis Derickson and Mike Scobey "Thin-film filter solid etalon interleavers", Optical Fiber Conference 2001
40. Dennis Derickson "Measurement advances for high speed semiconductor laser sources" Invited paper to SPIE Photonics West, Feb. 1996
39. Dennis Derickson "Lasers for WDM applications" IEEE Circuits and Devices magazine, August 1995
38. D. Derickson, P. Beck, T. Bagwell, D. Braun, F. Kellert, and S. Sloan, "Angled facet edge emitting LEDs optimized for low coherence reflectometry", Optical Fiber Conference, Feb. 1995
37. R. Ranganath, P. Beck, T. Bagwell, D. Braun, D. Derickson, M. Ludowise, B. Perez, "Quantum well lasers for wide bandwidth tunable lasers", Hewlett Packard Journal, Feb. 1995.
36. P. Beck, D. Derickson, F. Kellert, "Hydrogen effects in ridge waveguide lasers and LEDs" InP and related materials conference, Hokaido, Japan, May 1995
35. J. R. Karin, R.J. Helkey, D. J. Derickson, R. Nagarajan, D.S. Allin, J.E. Bowers, and R.L. Thornton, "Ultrafast dynamics in field enhanced saturable absorbers" Applied Physics Letters, vol 64, no. 6 pp 676-678, Feb. 1994
34. D. J. Derickson "Explanation of timing jitter mechanisms in multisegment mode-locked semiconductor lasers", LEOS annual meeting, Nov. 1993
33. J. Fouquet, M Ludowise, D. Derickson, and D. Braun, "Low coherence edge-emitting LED, "LEOS annual meeting, San Jose, Nov. 1993
32. W. B. Jiang, D. Derickson and J.E. Bowers, "Short Pulse generation from external cavity surface emitting lasers", IEEE Journal of Quantum Electronics, May 1993
31. R. L. Helkey, D. J. Derickson, and J.E. Bowers, "Millimeter wave signal generation using mode-locked semiconductor laser diodes" Microwave and Optics Technology Letters, vol. 29, pp. 1-5, Jan 1993



30. D. J. Derickson, R. J. Helkey, A. Mar, J. Wasserbauer, and J. E. Bowers, "Mode locked semiconductor lasers", Mode-locked semiconductor lasers", Microwave Journal, pp. 76-90, Feb. 1993
29. D. J. Derickson, R. J. Helkey, J. R. Karin, A. Mar, and J.E. Bowers, "Multisegment mode-locked semiconductor lasers" IEEE Journal of Quantum Electronics, QE-28, October 1992
28. R. J. Helkey, D. J. Derickson, A. Mar, J. E. Bowers, "Stabilization of passively mode-locked semiconductor laser repetition frequency", IEEE LEOS annual meeting paper DLTA4.2, Boston, 1992
27. A. Mar, D. J. Derickson, R. J. Helkey, J.E. Bowers and D. Botez, "Mode-locking of high-power resonant optical waveguide diode laser arrays" IEEE Semiconductor Laser Conference, paper N-7, Takamatsu, Japan, Sept. 1992
26. R. J. Helkey, D. J. Derickson, A. Mar, J.E. Bowers and R. L. Thornton, "Repetition rate stabilization of passively mode-locked semiconductor lasers" Electronics Letters, vol. 28, pp 1920-1922, Sept. 1992
25. J. G. Wasserbauer, D. J. Derickson, R. J. Helkey, K. Giboney, and J.E. Bowers, "Integrated transmitters and receivers using multi-segment laser processes", IEEE LEOS meeting on integrated Photonics, paper THC1, Santa Barbara, CA, August 1992
24. J. R. Karin, D. J. Derickson, R. J. Helkey, J.E. Bowers and R. L. Thornton, "Field enhanced GaAs/AlGaAs waveguide saturable absorbers" Ultrafast Phenomena VIII, paper MC21, France, 1992
23. D. J. Derickson, J.G. Wasserbauer, R. J. Helkey, A. Mar, J.E. Bowers, "A comparison of colliding pulse and self colliding-pulse monolithic cavity mode-locked semiconductor lasers" 1992 Optical Fiber Conference, San Jose, CA, Feb. 1992
22. D. J. Derickson, R. J. Helkey, A. Mar, and J.E. Bowers, "Design of multi-element mode-locked semiconductor lasers with intra-waveguide saturable absorbers", OSA Integrated Photonics Research Topical Meeting, paper WC3, New Orleans, LA, 1992
21. D. J. Derickson, R. J. Helkey, A. Mar, J.E. Bowers, "Microwave and millimeter wave signal generation using mode-locked semiconductor lasers with intra-waveguide saturable absorbers" IEEE MTT-s conference, Albuquerque, NM pp 753-756, June 1992
20. A. Mar, D. J. Derickson, R. J. Helkey, J.E. Bowers, R.T. Huang, and D. Wolf, "Actively mode-locked external cavity semiconductor lasers with transform limited single pulse output" Optics Letters, vol. 17, pp868-870, June 1992
19. D. J. Derickson, R. J. Helkey, J. R. Karin, A. Mar, W.B. Jiang, and J.E. Bowers, "Mode-locked semiconductor lasers, , short pulse small package" Optical Society of America Optics and Photonics news, pp 14-20, May 1992
18. D. J. Derickson, R. J. Helkey, J.R. Karin, A. Mar, W. B Jiang, and J.E. Bowers, "Suppression of multiple pulse formation in external cavity mode-locked semiconductor lasers using intra-cavity waveguide saturable absorbers", IEEE Photonics Technology Letters, April 1992
17. D. J. Derickson, R. J. Helkey, A. Mar, R. L. Thornton, and J. E. Bowers, "The benefits of intrawaveguide saturable absorbers in external cavity mode-locked semiconductor lasers" 1991 Optical Society of America annual meeting, Nov. 3-8, San Jose, CA
16. A. Mar, D. J. Derickson, R. J. Helkey, J.E. Bowers, "Picosecond pulses directly generated using a tandem-contact actively mode-locked 1.3 micron semiconductor laser" IEEE LEOS Annual Meeting, paper SDL14.1 Nov. 1991

15. D. J. Derickson, R. S Geels, G. Jia, R.L. Thornton, and J.E. Bowers, "Monolithic cavity 0.85 micron mode-locked semiconductor lasers" Integrated Photonics Research Meeting, Monterey, CA March 1991
14. D. J. Derickson, J. E. Bowers, and R.L. Thornton, "Residual and absolute timing jitter in monolithic and external cavity mode-locked semiconductor lasers" invited talk at the high speed, high frequency optoelectronics engineering foundation conference, Thousand Palms, Florida 1991
13. R. J. Helkey, D. J. Derickson, A. Mar, J.E. Bowers, "Colliding pulse effects in passively mode-locked semiconductor lasers" Conference on lasers and electrooptics, Anaheim, CA May 1992
12. A. Mar, D. J. Derickson, R. J. Helkey, and J. E. Bowers "1.4 ps pulses directly generated using a tandem-contact actively mode-locked semiconductor laser", 1991 LEOS annual meeting, Nov 3-8 1991, San Jose, CA
11. S. Sloan, D. Braun, J.L Russell, M. Zurakowski, M. Lightner, F. Kellert, G. Patterson, R. Koo, D. Derickson and J. E. Bowers "Efficient single-heterostructure AlGaAs/GaAs pin photodiodes with 22 GHz bandwidth, IEEE Transactions on electronic devices, pp 1968, August 1991
10. R. J. Simes, R. H Ran, CC. Barron, D. G. Lishan, J. Karin, L. A. Coldren, M. Rodwell, S. Ellion, D. J. Derickson, and B. Hughes, "High-frequency electrooptic fabry-perot modulators" IEEE Photonics Technology Letters, pp. 513, June 1991
9. D. J. Derickson, R. L. Thornton, J. E. Bowers, "A comparison of timing jitter in external and monolithic cavity mode-locked semiconductor lasers" Applied Physics letters, volume 59, pp 3372-3374 (1991)
8. J. E. Bowers, D. J. Derickson, A. Mar, P.A Morton, and M. J. W. Rodwell, "Phase noise in actively mod-locked semiconductor lasers" 7<sup>th</sup> international conference on integrated optics and optical fiber communications" Kobe, Japan, 1990
7. J. E. Bowers, D. J. Derickson, R. J. Helkey, J. R. Karin, A. Mar, P.A. Morton, and R. Nagarajan, "Picosecond Dynamics of Semiconductor lasers" IEEE International Semiconductor Laser Conference, Paper A.3, Davos, Switzerland, Sept. 1990
6. D. J. Derickson, A. Mar, J. E. Bowers, "Absolute and residual timing jitter in actively mode-locked semiconductor lasers" IEEE International Semiconductor laser conference, Davos, Switzerland, Sept 1990
5. D. J. Derickson, A. Mar, J. E. Bowers, "Self mode-locking of a semiconductor laser using positive feedback" Applied Physics Letters, Jan. 1 1990, pp 7
4. P. A. Morton, D. J. Derickson, R. J. Helkey, A. Mar, and J. E. Bowers, Mode-locked semiconductor lasers" in US-USSR Symposium on the physics of optical phenomena and their use as probes of matter, UC Irvine, Jan. 1990
3. D. J. Derickson, R. J. Helkey, A. Mar, and J. E. Bowers "Self mode-locking of a semiconductor laser using positive feedback", IEEE LEOS Annual Meeting, Orlando, Florida, Nov. 1989
2. P. A. Morton, J. E. Bowers, R. J. Helkey, and D. J. Derickson" High Speed Lasers and applications in sub-picosecond mod-locking" IEEE LEOS annual meeting, Orlando, Florida, Nov. 1989
1. D. J. Derickson, C. M. Miller, R. L. Van Tuyl, "A 22 GHz bandwidth instrumentation photoreceiver" IEEE MTT-S Symposium, New York, NY May 1988.