

KRISTEN N PARRISH

+1(304)-444-3785

kristen.n.parrish@gmail.com

www.linkedin.com/in/kristenparrish

EDUCATION

The University of Texas at Austin (Austin, TX)

PhD, Electrical Engineering, Aug 2013

Solid State Electronics focus

Dissertation: "Nanoscale Graphene for RF

Circuits & Systems" & 4 first author pubs

MS, Electrical Engineering, May 2010

Electromagnetics & Acoustics focus

Publications on 60GHz antenna design

Rose-Hulman Inst. of Tech. (Terre Haute, IN)

BS, Electrical Engineering, May 2008

SKILLS & TOOLS

Engineering: LTSpice, Synopsys TCAD (SWB), MATLAB, Lorentz, Altium, Cadence Virtuoso, Keysight ADS, ANSYS suite (Maxwell, HFSS, Icepak, Q3D, Siwave, Spaceclaim)

Data visualization: Spotfire, PowerBI

Languages: English (native speaker), Japanese (beginner), Mandarin (beginner), Spanish (intermediate)

LEADERSHIP & HONORS

2021: Co-speaker at IEEE PELS Students & Young Professionals symposium, talk entitled "**Building Momentum in Industry: Skills to Excel During Your First 5 Years**". Adapted and presented two additional times to internal Wolfspeed audiences.

2020: Elected **IEEE Senior Member**

2020-present: **IEEE Eastern North Carolina Section** volunteer; currently serving as Vice Chair and Webmaster. Previously served as Women in Engineering Chair, and created a mentoring program through IEEE Region 3 to facilitate remote mentorship opportunities during the Coronavirus pandemic

2018: Selected for 2019 Cohort of **Women for Technical Leadership** program at Texas Instruments

2015: Gave [future15 talk at SXSW](#) on self-driving cars as part of work on LIDAR

2013-2017: **High-Tech High Heels** board member, webmaster and volunteer coordinator (Dallas outreach program to encourage North Texas girls to pursue college majors in STEM)

SUMMARY: 10+ years in semiconductor leadership & innovation

Seeking: Challenging high impact role working with technical engineers to develop new tech
Innovative: Developed green-fields technology in both R&D and product lines, driving from patent to product; drove development of and implemented new best practices for technology development
Execution-driven: short term results on near-term bottom line with long term impact on roadmaps
Effective: adept at communicating technical details to diverse audiences (customers, business leadership, peers) while developing new skills and influencing/mentoring to drive results

PROFESSIONAL EXPERIENCE

Silicon Carbide Applications & Systems Engineer, Wolfspeed (formerly Cree)

Durham NC / Remotely from Beijing, CN: June 2019 – August 2022

- Supported Japan and Korea based customers with urgent technical questions about devices in their applications including three-way support of both module manufacturer and automotive end customer, with focus on simulation/statistics.
- Wrote internal and public documentation including application notes and internal FAE conference presentations on topics including parallel die oscillation, datasheet walkthrough, avalanche breakdown voltage, and die failure mechanisms.
- Served on JEDEC Power Electronics Datasheet committee; supported customer questions related to these and AECQ101/AQG324 standards.
- Developed system level analyses for applications including traction inverters, to distill figures-of-merit and competitive analysis priorities, as well as guide next-generation technology development.
- Guided cross functional business groups to develop technology roadmaps for the Power business, improving both internal alignment and customer technical interactions across the company.
- Lead small working groups in company-wide unification efforts to develop New Technology Introduction process and launched several new NTI projects.

Module Packaging Technologist, Power Business, Texas Instruments

Dallas TX: August 2016 - May 2019

- Co-inventor and project lead for a novel integrated magnetics packaging technology for power modules that would drastically reduce packaging costs. Developed rigorous DOE plan, inductor designs, and correlated with measurement through initial prototyping (filed 3 patents and presented at internal conference).
- Developed roadmap for discrete and integrated magnetics and worked with discrete vendors to meet TI's electrical and reliability needs, including factory visits and strategy discussions.
- Developed workflow to correlate simulated results from ANSYS tools to measured electrical and thermal data to reduce package design cycle times by several months and improve package thermal performance.

R&D Engineer, Kilby Research Lab, Texas Instruments

Dallas TX: October 2013 - August 2016

- Developed co-design techniques for novel inductors in buck converter topologies and development of new magnetic technologies. Improved system level analysis and design including development of new inductor loss characterization techniques, and a novel integrated clip inductor (filed 1 patent).
- Photonics foundational technology champion responsible for the technology roadmap, identifying focus areas, aligning the project with business needs, defining resources, key skill sets, and university collaborations for silicon photonics.
- Designed photodetectors using Sentaurus TCAD and Cadence Virtuoso for integrated APD/front-end CMOS circuitry applications for LIDAR. Led tapeout and implemented wafer-level characterization for photocurrent measurement.
- Designed 140GHz Power Amplifier design in 65nm CMOS while developing high frequency models with tools such as Agilent ADS and Lorentz Pkview. High frequency (mmWave) characterization of waveguides and wafer level circuitry.