Haley Guiliano

Anchal Agarwal

TECHNICAL ADVISOR

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Anchal Agarwal joined Haley Guiliano in 2023 as a Technical Advisor. While her expertise lies in semiconductor devices and materials, she believes innovation thrives at the intersection of different disciplines and is always eager to delve into fresh challenges.

Anchal holds a Ph.D. in Electrical and Computer Engineering and has an extensive publication and presentation history. Her Ph.D. research focused on the materials development of Gallium Nitride for power electronics. These wide-bandgap semiconductor devices have wide-ranging applications, from electric vehicles and batteries to telecommunications and medical devices. From there, her journey in the tech industry began as a Staff Engineer at Western Digital in 2018, where she worked in the R&D and Productization of Memory Devices, deepening her knowledge of cutting-edge technologies.

Related Practice Areas

- Patent Preparation and Prosecution

Related Industries

- Computer Technology and Software
- Telecommunication
- Mechanical and Industrial Devices
- Electronic Hardware
- Semiconductor Devices and Materials
- Consumer Products

Languages

- Hindi
- Bengali

Publications

Patents

- Yuuki Enatsu, Chirag Gupta, Stacia Keller, Umesh K. Mishra, and **Anchal Agarwal**. "Method to achieve active p-type layer/layers in iii-nitride epitaxial or device structures having buried p-type layers." U.S. Patent Application 16/092,165, filed June 13, 2019.

Journal Publications:

- **Anchal Agarwal**, et al. “Suppression of Mg propagation into subsequent layers grown by MOCVD”, Journal of Applied Physics 2 (2017).

- **Anchal Agarwal**, et al. “Controlled low Si doping and high breakdown voltages in GaN on sapphire grown by MOCVD”, Semiconductor Science and Technology 12 (2016).
- **Anchal Agarwal**, et al., “Abrupt GaN/p-GaN:Mg junctions grown via metalorganic chemical vapor deposition”, Applied Physics Express, 10(11), 111002 (2017).
- **Anchal Agarwal**, et al., “Maskless regrowth of GaN for trenched devices by MOCVD”, Applied Physics Letters 111, no. 23 (2017).
- Chatterjee, Bikramjit, Dong Ji, **Anchal Agarwal**, et al. “Electro-thermal investigation of GaN vertical trench MOSFETs”. IEEE Electron Device Letters42, no. 5 (2021).
- Jaeyi Chun, Wenwen Li, **Anchal Agarwal**, and Srabanti Chowdhury. “Schottky Junction Vertical Channel GaN Static Induction Transistor with a Sub?Micrometer Fin Width”. Advanced Electronic Materials5, no. 1 (2019)
- Shubhra Pasayat, Elaheh Ahmadi, Brian Romanczyk, Onur Koksaldi, **Anchal Agarwal**, et al., “First demonstration of RF N-polar GaN MIS-HEMTs grown on Bulk GaN using PAMBE”, Semiconductor Science and Technology (2019)
- Lund, Cory, **Anchal Agarwal**, et al., “Investigation of Mg ?-doping for low resistance N-polar p-GaN films grown at reduced temperatures by MOCVD”, Semiconductor Science and Technology33, no. 9 (2018).
- Dong Ji, **Anchal Agarwal**, et al., “880V/2.7m?·cm 2 MIS Gate Trench CAVET on Bulk GaN Substrates”, IEEE Electron Device Letters (2018).
- Saptarshi Mandal, **Anchal Agarwal**, et al., “Comparative study of CAVET with dielectric and p-GaN gate and Mg ion-implanted current blocking layer”, Proc. SPIE 10381, Wide Bandgap Power Devices and Applications II, 1038108 (2017)
- Chirag Gupta, Silvia H. Chan, Yuuki Enatsu, **Anchal Agarwal**, Stacia Keller, and Umesh K. Mishra. “OG-FET: An in-situ Oxide, GaN interlayer based vertical trench MOSFET”, IEEE Electron Device Letters (2016).

Memberships

- IEEE-HKN Honor Society

Honors & Awards

- Best Paper Award from the University of Padova for work on OG-FETs (2019)
- Best Paper at International Reliability Physics Symposium (2019)
- Outstanding Graduate Student Research Achievement Award (2015)
- Lee Teng Fellowship (2011)

Education

- Ph.D., Electrical and Computer Engineering, 2018, University of California, Santa Barbara
- M.S., Electrical and Computer Engineering, 2014, University of California, Santa Barbara
- B.S.E., Electrical Engineering, 2013, University of Michigan, Ann Arbor, Magna Cum Laude