Hema C. P. Movva

hemacp@utexas.edu Mar 2018, Austin, TX, USA

Education

Ph.D., Electrical Engineering, The University of Texas at Austin — Expected 2018
M.S.E., Electrical Engineering, The University of Texas at Austin — 2012
B.Tech., Electrical Engineering, Indian Institute of Technology Bombay — 2009

Publications

HCP Movva et al., Tunable $\Gamma - K$ Valley Populations in Hole-Doped Trilayer WSe_2, Phys. Rev. Lett. 120, 107703 (2018)

HCP Movva et al., Density-Dependent Quantum Hall States and Zeeman Splitting in Monolayer and Bilayer WSe_2, Phys. Rev. Lett. 118, 247701 (2017)

HCP Movva et al., High-Mobility Holes in Dual-Gated WSe_2 Field-Effect Transistors, ACS Nano 9, 10402 (2015)

Experience

Research Assistant, The University of Texas at Austin — Ongoing
- Ph.D. advisors: Emanuel Tutuc, Sanjay Banerjee
- Electrical transport in transition metal dichalcogenide (TMD) heterostructures
- Fabrication of FETs using atomically thin TMDs such as WSe_2, MoS_2, etc.
- Magnetotransport measurements in high-mobility TMD FETs
- Tunneling phenomena in TMD heterostructure FETs

Research Assistant, The University of Texas at Austin — Aug '10 - May '12
- M.S.E. advisor: Sanjay Banerjee
- Surface charge transfer doping of graphene for use in self-aligned FETs
- Fabricated graphene FETs with chemically doped source/drain access regions

Engineer R&D, Solar Semiconductor Inc., Hyderabad, India — Jun '09 - Aug '10
- Modeled wattage losses in c-Si photovoltaic modules
- Developed distributed circuit models for c-Si solar cells and modules
- Managed sun simulators for solar cell and module characterization

Circuit Design Intern, Texas Instruments, Bangalore, India — May '08 - Aug '08
- Designed a high-speed dynamic latch based voltage comparator
- Designed a 250 MSPS 6-bit SAR analog-to-digital convertor

Honors

Best Paper Award, 74th IEEE Device Research Conference — 2016
Best Poster Award, 73rd IEEE Device Research Conference — 2015
Best Poster Award, 9th International Nanotechnology Conference (INC9) — 2013
Silver Medal, 37th International Physics Olympiad — 2005
National Talent Search scholarship, India — 2003

Service

Reviewer, IEEE Trans. Electron Dev., ACS Appl. Mater. Interfaces, Nanoscale
Mentor, Research Experience for High School Young Scholars — Sum. '17
President, Japan Karate Association of Austin — May '13 - May '15

Skills

Fabrication:	Electron-beam lithography, standard cleanroom processing
Electrical:	Semiconductor parameter analyzers, probe stations, He cryostats
Metrology:	Atomic force microscopy, scanning electron microscopy
Software:	MATLAB, LabVIEW, C