

October 10, 2018

Department of Physics  
Texas Tech University

Dear Members of the Faculty Search Committee,

In response to your current faculty opening for a tenure-track assistant professor position in the Department of Physics at Texas Tech University, I am greatly pleased to submit this cover letter and related materials.

I earned a Doctor of Philosophy in Physics from the University of Central Florida in May 2015. My primary research interest has focused on design, fabrication, and characterization of high-performance nanoscale electronic devices using novel low-dimensional materials such as organic molecules, carbon nanotubes, graphene and other two-dimensional transition metal dichalcogenides. My research goal is to seek new novel nanomaterials, investigate charge injection and transport mechanism of nano-scale devices, and exploiting these properties for next-generation electronic applications.

As a part of my postdoctoral research, I joined the Advanced Transistor Research and Development group at Intel Corp. I have developed various CMOS transistor designs, and improved the device performance for Intel's next-generation microprocessors. I have actively participated in projects on both analog and digital circuit, and enhanced the performance of diodes, inverters, ring oscillators, and memory devices. Moreover, I have established expertise in the use of computational research methodologies such as big data analysis and simulated tool development incorporating silicon to predicted modeling. My professional theoretical and experimental research experience at Intel Corp. has enriched my research and development abilities.

I have various teaching experiences at both undergraduate and graduate levels. I have also mentored undergraduate and graduate students for personalized mentoring, and independent research opportunities during graduate school. I believe that my professional teaching and research experiences from both academia and industry can successfully guide students to receive career-focused education and to perform cutting-edge research for their future career. My prior career provided me with valuable preparation that will enable me to play a significant role in promoting excellence in research, teaching, and service as part of Texas Tech University's mission and vision. As a professor, I hope to lead scientific, innovative, and interdisciplinary research. I will use my intellectual and scientific abilities not only to benefit society, but also to bring extra support that can be reinvested in the students' education and in further research.

I have enclosed my curriculum vitae. Please do not hesitate to contact me for additional information. I look forward to learning more about the exciting opportunity to work with the faculty and staff of Texas Tech University.

Sincerely,  
Narae Kang, Ph.D.

