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Applied EM Faculty Search Committee
Department of Electrical & Computer Engineering
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To Whom It May Concern,

I, Hasan Tahir Abbas am writing to apply for the position of Applied Electromagnetics faculty at the department of Electrical & Computer Engineering, job number, 2247 that I saw on the IEEE website. I plan to receive my Ph.D. degree from the Texas A&M University in August, 2017. My adviser is Prof. Robert D. Nevels, and my proposed dissertation title is *Terahertz Radiation in two-dimensional semiconductor devices*. I have planned my defense in June, 2017.

In my graduate work, I focus on exploring layered semiconductor structures showing plasmonic behavior that radiate in the terahertz frequency range. My work will enable miniaturization of the antenna and subsequently embedding on the integrated circuit. My research has been presented in *IEEE APS/URSI Symposium*, the most prestigious conference in the field. Prior to my graduate study, I have a three years experience of teaching to Electrical Engineering undergraduate students in Pakistan where I taught Electromagnetic Theory every fall semester. I have also delivered lectures to undergraduate Electromagnetics classes at Texas A&M University for the last two years.

I believe my work resolves one of the *Grand Challenges* that will harness remarkable properties of two-dimensional materials. Miniaturization of antenna will certainly help realizing ubiquity of wearable devices and sensors. Indeed, it is in line with the *Global Impact Initiative* mission. Current faculty renowned in microwave plasma application and excellent fabrication facilities at the Fraunhofer center will no doubt accelerate my goal to fabricate a room temperature microwave plasmonic antenna.

My teaching experience at TAMU and UET has equipped me to teach EM courses currently taught at the department. I would like to introduce a course focusing on electromagnetic theory of nano-devices.

I am very excited about the university's mission of *Global Impact Initiative*. As someone hailing from a third world country, I am hopeful that the plan envisioned by the university will improve the quality of life worldwide. I would like to be a part of such a noble cause with my skills and efforts.

Thank you very much for your consideration. I would welcome an opportunity for an interview for this post.

Sincerely,

Hasan Tahir Abbas