

Syed Nazim Shah

PhD Student at UPNA



Nazim is from Pakistan.

Electrical engineer.

Experience:

- Secondary School teacher.
- Research Assistant at the Microwave and Antenna Research Group at COMSATS University Islamabad's Abbottabad Campus.

Nazim has joined the Optical Communications Group at the Electrical and Electronic Engineering Department (UPNA), under supervision of Prof. Miguel Ángel Gómez Laso. Petronilo Martín-Iglesias, from European Space Agency, is also involved in Nazim's PhD project.

Research

Microwave Filters using Advanced Manufacturing Techniques

Research objective: To investigate novel approaches to microwave filter design with the goal of improving filter performance, efficiency and dependability by concentrating on advanced manufacturing techniques. To facilitate the advancement of microwave filter technology through the incorporation of cutting-edge manufacturing methodologies during the fabrication and design phases.

Abstract:

Modern communication systems require microwave filters to function properly, thereby facilitating the transmission and reception of signals. The focus of this study is the application of advanced manufacturing techniques to enhance the efficiency of microwave filters. The research entails an examination of various manufacturing techniques, such as additive manufacturing, microelectromechanical systems (MEMS), and advanced materials, with the objective of conceptualising and developing cutting-edge microwave filters.

By capitalising on the capabilities of advanced manufacturing, the proposed research aims to correct extant flaws in conventional microwave filter designs. This process entails the optimisation of filter properties, including insertion loss, bandwidth, and selectivity, with size, weight, and integration simplicity into communication systems taken into account.

As my research progresses, I will consistently revise and enhance my comprehension of the most recent developments in manufacturing technologies as they pertain to the design of microwave filters. As my professional trajectory unfolds, I aspire to remain aware of emergent methodologies, assimilating and assimilating novel insights in order to augment the efficacy and functionality of microwave filters.

'This PhD research presents a crucial chance for my career progression, nurturing both theoretical and practical abilities. This opportunity holds great potential for enhancing my professional development, enabling me to utilise acquired expertise in tackling real-life obstacles and making valuable contributions in contexts.'