



College of Engineering

Research Groups > Antennas and Propagation Research Group

Antennas and Propagation Research Group

Members: Dr. Muath Al Hasan, Dr. Ismail Mabrouk, Dr. Ubaid Ullah

Contact info: muath.alhasan@aau.ac.ae, ismail.mabrouk@aau.ac.ae, Ubaid.ullah@aau.ac.ae

Research group description and areas of research:

The research group works on cutting edge topics in the fields of antennas and propagation. The group members have national and international collaborations with top ranked academic institutions and research centers. Dr. Ismail Mabrouk and Dr. Muath Al-Hasan are the recipients of the prestigious Abu Dhabi Award for research excellence in 2018 and 2019, respectively. The areas of research include: Millimeter-wave and THz antennas, MIMO systems, Channel modeling and characterization, AI and machine learning in antenna design, Artificial materials, Wearable Antennas.

List of selected publications:

- [1] I. Mabrouk, M. J. Al-Hasan, M. Nedil, T. A. Denidni, and A. Sebak, "A Novel Design of Radiation Pattern-Reconfigurable Antenna System for Millimeter-Wave 5G Applications," IEEE Trans. on Ant. and Propag, 2020. DOI: 10.1109/TAP.2019.2952607
- [2] Abdoalbaset Abohmra, Hassan Abbas, Muath Al-Hasan, Ismail Ben Mabrouk, Akram Alomainy, Muhammad A Imran, Qammer H Abbasi, "Terahertz Antenna Array based on a Hybrid Perovskite Structure", IEEE Open Journal of Antennas and Propagation, 2020.
- [3] A Pietrenko-Dabrowska, S Koziel, M Al-Hasan "Cost-Efficient Bi-Layer Modeling of Antenna Input Characteristics Using Gradient Kriging Surrogates," IEEE. Access, vol. 8, 2020.
- [4] M. J. Al-Hasan, I. Mabrouk, M. Nedil, T. A. Denidni, and A. Sebak, "Hybrid Isolator for Mutual-Coupling Reduction in Millimeter-Wave MIMO Antenna Systems," IEEE. Access, vol. 7, no. 1, 2019.
- [5] J. Guerrero, I. Mabrouk , M. J. Al-Hasan, and M. Nedil, "Experimental Validation of Receiver Sensitivity for 100-Mbps Data Rates in Seawater by Using 2.4 GHz-Low-Power

Electronics,” International Journal on Communications Antennas and Propagation, vol. 9, no. 1, 2019.

- [6] J. Guerrero, I. Mabrouk , M. J. Al-Hasan, M. Nedil, and T. Ciamulski , “On the Path Loss Model for 5-GHz Microwave-Based Pinless Subsea Connectors,” Progress In Electromagnetics Research Letters, Vol. 82, 147–153, 2019.
- [7] M. J. Al-Hasan, T. A. Denidni, A. Sebak, “Millimeter-wave Compact EBG-Structure for Mutual Coupling Reduction Applications,” IEEE Trans. on Ant. and Propag, vol. 63, no. 2, 2014.
- [8] M. J. Al-Hasan, T. A. Denidni, A. Sebak, “Millimeter-wave EBG-Based Aperture-Coupled Dielectric Resonator Antenna ,” IEEE Trans. on Ant. and Propag., vol. 61, no. 8, 2013.

[View Page](#)