

# Ali H Alenezi

## Communication Engineering and Signal Processing - Wireless Communication and Artificial Intelligence

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**Google Scholar account:**

[https://scholar.google.com/citations?hl=en&user=-txDp1gAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=-txDp1gAAAAJ&view_op=list_works&sortby=pubdate)

**Research Gate account:**

<https://www.researchgate.net/profile/Ali-Alenezi-3>

### Key Skills

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- Wireless communication with Intelligent UAVs.
- Artificial Intelligence, Robotics, Machine Learning and Deep Learning.
- Acoustic Communication
- Computer Optimization and AI Algorithms.
- Radar systems
- Visible Light Communication
- VERILOG Hardware Description Language (MAX+plus II ALTERA, LeonardoSpectrum from Mentor Graphics)
- LaTeX.
- Matlab.
- Programming languages Python, C++, C.
- Machine learning and Deep learning platforms.

### Professional Summary

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- Research expertise in wireless communication using smart unmanned aerial Vehicles (UAVs), visible light communication, and aerial networks.
- Published more than 20 impact factor journal papers
- More than eleven years of teaching and research experience

### Education

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#### Doctor of Philosophy in Electrical Engineering

New Jersey Institute of Technology (NJIT), Newark, NJ, USA

Dissertation: "Acoustic Communication in Drill strings".

Sep. 2013 - May. 2018

#### Master of Science in Wireless Systems

Royal Institute of Technology (KTH), Stockholm, Sweden.

Thesis: " Evaluation of Precoder Designs Using Measured MIMO Channels"

June. 2011

#### "Bachelor of Science in Computer Engineering (*with honour*)

King Saud University, Riyadh, Saudi Arabia.

July. 2007

### Career History

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#### March 2023– Present

Northern Border University, Electrical Engineering Department

Associate Professor

Electrical Engineering Department, *Faculty of Engineering*.

- Faculty member: Teaching classes and labs within the department of Electrical Engineering.
- Co-founder of Remote Sensing Unit for research and development.
- Taught courses of digital signal processing, digital communication, signal and systems, fundamental of wireless communication. Basic electrical circuits and Matlab Lab.
- Conducting research within the department of Electrical Engineering.

**July 2018 – March 2023**

Northern Border University, Electrical Engineering Department.

**Assistant Professor**

**Aug 2013 – July 2018**

Northern Border University, Electrical Engineering Department.

**Lecturer**

**July 2007 – August 2013**

King Saud University (KSU), Riyadh, Saudi Arabia

**Teaching and Research assistant**

- Teaching and Research assistant at Electrical Engineering Department.
- Researcher at Prince Sultan Advanced Tech. Research Institute(PSATRI) centre, 2011-2013.

**AWARDS**

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- Best undergraduate project at electrical engineering department, KSU, 2007.

**Publications**

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**Journals**

- 1- **A. Alenezi** and A. Abdi, “A comparative study of multichannel and single channel accelerometer sensors for communication in oil wells,” IEEE International Conference on Communication and Signal Processing, Melmaruvathur, India, 2017.
- 2- **A. Alenezi** and A. Abdi, “Characterization of Multiple Wireless Communication Channels in Oil Wells Drill Strings,” IEEE Wireless Commun. Lett., vol. 6, pp. 738-741, 2017.
- 3- **A. Alenezi** and A. Abdi, “Strain sensor and accelerometer communication channels in drill pipes of oil wells: Delay spreads and eigenvalues,” Int. J. Sens. Netw. Data Commun., vol. 8, 158, 2018.
- 4- Rahat Hassan, Md Arafatur Rahman, Ihsan Ullah, **Ali Hamdan Alenezi**, “ Identifying the Level of Diabetic Retinopathy Using Deep Convolution Neural Network”, International Conference on Emerging Technology in Computing, Communication and Electronics, 2020.
- 5- Shakhathreh, H., **Alenezi, A.**, Sawalmeh, A., Almutiry, M., & Malkawi, “Efficient Placement of an Aerial Relay Drone for Throughput Maximization”, Wireless Communications and Mobile Computing, 2021.
- 6- REGIN, R., OBAID, A. J., **ALENEZI, A.**, ARSLAN, F., GUPTA, A. K., & KADHIM, K. H. (2021). NODE REPLACEMENT BASED ENERGY OPTIMIZATION USING ENHANCED SALP SWARM ALGORITHM (ES2A) IN WIRELESS SENSOR NETWORKS. *Journal of Engineering Science and Technology*, 16(3), 2487-2501, 2020.

- 7- Abdel-Razeq, S., Shakhatreh, H., **Alenezi, A.**, Sawalmeh, A., Anan, M., & Almutiry, M. “ PSO-Based UAV Deployment and Dynamic Power Allocation for UAV-Enabled Uplink NOMA Network”, *Wireless Communications and Mobile Computing*, 2021.
- 8- **Ali Alenezi**, “ Optimal Drill-String Design for Borehole Communication”, *International Journal of Advanced and Applied Sciences*, 2021.
- 9- Sawalmeh, A., Othman, N. S., Liu, G., Khreishah, A., **Alenezi, A.**, & Alanazi, A., “Power-Efficient Wireless Coverage Using Minimum Number of UAVs”, *Sensors*, 22(1), 223., 2022.
- 10- M. Anam, K. P. Rane, **A. Alenezi**, R. Mishra, S. Ramamurthy, and F. J. J. Joseph, “Content classification tasks with data preprocessing manifestations,” *Webology*, vol. 19, no. 1, 2022.
- 11- Ammar Latif, Rahul Parameswaran, Sachin Vishwarupe, Abdallah Khreishah, and Yaser Jararweh, **Ali Hamdan Alenezi**, “MediaFlow : Multicast Routing and In-Network Monitoring For Professional Media Production”, *IEEE transaction on Network and service management*, 2022.
- 12- **Ali H Alenezi**, “Experimental Results On the Drill String Design for Borehole Acoustic Communication”, the 4<sup>th</sup> International Conference on Applied Automation and Industrial Diagnostics, 2022.
- 13- ABU JAFAR MD MUZAHID , SYAFIQ FAUZI BIN KAMARULZAMAN , MD. ARAFATUR RAHMAN , **ALI H ALENEZI** , "Deep Reinforcement Learning based Driving Strategy for Avoidance of Chain Collisions and its Safety Efficiency Analysis in Autonomous Vehicles", *IEEE Access*, 43303-43319, 2022.
- 14- **Ali Alenezi**, Ahmad Sawalmeh, Hazim Shakhatreh, Muhannad Almutiry, Nasser Aedh Alreshidi,” A Novel Mining Approach for Data Analysis and Processing Using Unmanned Aerial Vehicles”, *Colexity*, 2022.
- 15- AJM Muza, SF Kamarulzaman, MA Rahman, SA Murad, MAS Kamal, **AH Alenezi**, “ Multiple Vehicle Cooperation and Collision Avoidance in Automated Vehicles: Survey and an AI-Enabled Conceptual Framework”, *Scientific reports*, 13 (1), 1-27, 2022.
- 16- Hazim Shakhatreh, Ahmad Sawalmeh, **Ali H Alenezi**, Sharief Abdel-Razeq, Muhannad Almutiry, Ala Al-Fuqaha,” Mobile-IRS Assisted Next Generation UAV Communication Networks”, *arXiv*, submitted.
- 17- Omid Chatrabgoun, Alireza Daneshkhah, Mohsen Esmailbeigi, Nader Sohrabi Safa, **Ali H Alenezi**, Arafatur Rahman, “ Predicting Primary Sequence-Based Protein-Protein Interactions Using a Mercer Series Representation of Nonlinear Support Vector Machine”, *IEEE access*, 10, 124345-124354, 2022.
- 18- **Ali H Alenezi**, Mahmoud Nazzal, Ahmed Sawalmeh, Abdallah Khreishah, Sihua Shao, Muhannad Almutiry, “ Machine learning regression-based RETRO-VLP for real-time and stabilized indoor positioning”, *Cluster Computing*, 1-13, 2022.
- 19- Ruhul Amin Khalil, Nasir Saeed, Muhannad Almutiry, **Ali Hamdan Alenezi**, “ Energy-efficient anchor activation protocol for non-cooperative localization of Industrial Internet of Things”

(IIoT)”, ICT Express, 2023.

20- Rania Djehaiche, Salih Aidel, Ahmad Sawalmeh, Nasir Saeed, **Ali H Alenezi**, “ Adaptive Control of IoT/M2M Devices in Smart Buildings Using Heterogeneous Wireless Networks”, IEEE, Sensors Journal, 2023.

21- Amjad Abu-Baker, Hazim Shakhathreh, Ahmad Sawalmeh, **Ali H Alenezi**, “Efficient Data Collection in UAV-Assisted Cluster-Based Wireless Sensor Networks for 3D Environment: Optimization Study”, Journal of Sensors, 2023.

## GRANTS & FUNDING PROJECTS

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- A Novel Mining Approach using Ground Penetrating Radar Tomography Mounted on Intelligent Unmanned Aerial Vehicles UAVs Deputyship for Research and Innovation, Ministry of Education in Saudi Arabia for funding this research work through the project **Number-6864 2020 IF.**
- Real-time Indoor Positioning with Visible light communication (VLC) **ENGA-2022-11-1649** from the Deanship of Scientific Research at Northern Border University
- A Novel Communication Approach in Dynamic Environments for Next Generation Wireless Networks **SCIA-2022-11-1466** from the Deanship of Scientific Research at Northern Border University

## PROFESSIONAL LINKS AND NETWORKING

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- Google Scholar: [https://scholar.google.com/citations?hl=en&user=-tXDp1gAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=-tXDp1gAAAAJ&view_op=list_works&sortby=pubdate)
- Research gate: <https://www.researchgate.net/profile/Ali-Alenezi-3>
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- IEEE: <https://ieeexplore.ieee.org/author/37086261081>
- Scopus Author ID: <https://www.scopus.com/authid/detail.uri?authorId=57221753256>