

## CURRICULUM VITAE

### PERSONAL DATA

<b>Name</b>	Hanan Fawaz Akhdar
<b>Nationality</b>	Saudi
<b>Position</b>	Associate professor
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### EDUCATION

<b>Year</b>	<b>Academic Degree</b>	<b>Institution</b>
2000	BSc	King Saud University
2007	MSc	King Saud University
2018	PhD	King Saud University

### WORK EXPERIENCE

<b>Period</b>	<b>Position</b>	<b>Address</b>
2004-2007	Research assistant	Riyadh College of Dentistry and Pharmacy - Riyadh
2007-2018	Lecturer	Imam Mohammad Ibn Saud Islamic University - Riyadh
2018-2023	Assistant professor	Imam Mohammad Ibn Saud Islamic University - Riyadh
Since 2023	Associate professor	Imam Mohammad Ibn Saud Islamic University - Riyadh

### RESEARCH INTERESTS

Nuclear physics – Radiation – Detectors – Geant4 – Monte Carlo simulation.

## PUBLICATIONS

- Akhdar, H. F. (2007). Assessment of entrance skin dose and effective dose of some routine x-ray examinations using calculation Technique. Methods. {"<http://repository.ksu.edu.sa/jspui/handle/123456789/8706>"}
- Akhdar, H., Kezzar, K., Gerl, J., Aksouh, F., Assemi, N., AlGhamdi, S., & AlGarawi, M. (2015). Geant4 simulation of a 3D high resolution gamma camera. *Journal of Instrumentation*, 10 (12), C12018–C12018.
- H. A. Kassim, H. F. Akhdar, F. M. Alrumayan, and A. M. Hendy, "Feasibility Study for Converting the CS-30 Into a Variable Energy Cyclotron for Isotopes Production Using the Internal Target System", presented at the 22nd Int. Conf. on Cyclotrons and their Applications (Cyclotrons'19), Cape Town, South Africa, Sep. 2019, paper TUP025.
- Alsaidan, S., Akhdar, H., Alrumayan, F. and Kezzar, K., 2020. Simulation of a Neutron Source at the KFSH&RC CS-30 Cyclotron. *Journal of Physics: Conference Series*, 1643, p.012199. {"<https://doi.org/10.1088/1742-6596/1643/1/012199>"}
- Akhdar, H.; Marashdeh, M.; AlAqeel, M. Investigation of gamma radiation shielding properties of polyethylene glycol in the energy range from 8.67 to 23.19 keV. *Nuclear Engineering and Technology* 2021.
- Almomani, M.; Ahmed, N.; Rashid, M.; Ali, M.; Akhdar, H.; Aldaghri, O.; Ibnaouf, K. Enhancement of Temperature Fluorescence Brightness of Zn@Si Core-Shell Quantum Dots Produced via a Unified Strategy. *Nanomaterials* 2021, 11, 3158.
- Ahmed Ali, A.; Ahmed, N.; Kabir, N.; Ali, M.; Akhdar, H.; Aldaghri, O.; Ibnaouf, K.; Sulieman, A. Investigation of X-ray Radiation Detectability Using Fabricated ZnO-PB Based Extended Gate Field-Effect Transistor as X-ray Dosimeters. *Applied Sciences* 2021, 11, 11258.
- Al-Balushi, M.; Ahmed, N.; Zyoud, S.; Mohammed Ali, M.; Akhdar, H.; Aldaghri, O.; Ibnaouf, K. Ionization Radiation Shielding Effectiveness of Lead Acetate, Lead Nitrate, and Bismuth Nitrate-Doped Zinc Oxide Nanorods Thin Films: A Comparative Evaluation. *Materials* 2021, 15, 3.
- M.W. Aladailah, O.L. Tashlykov, M.W. Marashdeh & H. Akhdar. Photon, neutron absorption capabilities of Y2O3-Al2O3-P2O5 glasses. *Radiation Effects and Defects in Solids*, 2022, 10, 1080.
- Musa, M., Abu Mhanna, H., Omar, A., Radzi, Y., Akhdar, H., Ishak, N. and Al Ewaidat, H., 2022. Optical Response of Expired EBT3 Film for Absorbed Dose Measurement in X-ray and Electron Beam Range. *Applied Sciences*, 12(8), p.3974.
- Abu Mhanna, H., Omar, A., Radzi, Y., Akhdar, H. and Al Ewaidat, H., 2022. Expired EBT3 Films' Sensitivity for the Measurement of X-ray and UV Radiation: An Optical Analysis. *Materials*, 15(8), p.2903.
- Khatun, M., Yousuf, M., Ahmed, S., Uddin, M., Alyami, S., & Al-Ashhab, S. et al. (2022). Deep CNN-LSTM with Self-Attention Model for Human Activity Recognition using Wearable Sensor. *IEEE Journal Of Translational Engineering In Health And Medicine*, 1-1. doi: 10.1109/jtehm.2022.3177710.
- Ahamad, M., Aktar, S., Uddin, M., Rahman, T., Alyami, S., Al-Ashhab, S., Akhdar, H., Azad, A. and Moni, M., 2022. Early-Stage Detection of Ovarian Cancer Based on Clinical Data Using Machine Learning Approaches. *Journal of Personalized Medicine*, 12(8), p.1211.
- Hossain, M., Hasan, M., Rahim, M., Rahman, M., Yousuf, M., Al-Ashhab, S., Akhdar, H., Alyami, S., Azad, A. and Moni, M., 2022. Particle Swarm Optimized Fuzzy CNN with Quantitative Feature Fusion for Ultrasound Image Quality Identification. *IEEE Journal of Translational Engineering in Health and Medicine*, pp.1-1.
- Akhdar H. Theoretical Investigation of Gamma- and Neutron-Shielding Properties of Polysulfone (PSU) Polymer Material Using Geant4. *Polymers*. 2022, 14(16):3374.
- Akhdar H, Alanazi R, Alanazi N, Alodhayb A. Secondary Electrons in Gold Nanoparticle Clusters and Their Role in Therapeutic Ratio: The Outcome of a Monte Carlo Simulation Study. *Molecules*. 2022; 27(16):5290.
- Akhdar H, Theoretical investigation of fast neutron and gamma radiation properties of polycarbonate-bismuth oxide composites using geant4. *Nanomaterials*. 12, 3577 (2022).

- Alanazi, Nadyah, Reem Alanazi, Hanan Akhdar, and Abdullah Alodhayb. "Monte Carlo Model for Evaluation of Concentration of Gold Nanoparticle Clusters as Predictor of Effective Dose in Proton Therapy of Microscopic Tumors." *AIP Advances* 12, no. 10 (2022): 105014. <https://doi.org/10.1063/5.0121239>.
- Aladailah, M., Marashdeh, M., Akhdar, H., Tashlykov, O., Walaa, A., & Ghazal, A. A. (2022). Investigation of the gamma and neutron radiation properties of strontium bismuth borate glasses doped with neodymium ions using the GEANT4 simulation toolkit and EpiXS software. *Radiation Effects and Defects in Solids*, 1-15. doi:10.1080/10420150.2022.2153250.