

CURRICULUM VITAE

**Ahmad Mohammad
AL-Diabat**

*Department of physics, Faculty of Science and Information
Technology*

Al-Zaytoonah University of Jordan, Amman, Jordan

Phone: 00962790744134

E-mail: a.aldiabat@zuj.edu.jo



1. Personal Data

Date of Birth: 15/12/1985
Nationality: Jordanian

2. Education

- Doctor of philosophy (Applied physics/Sensor and Actuators (Nanotechnology)) 2019, Universiti Sains Malaysia, Penang, Malaysia.
- Master's Degree of physics 2013, AL al-Bayt University, Mafraq, Jordan.
- Bachelor's Degree of physics 2007, Jordan University of Science & Technology, Irbid, Jordan.

3. Ph.D. Dissertation

- *Synthesis of ZnS nanostructure using chemical spray pyrolysis technique for photodetector application*, Universiti Sains Malaysia, Penang, Malaysia.

4. Employment

Academic Positions

- Assistant Professor, Department of physics, Al-Zaytoonah University of Jordan, Amman, Jordan.



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22/9/2019 - Present

- Part-time Lecturer, Al-Zaytoonah University of Jordan, Amman, Jordan.
15/2/2019 – 1/7/2019
- Assistant Research, Universiti Sains Malaysia, Penang, Malaysia.
1/6/ 2015 – 27/9/2018
- Teacher Assistance, Universiti Sains Malaysia, Penang, Malaysia.
1/12/ 2015 – 1/12/2017

5. Research Interests

1. Materials fabrication and characterization for electronics, optoelectronics.
2. Synthesis and characterization nanomaterials for sensing application (gas sensor, photodetector and bio sensor).

6. Honors and Awards

Best poster award at 5th International Conference on Recent Advances in Materials, Minerals and Environment (RAMM), 2nd International Postgraduate Conference on Materials, Mineral and Polymer (MAMIP), 4-6 August 2015.

7. Fellowships and Scholarships

Universiti Sains Malaysia Fellowship.

8. Teaching Experience

• *Undergraduate Courses*

General physics (1), General physics (2), Modern physics, Thermodynamics, Electronics, Vibration, Waves and Optics, Mathematical physics, calculus 1.

9. Supervision of Graduate Research

Shefaa Sameeh Ahmad Asasfeh, Spectroscopy Study of Plant Extract Upon Exposure Ionization Radiation, 2021 (Co-supervisor)



10. Publications

1. **A. M. Al-Diabat**, N. M. Ahmed, M. Hashim, and K. M. Chahrour, "Influence of the spray distance to substrate on optical properties of chemically sprayed ZnS thin films," *Journal of Materials Science: Materials in Electronics*, vol. 28, pp. 371-375, 2017. **Springer**.
2. **A. M. AL-Diabat**, N. M. Ahmed, M. Hashim, K. M. Chahrour, and M. Bououdina, "Effect of deposition temperature on structural and optical properties of chemically sprayed ZnS thin films," *Procedia Chemistry*, vol. 19, pp. 485-491, 2016. **Elsevier**.
3. **A. M. AL-Diabat**, N. M. Ahmed, M. Hashim, "Growth of ZnS thin films using chemical spray pyrolysis technique". *Materials Today: Materials Today: 7* (2019): 912-920 **Elsevier**.
4. K. M. Chahrour, N. M. Ahmed, M. Hashim, N. G. Elfadill, **A. M. Al-Diabat**, and M. Bououdina, "Influence of wet etching time cycles on morphology features of thin porous Anodic Aluminum oxide (AAO) template for nanostructure's synthesis," *Journal of Physics and Chemistry of Solids*, vol. 87, pp. 1-8, 2015. **Elsevier**.
5. K. M. Chahrour, N. M. Ahmed, M. Hashim, and **A. M. Al-Diabat**, "High Responsivity IR Photodetector Based on CuO Nanorod Arrays/AAO Assembly," *Procedia Chemistry*, vol. 19, pp. 311-318, 2016. **Elsevier**.
6. S. A. Bidier, M. Hashim, **A. M. Al-Diabat** and M. Bououdina, "Effect of growth time on Ti-doped ZnO nanorods prepared by low-temperature chemical bath deposition," *Physica E: Low-dimensional Systems and Nanostructures*, vol. 88, pp. 169-173, 2017. **Elsevier**.
7. N. A. Algadri, Z. Hassan, K. Ibrahim, and **A. M. AL-Diabat**, "A High-Sensitivity Hydrogen Gas Sensor Based on Carbon Nanotubes Fabricated on Glass Substrate," *Journal of Electronic Materials*, pp. 1-10, 2018. **Springer**.
8. Al-Wardat, M. A., Widyan, H. S., & **Al-thyabat, A.** (2014). Complex Analysis of the Stellar Binary HD25811: A Subgiant System. *Publications of the Astronomical Society of Australia*, 31, e005
9. Chahrour, Khaled M., F. K. Yam, Naser M. Ahmed, M. R. Hashim, Nezar G. Elfadill, **A. M. Al-Diabat**, and H. S. Lim. "AAO-Assisted Synthesis of Aligned CuO Nanorod Arrays by Electrochemical Deposition for Self-powered NIR Photodetection." *Journal of Electronic Materials* 48, no. 11 (2019): 7465-7473. **Springer**



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10. Omari, Rami, Emad Almahmoud, Jamal A. Talla, Khaled Al-Khaza'leh, Abdelrahman Ghazlan, and **Ahmad Al-Diabat**. "Influence of substitutional doping on the electronic properties of carbon nanotubes with Stone Wales defects: density functional calculations." *Fullerenes, Nanotubes and Carbon Nanostructures* (2020): 1-13.
11. **Al-Diabat AM**, Algadri NA, Ahmed NM, Abuelsamen A, Bidier SA. A high-sensitivity hydrogen gas sensor based on carbon nanotubes fabricated on SiO₂ substrate. *Nanocomposites*. 2021 Sep 5;7(1):172- 83.
12. Algadri, Natheer A., **Ahmad M. Al-Diabat**, and Naser M. Ahmed. "High sensitive UV photodetector based on ZnS/PS thin film prepared via spray pyrolysis method." *Energy Sources, Part A: Recovery, Utilization, and Environmental Effects* 44, no. 2 (2022): 5303-5313.
13. Algadri, Natheer A., **Ahmad M. AL-Diabat**, and Naser M. Ahmed. "Zinc sulfide based thin film photodetector prepared by spray pyrolysis." *Instrumentation Science & Technology* (2022): 1-18
14. **Al-Diabat AM**, Algadri NA, Ahmed NM, Alrajhi AB, Almessiere MA, Ali AM, Alqanoo AA, Lahewil AS, Al-Wasli SA. Improved Hydrogen Gas Sensing Performance of Carbon Nanotube Synthesized Using Microwave Oven. *Ieee Sensors Journal*. 2022 Dec 8;23(2):1033-41.
15. Ali AM, Ahmed NM, Kabir NA, **Al-Diabat AM**, Algadri NA, Alsadig A, Aldaghri OA, Ibnaouf KH. Sensitivity of Al-Doped Zinc-Oxide Extended Gate Field Effect Transistors to Low-Dose X-ray Radiation. *Materials*. 2023 Feb 24;16(5):1868.
16. Ahmed Ali AM, Ahmed NM, Kabir NA, Algadri NA, **AL-Diabat AM**, Wadi IA, Alsadig A, Aldaghri OA, Ibnaouf KH. Towards Extended Gate Field Effect Transistor-Based Radiation Sensors: Impact of Thicknesses and Radiation Doses on Al-Doped Zinc Oxide Sensitivity. *Crystals*. 2023 Feb 14;13(2):314.
17. **AL-DIABAT AM**, ALGADRI NA, AHMAD NM, ALRAJHI AH, ABUELSAMEN A, ALI AM, AL-WASLI SA. Optimize the Properties of Carbon Nanotubes Synthesized using a Microwave Oven.

Conferences

AL-Diabat A. M., Ahmed N. M., Hashim M. R., Chahrour, K. M., & Bououdina, M. "Effect of deposition temperature on structural and optical properties of chemically sprayed ZnS thin films". 5th International Conference on Recent Advances in Materials, Minerals and Environment (RAMM), 2nd International Postgraduate Conference on Materials, Mineral and Polymer (MAMIP), 4-6 August 2015, Universiti Sains Malaysia (USM), Penang,



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Malaysia.

AL-Diabat A. M., Ahmed N. M., Hashim M. R., “Growth of ZnS thin films using chemical spray pyrolysis technique”. 6th International Conference on Recent Advances in Materials, Minerals & Environment (RAMM), 27 – 29 Nov 2018, Universiti Sains Malaysia (USM), Penang, Malaysia.

Chahrour, K. M. , Ahmed N. M., Hashim M. R., and **AL-Diabat A. M.**, “ High Responsivity IR Photodetector Based on CuO Nanorod Arrays/AAO Assembly ”.5th International Conference on Recent Advances in Materials, Minerals and Environment (RAMM), 2nd International Postgraduate Conference on Materials, Mineral and Polymer (MAMIP), 4-6 August 2015, Universiti Sains Malaysia (USM), Penang, Malaysia.