

CURRICULUM VITAE

PERSONAL DATA

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EDUCATION

Year	Academic Degree	Institution
2003	Bsc	Faculty of Science, Beni-Suef University, Egypt
2009	Msc	Faculty of Science, Beni-Suef University, Egypt
2016	PhD	Faculty of Science, Beni-Suef University, Egypt

WORK EXPERIENCE

Period	Position	Address
3/2022 till now:	Ass. Prof. in Physics	Faculty of Science, Imam Muhammad bin Saud Islamic University (IMSIU), Kingdom of Saudi Arabia (KSA)
10/2018 to 6/2022	Lecturer in Physics	Faculty of Computer Science, Nahda University, Egypt
1/2011 to 1/2014	Assistant Lecturer	in Physics, Faculty of Science, Beni-Suef University, Egypt
10/2009 to 1/2016:	Assistant researcher	Yousef Jameel Science and Technology Research Center, American University in Cairo, Egypt
4/2005 to 9/2009	Demonstrator in Physics	Faculty of Science, Beni-Suef branch, Cairo University, Egypt

RESEARCH INTERESTS

- | | |
|------------------------------|------------------------------|
| - Photonic crystal | - Nanoporous and nanoarrays |
| - Plasmonic nanostructure | - Sensor |
| - Smart window | - Photocatalytic degradation |
| - Hydrogen generation | - Solar cell |
| - Phononic crystal | - Supercapacitor |
| - CO ₂ conversion | - Water distillation |

PUBLICATIONS

- 1- N.M.A. Hadia, Mohamed Shaban, **Ashour M. Ahmed**, W.S. Mohamed, Meshal Alzaid, Mohammed Ezzeldien, M.F. Hasaneen, Wassim El Malti, Ahmed Adel A. Abdelazeez, Mohamed Rabia, Photoelectrochemical conversion of sewage water into H₂ fuel over the CuFeO₂/CuO/Cu composite electrode. *Catalysts* 2023, 13, 456.
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- 2- N. M.A. Hadia, **Ashour M. Ahmed**, Mohamed Shaban, W. S. Mohamed, Meshal Alzaid, Mohamed Rabia, Flower-like shapes M-PbS (M = Li, Na, or Cs)/porous CuO photocatalytic electrode for converting sewage water into H₂ fuel gas. *Journal of Materials Science: Materials in Electronics* 34, 805 (2023).
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- 3- Abdulkarem H. M. Almawgani, Hussein A. Elsayed, Ahmed Mehaney, T. A. Taha,cd Ziyad Awadh Alrowaili, Ghassan Ahmed Ali, Walied Sabra, Sayed Asaduzzaman, and **Ashour M. Ahmed**, Photonic crystal nanostructure as a photodetector for NaCl solution monitoring: theoretical approach. *RSC Adv.*, 2023, 13, 6737
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- 4- N. M. A. Hadia, Meshal Alzaid, Bandar Alqahtani, Mohammed Al-Shaghhdali, W. S.

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- 5- T. A. Taha, Rana Saad, Mohamed Zayed, Mohamed Shaban, and **Ashour M. Ahmed**, Tuning the surface morphologies of ZnO nanofilms for enhanced sensitivity and selectivity of CO₂ gas sensor. *Applied Physics A* (2023) 129:115
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- 6- Huda Mostafa, **Ashour M. Ahmed**, Mohamed Shaban, Ahmed A. Abdel-Khaliek, Fuead Hasan, Fatimah Mohammed Alzahrani, and Mohamed Rabia. Design and characterization of nanostructured Ag₂O-Ag/Au based on Al₂O₃ template membrane for photoelectrochemical water splitting and hydrogen generation. *Photonics* 2022, 9, 968.
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- 7- Amira H. Ali, Asmaa S. Hassan, **Ashour M. Ahmed**, Ahmed A. Abdel-Khaliek, Sawsan Abd El Khalik, Safaa M. Abass, Mohamed Shaban, Fatimah Mohammed Alzahrani, and Mohamed Rabia. Preparation and characterization of nanostructured inorganic copper zinc tin sulfide-delafossite nano/micro composite as a novel photodetector with high efficiency. *Photonics* 2022, 9, 979.
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- 8- Z.A. Alrowaili, M. Aouassa, M.H. Mahmoud, Karam S. El-Nasser, Hussein A. Elsayed, T.A. Taha, **Ashour M. Ahmed**, Ali Hajjiah, Ahmed Mehaney, Locally resonant porous phononic crystal sensor for heavy metals detection: A new approach of highly sensitive liquid sensors. *Journal of Molecular Liquids* 369 (2023) 120964
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- 9- T. A. Taha, Hussein A. Elsayed, Ahmed Mehaney, Ali Hajjiah, **Ashour M. Ahmed**, Hybrid Tamm plasmon resonance excitation towards a simple and efficient biomedical detector of NaI solution. *RSC Adv.*, 2022, 12, 28985
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- 11- Fatemah H. Alkallas, Amira Ben Gouider Trabelsi, Tahani A. Alrebdi, **Ashour M. Ahmed**, Mohamed Rabia. Development of a highly efficient optoelectronic device based on $\text{CuFeO}_2/\text{CuO}/\text{Cu}$ composite nanomaterials. *Materials* 2022, 15, 6857
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- 12- N. M. A. Hadia, Sayeda Eid, Mohamed Shaban, S. H. Mohamed, Asmaa M. Elsayed, **Ashour M. Ahmed**, Meshal Alzaid, Ahmed Adel A. Abdelazeez, Wassim El Malti, Mohamed Rabia, Poly-3-methyl aniline-assisted spherical PbS quantum dots through the ionic adsorption deposition method as a novel and highly efficient photodetector in UV, Vis, and NIR regions. *Adsorption Science & Technology*, 2022, Article ID 7693472, 12 pages
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- 13- Amira Ben Gouider Trabelsi, Doaa Essam, Fatemah H. Alkallas, **Ashour M. Ahmed**, Mohamed Rabia, Petal-like $\text{NiS-NiO}/\text{G-C}_3\text{N}_4$ nanocomposite for high-performance symmetric supercapacitor. *Micromachines* 2022, 13, 2134
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- 14- Fatma Mohamed, Mohamed Shaban, Shima Kotb Zaki, Maysaa Sayed Abd-Elsamie, Radwa Sayed, Mohamed Zayed, Nermein Khalid, Sara Saad, Sara Omar, **Ashour M. Ahmed**, Abanoub Gerges, H. R. Abd El-Mageed, N. K. Soliman, Activated carbon derived from sugarcane and modified with natural zeolite for efficient adsorption of methylene blue dye: experimentally and theoretically approaches. *Scientific Reports* (2022) 12:18031
<https://doi.org/10.1038/s41598-022-22421-8>
- 15- N. M. A. Hadia, Mohammed A. H. Khalafalla, Fatma M. Abdel Salam, **Ashour M. Ahmed**, Mohamed Shaban, Aljawhara H. Almuqrin, Ali Hajjiah, H. A. Hanafi,

- Mansoor Alruqi, Abdel-Hamid I. Mourad, and Mohamed Rabia, Conversion of sewage water into H₂ gas fuel using hexagonal nanosheets of the polyaniline-assisted deposition of PbI₂ as a nanocomposite photocathode with the theoretical qualitative ab-initio calculation of the H₂O splitting. *Polymers* 2022, 14, 2148
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- 16- Hussein A. Elsayed, T.A. Taha, Saud A. Algarni, **Ashour M. Ahmed**, Ahmed Mehaney, Evolution of optical Tamm states in a 1D photonic crystal comprising a nanocomposite layer for optical filtering and reflecting purposes. *Optical and Quantum Electronics Journal* 54 (2022) 312.
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- 17- Mohamed Zayed, Salsbeel Samy, Mohamed Shaban, Abeer S. Altowyan, Hany Hamdy, **Ashour M. Ahmed**, Fabrication of TiO₂/NiO p-n nanocomposite for enhancement dye photodegradation under solar radiation. *Nanomaterials* 2022, 12, 989
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- 18- Ahmed Gamal, Mohamed Shaban, Mohammad BinSabt, Mahmoud Moussa, **Ashour M. Ahmed**, Mohamed Rabia, Hany Hamdy, Facile fabrication of polyaniline/PbS nanocomposite for high-performance supercapacitor application. *Nanomaterials* 2022, 12, 817
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- 19- Asmaa M. Elsayed, Mohamed Shaban, Arafa H. Aly, **Ashour M. Ahmed**, Mohamed Rabia, Preparation and characterization of a high-efficiency photoelectric detector composed of hexagonal Al₂O₃/TiO₂/TiN/Au nanoporous array. *Materials Science in Semiconductor Processing* 139 (2022) 106348
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- 21- Esam E. Abdel-Hady, Mohamed Shaban, Mohamed O. Abdel-Hamed, Ahmed Gamal, Heba Yehia, **Ashour M. Ahmed**. Synthesis and characterization of NiCoPt/CNFs nanoparticles as an effective electrocatalyst for energy applications. *Nanomaterials* 2022, 12, 492

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- 22- Z. A. Alrowaili, Hussein A. Elsayed, **Ashour M. Ahmed**, T. A. Taha, Ahmed Mehaney, Simple, efficient and accurate method toward the monitoring of ethyl butanoate traces. *Optical and Quantum Electronics* (2022) 54:126

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- 23- Sayed Asaduzzaman, Hasin Rehana, M. D. Tanzil Aziz, **Ashour M. Ahmed**, Hussein A. Elsayed, Ahmed Mehaney Design of Hexa-wheel sectored photonic crystal fiber for soybean biodiesel sensing, *Physica Scripta* 97 (2022) 030005

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- 24- Fatma Mohamed, Safwat Hassaballa, Mohamed Shaban, **Ashour M. Ahmed**, Highly efficient photocatalyst fabricated from the chemical recycling of iron waste and natural zeolite for super dye degradation. *Nanomaterials* 2022, 12, 235

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- 25- Ahmed Mehaney, **Ashour M. Ahmed**, Hussein A. Elsayed, Arafa H. Aly, Walied Sabra, Hydrostatic pressure effects for controlling the phononic band gap properties in a perfect phononic Crystal. *Optical and Quantum Electronics* (2022) 54:94

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- 26- Asmaa M. Elsayed, Arafa H. Aly, **Ashour M. Ahmed**, Glucose sensor modeling based on Fano resonance excitation in titania nanotube photonic crystal coated by titanium nitride as a plasmonic material, *Applied Optics* Vol. 61, No. 7 (2022) 1668-1674

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- 27- Mohamed Shaban, Mohammad BinSabt, **Ashour M. Ahmed**, Fatma Mohamed,

Recycling rusty iron with natural zeolite heulandite to create a unique nanocatalyst for green hydrogen production. *Nanomaterials* 2021, 11, 3445

<https://doi.org/10.3390/nano11123445>

28- Ahmed Adel A. Abdelazeez, Gehad Abd El-Fatah, Mohamed Shaba, **Ashour M. Ahmed**, Mohamed Rabia, ITO/Poly-3-Methylaniline/Au electrode for electrochemical water splitting and dye removal. *ECS Journal of Solid State Science and Technology* (2021)

<https://doi.org/10.1149/2162-8777/ac3d1a>

29- Rana Saad, Ahmed Gamal, Mohamed Zayed, **Ashour M. Ahmed**, Mohamed Shaban, Mohammad BinSabt, Mohamed Rabia, Hany Hamdy, Fabrication of ZnO/CNTs for application in CO₂ sensor at room temperature. *Nanomaterials* 2021, 11, 3087

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- 35- Ahmed Mehaney, **Ashour M. Ahmed**, Francis Segovia-Chaves, Hussein A. Elsayed, Tunability of local resonant modes in Fibonacci one-dimensional phononic crystals by hydrostatic pressure. *Optik* (2021) 167546
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- 37- Francis Segovia-Chaves, Hussein A. Elsayed, Ahmed Mehaney, **Ashour M. Ahmed**, Defect mode modulation for a protein solution cavity surrounded by graphene and nanocomposite layers. *Optik* 242 (2021) 167161.
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- 38- Zaky A. Zaky, **Ashour M. Ahmed**, Arafa H. Aly, Remote temperature sensor based on Tamm resonance. *Silicon* (2021) <https://doi.org/10.1007/s12633-021-01064-w>
- 39- Mohamed Shaban, Mohamed Rabia, Mahmoud G. Eldakrory, Ragab M. Maree, **Ashour M. Ahmed**, Efficient photoselectrochemical hydrogen production utilizing of APbI₃ (A= Na, Cs, and Li) perovskites nanorods. *International Journal of Energy Research* (2021) 45, (5) p. 7436-7446
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- 40- **Ashour M. Ahmed**, Hussein A. Elsayed, Ahmed Mehaney, High-performance temperature sensor based on one-dimensional pyroelectric photonic crystals comprising Tamm/Fano resonances. *Plasmonics* (2020) 16, p 547-557

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- 42- Ahmed Mehaney, Abd Allah Shehatah, **Ashour M. Ahmed**, Modeling of phononic crystal cavity for sensing different biodiesel fuels with high sensitivity. *Materials Chemistry and Physics* 257 (2021) 123774
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- 43- **Ashour M. Ahmed**, Ahmed Mehaney, Novel design of wide temperature ranges sensor based on Tamm state in a pyroelectric photonic crystal with high sensitivity. *Physica E* 2021, 125, 114387
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- 44- Ahmed Mehaney, **Ashour M. Ahmed**, Theoretical design of porous phononic crystal sensor for detecting CO₂ pollutions in air. *Physica E* 2020, 124: 114353
<https://doi.org/10.1016/j.physe.2020.114353>
- 45- **Ashour M. Ahmed**, Fatma Mohamed, Abdallah M. Ashraf, Mohamed Shaban, Aftab Aslam Parwaz Khan, Abdullah M. Asiri, Enhanced photoelectrochemical water splitting activity of carbon nanotubes@TiO₂ nanoribbons in different electrolytes. *Chemosphere* 2020, 238, 124554.
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- 46- Zaky A. Zaky, **Ashour M. Ahmed**, Ahmed S. Shalaby, Arafa H. Aly, Refractive index gas sensor based on the Tamm state in a one-dimensional photonic crystal: Theoretical optimization. *Scientific Reports* 2020, 10: 9736
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- 47- Ashraf Helmy, Mohamed Rabia, Mohamed Shaban, Abdallah M. Ashraf, Sayed Ahmed, **Ashour M. Ahmed**, Graphite/rolled graphene oxide/carbon nanotube photoelectrode for water splitting of exhaust car solution. *International Journal of Energy Research* 2020, 1-11

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- 51- **Ashour M. Ahmed**, Mohamed Shaban, Nanoporous chromium thin film for active detection of toxic heavy metals traces using surface-enhanced Raman spectroscopy. Materials Research Express 2020, 7, 015084

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65- Mostafa Fawzy Eissa, **Ashour M. Ahmed**, Omar Abdel-Salam, Fayez Shahin, Study the effects of radon inhalation on biomechanical properties of blood in rats. *International Journal of Cancer Therapy and Oncology* 2015, 3(3), 3326.

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