

## CURRICULUM VITAE

### PERSONAL DATA

<b>Name</b>	Mahmoud Saeed Hezam
<b>Nationality</b>	Yemeni
<b>Position</b>	Assistant Professor
<b>E-Mail</b>	mshezam@imamu.edu.sa
<b>Phone</b>	

### EDUCATION

<b>Year</b>	<b>Academic Degree</b>	<b>Institution</b>
2017	PhD in Physics	Swiss Federal Institute of Technology in Lausanne (EPFL)
2007	MSc in Physics	King Fahd University of Petroleum and Minerals (KFUPM)
2004	BSc in Physics	King Fahd University of Petroleum and Minerals (KFUPM)

### WORK EXPERIENCE

<b>Period</b>	<b>Position</b>	<b>Address</b>
2017-2022	Principal Researcher	King Abdullah Institute for Nanotechnology (KAIN), King Saud University
2012-2017	Doctoral Assistant	Institute of Physics, Swiss Federal Institute of Technology in Lausanne (EPFL)
2008-2017	Researcher	King Abdullah Institute for Nanotechnology (KAIN), King Saud University
2004-2008	Research Assistant	Physics Department, King Fahd University of Petroleum and Minerals (KFUPM)

## RESEARCH INTERESTS

- Electron dynamics in solar photovoltaic cells
- Solar water splitting for hydrogen production
- Semiconductor alloys for IR applications
- Chemical growth of metal oxide and halide nanostructures
- Anti-dust coatings for solar panels
- Machine learning for material property prediction

## SPUBLICATIONS (SELECTED)

1. E. Bahaidra, N. Al-Khalli, M. Hezam, M. Alduraibi, B. Ilahi, N. Debbar and M. Abdel-Rahman. Electro-Optical Characterization of an Amorphous Germanium-Tin ( $\text{Ge}_{1-x}\text{Sn}_x$ ) Microbolometer. *Journal of Infrared, Millimeter, and Terahertz Waves*, 63: 1-12 (2023).
2. M.N. Shaddad, M. Hezam, P. Arunachalam, N.M. Al-Saeedan, S. Gimenez, J. Bisquert, and A.M. Al-Mayouf. Improved solar water splitting performance of  $\text{BiVO}_4$  photoanode by the synergistic effect of Zr-Mo co-doping and  $\text{FeOOH}$  Co-catalyst layer. *Materials Letters*, 325: 132799 (2022).
3. M.N. Shaddad, P. Arunachalam, M.S. Amer, A.M. Al-Mayouf, M. Hezam, H.A. AlOraij, S. Gimenez. Exploiting the synergistic catalytic effects of CoPi nanostructures on Zr-doped highly ordered  $\text{TiO}_2$  nanotubes for efficient solar water oxidation. *International Journal of Energy Research*, 46(9): 12608-12622 (2022).
4. A.K. Assaifan, M. Hezam, M.A. Al-Gawati, K.E. Alzahrani, A. Alswieleh, P. Arunachalam, A. Almayouf, A. Alodhayb, and H. Albrithen. Label-free and simple detection of trace Pb (II) in tap water using non-faradaic impedimetric sensors. *Sensors and Actuators A: Physical*, 329, 112833 (2021).
5. H. M. Ghaithan, Z.A. Alahmed, S.M. Qaid, M. Hezam, and A.S. Aldwayyan. Density functional study of cubic, tetragonal, and orthorhombic  $\text{CsPbBr}_3$  perovskite. *ACS Omega*, 5(13): 7468-7480 (2020).
6. M.N. Shaddad, P. Arunachalam, J. Labis, M. Hezam, and A.M. Al-Mayouf. Fabrication of robust nanostructured (Zr)  $\text{BiVO}_4$ /nickel hexacyanoferrate core/shell photoanodes for solar water splitting. *Applied Catalysis B: Environmental*, 244: 863-870 (2019).
7. M. Hezam, S.M. Qaid, I. Bedja, F. Alharbi, M. K. Nazeeruddin, and A. Aldwayyan. Synthesis of pure brookite nanorods in a nonaqueous growth environment. *Crystals*, 9(11): 562 (2019).