


Curriculum Vitae

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Address

Sebha University
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Qualifications

- * BSc degree in 1993, department of Physics, Faculty of Science – Sebha University, Libya.
- * MSc degree in 2005, department of physics, Faculty of Science – Benghazi University, Benghazi-Libya. (Title: Bulk and thin film magnetism).
- * PhD degree in 2012-2013, department of physics, school of applied physics, Faculty of Science and Technology, Universiti Kebangsaan Malaysia. (Title: physical, magnetic and magneto optical properties of terbium yttrium iron garnets and terbium aluminium yttrium iron garnets sol-gel films.
- * Postdoctorat research fellow at National University of Malaysia (UKM, 2013-2014)

Expertise

- Advanced materials
- Nanoscience and nanotechnology
- Condensed matter
- Material Science
- Magnetization
- Thin film

Research experience

1- The Research experience in topics, including

- Coating and deposition
- Garnet thin film and garnet characterization
- Doping and co-dope garnet thin film with rare earth (Tb,Er....etc)
- Co-dope garnet thin film with Al³⁺ and rare earths elements.
- ZnO doped with Ga thin film
- Thin film and thick film
- Sol-gel method
- Spray pyrolysis
- Nanoparticles
- Magnetic and magnetism
- Annealing
- Materials
- Magnetic characterisation.
- Spin coating technique
- Thermal evaporation deposition
- Magneto-optical properties (FR)
- Microstructural characterization (FE-SEM, TEM, EDX and AFM)
- Vibrating sample magnetometer (VSM)
- Surface analysis (XPS, AES)
- Structural analysis (XRD and XRF)
- UV/vis
- Photoluminescence (PL)
- Fourier transmittance infra red (FTIR)

Teaching and supervisory Experience

- Electricity and magnetism physics
- General physics
- Electromagnetic theory
- Solid state (BSc &MSc)
- Quantum mechanics (BSc &MSc)
- Statistical Mechanics (BSc)
- Classical Mechanics (BSc &MSc)
- Analytical Mechanics (Mathematical MSc students)
- General Physics for agriculture students
- Special relativity
- Supervising BSc students at physics department, Sebha University (Libya)
- Supervising BSc, supervising and guide in preparation samples for BSc, MSc and PhD students at National University of Malaysia (UKM).

Workshops and training

- Basic XRF :theory and application (2009)
- Basic XRD :Rietveld analysis (2010)

- The 5th workshop on X-Ray diffraction : theory and application (2010)
- The 7th workshop on X-Ray diffraction (2011)
- XRD workshop: Rietveld analysis (2011)
- Workshop on Basic X-Ray instrumentation (2012)
- Workshop on Raman and PL analysis (2012)
- Workshop on Vibrating sample magnetometer (2013)
- Wet chemical preparation of gold, silver and bimetallic gold silver nanoparticle attached indium tin oxide (2009)
- The Auger spectroscopy and XPS (2014)
- UKM- Flinders (Flinders University, Australia)nanotechnology summer school (2012)
- UKM- Flinders (Flinders University, Australia) nanotechnology summer school (NSS 2013)

Chair of Sessions at Conferences

- 26th regional conference on solid state science & technology, Malaysia (thin film session, 2011)
- The 1st international conference on science and technology (12th – 14th February 2018)- Libya.
- The 3rd conference for postgraduate studies (25 April 2019) – Libya
- The 3rd international conference on science and technology (2nd – 3rd) September 2020)- Libya.
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Conferences

1. The 11th Eurasia Conference on Chemical Sciences 6-10 October 2010, the Dead Sea – Jordan.
2. The 26th Regional Conference on Solid State Science & Technology 2011(RCSST 2011).
3. The 3rd ISESCO International Workshop and Conference on Nanotechnology (IWCN 2012) - Malaysia.
4. The 2nd International multidisciplinary microscopy and microanalysis congress & exhibition (interM2014) - Turkey.
5. The 11th postgraduate colloquium (6th – 7th July 2011) - Malaysia.
- 6- The 1st international conference on science and technology (12th – 14th February 2018)- Libya
- 7- The 3rd postgraduate studies conference at Sebha University (25- April 2019)- Libya

Publications

1. **Ftema W. Aldbea**, N.B.Ibrahim, Mustaffa Hj. Abdullah, Ramadan E. Saiboub. 2012. Structural and magnetic properties of $Tb_xY_{3-x}Fe_5O_{12}$ ($0 \leq x \leq 0.8$) thin film prepared via sol-gel method. *Journal of Sol-Gel Science and Technology*, 62:483-489.
2. N.B.Ibrahim, **Ftema W. Aldbea**, Mustaffa Hj. Abdullah. 2012. Effects of annealing temperatures on structure and magnetic properties of $Tb_xY_{3-x}Fe_5O_{12}$ ($x=0.2, 0.4$) thin films. *Journal of Nanomaterials*, 2012: 1-5.

3. Ramadan Shaiboub, Noor Baa`yah Ibrahim, Mustafa Abdullah, and **Ftema Abdulhade**. 2012. The physical properties of Erbium- Doped Yttrium Iron Garnet Films prepared by Sol-Gel method. *Journal of Nanomaterials*, DOI:10.115/2012/524903.
4. **Ftema W. Aldbea**, N.B.Ibrahim, Mustaffa Hj. Abdullah, Ramadan E. Saiboub. 2012. Effect of annealing temperature on the structural and magnetic properties of $Tb_xY_{3-x}Fe_5O_{12}$ ($x = 0.0, 1.0, 2.0$) thin films prepared by sol-gel process. *Pro. Advance Materials Research*. 501: 236-241.
5. **Ftema W. Aldbea**, N.B.Ibrahim, Mustaffa Hj. Abdullah. 2013. Annealing Effects on the Physical and Magnetic properties of $Tb_{1.5}Y_{1.5}Fe_5O_{12}$ Films Nanoparticles prepared by Sol-Gel Method. *Material Science Forum*. doi:10.4028/www.scientific.net/MSF.756.91
6. **Ftema W. Aldbea**, N.B.Ibrahim, Mustaffa Hj. Abdullah, Muhammad Matt Salleh, “Effect of annealing temperature on to structural and magnetic properties of $Tb_{0.6}Y_{2.4}Fe_5O_{12}$ sol-gel thin films, *Proceeding of the 11th Postgraduate colloquium Faculty of Science and Technology UKM (2011)*.
7. Effect of increasing pH value on the structural, optical and magnetic properties of Yttrium iron garnet films prepared by a sol-gel method. **Ftema W. Aldbea**, N. I.Ahmad, N.B.Ibrahim, M. Yahya. *Journal of Sol-Gel Science and Technology*, 71: 31-37(2014)
8. Effect of adding aluminium ion on the structural, optical, electrical and magnetic properties of terbium doped yttrium iron garnet nanoparticles films prepared by sol–gel method. **Ftema W. Aldbea**, N.B.Ibrahim and M. Yahya. *Journal of Applied Surface Science*, 321:150 – 157(2014).
9. An Overview about the Garnet Thin Films (Terbium Yttrium Iron Garnet and Aluminum Terbium Yttrium Iron Garnet) Structural and Magnetic Properties (chapter). **Ftema W. Aldbea**, and N.B.Ibrahim. *Journal of Materials Science and Applications*, 185:194 – 1(5) (2015).
10. Effect of Annealing Temperature on the Structural and Magnetic Properties of Terbium Iron Garnet Thin Films Prepared by Sol-Gel Method. **Ftema W. Aldbea**, and N.B.Ibrahim, (Chapter in press), 2nd International Multidisciplinary Microscopy and Microanalysis Congress, Springer (2014).
11. Effect of annealing temperature in oxygen on the structural and magnetic properties of yttrium iron garnet ($Y_3Fe_5O_{12}$) films prepared by a sol-gel method followed by a spin coating technique. N. B. Ibrahim, **Ftema W. Aldbea**, A.Z.Aread and Noorhsniyah Md Rodee. *Material Science Forum*, (648) 626-634 (2016).
- 12- Tin doping effect on properties of sprayed In_2S_3 films. Mabrouk Kraini1, **Ftema W. Aldbea**, Noureddine Bouguila1, Carlos Vázquez-Vázquez3. *Journal of Pure & Applied Sciences* (2018).
13. Aging effects on the structural and magnetic properties of terbium–aluminium co-doping of yttrium iron garnet films prepared using the sol–gel method. **Ftema. W. Aldbea**, Efil Yusrianto and N. B. Ibrahim. *Journal of Electronic Materials*, <https://doi.org/10.1007/s11664-018-6417-0>, springer 2018.

14- Structural properties of zinc oxide powders prepared by sol-Ggel method.

Umkalthoum. Ali. Othman , **Ftema W. Aldbea** , Mabrouk Kraini, Nouredine Bouguila,

Carlos Vázquez-Vázquez , Mustafa M. Abdalla and Rahdar Abbas. Journal of Pure & Applied Science.vol.18 (2019)

15- Physical properties and ethanol response of sprayed $\text{In}_2\text{S}_3:\text{Sn}$ films, M. Kraini , J El Ghoul,R Souissi, A Sharma, **F W Aldbea**, H A bassi, N Bouguila and CVázquez-Vázquez. Mater. Res. Express 6 (2019). 106431

Projects

1- Structural and optical properties of ZnO doping Iodine nanoparticles prepared by sol-gel methods

2- Investigating the phases of Al_2O_3 nanoparticles prepared by sol-gel method.

3- Structural properties of sol-gel silica carbide powder preparing from silica south of Libya.

4- Effect of variation of heating rate onto physical properties of ZnS powders preparing via the sol-gel method.

5- Effect of variation of heating and pH rate onto physical properties of ZnS powders preparing via the sol-gel method.

6- Preparing and characteristic silicon carbide preparing from silica southern of Libya.

Reviewing paper at journals

1- Journal of Material Chemistry and Physics. (Elsevier)

2- Journal of Alloys and compounds. (Elsevier)

3- Optik- International journal for light and electron optics. (Elsevier)

4- Materialia. (Elsevier).

5- e-book Series (**Advances in Materials Research and Technology**); (springer)

6- Journal of Nanoanalysis

Membership

American Association for Science and Technology (AASCIT)

Jobs at University

- Director of postgraduate studies at Faculty of Science, Sebha University, 2017-2018
- Editorial board member in Journal of Sebha University,(JUS).

Award and achievement

- Marques who's who in the word for publication (the biography has been published in the book Who's Who in the World - 32nd Edition, 2014.
- Elsevier reviewer recognition awarded, July 2015 (Journal Material Chemistry and physics).

- Elsevier reviewer recognition awarded, May 2016 (Journal of Alloys and Compounds).
- Elsevier reviewer recognition awarded, May 2016 (Optik- International journal for light and electron optics)

Hobbies: Reading the scientific books.