

# Curriculum Vitae

Mahmoud Abdelfatah

## Personal information

Full name	Mahmoud Mohamed Saad Abdelfatah	
Nationality	Egyptian	
Date of birth	March 14th, 1983	
Marital status	Married (2 child)	
E-mail	<a href="mailto:mahmoud.abdelfatah@sci.kfs.edu.eg">mahmoud.abdelfatah@sci.kfs.edu.eg</a> <a href="mailto:mahmoud.abdelfatah@ist-extern.fraunhofer.de">mahmoud.abdelfatah@ist-extern.fraunhofer.de</a>	

Scops website <https://www.scopus.com/authid/detail.uri?authorId=56304687900>

Web of Science website <https://publons.com/researcher/4798724/mahmoud-abdelfatah/publications/>

Google Scholar website [https://scholar.google.com/citations?user=9m\\_LYikAAAAJ&hl=de](https://scholar.google.com/citations?user=9m_LYikAAAAJ&hl=de)

Researchgate website [https://www.researchgate.net/profile/Mahmoud\\_Abdelfatah3](https://www.researchgate.net/profile/Mahmoud_Abdelfatah3)

Address 1- Eight street, Elkantra, Kafrelsheikh, 33516, Egypt.

Phone 00201001472527 (whatsapp).

## Education

- 2016 Ph.D. degree in Physics with a thesis topic of "Fabrication and Characterization of Low-Cost Solar Cells based on Earth Abundant Materials for Sustainable Photovoltaics", Institute of Semiconductor Technology, Braunschweig University of Technology, Germany.
- 2014 Preliminary Ph.D. courses in Physics, Faculty of Science, Kafrelsheikh University, Egypt.
- 2011 M.Sc. degree in Physics with a thesis topic of "Transport Properties Study of Nano Porous Materials", Kafrelsheikh University, Egypt.
- 2009 Complement Studies in Physics, Faculty of Science, Tanta University, Egypt
- 2006 Special Diploma in Physics, Faculty of Education, Kafrelsheikh University, Egypt.
- 2005 General Diploma in Physics, Faculty of Education, Kafrelsheikh University, Egypt.
- 2004 B.Sc. in Physics and Chemistry, Faculty of Education, Kafrelsheikh Branch, Tanta University, Egypt.

# Curriculum Vitae

Mahmoud Abdelfatah

## Employment History

03.2022-09.2022	Associate Professor and Post doc at Fraunhofer Institute for Surface Engineering and Thin Films IST, Bsienroder Weg 54 e, D-38108, Braunschweig, Germany.
2021 - till now	Associate Professor at Physics Department, Faculty of Science, Kafrelsheikh University, Egypt.
2016 - 2021	Lecturer at Physics Department, Faculty of Science, Kafrelsheikh University, Egypt.
2014-2016	Scientific staff in the Institute of Semiconductor Technology (IHT), Braunschweig University of Technology, Germany.
2011-2014	Assistant lecturer at Physics Department, Faculty of Science, Kafrelsheikh University, Egypt.
2009-2011	Scientific researcher at Physics Department, Faculty of Science, Kafrelsheikh University, Egypt.
2005-2009	Scientific researcher at Physics and Chemistry Department, Faculty of Education, Kafrelsheikh University, Egypt.

## Research Interests

- Synthesis of nanostructure semiconductor oxides, quantum dots, quantum wells, nanowires, nanoporous, nanoparticles, nanorods, thin films, 2D materials and nanomaterials (i.e., Ag nanoparticles, ZrS<sub>2</sub> and BrZrS<sub>3</sub> thin films, TiO<sub>2</sub> nanorods and nanoparticles, ZnO nanorods, nanowires and nanoparticles, Cu<sub>2</sub>O thin films and nanoparticles, Fe<sub>3</sub>O<sub>4</sub> quantum dots and CdS quantum dots and GO nanosheet).
- Semiconductor technology experiences on chemical growth methods [(i.e., chemical bath deposition, electrochemical deposition, hydrothermal and successive ionic layer adsorption and reaction (SILAR)], and physical methods [(i.e., sputtering, thermal evaporation, atomic layer deposition (ALD), chemical vapor deposition (CVD)].
- Experiences on photolithography and working in clean room environment.
- Experiences on electrical and optical characterization methods of semiconductors (i.e., UV, FTIR, SEM, TEM, particle size, Electroluminescence, Photoluminescence, Solar simulator, I-V, LCR, Raman, C-V, C-f, and EQE measurements).

# Curriculum Vitae

Mahmoud Abdelfatah

- Fabrication and characterization of devices for energy and environmental applications such as solar cells, LEDs, sensors, water splitting, photoelectrochemical, water treatment, and photocatalytic applications.
- Optoelectronic devices simulation using SCAPs and other programs.
- Preparation of Polymer materials using Resorcinol and formaldehyde in the form of nano porous materials and in the form of nano composite materials.
- Fabrication of nano optoelectronic devices based on Polymers.

## Publications and Conferences

1. **M. Abdelfatah**, W. Ismail and A. El-Shaer, Seed layer-free growth of submicron ZnO rod arrays employing low-cost methods and their photoelectrochemical biosensing, *in preparation*.
2. **M. Abdelfatah**, W. Ismail and A. El-Shaer, Light emitting diode based on electrodeposited Cu<sub>2</sub>O / polymers heterojunction and, *in preparation*.
3. Mahmoud Abdelfatah, Adel M.El Sayed, Walid Ismail, Stephan Ulrich , Abdelhamid El-Shaer, Volker Sittinger, SCAPS simulation of novel inorganic ZrS<sub>2</sub>/CuO heterojunction solar cells; the impact of thickness, carrier concentration, and bandgap, *Under Review* in Journal of Solar Energy.
4. HY Salah, **M Abdelfatah**, A El-Shaer, AH Oraby, Effect of Al doped ZnO on optical and photovoltaic properties of the p-Cu<sub>2</sub>O/n-AZO solar cells, *Ceramics International*, (2023)([doi.org/10.1016/j.ceramint.2022.10.277](https://doi.org/10.1016/j.ceramint.2022.10.277))
5. **M. Abdelfatah**, Osama Basyouni, Walid Ismail, and Abdelhamid El-Shaer, Femtosecond Nonlinear Optical Properties and Minority Carrier Lifetime of F4TCNQ-doped Bismuthene for Next-generation Optoelectronic and Ultrafast Photonic Devices, *Journal of Alloys and Compounds* Volume 936,168329 (2022).( [doi.org/10.1016/j.jallcom.2022.168329](https://doi.org/10.1016/j.jallcom.2022.168329))
6. HY Salah, Mabrok Bakry, M Kubas, Walid Ismail, MI El-Henawey, AH Oraby, Abdelhamid El-Shaer, **M. Abdelfatah**, Improvement of the structural, morphological, optical, and photoelectrochemical properties of Al-doped ZnO nanorods for use in biosensors and solar cells, *The European Physical Journal Plus* 137 (12), 1-13 (2022).( [doi.org/10.1140/epjp/s13360-022-03532-7](https://doi.org/10.1140/epjp/s13360-022-03532-7))
7. **M Abdelfatah**, A Basuni, HY Salah, M Bakry, N Darwesh, W Ismail and Abdelhamid El-Shaer, Improvement of physical and electrochemical properties of Cu<sub>2</sub>O thin films with Fe ions

# Curriculum Vitae

Mahmoud Abdelfatah

- doping towards optoelectronic applications, *Optical Materials* 130, 112583 (2022). ([doi.org/10.1016/j.optmat.2022.112583](https://doi.org/10.1016/j.optmat.2022.112583))
8. Said M. Kamel, Samah F. Elgobashy, Reda I. Omara, Aly S. Derbalah, M. Abdelfatah, Abdelhamed El-Shaer, Abdulaziz A. Al-Askar, Ahmed Abdelkhalek, Kamel A. Abd-Elsalam, Tarek Essa, Muhammad Kamran and Mohsen Mohamed Elsharkawy, Antifungal Activity of Copper Oxide Nanoparticles against Root Rot Disease in Cucumber, *Journal of Fungi* 8 (9), 911 (2022)( [doi.org/10.3390/jof8090911](https://doi.org/10.3390/jof8090911))
9. Aly Derbalah, Tarek Essa, Said Mohamed Kamel, Reda Ibrahim Omara, M. Abdelfatah, Abdelhamed Elshaer, Mohsen Mohamed Elsharkawy, Silver oxide nanostructures as a new trend to control strawberry charcoal rot induced by *Macrophomina phaseolina*, *Pest Management Science*, *Pest Management Science* 78 (11), 4638-4648 (2022). ([doi.org/10.1002/ps.7084](https://doi.org/10.1002/ps.7084))
10. Aly Derbalah, Ibrahim Abdelsalam, Said I. Behiry, Ahmed Abdelkhalek, M. Abdelfatah, Sherin Ismail, Mohsen Mohamed Elsharkawy, Copper oxide nanostructures as a potential method for control of zucchini yellow mosaic virus in squash, *Pest Management Science*, 78: 3587-3595 (2022). ([doi.org/10.1002/ps.7001](https://doi.org/10.1002/ps.7001))
11. M. Abdelfatah, Ali Basuni, H.Y. Salah, Mabrok Bakry, Nourhan Darwesh, Walid Ismail, Abdelhamid El-Shaer, Improvement of physical and electrochemical properties of Cu<sub>2</sub>O thin films with Fe ions doping towards optoelectronic applications, *Journal of Optical Materials*, Volume 130, August 2022, 112583 (2022). ([doi.org/10.1016/j.optmat.2022.112583](https://doi.org/10.1016/j.optmat.2022.112583))
12. H.Y.Salah, K.R. Mahmoud, Walid Ismail, Abdelhamid El-Shaer, A.H. Oraby, M. Abdelfatah, M.I. EL-Henawey, Influence of nickel concentration on the microstructure, optical, electrical, and photoelectrochemical properties of ZnO nanorods synthesized by hydrothermal method, *Journal of Electronic Materials*, volume 51, pages910–920 (2022). ([doi.org/10.1007/s11664-021-09373-x](https://doi.org/10.1007/s11664-021-09373-x))
13. Nagi M.El-Shafai, Mohamed M. Ibrahim, M. Abdelfatah, Mohamed S. Ramadan, Ibrahim M.El-Mehasseb, Synthesis, characterization, and cytotoxicity of self-assembly of hybrid nanocomposite modified membrane of carboxymethyl cellulose/graphene oxide for photocatalytic antifouling, energy storage, and supercapacitors application, *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 626, 127035 (2021). ([doi.org/10.1016/j.colsurfa.2021.127035](https://doi.org/10.1016/j.colsurfa.2021.127035))
14. Nagi M. El-Shafai, M. Abdelfatah, Ibrahim M.El-Mehasseb, Mohamed S. Ramadan, Mohamed M. Ibrahim, Abdelhamed El-Shaer, Maged A. El-Kemary, Mamdouh S. Masoud, Enhancement

# Curriculum Vitae

Mahmoud Abdelfatah

- of electrochemical properties and photocurrent of copper oxide by heterojunction process as a novel hybrid nanocomposite for photocatalytic anti-fouling and solar cell applications, *Separation and Purification Technology*, 267, 118631 (2021). ([doi.org/10.1016/j.seppur.2021.118631](https://doi.org/10.1016/j.seppur.2021.118631))
15. M. Abdelfatah, H Salah, M Bakry, W Ismail, A El-Shaer, S Abdelgawad, Influence of band gap and carrier concentration on ZnO/CuO solar cells performance, *Egyptian Journal of Solids* 43 (1), 158-173 (2021). ([doi.org/10.21608/EJS.2021.92116.1018](https://doi.org/10.21608/EJS.2021.92116.1018))
16. Walid Ismail, Mabrok Bakry, Moneim Elshobaki, Abdelhamid El-Shaer, M. Abdelfatah, Impact of precursor concentrations and substrate type on properties of electrodeposited CdO nanorod thin films for optoelectronic applications, *Materials Science in Semiconductor Processing*, 133, 105959 (2021). ([doi.org/10.1016/j.mssp.2021.105959](https://doi.org/10.1016/j.mssp.2021.105959))
17. Osama H Basyouni, M. Abdelfatah, Mohamed E El-Khouly, Tarek Mohamed, Abdelhamid El-Shaer, Walid Ismail, Facile and environmentally friendly fabrication of few-layer bismuthene by electrochemical exfoliation method for ultrafast photonic applications, *Journal of Alloys and Compounds*, 882, 160766 (2021). ([doi.org/10.1016/j.jallcom.2021.160766](https://doi.org/10.1016/j.jallcom.2021.160766))
18. M. Abdelfatah, H.Y. Salah, M.I. El-Henawey, A.H. Oraby, A. El-Shaer, W. Ismail, Insight into Co concentrations effect on the structural, optical, and photoelectrochemical properties of ZnO rod arrays for optoelectronic applications, *Journal of Alloys and Compounds*, 873 (2021) 159875. ([doi.org/10.1016/j.jallcom.2021.159875](https://doi.org/10.1016/j.jallcom.2021.159875))
19. N. Elkahwagy, M. Abdelfatah, and A. Ismail, Ab initio investigation on the low-lying states of  $\text{InX}$  ( $X = \text{se, sn, sb}$ ), *Canadian Journal of Physics* 99(8), pp. 735–740 (2021). ([doi.org/10.1139/cjp-2020-0568](https://doi.org/10.1139/cjp-2020-0568))
20. Walid Ismail, A. El-Shaer, M. Abdelfatah, Phase transition of  $\text{Cd}(\text{OH})_2$  and physical properties of CdO microstructures prepared by precipitation method for optoelectronic applications, *IOP Conference Series: Materials Science and Engineering* 956 (1), 012006 (2020). ([doi.org/10.1088/1757-899X/956/1/012006](https://doi.org/10.1088/1757-899X/956/1/012006))
21. M. Abdelfatah, A. El-Shaer, and W. Ismail, Simulation of CuO/ZnO heterojunction for photovoltaic applications, *IOP Conference Series: Materials Science and Engineering* 956 (1), 012005 (2020). ([doi.org/10.1088/1757-899X/956/1/012005](https://doi.org/10.1088/1757-899X/956/1/012005))
22. Nagi M. El-Shafai, Rencai Ji, M. Abdelfatah, Mohamed A. Hamad, A. W. Kandeal, Ibrahim M. El-Mehasseb, A. El-Shaer, W. Ismail Mohamed S. Ramadan, Swellam W. Sharshir, A novel

# Curriculum Vitae

Mahmoud Abdelfatah

nanomaterial combination (GO@CuO.γ-Al<sub>2</sub>O<sub>3</sub>): Investigation of nanofluids thermal conductivity and electrical properties, Journal of Alloys and Compounds, Volume 856, 5 March 2021, 157463 (2021). ([doi.org/10.1016/j.jallcom.2020.157463](https://doi.org/10.1016/j.jallcom.2020.157463))

23. Abdelhamid El-Shaer, M. Abdelfatah, M. I. EL-Henawey, Walid Ismail, M. Kubas, Mabrok Bakry, and A. H. Oraby, Structural and Optical Properties of ZnO Nanorod Arrays under Different Growth Temperature, International Journal of Nano and Material Sciences, 2020, 9(1): 1-8.

24. Walid Ismail, Abdelhamid El-Shaer, Nagi M. El-Shafai, and M. Abdelfatah, Impact of substrate type on the surface and properties of electrodeposited Cu<sub>2</sub>O nanostructure films as an absorber layer for solar cell applications, Materials Science in Semiconductor Processing, Volume 120, December 2020, 105335. ([doi.org/10.1016/j.mssp.2020.105335](https://doi.org/10.1016/j.mssp.2020.105335))

25. Nagi M. El-Shafai, M Shokra, M. Abdelfatah, Ibrahim M. El-Mehassebc, Abdelhamid El-Shaer, Mohamed S. Ramadan, and Maged A. El-Kemarya, Electrochemical property, Antioxidant activities, water treatment and solar cell applications of Titanium dioxide - Zinc oxide nanoparticles based on Graphene oxide nanosheet, Materials Science & Engineering B, Volume 259, September 2020, 114596. ([10.1016/j.mseb.2020.114596](https://doi.org/10.1016/j.mseb.2020.114596))

26. M. Abdelfatah, W. Ismail, Nagi M. El-Shafai and A. El-Shaer, Effect of thickness, band gap, and carrier concentration on the basic parameters of Cu<sub>2</sub>O nanostructures Photovoltaics: Numerical simulation study, submitted revised version of manuscript to Materials Technology: Advanced Performance Materials, (2020) 1-9. ([doi.org/10.1080/10667857.2020.1793092](https://doi.org/10.1080/10667857.2020.1793092))

27. Nagi M. El-Shafai, M. Abdelfatah, Mohamed E. El-Khouly, Ibrahim M. El-Mehassebc, Abdelhamid El-Shaer, Mohamed S. Ramadan, Maged A. El-Kemarya and Mamdouh S. Masoud, Magnetite oxide Nano spherical quantum dots decorated graphene oxide Nano sheet (GO@Fe<sub>3</sub>O<sub>4</sub>): Electrochemical study, Removal of heavy metals, pesticide and solar cell application, Applied Surface Science, Volume 506, 15 March 2020, 144896. ([doi.org/10.1016/j.apsusc.2019.144896s](https://doi.org/10.1016/j.apsusc.2019.144896s))

28. Abdelhamid El-Shaer, M. Abdelfatah, Kamal R. Mahmoud, Sanaa Momay, M.R. Eraky, Correlation between Photoluminescence and Positron annihilation lifetime spectroscopy to characterize defects in calcined MgO nanoparticles as a first step to explain antibacterial activity , Journal of Alloys and Compounds, Volume 817, 15 March 2020, 152799. ([doi.org/10.1016/j.jallcom.2019.152799](https://doi.org/10.1016/j.jallcom.2019.152799))

# Curriculum Vitae

Mahmoud Abdelfatah

29. A. El-Shaer, W. Ismail, and M. Abdelfatah, Towards low cost fabrication of inorganic white light emitting diode based on electrodeposited  $\text{Cu}_2\text{O}$  thin film/ $\text{TiO}_2$  nanorods heterojunction, *Materials Research Bulletin*, Volume 116, August 2019, Pages 111-116. ([doi:10.1016/j.materresbull.2019.04.005](https://doi.org/10.1016/j.materresbull.2019.04.005))
30. M. Abdelfatah, W. Ismail and A. El-Shaer, Low cost inorganic white light emitting diode based on submicron  $\text{ZnO}$  rod arrays and electrodeposited  $\text{Cu}_2\text{O}$  thin film, *Materials Science in Semiconductor Processing*, 81 (2018), 44-47. ([doi: 10.1016/j.mssp.2018.03.004](https://doi.org/10.1016/j.mssp.2018.03.004))
31. Abdelhamid El-Shaer, M. Abdelfatah, Ali Basuni, and Mohsen Mosaad, Effect of KOH Molarity and Annealing Temperature on  $\text{ZnO}$  Nanostructures Properties, *Chinese Journal of Physics*, Volume 56, Issue 3, June 2018, Pages 1001-1009. ([doi:10.1016/j.cjph.2018.03.015](https://doi.org/10.1016/j.cjph.2018.03.015))
32. S. Attia, M. Abdelfatah, M. Mossad, Characterization of pure and composite resorcinol formaldehyde aerogels doped with silver IOP Conf. Series: Journal of Physics: Conf. Series 869 (2017) 012036. ([doi:10.1088/1742-6596/869/1/012036](https://doi.org/10.1088/1742-6596/869/1/012036))
33. S. Attia, M. Abdelfatah, M. Mossad, Conduction mechanism and dielectric properties of pure and composite resorcinol formaldehyde aerogels doped with silver, IOP Conf. Series: Journal of Physics: Conf. Series 869 (2017) 012035. ([doi: 10.1088/1742-6596/869/1/012035](https://doi.org/10.1088/1742-6596/869/1/012035))
34. M. Abdelfatah, A. El-Shaer, One step to fabricate vertical submicron  $\text{ZnO}$  rod arrays by hydrothermal method without seed layer for optoelectronic devices, *Materials Letters*, 210 (2018) 366-369. ([doi: 10.1016/j.matlet.2017.09.064](https://doi.org/10.1016/j.matlet.2017.09.064))
35. M. Abdelfatah, J. Ledig, A. El-Shaer, A. Sharafeev, P. Lemmens, M.M. Mosaad, A. Waag, A. Bakin, Effect of potentiostatic and galvanostatic electrodeposition modes on the basic parameters of solar cells based on  $\text{Cu}_2\text{O}$  thin films, *ECS Journal of Solid State Science and Technology* 5 (2016) Q183-Q187. ([doi: 10.1149/2.0191606jss](https://doi.org/10.1149/2.0191606jss))
36. L. Caccamo, G. Cocco, G. Martín, H. Zhou, S. Fuendling, A. Gad, M.S. Mohajerani, M. Abdelfatah, S. Estradé, F. Peiró, W. Dziony, H. Bremers, A. Hangleiter, L. Mayrhofer, G. Lilienkamp, M. Moseler, W. Daum, A. Waag, Insights into interfacial changes and photoelectrochemical stability of  $\text{In}_x\text{Ga}_{1-x}\text{N}$  (0001) photoanode surfaces in liquid environments, *ACS Applied Materials & Interfaces* 8 (2016) 8232-8238. ([doi:10.1021/acsami.5b12583](https://doi.org/10.1021/acsami.5b12583))
37. M. Abdelfatah, J. Ledig, A. El-Shaer, A. Wagner, V. Marin-Borras, A. Sharafeev, P. Lemmens, M. M. Mosaad, A. Waag, A. Bakin, Fabrication and characterization of low cost  $\text{Cu}_2\text{O}/\text{ZnO}:\text{Al}$

# Curriculum Vitae

Mahmoud Abdelfatah

solar cells for sustainable photovoltaics with earth abundant materials, *Solar Energy Materials and Solar Cells* 145 (2016) 454-461. ([doi:10.1016/j.solmat.2015.11.015](https://doi.org/10.1016/j.solmat.2015.11.015))

38. M. Abdelfatah, J. Ledig, A. El-Shaer, A. Wagner, A. Sharafeev, P. Lemmens, M.M. Mosaad, A. Waag, A. Bakin, Fabrication and characterization of flexible solar cell from electrodeposited Cu<sub>2</sub>O thin film on plastic substrate, *Solar Energy* 122 (2015) 1193-1198. ([doi:10.1016/j.solener.2015.11.002](https://doi.org/10.1016/j.solener.2015.11.002))

39. A. Wagner, M. Stahl, J. Ledig, A. Winter, M. Abdelfatah, A. Turchanin, P. Lemmens, A. Waag, A. Bakin, All-oxide solar cells: atomic layer deposition of oxide buffer layers at the ZnO/Cu<sub>2</sub>O interface, E-MRS 2014 Fall Meeting, Warsaw, Poland September 15-18 (2014).

## Research Projects and Grants

- Raman spectroscopy for nanomaterials characterization, (Project ID: 6398), Funded by ASTR on Sep. 2020 (Role ; CO-PI).
- Antifouling nano-membrane for pre-treatment of organic pollutions, antimicrobial, and seawater desalination applications, (Project ID: 6691), Funded by ASTR on Sep. 2020 (Role ; CO-PI).
- Band Gap Engineering of ZnO nanostructures as windows layer for solar cell applications, (Project ID: 6692), Funded by ASTR on Sep. 2020 (Role ; PI).
- Theoretical investigation of some nanomaterials for optoelectronic applications, (Project ID: 6689), Funded by ASTR on Sep. 2020 (Role ;Co-PI).
- Low Cost and Large-Scale Fabrication of Inorganic White Light Emitting Diode Based on Nanostructures Semiconductor Oxides, (Project ID: 37212), Funded by STDF (Role ;PI) started on March 2022.
- Efficiency Enhancement of Low Cost Solar Cells based on Earth Abundant Materials (Project ID: 33389), Funded by STDF on June 2019 (Role ;PI).
- Synthesis and characterization of nanomaterials for photovoltaic applications (Project ID: KFSU-3-13-03), Funded by Kafrelsheikh University from 2013 to 2016 (Role; Researcher).
- Low- cost Nano-Wire Solar Cell and White Light Emitting Diode based on Zinc Oxide-Polymer hybrid Nano-structures (NANO-SOLED) (Project ID: 1473), Funded by STDF from 2011 to 2016 (Role; Researcher).



# Curriculum Vitae

Mahmoud Abdelfatah

## Teaching Experience

- Teach the following physics courses for graduate and postgraduate students :

Electricity and Magnetism	Quantum Physics
Modern Physics	Properties of Matter
Solid State Physics 1	Geometrical Optics
Solid State Physics 2	Heat
Physical Optics	Material Science
Electronics	Classical Mechanics
Atomic Physics	Fabrication of nanomaterials
Renewable Energy	Solar Energy
AC Electric Circuits	Digital Electronics
Thin Films	Fundamental of Nanoscience and Nanotechnology
Advanced Optics	Solar Cells
Semiconductor Nanotechnology	Characterization Techniques of nanomaterials
Spectroscopy of nanomaterials	Optoelectronic nanodevices

- Teaching several practical physics courses (2005-2014).

- Supervisor of Bachelor, Master and Ph.D students.

## Conferences, Workshops and Training Course in Teaching and Professional

- Participated in the following Training courses:

Effective Presentations skills	Quality Standards in Teaching
Communication skills in education	Effective teaching
University Lecturer Preparation	Skills of Thinking

# Curriculum Vitae

Mahmoud Abdelfatah

Strategically planning for Higher Institute  
of Education

Ethics of profession

Students' evaluation and exam systems

International Scientific Publication

Scientific Research Methods

Competitive research projects

Credit Hours System

University administration

- Equipment's specifications, selection, and getting price quotation.
- Participated in establishment the under-graduation labs.
- Attended the 34 th Eg-MRS International Conference, 29-30 Aug. 2020, Egypt.
- Participated in Workshop of "Production and transfer of knowledge of nanoscience in the field of solar energy", 27.10.2016 at National Research Center, Egypt.
- Attended "Scientific Conference of Water and Energy " 02.03.2017, Damanhour, Egypt.
- Attended "1st Castle Conference of Advanced Sciences " 03.2017, Kafrelsheikh, Egypt.
- Participated in Workshop of " The Modern Knowledge Cycle" 05.03.2017, Kafrelsheikh, Egypt.

## Awards and Honors

- Post doc at Fraunhofer Institute for Surface Engineering and Thin Films IST, Braunschweig, Germany.
- PhD scholarship award, from Egyptian Government, 2014-2016 (Germany).
- Scientific Publication award, Kafrelsheikh University, Egypt, (2017/2018/2019/2020/2021).

## Consulting Experience and Quality Assurance

- Coordinator of Physics Department, Faculty of Science, Kafrelsheikh University, for Quality Assurance and Accreditation Committee.
- Description of all courses that were taught by me.
- Participated on specification of Physics and Nanoscience and Nanotechnology programs.

# Curriculum Vitae

Mahmoud Abdelfatah

- Director of the Evaluation and Measurement Unit at Faculty of Science, Kafrelsheikh University.
- Member of the Quality Assurance and Accreditation Committee Board of at Faculty of Science, Kafrelsheikh University.

## Membership of Scientific Societies

- Member of Egyptian Society for Materials Research.

## Refereeing for International Scientific Journals

Reviewer for the following ISI journals:

- Solar Energy.
- Electrochemistry society.
- Materials Science in Semiconductor Processing.
- Applied Surface Science.
- Journal of Alloys and Compounds.
- Surfaces and Interfaces.
- Optical and Quantum Electronics.

## Skills and Interests

**Languages** English, German, and Arabic

**Skills and software** Special Programs in the Computer Training and Internet Training for Postgraduate Students, office programs used internet and sites, Microsoft-Office-Suite, International Computer Driving License (ICDL), Origin, Endnote, Mendeley, and 3D sketches

**Interests** Reading, football, computer, music, and nature.