CURRCULIM VITAE OF PROF. NIHAL FAYEZ FAHMY AREED

1. BASIC INFORMATION

Full Name: Nihal Fayez Fahmy Gomaa Areed
Nationality: Egyptian
Birthdate: 12/2/1979
Work Address: Electronics and Communications Department, Faculty of Engineering, Mansoura University, Mansoura, Egypt.
Home Address: - 842, Neighborhood 3, El Eskan El AELY-El Shrouk city, Cairo, Egypt.
Phone: 02 20331543, 01067222945, 01067445353
Emails: nahoolaf@mans.edu.eg, nahoolaf@yahoo.com, nfayez@zewailcity.edu.eg
Research gate Web Page: https://www.researchgate.net/profile/Nihal_Fayez
Google Scholar shorturl.at/deK25
Scopus Page: https://www.scopus.com/authid/detail.uri?authorId=21933590700
YouTube: Ephonix, https://www.youtube.com/channel/UC7ZlH1ghmxWnX-L4r6egrnQ

2. EDUCATION

Ph.D., Electronics and Communication Engineering, Faculty of Engineering, Mansoura University, Mansoura, Egypt Thesis Title: Modeling of Photonic Crystal Bandgap Devices.	(3/3/2008)
M.Sc., Electronics and Communication Engineering, Faculty of Engineering, Mansoura University, Mansoura, Egypt Thesis Title: Broadband Microstrip Patch Antennas.	(14/4/2003)
B.Sc., Electronics and Communication Engineering , Faculty of Engineering, Mansoura University, Mansoura, Egypt With general cumulative grade: (Excellent with Honor, Ranked (First), 90.76%) 4629 out of 5100) Graduation Project Title: Computer-Aided Analysis of Electroencephalographic Data with grade Excellent.	(14/8/2000)

3. WORK HISTORY

Head of the Electronics and Communications Engineering Department, from 12 Feb 2023 up to now.
Director of the project to qualify the Communications and Computers Engineering Program for international accreditation from 16 April 2021 up to April 2023.
Member of the Examination, Study and Hearing Committee for the appointment of professors and the supporting staff at the Chinese University of Technology in Ismailia 2022
Member of the simulation visit for the international accreditation of the International Communications Engineering Program at the Faculty of Engineering, Ain Shams University, Cairo
Member of the Council of the Faculty of Engineering - Mansoura University in the period 2022-2023

Member of the academic council of CCE program of the Faculty of Engineering - Mansoura University in the period 13 June 2019 up to now
Member of the academic council of AIE program of the Faculty of Engineering - Mansoura University in the period 13 Feb. 2023 up to now.
Member of the committees of arbitrators in in promotions for assistant professors and professors in the Electronics and Communications Engineering Committee from 2020 up to 2022
Member of the Higher Committee for the Ethics of Scientific Research at Mansoura University from 2020 up to 2024
Executive manager of Communications and Computers Engineering Program from June 2019: Feb 2023.
Professor of photonics, Electronics and Comm. Dept., Faculty of Engineering, Mansoura University, Mansoura, Egypt, July 2018: present
Assoc. Professor, Electronics and Comm. Dept., Faculty of Engineering, Mansoura University, Mansoura, Egypt, Sept 2013: July 2018.
Adjunct Professor, NANO program, Zewail city for Science and Technology, 6th October, Egypt, Feb. 2016: Present.
Post-Doc: Center of Photonics and Smart materials, Zewail city for Science and Technology, 6th October, Egypt, Sep. 2012: Present.
Assistant Professor, Electronics and Comm. Dept., Faculty of Engineering, Mansoura University, Mansoura, Egypt, June 2008: Sept 2013.
Consultant, Professional Consultant and Training (PCT), Company, 16 Dawlitian st., Green tower, AghaKhan, Nile Corniche, Cairo Egypt, 2012:2013
Lecturer Assistant, Electronics and Comm. Dept., Faculty of Engineering, Mansoura University, Mansoura, Egypt, March 2003: June 2008.
Teaching Assistant, Electronics and Comm. Dept., Faculty of Engineering, Mansoura University, Mansoura, Egypt, Jan. 2001: March 2003.

MAJOR RESEARCH GRANTS AWARDED

Project #1

Project Title: Photonic energy aware, and communication networks.
Value of Contract: EGP 200,000.00
Principal Investigator: Prof. Salah Sabry Obayya
Affiliation: Zewailcity of Science and Technology, 6th October, Egypt.
Starting Date: April 2013
Period: 2 Years
Awarding Authority: National Telecommunications Regulatory Authority

Project #2

Project Title: Solar Energy Alliance.
Value of Contract: EGP10,000.000
Principal Investigator: Prof. Salah Sabry Obayya
Affiliation: Zewailcity of Science and Technology, 6th October, Egypt.
Starting Date: Aug. 2018

Period: 2 Years
Awarding Authority: Academy of Scientific Research & Technology (ASRT)

Project #3

Project Title : Qualification of the program for international accreditation
.
Value of Contract: EGP 4500000
Principal Investigator: Prof. Nihal F. F. Areed
Affiliation: Mansoura Univ., Faculty of Enginering, CCE program, Mansoura, Egypt.
Starting Date: April. 2021
Period: 2 Years

Awarding Authority : Projects Unit of the Ministry of Higher Education

4. TEACHING ACTIVITY

AT Mansoura University, Faculty of Engineering: • **Electronics and Comm. Dept** • **CCE program,** • **BME Program** • **MTE program,** • **Electrical and power Eng. Department**	
Sophomore undergrads	**Solid state Electronics(2016-now)** **Basic Electronics (2009-now)** Statistics(2008-2009)
Junior undergrads	Electromagnetic Fields(2017-now), **Computer Applications in Comm. Eng. (2009-2019)** Signal and Systems (2009-2019) Theory of Analog communications (2013-2014). **Electronics Lab** (2011-now). **Digital Design circuits II (2009-2012)** **Electronic Circuits 1 (2018 - now)**
Senoir undergarads	Mobile Communications(2010-2017). **Optoelectronics (2014-2015)** Optical Comm. System(2011-now) Electromagnetic Waves (2020-2022) Antennas (2018- now)
ECE Grad students	Nanophotonics (2016-now) Microwave devices and circuits (2022-now)
Recent Graduation Projects	Tumor Detection using Microstrip patch antennas 2021-2022 Recent trends in solar harvesting structures 2016- Modeling of plasmonic absorbers. 2018-2019

	Smart chair for people with disabilities based EEG signals/2015-2016 **VLSI: Design and Implementation of Low Power Sigma-Delta ADC using 65 nm MOSFET 2020-2021** **Design and Implementation of GPU Acceleration 2020-2021** **Vest with Embedded Ultra-sonic Sensors (2022-2023)**
Post Graduates	Nanophotonics (2018-2021) Microwave Devices (2022-2023) **Research Topics in VLSI: Low Noise LNA Amplifire** (2022-2023)

Higher Institute of Engineering & Technology, 5Th compund, Cairo Egypt	
Junior undergrads	**Electronics 1 (2009-2013)** **Electronics 2 (2009-2013)** Signals and Systems(2009-2013) **Integrated circuits (2010-2011)** **Mesurments and Devices (2009-2013)** **Electronics Lab (2009-2011).**
Senoir undergarads	Gtaduation projects (2010-2013)
Zewailcity of Science and Technology	
NanoEngineering Program	Integrated Nano-Optic(2016-2017) Principle of waveguides(2016-2017)
	Nanophotonics(2017-2018)
CPSM Grad students	Nanophotonics(2017-2018)
CIE Program	**Analog Electronics (spring 2022-2023)**

French university Cairo - Egypt- TIC	
TIC 300	**Solid materials and Electronic Device (Fall 2022-2023)**
TIC 400	**Programmable Circuits using FPGA (Spring 2022/2023)**

5. PoST Graduated Students (100), recent students:

1. Seham Abd El Samee (PHD 2022)	2. Aml Mostafa (MSC 2020)
3. Sally Ahmed (MSC 2022)	4. Marwa El Baz (MSC, 2018)
5. Liala Taher (MSC 2022)	6. Zenib El Wasif (MSC, 2018)
7. Eman Ashraf (PHD 2022)	8. Afaf Said (MSC 2017)
9. Amr Hassan (MSC 2022)	10. Sameh El-Malt (MSC, 2017)

11. Yasmin Ablehak (MSC 2021)	12. Amira EL Fakhrany (MSC, 2017)
13. Randa Kabeel (MSC 2021)	14. Seif Eldin A. Zaghloul(MSC, 2017)
15. Basel Mohamed (PHD 2020)	16. Aya Ramdan El-Metwally (MSC, 2017)
17. Rehab ElMosalmy (PHD, 2021)	18. Eman Ashraf (MSC, 2016)
19. Hanan Khatab (PHD 2021)	20. Mohamed Hussein (PHD, 2016)
21. Hala Mosaad (PHD 2021)	22. Amr M. Abdelghani (MSC, 2015)
23. Adel Sarahan (MSc 2021)	24. Rehab ElMosalmy (MSC, 2013)
25. Mohamed Gamal (PHD 2021)	26. Basel El Mwafy (MSC, 2014)
27. Mohamed Abd El Gwad (PHD 2021)	28. Dalia D. El-Mosalmy (MSC,2014)
29. Mohamed El Gahndour (PHD 2021)	30. Seham Attya (MSC, 2014)
31. Mohamed Hasanin (MSc 2021)	32. Raghda Younis (MSC, 2014)

6. INTERNATIONAL PUBLICATIONS

6.1 PEER REVIEWED CONFERENCE PUBLICATIONS (27)

1. **Nihal F. F. Areed**, Salah S. A. Obayya, "Modeling of bandgap photonic crystal devices," Workshop on microwave materials, Ein Shams Univ., Cairo, **Egypt**, June **2006**.
2. **Nihal F. F. Areed**, Salah S. A. Obayya, and Hamdi A. El-Mikati, "Modal characteristics of photonic crystal fibers," In 5th International Engineering Conference on Electrical Engineering (5th IEC), Mansoura- Sharm El-Sheikh, **Egypt**, 27 – 31 March **2006**
3. **Nihal F. F. Areed**, Salah S. A. Obayya, and Hamdi A. El-Mikati, "Implementation of photonic crystal couplers," In 24th National Radio Science Conference (NRSC 2007), Ein Shams Univ., Cairo, **Egypt**, March **2007**.
4. **Nihal F. F. Areed,** Salah S. A. Obayya, and Hamdi A. El-Mikati, "An optimization for two crossing photonic crystal waveguides," In 6th International Engineering Conference on Electrical Engineering (6th IEC), Mansoura- Sharm El-Sheikh, **Egypt**, March 27 – 31, **2008**.
5. **Nihal F. F. Areed, "**Ultra flattened dispersion honey comb lattice photonic crystal fiber," in the international conference, Sciences of Electronics, Technologies of information and Telecommunication –'SETIT-March, Hammat, **Tunsia**, **2009**.
6. **Nihal F. F. Areed**, "Multi-Band coplanar EE shaped patch antennas over photonic crystal substrate", URSI, Future University, 5th compound, new Cairo, **Egypt**, March **2009**.

7. **Nihal F. F. Areed**,"Ultra flattened dispersion photonic crystal fiber", URSI, Future University, 5th compound, new Cairo, **Egypt** , March **2009.**
8. **Nihal F. F. Areed**, "Microstrip Patch Antennas over EBG Structures" Meta'10 conference, Cairo, **Egypt**, 22-24 Feb. 2010.
9. **Nihal F. F. Areed**, "Low profile dual band slotted patch antenna for WIMAX applications", NRSC 2011, National Telecommunication Institute, Naser ciy, Cairo, **Egyp**, April **2011**.
10. B. H. Almewafy, M.F.O. Hameed, **Nihal F. F. Areed**, A. M. Heikal, S.S.A.Obayya, " Novel Design of Curved Silica Photonic Crystal Fiber Polarization Converter", META'13, the 4th International Conference on Metamaterials, Photonic Crystals and Plasmonics, March, Sharjah, United Arab Emirates**, 2013** .
11. Dalia D. El-Mosalmy, M. F. O. Hameed, S.S.A.Obayya, **Nihal F. F. Areed** " Radial basis function neural network based optimization approach for photonic devices," XXIth International Workshop on Optical Waveguide Theory and Numerical Modelling Workshop OWTNM, Twente University, Netherlands**, Holland,** 19-20 April **2013.**
12. Mohamed Hussein, **Nihal F. F. Areed**, M. F. O. Hameed, and S. S. A. Obayya," Flower-shaped Dipole Based Nano-antenna for Energy Harvesting", The 34th Progress in Electromagnetics Research Symposium (PIERS) to be held in Stockholm, **SWEDEN** 12-15 August, **2013**
13. S. Ibrahim, **Nihal F. F. Areed**, Maher Abd El. Razzak, Hamdi A. El-Mikati, Salah S. A. Obayya, "Novel symmetric hierarchical mixed finite element analysis for nanophotonic devices", 31th NRSC 2014, **Egypt**, April **2014**.
14. S. Ibrahim, **Nihal F. F. Areed**, Maher Abd El. Razzak, Hamdi A. El-Mikati, Salah S. A. Obayya, "Compact polarization rotator based on SQI platform", 31th NRSC 2014, **Egypt**, April **2014.**
15. Mohamed Hussein, M. F. O. Hameed, **Nihal F. F. Areed**, and S. S. A. Obayya, "Analysis of a Novel Decagonal Semiconductor Nanowire for Solar Cell Applications", SPIE Photonics Europe which will be held in Brussels, **Belgium,** 14 – 17 April **2014**.
16. Mohamed Hussein, **Nihal F. F. Areed**, M. F. O. Hameed, S. S. A. Obayya, "Hybrid Core Semiconductor Nanowires for Solar Cell Applications" The 4th International conference on Numerical Simulation of Optoelectronic Devices, NUSOD 2014, 1-4 September, Palma de Mallorca, **Spain, 2014.**
17. Mohamed Hussein, **Nihal F. F. Areed**, M. F. O. Hameed and Salah Sabry A. Obayya," Design and Analysis of Nano-Antennas for Energy Harvesting", International Conference on Material Science and Applications, Hurgada, **Egypt,** 6-9 Jan **2015**.
18. Mahmoud A. Elrabiaey, **Nihal F. F. Areed** and Salah Sabry A. Obayya "Plasmonic Optical Binary Storage Based on Nematic Liquid Crystal Layers", The 36th PIERS, Prague, Czech Republic, European Union 6-9 July, **2015**
19. Mohamed Hussein, **Nihal F. F. Areed**, M. F. O. Hameed and Salah Sabry A. Obayya," Absorption Enhancement in a Novel Hyprid Silicon for solar cell applications", 8th International Symposium on Flexible Organic Electronics (ISFOE15) 6-9 July 2015, Thessaloniki, Greece**, 2015**.
20. Mohamed Hussein, **Nihal F. F. Areed**, M. F. O. Hameed and Salah Sabry A. Obayya," Modified elliptical nanoantenna for energy harvesting applications," 2016 IEEE/ACES

International Conference on Wireless Information Technology and Systems (ICWITS) and Applied Computational Electromagnetics (ACES), 1-2, **2016**
21. Sameh M Elmalt, **Nihal F F Areed**, Salah SA Obayya," Broadband nearly perfect visible plasmonic absorber, 2016 IEEE/ACES International Conference on Wireless Information Technology and Systems (ICWITS) and Applied Computational Electromagnetics (ACES), 1-2, **2016.**
22. Mahmoud A. Elrabiaey, **Nihal F. F. Areed** and Salah Sabry A. Obayy, "Silicon Silver Layered Structure for Energy Harvesting Applications**,** INCORE Conference**,** Egypt**, 2016.**
23. Sami El Zenad, **Nihal F. F. Areed** and Salah Sabry A. Obayya, "Hybrid Si-Gold Nano Veins Structures for Solar Energy Harvesting", 8th EASOM 2016, Germany **2016**.
24. Mohamed Hussein, **Nihal F. F. Areed**, M. F. O. Hameed and Salah Sabry A. Obayya," New Trends in Nanowire Solar Cells", 8th EASOM 2016, Germany **2016**.
25. **Nihal F. F. Areed,** Sami El Zenad and Salah Sabry A. Obayya, "Intersecting Silicon Nano-Walls with Planar Nano-Gold layers For Solar Energy Harvesting", ACES, Italy, **2017**.
26. A Galal, N Fayez, M El-Seddek, "Classification of Dermoscopy Images for Early Detection of Skin Cancer, " 2021 International Telecommunications Conference (ITC-Egypt), 1-6
27. Ahmed S Elkorany, Rehab M Helmy, Adel A Saleeb, **Nihal F Areed**," Microstrip Patch Antenna Linear Arrays for Brain Tumor Detection, 2019 14th International Conference on Computer Engineering and Systems (ICCES)

6.2 PEER REVIEWED JOURNAL PUBLICATIONS (54)

1.	Afaf M.M. A. Said, Ahmed M. Heikal, **Nihal F. F. Areed**, Salah SA Obayya, "Why do Field-Based Methods fail to Model Plasmonics?," IEEE photonics J., DOI: 10.1109/JPHOT.2016.2600367, 15 Aug. 2016.
2.	Mahmoud A. Elrabiaey, **Nihal F. F. Areed** and Salah Sabry A. Obayya "Novel Plasmonic Data Storage Based on Nematic Liquid Crystal Layers", J. of IEEE Light Wave Techno, vol. 34 , no.16 , pp. 3726 – 3732, 21 june 2016.
3.	Mohamed saleh, **Nihal F. F. Areed**, M. F. O. Hameed, S.S.A.Obayya, "Analysis of Highly Sensitive Photonic Crystal Biosensor for Glucose Monitoring," J. of Applied Computational Electromagnetics Society (ACES), 31(7):836, July 2016..
4.	Mohamed Hussein, **Nihal F. F. Areed**, M. F. O. Hameed, Ashraf Yahia, S.S.A.Obayya, "Funnel-shaped silicon nanowire for highly efficient light trapping," J. of Optics letters, 41(5), 1010-1013, 2016.
5.	Seham A. Attya, **Nihal F. F. Areed**, Maher Al. Razak, M. F. O. Hameed, Salah S. A. Obayya, " Novel design of phase shifter based on liquid crystal and dielectric resonator", J. of Applied Computational Electromagnetics Society (ACES), May 2015.
6.	Amr M. Abdelghani, **Nihal F. F. Areed**, Mohamed Farhat O. Hameed, Moataza Abd el Hamid Hindy, S. S. A. Obayya," Design of UWB antenna using reconfigurable optical Router," J. of Opt Quant Electron, DOI 10.1007/s11082-015-0151-0, 2015.
7.	**Nihal F. F. Areed** and S. S. A. Obayya, "Multiple Image Encryption Systems Based on Nematic Liquid Photonic Crystal Layers,"J. of IEEE Light Wave Techno., vol.32, no.7, pp. 1344-1350, Jan. 2014.
8.	Dalia D. El-Mosalmy, M. F. O. Hameed, **Nihal. F. F. Areed**, S.S.A.Obayya, "Novel neural network based optimization approach for photonic devices," J. Optical and Quantum Electronics, vol. 46, pp. 439-453, 2014
9.	S. Azzam, M. F. O. Hameed, **Nihal. F. F. Areed**, S. S. A. Obayya, H. Elmikati, M. Abd-Elrazzak,

"Proposal of Ultracompact CMOS Compatible TE-/TM- Pass Polarizer Based on SOI Platform," IEEE Photonics Technology Letters, vol.26 , Issue: 16, pp. 1633 – 1636, 2014.
10. Mohamed Hussen, M. F. O. Hameed, **Nihal F. F. Areed**, S.S.A. Obayya, "Ultra High Efficient Solar Cell Based on Decagonal Arrays of Silicon Nanowires", Optical Engineering Journal , vol. 53(11), pp.117105, Nov 11, 2014
11. Mohamed Hussen**, Nihal F. F. Areed**, M. F. O. Hameed, S.S.A. Obayya, "Design of flower shaped dipole nano-antenna for energy harvesting", J. IET Optoelectronics, vol. 8(4), pp.167-173, Feb. 2014.
12. Raghda Y., **Nihal. F. F. Areed** and S. S. A. Obayya, "Fully Integrated AND and OR Optical Logic Gates", J. of IEEE, Photonics Technology Letters, vol.26, pp. 1900 – 1903, Oct.1, 1 2014.
13. **Nihal F. F. Areed** and S. S. A. Obayya, "Novel all-optical liquid photonic crystal router," J. of IEEE, Photonics Technology Letters, vol.25, no.13, pp. 1254-1257, 17 May 2013.
14. B. H. Almewafy, M. F. O. Hameed , **Nihal F. F. Areed**, A. M. Heikal, S.S.A. Obayya, "Analysis of Polarization Conversion in Cascaded Bent Photonic Crystal Fiber," J. IET Optoelectronics, vol.7(4), pp. 85-92, 2013
15. **Nihal. F. F. Areed** and S. S. A. Obayya, "Novel symmetric photonic bandgap based image encryption system," J. of Progress in Electromagnetics Research c, vol. 30, pp. 225–239, 2012.
16. **Nihal F. F. Areed**, "Rectangular patch antennas over electromagnetic band-gap structures," J. of Applied physics A, materials and science processing, doi: 10.1007/s00339-011-6354-8, pp. 561-566, June 2011.
17. **Nihal. F. F. Areed**, Mohamed Fouad, S.S.A.Obayya," Highly Efficient Solid Gear-Shaped Silicon Nanowire for Solar Energy Harvesting," IEEE photonics techno. letter,2016
18. **Nihal F. F. Areed**, Sameh M Elmalt, Salah SA Obayya, "Broadband Omnidirectional Nearly Perfect Plasmonic Absorber For Solar Energy Harvesting," J of IEEE photonics J., 17 Sept, 2016.
19. **Nihal. F. F. Areed**, M. F. O. Hameed, S.S. A.Obayya, "Highly Sensitive Face-Shaped Label-Free Photonic Crystal Refractometer for Glucose Concentration Monitoring," J. Optical and Quantum Electronics, vol. 49 no.1, 2017.
20. **Nihal. F. F. Areed**, Amira, M. F. O. Hameed, S.S.A.Obayya," Controlled Optical Photonic Crystal AND Gate Using Nematic Liquid Crystal Layers," J. Optical and Quantum Electronics, vol. 49 no.1, 2017.
21. Aya El Metally, **Nihal. F. F. Areed**, M. F. O. Hameed, S.S.A.Obayya," Reconfigurable Unnidirectional PhC Using Liquid Crystal Layer,' J of IEEE photonics, vol. 9 no.1, pp. 1-9, 2017
22. Seif eldin A. Zaghloul, Bedir Yousif, Mahmoud Elzalabani, **Nehal Fayez Areed**, "Sensitivity maximization of leaky and weaky radiation micro/nano fiber sensors," J. optical and Quantum Electronics, 2017.
23. **NFF Areed,** MFO Hameed, SSA Obayya,", " Highly sensitive face-shaped label-free photonic crystal refractometer for glucose concentration monitoring", Optical and Quantum Electronics 49 (1), 1-12, 2017
24. Basel H Almewafy, **Nihal FF Areed**, Mohamed Farhat O Hameed, Salah SA Obayya, "Modified D-shaped SPR PCF polarization filter at telecommunication wavelengths," Optical and Quantum Electronics, 2019
25. Ahmed El-Sayed Abd-Elkader, Mohamed Farhat O Hameed, **Nihal FF Areed**, Hossam El-Din Mostafa, Salah SA Obayya," Highly tunable compact polarization rotator based on silicon on insulator platform, "Optical and Quantum Electronics, 2019
26. Ahmed El-Sayed Abd-Elkader, Mohamed Farhat O Hameed, **Nihal FF Areed**, Hossam El-Din Mostafa, Salah SA Obayya," Ultracompact AZO-based TE-pass and TM-pass hybrid plasmonic polarizers, JOSA 2019
27. Ahmed El-Sayed Abd-Elkader, Mohamed Farhat O Hameed, **Nihal FF Areed**, Hossam El-Din, "Tunable Polarization Rotator Based on SOI Platform for Optical Communications

Systems," Delta University Scientific Journal 2019

28. Basel H Almewafy, **Nihal FF Areed**, Mohamed Farhat O Hameed, Salah SA Obayya," Multifunctional surface plasmon resonance photonic-crystal fiber polarization filter at telecommunication wavelengths," Journal of Nanophotonics 2019
29. AA Moustafa, A Elnakib, **NFF Areed**, " Optimization of deep learning features for age-invariant face recognition, International Journal of Electrical & Computer Engineering (2088-8708) 10 (2), 2020.
30. **Nihal FF Areed**, Marwa Hussien, Salah SA Obayya, Reconfigurable coupler-based metallic photonic crystal lens and nematic liquid crystal,"JSOA B 218
31. **Nihal FF Areed**, Marwa El-Baz, AM Heikal, Salah SA Obayya," Intensity modulation lens on the basis of nano-scale golden rods and liquid crystal layer," Optical and Quantum Electronics 2018
32. **Nihal FF Areed**, EL-Wasif Zienab, SSA Obayya," Nearly perfect metamaterial plasmonic absorbers for solar energy applications, ," Optical and Quantum Electronics 2018
33. M Abdelfattah, SF Hegazy, **NFF Areed**, SSA Obayya, "Compact optical asymmetric cryptosystem based on unequal modulus decomposition of multiple color images, Optics and Lasers in Engineering 129, 106063, 2020.
34. AR Sarhan, BB Yousif, **NFF Areed**, SSA Obaya, "Modeling of fiber optic gold SPR sensor using different dielectric function models: a comparative study, Plasmonics 15, 1699-1707, 2020
35. YI Abdelhak, AM Said, **NF Areed**, SSA Obayya, "Efficient scalar bidirectional beam propagation analysis for photonic devices with circular symmetry, IEEE Photonics Technology Letters 33 (1), 43-46, 2020
36. RH Kabeel, **NFF Areed**, M Hameed, SSA Obayya, "Efficient Tunable Plasmonic Mode Converters Infiltrated with Nematic Liquid Crystal Layers," OQE 2021.
37. M El-Ghandour, MI Obayya, B Yousef, **NF Areed**, "Palmvein recognition using block-based WLD histogram of Gabor feature maps and deep neural network with Bayesian optimization, "IEEE Access 9, 97337-97353, 2021.
38. MF Areed, MM Rashed, N Fayez, EH Abdelhay, "Modified SeDaSc system for efficient data sharing in the cloud," Concurrency and Computation: Practice and Experience 33 (21), e6377, 2021
39. MMH Mahmoud, BM Younis, **NFF Areed**, MFO Hameed, SSA Obayya, "Tunable liquid crystal asymmetric dual-core photonic crystal fiber mode converter, Applied Optics 60 (25), 7671-7677, 2021
40. A Technique for the Early Detection of Brain Cancer Using Circularly Polarized Reconfigurable Antenna Array, DA Saleeb, RM Helmy, **NFF Areed**, M Marey, WM Abdulkawi, AS Elkorany IEEE Access 9, 133786-133794, 2021
41. HM Khatab, **NFF Areed**, HA El-Mikati, MFO Hameed, SSA Obayya, "Efficient plasmonic line-up filter for sensing applications," Optical and Quantum Electronics 54 (1), 1-15, 2022
42. MG Abdelfattah, SF Hegazy, **NFF Areed**, SSA Obayya, "Optical cryptosystem for visually meaningful encrypted images based on gyrator transform and Hénon map, "Optical and Quantum Electronics 54 (2), 1-22, 2022

43. AMR S HASSAN, NF AREED, H El Mikati, S SA OBAYYA," Efficient and Compact Optical NOR Gate based on Photonic Crystal Platform," MEJ. Mansoura Engineering Journal 47 (2), 1-5, 2022
44. E Ashraf, **NFF Areed**, H Salem, EH Abdelhay, A Farouk, "FIDChain: Federated Intrusion Detection System for Blockchain-Enabled IoT Healthcare Applications,"Healthcare 10 (6), 1110
45. HMI Hassan, **NFF Areed**, HA El-Mikati, MFO Hameed, SSA Obayya, "Low loss hybrid plasmonic photonic crystal waveguide for optical communication applications, "Optical and Quantum Electronics 54 (7), 1-18
46. DA Saleeb, RM Helmy, **NFF Areed**, M Marey, KM Almustafa, AS Elkorany, "Detection of Kidney Cancer Using Circularly Polarized Patch Antenna Array, "IEEE Access 10, 78102-78113
47. S Ahmed, **N Areed**, M Obayya, F Khalifa,"Real-Time Facial Expression Recognition and Speech Tran-scripts over an on-premise Video Conference Application,"International Journal of Telecommunications 2 (02), 1-14
48. S Abd-Elsamee, **NFF Areed**, HA El-Mikati, SSA Obayya , "Tunable Multi-Channels Bandpass InGaAsP Plasmonic Filter Using Coupled Arrow Shape Cavities,"Photonics 9 (10), 720
49. L Rakha, **N Areed**, H Elmkati,"Brain Tumor Detection Using a Broadband Microstrip Anten-na with a Defected Ground Structure,"International Journal of Telecommunications 2 (02), 1-13
50. OYM Hiza, BM Younis, **NFF Areed**, MFO Hameed, SSA Obayya, Compact TE-pass polarizer based on silicon-on-insulator platform with bimetallic rhodium–silver grating, Optical and Quantum Electronics 55 (6), 493, 2023
51. DR Elshahat, **NFF Areed**, B Yousif, M Elzalabani, Broadband low-loss efficient optical plasmonic modulator based on graphene and bowtie-shape waveguide, Optical and Quantum Electronics 55 (5), 481 2023.
52. E Ashraf, **N Areed**, H Salem, E Abdelhady, A Farouk, IoT Based Intrusion Detection Systems from The Perspective of Machine and Deep Learning: A Survey and Comparative Study, Delta University Scientific Journal 5 (2), 367-386,2022
53. Dina Reda Elshahat, **Nihal FF Areed**, Bedir Yousif, "Plasmonic Modulator Based on Graphene and Dual Back-to-Back U-Shaped Silicon Waveguide for Optical Communication Networks," Plasmonics, pp.1-10, 2023.
54. LT Rakha, **NFF Areed**, HAE Mikati, "Breast Tissue Tumor Detection Using Microstrip Patch Antenna with Defected Ground Structure," Mansoura Engineering Journal 48 (1), 6, 2023.

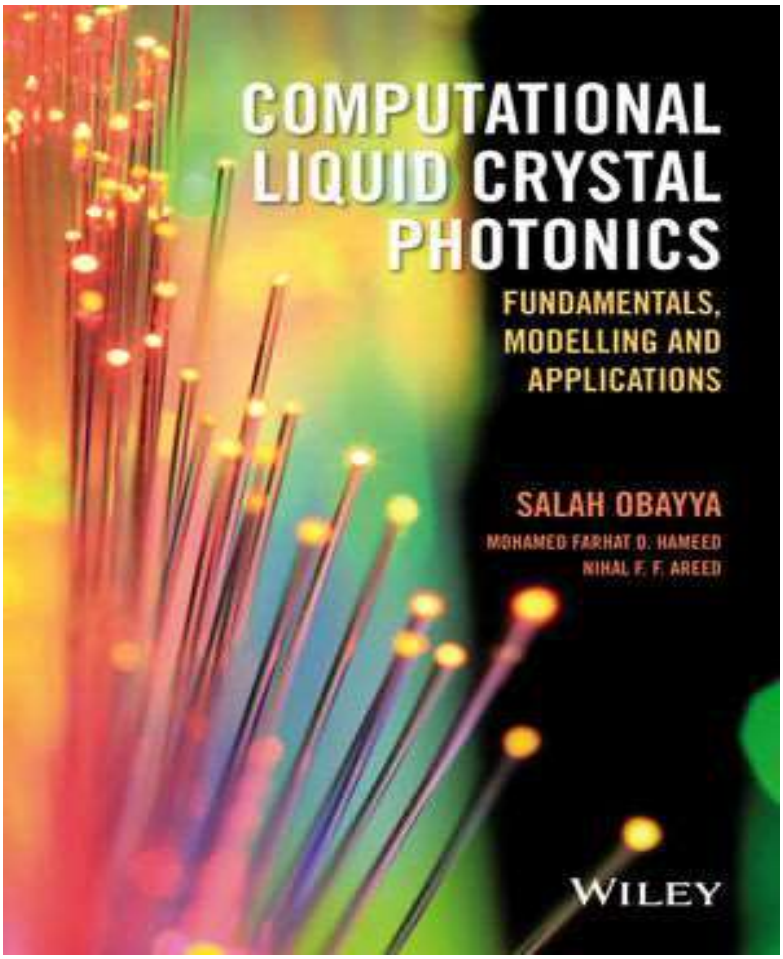
6.3 International and National Books and Chapters

A. One coauthored international book titled

Computational Liquid Crystal Photonics: Fundamentals, Modelling and Applications

Weblink:

http://eu.wiley.com/WileyCDA/WileyTitle/productCd-1119041953.html



B. One cauthord chapter in the book titled, 2015

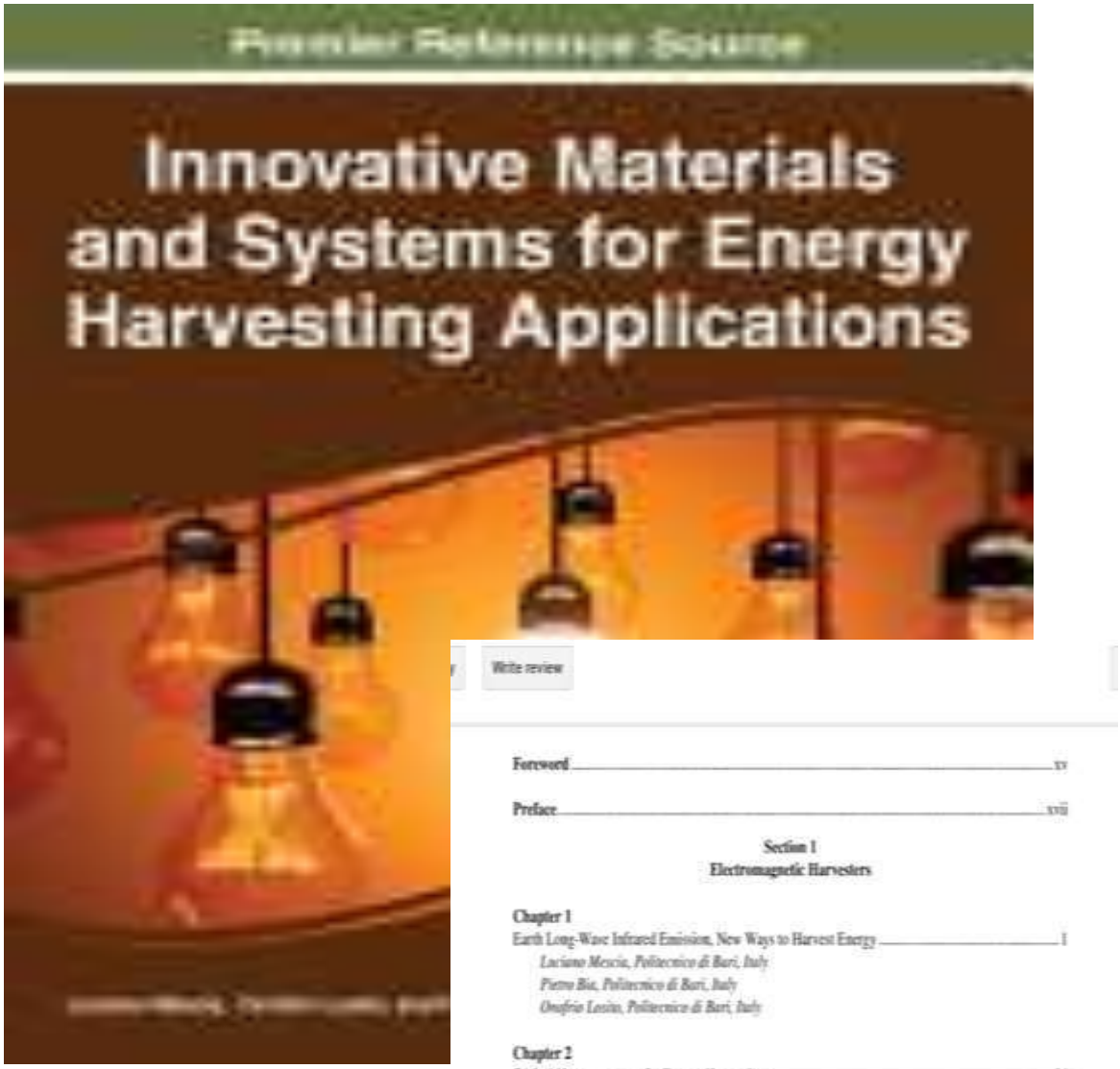
Innovative Materials and Systems for Energy Harvesting Applications

Chapter Title

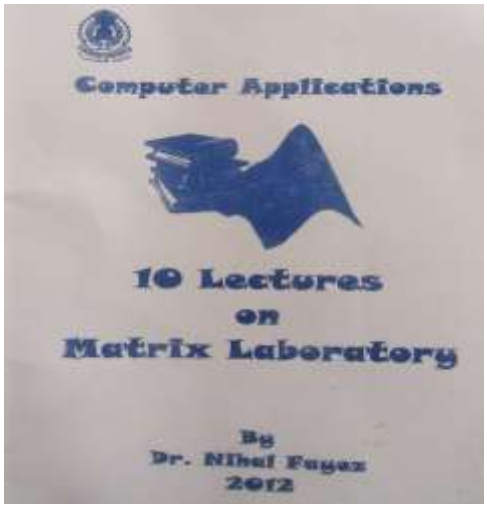
Optical Nano-Antennas for Energy Harvesting

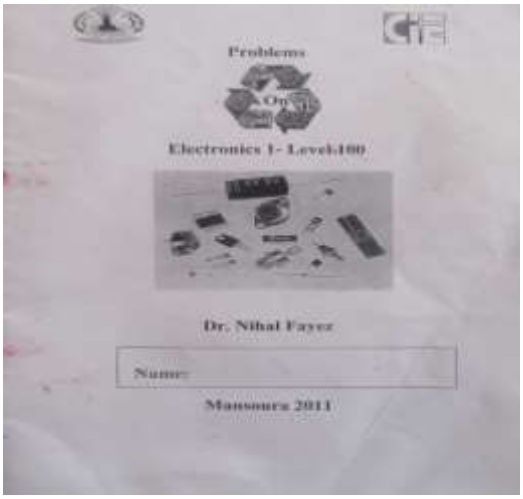
Web link

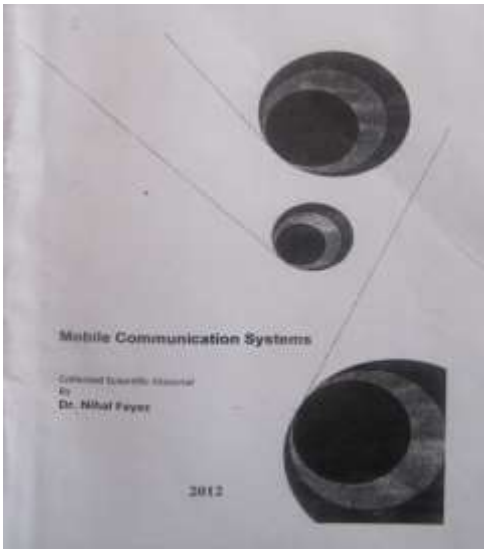
http://www.igi-global.com/book/innovative-materials-systems-energy-harvesting/121168#table-of-contents

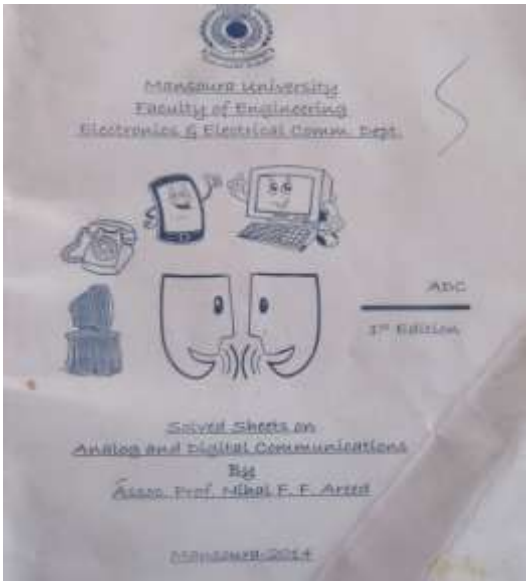


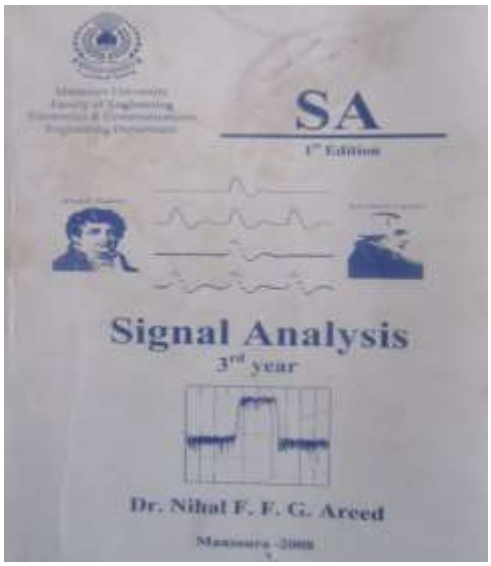
C. Six national books about MATLAB, Electronics, Mobile Communications, analog communications, electromagnetic fields and signals and Systems.

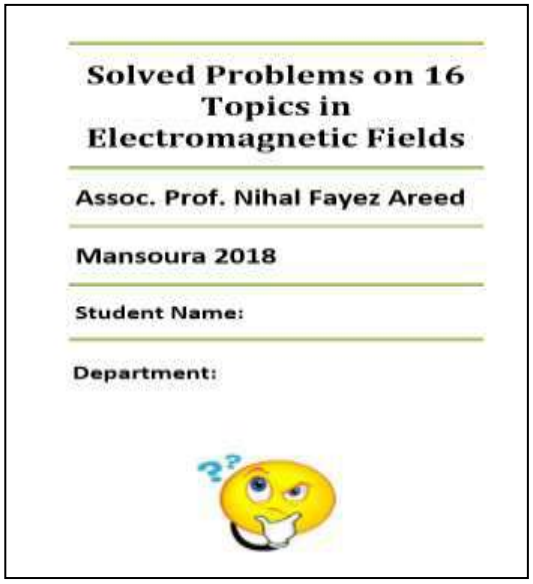




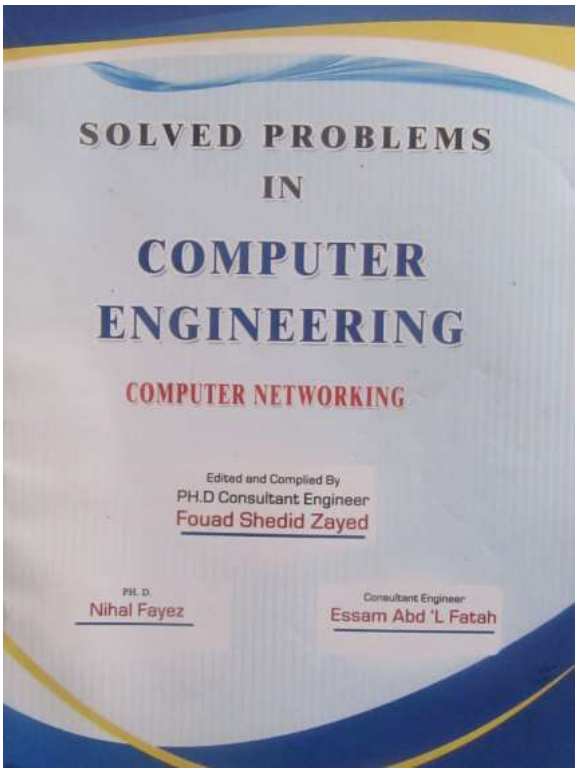


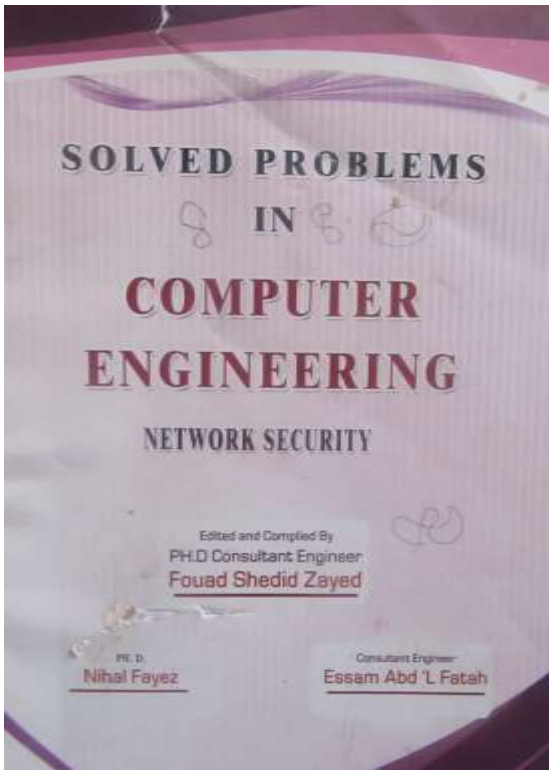


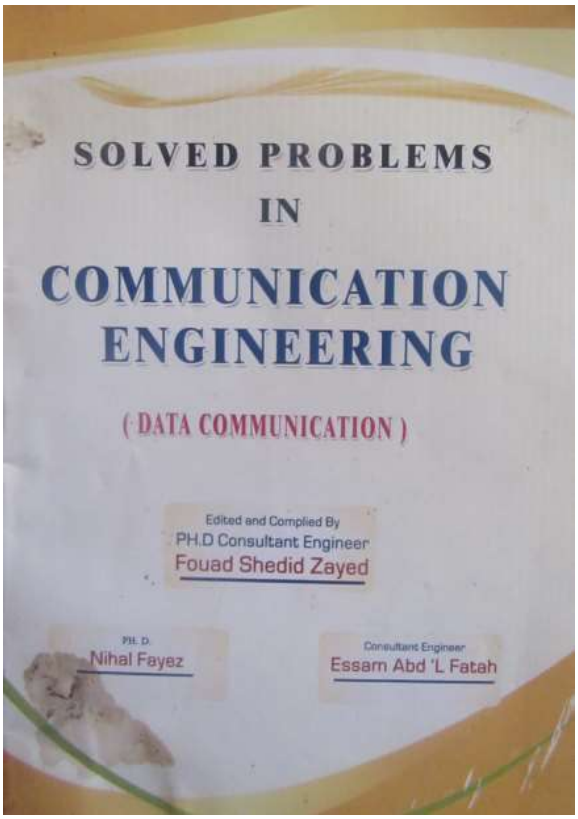


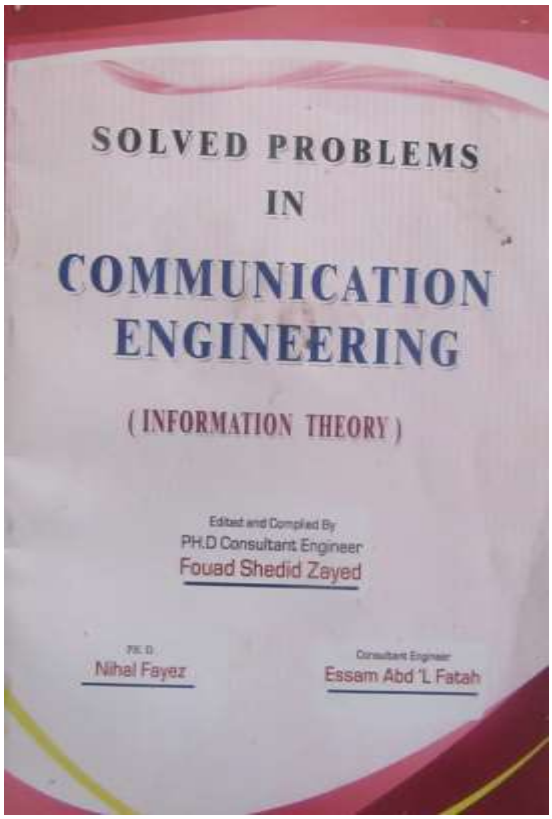


D. Four Cauthored national books about solved problems in many topics related to computer and communications engineering.







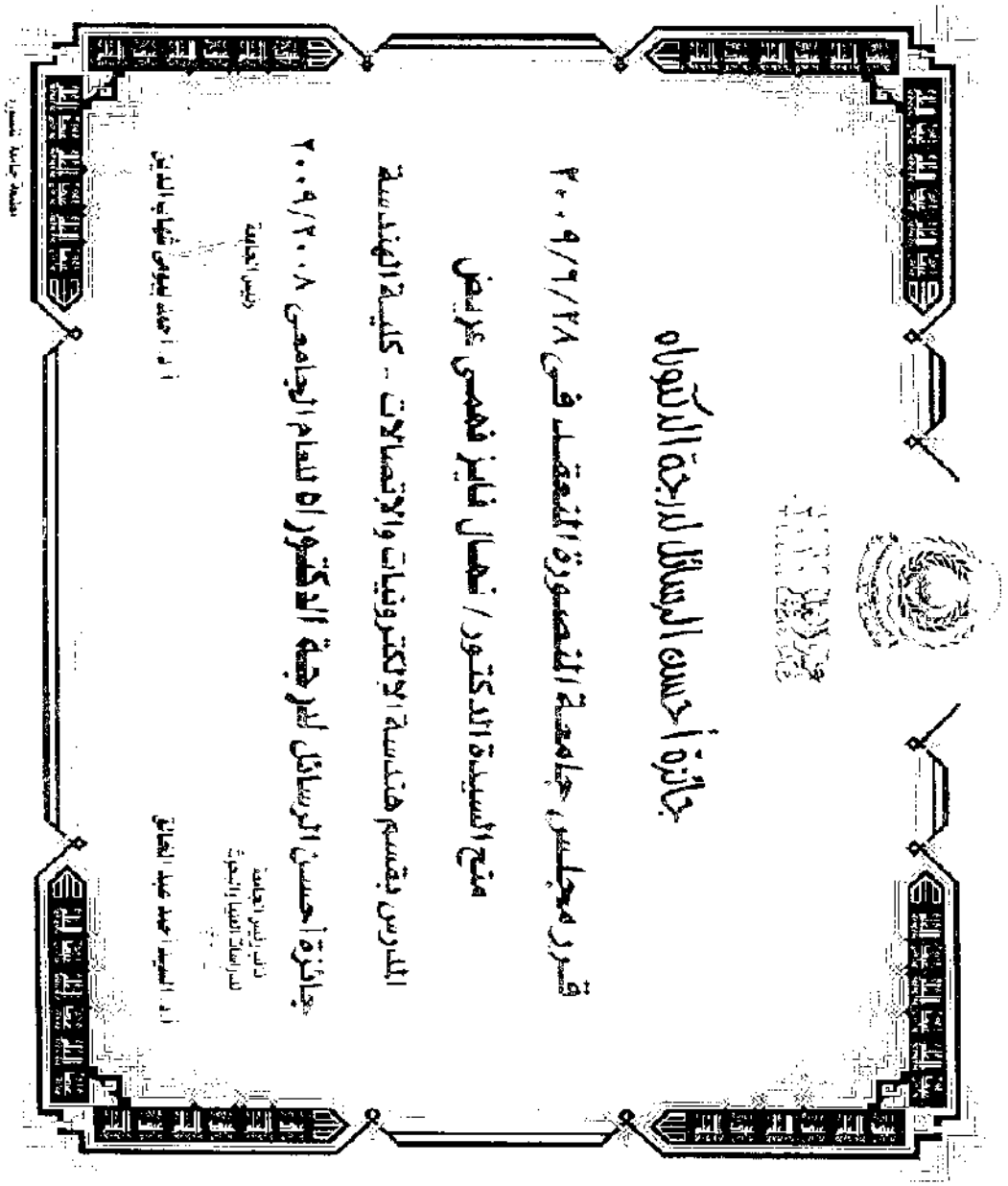


7. CITATIONS FOR MY PUBLICATIONS

	Scopus	Google Scholar
Total citation	776	968
H-index	16	17

8. ACADEMIC WARDS

8.1 Mansoura University Prize for the best PhD thesis for engineering sciences in 2009


جائزة أحسن الرسائل لدرجة الدكتوراه

قرر مجلس جامعة المنصورة المنعقد في ٢٠٠٩/٦/٢٨

منح السيدة الدكتور / نهال نايز فهمي عريض

المدرس بقسم هندسة الإلكترونيات والإتصالات - كلية الهندسة

جائزة أحسن الرسائل لدرجة الدكتوراه للعام الجامعي ٢٠٠٨/٢٠٠٩

رئيس الجلسة

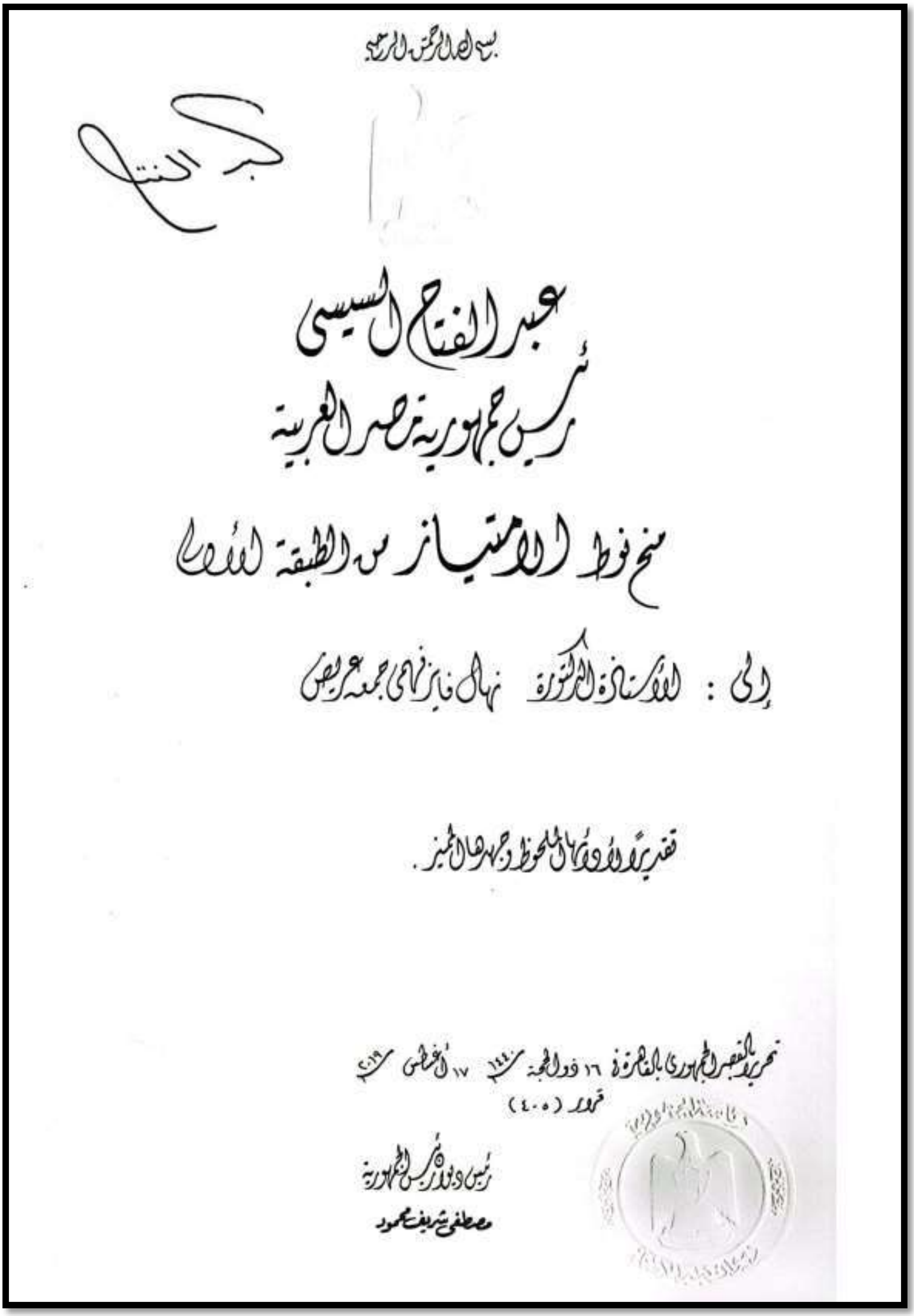
أ.د. أحمد بيومي شهاب الدين

أ.د. السيد أحمد عبد الخالق

8.2 El-Shorouk Academy Award for Scientific and Technological Creativity, 2016

8.3 State **Incentive Award for Engineering Sciences**, Egypt; 2018.

8.4 Medal of Excellence of the first degree from the President of the Arab Republic of Egypt


بسم الله الرحمن الرحيم

عبد الفتاح السيسي

رئيس جمهورية مصر العربية

منح نوط الامتياز من الطبقة الأولى

إلى : الأستاذة الدكتورة نهال فايز فهمي جمعة عريض

تقديراً لأدوارها الملحوظة وجهودها المتميزة.

تحريراً بالقصر الجمهوري بالقاهرة في ١٦ ذو الحجة سنة ١٤٤٠ ١٧ أغسطس سنة ٢٠١٩

قرار (٤٠٥)

رئيس ديوان رئيس الجمهورية

مصطفى شريف محمود

8.5 **Honoring the College of Engineering** in my capacity as program director for the effort to **accredit the Communications and Computer Engineering** program from the National Authority for Education Quality Assurance and Accreditation

8.6 **Honored by the Faculty of Engineering** in the harvest year of postgraduate studies and research for obtaining a research project from the Ministry of Higher Education to qualify the Communications and Computer Engineering program through the **establishment of the Antennas and Artificial Intelligence** Laboratory at the Faculty of Engineering, Mansoura University

9. Recent Workhops and Training

1) ABET Accreditation & Assessment Essentials held April 11-13, 2022;
2) Fundamental of Program Assessment Workshop, 6- 8 April 2022;
3) The educational course for strategic studies and national security, 4-8/ March 2023
4) Photoshop; 23 April 2022; EDUCBA;
5) Introduction to deep Learning, Great Learning Academy, May 2022
6) Introduction to Artificial Intelligence, Great Learning Academy, May 2022
7) Energy management system, April 2022.

جمهورية مصر العربية
وزارة الدفاع
أكاديمية ناصر العسكرية للدراسات العليا

شهـــادة

تشهد أكاديمية ناصر العسكرية للدراسات العليا

بأن الأستاذ الدكتور / نهال فايز فهمى جمعة عريض

إلتحق بالدورة التثقيفية للدراسات الإستراتيجية والأمن القومى رقم (٥)

لصالح جامعة المنصورة

المنعقدة بكلية الدفاع الوطنى

فى المدة من ٢٠٢٣/٣/٤ إلى ٢٠٢٣/٣/٨

وقد اجتاز الدراسات المنهجية للدورة بنجاح

القاهرة فى ١٦ شعبان سنة ١٤٤٤ هجرية الموافق ٨ مارس سنة ٢٠٢٣ ميلادية

التوقيع/
لواء دكتور / محمد الدسوقى سعيد الأجل
مدير كلية الدفاع الوطنى

التوقيع /
لواء أ.ح / أشرف محمد فارس
مدير أكاديمية ناصر العسكرية للدراسات العليا

ABET

This certificate is awarded to

Nihal Areed

who has earned 12 Professional Development Hours (PDHs) for participation in the *ABET Accreditation & Assessment Essentials* held April 11-13, 2022.

Approved this 27th of April, 2022

Michael K.J. Milligan, Ph.D., P.E., CAE
Executive Director and CEO

ABET

This certificate is awarded to

Nihal Areed

who has earned 10 Professional Development Hours (PDHs) for participation in the *Fundamentals of Program Assessment* workshop held April 6 to April 8, 2022.

Approved this 11th of April 2022

Michael K.J. Milligan, Ph.D., P.E., CAE
Executive Director and CEO

10. Reviewer at many Internation Journals

1. IEEE Photonic Technology Letters
2. Optical and Quantum Electronics
3. Electronics, optical and Photonics; MDPI Journals
4. Mansoura Engineering Journal
5. American Journal of Electromagnetics and Applications
6. Progress in Electromagnetic Research
7. Scientific Reports
8. Applied Science

IEEE photonics SOCIETY
Transforming science into technology™

20 June 2013

To Whom It May Concern:

This letter serves as proof Nihal Fayez has served as a reviewer for *IEEE Photonics Technology Letters*.

Your efforts have contributed to the high quality of papers published in this journal, which is available online to 6,000+ IEEE Photonics Society members worldwide. The journal is also available to many libraries, universities, government agencies, and corporations through subscriptions to IEEE Xplore™. *IEEE Photonics Technology Letters* consistently rates within the top 10 journals in the ISI Citation Report, which ranks periodicals in electrical engineering and photonics. In addition, IEEE journals have more U.S. Patent citations than any other publisher.

The *IEEE Photonics Technology Letters* was started in 1989. More than 1,200 papers are submitted for publication every year.

Each manuscript submitted to all of our journals must undergo peer review by at least two professionals who are qualified and knowledgeable in that particular field of interest. Reviewers are personally selected by the editors based on their expertise.

We are grateful that Nihal Fayez has helped us by providing manuscript reviews. We are pleased to ask her to continue this service to the engineering community. Her assistance in the advancement of the literature is greatly appreciated.

Sincerely,

Douglas Razzano
Sr. Business Manager - IEEE Photonics Society
445 Hoes Lane
Piscataway, NJ 08854 USA
Phone: +1 732 465-5863
Fax: +1 732 981-1138
Email: d.razzano@ieee.org

OE Optical Engineering

CERTIFICATE OF APPRECIATION

AWARDED TO

Nihal Areed

for serving as a reviewer for

Optical Engineering

during the calendar year of 2022

Presented by

Adam Wax
Optical Engineering Editor-in-Chief

SPIE.

11. Editor at

Journal of Electrical and Computer Engineering – Communications; Hindawi; www.hindawi.com.

12. Fellowship

- I am a member of IEEE Communications Society
- I am a member of Optical society of America (OSA)

13. Software Experience

- **Photoshop**
- **MATLAB for** Design and simulation
- **Java script**
- **CADENCE for 90 nm and 65 nm MOSFET Technology**
- **QUARTUS-Multisim** for Digital Design and Programmable FPGA Circuits
- **Hardware Description Language (HDL): VHDL/ Verilog**
- **COMSOLMultiphysics** for Designing Photonics Devices
- **LUMERICAL for** Designing Photonics Devices
- **MATLAB Packages of** Microwave circuits, antennas, control systems, neural networks and simulink,etc.
- **CST Microwave Studio** for Designing Antennas AND Microwave Devices for Different Applications
- **Ansoft HFSS -** High-Frequency Structure Simulation for Designing Antennas AND Microwave Devices for Different Applications

14.Recent Statements and Experience Letters

- A statement that I was the manager of the quality team in the Communications and Computers program, and the program obtained local accreditation.

كلية الهندسة – جامعة المنصورة

22 May 2023

افادة لمن يهمه الامر

تشهد كلية الهندسة جامعة المنصورة بان ا.د./ نهال فايز فهمى جمعة عريض الأستاذ بقسم هندسة الالكترونيات و الاتصالات قد كانت مديرا لفريق الجودة ببرنامج هندسة الاتصالات و الحاسبات في الفترة من يوليو 2019 و حتى فبراير 2023م و قد حصل البرنامج فى فبراير 2022 على الاعتماد البرامجى من الهيئة القومية لضمان جودة التعليم و الاعتماد.

و تفضلوا بقبول فائق الاحترام

مدير وحدة ضمان الجودة و الاعتماد بالكلية

ا.د. / إبراهيم عبد الغفار بدران

عميد الكلية

ا.د./ محمد عبد العظيم محمد

- A statement that I participated in the preparation of the dual scientific agreement between the Faculty of Engineering, Mansoura University and Speed College, Louisville University

كلية الهندسة – جامعة المنصورة

22 May 2023

افادة لمن يهمه الامر

تشهد كلية الهندسة جامعة المنصورة بان ا.د./ نهال فايز فهمى جمعة عريض الأستاذ بقسم هندسة الالكترونيات و الاتصالات قد ساهمت بشكل فعال في اعداد ال Course Mapping الخاص بالاتفاقية العلمية المزدجة بين برنامج هندسة الاتصالات و الحاسبات بالكلية و جامعة العلمين الجديدة و كلية سبيد بجامعة لويفيل بالولايات المتحدة الامريكية.

و تفضلوا بقبول فائق الاحترام

وكيل الكلية لشؤون التعليم و الطلاب

ا.د. / محمد جمال إبراهيم مهدى

عميد الكلية

ا.د./ محمد عبد العظيم محمد

- A statement that I have established a laboratory in antennas and artificial intelligence at the Faculty of Engineering, Mansoura University, by obtaining a project funded by the Project Management Unit at the Ministry of Higher Education

كلية الهندسة – جامعة المنصورة

افاده لمن يهمه الامر

22 May 2023

تشهد كلية الهندسة جامعة المنصورة ا.د./ نهال فايز فهمى جمعة عريض الأستاذ بقسم هندسة الالكترونيات و الاتصالات قد قامت بالحصول على مشروع دعم و تاهيل البرامج التعليمية بمؤسسات التعليم العالى للاعتماد الدولى من وحدة إدارة المشروعات بوزارة التعليم العالى في 26 مايو 2021 بدعم مالى و قدرة 4 و نصف مليون جنيه مصري لاغير و قد تم توجيه 2 و نص مليون لانشاء معمل الهوائيات و الذكاء الاصطناعى بالدور الخامس بمبنى البرامج التوعية. ساهمت ا.د. /نهال فايز بشكل فعال في انشاء المعمل ابتداء من اختيار المسمى و وضع مقترح المحتويات بداخله و تشكيل لجان لفحص العروض و الشراء و الاستلام و اعداد التقارير الفنية و الادارية الخاصة به.

و تفضلوا بقبول فائق الاحترام

وكيل الكلية لشؤون التعليم و الطلاب

ا.د. / محمد جمال ابراهيم مهدى

عميد الكلية

ا.د./ محمد عبد العظيم محمد

- A statement that I have contributed to the preparation of a new bachelor's Bylaw for the Communications and Computer Engineering program according to NARS 2018

كلية الهندسة – جامعة المنصورة

22 May 2023

افادة لمن يهمه الامر

تشهد كلية الهندسة جامعة المنصورة بان ا.د./ نهال فايز فهمى جمعة عريض الأستاذ بقسم هندسة الالكترونيات و الاتصالات قد ساهمت بشكل فعال في صياغة و اعداد اللائحة الدراسية ببرنامج هندسة الاتصالات و الحاسبات بنظام الساعات المعتمدة 2021 بما يتوافق المعايير الاكاديمية المرجعية القومية 2018.

و تفضلوا بقبول فائق الاحترام

وكيل الكلية لشؤون التعليم و الطلاب

ا.د. / محمد جمال إبراهيم مهدى

عميد الكلية

ا.د./ محمد عبد العظيم محمد

مدينة زويل للعلوم والتكنولوجيا
Zewail City of Science and Technology

Cairo, Dec. 8, 2022

To whom it may concern,

I would to confirm that Prof. Nihal Fayez Fahmy Areed has been teaching at Nanotechnology and Nanoelectronics Engineering program, Zewail city for science and Technology, Egypt as an Adjunct Associate Professor / Professor starting from 2016. She taught the following courses:

1- Principal of Microwave engineering and waveguide summer (2017).
2- Integrated Optics (Spring 2017).
3- Nanophotonics (Fall 2018, Spring 2018, Fall 2019).

Her conceptual learning method was very attractive and famous among students. She has taken a keen interest in providing enough knowledge to the students in a friendly manner and in a sincere way. She has taken care for students and worked hard to teach the students. Her teaching methods have always been able to offer the most reliable way of course learning objectives. Her overall behaviour with the students and other staffs has been outstanding. We have noticed her steady progress during these years, and we believe she will always continue progressing in her career.

The Nanotechnology and Nanoelectronics Program at Zewail City, wishes her all the best in her career.

Sincerely,

Amr M. Bayoumi, Ph.D.
Professor and Director
Nanotechnology and Nanoelectronics Program,
University of Science and Technology,
Zewail City of Science and Technology
Ahmed Zewail road Nano Building, Room F-020
October Gardens, October City, Giza 12578, Egypt
Email: abayoumi@zewailcity.edu.eg
Website: www.zewailcity.edu.eg
Senior Member, IEEE

Zewail City
of Science, Technology and Innovation

مدينة زويل
للعلوم والتكنولوجيا والابتكار

Date: 13 Dec 2022

Re: Experience Letter

Dear Sir/Madam,

I would like to provide this statement in the form of a "Certificate of Excellence and Appreciation" towards the outstanding contribution made by Professor Nihal Fayez Fahmy Areed to the research activities of the Center for Photonics and Smart Materials (CPSM), Zewail City of Science, Technology and Innovation, Egypt. She has joined CPSM since 2013 first as Postdoc Fellow, then she excelled to the extent of jumping up the academic ladder to the rank of full Professor in 2018; such a phenomenal progress reflecting the high level of academic distinction achieved by Pof Areed. All in all, she has participated actively (with me) on supervising more than 30 MSc/PhD students to successful completion, and out of that more than 47 research outputs found its way for publication in the most prestigious journal in Photonics.

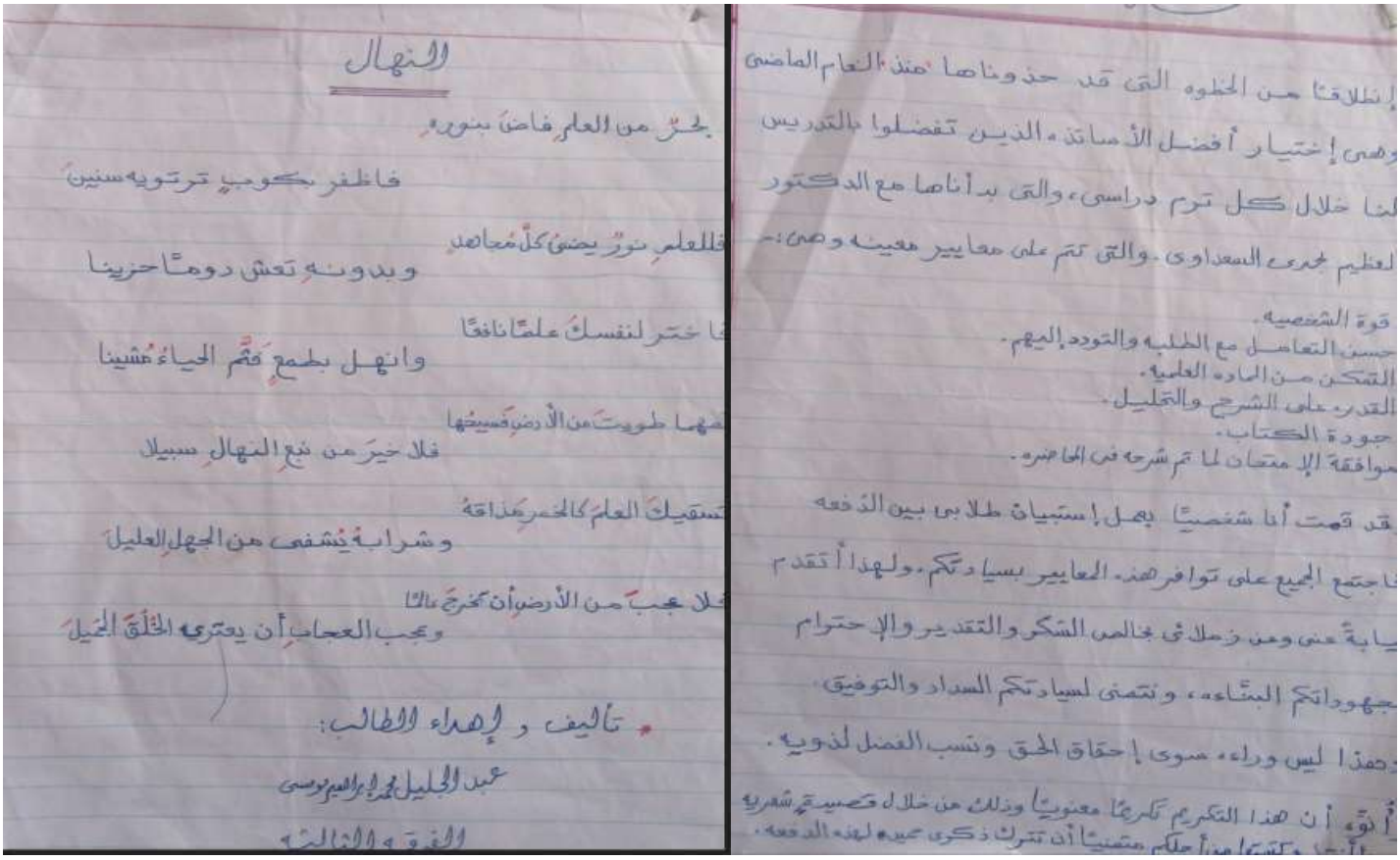
Prof Nihal has made unparalleled academic achievements at her institution, Mansoura University, and demonstrated great leadership skills projected on the development and directorship of Lumerical and CST microwave studio Program, a flagship program at faculty of Engineering, Mansoura University.

The light of her outstanding achievement can go on and futuristic scientist and academic as she is, I firmly believe in playing a significant transformation role in your prestigious institution.

Best Regards,
Salah.

Salah Obayya, PhD, DSc
Fellow IEEE, OSA, AAS, ACES, HEA, IET, IOP
Professor & Director of Center for Photonics and Smart Materials (CPSM)
Zewail City of Science and Technology
Ahmed Zewail Road
October Gardens, 6th of October City, Giza, Egypt
Mobile: +2 0100 219 6684
Email : sobayya@zewailcity.edu.eg

- The 3rd year Students at the electrical power Eng. Dept. honored my for my teaching performance and presenting me the following poem entitled “El Nohal”



النهال

بحرٌ من العلم فاضَ بنوره
فاظفر بكوبٍ ترتويه سنين
فللعلمِ نورٌ يضئ كلَّ مجاهدٍ
وبدونه تعش دوماً حزينا
فاختر لنفسكَ علماً نافعاً
وانهل بطمعٍ فثم الحياءُ مُشينا
فمها طويتَ من الأرضِ فسيحُها
فلا خيرَ من نبعِ النهالِ سبيلا
تسقيكَ العلمَ كالخمرِ مذاقهُ
وشرابهُ يشفي من الجهلِ العليلِ
فلا عجبَ من الأرضِ أن تخرجَ مالها
ويعجبُ العجابُ أن يعترى الخَلقَ الخَمِيلُ

تأليف و إهداء الطالب:
عبد الجليل محمد إبراهيم موسى
الفرقة الثالثة

إنطلاقا من الخطوه التى قد حذوناها منذ العام الماضى
وهى إختيار أفضل الأساتذه الذين تفضلوا بالتدريس
لنا خلال كل ترم دراسى، والتى بدأناها مع الدكتور
العظيم لجرى السعداوى. والتى تتم على معايير معينه وهى:-

قوة الشخصيه.
حسن التعامل مع الطلبه والتودد إليهم.
التمكن من الماده العلميه.
القدره على الشرح والتحليل.
جوده الكتاب.
مواقفة الإمتحان لما تم شرحه فى المحاضره.

وقد قمت أنا شخصيا بعمل إستبيان طلابى بين الدفعه
فاجتمع الجميع على توافر هذه المعايير بسيادتكم. ولهذا أتقدم
بغاية معنى ومن زملائى بخالص الشكر والتقدير والإحترام
لمجهوداتكم البناءه، ونتمنى لسيادتكم السداد والتوفيق.
وهذا ليس وراءه سوى إحقاق الحق ونسب الفضل لذويه.

أتوقع أن هذا التكريم تكريما معنويا وذلك من خلال تخصيص شهريه
الأخير وكتابتنا من أجلكم متمنيا أن تترك ذكرى جميله لهذه الدفعه.

15. References

Name	E-mail
Prof. Hamdi EL Mikati Professor, Electronics &Comm. Eng. Department, Faculty of Engineering, Mansoura University	H_elmikati@mans.edu.eg **Telephone** 01223418389
Prof. Mohmed G. Mahdy Professor, Vice Dean for Students and Educational Affairs, Faculty of Engineering, Mansoura University	**E-mail** mmahdy@mans.edu.eg **Telephone** 01222447352