Curriculum Vitae

Personal Information

Name: Nasr Hassan Khedr Gad **E-mail(s):** ngad@sci.asu.edu.eg

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Address: Umm Layla Mosque St., Ein Shams Al Gharbeyah, El Matareya, Cairo (Egypt).

Nationality: Egyptian **Postal code:** 18531

OBJECTIVE *To get a challenging position in an organization to pursue research/work activities that will add to my career and that will further enhance my academic qualifications and experience in the field of physics, electronics, electromagnetics and antennas.*

AREAS OF INTEREST *My research interest includes planar printed antennas, defected ground structure (DGS), dielectric resonator antennas, 5G antennas, electromagnetics, microwaves, & solar cells. I am also interested in metamaterials, plasmonics, and optimization tools.*

RESEARCH INTERESTS *Printed Antennas (Patch, Slot, and Monopole) for Wideband / Multiband Applications, Microwave Engineering, Photonics, Optical Antennas, Nano-antennas, Solar Cells.*

Work Experience

Physics Lecturer: *Oct. 2018 –Present*

Teaching Experience: ***Lecturer of Physics, Physics Department, Faculty of Science, Ain Shams University, 11566, Cairo, Egypt.***

Undergraduate

I have been teaching several courses for several years such as:

Physics courses:

1.General Programs Physics, Biophysics, Physics&Chemistry, Physics&Computer

- ***Digital Electronics*** **–** ***Phys454, Phys449 & Phys408***
- ***Telecommunications*** **–** ***Phys432***
- ***Analog Electronics*** **–** ***Phys304, Phys403***
- ***Computer Physics*** **-** ***Biop461***
- ***RF Electronics*** **–** ***Phys451***
- ***Physics (Optics & Waves)*** **-** ***Phys102***
- ***Biological Electronic Systems*** **–** ***Biop452***
- ***Electronic Instrumentation and Measurements*** **–** ***Phys352***
- ***Electronic Integrated Circuits*** **-** ***Phys367***
- ***Electromagnetics*** **-** ***Phys203***
- ***Antennas*** **–** ***Phys454***

2.Special Programs

Geo. Petroleum Program

Electronics & IC –Phys301

Nano & material Program.

- ***Electronics –Phys308***
- ***Electrodynamics-Phys301***

Graduate courses:

Diploma – (Analytical Chemistry)

- ***Electric Circuits – C525***

Pre-Master - (Physics)

Antennas – Phys621 ***Advanced Electronics -Phys612***

Laboratory: *Supervisor of Undergraduate Practical Physics courses (Electronics / Optics Lab.).*

Physics Lecturer: **Oct.2020-Mar.2021** **Oct.2022-June2023**

Faculty of Science, Galala University, Suez, Egypt.
Teaching Experience for :(Dentistry, Applied Health Science, Engineering).
Electrodynamics *-****Phys313*** *course - Nanoscience & Technology Program*

Electronics Lecturer: **Feb.2023-June2023**

Faculty of Computer and Information Sciences - Ain Shams University.

- ***Electronics-BSC124*** *course for distinct Credit Hours New Programs (AI – SWE – DMM – Robotics - Bioinformatics - Cyber Security)*

Physics Lecturer: **Mar.2021-June2024**

Sadat Academy for Management Sciences, Computers and Information Faculty.

- ***Electricity and Magnetism*** **-** ***SC121***
- ***Electronics*** **-** ***SC111***

EOS Member: **Feb.2021- June2022** *Member of the Environmental Characterization Committee for Electrical and Electronic Systems, Egyptian Organization for Standards & Quality (EOS).*

ESA Member: **July 2021 –Present** *Member at the Graduate Studies Development Unit, Education Development Initiative, Ain Shams University.*

Faculty of Science, Ain Shams University

Academic Advisor for students in the credit hour system. (Oct. 2018 –Present)

Member of the group processing the Government Excellence Award file for the Faculty of Science, Ain Shams University. (Oct. 2021 –June 2022)

Evaluator
Jun.2021 –Sept.2021

Evaluation of companies' offers to equip physics laboratories for the New Mansoura University, commissioned by Faculty of Science Dean at Ain Shams University.

Teaching / Lecturer assistant
Apr.2006-Oct.2013

Physics Department, Faculty of Science Ain Shams University, Cairo (Egypt).

Teaching assistant for the following labs:

- *Analog & Digital Electronics Lab.*
- *Circuit Design, Simulation & Implementation Lab.*
- *MATLAB Introduction & Programming.*
- *Computer Networks Lab.*
- *Optical Communication Lab.*
- *Optical fibers Lab.*
- *Microwaves & Antennas Lab.*

Experimental Physics Lab: *Fourth year physics lab (Electronics - Optics). First year physics Lab. (Properties of matter – Optics – Heat – Electricity).*

Teaching assistant duties include:

- *Preparing and demonstrating lab experiments.*
- *Guiding students in performing the experiments themselves and taking data.*
- *Grading lab reports.*
- *Proctoring and grading examination.*
- *Leading discussion sections.*
- *Lecturing and preparing exams, homework problems, and quizzes.*
- *Performing other duties related to the instructional program.*

EDUCATION AND TRAINING

Assistant Professor
Doctoral Degree (Ph. D.)
Oct.2013–Sept.2018

Faculty of Electrical Engineering, University of Ljubljana, Ljubljana, 1000, Slovenia.
In Oct. 2013, I joined the Laboratory for Radiation and Optics, Faculty of Electrical Engineering, Ljubljana University as a researcher.
Ph.D. Dissertation: "**Design of Wideband Planar Printed Antennas Using Defected Ground Structures for Multiband Applications**"

Ph.D. degree:
Doctor of Philosophy (Ph.D.).

Course credited:
Microwaves & RF Engineering (Built homemade Spectrum Analyzer).
Training and professional Schools:

1. *ICTP School on "**Applications of Open Spectrum and White Spaces Technologies"**, March 3-14, 2014, Trieste, Italy.*
2. *European School of "**Antennas Radar 2020-Future Radar Systems"**, Karlsruhe Institute of Technology (KIT) University, Institut für Hochfrequenztechnik und Elektronik, 5–9 May 2014, Karlsruhe, Germany.*
3. *European School of" **Antennas -Arrays and Reflect-arrays"** Université Catholic de Louvain, 29 Sept. – 03 Oct. 2014, Louvain-la-Neuve, Belgium*
4. *Training course on **ANSYS HFSS**, 2015, Ljubljana, Slovenia.*
5. *Training course on **CST**, 2016, Ljubljana, Slovenia.*
6. ***Eastern Africa GNSS and Space Weather Capacity Building** Workshop, 21-25 June, 2021.*

Master degree in physics
M.Sc. Physics
Apr.2008 –Mar.2012

Physics Department, Faculty of Science, Ain Shams University, Cairo (Egypt).
MSc. Dissertation:
"Radiation Pattern Simulation and Experimental Verification of Spiral Antennas"
Pre-Master Courses and Skills: Design, Simulate, Fabricate, and Measuring Printed Antennas (Patch, and Slot). Electromagnetic Fields & Microwave Engineering, Electronics & Electric Circuits Design, Electrodynamics, and Quality standards in the teaching process.

Bachelor degree in Physics
Sept.2001-Jun.2005
B.Sc. in Electronics Physics

Physics Department, Faculty of Science, Ain Shams University, Cairo (Egypt).
Grade: Very Good with honors (80.76%), Ranked top **first across** Electronics Group.

Special Subjects:
Electronics & Electric Circuits
Antennas & Microwaves.
Optical & Data Communication.
Computer Architecture & Networks.
Telecommunications.
Digital & Image Processing.

General subjects:
Basic physics, Basic Chemistry, Statistics, Statics, Dynamics, Electromagnetism, Thermodynamics, Quantum Mechanics, Statistical Physics, Mathematical Physics, Solid State Physics, Atomic Physics, Nuclear Physics, Laser Physics & Advanced Optics, Electrodynamics and Magnetism.

Personal skills and competences

Mother tongue	**Arabic**				
Other language	**Understanding**		**Speaking**		**Writing**
	Listening	**Reading**	**Spoken interaction**	**Spoken production**	
English	**C1**	**C2**	**C1**	**C1**	**C2**

Social skills Ability to adapt to multicultural environments, team spirit, good communication skills.

Organisational skills Good experience in project or team management, Sense of organization

Special Skills

- Good knowledge of MS Office, ICDL Certificate (09/08/2007, SN. EGY1000199).
- Good skills in the basic principle of Matlab Programming, FORTRAN, C++, Python
- Origin lab, and SPSS (Statistical Package for Social Science).
- NCC Software Engineering Methods &Management Techniques Certificate.
- Fujitsu (Creating your Sales Plan, Problem Solving & Decision Making, Working in teams, Make Objectives Happen, Report Writing, putting customers First, Starting the sales).
- Fujitsu (Object-Oriented Software Engineering using UML).
- Fujitsu (A New content Management Paradigm using XML).

Technical skills and competences Experience in antenna prototypes, microwave material, characterization, and measurements.

EM simulation tools like:
- Mentor Graphics - HyperLynx (IE3D),
- CST Microwave Studio,
- ANSYS HFSS and FEKO.
- Sonnet, and Agilent – ADS.

Physics simulation tools like:
- COMSOL MULTIPHYSICS.
- Lumerical.
- SCAPS-1D
- OghmaNano

Hardware Lab
- ORCAD & PCAD Layout.
- Computer Networks, and Circuit Design.
- Design and testing of printed antennas.

Equipment:
- Vector Network analyzers (VNA)
- Anechoic Chamber
- Spectrum Analyzers

PhD Thesis https://repozitorij.uni-lj.si/IzpisGradiva.php?id=104795&lang=eng&prip=rul:9123672:r5

Google Scholar https://scholar.google.com.eg/citations?user=kR35ry4AAAAJ&hl=en&oi=ao

Scopus Author ID https://www.scopus.com/authid/detail.uri?authorId=55262970600

ORCID https://orcid.org/0000-0002-4175-877X

Semantic Scholar https://www.semanticscholar.org/author/N.-Gad/46449454

IEEE https://ieeexplore.ieee.org/author/38243858200

PROFESSIONAL ACTIVITIES Reviewer for some peer-reviewed journals as Cogent engineering, Applied Computational Electromagnetics Society Journal (ACES) , Journal of Scientific Research in Science)

Funded student project supervisor *Undergraduate student has been approved for project (2022) "Wearable smart prosthetic arm", funded by the Egyptian Academy of Scientific Research and Technology.*

References:

Ljubljana University, Faculty of Electrical Engineering, Radiation & Optics Lab., 25 Trzaska,1000, Ljubljana, Slovenia.

Prof. Dr. Matjaž Vidmar,
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Tel.: (01) 476 83 21 **Fax:** 01/4768 424

Prof. Dr. Mohamed Kotkatah
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Tel.: +20233369789 **Mobile:** +201005145131

List of Publications:

International *Journal* Publications:

1. *S. Sanad, A. M. Ghanim,* ***Nasr Gad****, Mostafa El-Aasser, Ashraf Yahia, and Mohamed A. Swillam* ***"Broadband PM6Y6 Coreshell Hybrid Composites for Photocurrent Improvement and Light Trapping"****, Scientific Reports Journal,* ***14****, 13578, 2024.* https://doi.org/10.1038/s41598-024-63133-5
2. *Hager Z. Elabden, Ahmed Mourtada Elseman, Mostafa A El-Aasser,* ***Nasr Gad****, Mohamed M. Rashad* ***"Observation on Structural and Optical Features of New Nanostructured Lead-free Methylammonium Zinc or Cobalt Iodide Perovskites for Solar Cells Applications",*** *SN Applied Sciences Journal, 5, 335 ,2023.* https://doi.org/10.1007/s42452-023-05562-x
3. *Maie Gaber, Mostafa El-Aasser, Ashraf Yahia, and* ***Nasr Gad*** ***"Characteristic modes of a slot antenna design based on defected ground structure for 5G applications",*** *Scientific Reports Journal,13, 15327 ,2023.* https://doi.org/10.1038/s41598-023-42130-0
4. *Alaa E. Abd El-Samad,* ***Nasr Gad****, Mostafa El-Aasser, Mohamed M. Rashad, Ahmed Mourtada Elseman* ***"Optoelectronic investigation and simulation study of zinc and cobalt doped lead halide perovskite nanocrystal",*** *Journal of Solar Energy,247, pages 553–563,2022.* https://doi.org/10.1016/j.solener.2022.10.061
5. *Faten F. Ismail, Mostafa A. El-Aasser, and* ***Nasr H. Gad*** ***"A Parasitic Hat for Microstrip Antenna Design Based on Defected Structures for Multiband Applications",*** *Applied Computational Electromagnetics Society Journal (ACES), 37 (05), 568–575,2022.* https://doi.org/10.13052/2022.ACES.J.370506
6. *Gaber, M. A., Fouad, F., Yahia, A., El-Aasser, M. &* ***Gad, Nasr*** ***"A Printed Antenna Design with Defected Ground Structure for Multiband Applications",*** *European Journal of Science and Technology, (28), 1528-1533, (2021).* https://dergipark.org.tr/en/pub/ejosat/issue/64234/1020955
7. *M. Fekry, S. Sanad, H. Hashem, A. Hassanien,* ***Nasr Gad****, M. shaaban, A. Yahia, M. El-Aasser* ***"Plasmonic Photocurrent Improvement in P3HT: PCBM Organic Solar Cells"****, European Journal of Science and Technology, (28), 1508-1516, (2021).* https://dergipark.org.tr/en/pub/ejosat/issue/64234/1022871
8. ***Nasr H. Gad****, M. Vidmar* ***"Design of a Microstrip-Fed Printed-Slot Antenna Using Defected Ground Structures for Multiband Applications",*** *Applied Computational Electromagnetics Society Journal (ACES), 33(08), 854-860, (2018).* https://journals.riverpublishers.com/index.php/ACES/article/view/9033

National *Journal* Publications:

1. *Alaa Elshahat Abd Elsamad, Mostafa El-Aasser,* ***Nasr Gad****, Ahmed Mourtada Elseman* ***"Simulation of cobalt/zinc doped methyl ammonium lead iodide solar cells"****, Egyptian Journal of Pure and Applied Science- Vol. 61(June), Issue 2, P. 19-27,2023.* https://doi.org/10.21608/ejaps.2023.198806.1059.
2. *Omar E. Elsheikh, Adel Shaaban, A. Arafa, Ashraf Yahya, Lotfy Rabeh Goma, and* ***Nasr Gad*** ***"Predicting Fundamental Transverse Electric Mode of Slab Waveguide Based on Physics-Informed Neural Networks",*** *Egyptian Journal of Pure and Applied Science, Vol.61(Jan.), Issue 1, P. 1-10 ,2023.* https://doi.org/10.21608/ejaps.2023.181263.1047.
3. *Alaa Muhammed Yossry, Mostafa El-Aasser, Ashraf Shams Eldien Yahia,* ***Nasr Gad*** ***"Plus-Shaped Dielectric Resonator Antenna with Parasitic Rectangular Elements for Multiband Applications",*** *Egyptian Journal of Pure and Applied Science – Vol. 61(Jan.), Issue 1, P. 40-47, 2023.* https://doi.org/10.21608/ejaps.2023.191158.1053.
4. *Eman Sayed Ward,* ***Nasr Gad****, M. Lotfy Rabeh, Ashraf Yahia* ***"Effects of Solar Irradiance and Temperature on Photovoltaic Module Characteristics using a capacitive load method"****, Menoufia Journal of Electronic Engineering Research (MJEER), Vol. 32(Jan.), No. 1, P. 24-30 ,2023.* https://doi.org/10.21608/mjeer.2023.283915.

International Conference Publications:

1. *Sanad, S., Ghanim, A., **Gad, Nasr**, El-Aasser, M., Yahia, A., & Swillam, M. "**Enhanced light harvesting in PM6:Y6 organic solar cells using plasmonic nanostructures"** SPIE Optics + Optoelectronics Conference, Prague, Czech Republic, April, 2023. https://doi.org/10.1117/12.2670419.*
2. *Omar E. Elsheikh, A. Arafa, Ashraf Yahya, M. Swillam, Adel Shaaban, **Nasr Gad**, Lotfy Rabeh Gomaa," **Predicting Dielectric Waveguides Characteristics Using Deep Learning"**, 24th Photonics North (PN) Conference, Niagara Falls, ON, Canada, 24 - 26, pp. 1-1, May 2022. https://ieeexplore.ieee.org/document/9908369.*
3. *F. Fouad, M. A. Gaber, M. El-Aasser and **Nasr Gad**, "**Design of a Mirror Stairs Multiband Microstrip Antenna Using Defected Structures**," 38th National Radio Science Conference (NRSC), pp. 47-55, 2021. https://ieeexplore.ieee.org/document/9509821*
4. *M. El-Sayed, A. Yossry, A. Yahia, M. El-Easser and **Nasr Gad**, "**Printed Monopole Antenna Design with Parasitic Element for Multi-band Applications,**" International Conference on Electronic Engineering (ICEEM), pp. 1-4, 2021. https://ieeexplore.ieee.org/document/9480643*
5. *A. Yossry, M. El-Sayed, A. Yahia, M. El-Aasser and **Nasr Gad**, "**Hybrid-Shape Dielectric Resonator Antennas for Multiband Applications**," International Conference on Electronic Engineering (ICEEM), pp. 1-5, 2021. https://ieeexplore.ieee.org/document/9480387*
6. *M. El-Sayed, **Nasr Gad**, M. El-Aasser and A. Yahia, "**Slotted Rectangular Microstrip-Antenna Design for Radar and 5 G Applications**," International Conference on Innovative Trends in Communication and Computer Engineering (ITCE), pp. 330-334, 2020. https://ieeexplore.ieee.org/document/9047754*
7. *Mostafa El-Aasser, **Nasr Gad**, Mohamed M. Rashad and A. Yahia **"Ultraviolet Broadband Plasmonic Absorbers "**2nd International conference in Materials Science and Engineering, 11-13 March 2019, ICMSE-RAC2-2019, Cairo, Egypt.*
8. ***Nasr H. Gad**, M. Vidmar" **A Novel Design of Microstrip-Fed Printed Slot Antenna using Defected Ground Structures for Multiband Applications".** SRK 2018 -- 23rd Seminar on Radio Communications, 31 Jan. – 2 Feb. 2018, Ljubljana, Slovenia. http://srk.fe.uni-lj.si/2018/main.php?page=programme.html*
9. ***Nasr Gad**, Leon Pavlovic, Tomaz Korosec, and Matjaz Vidmar"**CPW-Fed Wideband Printed Spiral Slot Antenna Design for Multiband Applications"** ERK 2016, 25th International Electrotechnical and Computer Science Conference, 19 -21 September, 2016, A: 117-120, Portorož, Slovenia. https://erk.fe.uni-lj.si/2016/program.php#TC.3*
10. ***Nasr Gad**, "**Compact Square Spiral Slot Antenna for Wideband Applications"** SRK 2014 - 21rd Seminar on Radio Communications, 24 -26 September 2014, Ljubljana, Slovenia. http://srk.fe.uni-lj.si/2014/glavna.php?page=prispevki/Gad.html*
11. *A. H. Yahia, N. M. Shaalan and **Nasr H. Gad**, "**B13. CPW-fed square-spiral slot antenna design for wideband applications,**" 29th National Radio Science Conference (NRSC), pp. 103-110, 2012. https://ieeexplore.ieee.org/document/6208513*

Book Chapters:

1. *Alaa E. Abd El-Samad, Radwa S. Mostafa, Hager H. Zeenelabden, Menahtullah M. Mabrouk, Ahmed Mourtada Elseman, **Nasr Gad**, Mostafa El-Aasser and Mohamed M. Rashad "**Mixed 2D-3D Halide Perovskite Solar Cells, Solar Cells - Theory, Materials and Recent Advances",** IntechOpen, 2021. https://doi.org/10.5772/intechopen.97684*