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<https://scholar.google.com/citations?hl=en&user=w7JJmoIAAAAJ>

EXPERTISE

Semiconductor laser diodes, Optoelectronics, Holography, Optical communications systems, Secure chaotic optical communications Nanophotonics, Optical logic gates, Biomedical laser applications.

UNIVERSITY EDUCATION

- 2007** **Ph.D. entitled A study of some Aspects of Chaotic Behaviour of Semiconductor Laser Diodes** from Engineering Applications of Laser department- NILES- Cairo University
- 2002** **M.Sc entitled A study of some nonlinear aspects of Semiconductor Laser Diodes** from Laser applications in Industry, Communications and Optical Systems department- NILES- Cairo University
- 1999** **Diploma in Laser Applications in Industry, Communications and Optical Systems** from Niles- Cairo University
- 1998** **B.Sc. of Electronics and Electrical Communications department** from Faculty of Engineering- Cairo University

PROFESSIONAL EXPERIENCE

Dean of NILES – Cairo University	(April 2022- present time)
Chairman of of Laser Technology Center, NILES	(April 2022- present time)
Chairman of Medical Laser Center, NILES	(April 2022- present time)
Chairman of Quality Assurance Center, NILES	(April 2022- present time)
Vice Dean for Postgraduate and Research affairs, NILES	(Nov.2020 - March 2023)
Head of Dept of Engineering Applications of Lasers, NILES	(2019 – March 2023)
Vice Director of Quality Assurance Unit, NILES.	(2017-2022)
Head of the examination committee.	(2015-2018)
Member of NILES council.	(2015-present time)
Director of Laser Technology Center, NILES	(2015- 2018)
Vice Director of Laser Technology center , NILES	(2010- 2015)
Supervisor of Information Technology Center, NILES	(2008- 2013)
Member of Quality Assurance Center, NILES	(2008- 2022)
Coordinator of Quality Assurance Center in EAL dept.	(2008- 2018)
Advisor for Diploma, Master And PhD degrees' in EAL dept.	(Fall 2006- Spring 2015)

INSTITUTIONAL ACTIVITIES

Member of Cairo University council –CU	(May 2022 –present time)
Member of High committee for AI of Cairo University	(Oct. 2024- present time)
Member of Basic Sciences committee in the Supreme Council of Universities	
Member of Social Services and Environment Development Council –CU	(2023-2024)
Member of Postgraduate and Research affairs council-CU	(2020-2023)
Member of NILES council	(2015- present time)
Member of EAL dept. council	(2007: present time)
Member of Social Services and Environment Committee –NILES	(2011: present time)
Member of Postgraduate and Research affairs Committee –NILES	(2007:present time)
Member of Quality Assurance Unit - NILES	(2007: present time)
Member of Laser Technology Center council, NILES	(2006- present time)

TECHNICAL ASSIGNMENTS

Reviewer in the committee of the Electronics and Communications- Supreme Council of Universities	
Associate Editor in Journal of Laser Science and Applications – EKB	(2023- present time)
Reviewer in Journal of Optics and Photonics Research	
Reviewer in Journal of Engineering and Applied Science	
Reviewer in Optics and Lasers in Engineering, Elsevier	(2019)
Reviewer in IEEE Photonics Journal	(2016-present time)
Reviewer in 10th International Conference on Advances in Mechanical Design and Manufacturing, MDP 17, Giza, Egypt.	(2017)
Technical Reviewer of the annual symposium of The High-capacity Optical Networks and Enabling Technologies.	(July 2010- present time)
Member in Organizing Committee of the 10 th International Conference on Laser Applications (ICLA 10), NILES.	(Nov. 2019)
Member in Organizing Committee of the 9 th International Conference on Laser Applications (ICLA 9), NILES.	(Nov. 2016)
International committee member of the annual symposium of The High-capacity Optical Networks and Enabling Technologies.	(Dec 2012- present time)
Member in Organizing Committee of the HONET 2010 - High-capacity Optical Networks and Enabling Technologies	(July 2010)
Member in Organizing Committee of the Seventh International Conference on Laser Applications, NILES.	(April. 2009)
Member in Organizing Committee of The First NILES International Workshop on Lasers and Plasmas joined with the Tenth EASTER Plasma Meeting	(March 2008)
Technical secretary of workshop on Laser Technology, in Laser Technology Services Center, NILES, Cairo University.	(April 2007)

Member in Organizing Committee of the Sixth International Conference on Laser Science and Applications (Jan. 2007)

Member of the committee of the development of the proposed curriculum of undergraduate study in NILES (still under submission) (Nov. 2006)

Member in Organizing committee of the Fifth International Conference on Laser Applications (Jan. 2005)

Member of the committee of the development of the postgraduate curriculum of NILES (July 2006)

Member of the committee of the development of the postgraduate curriculum of Dept of Engineering Applications of Lasers, NILES (July 2009-2016)

HONOURS AND AWARDS

- 2019** Award for the best Poster in The 10th International Conference on Laser Applications ICLA10, National Institute of Laser Enhanced Sciences, Cairo University, 23 – 28 November 2019, Cairo, Egypt.
- 2019** Appreciation on the Mothers’ day from Cairo University in 2019.
- 2017** Appreciation for the collaboration in the summer activities of Young Muslim Child – Mostafa Mahmoud Foundation (2017).
- 2011** Award for the best employee in Department of Engineering Applications of Lasers, National Institute of Laser Enhanced Sciences, for 2011, awarded from the Cairo University Club.
- 2008** Award for the best employee in Department of Engineering Applications of Lasers, National Institute of Laser Enhanced Sciences, for 2008, awarded from the Cairo University Club.
- 2007** Award for the best 50 thesis for 2007, Best thesis for PhD at National Institute of Laser Enhanced Sciences, awarded from Cairo University, Egypt.

PUBLICATIONS

Peer reviewed (ISI) Journals

2023	<ol style="list-style-type: none"> 1. Abuelmakarem, H.S., Hamdy, O., Sliem, M.A., El-Azab, J., Ahmed, W.A., Early cancer detection using the fluorescent Ashwagandha chitosan nanoparticles combined with near-infrared light diffusion characterization: in vitro study, <i>Lasers in Medical Science</i>, 2023, 38(1), 37 2. Ali, W.E., Hamed, A.M., El-Ghandoor, H., El-Azab, J., Samir, A., The contrast of speckle images using viscous fluid flows, <i>European Physical Journal Plus</i>, 2023, 138(5), 477 3. Nada, Y.S., El-Azab, J.M., Othman, H., ... Maize, S.M.A., Y.H.Elbashar, Optimization of the operational parameters of ultrashort laser pulses for high self-compression with simplified thin-film compressor technique, <i>Journal of Optics (India)</i>, 2022, 51(1), pp. 37–45
2022	<ol style="list-style-type: none"> 4. Saber, A.M., Hameed, M.F.O., El-Azab, J., ... Ismail, T., Obayya, S.S.A., Plasmonic photonic crystal fiber sensor for optical partial discharge detection, <i>Optical and Quantum Electronics</i>, 2022, 54(7), 433 5. Abuelmakarem, H.S., Sliem, M.A., El-Azab, J., ... Om-Hashem, M.A., Ahmed, W.A., The Fluorescent Effect of Withania Somnifera Chitosan Nanocomposite as an Effective Contrast Agent for Cancer Theragnostic: Experimental Study in Vitro, <i>Journal of Fluorescence</i>, 2022, 32(3), pp. 949–960 6. Saber, A.M., Hameed, M.F.O., El-Azab, J., ... Ismail, T., Obayya, S.S.A., Efficient Partial Discharge Detection by Plasmonic Photonic Crystal Fiber Sensor with Bimetallic Grating, <i>IEEE Transactions on Dielectrics and Electrical Insulation</i>, 2022, 29(2), pp. 478–484
2020	<ol style="list-style-type: none"> 7. A. M. Abd-Rabou, J. El-Azab, "Advanced mathematical model for temperature distribution induced by a pulsed laser in different target configurations using virtual sources", <i>Results in Optics</i>, Vol.1, 100014(9), Nov. 2020. 8. R.M. Abdelazeem, D. Youssef, J. El-Azab, S.Hassab-Elnaby, M. Agour, "Three-dimensional visualization of brain tumor progression based accurate segmentation via comparative holographic projection", <i>PLoS ONE</i>, 2020, 15(7 July), e0236835. 9. Y.S. Nada, J.M. El-Azab, H. Othman, T. Mohamad and S.M.A. Maize, "Interaction between Self Phase Modulation and Positive Group Velocity Dispersion in PMMA Polymer for Simplified Thin Film Compressor of High-Intensity Ultrashort Laser Pulses", <i>Nonlinear Optics Quantum Optics</i>, Vol. 52, pp 299-311, May 2020.
2019	<ol style="list-style-type: none"> 10. Doaa Youssef, Jala El-Azab, Hamed Kandel, Salah Hassab-Elnaby and Hatem El-Ghandoor, "Biospeckle local contrast analysis for surface roughness study of articular cartilage", <i>Optik</i>, 183, 55-64, 2019. 11. Hala S. Abuelmakarem, Mahmoud A. Sliem, Jala El-Azab, Moustafa M. A. Farghaly and Wafaa A. Ahmed, "Toward Highly Efficient Cancer Imaging and Therapy Using the Environment-Friendly Chitosan Nanoparticles and NIR Laser", <i>Biosensors</i>, 9, 28, 2019. 12. Yasser S. Nada, Jala M. El-Azab, Sanaa M. MAIZE and Yehia H. Elbashar, "Pulsed Solid State Laser Systems Using ABCD Matrix Method: A Review", <i>Nonlinear Optics, Quantum Optics</i>, Vol. 51, pp. 265–316, 2019.

Conference proceedings (SCOPUS-Indexed)

- 2024**
1. Heikal, F.N., Hamdy, O., Abdelhalim, I., El-Azab, J., Ismail, T., Classifying the Thermal Effect of Two UV-Laser Types Used For Corneal Ablation via a Convolutional Neural Network, *Frontiers in Optics, FiO 2024 in Proceedings Frontiers in Optics + Laser Science 2024 (FiO, LS) - Part of Frontiers in Optics + Laser Science 2024*, 2024
 2. Heikal, F.N., Hamdy, O., El-Azab, J., Ismail, T., Machine Learning-Driven Thermal Imaging for Classifying Skin Response to Infrared Laser Irradiation, *NILES 2024 - 6th Novel Intelligent and Leading Emerging Sciences Conference, Proceedings, 2024*, pp. 455–458.
 3. Youssef, D., Soliman, S.A.M., El-Azab, J., Ismail, T., Optical Screening System Using Biospeckle Imaging and Texture-Based Analysis for Breast Cancer Detection, *International Conference on Transparent Optical Networks, 2024*
- 2023**
4. Gamal, S., Atef, H., Youssef, D., Ismail, T., El-Azab, J., Early Breast Cancer Screening from Thermography via Deep Pre-Trained Edge Detection with Extreme Gradient Boosting, *1st International Conference of Intelligent Methods, Systems and Applications, IMSA 2023, 2023*, pp. 430–433
 5. Youssef, D., Ismail, T., Soliman, S.A.M., El-Azab, J., A Pilot Study Using Biospeckle Photography for Optical Breast Cancer Screening, *International Conference on Transparent Optical Networks, 2023, 2023-July*
 6. Hagra, E.A.A., Hameed, M.F.O., Heikal, A.M., ... El-Nozahi, A.M., Obayya, S.S.A., Multifunctional Plasmonic Tellurite Photonic Crystal Fiber Polarization Splitter At Telecommunication Wavelengths, *National Radio Science Conference, NRSC, Proceedings, 2023, 2023-May*, pp. 237–244
- 2021**
7. Sheet, A.H., El-Azab, J., Solouma, N.H., Medical images reconstruction using computer generated holography and spatial light modulation, *Medical images reconstruction using computer generated holography and spatial light modulation, Progress in Biomedical Optics and Imaging - Proceedings of SPIE, 2021, 11920, 1192023, Optics InfoBase Conference Papers, 2021, EW4A.28*
- 2020**
8. Nada, Y.S., El-Azab, J.M., Othman, H., Mohamed, T., Maize, S.M.A., Study of Nonlinear Polymers Operating Parameters for Laser Pulse Chirping, *Journal of Physics: Conference Series, 2020, 1472(1), 012007*
 9. Abuelmakarem, H.S., Hamdy, O., Sliem, M.A., ... Om-Hashem, M.A., Ahmed, W.A., Colonic Carcinoma Diagnosis using Chitosan Nanoparticles Based on the Optical Properties., *Journal of Physics: Conference Series, 2020, 1472(1), 012001*
 10. Abdelazeem, R.M., Youssef, D., El-Azab, J., Hassab-Elnaby, S., Agour, M. Three-Dimensional Holographic Reconstruction of Brain Tissue Based on Convolution Propagation, *Journal of Physics: Conference Series, 2020, 1472(1), 012008*
 11. Abdelazeem, R.M., Youssef, D., El-Azab, J., Hassab-Elnaby, S., Agour, M., Holographic projection of brain magnetic resonance data based white and gray matter segmentation, *Optics InfoBase Conference Papers, 2020, Part F178-Translational-2020*
- 2019**
12. O. Hamdy and J. El-Azab, "Investigating the Ability of Spatial Frequency Domain Technology in Tissue Differentiation", *2019 IEEE 16th International Conference on Smart Cities: Improving Quality of Life Using ICT & IoT and AI (HONET-ICT), Charlotte, NC, USA, pp. 126-129, 2019. (Attached Table of Contents)*
 13. Omnia Hamdy, Mahmoud Fathy, Jala El-Azab, Nahed Solouma, "Diffuse Reflectance Based Tissue Characterization Using Spatial Frequency Domain Imaging", *Imaging and Applied Optics 2019 (COSI, IS, MATH, pcAOP), OSA Technical Digest (Optical Society of America).*

PROJECTS

- 1- Development of an Advanced Artificial Intelligence Technique with Experimental Demonstration for Early Detection and Progression Follow-Up of Breast Cancer
- 2- Development of a new technique for screening and treatment of retinal disorders, EU-Egypt Innovation Fund.
- 3- Metal Mine finding in Egyptian West desert joined project between Faculty of Engineering, Cairo University and Ministry of Investment and International Cooperation.
- 4- Design and implementation of Solid state laser joined fund by Forced Army and NILES..

EDITORIAL/REVIEWER BOARD

Reviewer in the committee of the Electronics and Communications- Supreme Council of Universities

Associate Editor in Journal of Laser Science and Applications – EKB

Reviewer in Journal of Optics and Photonics Research

Reviewer in Journal of Engineering and Applied Science

Reviewer in Optics and Lasers in Engineering, Elsevier

Reviewer in IEEE Photonics Journal

Reviewer in 10th International Conference on Advances in Mechanical Design and Manufacturing, MDP 17, Giza, Egypt