

# Mostafa Zedan, PhD

National Institute of Laser Enhanced Science (NILES), Cairo University, Egypt

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## EDUCATION

### Doctor of Philosophy (Ph.D.) | NILES – Cairo University.

Oct 2017–July 2022

Dissertation: *Coupling Plasmonic Metal Nanoparticles and Carbon Nitride for Photocatalytic Removal of Water Pollutants.*

Collaborative Program between IMRE, A\*STAR and NILES under ARAP Scholarship.

### Master of Science (M.Sc.) | NILES – Cairo University.

May 2011–May 2016

Thesis: *Applications of Laser Technology in Nanogenotoxicity and Cytotoxicity of Gold Nanoparticles in Different Shapes: In Vitro Study.*

### Postgraduate Diploma and Pre-requisites of M.Sc. | NILES – Cairo University

Sep 2009 – June 2010

Specialty: Laser Applications in Biotechnology.

### Bachelor of Agricultural Science | Faculty of Agriculture - Cairo University

Sep 2004–May 2008

Department: Agricultural Biochemistry/Biotechnology

## RESEARCH EXPERIENCE

### Assistant Professor | NILES – Cairo University.

Sep 2022–Present

Department of Laser Applications in Metrology, Photochemistry & Agriculture.

### Research Assistant | Institute of Materials Research and Engineering (IMRE).

Nov 2018–Feb 2021

Agency for Science, Technology and Research (A\*STAR), Singapore.

### Assistant Lecturer | NILES – Cairo University.

June 2016–Aug 2022

Department of Laser Applications in Metrology, Photochemistry & Agriculture.

### Teaching Assistant | NILES – Cairo University.

Dec 2009–May 2016

Department of Laser Applications in Metrology, Photochemistry & Agriculture.

## PUBLICATIONS

**Mostafa Zedan**, Abdallah F. Zedan, Rehab M. Amin, and Xu Li

"Visible-light active metal nanoparticles@carbon nitride for enhanced removal of water organic pollutants"  
Journal of Environmental Chemical Engineering; 2022, 10 (3), 107780.

**Mostafa Zedan**, Xu Li, Rehab M. Amin, Souad A. ElFeky, and Abdallah F. Zedan

"Photodeposited Silver versus Gold over g-C<sub>3</sub>N<sub>4</sub> toward Photocatalytic Oxidation of Organic Water Pollutants"  
Egypt. J. Chem. Vol. 65, No. SI: 13B pp. 119 - 136 (2022).

R. Borayek, F. Foroughi, Xu Xin, A. M. Mohamed, M. M. Abdelrahman, **Mostafa Zedan**, D. Zhang, and Jun Ding

"Near-Zero Hysteresis Ionic Conductive Elastomers with Long-Term Stability for Sensing Applications"  
ACS Applied Materials & Interfaces; 2022, 14 (9), 11727–11738.

R. Borayek, P. Zhang, Habimana J. Willy, **Mostafa Zedan**, Jian Zhu, and Jun Ding

"Programmable, UV-Printable Dielectric Elastomers Actuate at Low Voltage without Prestretch and Supporting Frames"  
ACS Applied Electronic Materials; 2020, 2 (12), 4042–4053.

M. A. Kasem, I. Yousef, Z. A. Alrowaili, **Mostafa Zedan**, A. ElHussein

"Investigating Egyptian archeological bone diagenesis using ATR-FTIR microspectroscopy"  
Journal of Radiation Research and Applied Sciences; 2020, 13 (1), 515-527.

## TEACHING CONTRIBUTIONS

- |  |              |
|--|--------------|
| • LABA 501 [Laser Applications in Agricultural Biotechnology] – Diploma Program of Laser Applications in Biotechnology and Agriculture – NILES - CU. | AY 2022/2023 |
| • PP 601 [Applications in Nanotechnology] – M.Sc. Program of Photochemistry and Photobiology – NILES - CU.   | AY 2022/2023 |
| • LABA 504 [Research Project] - Diploma Program of Laser Applications in Biotechnology and Agriculture – NILES - CU.                                 | AY 2023-2024 |
| • LABA 510 [Renewable Energy] - Diploma Program of Laser Applications in Biotechnology and Agriculture – NILES - CU.                                 | AY 2023-2024 |

## GRANTS & AWARDS

- |   |                      |
|---|----------------------|
| • Best Ph.D. Thesis Award 2022   NILES – Cairo University.  | Feb. 2023            |
| • A*STAR Research Attachment Programme (ARAP) Scholarship, Singapore.   | Nov 2018 – Feb 2021  |
| • LAAMP Grant Training at ALBA Synchrotron Light Source – Barcelona, Spain.<br>Under project “Synchrotron-based FTIR Microspectroscopy and its Applications”,<br>Infrared Spectroscopy & Microscopy Beamline. | June 2018 – Aug 2018 |
| • Best Poster Presentation Award, Egypt.<br>1 <sup>st</sup> International Conference of Genetics and Its role in life science development,<br>Alexandria University, Alexandria.                              | April 2016           |
| • The 3 <sup>rd</sup> winner in “Effective Presentation Skills competition”, Egypt.<br>Faculty of Agriculture, Cairo University.  | April 2008           |
| • First Class Honors Bachelor’s Degree, Egypt.<br>Faculty of Agriculture, Cairo University.   | May 2008             |

## SKILLS

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| <ul style="list-style-type: none"> <li>• <b>Languages:</b> <ul style="list-style-type: none"> <li>- Arabic – Native-level proficiency</li> <li>- English – Intermediate-level proficiency</li> </ul> </li> <li>• <b>Personality:</b> <ul style="list-style-type: none"> <li>- Ability to communicate effectively with others.</li> <li>- Get easily into teamwork in such a good co-operative manner and perform lab work with minimal supervision.</li> <li>- A good personality in terms of respect and behavior.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• <b>Instruments/Techniques:</b><br/>Good experience with operating of: <ul style="list-style-type: none"> <li>- SEM, BET, TGA, Spectroscopic techniques (FTIR, UV-Vis, Fluorescence and Raman), Zeta sizer and Optical microscope.</li> <li>- Photoelectrochemical analyses (EIS, LSV, (I-t), CV) and Mammalian cell culture technique.</li> </ul> </li> <li>• <b>Software:</b><br/>Scientific data processing software, such as Origin, Prism and Microsoft office suits.</li> </ul> |
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## CONFERENCES & WORKSHOPS

- |  |                          |
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| • Winter College on Optics: Terahertz Optics and Photonics, held at The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste – Italy.  | Virtual, Feb. 2023       |
| • Workshop on “Solar Cells: Current Technologies and New Trends”, held at NILES - Cairo University.  | Egypt, Feb. 2023         |
| • STDF Nature Research Academies Workshops: Writing a Research Paper, Research Methodology and Grant Writing, organized by STDF and EKB, Egypt.  | Virtual, Jan 2023        |
| • The 8 <sup>th</sup> , 9 <sup>th</sup> and 10 <sup>th</sup> International Conference on Laser Applications (ICLA9 & ICLA10), NILES - Cairo University, ( <a href="#">Poster Presentation</a> ). | Egypt, 2011, 2016 & 2019 |
| • Workshop on Shimadzu Failure Analysis Solutions, organized by Shimadzu (Asia Pacific) Ptd Ltd.   | Singapore, Oct 2019      |
| • Workshop on “Scanning Electron Microscopy”, organized by EM Unit, Yong Loo Lin School of Medicine, National University of Singapore (NUS).   | Singapore, Oct 2019      |

- The 10<sup>th</sup> International Conference on Materials for Advanced Technologies (ICMAT 2019), ([Poster Presentation](#)). Singapore, June 2019
- Workshop on “Effectively Communicating Your Research” by Nature Research Academies Publication Forum, held at IMRE – A\*STAR. Singapore, June 2019
- The 13<sup>th</sup> Annual IEEE International Conference on Nano/Micro Engineered and Molecular Systems (IEEE NEMS 2018), ([Poster Presentation](#)). Singapore, April 2018
- The 4<sup>th</sup> International conference on Advanced Sciences (ICAS4), ([Poster Presentation](#)). Egypt, Nov 2017
- The 9<sup>th</sup> International Conference on Materials for Advanced Technologies (ICMAT 2017), ([Poster Presentation](#)). Singapore, June 2017
- Winter College on Optics - Applied Optical Techniques for Bio-imaging: Advanced Microscopy and Spectroscopy in Life and Environmental Sciences, Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, ([Poster Presentation](#)). Italy, Feb 2017
- International Conference on Advances in Science, Engineering, Technology and Natural Resources (ICASETNR-16), IICBEE, ([Poster Presentation](#)). Singapore, May 2016
- The 1<sup>st</sup> International Conference of Genetics and Its role in life science development, Alexandria Univ., ([Poster Presentation](#)). Egypt, April 2016
- School on Imaging, Structural and Single Molecule Approaches to Biology: Understanding Life at Higher Resolution, JNCASR, Bangalore. India, Jan 2016
- International Workshop on: Mechanisms, Applications and Clinical Training in Photobiomodulation, University of Johannesburg. South Africa, July 2015
- The 2<sup>nd</sup> & 3<sup>rd</sup> International Conference of Photodynamic and Nanomedicine for Cancer Diagnosis and Therapy (ICPN), German University in Cairo (GUC). Egypt, 2012 & 2015
- Basic Techniques in Cell Culture and Stem Cell Research Workshop, the Medical Technology Center, Alexandria. Egypt, March 2013

## REFERENCES

**Prof. Xu Li, (PhD Supervisor)**

IMRE, A\*STAR, Singapore

[x-li@imre.a-star.edu.sg](mailto:x-li@imre.a-star.edu.sg)

**Prof. Souad Elfeky, (PhD Supervisor)**

NILES, Cairo University, Egypt

[dr\\_souad\\_elfeky@niles.edu.eg](mailto:dr_souad_elfeky@niles.edu.eg)

**Prof. Rehab Amin, (PhD Supervisor)**

NILES, Cairo University, Egypt

[rehabamin@niles.edu.eg](mailto:rehabamin@niles.edu.eg)