Benha University
Faculty of Engineering-Shoubra

CURRICULUM VITAE (C.V.)

Full Name: Mohamed Nabil Abd-Elmonaem Mohamed Diab

Gender : Male.

Date of Birth : 10, May, 1984.

Place of Birth : Benha, Kalyobiya, Egypt.

Nationality : Egyptian.

Religion : Muslim.

Marital Status : Married.

Military Status: Exempted.

Present Job : Assistant Professor at Department of Basic Engineering Sciences .

Home Address: Benha, Kalyobiya, Egypt.

WorkAddress:- Faculty of Engineering (Shoubra), Benha University.

Phone No. Mobile: +201009828602

Phone No. Home: +0133329070

E-mail: mohammed_diab35@yahoo.com

mohamed.mohamed04@feng.bu.edu.eg

Degrees Awarded:

- B. Sc., Physics, May 2005 (Grade: very good with honors) from Faculty of Science, Benha University.
- M.Sc., Experimental Physics (Photoacoustic Spectroscopy Studies of Metal Nanoparticles), 31, Oct, 2012, from Faculty of Science, Benha University.
- Ph.D., Solid State Physics (Preparation and Characterization of organic and Inorganic Photovoltaic solar Cells), 25 , Jun, 2019, from Faculty of Science, Benha University.

Professional Experience:

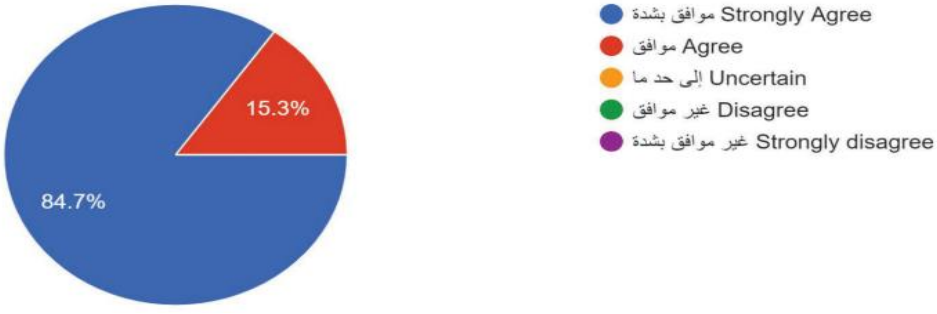
- Demonstrator at the Engineering Mathematics and Physics Department, Faculty of Engineering (Shoubra), Benha University from Mar, 2007 to Oct, 2012.
- Assistant Lecturer at the Engineering Mathematics and Physics Department, Faculty of Engineering (Shoubra), Benha University from Nov, 2012 to 2019.
- Lecturer at the Engineering Mathematics and Physics Department, Faculty of Engineering (Shoubra), Benha University from Jul, 2019 up till now.
- Ass.prof. at the Engineering Mathematics and Physics Department, Faculty of Engineering (Shoubra), Benha University from Oct, 2024 up till now

❖ **Worked as a partial secondment at Benha National University BNU since 2023 and the entire teaching report of my university president was as follows: -**

FENG - Physics of Materials Survey

المحاضر - د/ محمد نبيل

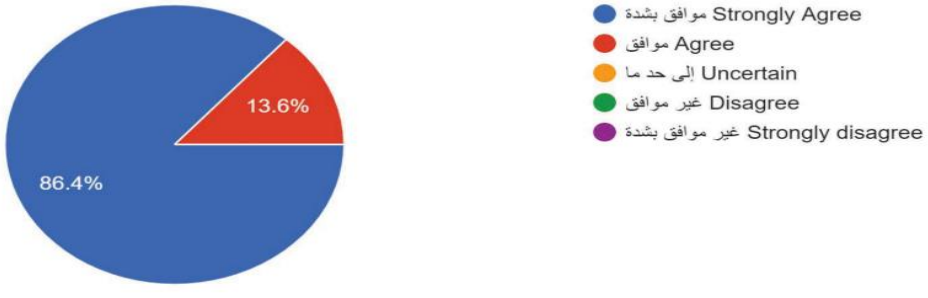
The lecturer presents the course contents and evaluation methods at the beginning of the academic year قام المحاضر بشرح محتويات المقرر وطرق التقييم عند بدء الدراسة



FENG - Physics of Materials Survey

المحاضر - د/ محمد نبيل

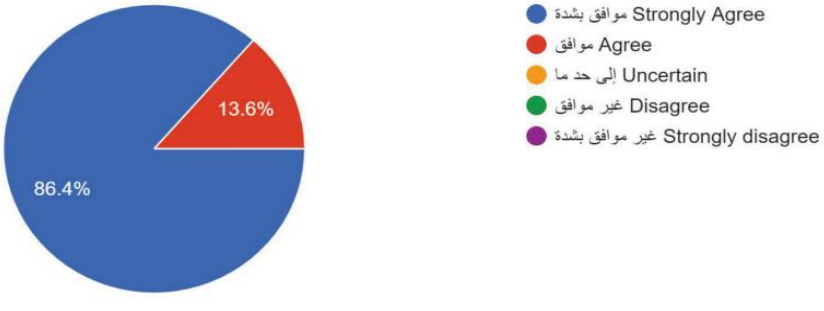
The clarity of the lecturer's presentation of the scientific material of the course مدى وضوح أسلوب عرض المحاضر للمادة العلمية للمقرر



FENG - Physics of Materials Survey

المحاضر - د/ محمد نبيل

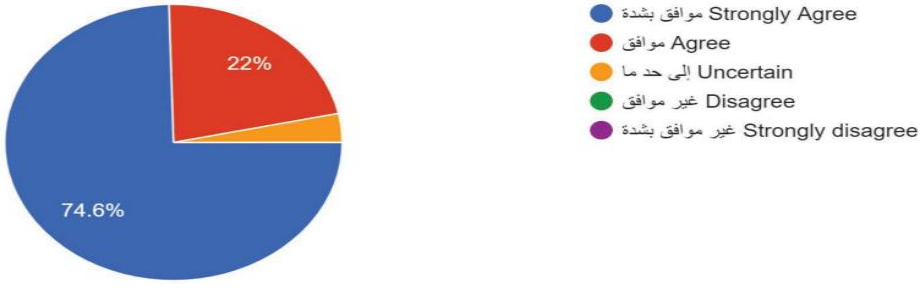
The lecturer is committed to attending the lectures on time and according to the announced schedule التزم المحاضر بحضور المحاضرات في مواعيدها وطبقا للجدول المعلن



FENG - Physics of Materials Survey

المحاضر - د/ محمد نبيل

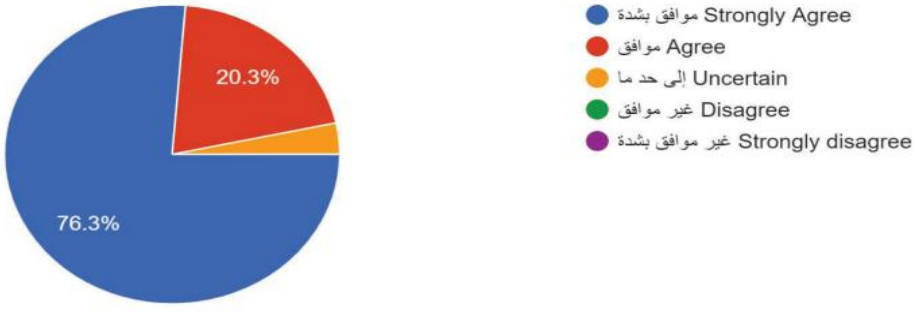
The lecturer pays attention to the link between the scientific material and the practical applications of the course topics اهتم المحاضر بالربط بين المادة العلمية والتطبيقات العملية لموضوعات المقرر



FENG - Physics of Materials Survey

المحاضر - د/ محمد نبيل

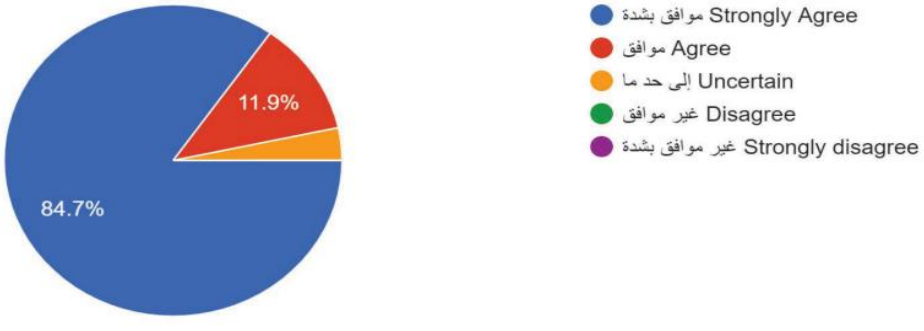
The lecturer encourages discussion, commenting, asking and answering questions يشجع المحاضر علي المناقشة والتعليق وإلقاء الأسئلة والرد عليه



FENG - Physics of Materials Survey

المحاضر - د/ محمد نبيل

Would you like to study other courses with the same lecturer in the future? هل ترغب في دراسة مقررات أخرى مع نفس المحاضر مستقبلا؟



Research Areas:

- **Photovoltaics and solar cells.**
- **Metal and Semiconductor nanoparticles.**
- **Semiconductor thin films.**

Research Skills and Knowledge:

- **I have a good experience with: Photovoltaics characterization, Preparation of Nanoparticles (Metal, Semiconductor and Metal/Semiconductor Core/Shell), UV-Visible and FTIR spectroscopy, X-Ray diffraction (XRD), electrochemical measurements, Fluorescence and Life Time Fluorescence spectroscopy. RLC Bridge for measure the electrical conductivity, Photoacoustic spectroscopy for measure the thermal conductivity.**

Language Skills:

- **Arabic: Mother tongue.**
- **English: Very Good Command Reading & Writing and Good Conversation**

Computer Skills:

- **Microsoft Office (MS Word, MS Power Point,…).**
- **Web page maker (HTML, FrontPage).**
- **Origin program.**

Certificate and Training Courses:

- **International Computer Driving License (ICDL) 2018.**
- **TOEFL ITP (Score 500).**

Publication papers in M.Sc.:

- **K. Easawi, M. Nabil, T. Abdallah, S. Negm, and H. Talaat. "Plasmonic Absorption Enhancement in Au/CdS Nanocomposite. *World Academy of Science, Engineering and Technology 61* (2012).**
- **M. Nabil, K. Easawi, T. Abdallah , S. Negm, and H.Talaat. "Characterization of Au/CdS Core/shell Nanoparticles Using Photoacoustics. "*Egyptian Journal of Solids*, (2012).**

Publication papers in Ph.D:

- **M. Nabil, K. Easawi, T. Abdallah, S. Abdallah, M. K. Elmansy, S. Negm, and H. Talaat. "Performance Enhancement of TBAI Capped CdSe-Quantum Dot Sensitized Solar Cells by an Interlayer Gold Nanoparticles." *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)* 53, no. 1 (2019): 27-42.**
- **M. Nabil, K. Easawi, S. Abdallah, M. K. Elmansy, S. Negm, and H. Talaat. "Size effect of TBAI capped CdSe nanoparticles on the efficiency of quantum dots sensitized solar cells."*Egyptian Journal of Solids*, (2019).**

Publication papers after Ph.D:

- **M. Nabil, Shaimaa A. Mohamed, K. Easawi, Salah S.A, S. Negm , H. Talaat, M. K. Elmansy. "Surface modification of CdSe nanocrystals: Application to polymer solar cell" *Current Applied Physics*, 20 (2020) :470-476.**

- **S. S.Fouad, , B. Parditka, M. Nabil, E. Baradács, S. Negm, H. E. Atyia, and Z. Erdélyi. "Bilayer number driven changes in polarizability and optical property in ZnO/TiO_2 nanocomposite films prepared by ALD." *Optik* 233 (2021): 166617.**

- **M. Nabil, F. Horia, S. S. Fouad, and Sohair Negm. "Impact of Au nanoparticles on the thermophysicalparameters of Fe_3O_4 nanoparticles for seawater desalination." *Optical Materials* 128 (2022): 112456.**

- **Fouad, S. S., Bence Parditka, M.Nabil, Eszter Baradács, S. Negm, and Zoltán Erdélyi. "Effect of Cu Interlayer on Opto-Electrical Parameters of Zno Thin Films. *J Mater Sci: Mater Electron* 33 (2022) :20594–20603.**

- **S.S. Fouad, Eszter Baradács, M. Nabil, Bence Parditka, S. Negm and Zoltán Erdélyi "Microstructural and optical duality of TiO_2 /Cu/TiO_2 trilayer films grown by atomic layer deposition and DC magnetron sputtering" *Inorganic Chemistry Communications* 145,(2022): 110017.**

- **M. Nabil, Hanem F. Khater, Abdelfattah Selim, Mohamed M. Baz, Marimuthu Govindarajan, Hanan AA Taie, and S. Negm. "Acaricidal Efficacy of Silver Nanoformulations of Commiphora molmol and Zingiber officinale against the Camel Tick, Hyalomma dromedarii (Ixodida: Ixodidae)." *Inorganic Chemistry Communications* 147,(2022): 110229.**

- **S.S. Fouad, K. Easawi, T.S. Mahmoud, M. Nabil, Essential tips for enhancing the opto-electrical performance of CdSe (NPs)/Epoxy resin" *Journal of non-crystalline solids* 608,(2023): 122252.**

- **S. S. Fouad, L. I. Soliman, E. Baradács, M. E. Sayed, B. Parditka, N. F. Osman, M. Nabil, and Zoltán Erdélyi. "Advances for enhancing the electrical properties and microhardness activity of ZnO/Cu/ZnO thin films prepared by ALD." *Journal of Materials Science* 58 (2023): 6632-6642.**

- **M. Nabil , S.S. Fouad, K. Easawi , S. Abdallah , Horia.F. "Novel correlations between optical absorption and water desalination of Ag/Fe_3O_4 Nanocomposite prepared by pulsed laser ablation in liquid". "*Optics and laser technology* 164 (2023) 109545.**

- **S.S. Fouad , M. Nabil, B. Parditka , A.M. Ismail , E. Baradacs , H.E. Atyia · Zoltan Erdélyi."Assessing, surface morphology, optical, and electrical performance of ZnO thin ilm using ALD technique." *Journal of nanoparticles research* 25(2023)172.**

- **S. S. Fouad, E.Barádacs, M. Nabil, A. Sharma , N. Mehta, Z. Erdélyi, Linearization and characterization of the Wemple – DiDomenico model of ZnO/Ni/ZnO tri-layer thin films prepared by ALD and DC magnetron sputtering. "*Journal of Alloys and Compounds*"990 (2024) 174348.**

- **Sayed, M. E., Fouad, S. S., Baradács, E., Soliman, L. I., Osman, N. F., M. Nabil, & Erdélyi, Z. (2024). Distinguish the effect of Cu additive on complex electrical (dielectric/impedance) behaviors of ZnO thin films. ''*Journal of Nanoparticle Research*'', 26 (7) (2024), 150.**

- **R. Onsi, M.Nabil, K.Easawi, S. Abdallah, and S.Negm. "Investigation of Thermophysical Properties of $CuFeS_2$ Nanoparticles Prepared by Pulsed Laser Ablation Technique." *Egyptian Journal of Solids* 46, no. 1 (2024): 178-192.**

- **S. S.Fouad, M. Nabil, F. Horia, K. Easawi, and S. Negm. "Synthesis of CuO/Fe_3O_4 Nanocomposite for enhanced solar thermal desalination." *Ceramics International* ,50 (2024) 54707–54715 .**

- **S.S.Fouad, E. Baradács, M. Nabil, G. Katona, G. Vecsei, and Z. Erdélyi. "Investigation of Fe thickness effect on the absorption behavior of ZnO/Fe/ZnO tri-layers thin films." *Optical Materials* (2024): 116403.**

- **R.Onsi, M. Nabil, S. Abdallah, and S. Negm. "Structural, Morphological, and optical analysis for CuFeS2 nanoparticles prepared by pulsed laser ablation technique in ethanol." Optics & Laser Technology 182 (2025): 112241.**

Conference papers:

- **M. Nabil, K. Easawi, S. Abdallah, M. K. Elmansy, S. Negm, and H. Talaat. " Improving the efficiency of QDSSCs Based on TiO_2/CdS(SILAR)/TBAI capped CdSe (Colloid) Photoanodes. " *at the 7th International Conference on:- MODERN TRENDS of PHYSICS RESEARCH, MTPR-018* (2019).**

My page in google scholar:

12/5/24, 4:10 PM Mohamed Nabil - Google Scholar

Mohamed Nabil

Other names

Lecturer, Faculty of Engineering, Shoubra, Department of Engineering Mathematics and Physics

	All	Since 2019
Citations	118	113
h-index	7	7
i10-index	6	5

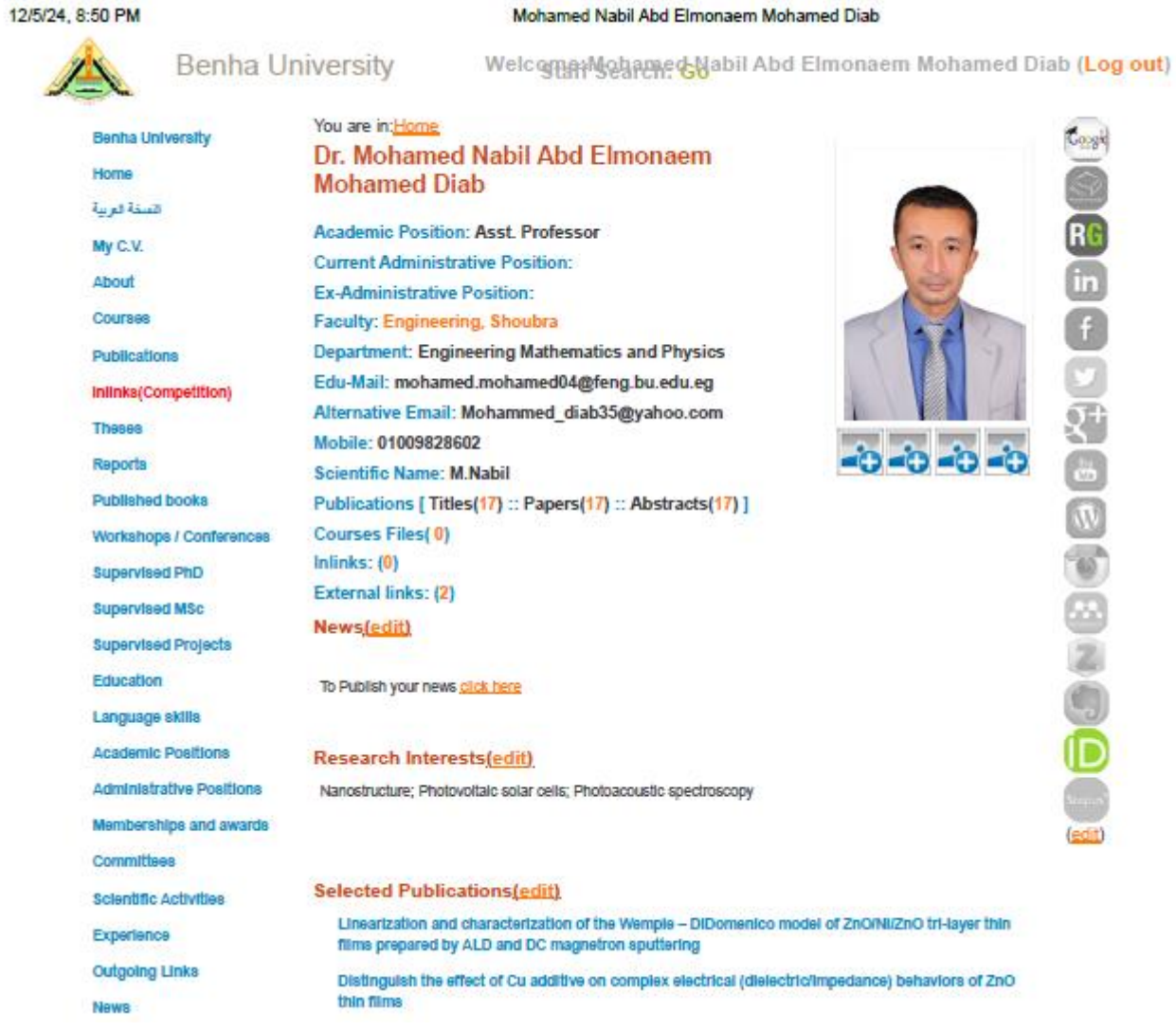
1 article 4 articles

not available available

Based on funding mandates

TITLE	CITED BY	YEAR
Surface modification of CdSe nanocrystals: Application to polymer solar cell M Nabil, SA Mohamed, K Easawi, SSA Obayya, S Negm, H Talaat, ... Current Applied Physics 20 (3), 470-476	22	2020
Bilayer number driven changes in polarizability and optical property in ZnO/TiO2 nanocomposite films prepared by ALD SS Fouad, B Parditka, M Nabil, E Baradács, S Negm, HE Atyia, Z Erdélyi Optik 233, 166617	21	2021

My page on the university website:



Reviewer in international scientific journals:

- **Reviewer in Journal of inorganic and organometallic polymers and materials.**
  [Springer Publishing] , I.F=4, Q2
- **Reviewer in World Journal of Microbiology and Biotechnology.**
  [Springer Publishing] , I.F=4.1, Q2
- **Reviewer in Silicon Journal.**
  [Springer Publishing] , I.F=2.8, Q2

Research Summary ملخص الابحاث

After praise be to God, Lord of the Worlds, I have published more than 10 international researches in prestigious global fields, These researches varied between Q1 and Q2, And I was responsible for

sending and responding to the reviewer (corresponding author) in all these researches and these researches revolved around 6 basic, which are:-

The First scientific application: - [Solar cells].

The Second scientific application: -[Water desalination].

The Third scientific application: -[Epoxy material and the relation with industry].

The Fourth scientific application: -[Optical material for used to diode].

The Fifth scientific application: -[biology and against the Camel Tick].

The Sex scientific application: -[surfactant material- corrosion].

- **The First scientific application: - [Solar cells].**

It is known internationally that solar energy and its use in generating electrical energy is a great challenge in the whole world, so I started thinking about preparing materials that are cheap to save electrical energy. In the lab, I prepared various solar cells and did the first global research. Solar energy of all three types (Q.Ds solar cells, Polymer solar cells and perovskite solar cells and published the first research entitled:-

- **M. Nabil, Shaimaa A. Mohamed, K. Easawi, Salah S.A, S. Negm , H. Talaat, M. K. Elmansy. "Surface modification of CdSe nanocrystals: Application to polymer solar cell" *Current Applied Physics*, 20 (2020) :470-476. [Q2, I.F=2.6]**

[Work is underway to develop materials for use in new generations in solar cells]

- **The Second scientific application: -[Water desalination].**

It is also known that seawater desalination represents a very big challenge due to the decrease in potable water very significantly, so I started to go towards desalination of seawater using different nanomaterials and I published a number of researches in different international fields towards this topic and published the 2-research entitled: -

- **M. Nabil, F. Horia, S. S. Fouad, and Sohair Negm. "Impact of Au nanoparticles on the thermophysicalparameters of Fe_3O_4 nanoparticles for seawater desalination." *Optical Materials* 128 (2022): 112456. [Q2, I.F=3.9]**

- **M. Nabil , S.S. Fouad, K. Easawi , S. Abdallah , Horia.F. "Novel correlations between optical absorption and water desalination of Ag/Fe_3O_4 Nanocomposite prepared by pulsed laser ablation in liquid". *"Optics and laser technology* 164 (2023) 109545. [Q1, I.F=5]**

[Work is underway to develop materials for use in water desalination]

- **The Third scientific application: -[Epoxy material and the relation with industry].**

It is known that epoxy materials are materials that have been used very much in the fields of environment and industrial, so my approach was to manufacture materials used in industry, so my

thinking was to feed epoxy materials with nanomaterials that help improve their optical and thermal properties, A research on this topic has been published under the title:-

- **S.S. Fouad, K. Easawi, T.S. Mahmoud, M. Nabil, Essential tips for enhancing the opto-electrical performance of CdSe (NPs)/Epoxy resin" *Journal of non-crystalline solids* 608,(2023): 122252.**

[Work is underway to develop materials for use in In the fields of industry]

- **The Fourth scientific application: -[Optical material].**

Different nanomaterials were manufactured using a device of atomic layer deposition (ALD) and studying their different optical properties and using them in different applications. Various international researches have been published on this topic:-

- **S. S. Fouad, L. I. Soliman, E. Baradács, M. E. Sayed, B. Parditka, N. F. Osman, M. Nabil, and Zoltán Erdélyi. "Advances for enhancing the electrical properties and microhardness activity of ZnO/Cu/ZnO thin films prepared by ALD." *Journal of Materials Science* 58 (2023): 6632-6642.**
- **Fouad, S. S., Bence Parditka, M.Nabil, Eszter Baradács, S. Negm, and Zoltán Erdélyi. "Effect of Cu Interlayer on Opto-Electrical Parameters of Zno Thin Films. *J Mater Sci: Mater Electron* 33 (2022) :20594–20603.**

- **S.S. Fouad, Eszter Baradács, M. Nabil, Bence Parditka, S. Negm and Zoltán Erdélyi "Microstructural and optical duality of TiO_2 /Cu/TiO_2 trilayer films grown by atomic layer deposition and DC magnetron sputtering" *Inorganic Chemistry Communications* 145,(2022): 110017.**
- **S. S.Fouad, , B. Parditka, M. Nabil, E. Baradács, S. Negm, H. E. Atyia, and Z. Erdélyi. "Bilayer number driven changes in polarizability and optical property in ZnO/TiO_2 nanocomposite films prepared by ALD." *Optik* 233 (2021): 166617.**

- **The Fifth scientific application: -[biology and against the Camel Tick].**

It is known that ticks represent something dangerous for animals such as camels, so start thinking about preparing nanomaterials that help kill ticks using a device laser ablation. Various international researches have been published on this topic:-

- **M. Nabil, Hanem F. Khater, Abdelfattah Selim, Mohamed M. Baz, Marimuthu Govindarajan, Hanan AA Taie, and S. Negm. "Acaricidal Efficacy of Silver Nanoformulations of Commiphora molmol and Zingiber officinale against the Camel Tick, Hyalomma dromedarii (Ixodida: Ixodidae)." *Inorganic Chemistry Communications* 147,(2022): 110229.**

. The Sex scientific application: -[surfactant material- corrosion].

It is known that soap corrodes quickly, so we started thinking that this corrosion is treated by adding nanomaterials in order to reduce corrosion. And I have two researches under review on this subject

---