

Curriculum Vita of Dr. Mohamed Shaban Said

■ PERSONAL INFORMATION:

Name: Mohamed Shaban Said Fadel

Date of Birth: Feb. 8, 1979

Place of Birth: Beni-Suef, Egypt

Nationality: Egyptian

■ CONTACT INFORMATION:

Permanent Address:

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Researchgate: https://www.researchgate.net/profile/Mohamed_Shaban

Google Scholar: <https://scholar.google.com.eg/citations?user=3T13QuQAAAAJ&hl=en>

<https://orcid.org/0000-0002-4368-8269>

■ EDUCATION:

- 2007 – 2010 Ph.D. (Experiemental Physics)
Faculty of Science, Beni-Suef University, Egypt.
Dissertation, "*Optical characterization of a photonic crystal composed of metal- dielectric multilayers*"
(Channel Scholarship between South Korea and Egypt)
- 2002 – 2006 M. Sc. (Experiemental Physics)
Faculty of Science, Beni-Suef University, Egypt.
Dissertation, "*Study of optical excitation of some atoms by electron impact*"

- 2001-2002 Pre-Master Studies (Experimental Physics)
Faculty of Science, Beni-Suef branch, Cairo University, Egypt.
 - 1996- 2000 B.Sc. (Physics-Mathematics, Very Good)
Faculty of Science, Beni-Suef branch, Cairo University, Egypt.
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■ **EMPLOYMENT HISTORY:**

- 11/2016- Now **Vice Dean for Student Affairs,**
Faculty of Navigation Science and Space technology,
Beni-Suef University, Egypt
 - 11/2010- Now **Director of Nanophotonics and Applications Labs,**
Faculty of Science, Beni-Suef University, Egypt
 - 11/2015 – Now **Associate Professor:** Materials Science, Physics
Department, Beni-Suef University, Egypt.
 - 1/9/2012 – 30/5/2013 **Research Association:** YJ-STRC, School of
Science and Engineering, American University at
Cairo, Egypt (Part time)
 - 1/1/2012- 31/8/2012 **Post-Doc Association:** School of Science and
Engineering, American University at Cairo, Egypt
(Part time)
 - 11/2010 – 11/2015 **Assistant Professor:** Department of Physics,
Faculty of Science, Beni-Suef University, Egypt.
 - 11/2006 –11/ 2010 **Assistant Lecturer:** Department of Physics,
Faculty of Science, Beni-Suef University, Egypt.
 - 12/2000- 11/2006 **Demonstrator:** Department of Physics, Faculty of
Science, Beni- Suef Branch, Cairo University, Egypt.
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■ **SCIENTIFIC MISSION:**

- 2008 – 2010 Chonnam National University, Gwangju, South Korea.
Scholarship (Channel System, 2 years, Egyptian Government)
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■ **MAIN RESEARCH OR TECHNOLOGY TOPICS:**

- Electron- Atom Collision

- Nanoporous Membranes
 - Photonic Nanostructures
 - Plasmonic Nanostructures
 - Thin films
 - Polymers
 - Catalysts (adsorbents, photocatalysts,....etc)
 - Sensors (Heavy metals, gases, chemical molecules, Biomolecules, pH)
 - Water Desalination based on RO/Nano membranes
 - Water treatment technologies
 - Self-cleaning Technologies
 - Solar Energy Applications
 - Biodiesel Production from waste oils
 - Biological and biomedical Applications
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WORK EXPERIENCE:

- The area of electron- atom collision (Optical Excitation Function & Polarization measurements).
 - Design of 1d and 2d photonic and plasmonic crystals based on porous anodic alumina membranes.
 - Fabrication and characterization of nanostructured thin films, nanocomposites, and nanoarrays.
 - Design and characterization of nanostructured gas, heavy metals, and pH sensors.
 - Design and characterization of photocatalysts and nanocatalysts for water treatment (dyes and heavy metals removal) and for renewable energy production (CO₂ conversion, photoelectrochemical hydrogen generation, and waste oils conversion to biodiesel).
 - Design, fabrication, and characterization of Solar Cells.
 - Design, fabrication, and characterization of self-cleaning glass and fabrics.
 - Design of antibacterial and drug delivery carriers
 - Recycling of solid industrial and agricultural wastes
 - Polymers nanostructures: synthesis, kinetics, thermodynamics, and applications
 - Numerical calculation of optical properties of 1d, 2d nanostructures.
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■ **NANOSTRUCTURES FABRICATION AND CHARACTERIZATION**

- Electron-Atom crossed beam Experiments
 - Wafer Anodizing Machine
 - Electrodeposition, Electropolishing, Anodizing and other wet processes
 - R.F. Magnetron Sputtering
 - Thermal Evaporation technique
 - Spin Coating technique
 - E-beam Evaporator
 - Spray pyrolysis technique
 - Spin Coating Technique
 - Electrospinning technique
 - DC Sputter coater
 - Hydrothermal Technique
 - HR Transmission Electron Microscopy (HRTEM),
 - Field Emission Scanning Electron Microscopy (FE-SEM)
 - Scanning Electron Microscopy (SEM)
 - Atomic Force Microscopy (AFM)
 - Energy Dispersive X-Ray Spectroscopy (EDS)
 - X-ray Diffractometer (XRD)
 - Experimental Spectroscopic set-up for the optical properties measurement
 - Spectrophotometers (Optical properties measurements)
 - LCR Bridge (Dielectric properties measurements).
 - Keithly measurement-source unit
 - Raman Spectrometers
 - Electrochemical workstation (CHI660E, CHI770E)
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■ **PROFESSIONAL ACTIVITIES:**

- Teaching the practical courses for the undergraduate students, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt.
- Teaching the courses for the undergraduate and postgraduate students, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt.

- General Physics
- Electromagnetism
- Electostatics
- Optical Communications
- Physical Optics
- Atomic spectra
- Radiation Physics
- Fluids Dynamics
- Electricity and magnetism
- Plasma Physics
- Low temperature Physics
- Biophysics
- Introduction to nanoscience - Nanoscience and Nanotechnology
- Nanophotonics
- Space Physics

- Head of the Nanophotonics Teamwork, Faculty of Science, Beni-Suef University
- Supervisor of 27 graduate students (20 M.Sc. and 7 Ph.D.)
- Contributor in organizing the annual conferences held under the supervision of the Faculty of Science, Beni-Suef University, Beni-Suef, Egypt.
- Member of the Egyptian Materials Research Society (Eg-MRS).
- Member of Tropical Society of Laser Sciences (TSLs).
- Member of Atomic Physics Lab, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt.
- Member of Nanophotonics Lab, Collage of Natural Science, Chonnam National University, Gwangju, South Korea (2008-2010).
- Director of BSU Nanophotonics and Applications (NPA) Lab, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt (Sep. 2010 – present).
- Director of the SEM unit, central Laboratory, Beni-Suef University (2010/2011).
- Member of the training unit, Faculty of Science, Beni-Suef University (2010/2011).
- Member of Quality Assurance Unit (QAU), Faculty of Science, Beni-Suef University (Sep. 2010 – present).
- Member of CIQAP project Committee, Faculty of Science, Beni-Suef University (Sep. 2010 – 2012).
- Member of the Board of Directors of the Central Laboratory, Beni-Suef University (2011/2012).
- Leader of our dreams family and advisor of the technical committee - Federation of Students, Faculty of Science, Beni-Suef University(2010/2011, 2011/2012).
- Vice president of the Board of Directors of Alhakma Youth Center, Beni-Suef, Egypt (Sep. 2011- present)
- Leader of Federation of Students, Faculty of Science, Beni-Suef University (2011/2012).
- Advisor of the electron microscope (EM) unit, Central Laboratory, Beni-Suef

University (June, 2012 - present).

- Member of the Board of Directors of the Central Laboratory, Beni-Suef University (2014/2015).
- Member of Elsevier Editorial (EES) Journals: Author and Reviewer
- Member of IEEE Advancing Technology for Humanity.
- Member of the WILEY-Blackwell Authors system
- Member of Nanotechnology Organizing Committee (HELICS GROUP), 2018
- Expert, European Commission for research & innovation (expert candidature number: EX2014D197569). [Web address for experts:
<http://ec.europa.eu/research/participants/portal/desktop/en/experts>]
- Author and reviewer of RECENT SCIENCE publishing Research Journals
- Member and Secretary of the committee for the development of undergraduate programs in the Faculty of Navigation and Space Technology, Beni-Suef University
- Member and Secretary of the committee for the development of undergraduate programs, Faculty of Navigation and Space Technology, Beni-Suef University.
- Member of BSU committee for the development of postgraduate studies (2018/2019)
- Member of the Board of Directors of the Central Laboratory, Beni-Suef University (2018/2019).
- Member of the Board of Directors of the Central Laboratory, Beni-Suef University (2018/2019)

■ **TRAINING:**

- An operating training course of Scanning Electron Microscope (JSM-26510, JED-2300), JEOL LTD., Tokyo Japan (May 28-31, 2012).
- An operating training course of Transmission Electron Microscope (JEM-2100), JEOL LTD., Tokyo Japan (May 23-25, 2012).

■ **AWARDS AND HONORS:**

- 2008-2010: *Channel Scholarship award between South Korea and Egypt*

- 2010: The Award for Excellence in Graduation Projects by Young Innovators' Awards (YIA) Program – Nahdet EL Mahrousa.
 - 2010/2011: Award of the best Ph.D. Thesis" *Optical characterization of a photonic crystal composed of metal- dielectric multilayers"* Beni-Suef University.
 - 2011: *The ideal professor award at the level of Physics Department, Faculty of Science, Beni-Suef University (students' evaluation).*
 - 2012: Scanning Electron Microscope (JSM-26510, JED-2300), JEOL LTD., Tokyo Japan.
 - 2012: Transmission Electron Microscope (JEM-2100), JEOL LTD., Tokyo Japan.
 - 2012: Post-Doc Association, School of Science and Eng, AUC.
 - 2012-2013: Research Association, YJ-STRC, School of Science and Eng, AUC.
 - 2012-2013: *Faculty of Science Award for self-cleaning applications*
 - 2015: Incentive Award, Beni - Suef University, Egypt.
 - 2016: 3rd Cairo International Exhibition of Innovation 2016, Cleantech Arabia Award for production of renewable energy from waste solids and liquids.
 - 2018: Award of the best researcher, Faculty of Science, Beni-Suef University
 - 2019: State Encouragement Awards in the field of Basic Science (Physical Science)
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■ Editorships

- Editorial Review Board Member of Journal of American Academic Research, April 2017.
- Editorial Board member of "International Journal of Engineering Science Technologies (IJOEST)".
- International reviewer of
 - ✓ Materials Chemistry and Physics
 - ✓ Journal of Membrane Science
 - ✓ Journal of Nanoporous Materials,
 - ✓ Photonics and Nanostructures - Fundamentals and Applications
 - ✓ Scientific reports,
 - ✓ Plasmonics,
 - ✓ Sensors & Actuators: B,

- ✓ RSC Advances,
 - ✓ Nano& Micro letters,
 - ✓ Thin Solid Films,
 - ✓ Journal of Electronic Materials (JEMS),
 - ✓ Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy,
 - ✓ Nano Research & Applications,
 - ✓ Environmental Progress,
 - ✓ Science Publications,
 - ✓ International journal of environmental science and toxicology,
 - ✓ American Journal of Agricultural and Biological Sciences,
 - ✓ Journal of Basic Applied Sciences,
 - ✓ RECENT SCIENCE publishing Research Journals.
 - ✓ Journal of Macromolecular Science, Part A: Pure and Applied Chemistry
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- Expert, European Commission for research & innovation (expert candidature number: EX2014D197569). [Web address for experts:
<http://ec.europa.eu/research/participants/portal/desktop/en/experts>]
 - Member in the panel of External examiners, National Institute of Technology Karnataka, Surathkal, India.
 - External reviewer for the research proposals submitted to the executive government agency of National Science Centre, poland (Narodowe Centrum Nauki - NCN; <http://www.ncn.gov.pl>).
 - External reviewer for the research proposals submitted to Science and technology development fund (STDF), Egypt.
 - External reviewer for the research proposals submitted to the Academy of Scientific Research & Technology (ASRT), Egypt.

■ Collaboration agreements and Memorandum of Understanding (MoU)

Coordinator of the following:

❖ **COLLABORATION AGREEMENT (April 2016) BETWEEN:**

- Party 1, **Photovoltaic Unit (PVU_{NRIAG})**, Solar and Space Research Department, National Research Institute of Astronomy and Geophysics (NRIAG), Helwan, Cairo, Egypt;
- Party 2, **Korgel Research Group**, Chemical Engineering Department, University of Texas at Austin (UT), Austin, Texas, U.S.A; and
- Party 3, **Nanophotonic and Applications laboratory**, Physics Department, Faculty of Science, Beni-Suef University, Beni-Suef, Egypt.

❖ **Memorandum of Understanding (MoU) (November 2015)**
between:

- Party 1, National Authority for Remote Sensing and Space Science, Cairo, Egypt; and
- Party 2, Beni Suef University, Beni-Suef, Egypt.

With regard to cooperation in nanotechnology applications and space science and technology.

❖ **Executive Agreement (February 2016) between:**

- Party 1, National Authority for Remote Sensing and Space Science, Cairo, Egypt; and
- Party 2, Faculty of Science, Beni Suef University, Beni-Suef, Egypt.

For a project: Radiation Tolerant Space Solar Cell Using Innovative Nanotechnology (NAARS, Egyptian program of space).

❖ **Memorandum of Understanding (MoU) (June 2017) between:**

- Party 1, Beni Suef University, Beni-Suef, Egypt; and
- Party 2, Belarusian University, Belarusian.

With regard to cooperation in the field of education, Science, and technology.

❖ **Strategic Cooperation Agreement (June 2018) between:**

Party 1, Beni Suef University- Faculty of Science of Navigation and Space Technology; and

Party 2, The Egyptian Company for Space Applications and Remote Sensing

To create and run Maydome Center for Soil Radiation Studies in the governorate of Beni-Suef and neighboring governorates within the framework of sustainable development plans, investment and wealth discovery in the governorate.

■ Undergraduate and Postgraduate Programs and Labs:

Establish and coordinate the following:

- 1- Nanophotonics Teamwork at Faculty of Science, Beni-Suef University (Since 2011)
 - 2- Nanophotonics and Applications Labs, Faculty of Science, Beni-Suef University (Since 2011)
 - 3- Nanophotonics diploma program at Beni-Suef University (Since 2015).
 - 4- Faculty of Navigation Science and Space Technology, Beni-Suef University (Since 2016/2017).
 - 5- Science of space navigation, Undergraduate program, Faculty of Navigation Science and Space Technology, Beni-Suef University (Since 2018).
 - 6- Space and Navigation Science Program; Undergraduate program, Faculty of Navigation Science and Space Technology, Beni-Suef University (2018/2019).
 - 7- Electronics and sensors design Lab, Faculty of Navigation Science and Space Technology, Beni-Suef University (2018).
 - 8- Design of structure and materials of space vehicles Lab, Faculty of Navigation Science and Space Technology, Beni-Suef University (2018).
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■ Conference Organization

- ***Co-Chairman** of The 3rd international conferences of "Egy Nanophotonics and Nanophononics" ENPPC3, Hurghada, Egypt, 26-29 September 2018.

- ***Organizing Committee member** of International Conference and Exhibition on Nanotechnology “Nano USA 2018 Leadership & Committees” February 5-7, 2018, Chicago, USA.
- ***Co-Chairman** of the International Workshop on Space Weather and Space Navigation, Beni Suief Uni., 3-4 Oct 2017.
- Organizing Committee member of one-day seminar “Pyramids Science and Nanotechnology”, Beni-Suef University and Egyptian Material Research Society, 14 December 2017.
- ***Co-Chairman** of The 2nd international conferences of "Egy Nanophotonics and Nanophononics" ENPPC1, Sharm El Sheikh, Egypt, 13-16 sep. 2017.
- ***Coordinator** of “Scientific Program of Nanophotonics training course”, Beni-Suef University, 12,13 February 2017.
- ***Organiser** of One Day Seminars “Materials Science and Nobel prize 2016”, (Eg-MRS and Beni-Suef University, 2016).
- ***Co-Chairman** of The 1st international conferences of "Egy Nanophotonics and Nanophononics" ENPPC1, Hurghada, Egypt, 10-13 Aug. 2016.
- ***Organizer** of the annual conferences held by the Faculty of Science, Beni-Suef University, Beni-Suef, Egypt (Beni-Suef, 2011-present).
- ***Coordinator** of the Annual Nanophotonics Workshops and training courses, Faculty of Science, Beni-Suef University (Beni-Suef, 2012-present).
- ***The 32 INTERNATIONAL CONFERENCE ON Solid State Science and Materials Physics**, Eg-MRS, Aswan-Luxor, Egypt, Jan., 2016.
- **The XXXI INTERNATIONAL CONFERENCE ON Solid State Science and Materials Physics**, Eg-MRS, 6-9 Jan. Hurghada, Egypt, 2015
- **THE XXX INTERNATIONAL CONFERENCE ON Solid State Science and Materials Physics**, Eg-MRS, 25-28 November, Marsa Alam, Egypt, 2012

■ **PROJECTS:**

1. *Asmaa Gamal (student), Mohamed Shaban(PI), "Fabrication and Characterization of Nanoporous Aluminum Oxide Membrane", Nahdet EL Mahrousa, (2011, finished).*

2. Member of CIQAP Project, Faculty of Science, Beni-Suef University (Sep. 2010 – Sep. 2012).
3. *Mohamed Zayed, **Mohamed Shaban(PI)**, "Preparation of nano-structured self-cleaning glass", Faculty of Science, Beni-Suef University (1/6/2012-30/3/2013).*
4. *Member of the project "Design and Manufacturing of microchannels sensors for heavy metals detection" (YJ-2 project, STRC, AUC) (15/3/2012-31/5/2013)*
5. ***Mohamed Shaban(Co-PI)**, Osama Fouad, Hany Hamdy(PI), " High Efficiency 2D Au/PAA Nano Sensors: Fabrication and Characterization", STDF) funded 15/3/2014, project ID : 4617).*
6. *Mohamed Yassen (student), **Mohamed Shaban (PI)**, " Fabrication and Characterization of Two-Dimension Photonic Crystals" ASRT(March 2013- September2013).*
7. *Abdallah Shehata (student), **Mohamed Shaban(PI)**, " Carbon Nanotubes Field-Effect Transistor (CNTFET)", ASRT(March 2013- September2013).*
8. *Asmaa Adel (student), **Mohamed Shaban(PI)**, " Hydrogen generation toward fuel cell ", ASRT(March 2013- September2013)*
9. *Hany Hamdy(PI),**Mohamed Shaban (Co-PI)**, Ashor Mohamed "Controlled synthesis of Cu nanoarrays by template method" Beni-Suef University(March 2013- March 2014)*
10. *Mohamed Zayed (MSc), **Mohamed Shaban(PI)**, " Fabrication of ZnO nano-particles for self-cleaning applications of fabrics ", ASRT(March 2013- January 2014).*
11. *Fadya Mohamed (MSc), Mona Ali (MSc), **Mohamed Shaban(Co-PI)**, Mohamed El-Kassem (PI) " Nano-adsorptive removal of some heavy metals from drinking, ground and waste water", ASRT(March 2013- March 2014).*
12. *Mona Mustafa MSc), **Mohamed Shaban(PI)**, " Realization and Characterization of Nanostructure For solar energy applications.", ASRT(March 2013- January 2014).*
13. ***Mohamed Shaban(PI)**, Mona Ali, Mohamed Rabia, 2D Plasmonic Photonic Crystal (Au/Pt/PAA): Fabrication, Characterization, and photocatalytic properties, (March 2015, 1 year, BSU).*
14. *Abdallah M. Ashraf, **Mohamed Shaban (PI)**, Development of water desalination system,(March2015, 30 month, ASRT). ASRT/SNG/W/2014-9]*
15. *Nora Shahata, **Mohamed Shaban (PI)**, Fabrication and characterization of nanophotocatalyst to efficiently convert carbon dioxide into a combustible fuel,(March2015, 30 month, ASRT). [ASRT/SNG/E/2014-29]*
16. *Rania Hosney, **Mohamed Shaban(PI)**, Fabrication and characterization of efficient nanocatalyst for the production of biodiesel ,(March2015, 30 month, ASRT). [ASRT/SNG/E/2014-5]"*

17. Mona Ali (Ph.D.), Lamiaa Said (Ph.D.), **Mohamed Shaban**(Supervisor), " Efficient Dyes Removal from industrial wastewater using NF-RO PES/TiO₂ nanotubes blend membrane", BSU (June 2015- June 2016).
18. Mohamed Rabie (Ph.D.), **Mohamed Shaban**(Supervisor) " Enhancement the efficiency of the solar cell by developing the anode electrode through synthesis of nanophotocatalysis with high response to the light", BSU(June 2015- June 2016).
19. Asmaa Gameel (Student), **Mohamed Shaban** (Supervisor, "Fabrication and characterization of Gold Nanoarrays based on PAA membranes for sensing applications" Beni-Suef University (May 2015).
20. Dalia El Feky (PI-NAARS), Ahmed Ghitas (PI-NIRAAG), **Mohamed Shaban (PI-BSU)**, Radiation Tolerant Space Solar Cell Using Innovative Nanotechnology (NAARS, Egyptian program of space, November 2015).
21. Hamady Khamissi, Adel M. El Sayed, Mohamed Shaban, Influence of Doping and Annealing on the Physical Properties of Some Transition Metal Oxide Nanostructured Thin Films (October 2015, Northern Border University, Saudi Arabia)
22. Hany Hamdy (PI), **Mohamed Shaban (Co-PI)**, Cancer Cell Detection using Two-Dimension Photonic crystal Sensors, Beni-Suef University (Beni-Suef University, March 2016).
23. Arafa Aly (PI), **Mohamed Shaban (Co-PI)**, Hassan Sayed, A New approach to protection the archaeological copper-based artifacts by nanoparticle copper oxide thin film, Beni-Suef University (Beni-Suef University, March 2016).
24. Hany Hamdy (PI), **Mohamed Shaban (Co-PI)**, Carbon Nanotubes/Metal Oxide Heterostructures for Toxic Gases Detection (*the Support and Project Finance Office, BSU, 2016*).
25. Sara Ezzat, Amany Gomaa, Zeinab Shehata, Naema Sayed, Manal Hassan, Mohamed Rabie, **Mohamed Shaban**, the development of core-shell nanoparticles consist of Fe₂O₃/ Mn₂O₃ covered by chitosan polymer for purification of water with high efficiency (ASRT, December 2016)
26. Shaimaa Mahmoud Samy, Mohamed Zayed, **Mohamed Shaban**, Self-cleaning by Nano structure copper oxide (*the Support and Project Finance Office, BSU, March 2016*).
27. Samar Mamdouh Mohamed, **Mohamed Shaban**, Fatma Elzhraa Mohamed, Adsorption of heavy metals by using Carbon Nanotubes (*the Support and Project Finance Office, BSU, March 2016*).
28. Sara Ezzat, Naglaa sayed Mansour, Fatma Mohamed, **Mohamed Shaban**, Mohamed Rabia, Fabrication of photoanode solar cell based on Cs substance

with high response to the sun light, (*The Support and Project Finance Office, BSU, March 2016*).

29. **Mohamed Shaban** and Mohamed Rabia, synthesis of nanofibers photocatalysts utilizing the nanoporous alumina template for the solar cell and hydrogen production (STDF, December 2016)
30. Mohamed kamal darwish, **Mohamed Shaban**, Made tailor nanopolymeric composite containing carbon nanotubes and its application in drug delivery (TITAN CEMENT EGYPT, 2016).
31. Mohamed Rabie, Yong lei, **Mohamed Shaban**, Synthesis of nanofibers photocatalysts utilizing the nanoporous alumina template for the solar cell and hydrogen production (STDF, December 2016).
32. **Mohamed Shaban**, Nanophotonic Structures for Solar Energy and Water Treatment Applications (The Support and Project Finance Office, BSU, January 2017).
33. **Mohamed Shaban**, Mostafa Ragab, Abdallah Mohamed, Badr Mohamed, Efficient and Innovative water Treatment Technology Utilizing Synthetic and Modified Natural aluminosilicate Nanoporous structures (ASRT, 2017).
34. Asmaa Omar, Alaa Mohamed, Gehan Saad, Eslam Ebraheem, Fatma Elzahra, **Mohamed Shaban**, Fabrication and characterization of low-cost Nano-absorbents for heavy metals of the ground water (ASRT, 2017).
35. Mariam Abo Elkher, Abeer Taha, Islam SaadAllah, Mostafa Ragab, **Mohamed Shaban**, synthesis of Magnetic Heulandite/polyaniline composite supported by Nano Ni metal for superior degradation of dyes within minutes under Sun Light (ASRT, 2017).
36. Fatma Sayed Ali, Badr Mohamed, Eslam Ebraheem, Mostafa Ragab, **Mohamed Shaban**, Hydrogen production through water splitting using novel nanohybride composites of photocatalytic and semiconductor properties (ASRT, 2017).
37. **M. Shaban**, Nanophotonic Structures for Solar Energy and Water Treatment Applications, The Support and Project Finance Office, BSU, 2017.
38. **M. Shaban**, M. Kordy, Biosynthesis of silver nanoparticles and their application in waste water treatment (ASRT, 2017).

39. Salma Mohamed, Abdelrahman Samy, Esraa Abdallah, Fatma Mohamed, **Mohamed Shaban**, Fabrication of Ni modified CO-Fe LDH/graphite nanofibers for enhanced photocatalytic hydrogen production from water (ASRT, 2018).
40. Esraa Mohamed, Khaled Abdel Kareem, Nour Bahnasawy, Soheer Youssef, Eslam Saad, **Mohamed Shaban**; The development of functionalized nanoporous anodic alumina membranes for sensitive detection and removal of heavy metal ions from waste water (ASRT, 2018).
41. M. Shaban, Mervat N. Sayed, Design of high-performance thin-film composite (TFC) membranes functionalized with graphene oxide/titanium oxide nanoribbons (GO/TNRs) nanocomposites for water desalination based on FO technology (ASRT, SNG –W-39, 2018)
42. M. Shaban, Fatma Abdel Samad Saad Mahmoud, Carbon-based materials/Metal oxide nanomaterials for energy applications such as composite electrodes Li-S Batteries Hybrid supercapacitors and water splitting (ASRT, SNG–E-49, 2018)
43. Aftab Khan (PI), **Mohamed Shaban(Co-PI)**, Khalid Ahmad Alamry “Synthesis and Characterization of doped-Fe₂O₃/ Nanoporous Anodic Alumina Membranes for Wastewater Treatment” (King Abdul Aziz University, Saudi Arabia 2019).
44. Aftab Khan (PI), **Mohamed Shaban(Co-PI)**, Hadi M. Marwani “Efficient photochemical solar hydrogen production from any source of water utilizing nanoporous membranes functionalized with hybrid nanostructures” (King Abdul Aziz University, Saudi Arabia 2019).
45. Mohamed Shaban, Mohamed Kamal, “Tailored nano polymeric composites that utilize carbon nanotubes in drug delivery” (STDF, Egypt, 2019).
46. Mohamed Shaban, Ahmed Hamd, Mohamed Zayed “ Eco-friendly BY-PASS” (Venture Well, USA 2019)
47. Mohamed Shaban, Asmaa Dyaz, Doaa Ahmed, “Pharo-Zeolit” (Venture Well, USA 2019)

■ **RECENT RELEVANT PUBLICATIONS/PATENTS:**

I) Journal Publications:

- 1) **M. Shaban**, H. Saad, H. Hamdy, and F. Shahin, "Optical Excitation Function of the Sr and Sr⁺ Atoms", Egypt; Arab J. Nucl. Sci. Appl. 40, 405-413(2007)
- 2) **Mohamed Shaban**, Hany Hamdy, Fayez Shahin, and Sang-Wan Ryu, "Strong surface Plasmon Resonance of ordered Gold nanorod Array Fabricated in Porous Anodic alumina template ", Journal of Nanoscience and Nanotechnology", Vol. 10, 3034-3037 (2010) [IF= 1.572, H Index: 61, ISSN: 15334880]
- 3) **Mohamed Shaban**, Hany Hamdy, Fayez Shahin, Joonmo Park and Sang-Wan Ryu, "Uniform and Reproducible Barrier Layer Removal of Porous Anodic Alumina Membrane", Journal of Nanoscience and nanotechnology, vol. 10, 3380-3384 (2010) [IF= 1.572, H Index: 61, ISSN: 15334880]
- 4) **Mohamed Shaban**, Hany Hamdy, Fayez Shahin and Sang-Wan Ryu, "optical Properties of Porous Anodic Alumina Membrane Uniformly Decorated with Ultra-Thin Porous Gold Nanoparticles Arrays", Journal of Nanoscience and Nanotechnology 11, 941-952 (2011) [IF= 1.572, H Index: 61, ISSN: 15334880]
- 5) **Mohamed Shaban**, Hany Hamdy, Fayez Shahin and Sang-Wan Ryu, " Fabrication of ordered Cr nanostructures by self agglomeration on porous anodic alumina membranes", Journal of Nanoscience and Nanotechnology, 11, 7145-7150 (2011). [IF= 1.572, H Index: 61, ISSN: 15334880]
- 6) Hany Hamdy, Sang-Wan Ryu, **Mohamed Shaban**, " Cr nanostructures fabricated based on porous anodic alumina membranes" World Journal of Engineering, Supplement 1, 393-394 (2011) .
- 7) **Mohamed Shaban**, Heba AbdAllah, Lamiaa Said, Hany S. Hamdy, Ahmed Abdel khalek, Fabrication of PES/ TiO₂ Nanotubes Reverse Osmosis (RO) Membranes, J. Chemica Acta 2(2013) 59-61. [ISSN: 2314-7075 (Print) 2314-7083 (Online)].
- 8) **Mohamed Shaban**, Amin Hussein, Detection of Heavy Metal Ions in Water by PAA/CNTs Nanosensor, J. Chemica Acta 1(2012) 48-51. [ISSN: 2314-7075 (Print) 2314-7083 (Online)].
- 9) **Mohamed Shaban**, Mona Ali, Kamal Abdelhady, Hany Hamdy " Fabrication and Characterization of Tin nanostructure based on porous anodic alumina membranes" Advances in Materials and Corrosion 1 (2012) 43-46. [ISSN: 2314-7059 (Print) 2314-7067 (Online)].
- 10) **M. Shaban** and M.F. Eissa "Study the effect of alpha particle fluences on the morphology and optical properties of poly-aniline in nano-scale" IOSR Journal of Applied Physics, Volume 4, Issue 6 , PP 54-60 (2013). [IF: 1.345, ISSN: 2278-4861].

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