

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

CONTACT INFORMATIONS:

Address : Department of Physics
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Researchgate: https://www.researchgate.net/profile/Mohamed_Shaban
Google Scholar: <https://scholar.google.com/eg/citations?user=3T13QuQAAAAJ&hl=en>

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 (Experiemental 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:

- 1/9/2012 – 30/5/2013 Research Association, YJ-STRC, School of Science and Eng, AUC (part time)
- 1/1/2012- 31/8/2012 Post-Doc Association, School of Science and Eng, AUC (Part time)
- 11/2010 – Now Lecturer, Beni-Suef University.
- 11/2006 – 11/ 2010 Ass. Lecturer, Cairo University, Beni-Suef branch.

- 12/2000- 11/2006 Demonstrator, Cairo University, Beni-Suef branch

SCIENTIFIC MISSION:

- 2008 – 2010 Chonnam National University, Gwangju, South Korea.
Scholarship (Channel System, 2 years, Egyptian Government)

MAIN RESEARCH OR TECHNOLOGY TOPICS:

- Electron- Atom Collision.
- Nanoporous Membranes.
- Photonic Nanostructures.
- Plasmonic Nanostructures.
- Sensors
- Water Desalination based on RO membranes
- Solar Energy Applications

WORK EXPERIENCE:

- The area of electron- atom collision (Optical Excitation Function & Polarization measurements)
- Nano-pattern fabrication by AAO and its application to metallic nano-structure
- Optical design and characterization of nano-sized dielectric and metallic structures
- Optical characterization of metallic materials and structures
- Design and characterization of 2d- Plasmonic Photonic Crystals
- Numerical calculation of optical properties of 2d-nanostructures.

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 Coater
- E-beam Evaporator
- 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 Diffractometry (XRD),
- Experimental Spectroscopic set-up for the optical properties measurement
- Spectrophotometers
- RLC Bridge.

PROFESSIONAL ACTIVITIES:

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

- General Physics
- Electromagnetism
- Electrostatics
- Optical Communications
- Physical Optics
- Atomic spectra
- Electricity and magnetism
- Radiation Physics
- Introduction to nanoscience
- Supervisor of seven graduate students (10 M.Sc. and 3 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 Alhakhma 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
- Reviewer of Beni - Suef University journal of Basic Applied Sciences
- Author and Reviewer of PLASMONICS Journal
- Reviewer of INTERNATIONAL JOURNAL OF ENVIRONMENTAL SCIENCE AND TOXICOLOGY (IJEST)
- Member of IEEE Advancing Technology for Humanity.
- Member of the WILEY-Blackwell Authors system
- 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

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).
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AWARDS:

- The Award for Excellence in Graduation Projects by Young Innovators' Awards (YIA) Program – Nahdet EL Mahrousa (2010).
 - The best Ph.D. Thesis" *Optical characterization of a photonic crystal composed of metal-dielectric multilayers*" Beni Suef University (2010/2011).
 - *The ideal professor award at the level of Physics Department, Faculty of Science, Beni-Suef University(students evaluation, May 2011)*
 - Incentive Award, Beni - Suef University, Egypt (2015)
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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 Nanoarraysbased on PAA membranes for sensing applications" Beni-Suef University (May 2015).*

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, ISSN: 15334880, H Index: 61]
- 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, ISSN: 15334880, H Index: 61]
- 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, ISSN: 15334880, H Index: 61]
- 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, ISSN: 15334880, H Index: 61]
- 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].
- 11) M. Serry, A. Gamal, **M. Shaban**, and A. Sharaf, “High sensitivity optochemical and electrochemical metal ion sensor” *Micro and Nano Letters* 8 (11) (2013) 775 – 778. Doi: 10.1049/mnl.2013.0361 (IF= 0.94, ISSN: 17500443, H Index: 12)
- 12) **M. Shaban**, A. G. A. Hady, M. Serry “A New Sensor for Heavy Metals Detection in Aqueous Media” *IEEE Sensors Journal* 14 (2) (2014) 436-441. DOI: 10.1109/JSEN.2013.2279916 [IF:1.475, ISSN: 1530437X, H Index: 49].
- 13) **M. Shaban**, Ashour M. Ahmed , Ehab M. Abdel Rhman, and Hany Hamdy “Synthesis of nanoporous chromium film by DC electrodeposition on aluminum substrate” *IOSR Journal of Applied Physics*, Volume 6, Issue 1 , PP 52-57 (2014). DOI: 10.9790/4861-06125257 [IF: 1.345, ISSN: 2278-4861]
- 14) S. M. Sayyah, F. Mohamed, and **M. Shaban**” Antibacterial activity of nano fabricated polypyrrole by cyclic voltammetry” *IOSR Journal of Applied chemistry*, Volume 7, Issue 2 , PP 11-15 (2014). DOI: 10.9790/5736-07211115 [IF: 1.327, ISSN: 2278-5736].
- 15) **M. Shaban**, Ashour M. Ahmed, Ehab M. Abdel Rhman, and Hany Hamdy “Fabrication and characterization of micro/nanoporous Cr film for sensing applications” *Microporous and Mesoporous Materials* 198, 115-121 (2014). [IF:3.52, ISSN:13871811 , H-Index: 110] doi:10.1016/j.micromeso.2014.07.022
- 16) S. M. Sayyah, M. Rabia, A. Baheg and **M. Shaban**, Electropolymerization of m-cresol on platinum electrode from aqueous acidic solution (Article ID: 27703574), *International Journal of Chemistry* 35, 1573-1585 (2014). [IF = 1.438, ISSN: 2051-2732].
- 17) MEM. Hassouna, **M. Shaban** and FM. Nassif, REMOVAL OF IRON AND MANGANESE IONS FROM GROUNDWATER USING KAOLIN SUB MICRO POWDER AND ITS MODIFIED FORMS, *International Journal of Bioassays, Int. J. Bioassays*, 2014, 3 (07), 3137-3145. [ISSN: 2278-778X, IF = 2.769].
- 18) S. M. Sayyah, F. Mohamed, and **M. Shaban** “Adsorption of Pb (II) ions from aqueous solutions using polycresol film fabricated by cyclic voltammetry” *IOSR Journal of Applied chemistry*, Volume 7, Issue 6 Ver. I. (Jun. 2014), PP 56:64. [IF: 1.327, ISSN: 2278-5736].
- 19) S. M. Sayyah, M. Rabia, and **M. Shaban**, m-Toluidin Polymer Film Coated Platinum Electrode as pH Sensor by Potentiometric Methods (Article ID: 27703633), *International Journal of Chemical Engineering*, Recent Science Publications, accepted 2014. [IF = 1.677 , ISSN:]
- 20) **Mohamed Shaban**, Mona Ali, Kamal Abdelhady, Hany Hamdy "Fabrication and Characterization of Porous Anodic Alumina Membranes Decorated with Tin Nanoparticles”, *International Journal of Physics and Astronomy* 27, 1167-1172(2014) [IF = 2. 1 , ISSN:2051-6851].
- 21) **M. Shaban**, Ashour M. Ahmed , Ehab M. Abdel Rhman, and Hany Hamdy “Fabrication of Highly Ordered Porous Anodic Alumina Template Decorated with Nanostructured Ultra-Thin Cu Film” *International Journal of Physics and Astronomy* 27, 1173-1176(2014). [IF = 2. 1 , ISSN:2051-6851].
- 22) **Mohamed Shaban**, Amin Husseina, Ahmed Abdel khalekh, and Hany S. Hamdya “Morphological Studies of ZnO Nanostructures Deposited on Nanoporous Anodic Alumina Membrane by Rapid Dip Coating Technique” *IOSR Journal of Applied*

chemistry, *Volume 7, Issue 9 Ver. I. (Sep. 2014), PP 04-08*. [IF: 1.327, ISSN: 2278-5736]. DOI: 10.9790/5736-7910408

- 23) S. M. Sayyah, F. Mohamed, and **M. Shaban** “Electropolymerization of ortho methoxy phenol-co-pyrrole and characterization of the obtained film” *IOSR Journal of Applied chemistry, .Volume 7, Issue 9 Ver. I. (Sep. 2014), PP 09-21*. [IF: 1.327, ISSN: 2278-5736].
- 24) S. M. Sayyah, F. Mohamed, and **M. Shaban** “Electropolymerization of ortho methoxy phenol-co-pyrrole and characterization of the obtained film” *International Journal of Bioassays, .Volume 3, Issue 11 Ver. I. (Sep. 2014), PP 3543-3552*. [IF: 2.927, ISSN: 2278-778X].
- 25) **Mohamed Shaban**, Heba AbdAllah, Lamiaa Said, Hany Hamdy, Ahmed Abdel khalek, “ Titanium dioxide nanotubes embedded mixed matrix PES membranes characterization and membrane performance”, *Chemical Engineering Research and Design* 95 (2015) 307–316. DOI: 10.1016/j.cherd.2014.11.008 [IF: 2.348, ISSN: 0263-8762].
- 26) **Mohamed Shaban**, Mona Ali, Kamal Abdelhady, Hany Hamdy, Self- Agglomeration of Tin Nanoparticle Array on Porous Anodic Alumina Membranes: Fabrication and Characterization, *Journal of Current Nanoscience* 11(2), (2015)221-214 [ISSN (Print): 1573-41378, IF: 1.55 , DOI: 10.2174/1573413711666150114223914]
- 27) A.M. El Sayed, **Mohamed Shaban**, Structural, Optical and Photocatalytic properties of Fe and (Co, Fe) co-doped Copper Oxide Spin Coated Films, *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 149, (2015) 638–646 [IF= 2.39, ISSN: 13861425, HI: 74].
- 28) **Mohamed Shaban**, A.M. El Sayed, “influences of Lead and Magnesium co-doping on the Nanostructural, Optical properties and Wettability of Spin Coated Zinc Oxide Films” *Materials Science in Semiconductor Processing*_39, (2015)136–147 [IF = 2.01, ISSN: 13698001, HI: 35] DOI: 10.1016/j.mssp.2015.04.008]
- 29) **Mohamed Shaban**, Mona Ali, Kamal Abdelhady, Hany Hamdy, “Al₂O₃ and Sn/Al₂O₃ nanowires: Fabrication and Characterization”, *Micro and Nano Letters*(2015),10(7):324 [IF= 0.9, , ISSN: 17500443, HI: 17] <http://dx.doi.org/10.1049/mnl.2015.0068>
- 30) S. M. Sayyah, **Mohamed Shaban**, and Mohamed Rabia, “m-Toluidine Polymer Film Coated Platinum Electrode as a pH Sensor by Potentiometric Methods”, *SENSOR LETTERS* 13, (2015) 961–966. [IF= 0.52, , ISSN: 15461971, 1546198X, HI: 25]
- 31) **Mohamed Shaban**, Heba AbdAllah, Lamiaa Said, Hany Hamdy, Ahmed Abdel khalek, “ Effect of TiO₂ NTs% on Polyethersulfone/TiO₂ NTs Membranes”, *Journal of material Science and Engineering A* 5 (1-2), (2015) 65-68 [ISSN: 2161-6213 and 2161-6221]. DOI:10.17265/2161-6213/2015.1-2.009
- 32) **Mohamed Shaban**, Mohamed Zayed, Ashour. M Ahmed, Hany Hamdy, Influence of growth time on the morphology of ZnO nanostructures prepared by low-temperature chemical bath deposition, *IOSR Journal of Applied Physics (IOSR-JAP)*, Vol.7. issue 4 ver.II, (2015) 35-40 [IF: 1.34, ISSN: 2278-4861]. DOI: 10.9790/4861-07423540
- 33) **Mohamed Shaban**, A.M. El Sayed, “influences of Lead and Magnesium co-doping on the Nanostructural, Optical properties and Wettability of Spin Coated Zinc Oxide Films” *Materials Science in Semiconductor Processing* 41(C), 323-334 (2016). [IF = 2.01, ISSN: 13698001, HI: 35].

- 34) **Mohamed Shaban**, G. F. Attia, Mohamed A. Basyooni, Hany Hamdy, “Morphological and Structural Properties of spin coated Tin Oxide thin films”, International Journal of Engineering and Advanced Research Technology (IJEART), Article ID: IJEART/03/204, accepted 2015
- 35) **Mohamed Shaban**, Mohamed Rabie, A highly-sensitive sensor of m-toluidine polymer film for detection of mercuric ions by potentiometric methods, IEEE Sensors Journal (Paper ID: Sensors-12168-2015, accepted 2015).
- 36) S. M. Sayyah, **Mohamed Shaban**, Mohamed Rabie, Electropolymerization of m-toluidin on platinum electrode from aqueous acidic solution and characterization of the obtained polymer, Advances in Polymer Technology (Paper ID: ADV-06-15-140, accepted 2015).
- 37) **Mohamed Shaban**, Mona Mostafa, Spin Coated Nanostructured CdS Thin Film on Porous Anodic Alumina Substrate for sensing Applications, *Micro & Nano Letters*(Submitted 2015), [IF = 0.9, ISSN 1750-0443].
- 38) Mohamed Shaban, Effect of Pore Thickness and the State of Polarization on the Optical Properties of Hexagonal Nanoarray of Au/ Nanoporous Anodic Alumina Membrane, Journal of Nanomaterials (2015).
- 39) Mohamed Shaban, Mona mostafa, Hany hamdy “Morphological and Optical Study of Sol-Gel SpinCoated Nanostructured CdSThin Films” IOSR Journal of Applied Physics (IOSR-JAP) (accepted 2015).
- 40) **M. Shaban**, Ashour M. Ahmed , Ehab M. Abdel Rhman, Arafa Aly, and Hany Hamdy, “ Tunable electro-optical properties of defective one-dimensional photonic crystal” ((Submitted 2015).
- 41) Highly Sensitive and Selective In-Situ SERS Detection of Pb²⁺, Hg²⁺, and Cd²⁺ Using Nanoporous Membrane Functionalized with CNTs" to Scientific Reports (2015)

II) Conference Papers:

- 42) H. Hamdy, H. Hanafy, **M. Shaban**, and F. Shahin, “Optical Excitation by Electron Impact on Sr ions” 2nd All African IRPA Regional Rad. Protec. Conf. Ismailia. 22-26 April 2007.
- 43) H. Hamdy, H. Hanafy, **M. Shaban**, and F. Shahin, “Polarization Measurements of The Emitted Light Induced by Electron Impact on Sr”, 2nd All African IRPA Regional Rad. Protec. Conf. Ismailia. 22-26 April 2007.
- 44) **M. Shaban**, H. Saad, H. Hamdy, and F. Shahin, ” Optical Excitation Function of the Sr and Sr⁺ Atoms”, VIII Radiation Physics & Protection Conference, 13-15 November 2006, Beni Sueif-Fayoum, Egypt.
- 45) **Mohamed Shaban**, Sang-Wan Ryu, Hany Hamdy, Fayez Shahin, “Fabrication and Optical Characterization of Decorated Nanoporous Anodic Alumina Membranes”, 4th International Conference on Modern Trends in Physics Research (MTPR-2010), Cairo&

- Sharm El-Sheikh, Egypt, December 12-16, (2010). World Scientific publisher (conference procedure) (2011).
- 46) Hany Hamdy, Sang-Wan Ryu, **Mohamed Shaban**, “ Cr nanostructures fabricated based on porous anodic alumina membranes”, *The 19th Annual International Conference on Composites and Nano Engineering (ICCE-19)* Shanghai, China, July 24-30 (2011).
 - 47) **Mohamed Shaban**, Mona Ali, Ashour M. Ahmed, Hany Hamdy, and Fayez Shahin “Fabrication and Optical Characterization of Nanoporous Anodized Aluminum Oxide Membranes” PECS-X: 10th International Symposium on Photonic and Electromagnetic Crystal Structures, Santa Fe, New Mexico, USA , conference procedure (PECS-X-085), 312-313, 2012.
 - 48) **M. Shaban**, M. Serry, “A new sensor for heavy metals detection in aqueous media” Proceedings of IEEE Sensors (2012) 1-4: doi: 10.1109/ICSENS.2012.6411184.
 - 49) **Mohamed Shaban**, Heba AbdAllah, Lamiaa Said, Hany S. Hamdy, Ahmed Abdel khalek, Fabrication of PES/ TiO₂ Nanotubes Reverse Osmosis (RO) blend Membrane for Brackish water desalination, 1st International Conference for Modern Nano-Technology in Water and Waste Water projects (MNTW’2012), Sept. 15, 2012 , Cairo, Egypt.
 - 50) **Mohamed Shaban**, Amin Hussein, Detection of Heavy Metal Ions in Water by PAA/CNTs Nanosensor, 1st International Conference for Modern Nano-Technology in Water and Waste Water projects (MNTW’2012), Sept. 15, 2012 , Cairo, Egypt.
 - 51) **Mohamed Shaban**, Mona Ali, Mohamed Serry, “Advanced Metallic Nanoarray Membrane Sensor for Environmental and Biomedical Detection” *The XXX Conference on Materials Science and Applications & Workshop on Functional Materials (Eg-MRS 2012)*, 25th -28th November 2012, Marsa Alam , Egypt.
 - 52) Ashour M. Ahmed , Ehab M. Abdel Rhman, Hany Hamdy and **Mohamed Shaban** , “Fabrication of alumina nanowires decorated with Chromium” *The XXX Conference on Materials Science and Applications & Workshop on Functional Materials (Eg-MRS 2012)*, 25th -28th November 2012, Marsa Alam , Egypt.
 - 53) **Mohamed Shaban**, Mona Ali, Kamal Abdel-hady, Hany Hamdy,”Fabrication and Characterization of One Dimensional Alumina Nanowires, 1st International Conference on Advanced Basic& Applied Sciences(ABAS) including Egyptian-Sweden Workshop on Advanced Materials, 6-9 November 2012, Hurghada, Egypt.
 - 54) M. Serry, A. Gamal, A. A. Kader and **M. Shaban**,” NOVEL NANOSTRUCTURED ELECTROCHEMICAL SENSORS BASED ON DENSE METAL NANOPARTICLE FILMS”, Proceedings of 2013 Nanomechanical Sensing Workshop, Stanford University, Stanford, CA.
 - 55) **Mohamed Shaban**, Mona Ali, Kamal Abdel-hady, Hany Hamdy, Controlled method to fabricate high yield alumina nanowires, ICCE-21- 21st Annual International Conference on Composites or Nano Engineering to be held in Tenerife, Canary Islands, Spain, July 21-27, 2013.
 - 56) M. Serry, A. Gamal, A. A. Kader, A. Sharaf, **M. Shaban**, “Nanostructured Membrane Separators for Electrochemical Detection of Heavy Metals” *The 17th International Conference on Solid-State Sensors, Actuators and Microsystems, TRANSDUCERS and EUROSENSORS 2013*; Barcelona; Spain; 16 – 20 June 2013, Article number 6626964, Pages 1103-1106. Doi: 10.1109/Transducers.2013.6626964

- 57) **Mohamed Shaban**, Mona M. Fekry, Mohamed Serry, Hany Saleh Hamdy,” Characterization of P-doped SiGe thin film fabricated using low plasma chemical vapour (LPCVD) deposition technique on glass substrate” International conference on nanomaterials fabrications and characterization, Nanotech Challenges 2014, 14-17 April 2014, Cairo, Egypt.
- 58) **M. Shaban**, Ashour M. Ahmed , Ehab M. Abdel Rhman, and Hany Hamdy “Fabrication of Highly Ordered Porous Anodic Alumina Template Decorated with Nanostructured Ultra-Thin Cu Film” International conference on nanomaterials fabrications and characterization, Nanotech Challenges 2014, 14-17 April 2014, Cairo, Egypt.
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III) Patent:

1-Apply for US Patent: 3392-1-003PCT, 2014 under the title "The membrane electrochemical sensor"
