NATIONAL INSTITUTE OF LASER ENHANCED SCIENCES

NILES

Department of Laser in Meteorology, Photochemistry & Agriculture (LAMPA)

جامعة القاهرة
المعهد القومي لعلوم الليزر
قسم تطبيقات الليزر في الطب
والكيمياء الضوئية والزراعة

Curriculum Vitae for
Prof. Walid Tawfik Younes Mohamed

PERSONAL DATA	
Name	Walid Tawfik Younes Mohamed
Date & Place	6th July 1969, Cairo.
Marital	Married
Home Address	El Mokattam, Ahadaba Amwosta, second district, Building No 3238, Cairo, Egypt.
Present Office address	National institute of laser enhanced sciences NILES, Cairo University, Gamaa St., P.Code 12613, Giza-Egypt. Cell:+201007869651 walid_tawfik@niles.edu.eg; walid_tawfik@hotmail.com https://www.researchgate.net/profile/Prof_Walid_Tawfik2 linkedin.com/in/walidtawfik
Nationality	Egyptian
Sex	Male
National ID	**26907060103392**
Present Job	Chairman of Department of Laser Applications in Metrology, Photochemistry and Agriculture (LAMPA), NILES, Cairo University, Egypt.
Publication documents Citation H-index	**45** 420 **7** (SCOPUS)

RESEARCH INTERESTS:

My research plans are devoted to ultrafast optics and photonics: nonlinear interactions of short laser light and matter using time-resolved spectroscopy for laser-pulse durations from nanosecond to few-cycle. The ultrafast pulses are characterized using autocorrelator, SPIDER, and FROG measurements. The studies include the application of laser-induced breakdown spectroscopy (LIBS) used in the field of analytical spectroscopy and plasma characterization, in addition to ultrafast nonlinear phenomena due to propagation of ultrafast pulses in nonlinear medium and how the interactions can be exploited for improved material characterization. The prospective plans aim to reach attosecond streaking to study transient absorption spectroscopy of ultrafast electron motion.

ACADEMIC QUALIFICATIONS

Skills

1- Languages

English Excellent (IELTS 6) German basic level, Arabic (Mother tongue language), French (Basic).

2- PROFESSIONAL EXPERIENCE:

Degree	Institution	Major, Minor	Period
Bachelor	Cairo University, Cairo, Egypt.	Physics	1/9/1987- 15/5/1992
Master	Cairo University, Cairo, Egypt.	Physics, laser physics, Thesis titled "Laser propagation in water"	1/9/1993 – 15/5/1996
PhD	Cairo University, Egypt (the experiment part and data collection done at TU, Munich, Germany).	Physics, laser physics, Thesis titled "Study of photon molecular interaction dynamics using short laser pulses " ZEKE Spectroscopy"	1/9/1996 – 15/07/2000

period	position	duty
Dec 2020-now	Chairman of Department of Laser Applications in Metrology, Photochemistry and Agriculture (LAMPA), NILES, Cairo University, Egypt.	Chairman of the Board of the Department of Laser Applications in Measurements, Photochemistry and Agriculture, a member of the Graduate Studies Council and a member of the Institute's Council.
May 2017-now	Full Professor– and head of division of metrology laser applications, NILES, Cairo University, Cairo, Egypt.	Coordinate and follow the teaching schedule of all the lectures in this field, teaching atomic physics, laser physics, plasma physics, laser spectroscopy, ultrafast phenomena, and femto-physics for graduate students + supervision of PhD and master students on laser spectroscopy applications studies.
2011 –Sep 2016	Associate Professor, Department of Physics of Physics and Astronomy King Saud University (KSU) , Saudi Arabia.	Teaching physics related subjects for undergraduates and graduate students + supervision of master students + PI of ultrafast laser project
2010 - 2011	Research associate (Associate Prof.) Department of Physics, Pohang University of Science and Technology POSTECH , Pohang, south Korea.	Preform research on self-channeling of gas jets using 10 Hz 30 femtosecond laser pulses.
2008 – 2016	Associate professor –sabbatical leave - at the department of Laser Applications in Metrology, Photochemistry and Agriculture (LAMPA), NILES, Cairo University, Cairo, Egypt.(on sabbatical leave)	Teaching laser physics and laser spectroscopy for graduate students + Supervision of PhD and master students on LIBS applications studies.
2003-2009	Assistant Prof. - academic staff member at the department of Physics, Faculty of Education for girls, Qurayate, Algouf university, Kingdom of Saudi Arabia.	Teaching physics related subjects for undergraduates students.

2000 - 2003	Lecturer- at the department of Environmental, Photo Chemical and Agriculture Laser applications NILES, Cairo University, Egypt.	Teaching laser physics and laser spectroscopy for graduate students + perform research studies on LIBS applications.
1999 - 2000	Assistant Lecturer- at the department of Environmental Photo Chemical and Agriculture Laser applications, NILES, Cairo University, Cairo, Egypt.	Teaching experimental laser physics for graduate students.
1996 - 1999	Physics Specialist- at the department of Environmental Photo Chemical and Agriculture Laser applications, NILES, Cairo University, Cairo, Egypt.	Maintenance laser equipment + teaching experimental laser physics for graduate students.

Scientific collaborations

period	group	mission
(2015) June-August	visiting professor at professor Rick Trebino group for ultrafast lasers, School of physics, Georgia Institute of Technology, University, Atlanta, Georgia USA.	Study nonlinear propagation of ultrafast pulses in nonlinear media and stablish simulations of FROG for 4 fs laser pulses during summer.
(2014) July-August	Visiting Scientist at Takayoshi Kobayashi Lab.(University of Electro-Communications, Tokyo, Japan).	study photochromic molecule using developed ultrafast NOPA system.
(2014) April	short visiting scientist at prof. Noureddine Melikechi (Delaware State University, Dover, DE 19901, USA).	initiation of collaboration in femtosecond - LIBS biomedical applications.
(2012) June - July	visiting scientist at prof. Ferenc Krausz Group at Max-Planck-Institut fuer Quantenoptik (Garching, Germany).	Setup and preparation of an attosecond beamline at max-planck to be transferred to KSU.

Teaching Experience:

Undergraduate courses		
	PHYS 331	Physical optics
	PHYS 335	laser physics and its application
	PHYS103	general physics (1)
	PHYS 499	project research
	PHYS 325	Electronics
	PHYS 301	mathematical physics
	PHYS104	general physics (2)
	PHYS105	general physics for architecture
	PHYS111	general physics
	PHYS102	general physics
	PHYS145	general physics
Postgraduate courses		
	PHYS 535	atomic spectroscopy for master degree students
	PHYS 632	ultrafast Phenomena for PhD students
	PHYS 539	Laser Spectroscopy
	PHYS 600	supervision of an M.SC. thesis
	LAM 601	Laser physics II
	LAM 603	Plasma Physics

ACTIVITES

1- Projects:

1-1 Principal Investigator PI, for a project with a budget of 10 million Egyptian pounds funded by the STDF at the Academy of Scientific Research, which is being implemented starting from 15-8-2020 at Cairo University with the title - Accurate and rapid detection of soil contamination using laser breakdown spectroscopy using femtoseconds and LA -ICP-MS (Induction-coupled plasma mass spectrometry). During the project a research team is led to purchase the necessary equipment and tools and install them in the appropriate time plan. This is in addition to preparing the lab for the ideal conditions for the project in terms of pressure, humidity and temperature. Also, the database for heavy element lines is being prepared using modified data analysis programs. And a plan has been drawn up to publish the results expected to be obtained in global peer-reviewed journals, and to present them at international conferences.

1-2 Principal Investigator PI , NSTP (National Science and Technology Plan) Riyadh, Saudi Arabia, project # 12-ELE2628-02 Characterization of ultrafast white laser light generated via supercontinuum in a hollow-fiber waveguide, (Sep/2013 to Sep/2015) working as principal investigator successfully applied and secured 500 K$ budget for the project. Leading my team to procure and install the needed equipment in proper time plan. Experimental conditions have been optimized for better ultrafast pulses, and the data acquired data using the adapted software for data analysis. The obtained results have been published in refereed journals, conference proceedings as well as in project reports. The final evaluation for the project report by the American Association for the Advancement of Science (AAAS) with excellent mark has been obtained.

1-3 Principal Investigator PI , STDF (Science & Technology Development Fund) from Ministry of Scientific Research , Cairo, Egypt. project # 37051 title "Accurate and fast detection of soil pollution using Femtosecond Laser-Induced Breakdown Spectroscopy and LA-ICP-MS (Laser Ablation Inductively Coupled Plasma Mass Spectrometry)", (April/2020 to April/2022) working as principal investigator successfully applied and secured 8000000 Egyptian Pounds budget for the project. I will lead my team to procure and install the needed equipment in proper time plan. Experimental conditions will take place to use a cutting-edge technology femtosecond laser system to detect pollution, include low concentration toxic elements in soil very accurate. This would have positive impact on the public health and economy in Egypt.

2- Inventions and Patents

2-1 Walid Tawfik, and Lotfia Elnadi, Generation of ultrafast high intensity pulsed Laser Solar Simulator Reg. # 2017/10 submitted on 1st Jan, 2017.
This patent demonstrates a new laser technology, the ultrafast supercontinuum laser, these broadband spectral light pulses are used to produce a high power ultrafast controllable laser solar simulator. The prospective application of the obtained light is to be used in ultrafast laser texturing for enhanced solar cell performance.

3- List of Supervised Doctoral and Master Theses

Student name	***Duration***	***Title***	***Degree***
1- Marwa Ahmed Mohamed Ismail	2001-2004	Study of Laser Induced Breakdown Spectroscopy (LIBS) limit of detection of some common elements in two different metallic matrices	*M.Sc*
2- Asmaa Elhassan Ramadan Mohamed	2001-2004	Study the effect of static electric field on Laser induced plasma signal	*M.Sc*
3- Mohamed soliman Khater	2001-2006	Monitoring and follow up of pollutants in water table and soil on field scale adopting laser techniques.	*PhD*
4- Abeer Mohamed Mahmoud Askar	2001-2006	Application of LIBS technique in monitoring pollution of water sediments.	*M.Sc*
5- Sultan Fahead Alqahtani	2013-2015	Fabrication and study of structural and optical properties of cdte and cdse quantum dots	*M.Sc*
6- Mona Aweed Al-Motery	2013-2015	Laser induced Breakdown Spectroscopy of Selected Polymers	*M.Sc*

Professional Associations

- Senior member, Institute of Electrical and Electronics Engineering (IEEE), USA. ID#: 939832
- Senior member, The Optical Society of America (OSA), USA.# 92638495
- Member, The American Physical Society (APS), USA.# 61218544
- Member, Society of Photo-Optical Instrumentation Engineers SPIE (Photonics Society) USA. # 3581083
- Member, European Society of Photobiology, Italy.
- Member, Saudi Physical Society, SPA, KSA.
- Member, The Egyptian Materials Research Society, Egypt.

4- Peer-review activities

1- Journal of Spectroscopy Letters.

2- Journal laser physics.

3- International journal of physical science

4- Journal of physical chemistry

5- AIP (American Institute of physics) Conference Proceedings

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6- ***PUBLICATIONS***

I - BOOKS:

1. **Walid Tawfik Mohamed** and Jungkwuen An, and Dong Eon Kim, 2012," Generation of Few Cycle Femtosecond Pulses via Supercontinuum in a Gas-Filled Hollow-Core Fiber" published as a chapter in book ""Optical Fibers/ Book 4 InTech , Croatia, **ISBN979-953-307-653-8.**

2. **Walid Tawfik Y. Mohamed** and Mahmoud Abdel-Aty (Editor), 2007, " Recent advances in laser induced breakdown spectroscopy as elemental analytical technique for environmental applications and space exploration" book titled " Aspects of Optical Sciences and Quantum Information", Research Signpost 37/661 (2), Fort P.O., Trivandrum-695 023, Kerala, India, **ISBN: 81-308-0147-7**.

II - PAPERS:

[1] Fikry, Mohamed, Walid Tawfik, and Magdy M. Omar. " Controlling the plasma electron number density of copper metal using NIR picosecond laser-induced plasma spectroscopy." Optica Applicata 51 (3) 2021.

[2] Fikry, Mohamed, Walid Tawfik, and Magdy Omar. "Measurement of the Electron Temperature in a Metallic Copper Using Ultrafast Laser-Induced Breakdown Spectroscopy." Journal of Russian Laser Research 41, no. 5 (2020): 484-490.

[3] Menazea, Abdelrhman A., Hend A. Ezzat, Wessam Omara, Osama H. Basyouni, Samah A. Ibrahim, Aya A. Mohamed, Walid Tawfik, and Medhat A. Ibrahim.

"Chitosan/graphene oxide composite as an effective removal of Ni, Cu, As, Cd and Pb from wastewater." Computational and Theoretical Chemistry 1189 (2020): 112980.

[4] Ezzat, Hend, A. A. Menazea, Wessam Omara, Osama H. Basyouni, Samah A. Helmy, Aya A. Mohamed, Walid Tawfik, and Medhat Ibrahim. "DFT: B3LYP/LANL2DZ Study for the Removal of Fe, Ni, Cu, As, Cd and Pb with Chitosan." Biointerface Res. Appl. Chem 10 (2020): 7002-7010.

[5] Fikry, Mohamed, Walid Tawfik, and Magdy M. Omar. "Investigation on the effects of laser parameters on the plasma profile of copper using picosecond laser induced plasma spectroscopy." Optical and Quantum Electronics 52 (2020): 249.

[6] Omnia Hamdy and Walid Tawfik, The Effect of Temperature on the Optical and Analytical Properties of PET Polymer Used in Drinking Water Bottles, (2020) J. Phys Conf. Ser. 1472 012004

[7] Ahmed, Nasar, Usman Liaqat, M. Rafique, M. Aslam Baig, and Walid Tawfik. "Detection of toxicity in some oral antidiabetic drugs using LIBS and LA-TOF-MS." Microchemical Journal 155 (2020): 104679.

[8] Farooq, W. A., Awatef S. Al-Johani, M. S. Alsalhi, Walid Tawfik, and Rabia Qindeel. "Analysis of polystyrene and polycarbonate used in manufacturing of water and food containers using laser induced breakdown spectroscopy." Journal of Molecular Structure (2020), 1201, 127152.

[9] Arkadiusz Jarota, Ewa Pastorczak, Walid Tawfik, Bing Xue, Rafał Kania, Halina Abramczyk and Takayoshi Kobayashi "Exploring ultrafast dynamics of diarylethene derivative by sub-10 fs laser pulses " Phys. Chem. Chem. Phys., 2019,21, 192-204 ; DOI 10.1039/C8CP05882B

[10] Farooq, W. A., Walid Tawfik, M. Atif, M. S. Alsalhi, H. Y. Zahran, AF Abd El-Rehim, I. S. Yahia, and Sarfraz Mansoor. "Evaluation of laser Induced Breakdown Spectroscopy for analysis of annealed Aluminum Germanium alloy at different

temperatures." IOP Conference Series: Materials Science and Engineering, vol. 383, no. 1, p. 012012. IOP Publishing, 2018.

[11] **Tawfik, Walid** "Reaching white-light radiation source of ultrafast laser pulses with tunable peak power using nonlinear self-phase modulation in neon gas." Radiation Physics and Chemistry 125 (2016): 165-170.

[12] **Tawfik, Walid** "Precise measurement of ultrafast laser pulses using spectral phase interferometry for direct electric-field reconstruction." Journal of Nonlinear Optical Physics & Materials 24.04 (2015): 1550040.

[13] **Tawfik, Walid** "High-power table-top white-light few-cycle laser generator." Ukr. J. Phys. Opt 16.3 (2015): 111.

[14] **Tawfik, Walid** "A method for controlling the bandwidth of high-energy, few-optical-cycle laser pulses tunable from the visible to the near-infrared." Ukr. J. Phys. Opt 16.4 (2015): 147.

[15] **Walid Tawfik**, "Creation of Transform-Limited 120 GW Optical Pulses using Broadband Supercontinuum Generation in Optical Fiber", Journal of Optoelectronics and Advanced Materials 18.3-4 (2016): 201 – 206.

[16] **Walid Tawfik**, "Optimizing the optical throughput of a neon-filled hollow-core fiber for ultra-broadband sub-5 fs pulses", Journal of Optoelectronics and Advanced Materials 18.3-4 (2016): 213 – 219.

[17] **Walid Tawfik**, "Tuning the pulse duration of high intensity ultrafast laser pulses," Indian Journal of Natural Sciences 5, 30, (2015).

[18] W. A. Farooq , **Walid Tawfik**, Saad Bin Qasimc, A. S. Aldwayyana , M. Atif, "Application of Laser Induced Breakdown Spectroscopy in early detection of red palm weevil: (Rhynchophorus ferrugineus) infestation in date palm" Plasma Sci. Technol. 2015, 17 (8): 850-863.

[19] Walid Tawfik, W.A. Farooq, F.N. Al-Mutairi and Z.A. Alahmed "Monitoring of Inorganic Elements in Desert Soil Using Laser-induced Breakdown Spectroscopy" Lasers in Engineering (Old City Publishing); 2015, Vol. 32 Issue 1/2, p129-140.

[20] **Walid Tawfik**, Leda g. Bousiakou, Rabia Qindeel, W.A.Farooq, Norah H. Alonizan, Amal J. Fatani "Trace analysis of heavy metals in groundwater samples using laser induced breakdown spectroscopy (LIBS)" optoelectronics and adv. materials – R. comm. , 9, 1-2, (2015), 185 - 192.

[21] Bousiakou L. G, Qindeel R, Almuzaini A. S, Alghamdi H. A, **Tawfik W**, Farooq W. A, Kalkani H., Manzou E. "Assessing the Effectiveness of Microelement Removal in the South Tertiary Wastewater Plant, Riyadh KSA" Curr World Environ 2015;10(3), 772-780. DOI dx.doi.org/10.12944/CWE.10.3.07

[22] W. A. Farooq , **Walid Tawfik**, Saad Bin Qasimc, A. S. Aldwayyana , M. Atif, Kaleem Ahmad , M. S. AI-Salhi,"Qualitative analysis of dental nano-composite restorative material using Laser Induced Breakdown Spectroscopy and EDS analysis", IEEE CONFERENCE PUBLICATIONS 12/**2014**; DOI: 10.1109/HONET.2014.7029391

[23] W A Farooq, M Atif, **W Tawfik**, M S Alsalhi1, Z A Alahmed, M Sarfraz, and J P Singh "Study of Bacterial Samples Using Laser Induced Breakdown Spectroscopy" Plasma Science and Technology, 16, 12, (2014).

[24] Kaleem Ahmad, **Walid Tawfik**, Wazirzada A. Farooq and Jagdish P. Singh "Analysis of alumina-based titanium carbide composites by laser-induced breakdown spectroscopy" Appl. Phys. A, 116,2, (2014) 1-8.

[25] **Walid Tawfik** and Sausan Sawaf " Approaching the ppb detection limits for copper in water using laser induced breakdown spectroscopy ", Proc. SPIE 9101, Next-Generation Spectroscopic Technologies VII, 91010L (May 21, 2014); doi:10.1117/12.2053957

[26] W. A. Farooq, Amanullah Fatehmulla, F. Yakuphanoglu, I. S. Yahia, Syed Mansoor Ali, M. Atif, M. Aslam, and **Walid Tawfik** ," Photovoltaic Characteristics of Solar Cells Based on Nanostructured Titanium Dioxide Sensitized with

Fluorescein Sodium Salt" Theoretical and Experimental Chemistry, 50, 2, (2014) 121-126.

[27] W. A. Farooq,**W. Tawfik**, Z. A. Alahmed, K. Ahmad, and J. P. Singh "Role of purging gases in the analysis of polycarbonate with laser-induced breakdown spectroscopy", Journal of Russian Laser Research, 35, 3, (2014) 252-262.

[28] Rabia Qindeel, **WALID TAWFIK**, "Measurement of plasma characteristics of the optically generated copper plasma by laser spectroscopy technique", optoelectronics and adv. materials – R. comm. , 8, 7, (2014), 741-746.

[29] S. SAWAF, **WALID TAWFIK**, "Analysis of heavy elements in water with high sensitivity using laser induced breakdown spectroscopy", optoelectronics and adv. materials – R. comm. , 8, 5-6, (2014), 414 – 417.

[30] **Walid Tawfik**, W Aslam Farooq, and Z. A. Alahmed, "Damage Profile of HDPE Polymer using Laser-Induced Plasma", J. Opt. Soc. Korea 18, 50-54 (2014).

[31] W. A. Farooq, S. M. Ali1, Walid Tawfik, Amanullah Fatehmullaa, M. Aslama, A. S. Al Dwayyan, and M. S. AlSalhi " Influence of Laser Irradiation on the Optical Properties of Nanosized Powder of Metal Oxide" Russian Journal of Physical Chemistry A, 88, 13, 2446–2450 (2014).

[32] W. A. Farooqa, K. G. Rasool, Walid Tawfik and A. S. Aldawood, A S Aldwayyan "Application of Laser Induced Breakdown Spectroscopy in early detection of red palm weevil: (Rhynchophorus ferrugineus) infestation in date palm" 8th International Conference on Laser Induced Breakdown Spectroscopy" proceeding of 8th International Conf. on LIBS, Beijing, China, from the Sept. 8th to 12th, (2014).

[33] Al-Inad, T.M. , **Tawfik, Walid** , Farooq, W.A. and Aldwayyan, A.S. "LIP characteristics of nanostructured ZnO thin films", IEEExploer, High Capacity Optical Networks and Enabling Technologies (HONET-CNS), 2013, 11-13 Dec. 2013, Magosa, Cyprus.

[34] W Aslam Farooq, **Walid Tawfik**, Fahad N. AL-Mutairi, and Zeyad A. Alahmed "Qualitative Analysis and Plasma Characteristics of Soil from a Desert Area using LIBS Technique" J. Opt. Soc. Korea 17, 548-558 (2013).

[35] W.A. Farooq, Walid Tawfik , A. Fatehmulla , S. M. Ali , M. Aslam "Laser irradiation effect on ZnO nanoparticles" IEEExplore, CAOL*2013 International Conference on Advanced Optoelectronics & Lasers, 09-13 September, (2013), Sudak, Ukraine.

[36] **Walid Tawfik**, W Aslam Farooq, Zeyad A. Alahmed, M Sarfraz and Fahrettin Yakuphanoglu "Characterization and Analysis of Nanostructured CdO Thin Film using LIBS Technique" IEEExplore, Electronics, Communications and Photonics Conference (SIECPC), 2013 Saudi International.

[37] Guanglong Chen , Xiaotao Geng , **Tawfik Walid Mohamed** , Hongxia Xu , Yiming Mi,Jaehoon Kim , Dong Eon Kim," Ar plasma waveguide produced by a low-intensity femtosecond laser" Optics Comm. 285 (2012) 2627–2631.

[38] **Walid Tawfik Mohamed**, Guanglong Chen, Jaehoon Kim, Geng Xiao Tao1, Jungkwen Ahn and Dong Eon Kim "Controlling the length of plasma waveguide up to 5 mm, produced by femtosecond laser pulses in atomic clustered gas", Optics Express **2011**, 19(17)15919-15928.

[39] **Walid Tawfik Y. Mohamed**, **2008**, " Improved LIBS limit of detection of Be, Mg, Si, Mn, Fe and Cu in aluminum alloy samples using a portable Echelle spectrometer with ICCD camera", Journal of Optics & Laser Technology, Vol. 40, pp.30-38.

[40] **Walid Tawfik Younes Mohamed**, **2007**, "Calibration Free LIBS Identification Of seawater Salinity", Optica Applicata Vol. 37, No. 1, 5-19.

[41] **Walid Tawfik Y. Mohamed**, **2007**, "Fast LIBS Identification of Aluminum Alloys", Progress in Physics, Vol. 2, pp. 87-92.

[42] **Walid Tawfik Y. Mohamed** and Abeer Askar, **2007**, "study of the matrix effect on the plasma characterization of heavy elements in soil sediments using LIBS

with a portable Echelle spectrometer", Progress in Physics, Vol. 1, pp. 47-53.

[43] **Walid Tawfik Y. Mohamed**, **2007**, " Study of the Matrix Effect on the Plasma Characterization of Six Elements in Aluminum Alloys using LIBS with a Portable Echelle Spectrometer", Progress in Physics, Vol. 2, pp. 42-49.

[44] **Walid Tawfik Younes Mohamed** and Ali Saafan, **2006**,"Quantitative analysis of mercury in silver dental amalgam alloy using laser induced breakdown spectroscopy with a portable Echelle spectrometer", International Journal of Pure and Applied Physics, Vol.2, No.3, pp. 195-203.

[45] **Walid Tawfik Y. Mohamed**, **2006**," Quantitative elemental analysis of seawater by laser induced breakdown spectroscopy", International Journal of Pure and Applied Physics, vol. 2, No.1, pp. 11-21.

[46] **Walid Tawfik**, Magdy M. Omar, Yoser E. Gamal and Lotfia El Nadi , **2005**, " Ultrafast moving bubbles of focused laser pulsed in water", American Institute of Physics AIP conference proceedings, vol. 748, pp. 280-288.

[47] Marwa A. Ismail, Hisham Imam, Asmaa Elhassan, **Walid T. Youniss** and Mohamed A. Harith, **2004**, "LIBS limit of detection and plasma parameters of some elements in twodifferent metallic matrices" J. Anal. At. Spectrom. , vol. 19, pp. 1–7.

[48] M. Sabsabi, V. Detalle, M. Harith, **W. Tawfik** and H. Imam, **2003**, "Comparative study of two new commercial echelle spectrometers equipped with intensified CCD for analysis of laser-induced breakdown spectroscopy" Applied Optics, Vol. 42, No. 30, pp.6094-6098.

[49] M. soliman, **W. Tawfik** and M. A. Harith, **2003**, "quantitative elemental analysis of agricultural drainage water using laser induced breakdown spectroscopy, First Cairo conference on plasma physics & applications," Cairo, Egypt, Forschungszentrum Juelich GmbH, Bilateral Seminars of the International Bureau, Vol. 34, pp. 240-243.

[50] **WALIED TAWFIK**, MAGDY M. OMARA, YOSR E. GAMAL and L. EL – NADI **, (1995)** ," Bulk and surface effects in liquids due to interaction of high power pulsed laser beams ", Proceeding of Femtochemistry: The Lausanna Conference Sept. 4 –8 Lausanne Switzerland, page 483-490. World scientific.

Participation in Scientific Meetings and Conferences

1. Awatif Althubyani, W. A. Farooq, Walid Tawfik, Rabia Qindeel "Identification of hazardous elements in the polymeric materials used as containers for water and food using laser induced breakdown spectroscopy" 2nd AMOP annual meeting conference March 31- April 1, 2015, Aljouf university, Saudi Arabia.
2. Mona Moteiry, Walid Tawfik , Rabia Qindeel, W. A. Farooq "Spectral analysis and plasma characteristics of commercial polymers using laser induced plasma" 2nd AMOP annual meeting conference March 31- April 1, 2015, Aljouf university, Saudi Arabia.
3. Sultan F. Alqhtani, W. A. Farooq, Walid Tawfik "Qualitative analysis of impurities in sensitized cadmium selenide quantum dots using laser induced breakdown spectroscopy" 2nd AMOP annual meeting conference March 31- April 1, 2015, Aljouf university, Saudi Arabia.
4. Walid Tawfik, W Aslam Farooq , Fahad Naif AL-Mutairi and Zeyad A. Alahmed "Monitoring of inorganic elements in desert soil remotely using laser induced breakdown spectroscopy" Invited speaker, The International Middle East Plasma Science (IMEPS) conference held in Antalya, Turkey April 23 – 25 (2014).
5. Walid Tawfik, "Toward Generation Of High Power Ultrafast White Light Laser Using Femtosecond Terawatt Laser In A Gas-Filled Hollow-Core Fiber", International Symposium on Molecular Spectroscopy, June 22-26 2015, Urbana-Champaign Chicago , USA.
6. ISMS (International Symposium on Molecular Spectroscopy) 70th meeting - June 22-26, 2015 – USA, Champaign-Urbana, Illinois.
7. SPIE conf. USA, , Baltimore Convention Center Baltimore, Maryland, United States 5-9 May 2014.
8. Invited speaker, The International Middle East Plasma Science (IMEPS) conference will be held in Antalya, Turkey April 23 – 25 (2014).
9. The Honet'13 High Capacity Optical Networks and Enabling Technologies, Magosa, Cyprus, December 11-13, 2013.

10. Electronics, communications and photonics conference. saudi international. 2013. (siecpc 2013), 27-30 april 2013, Riyadh, Saudi Arabia.
11. KAUST-UCSB-NSF Workshop on Solid-State Lighting, 2012, King Abdullah University of Science & Technology (KAUST), Thuwal, Saudi Arabia, Hall 1 and 2, Museum and Conference Center 13-14, February 2012.
12. The Honet'11 High Capacity Optical Networks and Enabling Technologies, Riyadh, Kingdom of Saudi Arabia, December 19-21, 2011.
13. The Atto3 conference Sapporo, Hokaido university, Japan 6-9 July 2011. Two posters "Toward high-order harmonic generation from ions by a femtosecond terawatt laser in plasma waveguide produced by clustered gas jet" and " Attosecond light facility constructed in CASTECH"
14. The 4th Asian Workshop on Generation and Applications of Coherent XUV and X-ray Radiation will be held on Jan. 20-21, 2011 at POSTECH, Pohang, Korea.
15. The GRDC Symposium 2010 "Green Science and Engineering for Health and Environment" Maria Hall at the Catholic University of Korea in Seoul, Korea 15-16 Nov. 2010.
16. First international Conference on Modern Trends in Physics Research MTPR-04, Cairo, Egypt 4-9 April 2004.
17. Second Euro-Mediterranean Symposium on Laser Induced Breakdown Spectroscopy, Hersonissos, Crete, Greece, September 30th – October 3rd, 2003.
18. The 4th Euro-Mediterranean Conference on Laser & photobiology applications in Medicine and Environment 13-16 Feb. 2001 hold at NILES, Cairo University, Egypt.
19. Training course on laser diagnostics of combustion processes organized by NILES, Cairo University in cooperation with ICS- UNIDO, Trieste , Italy, Cairo, Egypt, 18Nov.- 22 Nov. 2000.
20. Training course on industrial laser application organized by NILES, Cairo university in cooperation with ICS- UNIDO, Trieste, Italy, Cairo, Egypt, 27 May-8 June 2000.
21. Workshop on laser applications organized by NILES, Cairo University, Egypt, 4-8 Feb.2000.
22. Training Course on Laser Science and its applied Technologies organized by NILES Cairo University in cooperation with ICS-UNIDO, Trieste -Italy, Cairo 9-21 November 1998.
23. Winter college on Quantum optics: novel Radiation Sources - Trieste -Italy - 3-21 march 1997.
24. 4th workshop on Plasma and Laser Physics, Sonesta Hotel, Naser City, Cairo

Egypt.26-29 Feb. 1997," Self-Focusing and associated Phenomenon induced by high intensity Q-Switched Nd: YAG Laser Beam in Water",W. Tawfik, A. Abd El-Fattah, Yosr E.E. Gamal and L. El-Nadi.