

Curriculum Vitae
Ayman Ayoub Abdel-Shafi
Professor of Inorganic Photochemistry

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Cited in "Marquis Who's Who in the World" 2007

Name	Ayman Ayoub Abdel-Shafi		
Date of Birth	15/6/1966		
Nationality	Egyptian		
Marital Status	Married		
Occupation	Professor of Inorganic Chemistry, King Faisal University, Al-Hufuf, P.O. Box 400, 31982 Al-Hassa, Saudi Arabia & Faculty of Science, Ain Shams University, abbassia, Cairo, Egypt		
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Awards:

- **Catalonya award, 2003, Spain.**
- **State encouragement prize in chemistry, 2007, Egypt.**

Research Interests:

- Inorganic Photochemistry
- Singlet Oxygen.
- Photochemistry and Photophysics of coordination compounds.
- Inclusion complexes
- Kinetics and Reaction Mechanisms.
- Laser Flash Photolysis studies.
- Energy and Electron Transfer Processes.
- Photo-catalytic Degradation of Pollutants.
- Dosimetry.

Education:

- Ph.D.** "Excited State Interactions and Energy Transfer and Conversion in Fluorescent Systems" Ain Shams University, Egypt and Loughborough University, Loughborough, Leicestershire, England. (Joint Supervision of Prof. M.S.A. Abdel-Mottaleb, Egypt and Prof. F. Wilkinson, England), April 1991 - November 1995.
- M.Sc.** "Photochemical Reactions of Ion Pair. Quantum Yield Determination in Different Media", Ain Shams University, Cairo, Egypt. October 1989 - March 1991.
- B.Sc.** **Chemistry** Ain Shams University, Cairo, Egypt May 1987. "Excellent with first class honour degree"

Courses:

- **Laser Safety:** Loughborough University, Loughborough, Leicestershire, U.K., 1994.
- **University Teaching Skills:** Ain Shams University, Cairo, Egypt, 1993.
- **Economy and marketing of scientific research:** Ain Shams University, Cairo, Egypt, 2006.
- **Technology use in teaching:** Ain Shams University, Cairo, Egypt, 2006.
- **Teaching evaluation:** Ain Shams University, Cairo, Egypt, 2006.
- **Scientific research management:** Ain Shams University, Cairo, Egypt, 2006.
- **Quality assurance and accreditation:** Ain Shams University, Cairo, Egypt, 2006.
- **Preparation of research proposal:** Ain Shams University, Cairo, Egypt, 2006.

Job History

- **Professor** [Sept. 2007 - till now]

Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt** and Department of Chemistry, Faculty of Science, King Faisal University, Al-Hassa, 31982, **Saudi Arabia**

- **Associate Professor** [Mar. 2002- Sept. 2007]

Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**.

- **Research Associate** [Oct. 1999 – Oct. 2001]

Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.

- **Assistant Professor** [Dec. 1995- Feb. 2002]

Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**.

- **Assistant Lecturer** [Apr. 1991- Nov. 1995]

Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**.

- **Demonstrator** [Oct. 1987- Apr. 1991]

Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**.

Research Fellowships

- **Visiting Professor** [July 2005 - Aug. 2005]

Institut fuer Physikalische und Theoretische Chemie, J. W. Goethe-Universitaet, Marie-Curie-Str.11 D60439 Frankfurt am Main, **Germany**.

- **Visiting Professor** [Oct. 2003 - Dec. 2003]

Departament de Química, Facultat de Ciències, Universitat Autònoma de Barcelona, **Spain**.

- **Academic Visitor** [Aug. 2003- Oct. 2003]

Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.

- **Academic Visitor** [July. 2002- Sept. 2002]

Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.

- **Academic Visitor** [Jan. 1999- Sept. 1999]

Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.

- **Academic Visitor** [Sept. 1997 – Dec. 1997]

Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.

- **Visiting Researcher** [Mar. 1995]

Department of Chemistry, Tübingen University, Institut für Physikalische und Theoretische Chemie, **Germany**.

- **Visiting Researcher** [Jul. 1993 – Jul. 1995]

Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.

Membership of International Professional Organizations:

Name of organization/academic Institution	Membership period		Nature of membership
	From	To	
European Photochemical Association	1999	Now	Member
European Society for Photobiology	1997	Now	Member

International links

Scholars with whom I have collaborated in research and publications:

Prof. Dr. Frank Wilkinson, Loughborough University, **England**.

Prof. Dr. Reinhard Schmidt, J. W. Goethe-Universität, **Germany**.

Prof. Dr. Paul Beer, Oxford University, **England**.

Prof. Dr. Jose L. Bourdelande of Universitat Autònoma de Barcelona, **Spain**.

Prof. Dr. Michael D. Ward, Sheffield University, **England**.

Dr. Roger J. Mortimer, Loughborough University, **England**.

Dr. David R. Worrall, Loughborough University, **England**.

Dr. Andres Olea, Universidad de Chile, **Chile**.

Dr. Aleksei Erhov, St. Petersburg State University, **Russia**.

Dr. Anna Eremenko, National Academy of Sciences of Ukraine, Kyiv, **Ukraine**.

Conferences Organized:

- International workshop on “*Environmental Photochemistry*”, Cairo, Egypt, Dec. 17-22, 1997.
- Fourth International Conference on “*Solar Energy Storage and Applied Photochemistry*”, Cairo, Egypt, Jan. 1-6, 1997.
- Third International Conference on “*Solar Energy Storage and Applied Photochemistry*”, Cairo, Egypt, Jan. 8-14, 1995.
- Second International Conference on “*Solar Energy Storage and Applied Photochemistry*”, Cairo, Egypt, Jan. 6-11, 1993.
- International Symposium and Workshop on “*Molecular Mechanics of Electron Transfer, Basics of Solar Energy Storage*”, Cairo, Egypt, Jan. 3-6, 1991.

Workshops

Nature of Activity	Topic	Place	Date
co-organizer and Tutor	First International workshop on “Environmental Photochemistry”	Photoenergy Centre, Ain Shams university, Cairo, Egypt.	Dec. 17-22, 1997.
Lecturer	Training course: Applications of Photoenergy.	Photoenergy Centre, Ain Shams university, Cairo, Egypt.	Oct., 13-18, 2001
Principal Tutor	Training course: Fluorometric methods of analysis	Central laboratory, Faculty of Science, Ain Shams university, Cairo, Egypt.	May, 2002
Lecturer	Laser safety	King Faisal University, Al-Hassa, Saudi Arabia	13-17 March 2005
Lecturer	Lab. skills	King Faisal University, Al-Hassa, Saudi Arabia	16-18 May 2005
Lecturer	Electronic and off distance teaching	King Faisal University, Al-Hassa, Saudi Arabia	28 Feb. - 1 Mar 2006
Lecturer	Lasers, types and applications	King Faisal University, Al-Hassa, Saudi Arabia	21 April 4 May 2007
Lecturer	First self evaluation scales for quality assurance	College of Science, King Faisal University, Al-Hassa, Saudi Arabia	Mar 2008
Lecturer	Course Reports	College of Science, King Faisal University, Al-Hassa, Saudi Arabia	Feb. 2008
Lecturer	Course specifications	College of Science, King Faisal University, Al-Hassa, Saudi Arabia	Jun. 2008
Lecturer	New technologies in chemistry teaching	College of Science, King Faisal University, Al-Hassa, Saudi Arabia	Apr. 2008
Participation	Universities between International Ranking and Academic Accreditation	King Saud University, Riyadh	June 2008

List of Publications

A) Articles in Journals

- 1- Spectroscopic Studies on the inclusion complex formation between 7-iodo-8-hydroxyquinoline-5-sulfonic acid and β -Cyclodextrin, A. A. Abdel-Shafi and S. S. Al-Shihry, **Journal of inclusion phenomena and Macrocyclic chemistry**, 2010, **67(1)**, 7-11.
- 2- Fluorescence enhancement of 1-naphthol-5-sulfonate by forming inclusion complex with β -Cyclodextrin in aqueous solution, A. A. Abdel-Shafi and S. S. Al-Shihry, **Spectrochimica Acta Part A** 2009, **72**, 533-537, doi:10.1016/j.saa.2008.10.052.
- 3- Mechanism of quenching by oxygen of the excited states of ruthenium(II) complexes in aqueous media. Solvent isotope effect and photosensitized generation of singlet oxygen, $O_2(^1\Delta_g)$, by $[Ru(diimine)(CN)_4]^{2-}$ complex ions, A. A. Abdel-Shafi, M. D. Ward and R. Schmidt, **Dalton Transactions**, 2007, **24**, 2517 - 2527. doi: 10.1039/b704895e
- 4- Photosensitized generation of singlet oxygen from rhenium(I) and iridium(III) complexes, A. A. Abdel-Shafi, J. L. Bourdelande and S. S. Ali, **Dalton Transactions**, 2007, **24**, 2510-2516. doi: 10.1039/b705524b
- 5- Photosensitized production of singlet oxygen and factors governing its decay in xenon and carbon dioxide supercritical fluids. A. A. Abdel-Shafi and D. R. Worrall, **Journal of Photochemistry and Photobiology A: Chemistry**, 2007, **186**, 2-3, 263-269. doi:10.1016/j.jphotochem.2006.08.016
- 6- Spectroscopic studies on the inclusion complex of 2-naphthol-6-sulfonate with β -cyclodextrin. A.A. Abdel-Shafi, **Spectrochimica Acta Part A**, 2007, **66(3)**, 732-738. doi:10.1016/j.saa.2006.04.018
- 7- Inclusion complex of 2-naphthylamine-6-sulfonate with β -cyclodextrin: intramolecular charge transfer versus hydrogen bonding effects. A. A. Abdel-Shafi, **Spectrochimica Acta Part A** 2007, **66(3)**, 1228-1236. doi:10.1016/j.saa.2006.06.011
- 8- Factors affecting the efficiency of excited-states interactions of complexes between some visible light-emitting lanthanide ions and cyclophanes containing spirobiindanol phosphonates. M. S. Attia, M. M. H. Khalil, A. A. Abdel-Shafi, G. M. Attia, S. Failla, G. Consiglio, P. Finocchiaro, and M. S. A. Abdel-Mottaleb, **International Journal of Photoenergy**, 2007, Article ID 12530, 1-7. doi:10.1155/2007/12530.
- 9- Spectrophotometric determination of manganese by using redox reaction of tris(2,2'-bipyridine)osmium(II) with Mn^{7+} . A. A. Abdel-Shafi, **Analytical Sciences**, 2006, **22**, 825-828.
- 10- The temperature dependent electrical transport in biphenyl derivatives. M. M. Sallam , B.A. El-Sayed and A.A. Abdel-Shafi, **Current Applied Physics**, 2006, **6**, 71-75. doi:10.1016/j.cap.2004.12.006
- 11- Spectrofluorimetric determination of iron (III) in industrial effluents based on fluorescence quenching of 1-naphthol-2- sulfonate, A. A. Abdel-Shafi, Taha M. A. Razek and Karima F. Fadel, **J. Env. Sciences**, 2005, **10(3)** 851-865.
- 12- Flow injection fluorimetric determination of chromium(VI) in electroplating baths by luminescence quenching of tris(2,2'-bipyridyl) ruthenium(II)). S. S. M. Hassan, A. A. Abdel-Shafi, A. H. K. Mohammed, **Talanta**, 2005, **67**, 696-702. doi:10.1016/j.talanta.2005.03.019

- 13- Mechanism of the excited singlet and triplet states quenching by molecular oxygen in acetonitrile. A. A. Abdel-Shafi and D. R. Worrall, **Journal of Photochemistry and Photobiology; A: Chemistry**, **2005**, **172**(2), 170-179. doi:10.1016/j.jphotochem.2004.12.006
- 14- Photosensitized generation of singlet oxygen from ruthenium(II) and osmium(II) bipyridyl complexes. A. A. Abdel-Shafi, D. R. Worrall and A. A. Ershov, **Dalton Transactions**, **2004**, **1**, 30-36. DOI: 10.1039/ b310238f
- 15- Electronic to vibrational energy conversion and charge transfer contributions during quenching By molecular oxygen of electronically excited triplet states. A. A. Abdel-Shafi and F. Wilkinson. **Physical Chemistry Chemical Physics**, **2002**, **4**, 248-254. DOI: 10.1039/ b108272h
- 16- Solvents effects on the photophysical properties of 9,10-dicyanoanthracene. A.F. Olea, D. R. Worrall, F. Wilkinson, S. L. Williams and A. A. Abdel-Shafi. **Physical Chemistry Chemical Physics**, **2002**, **2**, 161. DOI: 10.1039/b104806f
- 17- Ruthenium, osmium and rhodium-2,3-bis(2'-pyridyl)quinoxaline complexes. A. A. Abdel-Shafi, M. M. H. Khalil, H. H. Abdallah and R. M. Ramadan. **Transition Metal Chemistry**, **2002**, **27**, 69-74.
- 18- Photosensitized generation of singlet oxygen from substituted bipyridine ruthenium(II) complexes. A. A. Abdel-Shafi, P. D. Beer, R. J. Mortimer, and F. Wilkinson. **Helvetica Chimica Acta**, **2001**, **84**, 2784.
- 19- Photosensitized production of singlet oxygen, ($O_2^*(a^1\Delta_g)$) in the unique 'heavy atom' solvent, supercritical fluid xenon. A. A. Abdel-Shafi, F. Wilkinson and D. R. Worrall. **Chemical Physics Letters**, **2001**, **343**, 273-280.
- 20- Singlet oxygen formation efficiencies following quenching of excited singlet and triplet states of aromatic hydrocarbons by molecular oxygen. A. A. Abdel-Shafi, D. R. Worrall and F. Wilkinson. **Journal of Photochemistry and Photobiology; A: Chemistry**, **2001**, **142**, 133-143.
- 21- Effect of β -cyclodextrin on the excited state proton transfer in 1-naphthol-2-sulfonate. A. A. Abdel-Shafi. **Spectrochimica Acta A**. **2001**, **57**, 1819-1828.
- 22- Charge transfer and non-charge transfer processes competing in the sensitization of singlet oxygen: Formation of $O_2(^1\Sigma_g^+)$, $O_2(^1\Delta_g)$ and $O_2(^3\Sigma_g^-)$ during oxygen quenching of triplet excited naphthalene derivatives. R. Schmidt, F. Shafii, C. Schweitzer, A. A. Abdel-Shafi and F. Wilkinson. **The Journal of Physical Chemistry A**, **2001**, **105**, 1811-1817.
- 23- Factors affecting the rate of decay of the first excited singlet state of molecular oxygen ($O_2^*(a^1\Delta_g)$) in supercritical fluid carbon dioxide. D. R. Worrall, A. A. Abdel-Shafi and F. Wilkinson. **The Journal of Physical Chemistry A**, **2001**, **105**, 1270-1276.
- 24- On the efficiency of the photosensitized production of singlet oxygen in water suspensions of a tris(bipyridyl)ruthenium(II) complex covalently bound to an insoluble hydrophilic polymer. J. L. Bourdelande, J. Font, G. Marques A. A. Abdel-Shafi, F. Wilkinson, and D. R. Worrall. **Journal of Photochemistry and Photobiology; A: Chemistry**, **2001**, **138**, 65-68.
- 25- Laser induced electron transfer processes in a pyrene- β -cyclodextrin complex in tetanosilicate systems. G. N. Starukh, N. P. Smirnova, A. M. Eremenko, A. A. Chuiko, A. A. Abdel-Shafi, D. R. Worrall, and F. Wilkinson. **Theoretical and Experimental Chemistry**, **2001**, **37**, 103.

- 26- Study of the nature of the surface of mixed titanosilicas by flash photolysis of adsorbed pyrenemethanol. O. A. Yakimenko, N. P. Smirnova, A. M. Eremenko, V. M. Ogenko, A. A. Abdel-Shafi, D. R. Worrall, and F. Wilkinson. ***Theoretical and Experimental Chemistry***, 2001, **37**,180.
- 27- Photosensitized generation of singlet oxygen from ruthenium(II)-substituted benzoazacrown-bipyridine complexes. A. A. Abdel-Shafi, P. D. Beer, R. J. Mortimer, and F. Wilkinson. ***Physical Chemistry Chemical Physics***, 2000, **2**, 3137-3144.
- 28- Charge transfer effects on the efficiency of singlet oxygen production following oxygen quenching of excited singlet and triplet states of aromatic hydrocarbons in acetonitrile. A. A. Abdel-Shafi and F. Wilkinson. ***The Journal of Physical Chemistry A***, 2000, **104**, 5747-5757.
- 29- Photosensitized generation of singlet oxygen from vinyl linked benzo-crown-ether-bipyridyl ruthenium(II) complexes. A. A. Abdel-Shafi, P. D. Beer, R. J. Mortimer, and F. Wilkinson. ***The Journal of Physical Chemistry A***, 2000, **104**, 192-202.
- 30- Mechanism of quenching of triplet states by molecular oxygen: Biphenyl derivatives in different solvents. F. Wilkinson and A. A. Abdel-Shafi. ***The Journal of Physical Chemistry A***, 1999, **103**, 5425-5435.
- 31- Photocatalytic degradation of some toxic analytical reagents with TiO₂. M. M. H. Khalil, A. A. Abdel-Shafi and M. S. A. Abdel-Mottaleb. ***International Journal of Photoenergy***, 1999, **1**, 85-88.
- 32- Photoelectrochemistry of n-silicon semiconductor in fluoride media. M. S. A. Abdel-Mottaleb, M. S. Antonious and A. A. Abdel-Shafi. ***Journal of Chemical Sciences***, 1998, **110**, 185-191.
- 33- Mechanism of quenching of triplet states by oxygen: Biphenyl derivatives in acetonitrile. F. Wilkinson and A. A. Abdel-Shafi. ***The Journal of Physical Chemistry A***, 1997, **101**, 5509-5516.
- 34- Energy transfer between laser dyes. F. S. M. Abd El-Hameed,; M. S. Antonious, and A. A. Abdel-Shafi. Proc. of the Third International Conference & Exhibition on Chemistry in Industry, Manama, Bahrain, 1996, 198-205.
- 35- Redox quenching of coumarin-6 fluorescence by iodine and two iron complexes. M. M. Abo Aly, M. S. Antonious, and A. A. Abdel-Shafi. ***Canadian Journal of Applied Spectroscopy***, 1993, **38**, 151.

B) Published Contributions to Academic Conferences:

- 36- Spectroscopic studies on the inclusion of naphthol derivatives in β -cyclodextrin, S. S Al-Shihry and A. A. Abdel-Shafi, Proceeding of the XXIst IUPAC Symposium on Photochemistry, Kyoto, Japan, 2006, P 583.
- 37- Photosensitized Generation of Singlet Oxygen from Ruthenium(II) and Osmium(II) bipyridine Complexes. A. A. Abdel-Shafi, D. R. Worrall, and A. Erhov. *Proceeding of the 7th International Conference on Solar Energy and applied Photochemistry*, Luxor, Feb., 2003, P3.
- 38- Singlet Oxygen (O₂*(a¹ Δ_g)) Photophysics in Supercritical Fluids. D. R. Worrall, A. A. Abdel-Shafi. *Proceeding of the XIX, IUPAC Symposium on Photochemistry Budapest, July 2002*, P501.
- 39- Competitive Energy and Charge Transfer Mechanisms in Oxygen Quenching of Excited Singlet and Triplet States. A. A. Abdel-Shafi, and F. Wilkinson. *Proceeding of the ICPXX, International Conference on Photochemistry Moscow, Russia, Aug 2001*, P46.

- 40- **Factors Affecting the Rate of Decay of the First Excited Singlet State of Molecular Oxygen ($O_2^*(a^1\Delta_g)$) in Supercritical Fluid CO_2 .** D. R. Worrall, A. A. Abdel-Shafi, and F. Wilkinson. *Proceeding of the ICPXX, International Conference on Photochemistry* Moscow, Russia, Aug 2001, P147.
- 41- **On the Factors which Determine the Efficiency of Oxygen Quenching of Electronically Excited States.** A. A. Abdel-Shafi, and F. Wilkinson. Wilkinson's Symposium, Loughborough University, June 2001.
- 42- **On the role of charge transfer interactions during oxygen quenching of excited singlet and triplet states.** A. A. Abdel-Shafi, and F. Wilkinson. *Proceeding of Pacifichem 2000 Meeting*, Orgn 573.
- 43- **Laser flash photolysis study of electron-transfer processes of adsorbed acenes on photocatalytic titania-silica surfaces.** D. R. Worrall, A. Eremenko, F. Wilkinson, N. Smirnova, and A. A. Abdel-Shafi. *Proceeding of Pacifichem 2000 Meeting, Phys.* 548.
- 44- **Photochemistry of pyrene in β -cyclodextrin-colloidal silica titania media.** N. Smirnova, A. Eremenko, G. Staruch, F. Wilkinson, D. R. Worrall and A. A. Abdel-Shafi. *Proceeding of the XVIII IUPAC Symposium on Photochemistry, Dresden, Germany, 2000, P* 554.
- 45- **Factors governing the photosensitised generation of singlet molecular oxygen ($^1\Delta_g$) in condensed media.** A. A. Abdel-Shafi, D. R. Worrall and F. Wilkinson. *Proceeding of the XVIII IUPAC Symposium on Photochemistry, Dresden, Germany, 2000, P* 637.
- 46- **Laser flash photolysis study of electron transfer processes of adsorbed acenes on titania-silica surfaces.** A. Eremenko, N. Smirnova, O. Linnik, F. Wilkinson, D. R. Worrall and A. A. Abdel-Shafi. *Proceeding of the XVIII IUPAC Symposium on Photochemistry Dresden, Germany, 2000, P* 235.
- 47- **Efficient singlet oxygen sensitisation and pet processes from a tris-(bipyridyl)-ruthenium(II) complex covalently bound to an insoluble hydrophilic polymer.** J. L. Bourdelande, J. Font, G. Marques, A. A. Abdel-Shafi, D. R. Worrall and F. Wilkinson. *Proceeding of the XVIII IUPAC Symposium on Photochemistry, Dresden, Germany, 2000, P*180.
- 48- **Photodegradation of Toxic Pigments.** A. A. Abdel-Shafi, M. M.H. Khalil and M. S. A. Abdel-Mottaleb. *Proceeding of the XVII IUPAC Symposium on Photochemistry, Barcelona, Spain, 1998 P* 336.
- 49- **Mechanism of Sensitized Singlet Oxygen Production in Solution.** A. A. Abdel-Shafi and F. Wilkinson. *The 2nd Euro-Mediterranean Conference on Application of Photobiology and Laser Technologies in Medicine and Environment.* Cairo, Egypt.1998. Oral Presentation.
- 50- **Photoelectrochemistry of n-Silicon Semiconductor in Fluoride Media.** M. S. A. Abdel-Mottaleb, M. S. Antonious, A. A. Abdel-Shafi. *Proceeding of the Fourth International Conference on Solar Energy Storage and Applied Photochemistry, Cairo, Egypt.*1997.
- 51- **Intra- and Intermolecular Energy and Electronic Transfer in Bichromophoric Molecules.** A. A. Abdel-Shafi, M. S. Antonious, M. S. A. Abdel-Mottaleb, C. R. de-Denus and A. S. Abd-El-Aziz. *Proceeding of the Fourth International Conference on Solar Energy Storage and Applied Photochemistry.* Cairo, Egypt. 1997.
- 52- **Charge Transfer Interactions and Efficiencies of Sensitized Singlet Oxygen Production From Substituted Biphenyls.** A. A. Abdel-Shafi and F. Wilkinson. *Proceeding of the Third International Conference on Solar Energy Storage and Applied Photochemistry.* Cairo, Egypt 1995.

- 53- Singlet - Singlet Energy Transfer Between Coumarin 4-Water Exciplex and Coumarin 314 in Aqueous and Micellar Media.** A. A. Abdel-Shafi and M. S. A. Abdel-Mottaleb. *Proceeding of the Third International Conference on Solar Energy Storage and Applied Photochemistry*. 1995 Cairo, Egypt.
- 54- Energy Transfer Between Coumarin Laser Dyes.** A. A. Abdel-Shafi and M. S. A. Abdel-Mottaleb. *Proceeding of the Second International Conference on Solar Energy Storage and Applied Photochemistry*. Cairo, Egypt. 1993.
- 55- Fluorescence Quenching of Coumarins by Inorganic Complexes.** A. A. Abdel-Shafi, M. M. AboAli, M. S. Antonious and M. S. A. Abdel-Mottaleb. *Proceeding of the First International Symposium and Workshop on Molecular Mechanics of Electron Transfer, Basics of Solar Energy Storage*. Cairo, Egypt. 1991

C) Other Publications (in Arabic):

- (56)** الليزر و علاج السرطان (ترجمة). أيمن أيوب عبدالشافى
الثقافة العالمية (المجلس الوطنى للثقافة للعلوم والفنون والأداب - الكويت)
1995، 69، 92.
- (57)** القدرات النووية لدول العالم الثالث (ترجمة). أيمن أيوب عبدالشافى
الثقافة العالمية (المجلس الوطنى للثقافة للعلوم والفنون والأداب - الكويت)
1993، 60، 161.
- (58)** الطرق الضوئية الحديثة لتنقية المياه (ترجمة). أيمن أيوب عبدالشافى
الثقافة العالمية (المجلس الوطنى للثقافة للعلوم والفنون والأداب - الكويت)
1992، 55، 105.

Important Funded Research Projects

Small Projects (20,000-30,000 \$)

- 1- **Design and application of a system to study the thermal effects on the electrical and optical conductivity for some inorganic compounds.**
Deanship of Scientific Research, King Faisal University, May 2006.
- 2- **Photoconductivity of solar energy and storage dye sensitized semiconductors.**
Deanship of Scientific Research, King Faisal University, May 2006.
- 3- **Spectroscopic studies on the inclusion of photochromic compounds in cyclodextrins and the subsequent effect on the photochromic properties.**
Deanship of Scientific Research, King Faisal University, May 2006
- 4- **Effect of internal and external heavy atoms on Room Temperature Phosphorescence**
Deanship of Scientific Research, King Faisal University, April 2008 (DSR 90071)
- 5- **Luminescence quenching of Osmium trisbipyridyl chloride by manganese(VII) and its analytical implications,**
Deanship of Scientific Research, King Faisal University, April 2008 (DSR 90070)
- 6- **Development of water disinfection methods by excited oxygen and solar energy. Nanosecond laser flash photolysis and time resolved infra red luminescence study**
Deanship of Scientific Research, King Faisal University, April 2008 (DSR 110053, 187,000SR)

Large Scale Projects

- 1- **Laser Flash Photolysis Study on the Factors that affect the Production of Singlet Oxygen Following Oxygen Quenching of the Excited Singlet States and its environmental impacts.** *King Abdulaziz City for Science and Technology, Dec 2007 (\$ 375,000, Principle Investigator)*
- 2- **Development of water disinfection and pollutants degradation using singlet oxygen photosensitized by luminescent d⁶ metal complexes covalently bounded to a polymer** Saudi Arabia STI plan, Sept. 2010 (\$ 424,000, *Principle Investigator*)
- 3- **Nanowires Based Dye Sensitized Solar Cells** Ministry of Higher Education, KSA (\$ 677,000, *Co-Investigator*)

Supervision of Theses and Dissertations

Title of theses or dissertation	Degree	University	Date awarded
Spectroscopic Methods for Monitoring Some Heavy Metals in Industrial Effluents	M.Sc.	Ain Shams	2007
Photosensitization of Lanthanides Luminescence by Energy Transfer and Environmental Effects on their Excited States	Ph.D.	Ain Shams	2007
Modeling Chemistry Problems and Computer Courseware Design.	Ph.D.	Ain Shams	1997
Study on the Reactions of the Carbonyl Complexes of Group VI and VIII with some Azaarene Derivatives	Ph. D.	„	2002
Coordination Chemistry of some Polyazine derivatives	M. Sc.	„	2000
Reactions of some Essential Amino Acids with Metal Carbonyls of Group VI	M. Sc.	„	2001
Coordination Chemistry of Transition Metal Complexes of Group VI	M. Sc.	„	2000
Synthesis and Characterization of some New Molecular Designed Azine Complexes	M. Sc.	„	2001