

**Curriculum Vitae**  
**Dr. Mihalis Fakis**  
**November 2019**

**Personal**

Name: Mihalis Fakis

Date of Birth: 22 January 1976

Place of Birth: Athens, Greece

Married with two children

Home Address: Amfidamou 16, 26332, Patras, Greece

Work Address: Department of Physics, University of Patras, 26504, Patras, Greece

Tel: 0030 2610996794, 2610997488

Fax: 0030 2610997470

Email: fakis@upatras.gr

**Education**

- B.Sc. in Physics, Dept. of Physics, Univ. of Patras, Greece (1997)
- M.Sc. in Physics with emphasis in Lasers, Dept. of Physics, Univ. of Patras, Greece (1999)
- Ph.D. Dept. of Physics, Univ. of Patras, Greece (2004)  
Thesis Title: "Study of laser action and excited state dynamics of novel conjugated polymers" (scholarship from the State Scholarships Foundation, I.K.Y.)

**Foreign Languages**

- English
- French

**Employment (research and teaching posts)**

- Assistant Professor in Department of Physics, University of Patras, Greece (since December 2014)
- Lecturer in Department of Physics, University of Patras, Greece (January 2011-December 2014)
- 2005-2010: Post-doc researcher, Laser Laboratory, Dept of Physics University of Patras, Greece
- 2006-2010: Teaching Staff, Technical Institute of Patras (courses: General Physics, Optical Physics)
- July 2006-September 2006: Member of Technical Staff, Raycap Company, Maroussi Greece
- 2000-2004: PhD student
- 1997-1999: MSc student

**Scientific visits**

- June 2013  
Department of Physics Chemistry, University of Geneva, Switzerland, Group of Eric Vauthey (One month work in ultrafast spectroscopy).
- 10-12 September 2013  
Picoquant Company, Berlin, Germany (training in Time Correlated Single Photon Counting Systems).
- June 2016

Department of Physics Chemistry, University of Geneva, Switzerland, Group of Eric Vauthey (One month work in ultrafast spectroscopy).

- 24/11/2019-30/11/2019  
Department of Physics, University of Konstanz, Germany, Group of Lucas Schmidt Mende (ultrafast spectroscopy in perovskites).

### **Funding-Scholarships**

- Scholarship from the Greek State Scholarships Foundation for M.Sc. and Ph.D. studies (1998-2002)
- Scholarship from the Greek State Scholarships Foundation for post-doctoral research (2005-2006)
- Project “Pythagoras I”. Project title: “Study of excited state dynamics of photonic polymers through time resolved femtosecond spectroscopy” Greek Ministry of Education (2004-2005)
- Project “Heraklitos”. Project title: “Photophysics of nonlinear optical organic materials and applications” Greek Ministry of Education (2002-2004)
- Project “Regional Operational Program of Western Greece”. Project title: “Study of interrogation systems of optical fiber sensors with Bragg Gratings for monitoring of civil structures” GSRT (2006-2008)
- International short visits program, Swiss National Science Foundation. (June 2013)
- Project "ARISTEIA II". Project Title: "Graphene physics in the time domain and application to 3d optical memories" GSRT (2014-2015)
- Project "ARISTEIA II". Project Title: " Implementing Advanced Interfacial Engineering Strategies for Highly Efficient Hybrid Solar Cells" GSRT (2014-2015)
- Project "KARATHEODORIS 2013". Project Title: "Ultrafast spectroscopy as a tool for investigating charge transfer rates in dye sensitized and organic solar cells" University of Patras (2014-2017)

### **Research Interests**

- Ultrafast Lasers, Time Resolved Spectroscopy, Optical properties and ultrafast phenomena: (charge transfer dynamics, energy transfer dynamics, solvation dynamics, vibronic relaxation, rotations etc.)
- Multiphoton Absorption, Nonlinear Optics:  
(Two-photon excited fluorescence, Two-photon microfabrication and data storage, z-scan)
- Development of polymer and dye lasers based on optical pumping
- Optoelectronics  
(Fiber lasers, Fiber Bragg Gratings, Optical Fiber Sensors)

### **Teaching in the Dept. of Physics**

#### **Undergraduate Program**

- Thermodynamics – Waves – Optics, 2014-today, second semester
- Laboratory Physics II, 2011- 2018, second semester
- Laboratory Physics III, 2012- today, third semester
- Principles of Lasers, 2012-2015, seventh semester
- Laboratory exercises in Lasers, 2012-today, seventh semester
- Applied Optics, 2016- today, seventh semester

- Applications of Lasers, 2013-today, eight semester
- Laboratory Physics for Biologists, 2012-2014, first semester

### **Post-graduate Program**

- Characterization of materials, Laboratory, 2014-today, 1st or 3rd semester.
- Special Topics in Optics, 2017-today, 1st or 3rd semester.

### **Supervision**

- Supervisor in seventeen undergraduate theses
- Supervisor in seven M.Sc. theses
- Co-supervisor in twelve M.Sc. theses
- Supervisor in three Ph.D. theses and member in the advisory committees for seven Ph.D. theses

### **Administrative work**

- Member of the surveillance committee of the program "Practical training" of the Department of Physics (2011-2018).
- President of the surveillance committee of the program "Practical training" of the Department of Physics (2018-today)
- Member of the internal evaluation committee of the Department of Physics (2012-today).
- Member of the interdepartmental committee of the postgraduate course "Medical Physics" (2011-2016).
- Member of the Undergraduate Program committee (2016-today)
- Financial manager for the Division of Electronics and Computers (2016).

### **Awards - Reviewer**

- Recipient of Scholarship from the Greek State Scholarships Foundation for M.Sc. and Ph.D. studies.
- Recipient of Scholarship from the Greek State Scholarships Foundation for post-doctoral Research.
- Reviewer in the following scientific journals: Synthetic Metals (1), Spectroscopy Letters (1), Dyes and Pigments (9), Journal of Physical Chemistry A, B, C (11), The open spectroscopy Journal (1), Journal of Luminescence (3), Materials Science and Engineering B (2), Thin Solid Films (1), Journal of Nanophotonics (1), Journal of Photochemistry and Photobiology A:Chemistry (3), Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy (1), Physical Chemistry Chemical Physics (9), Inorganic Chemistry (1), Applied Physics B (1), Journal of Molecular Structure (1), Chemical Physics Letters (1), Journal of Spectroscopy (1), Journal of Optoelectronics and Advanced Materials (1), Langmuir (1), BioMed Research International (1), Journal of Physical Chemistry Letters (3), Heliyon (2), RSC Advances (1), Molecules (2), Polymer (1), Chemistry Select (1), Optics Express (1), Applied Sciences (1), ACS Applied Energy Materials (1), Optics and Laser Technology (1), Sensors and Actuators A (1), J. Mater. Chem. A (1).
- External reviewer for the Portuguese Foundation for Science and Technology (FCT) of two research programs (2012).
- External reviewer for the Technical Educational Institute (T.E.I.) of Athens.

### **Invited Talks**

- Invited talk in the Institute of Chemical Engineering Sciences, Foundation of Research & Technology, Hellas, July 2011 (Lecture title: "Spectroscopy and applications using femtosecond laser pulses")

### **Collaborations**

Previous Collaborations:

- Dept. of Chemistry, University of Patras (J. Mikroyiannidis, Prof.)
- National Hellenic Research Foundation (G. Mousdis, Senior Researcher)
- Dept. of Chemistry, University of Patras (T. Christopoulos, Professor)

Current collaborations:

- Department of Physical Chemistry, University of Geneva, Switzerland (E. Vauthey, Professor).
- Institut für Chemie, Technische Universität Berlin, Berlin, Germany / Faculty of Natural Sciences, Comenius University Bratislava, Slovakia (Dr. Peter Hrobarik)
- Institute of Chemistry, Academia Sinica, Taipei, Taiwan (Jiann T'suen Lin, Professor)
- Institute of Organic Chemistry and Technology, Faculty of Chemical Technology, University of Pardubice, Czech Republic (Assoc. Prof. Filip Bures)
- Izmir Katip Celebi University, Department of Material Science and Engineering, Izmir, Turkey (Dr. S. Demic)
- Institut des Sciences Chimiques de Rennes UMR 6226 CNRS - Université Rennes, France (Sylvain Achelle, Associate professor).
- Dept. of Mater. Science, University of Patras (K. Papagelis, Ass. Professor)
- Dept. of Electrical Engineering, Technical Institute of Patras (E. Stathatos, Professor)
- NCSR Demokritos (A. Nassiopoulou, Director of Research)
- NCSR Demokritos, Athens Greece (Dr. G. Pistolis)
- NCSR Demokritos, Athens Greece (Dr. M. Vasilopoulou)

### **Writing Work**

Member of the Team for Scientific Translation in Greek of the 10th edition of the book "PHYSICS" by D. Halliday, R. Resnick, J. Walker, Editions: Gutenberg. The translated 10th edition is expected to be ready for the academic year 2020-2021.

### **Cooperation with scientific magazines**

Editorial Board Member of MDPI's Optics Magazine (Open Access), Basel, Switzerland (<https://www.mdpi.com/journal/optics>)

### **Publications**

**Summary:**

Journals: 72

Chapters in Books: 2

International Conferences: 34

National Conferences: 20

Citations (excluding self citations): ~ 1200

h-index: 20

**A. Journals**

- A1.** "Novel class of pyrylium dyes with efficiency in lasing and two photon absorption fluorescence" M. Fakīs, J. Polyzos, G. Tsigaridas, J. Parthenios, A. Fragos, V. Giannetas, P. Persephonis and J. Mikroyannidis, *Chemical Physics Letters*, 323 (2000), 111-116
- A2.** "Examination of spatial distribution of dyes and polymers in thin films through two photon microscopy" I Polyzos, G. Tsigaridas, M. Fakīs, J. Parthenios, A. Fragos, V. Giannetas, P. Persephonis and J. Mikroyannidis, *Chemical Monthly*, 132 (2001), 169-175, Also in the book "Molecular Materials and Functional Polymers", Springer-Verlag, Wien, (2001) p. 169
- A3.** "Intensity dependent nonlinear absorption of pyrylium chromophores", M. Fakīs, G. Tsigaridas, I. Polyzos, V. Giannetas, P. Persephonis, I. Spiliopoulos and J. Mikroyannidis, *Chemical Physics Letters*, 342 (2001), 155-161
- A4.** "Laser action of two novel conjugated polymers in liquid and solid matrix. The effect of aggregates in the spontaneous and stimulated emission", M. Fakīs, I. Polyzos, G. Tsigaridas, V. Giannetas, P. Persephonis, I. Spiliopoulos and J. Mikroyannidis, *Physical Review B*, 65 (2002), 195-203
- A5.** "Two-photon absorption properties of novel organic materials for three - dimensional optical memories", I. Polyzos, G. Tsigaridas, M. Fakīs, V. Giannetas, P. Persephonis and J. Mikroyannidis, *Chemical Physics Letters*, 369 (2003), 264-268
- A6.** "Z-scan technique through beam radius measurements", G. Tsigaridas, M. Fakīs, I. Polyzos, V. Giannetas and P. Persephonis, *Applied Physics B: Laser and Optics* 76 (2003), 83-86
- A7.** "Z-scan analysis for near-Gaussian beams through Hermite Gaussian decomposition", G. Tsigaridas, M. Fakīs, I. Polyzos, P. Persephonis and V. Giannetas, *Journal of the Optical Society of America B*, 20 (2003), 670-676
- A8.** "Conjugated polymer in isolated and aggregated chain environments studied by amplified spontaneous emission", M. Fakīs, G. Tsigaridas, I. Polyzos, V. Giannetas and P. Persephonis, *Physical Review B*, 68 (2003), 035203
- A9.** "Z-scan technique for elliptic Gaussian beams", G. Tsigaridas, M. Fakīs, I. Polyzos, P. Persephonis and V. Giannetas, *Applied Physics B: Lasers and Optics*, 77 (2003), 71-75
- A10.** "Z-scan analysis for high-order nonlinearities through Gaussian decomposition", G. Tsigaridas, M. Fakīs, I. Polyzos, P. Persephonis and V. Giannetas, *Optics Communications*, 225 (2003), 253-268
- A11.** "Dual Amplified Spontaneous Emission and laser action from a model oligo(phenylene vinylene). Comparison with the corresponding polymer", M. Fakīs, I. Polyzos, G. Tsigaridas, V. Giannetas, P. Persephonis, I. Spiliopoulos and J. Mikroyannidis, *Optical Materials*, 27 (2004), 503-507
- A12.** "Luminescent poly(phenylene vinylene) derivatives with m-terphenyl or 2,6-diphenylpyridine kinked segments along the main chain: Synthesis, characterization and stimulated emission", P. Karastatiris, J. Mikroyannidis, I. Spiliopoulos, M. Fakīs and P. Persephonis, *Journal of Polymer Science Part A: Polymer Chemistry* 42 (2004), 2214-2224
- A13.** "Excited State dynamics of a partially conjugated polymer studied by femtosecond time resolved upconversion spectroscopy", M. Fakīs, I. Polyzos, G. Tsigaridas, V. Giannetas and P. Persephonis, *Chemical Physics Letters* 394 (2004), 372-376

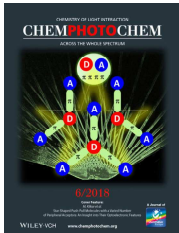
- A14.** "Evolution of near-soliton initial profiles in nonlinear wave equations through their Backlund transforms", G. Tsigaridas, A. Fragos, I. Polyzos, M. Fakīs, A. Ioannou, V. Giannetas, and P. Persephonis, *Chaos, Solitons and Fractals* 23, (2005), 1841-1854
- A15.** "Study of the isotropic and anisotropic fluorescence of two oligothiophenes by femtosecond time-resolved spectroscopy", D. Anestopoulos, M. Fakīs, G. Tsigaridas, I. Polyzos, P. Persephonis and V. Giannetas, *Journal of Physical Chemistry B* 109, (2005), 9476-9481
- A16.** "Three Photon Induced Photobleaching in a 3-D Memory Material", I. Polyzos, G. Tsigaridas, M. Fakīs, V. Giannetas and P. Persephonis, *Optics Letters* 30, (2005), 2654-2656  
It has been selected for the November 2005 issue of "Virtual Journal of Ultrafast Science". The Virtual Journal, which is published by the American Physical Society and the American Institute of Physics in cooperation with numerous other societies and publishers, is an edited compilation of links to articles from participating publishers, covering a focused area of frontier research. Access the Virtual Journal at <http://www.vjultrafast.org>.
- A17.** "Substituent effect on the Photobleaching of Pyrylium salts under ultra-short pulsed illumination", I. Polyzos, G. Tsigaridas, M. Fakīs, V. Giannetas, P. Persephonis and J. Mikroyannidis, *Journal of Physical Chemistry B* 110, (2006), 2593-2597
- A18.** "Excitation Energy transfer in a water-soluble conjugated *co*-polymer studied through time resolved anisotropy and fluorescence dynamics", D. Anestopoulos, M. Fakīs, V. Giannetas, P. Persephonis and J. Mikroyannidis, *Chemical Physics Letters* 421, (2006), 205–209
- A19.** "Femtosecond time resolved fluorescence dynamics of a cationic water-soluble poly(flourenevinylene-*co*-phenylenevinylene)", M. Fakīs, D. Anestopoulos, V. Giannetas, P. Persephonis and J. Mikroyannidis, *Journal of Physical Chemistry B* 110, (2006) 12926-12931
- A20.** "Influence of aggregates and solvent aromaticity on the emission of conjugated polymers", M. Fakīs, D. Anestopoulos, V. Giannetas, P. Persephonis, *Journal of Physical Chemistry B* 110, (2006), 24897-24902
- A21.** "Fluorescence and anisotropy dynamics of a –CHO substituted terhiophene", D. Anestopoulos, M. Fakīs, G. Mousdis, V. Giannetas, P. Persephonis, *Synthetic Metals* 157, (2007), 30–34
- A22.** "A two-photon absorption study of fluorene and carbazole derivatives. The role of the central core and the solvent polarity" I. Fitis, M. Fakīs, I. Polyzos, V. Giannetas, P. Persephonis, P. Vellis and J. Mikroyannidis, *Chemical Physics Letters* 447, (2007), 300-304
- A23.** "Strong two-photon absorption and photophysical properties of symmetrical chromophores with electron accepting edge substituents" I. Fitis, M. Fakīs, I. Polyzos, V. Giannetas, P. Persephonis, J. Mikroyannidis, *Journal of Physical Chemistry A* 112, (2008), 4742-4748
- A24.** "Photophysics and two-photon absorption of a series of quadrupolar and tribranched molecules. The role of the edge substituent", M. Fakīs, I. Fitis, S. Stefanatos, P. Vellis, J. Mikroyannidis, V. Giannetas, P. Persephonis *Dyes and Pigments* 81 (2009)63-68
- A25.** "Photoluminescence in the blue spectral region from fluorene molecules embedded in porous anodic alumina thin films on silicon", M. Fakīs, V.

- Gianneta, P. Persephonis, V. Giannetas, A.G. Nassiopoulou *Optical Materials* 31 (2009) 1184-1188
- A26.** "Photophysical and electrochemical characterization of new polyarylenevinylene co-polymers containing quinoline or bis-quinoline segments" J. Mikroyannidis, M. Fakís, I. Spiliopoulos, *Journal of Polymer Science Part A: Polymer Chemistry* 47 (2009) 3370-3379
- A27.** "Photoluminescence properties of fluorenes-porous silicon composites", M. Fakís, P. Persephonis, V. Giannetas F. Zacharatos, V. Gianneta and A. G. Nassiopoulou, *Materials Science and Engineering B* 165 (2009) 252
- A28.** "Carbon Nanotube-Fluorenevinylene Hybrids: Synthesis and Photophysical Properties" D. Tasis, M. Fakís, J. Mikroyannidis, K. Papagelis, *Chemical Physics Letters* 483 (2009) 241
- A29.** "Ultrafast fluorescence dynamics of Sybr Green I/DNA complexes" I. A. Trantakis, M. Fakís, S. S. Tragoulias, T. K. Christopoulos, P. Persephonis, V. Giannetas, P. Ioannou, *Chemical Physics Letters*, 485 (2010) 187-190
- A30.** "Ultrafast solvation and anisotropy dynamics in a new tribranched molecule based on triphenylamine core" M. Fakís, V. Giannetas, and J. Mikroyannidis, *Dyes and Pigments* 87 (2010) 44
- A31.** "Benzothiazole-Based Fluorophores of Donor-pi-Acceptor-pi-Donor Type Displaying High Two-Photon Absorption" V. Hrobáriková, P. Hrobárik, P. Gajdoš, I. Fítilis, M. Fakís, P. Persephonis and P. Zahradník, *Journal of Organic Chemistry* 75 (2010) 3053
- A32.** "Two-photon polymerization of a diacrylate using fluorene photoinitiators-sensitizers" I. Fítilis, M. Fakís, J. Polyzos, V. Giannetas, P. Persephonis *J. Photochem. Photobiol. A: Chem.* 215 (2010) 25–30
- A33.** "Femtosecond decay and electron transfer dynamics of the organic sensitizer D149 and photovoltaic performance in quasi-solid state Dye-Sensitized Solar Cells" M. Fakís, E. Stathatos, G. Tsigaridas, V. Giannetas, P. Persephonis *J. Phys. Chem. C* 115 (2011) 13429-13437
- A34.** "Benzothiazoles with Tunable Electron-Withdrawing Strength and Reverse Polarity: A Route to Triphenylamine-Based Chromophores with Enhanced Two-Photon Absorption" P. Hrobárik, V. Hrobáriková, I. Sigmundová, P. Zahradník, M. Fakís, I. Polyzos, P. Persephonis, *Journal of Organic Chemistry*, 76 (2011) 8726–8736
- A35.** "Interfacial electron transfer dynamics and photovoltaic performance of TiO<sub>2</sub> and ZnO solar cells sensitized with Coumarin 343" M. Giannouli, M. Fakís, *J. Photochem. and Photobiol. A: Chem.* (2011), 226 (2011) 42-50
- A36.** "A time resolved fluorescence and quantum chemical study of the solar cell sensitizer D149" Mihalís Fakís, Peter Hrobárik, Elias Stathatos, Vassilis Giannetas, Peter Persephonis *Dyes and Pigments* 96, (2013) 304-312
- A37.** "Electron injection in TiO<sub>2</sub> films and quasi-solid state solar cells sensitized with a dipolar fluorene organic dye" M. Fakís, M. Dori, E. Stathatos, Hsien-Hsin Chou, Yung-Sheng Yen, Jiann T'suen Lin, V. Giannetas, P. Persephonis *J. Photochem. Photobiol. A: Chem.* 251 (2013) 18-24
- A38.** "Electron injection studies on TiO<sub>2</sub> nanocrystalline films sensitized with fluorene dyes and photovoltaic characterization. The effect of co-adsorption of a bile acid derivative." M. Dori, K. Seintis, E. Stathatos, G. Tsigaridas, T.-Y. Lin, J. T. Lin, M. Fakís, V. Giannetas, P. Persephonis *Chemical Physics Letters* 563 (2013) 63–69

- A39.** "Solution processed hydrogen molybdenum bronzes as highly conductive anode interlayers in efficient organic photovoltaics" A. Soultati, A. M. Douvas, D. G. Georgiadou, L. C. Palilis, J. M. Feckl, S. Gardelis, M. Fakís, S. Kennou, P. Falaras, T. Stergiopoulos, N. A. Stathopoulos, D. Davazoglou, P. Argitis and M. Vasilopoulou *Advanced Energy Materials* 4 (2014) 1300896
- A40.** "Porphyrin oriented self-assembled nanostructures for efficient exciton dissociation in highly performing organic photovoltaics" M. Vasilopoulou, D. G. Georgiadou, A. M. Douvas, A. Soultati, V. Constantoudis, D. Davazoglou, S. Gardelis, L. C. Palilis, M. Fakís, S. Kennou, T. Lazarides, A. G. Coutsolelos and P. Argitis *J. Mater. Chem. A* 2 (2014) 182–192
- A41.** "Synthesis of two tri-arylamine derivatives as sensitizers in dye-sensitized solar cells: Electron injection studies and photovoltaic characterization" M. Can, Z. Yigit, D. Karageorgopoulos, K. Seintis., V. Giannetas, S. Demic, M. Fakís and E. Stathatos *Synthetic Metals* 188 (2014) 77– 85
- A42.** "Highly efficient and unidirectional energy transfer within a tightly self-assembled host-guest multichromophoric array" N. Karakostas, I. M. Mavridis, K. Seintis, M. Fakís, E. N. Koini, I. D. Petsalakis and G. Pistolis *Chem. Commun.* 50 (2014) 1362-1365
- A43.** "Theoretical and experimental study of refractive index sensors based on etched fiber Bragg gratings" G. Tsigaridas, D. Polyzos, A. Ioannou, M. Fakís and P. Persephonis *Sensors and Actuators A. Physical.* 209 (2014) 9-15
- A44.** "Atomic Layer Deposited Aluminum and Zirconium Oxides for Surface Passivation of TiO<sub>2</sub> in High-Efficiency Organic Photovoltaics" M. Vasilopoulou, D. G. Georgiadou, A. Soultati, N. Boukos, S. Gardelis, L. C. Palilis, M. Fakís, G. Skoulatakis, S. Kennou, M. Botzakaki, S. Georga, C. A. Krontiras, F. Auras, D. Fattakhova-Rohlfing, T. Bein, T. A. Papadopoulos, D. Davazoglou, P. Argitis *Advanced Energy Materials* (2014)1400214
- A45.** "Excited state and injection dynamics of tri-phenylamine sensitizers with benzothiazole electron accepting group. A transient absorption and time resolved fluorescence study" M. Fakís, P. Hrobarik, O. Yushchenko, I. Sigmulova, M. Koch, A. Rosspeintner, E. Stathatos and E. Vauthey *Journal of Physical Chemistry C.* 118 (2014) 28509–28519
- A46.** "Benzobisthiazoles as Building Blocks for Quadrupolar Fluorophores with Large Two-Photon Absorption Cross-Sections" P. Hrobarik, P. Kasak, V. Semak, V. Hrobarikova, E. Rakovsky, I. Polyzos, M. Fakís and P. Persephonis *Organic Letters* 16 (2014) 6358–6361.
- A47.** "Steady state and time resolved photoluminescence properties of CuInS<sub>2</sub>/ZnS quantum dots in solutions and in solid films" N. Droseros, K. Seintis, M. Fakís, S. Gardelis and A. Nassiopoulou *Journal of Luminescence* 167 (2015) 333-338
- A48.** "Energy Transfer within Self-Assembled Cyclic Multichromophoric Arrays Based on Orthogonally Arranged Donor - Acceptor Building Blocks" Nikolaos Karakostas, Elisabeth Martinou, Antonia Kaloudi Chantzea, Kostas Seintis, Herbert Oberacher, Florian Pitterl Florian, Mihalís Fakís, J. K. Kallitsis and George Pistolis *accepted for publication in Faraday Discussions* 2015
- A49.** "Modulation of (non)linear optical properties in tripodal molecules by variation of the peripheral cyano acceptor moieties and the  $\pi$ -spacer" D. Cvejn, E. Michail, I. Polyzos, N. Almonasy, O. Pytela, M. Klikar, T. Mikysek, V. Giannetas, M. Fakís and F. Bureš *J. Mater. Chem. C* 3 (2015) 7345-7355
- A50.** "The effect of additional electron donating group on the photophysics and photovoltaic performance of two new metal free D- $\pi$ -A sensitizers" An.



- Margalias, K. Seintis, M.Z. Yigit, M. Can, D. Sygkridou, V. Giannetas, M. Fakis, E. Stathatos *Dyes and Pigments* 167 (2015) 333-338
- A51.** "Surface Modification of ZnO Layers via Hydrogen Plasma Treatment for Efficient Inverted Polymer Solar Cells" V. Papamakarios, E. Polydorou, A. Soultati, N. Droseros, D. Tsikritzis, A. Douvas, L. Palilis, M. Fakis, S. Kennou, P. Argitis and M. Vasilopoulou *ACS Applied Materials and Interfaces* 8 (2016) 1194–1205
- A52.** "Water-Soluble Lacunary Polyoxometalates with Excellent Electron Mobilities and Hole Blocking Capabilities for High Efficiency Fluorescence and Phosphorescent Organic Light Emitting Diodes" M. Tountas, Y. Topal, M. Kus, M. Ersöz, M. Fakis and M. Vasilopoulou *Advanced Functional Materials* 26 (2016) 2655–2665
- A53.** "Solvent and branching effect on the two-photon absorption properties of push-pull triphenylamine derivatives" D. Cvejn, E. Michail, K. Seintis, M. Klikar, O. Pytela, T. Mikysek, N. Almonasy, M. Ludwig, V. Giannetas, M. Fakis and F. Bureš *RSC Advances* 6 (2016) 12819-12828
- A54.** "Formation of a Highly-Ordered Rigid Multichromophoric 3D Supramolecular Network by Combining Ionic and Coordination – Driven Self-Assembly" A. Kaloudi-Chantzea, E. Martinou, K. Seintis, N. Karakostas, P. Giastas, F. Pitterl, H. Oberacher, M. Fakis and G. Pistolis *Chemical Communications* 52 (2016) 3388-3391
- A55.** "Energy transfer in aggregated CuInS<sub>2</sub>/ZnS core-shell quantum dots deposited as solid films" S. Gardelis, M. Fakis, N. Droseros, D. Georgiadou, A. Travlos and A. Nassiopoulou *Journal of Physics D: Applied Physics* 50 (2017) 035107
- A56.** "The Dynamics of Intramolecular Energy Hopping in Multi-Bodipy Self – Assembled Metallocyclic Species: A Tool For Probing Subtle Structural Distortions in Solution " E. Martinou, K. Seintis, N. Karakostas, A. Bletsou, N. Thomaidis, M. Fakis and G. Pistolis, *Journal of Physical Chemistry C* 121 (2017) 5341–5355
- A57.** "Avoiding ambient air and light induced degradation in high-efficiency polymer solar cells by the use of hydrogen-doped zinc oxide as electron extraction material" E. Polydorou, I. Sakellis, A. Soultati, A. Kaltzoglou, T. A. Papadopoulos, J. Briscoe, D. Tsikritzis, M. Fakis, L. C. Palilis, S. Kennou, P. Argitis, P. Falaras, D. Davazoglou and M. Vasilopoulou, *Nano Energy* 34 (2017) 500–514
- A58.** "Improved Stability of Polymer Solar Cells in Ambient Air via Atomic Layer Deposition of Ultrathin Dielectric Layers" E. Polydorou, M. A. Botzakaki, I. Sakellis, A. Soultati, A. Kaltzoglou, T. A. Papadopoulos, J. Briscoe, C. Drivas, K. Seintis, M. Fakis, L. C. Palilis, S. N. Georga, C. A. Krontiras, S. Kennou, P. Falaras, N. Boukos, D. Davazoglou, P. Argitis and M. Vasilopoulou *Advanced Materials Interfaces* 4 (2017) 1700231 (1-12)
- A59.** "Femtosecond to nanosecond studies of octupolar molecules and their quadrupolar and dipolar analogues" by K. Seintis, D. Agathangelou, D. Cvejn, N. Almonasy, F. Bureš, V. Giannetas and M. Fakis *Physical Chemistry Chemical Physics* 19 (2017) 16485-16497
- A60.** "Low Work Function Lacunary Polyoxometalate Electron Transport Interlayers for inverted Polymer Solar Cells of Improved Efficiency and Stability" M. Tountas, Y. Topal, E. Polydorou, A. Soultati, A. Verykios, A. Kaltzoglou, T. A. Papadopoulos, F. Auras, K. Seintis, M. Fakis, L. C. Palilis, D. Tsikritzis, S. Kennou, M. Koutsourelis, G. Papaioannou, M. Ersöz, M. Kus, P. Falaras, D.

- Davazoglou, P. Argitis and M. Vasilopoulou *ACS Applied Materials and Interfaces* 9 (2017) 22773–22787
- A61.** "Energy Transfer and Charge Separation Dynamics in Photoexcited Pyrene-Bodipy Molecular Dyads" M. Fakis, J. S. Beckwith, K. Seintis, E. Martinou, C. Nançoz, N. Karakostas, I. Petsalakis, G. Pistolis, E. Vauthey *Physical Chemistry Chemical Physics* 20 (2018) 837 - 849
- A62.** "Plasma induced degradation and surface electronic structure modification of Poly(3-hexylthiophene) films" M. Tountas, D. G. Georgiadou, A. Zeniou, K. Seintis, A. Soultati, E. Polydorou, S. Gardelis, A. M. Douvas, T. Speliotis, D. Tsikritzis, S. Kennou, M. Fakis, E. Gogolides, D. Tsoukalas, P. Argitis, M. Vasilopoulou *Polymer Degradation and Stability* 149 (2018) 162-172
- A63.** "A silanol-functionalized polyoxometalate with excellent electron transfer mediating behavior to ZnO and TiO<sub>2</sub> cathode interlayers for highly efficient and extremely stable polymer solar cells" M. Tountas, Y. Topal, A. Verykios, A. Soultati, A. Kaltzoglou, T. A. Papadopoulos, F. Auras, K. Seintis, M. Fakis, L. C. Palilis, D. Tsikritzis, S. Kennou, A. Fakharuddin, L. Schmidt-Mende, S. Gardelis, M. Kus, P. Falaras, D. Davazoglou, P. Argitis, M. Vasilopoulou *Journal of Materials Chemistry C* 6 (2018) 1459-1469
- A64.** "Star-shaped push-pull molecules with varied number of peripheral acceptors: An insight into their optoelectronic features" M. Klikar, K. Seintis, I. Polyzos, O. Pytela, T. Mikysek, N. Almonasy, M. Fakis, F. Bures *ChemPhotoChem* 2018, 2, 465–474.  
This paper has been highlighted on the Cover Picture of issue 6, volume 2, 2018.  
(<https://onlinelibrary.wiley.com/doi/abs/10.1002/cptc.201800113>)
- 
- A65.** "Photophysics, electronic structure and solar cell performance of a donor-acceptor poly(N-dodecyl-2,7-carbazole-alt-benzothiadiazole) copolymer" A. Koutsoubelitis, K. Seintis, D. Tsikritzis, J. Oriouc, C. Brochon, E. Cloutet, G. Hadziioannou, M. Vasilopoulou, S. Kennou, M. Fakis, L. C. Palilis *Organic Electronics* 59 (2018) 202–212
- A66.** "Solvent-Acidity-Driven Change in Photophysics and Significant Efficiency Improvement in Dye-Sensitized Solar Cells of a Benzothiazole-Derived Organic Sensitizer" K. Seintis, Ç. Şahin, I. Sigmundova, E. Stathatos, P. Hrobarik, M. Fakis *Journal of Physical Chemistry C* 122 (2018) 20122–20134
- A67.** "Functionalized Zinc Porphyrins with Various Peripheral Groups for Interfacial Electron Injection Barrier Control in Organic Light Emitting Diodes" A. Verykios, M. Papadakis, A. Soultati, M.-C. Skoulikidou, G. Papaioannou, S. Gardelis, I. D. Petsalakis, G. Theodorakopoulos, V. Petropoulos, L. C. Palilis, M. Fakis, N. A. Vainos, D. Alexandropoulos, D. Davazoglou, G. Pistolis, P. Argitis, A. G. Coutsolelos, M. Vasilopoulou *ACS Omega*, 3 (2018) 10008–10018.
- A68.** "Triazine-Substituted Zinc Porphyrin as an Electron Transport Interfacial Material for Efficiency Enhancement and Degradation Retardation in Planar Perovskite Solar Cells" N. Balis, A. Verykios, A. Soultati, V. Constantoudis, M. Papadakis, F. Kournoutas, C. Drivas, M. C. Skoulikidou, Spyros Gardelis, M. Fakis, S. Kennou, A. G. Kontos, A. G. Coutsolelos, P. Falaras, M. Vasilopoulou *ACS Applied Energy Materials* 1 (2018) 3216–3229

- A69.** "Photophysical and Protonation Time Resolved Studies of Donor-Acceptor Branched Systems With Pyridine Acceptors" F. Kournoutas, K. Seintis, N. Karakostas, J. Tydlitat, S. Achelle, G. Pistolis, F. Bureš, M. Fakīs *J. Physical Chemistry A* 123 (2019) 417–428.
- A70.** "Lithium Doping of ZnO for High Efficiency and Stability Fullerene and Non-Fullerene Organic Solar Cells" A. Soultati, A. Fakhar Uddin, E. Polydorou, C. Drivas, A. Kaltzoglou, M. I. Haider, F. Kournoutas, M. Fakīs, L. Palilis, S. Kennou, D. Davazoglou, P. Falaras, P. Argitis, S. Gardelis, A. Kordatos, A. Chronos, L. Schmidt-Mende, M. Vasilopoulou *ACS Applied Energy Materials* 2 (2019) 1663–1675.
- A71.** "Organic solar cells of enhanced efficiency and stability using zinc oxide:zinc tungstate nanocomposite as electron extraction layer" A. Soultati, A. Verykios, T. Speliotis, M. Fakīs, I. Sakellis, H. Jaouani, D. Davazoglou, P. Argitis, M. Vasilopoulou, *Organic Electronics* 71 (2019) 227–237
- A72.** "Cooperative Self-Assembly Enables Two-Dimensional H-type Aggregation of a Sterically Crowded Perylene-Bisimide Dimer" N. Karakostas, V. S. Petrakis, F. Kournoutas, E. Martinou, E. Efthimiadou, I. M. Mavridis, M. Fakīs, G. Pistolis, *Crystal Growth & Design* 19 (2019) 4252-4263

## **B. Chapters in Books**

- B1.** "Novel materials for laser action and two-photon absorption fluorescence. New experimental technique for measuring nonlinear refractive indices", M. Fakīs, I. Polyzos, G. Tsigaridas, V. Giannetas, and P. Persephonis, Book, "*Recent Research Developments in Applied Physics* (published by Transworld Research Network), vol. 7, (2004) 1-18,
- B2.** "Photo-physics involved in the excitation of pyrylium salts under ultra-short pulsed illumination", I. Polyzos, M. Fakīs, G. Tsigaridas, V. Giannetas, and P. Persephonis, Book: "*Trends in Optical Materials Research*", Nova Publishers Inc, NY 11788, (2007) 113-135

## **C. International Conferences**

- C1.** "Investigation of laser performance and two photon absorption fluorescence of new pyrylium dyes", M. Fakīs, I. Polyzos, G. Tsigaridas, J. Parthenios, A. Fragos, V. Giannetas, P. Persephonis and J. Mikroyannidis, COST 518 "*Workshop on Molecular Materials and Functional Polymers for Advanced Devices*" Patras, Greece, June 22-25, 2000 (ομιλία)
- C2.** "A partially conjugated poly(phenylenevinylene) as a blue emitting laser medium. The suppression of stimulated emission due to chain aggregates", M. Fakīs, I. Polyzos, G. Tsigaridas, V. Giannetas, P. Persephonis, I. Spiliopoulos and J. Mikroyannidis, 3rd GR-I International Conference on NEW LASER Technologies and Applications, Patras, Greece, September 5-8, 2002 SPIE vol. 5131 p.323 (ομιλία)
- C3.** "Three dimensional data storage in photonic materials based on pyrylium salts by two photon induced photobleaching", I. Polyzos, G. Tsigaridas, M. Fakīs, V. Giannetas, P. Persephonis and J. Mikroyannidis, 3rd GR-I International Conference on NEW LASER Technologies and Applications, Patras, Greece, September 5-8, 2002 SPIE vol. 5131 p.177
- C4.** "Z-scan technique through beam dimensions measurements", G. Tsigaridas, M. Fakīs, I. Polyzos, P. Persephonis and V. Giannetas, 3rd GR-I International

- Conference on NEW LASER Technologies and Applications, Patras, Greece, September 5-8, 2002 SPIE vol. 5131 p.24
- C5.** "Two-photon and excited state absorption of pyrylium based dyes studied through the z-scan technique", M. Fakīs, G. Tsigaridas, I. Polyzos, V. Giannetas, P. Persephonis, I. Spiliopoulos and J. Mikroyannidis, 3rd GR-I International Conference on NEW LASER Technologies and Applications, Patras, Greece, September 5-8, 2002 SPIE vol. 5131 p.284 (1 reference)
- C6.** "The effect of aggregates on the decay dynamics of a conjugated polymer studied by femtosecond time resolved spectroscopy", M. Fakīs, I. Polyzos, G. Tsigaridas, V. Giannetas and P. Persephonis, *Microelectronics Microsystems and Nanotechnology*, 2004 International Conference, November 2004, Athens (Greece), also in *J. Phys. Conf. Series* 10 (2005) 238-241 (1 reference)
- C7.** "On the measurement of high-order refractive nonlinearities through the Z-scan technique", G. Tsigaridas, M. Fakīs, I. Polyzos, P. Persephonis and V. Giannetas  
*Microelectronics Microsystems and Nanotechnology*, 2004 International Conference, November 2004, Athens (Greece), also in *J. Phys. Conf. Series* 10 (2005) 242-245
- C8.** "Time-resolved spectroscopy of oligothiophenes using the femtosecond fluorescence upconversion technique", D. Anestopoulos, M. Fakīs, I. Polyzos, G. Tsigaridas, G. Mousdis, P. Persephonis and V. Giannetas, *Microelectronics Microsystems and Nanotechnology*, 2004 International Conference, November 2004, Athens (Greece), also in *J. Phys. Conf. Series* 10 (2005) 230-233 (1 reference)
- C9.** "High-order photobleaching of pyrylium salts under two-photon excitation", I. Polyzos, G. Tsigaridas, M. Fakīs, V. Giannetas, P. Persephonis and J. Mikroyannidis, *Microelectronics Microsystems and Nanotechnology*, 2004 International Conference, November 2004, Athens (Greece), also in *J. Phys. Conf. Series* 10 (2005) 234-247
- C10.** "Photonic and electronic properties of a conjugated polymer emitting in the blue-green spectral region", M. Fakīs, D. Anestopoulos, V. Giannetas, P. Persephonis, P. Karastatiris, I. Spiliopoulos, I. Mikroyannidis, Věra Cimrová, *Nanotechnology in Northern Europe*, NTNE 2006, May 2006, Helsinki, Finland
- C11.** "Investigation of photobleaching as a recording mechanism for three – dimensional data storage", I. Polyzos, G. Tsigaridas, M. Fakīs, V. Giannetas and P. Persephonis, *Nanotechnology in Northern Europe*, NTNE 2006, May 2006, Helsinki, Finland
- C12.** "Interchain interaction in conjugated polymers on the nanoscale studied by femtosecond laser spectroscopy", M. Fakīs, D. Anestopoulos, V. Giannetas, P. Persephonis, *3rd Workshop on Nanosciences and Nanotechnology*, 10-12 July 2006 Thessaloniki, Greece
- C13.** "Nonlinear absorption as a tool for three-dimensional optical recording in thin films", I. Polyzos, G. Tsigaridas, M. Fakīs, V. Giannetas, P. Persephonis, *3rd Workshop on Nanosciences and Nanotechnology*, 10-12 July 2006 Thessaloniki, Greece
- C14.** "New Two-Photon Absorbing Oligofluorene Derivatives. The Role Of Solvent-Solute Interactions", I. Ftilis, I. Polyzos, M. Fakīs, G. Tsigaridas, V. Giannetas, P. Persephonis, I. Mikroyannidis, *3rd Workshop on Nanosciences and Nanotechnology*, 10-12 July 2006 Thessaloniki, Greece

- C15.** "Synthesis and photophysical properties of a carbon nanotube/pyrene oligomer hybrid", D. Tasis, M. Fakis, C. Galiotis, J. Mikroyannidis, K. Papagelis, *ChemOnTubes* 2008, 6-9 April, Zaragoza, Spain
- C16.** "Photoluminescence of Fluorene Chromophores Embedded into Porous Silicon" M. Fakis, P. Persephonis, V. Giannetas F. Zacharatos, V. Gianneta and A. G. Nassiopoulou, 5th International Conference on Nanosciences & Nanotechnologies - NN08 (Thessaloniki 14-16 July 2008)
- C17.** "Development of 3D Structures using the Two-photon Polymerization Technique" I. Ftilis, M. Fakis, I. Polyzos, V. Giannetas, P. Persephonis, 5th International Conference on Nanosciences & Nanotechnologies - NN08 (Thessaloniki 14-16 July 2008)
- C18.** "Two photon microfabrication using a new fluorene based photoinitiator" I. Ftilis, M. Fakis, I. Polyzos, V. Giannetas, P. Persephonis 6th International Conference on Nanosciences & Nanotechnologies - NN09 (13-15 July 1009)
- C19.** "Fluorescence time resolved studies of Sybr Green I/DNA complexes in the femtosecond regime" M. Fakis, I. Trantakis, S. Tragoulias, T. Christopoulos, V. Giannetas, P. Persephonis Emerging Trends and Novel Materials in Photonics, ICO Photonics, Delphi, 2009
- C20.** "Comparison of two-photon polymerization with the use of two fluorene derivative photoinitiators" I. Ftilis, M. Fakis, I. Polyzos, V. Giannetas, P. Persephonis Emerging Trends and Novel Materials in Photonics, ICO Photonics, Delphi, 2009
- C21.** "Relaxation and interfacial electron transfer dynamics of the organic sensitizer D149 studied by femtosecond upconversion spectroscopy" M. Fakis, E. Stathatos, V. Giannetas and P. Persephonis, Fourth International Conference "Micro&Nano2010" on Micro-Nanoelectronics, Nanotechnologies and MEMs NCSR Demokritos, Athens, 12-15 December 2010
- C22.** "Interfacial electron transfer dynamics and photovoltaic performance of Coumarin 343 on TiO<sub>2</sub> and ZnO nanostructured substrates" M. Giannouli, M. Fakis and P. Persephonis, Fourth International Conference "Micro&Nano2010" on Micro-Nanoelectronics, Nanotechnologies and MEMs NCSR Demokritos, Athens, 12-15 December 2010
- C23.** "Enhanced nonlinear absorption and ultrafast exciton delocalization in tribranched molecules. Comparison with their linear models" M. Fakis, I. Polyzos, V. Hrobáriková, P. Hrobárik, P. Persephonis, Fourth International Conference "Micro&Nano2010" on Micro-Nanoelectronics, Nanotechnologies and MEMs NCSR Demokritos, Athens, 12-15 December 2010
- C24.** "Ultrafast spectroscopy as a tool for studying electron injection dynamics in quasi solid state Dye Sensitized Solar Cells" M. Dori, M. Fakis, E. Stathatos, Hsien-Hsin Chou, Yung-Sheng Yen, Jiann T'suen Lin, V. Giannetas, P. Persephonis 9<sup>th</sup> International Conference on Nanosciences & Nanotechnologies (NN12) 3-6 July 2012, Thessaloniki, Greece.
- C25.** "Metallosupramolecular self-assembly strategies for light-harvesting and controlled energy transfer" N. Karakostas, I. M. Mavridis, K. Seintis, M. Fakis, E. N. Koini, I. D. Petsalakis, G. Pistolis *20th International Symposium on the Photophysics and Photochemistry of Coordination Compounds*, 7-11 July 2013, Traverse City, Michigan, USA.
- C26.** "Wide band gap metal oxides acting as efficient hole blocking and surface passivation layers in high performance inverted organic photovoltaics" M. Vasilopoulou, M. Botzakaki, D. G. Georgiadou, A. Soultati, L. C. Palilis, M.

- Fakis, S. Kennou, P. Argitis, D. Davazoglou, S. Georga and C. A. Krontiras E-MRS 2013 Fall Meeting, 16-20 September 2013, Warsaw, Poland.
- C27.** Controlled induced defects on CVD graphene using ultrashort pulsed excitation" by N. Chourdakis, S. Katsiaounis, E. Michail, M. Fakis, V. Drakopoulos, I. Polyzos, J. Parthenios, C. Galiotis and K. Papagelis will be presented in the conference IMAGINENANO 2015, 10-13 March 2015 Bilbao, Spain
- Γ28.** Interaction of CVD Graphene with Pulsed Laser Illumination N. Chourdakis, S. Katsiaounis, E. Michael, M. Fakis, I. Polyzos, J. Parthenios, C. Galiotis and K. Papagelis GraphITA 2015 14-18 September 2015 CNR Bologna, Italy
- Γ29.** "Energy transfer within self-assembled cyclic multichromophoric arrays based on orthogonally arranged donor - acceptor building blocks Nikolaos Karakostas, Antonia Kaloudi-Chantzea, Elisabeth Martinou, Kostas Seintis, Florian Pitterl, Herbert Oberacher, Mihalis Fakis, Jiannis K. Kallitsis, George Pistolis" Supramolecular Photochemistry 15-17 September 2015, Downing College, Cambridge, UK
- C30.** "FRET in aggregated light emitting CuInS<sub>2</sub>/ZnS quantum dots S. Gardelis, M. Fakis, A.G. Nassiopoulou, N. Droseros, D. Georgiadou and A. Travlos 6th International Conference Micro&Nano 2015, 4-7 October 2015 Athens, Greece
- C31.** "Modulation of the photophysical and photovoltaic properties of new organic sensitizers by changing the electron donating group" K. Seintis, D. Sygkridou, I. Sigmundová, P. Hrobárik, E. Stathatos, V. Giannetas, M. Fakis 13th International Conference on Nanosciences & Nanotechnologies (NN16) 5-8 July 2016, Thessaloniki, Greece
- C32.** "Excitation energy transfer in semiconducting polymers used in organic solar applications" K. Seintis, L. .L. Nikiforakis, L. C. Palilis, M. Fakis 13th International Conference on Nanosciences & Nanotechnologies (NN16) 5-8 July 2016, Thessaloniki, Greece
- C33.** "Femtosecond to Nanosecond Dynamics of Dipolar and Octupolar Light Harvesting Molecules Based on Benzothiazole e- Acceptors" Kostas Seintis, Dafni Chroni, Veronika Hrobarikova, Ivica Sigmundova, Peter Hrobarik and Mihalis Fakis, 12th European Conference on Atoms Molecules and Photons (ECAMP12), September 5-9, 2016, Frankfurt, Germany
- C34.** "CuInS<sub>2</sub>/ZnS core shell quantum dots. Energy transfer and down shifting properties for solar cell applications" S. Gardelis , M. Fakis, N. Droseros, D. Georgiadou, A. Travlos and A. G. Nassiopoulou, E-MRS 2017 Spring Meeting, May 22-26, 2017 Strasbourg, France