

Prof. Stelios Tzortzakis

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Education

Ph.D. Nonlinear Optics and Lasers (2001), Ecole Polytechnique, France.

B.Sc. in Physics (1997), Dept. of Physics, University of Crete, Greece.

Academic Positions

- Associate Professor, Texas A&M University at Qatar (2015-)
- Associate Professor, Materials Dept., University of Crete (2011-)
- Principal Researcher, Head UNIS group, Deputy Director IESL-FORTH, Greece (2009-)
- Researcher, Head UNIS group, IESL-FORTH, Greece (2006-2009)
- Chargé de Recherche CNRS, Ecole Polytechnique, France (2003-)
- Research associate, NTUA, Greece (2003-2004)
- Research associate, Ecole Polytechnique, France (2001-2003)
- Maître des conférences, ENSTA, France (2001-2003)

Academic Honors

- Rozhdestvensky Medal of the Russian Optical Society (2013)
- Marie Curie Excellence Grant (~2M€ ; 2006-2010)
- Fellowship from the Ecole Polytechnique (France) (2002-2003)
- Fellowship from the CEA (France) (2001-2002)
- Ph.D. obtained with distinctions.
- Fellowship from the French ministry of education (1998-2001)
- Fellowship from the Ecole Polytechnique (France) (1997-1998)

Skills

Languages: Greek, English, French.

Scientific community

Member of the: Optical Society of America (OSA) and International Society for Optics and Photonics (SPIE)

Active referee at the following journals: Nature Photonics, Physical Review Letters, Physical Review (A,B,E), Optics Letters, Optics Express, JOSA B, Optics Commun., Applied Physics A, Applied Physics B, Journal of Applied Physics, The European Physical Journal D

Research Projects

Long experience (>19 years) from participation in European Union funded projects (in Greece and in France; for applications mainly in nonlinear optics, intense fs lasers and THz physics). National (in France with the CEA for studying the

nonlinear propagation of intense fs laser pulses) and bi-national projects (like the French-German “Teramobile” project for the monitoring of the atmosphere using a unique powerful fs mobile laser system). Winner of a large number of “Excellence grants” in Greece and the EU, including a Marie Curie Excellence Grant ~2M€.

Research Experience

Broad experience in the following domains:

- Nonlinear interactions of intense femtosecond laser pulses with matter.
- Nonlinear laser propagation phenomena - filamentation.
- Photonic structuring in the bulk of transparent solid materials.
- Quantum and complexity physics with photonic lattices.
- Intense tunable THz sources and THz nonlinear Optics.
- Tunable THz metamaterials.
- Environmental/atmospheric physics.
- Hot/warm and dense plasma physics.

Scientific output and impact

- About **100 articles** in peer-reviewed journals
- More than **4700 citations; h-index = 37; g-index = 67; i-10 = 66**
- More than **160 International Scientific Conferences** with more than **75 invited and plenary talks**

Selected Publications

- **V. Yu. Fedorov, M. Chanal, D. Grojo and S. Tzortzakis**
“Accessing Extreme Spatiotemporal Localization of High-Power Laser Radiation through Transformation Optics and Scalar Wave Equations”
Phys. Rev. Lett. **117**, 043902 (2016)
- **K. Liu, A. D. Koulouklidis, D. G. Papazoglou, S. Tzortzakis, X.-C. Zhang**
“Enhanced terahertz wave emission from air-plasma tailored by abruptly autofocusing laser beams”, Optica **3**, 605-608 (2016)
- **M. Manousidaki, D. G. Papazoglou, M. Farsari, and S. Tzortzakis**
“Abruptly autofocusing beams for advanced multiscale photo-polymerization”
Optica **3**, 525-530 (2016)
- **P. Panagiotopoulos, D. G. Papazoglou, A. Couairon, and S. Tzortzakis**
“Sharply autofocused ring-Airy beams transforming into nonlinear intense light bullets”
Nature Communications **4**, 2622 (2013)
- **M. Bellec, P. Panagiotopoulos, D. G. Papazoglou, NK. Efremidis, A. Couairon, S. Tzortzakis**
“Observation and optical tailoring of photonic lattice filaments”
Phys. Rev. Lett. **109**, 113905 (2012) [*Highlighted in [Physics](#)*]
- **N.-H. Shen, M. Massaouti, M. Gokkavas, J.-M. Manceau, E. Ozbay, M. Kafesaki, T. Koschny, S. Tzortzakis, C. M. Soukoulis**
“Optically implemented broadband blue-shift switch in the terahertz regime”
Phys. Rev. Lett. **106**, 037403 (2011)
- **D. G. Papazoglou, E. K. Efremidis, D. N. Christodoulides, and S. Tzortzakis**
“Observation of abruptly autofocusing waves”
Opt. Lett. **36**, 1842-1844 (2011)
- **D. Abdollahpour, S. Suntsov, D. G. Papazoglou and S. Tzortzakis**
“Spatio-temporal Airy light bullets in the linear and nonlinear regimes”
Phys. Rev. Lett. **105**, 253901 (2010)