

Curriculum Vitae

Georgios Violakis

Current residence:

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Date of Birth : May 27, 1981
Place of Birth : Athens, Greece
Nationality: Greek
Marital status : Married



Studies

- **Jan. 2009 – May 2013** **Ph.D.** degree from the Doctoral School of **Photonics** of École Polytechnique Fédéral de Lausanne (EPFL), Switzerland.
Thesis title: "UV-induced luminescence and photosensitivity in bismuth-aluminum doped optical fibers", EPFL thesis n° 5774 (2013)
- **Sept. 2005 – Dec. 2007** **Master of Science** Degree in Optoelectronics and Microelectronics from the Physics Department of University of Crete and Institute of Electronic Structure and Laser of Foundation for Research and Technology Hellas (FO.R.T.H).
- **Sept. 2000 – Sept. 2005** **B.Eng.** in Metallurgy and Materials Engineering from the National Technical University of Athens, Greece. Diploma's degree: 8.2 out of 10.

Professional experience

July 2017 - now: Post-doctoral Fellow (Stavros Niarchos Foundation "ARCHERS" Fellowship) at Photonics Materials and Devices Laboratory, Foundation for Research and Technology, Hellas (FORTH), Greece.

Nov. 2014 - 2017: Scientific collaborator at Empa (Swiss Federal Laboratories for Materials Science and Technology), Switzerland. Responsible for the fabrication of optical fiber sensors/devices and the laser center facilities for large area microstructuring using laser ablation.

Jun. 2013- Nov.2014: Post-doctoral position at EPFL, Switzerland, in projects involving the fabrication and characterization of optical fiber based embedded aircraft sensors (humidity, stress and aircraft speed sensors) as well as the fabrication and characterization of optical fiber lasers.

Jan.2009-Jan 2010: Assistant Researcher at EPFL Space Center project 022/2008

Jun. 2003: - Sept. 2003: Internship at Greek Aluminium Industry (ELVAL) as junior engineer

Jun 2002 – Aug. 2002: Internship at Foundation for Research and Technology, Hellas

Teaching experience

- 2011-2014: Non-editing teacher for the Master's degree course Optique Intégrée, responsible for teaching Matlab as a tool for plotting modes in optical fibers, symmetric and asymmetric waveguides.

- 2011-2014: Supervisor of ‘Fiber Optics and Gaussian Laser Beams’ exercise in course: "Optique TP"

Prizes/scholarships

- 2014: Professor René Wasserman Award (Switzerland) for the work carried out during the Ph.D. thesis
- 2008: Academic excellence prize from the Technical Chamber of Greece
- 2001 –2002: Scholarship from Foundation of National Scholarships (IKY), Greece
- 2000 –2001: Scholarship from National Technical University of Athens (Scholarship Ganioti – Papageorgi) and another scholarship from the Foundation of National Scholarships

Computer skills

Experienced in: Matlab, Labview, Origin, Zemax, OfficeSuite, Photoshop/GIMP
A series of laboratory equipment has been programmed and automated using Matlab, and Labview like translation stages, lasers, furnace controllers, spectrum analysers, etc.
Programming (in G-code) the large scale microstructuring setup at Empa, Thun
Good knowledge of: Autodesk Inventor, Blender (3d design), Coreldraw/Inkscape
Familiar with other programming languages (Python, C, VBA).
Experienced with the Arduino Development Environment.
Windows/Linux user.

Languages

English(excellent writing and verbal skills - Proficiency in English diploma from Cambridge University)

French (average verbal and writing skills –lv1B1)

German (basic verbal and writing skills, lvl A2 - Grundstufe Sprachdiplom from Goethe Institut Athens)

Greek (mother tongue)

Patents:

1. Wasmer K., Shevchik S.A., Vakili F.F., Violakis G., and Vaucher S., “In-situ and real time quality control in additive manufacturing process”, *Patent N° EP16174511*, filed 15.06.2016.
2. Wasmer K., Vakili F.F., Shevchik S.A., Violakis G., and Delval C., “Quality control of laser welding process”, *Patent N° EP16174525*, filed 15.06.2016.
3. Vaucher S., Violakis G., Meylan B., Shevchik S.A., Wasmer K., and Mosaddeghi S.A. “Method of treating a solid material by means of high voltage discharges”, *Patent N°PCT/CH2016/000090*, filed 15.06.2016.

Journal publications / conference contributions:

1. Shevchik S.A., Meylan B., Violakis G. and Wasmer K., “3D reconstruction of cracks propagation in solids analyzing non-stationary acoustic mixtures”, (submitted to IEEE Transactions on Signal Processing).

2. H.G. Limberger, G. Violakis, V. Mashinsky, "Thermal decay of laser induced refractive index changes in SMF-28 and Bi-doped silicate laser fibres" in International Conference on Transparent Optical Networks **ICTON** (Mo.B1.6), (**invited**), 2017
3. R. Sarfaraz, L. P. Canal, G. Violakis, J. Botsis and V. Michaud et al. An experimental-numerical investigation of hydrothermal response in adhesively bonded composite structures, in **Composites Part A-Applied Science And Manufacturing**, vol. 73, p. 176-185, 2015.
4. G. Violakis and H. G. Limberger. Annealing of UV Ar⁺ and ArFexcimer laser fabricated Bragg gratings: SMF-28e fiber, in **Optical Materials Express**, vol. 4, num. 3, p. 499-508, 2014.
5. C. Casado, L. Pablo, R. Sarfaraz Khabbaz, G. Violakis and I. Botsis et al. Monitoring strain gradients in adhesive composite joints by embedded fiber Bragg grating sensors, in **Composite Structures**, vol. 112, p. 241-247, 2014.
6. G. Violakis, H. G. Limberger, V. M. M. Mashinsky and E. M. Dianov. Stability of Fiber Bragg Gratings Fabricated Using UV Ar⁺ and ArFExcimer in Bismuth-Aluminum-co-Doped Silica Fibers. OFC2014 Optical Fiber Communication Conference and Exposition (**OFC**) and National Fiber Optic Engineers Conference (NFOEC), San Francisco, USA, 2014.
7. G. Violakis, H. G. Limberger, V. Mashinsky and E. M. Dianov, "Dose dependence of luminescence increase in H₂-loaded Bi-Al co-doped optical fibers by cw 244-nm and pulsed 193-nm laser irradiation," Optical Fiber Communication Conference and Exposition (**OFC**) and National Fiber Optic Engineers Conference (NFOEC), Los Angeles, Ca, USA, OTh4C.2, (2013)
8. C. Casado, L. Pablo, B. DehghanManshadi, V. Michaud, I. Botsis, G. Violakis and H.G. Limberger, "Monitoring strain gradients in adhesive composite joints by embedding fibre Bragg grating sensors", 6th **International Conference on Composites Testing and Model Identification**, Aalborg, Denmark, (2013)
9. G. Violakis, H. G. Limberger, A. S. Zlenko, S.L. Semenov, V. M. Mashinsky, E.M. Dianov, "Photosensitivity and Luminescence Induced by ArF-Irradiation of Hydrogen Loaded Bi-SiO₂Fiber", accepted in European Conference and Exhibition on Optical Communication **ECOC** 2013, Tu.3.A.2, (2013)
10. G. Violakis; H. G. Limberger; A. S. Zlenko; S. L. Semjonov; I. A. Bufetov; V. M. Mashinsky; V. V. Vel'miskin; E. M. Dianov; "Fabrication of Bragg gratings in microstructured and step index Bi-SiO₂ optical fibers using an ArF laser", in **Optics Express**, vol. 20, num. 26, p. B118-23, (2012)
11. G. Violakis, N. Aggarwal and H. G. Limberger, " Stress changes in H₂-loaded SMF optical fibers induced by cw-Ar⁺ 244 nm irradiation," in **Optical Materials Express**, vol. 2, num. 11, p. 1490-1495, (2012)
12. G. Violakis, H. G. Limberger, A. S. Zlenko, S. L. Semenov, V. M. Mashinsky, V. V. Vel'miskin, E. M. Dianov, "Fabrication of Bragg Gratings in Microstructured Bi:SiO₂ Optical Fiber Using an ArF Laser", accepted in European Conference and Exhibition on Optical Communication (**ECOC**), We.1.F.3, (2012)
13. G. Violakis, P. Saffari, H. G. Limberger, V. M. Mashinsky, E. M. Dianov, "Thermal decay of UV Ar⁺ and ArFexcimer laser fabricated Bragg gratings in SMF-28e and Bi-Al-doped optical fiber", in Bragg Gratings, Photosensitivity and Poling in Glass Waveguides (**BGPP**) Topical Meeting, (oral presentation), BM4D.6, (2012)
14. G. Violakis, N. Aggarwal, H. G. Limberger, "Stress changes induced by cw-Ar⁺ 244 nm irradiation in H₂-loaded SMF optical fibers", in Bragg Gratings, Photosensitivity and Poling in Glass Waveguides (**BGPP**) Topical Meeting, (oral presentation), BM4D.4, (2012)

15. P. Saffari, G. Violakis, H. G. Limberger, V. M. Mashinsky, E. M. Dianov, "Thermal decay of ArF-excimer-laser fabricated fiber Bragg gratings in Bi-Al-doped optical fibers" in Optical Fiber Communication Conference and Exposition (**OFC**), JW2A.31 (2012)
16. G. Violakis, H. G. Limberger, V. M. Mashinsky, E. M. Dianov, "Fabrication and thermal decay of fiber Bragg gratings in pristine and H₂-loaded Bi-Al co-doped optical fibers", in **Optics Express** Vol. 19, Iss. 26, pp. B350–B356, (2011)
17. G. Violakis, H. G. Limberger, V. Mashinsky, and E. Dianov, "Fabrication and thermal decay of fiber Bragg gratings in Bi-Al co-doped optical fibers," in European Conference and Exhibition on Optical Communication (**ECOC**), (Optical Society of America, Washington, DC, 2011), Tu3.LeCervin.2., (2011)
18. H. G. Limberger and G. Violakis, "Reliability of Fiber Components" (Invited Plenary talk), 7th Workshop on Fibre and Optical Passive Components (**WFOPC**), Montreal, QC, Canada, (2011)
19. G. Violakis, N. Aggarwal, and H. G. Limberger, "Fabrication of mode field converter in H₂-loaded SMF-28e using CW-Ar⁺ laser," **Proc.OFC'2011**, OWS4 (2011).
20. G. Violakis, H. G. Limberger, V. Mashinsky, and E. Dianov, "Strong fiber Bragg gratings in Bi-Al co-doped H₂-loaded optical fibers using CW-Ar⁺ laser," in OFC 2011 Optical Fiber Communication Conference and Exposition (**OFC**) and National Fiber Optic Engineers Conference (**NFOEC**), OTuC3.,(2011).
21. H. G. Limberger, C. Ban, G. Violakis, V. Dvoyrin, V. Mashinsky, and E. Dianov, "Fabrication/Characterization of Fiber Gratings and Photosensitivity in Ge-Free Bi-Al-Silica Fibers," **Proc. IEEE/Photonics Society Winter Topical Meeting** (January 2011).
22. H. G. Limberger and G. Violakis, "Formation of Bragg gratings in pristine SMF-28e fibre using CW 244-nm Ar⁺-laser," **Electronics Letters** **46**, 363-365 (2010).
23. H. G. Limberger, G. Violakis, F. Sandoz, and C. Pedrido, "Fabrication of fiber Bragg gratings in 40 μm diameter low GeO₂ silica fiber using cw-Ar⁺-laser," **Proc. OFC'2010**, JWA22 (2010).
24. S.Pissadakis, M.Livitzis, G. Violakis, "Inscription of Bragg reflectors in all-silica microstructured optical fibres using 248nm, picosecond and femtosecond laser radiation", **Photonics Europe Conference**, Strasbourg, France, (2008) (invited)
25. S. Pissadakis, M. Livitziis, G. Violakis, and M. Konstantaki, "Inscription of Bragg reflectors in all-silica microstructured optical fibres using 248 nm, picosecond, and femtosecond laser radiation," in **Proc. SPIE** 6990, 69900H, 2008, DOI: 10.1117/12.781159.
26. M. Stroisch, T. Woggon, U. Lemmer, G. Bastian, G. Violakis, S. Pissadakis, "Organic semiconductor distributed feedback laser fabricated by direct laser interference ablation", **Optics Express** **15**: 3968-3973, (2007)
27. G. Violakis, S. Georgiou, M. Konstantaki, S. Pissadakis, "A Comparative Study on the Type IIA Photosensitivity of a B-Ge Optical Fiber Using Ultraviolet, Femtosecond Radiation", in Bragg Gratings, Photosensitivity and Poling Glass Waveguides (**BGPP**), Canada, JWA59, (2007)
28. G. Violakis, S. Pissadakis, "Bragg Grating Inscription in a Commercial Solid Core Microstructured Optical Fiber", in **ICTON (invited)**, (2007)
29. G. Violakis, M. Konstantaki, S. Pissadakis, "Comparative results on the recording of Type IIA gratings in B-Ge optical fibres using femtosecond and picosecond 248nm laser radiation", in **CLEO-Europe**, (2007)

30. S. Pissadakis, M. Konstantaki, G. Violakis, “Deep UV radiation induced photodissociative processes in transparent optical materials: index engineering and structural modification effects”, in 4th **LAMP** conference, Japan, (invited), (2006)
31. S. Pissadakis, M. Konstantaki, G. Violakis, “Recording of Type IIA Gratings in B-Ge codoped Optical Fibres Using 248nm Femtosecond and Picosecond Laser Radiation”, in **ICTON**, UK, (invited), (2006)
32. G. Violakis, M. Konstantaki, S. Pissadakis, “Inscription of Thermally Durable TypeIIA Bragg Gratings in B/Ge-codoped optical fiber using 248nm 500fs radiation”, in Conference on Lasers and Electro-Optics / Quantum Electronics and Laser Science Conference (**CLEO/QELS**), U.S.A., (2006)
33. G. Violakis, M. Konstantaki, and S. Pissadakis, “Accelerated Recording of Negative Index Gratings in Ge-Doped Optical Fibers Using 248-nm 500-fs Laser Radiation”, in **Photonics Technology Letters**, 18, 1182-1184 (2006)
34. J. Androulakis, A. Klini, A. Manousaki, G. Violakis, J. Giapintzakis, “Growth of polycrystalline $\text{LaNi}_{1-x}\text{Co}_x\text{O}_3$ ($x=0.3, 0.5$) thin films on Si (100) by pulsed laser deposition”, in **Applied Physics A**, 79, 671, (2004)

Interests:

Technology, computers, photography, road-trips/travelling, economy and politics