



FRANCESCA BRAGHERI

Personal Data

Date of birth: -
Place of birth: Pavia, Italy
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Civil status: -
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Education

- *January 2007: Ph.D in Electronic, Electric and Computer Science Engineering*, from Università degli Studi di Pavia with a thesis entitled "Conical waves and filamentation of ultrashort laser pulses in dissipative nonlinear media".
- *2005: Participation to the PhD Winter School*: 3rd Optoelectronic & Photonic Winter School - "Optical Interconnects", 27 February – 4 March 2005, Sardinia (TN), Italy
- *2004: Participation to the PhD Summer School*: "New concepts in photonics and optical communications", 21-25 June 2004, Dijon, France
- *1997-2003: Laurea in Electronic Engineering* (Optoelectronics orientation), Università degli Studi di Pavia, with mark 110/110 cum laude. Title of the thesis: "Conversione parametrica in cristalli fotonici unidimensionali". The research activity has been conducted at Pirelli Labs SpA.

Work Experiences

- *Since Jan 2023: Permanent position as a Senior Research*, Institute for Photonics and Nanotechnologies (IFN) of the Italian National Research Council (CNR) in Milan, Italy
- *2012-2022: Permanent position as a Researcher*, Institute for Photonics and Nanotechnologies (IFN) of the Italian National Research Council (CNR) in Milan, Italy
- *Jan.-Oct 2012: Post-Doctoral Researcher* at Institute for Photonics and Nanotechnologies (IFN) of the Italian National Research Council (CNR) in Milan. Research topic: femtosecond laser microfabrication of optical circuits in integrated photonic devices.
- *2011-2012: Post-Doctoral Researcher* at Centro di ricerca interdipartimentale laser, Spettroscopie ottiche e materiali per la fotonica (CILSOMAF), Università degli Studi di Pavia. Research topic: Integrated optical devices for single cell manipulation and analysis.
- *2010-2011: Researcher* at CNISM (Consorzio Nazionale Interuniversitario per le Scienze fisiche della Materia), Pavia. Research topic: Integrated devices for biophotonic applications.
- *2008-2009: Post-Doctoral Researcher* at Centro di ricerca interdipartimentale laser, Spettroscopie ottiche e materiali per la fotonica (CILSOMAF), Università degli Studi di Pavia.

Research topic: development of fiber devices for trapping and manipulation of biological samples.

- *2007-2008: **Post-Doctoral Researcher*** at the Electronic Department, Università degli Studi di Pavia. Research activity: development of diagnostic techniques to fully characterize ultrashort pulses both in amplitude and phase.
- *2006-2007: **Post-Doctoral Researcher*** at the Electronic Department, Università degli Studi di Pavia. Research activity: design and characterization of optical waveguides in Silicon-Germanium.
- *2002–2003 **Stage*** at Pirelli Labs SpA – Research group: Integrated devices. Research field: Parametric conversion in photonic crystals

Teaching and Supervision

- *Since 2008:* Supervisor of 8 Bachelor students and co-supervisor of 4 Bachelor students and of 6 Master students (Università degli Studi di Pavia and Politecnico di Milano)
- *Since 2012:* Teaching assistant for Physics, Politecnico di Milano (classes of 200 students) with responsibility of evaluation in the final examination board.
- *2011-2012:* Teaching assistant for Physics, Università degli studi di Pavia (classes of 100 students) with responsibility of evaluation in the final examination board.
- *2006-2010:* Teaching laboratory assistant for Physics, Università degli studi di Pavia (classes of 100 students) with responsibility of evaluation in the final examination board.
- *2004-2011i:* Teaching laboratory assistant for Photonics and Non-linear Optics course, Università degli studi di Pavia (classes of 50 students)
- *1999-2002:* Tutor for Chemistry course at Università degli Studi di Pavia
- *2007:* Lecture at the PhD International summer school Optoelectronics, Lasers & Applications - OLACrete 2007 – “Fiber optics”

Professional Activities

Grants

- *2012:* Postdoctoral fellowship at Institute for Photonics and Nanotechnologies (IFN-CNR), Milan.
- *2007-2011:* Postdoctoral fellowship at Electronic Department and CILSOMAF, Università degli Studi di Pavia.
- *2003-2006:* Ph.D. grant at the Electronic Department of the Università degli Studi di Pavia

Review for national and international funding agencies

- *2018:* Swiss National Science Foundation (SNSF) and Swiss Innovation Agency Innosuisse, BRIDGE Discovery grants, Switzerland.
- *2012:* Fundação para a Ciência e a Tecnologia, Health Sciences area projects, Portugal.

Editorial and review services

- *2020:* Guest Editor for the Special Issue of MDPI Micromachines on ""
- *2020:* Guest Editor for the Special Issue of MDPI Micromachines on "New Trends and Applications in Femtosecond Laser Micromachining"

- *2018:* Guest Editor for the Special Issue of MDPI Micromachines on "Optical Manipulation of Cells: Strategies and Devices"
- *Since 2009:* referee for Optics Express, Optics Letters, JOSAB, Applied Optics, Optics Communications, Physical Review Letters, Applied Physics Letters, Analyst, Scientific Reports, Micromachines, Sensors, Sensor and Actuators B, Optical Materials, Optics and Laser Technologies, Journal of Laser Applications, Journal of Laser Micro/Nanoengineering.

Outreach Activities

- *2010:* Co-organizer of the Italian LASERFEST event.
- *2011:* Co-organizer of ONDIVAGHIAMO event for schools at BERGAMOSCIENZA festival.

Funding

- *2023-2026* EIC Transition, EU, project "Revolutionizing Spatial Biology with a cutting-edge Multi-Scale Imaging platform - nanoSCAN", Grant agreement ID: (CNR Unit Coordinator).
- *2023-2027* HORIZON-MSCA ITN Training Network, EU, project "Training network for Next generation cellular screening - NEXTSCREEN", Grant agreement ID: (CNR Unit Coordinator).
- *2018-2022:* H2020 FET-OPEN, EU, project "Chromatin organization PROFiling with high-throughput super-resolution microscopy on a CHIP - PROCHIP", Grant agreement ID: 801336 (Project Coordinator).
- *2014:* Fabbrica del Futuro Progetto Bandiera "La Fabbrica del Futuro": "POLYmer nanostructuring by two-PHOTON ABSorption – POLYPHAB", (Project Coordinator).

Short Description of Research Activities

My research activity covered different topics throughout the years and has been conducted always in strict collaboration with different universities, both in Italy and in other countries. In the frame of the scientific collaboration in the group Virtual Institute for Nonlinear Optics (VINO – www.vino-stella.eu) I spent few months at the Universities of Como and Vilnius (Lithuania).

The topics I have been addressing during my research activity are:

- **Frequency conversion in integrated devices.** One-dimensional photonic crystal structures were studied to realize an optical integrated frequency converter. A new method to achieve quasi-phase-matching (QPM) in an isotropic and non-ferroelectric material (AlGaAs) was found. The result was achieved by through a periodic modulation of the field amplitude at the fundamental frequency induced by the beating of the stationary Bloch waves within the linear grating.
- **Radiation-matter interaction, filamentation and conical waves formation in dissipative homogeneous 3 materials.** The activity concerned the development of new experimental techniques to fully characterize the spatio-temporal intensity of ultrashort laser pulses. In parallel, simulations of the filamentation of ultrashort pulses have been conducted to understand the role of different nonlinear phenomena. The main achieved result concerned the first experimental and numerical demonstration of the spontaneous modification driven by the optical nonlinearity in homogeneous Kerr-media of a Gaussian beam towards a stationary structure, determined by the material dispersion.
- **Study of bistability in semiconductor ring lasers.** The research activity focused on the experimental demonstration of optical switching in semiconductor ring laser, driven by short optical pulses (down to 5 ps).

• **Biophotonics – Optical fiber tweezers.** The research activity in this field led to the first demonstration of a miniaturized fiber optic tweezer able to stably trap micro and nanoparticles in three dimensions, without physical contact.

• **Biophotonics - Femtosecond laser micromachining of optofluidic Lab-on-chip.** In the last few years I focused my attention to the exploitation of femtosecond lasers for the fabrication of novel optofluidic devices. In particular by the use of laser irradiation followed by chemical etching different integrated devices have been realized. Thanks to the 3D capability of this technique to fabricate buried microchannel and optical waveguides with very high alignment precision an integrated lab-on chip that allows stretching and sorting single cells on the basis of their fluorescence and mechanical properties has been demonstrated. Other compact components as optofluidic chopper or 3D focusing devices have been demonstrated and the stretcher lab-on chip has been very recently shown to be useful also for microreological measurements. Another important result has been the demonstration of a microscope on chip that allows optical sectioning and reconstruction of the 3D image of biological samples at high throughput. This can be achieved by the integration in a single substrate of the optical components to generate a light sheet in a microchannel used to deliver the sample through the light plane.

Impact of Research

Invited Seminars and Lectures

- International PhD School – Optoelectronics, Lasers & Applications – OLA, Aug 2007, Greece
- Università degli Studi di Pavia, May 2015, Pavia
- Fotonica 2018, May 2018, Lecce
- Advanced Photonics 2018- Sensors, Jul 2018, Zurich
- IFN Day 2018, Oct. 2018, Lecco
- Università degli Studi di Milano, Dec 2018, Milano

Bibliometric data

I am co-author of 46 peer-reviewed publications, 3 book chapters and 2 patents demand.

I appear as first author in 9 of these publications and as last author in 5 of them.

| Citation Report (@2022) | | |
|---------------------------|----------------------|--------|
| Source | ISI – Web of Science | Scopus |
| Total citations | 1675 | 1895 |
| Average citation per item | 25.21 | - |
| h-index | 21 | 23 |

Collaborations

Ilaria Cristiani, Università degli Studi di Pavia, Italy

Paolo Minzioni, Università degli Studi di Pavia, Italy

Stefano Turri, Politecnico di Milano, Italy

Jochen Guck, Technische Universität Dresden, Germany

Kirstine Berg-Sørensen, Technical University of Denmark, Denmark

Yu Gu, Department of Physics, Saint Joseph's University, USA

Josef Käs, University of Leipzig, Germany

Mark Neil, Imperial College London, UK

Carole Frindel, INSA Lyon, France

David Rousseau, Université d'Angers, France

Remi Galland, University of Bordeaux, France

Publications on International Journals

1. D. Faccio, F. Bragheri, M. Cherchi, "Optical Bloch-mode-induced quasi phase matching of quadratic interactions in one-dimensional photonic crystals", J. Opt. Soc. Am. B 21, 296 (2004)
2. F. Bragheri, D. Faccio, M. Romagnoli, T. Krauss, J. Roberts, "Effects of random and systematic perturbations in a one-dimensional photonic crystal wavelength converter", Phys. Rev. E 70, 017601 (2004)
3. D. Faccio, P. Di Trapani, S. Minardi, A. Bramati, F. Bragheri, C. Liberale, V. Degiorgio, A. Dubietis, A. Matijosius, "Far-field spectral characterization of conical emission and filamentation in Kerr media", J. Opt. Soc. Am. B 22, 862 (2005)
4. D. Faccio, F. Bragheri, "Localization of light and second-order nonlinearity enhancement in weakly disordered one-dimensional photonic crystals", Phys. Rev. E 71, 057602 (2005)
5. F. Bragheri, C. Liberale, V. Degiorgio, D. Faccio, A. Matijosius, G. Tamošauskas, A. Varanavičius, and P. Di Trapani, "Time-Gated Spectral characterization of ultrashort laser pulses", Opt. Commun. 256, 166 (2005)
6. M. A. Porras, A. Dubietis, E. Kučinskas, F. Bragheri, V. Degiorgio, A. Couairon, D. Faccio, P. Di Trapani, "From X- to O-shaped spatiotemporal spectra of light filaments in water", Opt. Lett. 30, 3398 (2005)
7. D. Faccio, M. A. Porras, A. Dubietis, F. Bragheri, A. Couairon, P. Di Trapani, "Conical emission, pulse splitting and X-wave parametric amplification in nonlinear dynamics of ultrashort light pulses", Phys. Rev. Lett. 96, 193901 (2006)
8. D. Faccio, A. Averchi, A. Couairon, A. Dubietis, R. Piskarskas, A. Matijosius, F. Bragheri, M. A. Porras, A. Piskarskas, P. Di Trapani, "Competition between Phase-matching and stationarity in Kerr-driven optical pulse filamentation", Phys. Rev. E 74, 047603 (2006)
9. M. A. Porras, A. Dubietis, A. Matijosius, R. Piskarskas, F. Bragheri, A. Averchi, P. Di Trapani, "Characterization of conical emission of light filaments in media with anomalous dispersion", J. Opt. Soc. Am. B 24, 581 (2007)
10. F. Bragheri, D. Faccio, A. Couairon, A. Matijosius, G. Tamošauskas, A. Varanavičius, V. Degiorgio, A. Piskarskas, P. Di Trapani, "Conical Emission and Shock Front Dynamics in Fs Laser Pulse Filamentation", Phys. Rev. A 76, 025801 (2007)
11. C. Liberale, P. Minzioni, F. Bragheri, F. De Angelis, E. Di Fabrizio, I. Cristiani, "Miniaturized all-fibre probe for three-dimensional optical trapping and manipulation", Nature Photonics 1, 723 (2007)
12. M. Sharma, L. Visai, F. Bragheri, I. Cristiani, P. K. Gupta, P. Speziale, "Toluidine Blue-Mediated Photodynamic Effects on Staphylococcal Biofilms", Antimicrob. Agents Chemother. 52, 299 (2008)
13. P. Minzioni, F. Bragheri, C. Liberale, E. Di Fabrizio, I. Cristiani, "A novel approach to fiber-optic tweezers: Numerical analysis of the trapping efficiency", IEEE J. Sel. Top. Quantum Electron. 14, 151 (2008)

14. D. Faccio, M. Clerici, A. Averchi, O. Jedrkiewicz, S. Tzortzakis, D. Papazoglou, F. Bragheri, L. Tartara, A. Trita, S. Henin, I. Cristiani, A. Couairon, P. Di Trapani, "Kerr-induced spontaneous Bessel beam formation in the regime of strong two-photon absorption", *Opt. Express* 16, 8213 (2008)
15. D. Faccio, M. Clerici M, A. Averchi, A. Lotti, O. Jedrkiewicz, A. Dubietis, G. Tamosauskas, A. Couairon, F. Bragheri, D. Papazoglou, S. Tzortzakis, P. Di Trapani, "Few-cycle laser-pulse collapse in Kerr media: The role of group-velocity dispersion and X-wave formation", *Phys. Rev. A* 78, 033826 (2008)
16. F. Bragheri, P. Minzioni, C. Liberale, E. Di Fabrizio, I. Cristiani, "Design and optimization of a reflection-based fiber-optic tweezers", *Opt. Express* 16, 17647 (2008)
17. M.S. Sbarra, A. Di Poto, C.R. Arciola, E. Saino, M. Sharma, F. Bragheri, I. Cristiani, P. Speziale, L. Visai, "Photodynamic action of merocyanine 540 on *Staphylococcus epidermidis* biofilms", *Int. J. Artif. Organs* 31, 848 (2008)
18. F. Bragheri, D. Faccio, F. Bonaretti, A. Lotti, M. Clerici, O. Jedrkiewicz, C. Liberale, S. Henin, L. Tartara, V. Degiorgio, P. Di Trapani "Complete retrieval of the field of ultrashort optical pulses using the angle-frequency spectrum", *Opt. Lett.* 33, 2952 (2008)
19. D. Faccio, A. Lotti, A. Matijosius, F. Bragheri, V. Degiorgio, A. Couairon, P. Di Trapani, "Experimental energy-density flux characterization of ultrashort laser pulse filaments", *Opt. Express* 17, 8193 (2009)
20. A. Trita, F. Bragheri, I. Cristiani, V. Degiorgio, D. Chrastina, D. Colombo, G. Isella, H. Von Kaenel, F. Gramm, E. Muller, M. Dobeli, E. Bonera, R. Gatti, F. Pezzoli, E. Grilli, M. Guzzi, L. Miglio, "Impact of misfit dislocations on wavefront distortion in Si/SiGe/Si optical waveguides", *Opt. Commun.* 282, 4716 (2009)
21. N. Bellini, K. Vishnubhatla, F. Bragheri, L. Ferrara, P. Minzioni, R. Ramponi, I. Cristiani, R. Osellame, "Femtosecond laser fabricated monolithic chip for optical trapping and stretching of single cells", *Opt. Express* 18, 4679 (2010)
22. F. Bragheri, L. Ferrara, N. Bellini, K. C. Vishnubhatla, P. Minzioni, R. Ramponi, R. Osellame, and I. Cristiani, "Optofluidic chip for single cell trapping and stretching fabricated by a femtosecond laser", *J. Biophoton.* **3**, 234 (2010).
23. L. Ferrara, E. Baldini, P. Minzioni, F. Bragheri, C. Liberale, E. Di Fabrizio, I. Cristiani, "Experimental study of the optical forces exerted by a Gaussian beam within the Rayleigh range", *J. Optics* **13**, 075712 (2011)
24. F. Bragheri, P. Minzioni, R. Martinez Vazquez, et al. "Optofluidic integrated cell sorter fabricated by femtosecond lasers", *Lab on a Chip*, 12, 3779-3784 (2012)
25. F. Bragheri, R. Osellame, R. Ramponi, "Optofluidics for Biophotonic Applications", *IEEE Photonics Journal*, 4, 596 (2012)
26. N. Bellini, F. Bragheri, I. Cristiani et al. "Validation and perspectives of a femtosecond laser fabricated monolithic optical stretcher", *Biomedical Optics Express*, 3, 2658-2668 (2012)
27. C. Liberale, G. Cojoc, F. Bragheri, P. Minzioni, G. Perozziello, R. La Rocca, L. Ferrara, V. Rajamanickam, E. Di Fabrizio, I. Cristiani, "Integrated microfluidic device for single-cell trapping and spectroscopy", *Scientific Reports*, 3, 1258 (2013)
28. A. Trita, G. Mezosi, M. Latorre-Vidal, M. Zanola, M.J. Strain, F. Bragheri, M. Sorel, G. Giuliani, "All-Optical Directional Switching in Bistable Semiconductor-Ring Lasers", *J. Quantum Electron.* 49, 877-885 (2013)
29. P. Paiè, F. Bragheri, R. Martinez Vazquez, R. Osellame, "Straightforward 3D hydrodynamic focusing in femtosecond laser fabricated microfluidic channels", *Lab Chip*, 14, 1826-1833 (2014)

30. Y. Gu, F. Bragheri, G. Valentino, K. Morris, N. Bellini, R. Osellame, "Ferrofluid-based optofluidic switch using femtosecond laser-micromachined waveguides", *Appl. Opt.*, 54, 1420-1425 (2015)
31. T. Yang, P. Paiè, G. Nava, F. Bragheri, R. Martinez Vazquez, P. Minzioni, M. Veglione, M. Di Tano, C. Mondello, R. Osellame, I. Cristiani "An integrated optofluidic device for single-cell sorting driven by mechanical properties", *Lab Chip*, 15, 1262-1266 (2015)
32. R. Martinez Vazquez, G. Nava, M. Veglione, T. Yang, F. Bragheri, P. Minzioni, E. Bianchi, M. Di Tano, I. Chiodi, R. Osellame, C. Mondello, I. Cristiani, "An optofluidic constriction chip for monitoring metastatic potential and drug response of cancer cells", *Integrative Biol.*, 7, 477-484 (2015)
33. T. Yang, G. Nava, P. Minzioni, M. Veglione, F. Bragheri, F.D. Lelii, R. Martinez Vazquez, R. Osellame, I. Cristiani, "Investigation of temperature effect on cell mechanics by optofluidic microchips", *Biomed. Opt. Express*, 6, 2991-2996 (2015)
34. G. Nava, F. Bragheri, T. Yang, P. Minzioni, R. Osellame, I. Cristiani, K. Berg-Sorensen, "All-silica microfluidic optical stretcher with acoustophoretic prefocusing", *Microfluid. Nanofluid.*, 19, 837-844 (2015)
35. T. Yang, F. Bragheri, G. Nava, I. Chiodi, C. Mondello, R. Osellame, K. Berg-Sorensen, I. Cristiani, P. Minzioni, "A comprehensive strategy for the analysis of acoustic compressibility and optical deformability on single cells", *Scientific Reports*, 6, 23946 (2016)
36. R. Suriano, T. Zandrini, C. De Marco, R. Osellame, S. Turri, F. Bragheri, "Nanomechanical probing of soft matter through hydrophobic AFM tips fabricated by two-photon polymerization", *Nanotechnology*, 27, 155702 (2016)
37. P. Paiè, F. Bragheri, A. Bassi, R. Osellame, "Selective plane illumination microscopy on a chip", *Lab Chip*, 16, 1556-1560 (2016)
38. T. Yang, F. Bragheri, P. Minzioni, "A Comprehensive Review of Optical Stretcher for Cell Mechanical Characterization at Single-Cell Level", *Micromachines*, 7, 90 (2016)
39. V. Stankevič, G. Račiukaitis, F. Bragheri, X. Wang, E. G. Gamaly, R. Osellame, S. Juodkasis, "Laser printed nano-gratings: orientation and period peculiarities", *Scientific reports* 7, 39989 (2017)
40. A Crespi, F. Bragheri, "Projecting light beams with 3D waveguide arrays", *Journal of Physics B: Atomic, Molecular and Optical Physics* 50, 014002 (2017)
41. T. Yang, G. Nava, V. Vitali, F. Bragheri, R. Osellame, T. Bellini, I. Cristiani, P. Minzioni, "Integrated Optofluidic Chip for Low-Volume Fluid Viscosity Measurement", *Micromachines* 8, 65 (2017)
42. P. Paiè, F. Bragheri, T. Claude, R. Osellame, "Optofluidic light modulator integrated in lab-on-a-chip", *Optics express* 25 (7), 7313-7323 (2017)
43. P. Paiè, F. Bragheri, D. Di Carlo, R. Osellame, "Particle focusing by 3D inertial microfluidics", *Microsystems & Nanoengineering* 3, 17027 (2017)
44. P. Paiè, T. Zandrini, R. Martínez Vázquez, R. Osellame, F. Bragheri, "Particle Manipulation by Optical Forces in Microfluidic Devices, *Micromachines* 9 (5), 200 (2018)
45. G. Nava, T. Yang, V. Vitali, P. Minzioni, I. Cristiani, F. Bragheri, R. Osellame, L. Bethge, S. Klusmann, E. M. Paraboschi, R. Asselta, T. Bellini, "Newtonian to non-newtonian fluid transition of a model transient network", *Soft matter* 14, 3288-3295 (2018)
46. P. Paiè, R. Martínez Vázquez, R. Osellame, F. Bragheri, A. Bassi, "Microfluidic Based Optical Microscopes on Chip" *Cytometry Part A* 93, 987-996 (2018)
47. A. Crespi, R. Osellame, F. Bragheri "Femtosecond-laser-written optofluidics in aluminoborosilicate glass", *Optical Materials: X* 4, 100042, 2019

48. V Vitali, G Nava, G Zanchetta, F Bragheri, A Crespi, R Osellame, T Bellini, I. Cristiani, P. Minzioni, "Integrated optofluidic chip for oscillatory microrheology", *Scientific reports* 10 (1), 5831, 2020
49. H Ahmadi, S Kellerer, D Ertel, M Moioli, M Reduzzi, PK Maroju, A Jäger, "Collinear setup for delay control in two-color attosecond measurements" *Journal of Physics: Photonics* 2 (2), 024006, 2020
50. F Sala, M Castriotta, P Paiè, A Farina, S D'Annunzio, A Zippo, R Osellame, F. Bragheri, A. Bassi, "High-throughput 3D imaging of single cells with light-sheet fluorescence microscopy on chip", *Biomedical optics express* 11 (8), 4397-4407, 2020
51. V Vitali, G Nava, A Corno, M Pezzotti, F Bragheri, P Paiè, R Osellame, ... "Yield stress "in a flash": investigation of nonlinearity and yielding in soft materials with an optofluidic microrheometer", *Soft Matter* 17 (11), 3105-3112, 2021
52. F Sala, P Paié, R Martínez Vázquez, R Osellame, F Bragheri, "Effects of thermal annealing on femtosecond laser micromachined glass surfaces" *Micromachines* 12 (2), 180, 2021
53. R Memeo, P Paiè, F Sala, M Castriotta, C Guercio, T Vaccari, R Osellame, A. Bassi, F. Bragheri "Automatic imaging of Drosophila embryos with light sheet fluorescence microscopy on chip", *Journal of Biophotonics* 14 (3), e202000396, 2021
54. V Vitali, G Nava, A Corno, M Pezzotti, F Bragheri, P Paie, R Osellame, ... "Robotized algal cells and their multiple functions", *SOFT MATTER* 17 (11), 3105-3112, 2021
55. A Ahmad, F Sala, P Paiè, A Candeco, S d'Annunzio, A Zippo, C Frindel, ... "On the robustness of machine learning algorithms toward microfluidic distortions for cell classification via on-chip fluorescence microscopy" *Lab on a Chip* 22 (18), 3453-3463, 2022
56. M Calvarese, P Paiè, F Ceccarelli, F Sala, A Bassi, R Osellame, F. Bragheri, "Strategies for improved temporal response of glass-based optical switches", *Scientific Reports* 12 (1), 239, 2022
57. R Memeo, M Bertaso, R Osellame, F Bragheri, A Crespi, "Laser-Assisted Etching of EagleXG Glass by Irradiation at Low Pulse-Repetition Rate" *Applied Sciences* 12 (3), 948, 2022
58. M Calvarese, P Paiè, A Candeco, G Calisesi, F Ceccarelli, G Valentini, R. Osellame, F. Bragheri, A. Bassi, "Integrated optical device for structured illumination microscopy", *Optics Express* 30 (17), 30246-30259, 2022
59. S Piacentini, F Bragheri, G Corrielli, RM Vázquez, P Paiè, R Osellame, "Advanced photonic and optofluidic devices fabricated in glass via femtosecond laser micromachining", *Optical Materials Express* 12 (10), 3930-3945, 2022
60. P Paiè, G Calisesi, A Candeco, A Comi, F Sala, F Ceccarelli, A De Luigi, P Veglianesi, M Fokine, K Muhlberger, G Valentini, R Osellame, M Neil, A Bassi, F Bragheri, "Structured-light-sheet imaging in an integrated optofluidic platform" *Lab on a Chip* 2023
61. P Pozzi, A Candeco, P Paiè, F Bragheri, A Bassi, "Artificial intelligence in imaging flow cytometry", *Frontiers in Bioinformatics* 3, 1229052, 2023

Book chapters

1. C. Liberale, G. Cojoc, V. Rajamanickam, L. Ferrara, F. Bragheri, P. Minzioni, G. Perozziello, P. Candeloro, I. Cristiani, E. di Fabrizio, "Miniaturized Optical Tweezers Through Fiber-End Microfabrication", Springer International Publishing, Lab-on-Fiber Technology, Ch. 8, pp. 159-180 (2015)

2. F. Bragheri, R. Martínez Vázquez, R. Osellame, Three-dimensional microfabrication using two-photon polymerization, micro and nano technologies - Microfluidics, William Andrew Publishing, Oxford (2016), pp. 310-334 (Chapter 12.3)
3. T. Zandrini, R. Suriano, C. De Marco, R. Osellame, S. Turri, F. Bragheri, "Polymer nanostructuring by two-photon absorption", In: Tolio T, Copani G, Terkaj W (eds) *Factories of the future*. Springer (2019)

International Conferences

4. F. Bragheri, C. Liberale, V. Degiorgio, D. Faccio, A. Matijosius, P. Di Trapani, G. Tamošauskas, A. Varanavicius, A. Piskarskas, "Time-Gated Angular-Spectrum characterization of fs-Beam Filamentation in Water", CLEO Europe, Munich, 12-17 June 2005
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