

CV

Daniel Milanese

Office address: Department of Applied Science and Technology - Politecnico di Torino C.so Duca degli Abruzzi, 24 - 10129 – Torino – ITALY. E-mail: daniel.milanese@polito.it

Home address: [REDACTED]

Education

5th March 2001: PhD in Materials Engineering, Politecnico di Milano, Italy

1997-2001, PhD research activity at the Department of Materials Science and Chemical Engineering, Politecnico di Torino. Directed by Prof. P. Appendino and Prof. M. Ferraris. Research theme: “Advanced glasses for photonic applications”.

9th -13th July 2000: “Euro-Summer School on Photosensitivity in Optical Waveguides and Glasses”, Giens (France).

29th – 31st May 2000: Applications Training Course in Precision Materials Technology, at the laboratories of Logitech Ltd., Scotland, UK.

8th – 20th April 2000: “XVII School of Solid State Physics on Defects in Silica and Related Dielectrics”, held at the Majorana Centre for Scientific Culture, Erice (Sicily, Italy).

1996, Degree (MSc) in Chemistry at Torino (Turin) University, score **110/110, cum laude**.

Dissertation: “*Electron microscopy study on fluoride glasses crystal defects*”. Directed by: Prof. Livio Battezzati (Department of Inorganic Chemistry, University of Torino, Italy), Dr. Marco Braglia (CSELT, Torino, Italy).

Present appointment

- a) **Present post:** Associate Professor in Materials Science and Technology
- b) **Date of appointment to present post:** 01/10/2014
- c) **Department:** Applied Science and Technology
- d) **University:** Politecnico di Torino, Italy

Previous appointments

09/2012 - 09/2014: **Adjunct Professor** for the Course of Materials Science and Technology for Designers, Politecnico di Torino.

01/2012 - 09/2014: **Assistant Professor** at the Department of Applied Science and Technology, Politecnico di Torino (Italy).

10/2002 - 12/2011: **Assistant Professor** at the Department of Materials Science and Chemical Engineering, Politecnico di Torino (Italy).

01/2001 – 09/2002: **Research Assistant** at the Department of Materials Science and Chemical Engineering, Politecnico di Torino (Italy).

01/1998 – 12/2000: **PhD student**, Politecnico di Milano (Italy).

Skills

- *Glass and optical fibre fabrication:* melt quenching technique, preform fabrication by rod in tube and built-in-casting technique for fibre fabrication, drawing of optical fibres.
- Optical microscopy; Electronic microscopy: SEM, EDS, TEM;

- Calorimetry: DSC, TGA, DTA; lapping and polishing precision machines (Logitech); glass manufacturing, melting, mixing, casting; photolithographic process; ion-exchange technique.
- Lasers: ArF and KrF excimer laser; Ar ion laser; frequency doubled Ar ion laser. Optical characterizations: m-line, dark line, lifetime, mode profile, loss measurements.
- *Academic*: gas-chromatography; HPLC, TLC, electrophoresis; NMR, Mass spectrometry (reading and interpretation of spectra); cyclic voltammetry, polarography.

International Experiences

December 2014: Massachusetts Institute of Technology, Cambridge, USA - **Visiting Scientist** in the group of prof. Yoel Fink at Research Laboratory of Electronics (RLE).

June 7, 2013: Aalto University, Helsinki, Finland - **Opponent** for the PhD Defence of Joan Montiel y Ponsoda, supervisor prof. Harri Lipsanen. Title of the dissertation thesis: "Analysis of photodarkening effects in ytterbium-doped laser fibers".

February 26, 2013: University of Mid-Sweden, Sundsvall, Sweden - **Opponent** for the PhD Licentiate of Sara Rydberg, tutor prof. Magnus Engholm. Title of the dissertation thesis: "Radiation induced losses in ytterbium doped laser materials"

March-September 2008: **Visiting Scholar** with prof. Nasser Peyghambarian at the College of Optical Sciences – Optical fiber laser group - University of Arizona, Tucson (USA). Research topic: "Rare Earth doped soft glass optical fiber lasers in the 2 micron wavelength region".

2000-2002: **Research Fellow** within a project between Agilent Technologies and Politecnico di Torino for the fabrication of active devices on tellurite glasses for Telecom applications.

29/10/98 - 31/7/99: **Visiting Research Assistant** at the Optoelectronics Research Centre of the University of Southampton (UK) working on UV and IR laser direct writing of waveguides on photosensitive glasses. Supervisors: Dr. E.R.M. Taylor, Prof. D.N. Payne.

1/12/97 - 31/5/98, CSELT (Telecom Italia Research Laboratories): **Contractor** for the realization of Bragg gratings on germanosilicate ion-exchanged planar waveguides. Directed by: Dr. L. Cognolato (CSELT, Turin, Italy).

30/3/95 - 12/7/96, CSELT research internship: as undergraduate, on fluoro-zirconate glasses with Scanning and Transmission Electron Microscope and thermal analysis methods- work for University of Torino.

Teaching and lecturing experience

2011-present: Course in "New Materials and Technologies for Design" for undergraduate students (3rd year) in Design and Visual Communication, Politecnico di Torino.

2010-present: Course in "Materials and Technologies for Design" for undergraduate students (1st year) in Design and Visual Communication, Politecnico di Torino.

2009-present: Graduate Course in "Optical fibres for photonic applications" for the Doctorate Courses in *Materials Science and Technologies* and *Electronic Devices*, Politecnico di Torino.

2009-2012: Graduate Course in "Advanced Glasses and Glass Based Components" for the Doctorate Course in *Materials Science and Technology*, Politecnico di Torino.

Fall 2011: Visiting Professor for the Master Course in "Materials for Precision Manufacturing" at the University of Applied Sciences and Arts of Southern Switzerland in Lugano (Switzerland) for graduate students.

2009-2010: Course in "Materials Science and Technology II" for undergraduate students in Design, Politecnico di Torino.

2002-2009: Course in "Materials Science and Engineering" for Civil Engineers and Mechanical Engineers and "Glasses for Photonics" for Material Engineers, Politecnico di Torino.

1st October 2002: permanent position as Assistant Professor at Politecnico di Torino.

2000-2002: lectures and training of students in Materials Science and Engineering at Politecnico di Torino.

February - May '98 lecturer: prepared and conducted some university lectures on “Germano-silicate glass synthesis and planar devices fabrication”- work for Politecnico di Torino.

Management of funding

1. **NATO Science for Peace and Security project** entitled “CompAct eye-safe Lidar source for AirBorne lasER scanning”, acronym “CALIBER” – **Lead Scientist** of the DISAT Department, Politecnico di Torino (2017-2019) – funding 70,000 EUR.
2. **Piedmont Region (Italy) Research project** entitled “Laser In Fibra ottica Eye-safe”, acronym “LIFE” – **Lead Scientist** of the DISAT Department, Politecnico di Torino (2011-2014) – funding 150,000 EUR.
3. **Project “Programma Vinci 2010 – Cap. III”** of the Italian-French University for the funding of a PhD grant entitled: “Design, Fabrication and characterization of a power amplifier based on specialty glasses for LIDAR sources”. The project was carried out in collaboration with prof. Jean Emmanuel Broquin of the Institute Polytechnique de Grenoble (IPG) – **Project Coordinator** (2011-2013) – funding 60,000 EUR.
4. **International research project funded by the European Office of Aerospace Research & Development - EOARD (London)** entitled “Ho-doped soft glass optical fibers for coherent wavelength sources above 2 micron”, project code AFOSR-BAA-2009-1 – **Project coordinator** (2010-2011) – funding 30,500 USD.
5. **EU FP7-NMP “Leadership in Fibre Laser Technologies”**, acronym “LIFT”, Grant Agreement n. 228587 – **Coordinatore locale e responsabile scientifico** per il Politecnico di Torino (2009-2013). 164000 EUR.
6. **Piedmont Region (Italy) Converging Technologies Research Project** entitled “Nanostructured optical fibres for high power lasers”, acronym “HIPERANO” – **Lead scientist** of DISMIC Department of Politecnico di Torino (2009-2012) – funding 280,000 EUR.
7. **Progetto IMI-REV Grant (Lehigh University, USA)** entitled “Rare Earth doped soft glass optical fibers for fiber lasers in the 2 micron wavelength region” – **Lead Scientist** of the project (March 2008-September 2008).
8. **National project PRIN prot. n. 2005099872_002** entitled “Sviluppo di sorgenti laser a singola frequenza in fibra nel vicino infrarosso per applicazioni avanzate alla sensoristica” in collaboration with Politecnico di Milano – **Lead Scientist for** Politecnico di Torino (2006-2008) - funding 50,000 EUR.

International activity

- **Associate Editor** of *Optical Materials Express*, an OSA ISI Journal, since 1/4/2015.
- **Organisation of International conferences as technical committee member:**
 - Session "Optical Fibers" of the symposium "Optical and Electronic Materials and Devices—Fundamentals and Applications" at the **Glass & Optical Materials Division Meeting 2016** of the American Ceramic Society, Madison, Wisconsin, USA, May 22-26, 2016.
 - Organizer of the Focussed session “Advanced (Ceramic) Materials and Processing for Photonics and Energy” in the framework of the **38th American Ceramic Society Annual Meeting**, Daytona Beach, USA, January 26-31, 2014.
 - Chairman at the EU project Lift International Workshop on Photodarkening in optical fibres, Dresden, Germany, October 5, 2010.
 - Chairman of the workshop *EPIC Workshop on Fibre lasers*, 4th International Workshop on Fiber Lasers, Dresden, Germany, November 5-6, 2008.
 - Organizer of the *EPIC Workshop on Photonic Components for Broadband Communication*, Stockholm, Sweden, June 28-29, 2006.
- **Other international activities:**
 - European Platform Photonics 21: member of Work Group 6 (Design and Manufacturing of Components and Systems), 2005-2014; member of Work Group 3 (Photonics for Life Science), 2015-now.
 - European Photonic Industry Consortium, Contact person for Politecnico di Torino, 2005-now.
 - Optical Society of America, member, 2001-now.

Management activity

- Member of the Academic Senate of Politecnico di Torino (2015-present)
- Member of the Strategic Teaching Policies Board of the Academic Senate of Politecnico di Torino (2015-2018)
- Member of the Organizational Meeting Board of Politecnico di Torino (2017-present)

Summary of publication record (updated April 2016)

Database	Number of documents	Number of Citations	Hirsch Factor
Scopus	141	903	18
Web Of Science	95	623	15

Invited presentations to peer-reviewed, internationally established conferences

- 1) **Milanese D.**, Pugliese D., Boetti N.G., Ceci-Ginistrelli E., Janner D., Sglavo V.M., Vitale-Brovarone C., Lousteau J. (2017) "Phosphate glass fibers for optical amplifiers and biomedical applications", Optical Fiber Communication Conference, Paper# M2F.2, Los Angeles, United States, 19-23 March 2017.
- 2) **Milanese D.**, Pugliese D., Boetti N.G., Ceci-Ginistrelli E., Janner D., Lousteau J., "Advances in Phosphate Glass Optical Fibers for Lasers and Optical Amplifiers", The 6th OASIS International Conference and Exhibition on Optics and Electro-Optics, Tel Aviv, Israel, February 27-28 2017
- 3) **Milanese D.**, Lousteau J., Pugliese D., Janicek P., Boetti N.G., Ceci-Ginistrelli E., Demetriou, G., Kar A.K., Bookey H.T. (2015), Novel tellurite core and cladding glasses for high numerical aperture optical fibre: Prospects for a supercontinuum optical fibre source. In: Transparent Optical Networks (ICTON), 2015 17th International Conference on, Budapest, Hungary, 5-9 July 2015. pp. 1-4
- 4) **Milanese D.**, Lousteau J., Boetti N.G., Mura E., Scarpignato G.C., Broquin J.E., Bastard L., Ferraris M., Abrate S., "Phosphate glass optical fibres for CW and pulsed lasers", Sixth International Conference on Optical, Optoelectronic and Photonic Materials and Applications, Sunday 27th July – Friday 1st August 2014 in Leeds, UK.
- 5) Lousteau J., Mura E., Scarpignato G.C., Boetti N.G., **Milanese D.**, "Phosphate glasses for fiber laser applications", 88th Annual Meeting of German Society of Glass Technology (DGG) and the Glass & Optical Materials Division Annual Meeting (ACerS GOMD) Aachen, Germany May 25 – 30, 2014.
- 6) Shiyu Y., Lousteau J., Olivero M., Merlo M., Boetti N.G., Abrate S., **Milanese D.**, Chen Q., Pirri F., Ferraris M., "Investigation of the Faraday effect in tellurite glass optical fiber", 14th International Conference on Transparent Optical Networks, Warwick (UK) 1-5 July 2012, pp. 4, 2012, ISBN: 9781467322270, DOI: 10.1109/ICTON.2012.6253717.
- 7) **Milanese D.**, Chen Q.; Liao G.; Xing J.; Chiaretta D.; Fokine M.; Ferraris M., "Novel tellurite glasses and nanocluster doped silica for photonics", International Conference on Transparent Optical Networks, Rome, Italy 1 July - 5 July 2007.
- 8) **Milanese D.**; Chen Q.; Liao G.; Xing J.; Chiaretta D.; Fokine M.; Ferraris M., "Novel tellurite glasses and nanocluster doped silica for photonics and non linear applications", Proc. International Symposium on Non-Crystalline Solids, Aracaju, Brazil October 21st -25th, 2007.

Main publications on International Journals

- 1) Lopez-Iscoa, P., Salminen, T., Hakkarainen, T., Petit, L., Janner, D., Boetti, N.G., Lastusaari, M., Pugliese, D., Paturi, P., Milanese, D., "Effect of Partial Crystallization on the Structural and Luminescence Properties of Er³⁺-Doped Phosphate Glasses", (2017) Materials, 10, 473. DOI: 10.3390/ma10050473
- 2) Lopez-Iscoa, P., Petit, L., Massera, J., Janner, D., Boetti, N.G., Pugliese, D., Fiorilli, S., Novara, C., Giorgis, F., Milanese, D., "Effect of the addition of Al₂O₃, TiO₂ and ZnO on the thermal, structural and luminescence properties of Er³⁺-doped phosphate glasses" (2017) Journal of Non-Crystalline Solids, 460, pp. 161-168. DOI: 10.1016/j.jnoncrsol.2017.01.030
- 3) Ceci-Ginistrelli, E., Pontremoli, C., Pugliese, D., Barbero, N., Boetti, N.G., Barolo, C., Visentin, S., Milanese, D., "Drug release kinetics from biodegradable UV-transparent hollow calcium-phosphate glass fibers" (2017) Materials Letters, 191, pp. 116-118. DOI: 10.1016/j.matlet.2016.12.103
- 4) Konyukhov, A.I., Romanova, E.A., Benson, T.M., Athanasiou, G.S., Lousteau, J., Scarpignato, G., Pugliese, D., Milanese, D., "Effect of submicron deformations on the transmission of all-solid photonic

- bandgap fibre" (2016) *Optical and Quantum Electronics*, 48 (12), art. no. 544. DOI: 10.1007/s11082-016-0791-8
- 5) Novajra, G., Boetti, N.G., Lousteau, J., Fiorilli, S., Milanese, D., Vitale-Brovarone, C., "Phosphate glass fibre scaffolds: Tailoring of the properties and enhancement of the bioactivity through mesoporous glass particles" (2016) *Materials Science and Engineering C*, 67, pp. 570-580.
 - 6) Ceci-Ginistrelli, E., Pugliese, D., Boetti, N.G., Novajra, G., Ambrosone, A., Lousteau, J., Vitale-Brovarone, C., Abrate, S., Milanese, D., "Novel biocompatible and resorbable UVtransparent phosphate glass based optical fiber" (2016) *Optical Materials Express*, 6 (6), pp. 2040-2051 DOI: 10.1364/OME.6.002040
 - 7) Pugliese, D., Boetti, N.G., Lousteau, J., Ceci-Ginistrelli, E., Bertone, E., Geobaldo, F., Milanese, D., "Concentration quenching in an Er-doped phosphate glass for compact optical lasers and amplifiers" (2016) *Journal of Alloys and Compounds*, 657, pp. 678-683. DOI: 10.1016/j.jallcom.2015.10.126
 - 8) Massera, J., Shpotyuk, Y., Sabatier, F., Jouan, T., Boussard-Plédel, C., Roiland, C., Bureau, B., Petit, L., Boetti, N.G., Milanese, D., Hupa, L., "Processing and characterization of novel borophosphate glasses and fibers for medical applications", (2015) *Journal of Non-Crystalline Solids*, 425, art. no. 17440, pp. 52-60. DOI: 10.1016/j.jnoncrysol.2015.05.028.
 - 9) Boetti, N.G., Scarpignato, G.C., Lousteau, J., Pugliese, D., Bastard, L., Broquin, J.-E., Milanese, D., "High concentration Yb-Er co-doped phosphate glass for optical fiber amplification", (2015) *Journal of Optics (United Kingdom)*, 17 (6), art. no. 065705. DOI: 10.1088/2040-8978/17/6/065705
 - 10) Chiesa, M., Mattsson, K., Taccheo, S., Robin, T., Lablonde, L., Mechin, D., Milanese, D., "Defects induced in Yb³⁺/Ce³⁺ co-doped aluminosilicate fiber glass preforms under UV and γ-ray irradiation", (2014) *Journal of Non-Crystalline Solids*, 403, pp. 97-101. DOI: 10.1016/j.jnoncrysol.2014.07.011
 - 11) Sglavo, V.M., Mura, E., Milanese, D., Lousteau, J., "Mechanical properties of phosphate glass optical fibers", (2014) *International Journal of Applied Glass Science*, 5 (1), pp. 57-64. Doi: 10.1111/ijag.12040.
 - 12) Gomes, L., Lousteau, J., Milanese, D., Mura, E., Jackson, S.D., "Spectroscopy of mid-infrared (2.9 μm) fluorescence and energy transfer in Dy³⁺-doped tellurite glasses", (2014) *Journal of the Optical Society of America B: Optical Physics*, 31 (3), pp. 429-435. Doi: 10.1364/JOSAB.31.000429.
 - 13) Bourhis, K., Boetti, N.G., Koponen, J., Milanese, D., Petit, L. "Influence of the P₂O₅/Al₂O₃ co-doping on the local environment of erbium ions and on the 1.5 μm quantum efficiency of Er³⁺-borosilicate glasses", (2014) *Optical Materials*, 36 (5), pp. 926-931. Doi: 10.1016/j.optmat.2013.12.035.
 - 14) Piccoli, R., Gebavi, H., Lablonde, L., Cadier, B., Robin, T., Monteville, A., Le Goffic, O., Landais, D., Méchin, D., Milanese, D., Brand, T., Taccheo, S., "Evidence of photodarkening mitigation in Yb-doped fiber lasers by low power 405 nm radiation", (2014) *IEEE Photonics Technology Letters*, 26 (1), art. no. 6656890, pp. 50-53. Doi: 10.1109/LPT.2013.2288994.
 - 15) Novajra, G., Lousteau, J., Milanese, D., Vitale-Brovarone, C., "Resorbable hollow phosphate glass fibres as controlled release systems for biomedical applications", (2013) *Materials Letters*, 99, pp. 125-127. Cited 1 time. Doi: 10.1016/j.matlet.2013.02.076.
 - 16) Boetti, N.G., Negro, D., Lousteau, J., Freyria, F.S., Bonelli, B., Abrate, S., Milanese, D., "Spectroscopic investigation of Nd³⁺ single doped and Eu³⁺/Nd³⁺ co-doped phosphate glass for solar pumped lasers", (2013) *Journal of Non-Crystalline Solids*, 377, pp. 100-104. Cited 1 time. Doi:10.1016/j.jnoncrysol.2013.01.004.
 - 17) Mura, E., Lousteau, J., Milanese, D., Abrate, S., Sglavo, V.M., "Phosphate glasses for optical fibers: Synthesis, characterization and mechanical properties", (2013) *Journal of Non-Crystalline Solids*, 362 (1), pp. 147-151. Cited 4 times. Doi: 10.1016/j.jnoncrysol.2012.11.029.
 - 18) Lousteau, J., Scarpignato, G., Athanasiou, G.S., Mura, E., Boetti, N., Olivero, M., Benson, T., Sewell, P., Abrate, S., Milanese, D., "Photonic bandgap confinement in an all-solid tellurite-glass photonic crystal fiber", (2012) *Optics Letters*, 37 (23), pp. 4922-4924. Cited 4 times. Doi: 10.1364/OL.37.004922.
 - 19) Olivero, M., Braglia, A., Perrone, G., Boetti, N.G., Lousteau, J., Milanese, D., "Improved setup and procedure for benchmarking of photodarkening in ytterbium doped silica fibers", (2012) *Journal of Optics (United Kingdom)*, 14 (12), art. no. 125702. Cited 1 time. Doi: 10.1088/2040-8978/14/12/125702.
 - 20) Shiyu, Y., Lousteau, J., Olivero, M., Merlo, M., Boetti, N., Abrate, S., Chen, Q., Chen, Q., Milanese, D., "Analysis of Faraday effect in multimode tellurite glass optical fiber for magneto-optical sensing and

monitoring applications", (2012) *Applied Optics*, 51 (19), pp. 4542-4546. Cited 2 times. Doi: 10.1364/AO.51.004542.

- 21) Gebavi, H., Taccheo, S., Balda, R., Fernandez, J.M., Milanese, D., Auzel, F., "The effect of ZnF₂ on the near-infrared luminescence from thulium doped tellurite glasses", (2012) *Journal of Non-Crystalline Solids*, 358 (12-13), pp. 1497-1500. Cited 3 times. Doi: 10.1016/j.jnoncrysol.2012.04.005.
- 22) Boetti, N.G., Lousteau, J., Chiasera, A., Ferrari, M., Mura, E., Scarpignato, G.C., Abrate, S., Milanese, D., "Thermal stability and spectroscopic properties of erbium-doped niobic-tungsten tellurite glasses for laser and amplifier devices", (2012) *Journal of Luminescence*, 132 (5), pp. 1265-1269. Cited 10 times. Doi: 10.1016/j.jlumin.2011.12.057.
- 23) Gomes, L., Lousteau, J., Milanese, D., Scarpignato, G.C., Jackson, S.D., "Energy transfer and energy level decay processes in Tm 3-doped tellurite glass", (2012) *Journal of Applied Physics*, 111 (6), art. no. 063105, . Cited 4 times. Doi: 10.1063/1.3694747.
- 24) Vitale-Brovarone, C., Novajra, G., Lousteau, J., Milanese, D., Raimondo, S., Fornaro, M., "Phosphate glass fibres and their role in neuronal polarization and axonal growth direction", (2012) *Acta Biomaterialia*, 8 (3), pp. 1125-1136. Cited 3 times. Doi: 10.1016/j.actbio.2011.11.018.
- 25) Boetti, N.G., Lousteau, J., Negro, D., Mura, E., Scarpignato, G., Abrate, S., Milanese, D., "Multiple visible emissions by means of upconversion process in a microstructured tellurite glass optical fiber", (2012) *Optics Express*, 20 (5), pp. 5409-5418. Cited 5 times. Doi: 10.1364/OE.20.005409.
- 26) Lousteau, J., Boetti, N.G., Chiasera, A., Ferrari, M., Abrate, S., Scarciglia, G., Venturello, A., Milanese, D., "Er³⁺ and Ce³⁺ codoped tellurite optical fiber for lasers and amplifiers in the near-infrared wavelength region: Fabrication, optical characterization, and prospects", (2012) *IEEE Photonics Journal*, 4 (1), art. no. 6121891, pp. 194-204. Cited 9 times. Doi: 10.1109/JPHOT.2011.2181974.
- 27) Gebavi, H., Milanese, D., Balda, R., Taccheo, S., Fernandez, J., Lousteau, J., Ferraris, M., "Spectroscopy of thulium and holmium heavily doped tellurite glasses", (2012) *Journal of Luminescence*, 132 (2), pp. 270-276. Cited 1 time. Doi: 10.1016/j.jlumin.2011.08.042.
- 28) Gomes, L., Milanese, D., Lousteau, J., Boetti, N., Jackson, S.D., "Energy level decay processes in Ho 3-doped tellurite glass relevant to the 3 μ m transition", (2011) *Journal of Applied Physics*, 109 (10), art. no. 103110, . Cited 3 times. Doi: 10.1063/1.3587476
- 29) Taher, M., Gebavi, H., Taccheo, S., Milanese, D., Balda, R., "Novel approach towards cross-relaxation energy transfer calculation applied on highly thulium doped tellurite glasses, (2011) *Optics Express*, 19 (27), pp. 26269-26274. Doi: 10.1364/OE.19.026269.
- 30) Gebavi, H., Taccheo, S., Milanese, D., Monteville, A., Le Goffic, O., Landais, D., Mechin, D., Tregoat, D., Cadier, B., Robin, T., "Temporal evolution and correlation between cooperative luminescence and photodarkening in ytterbium doped silica fibers", (2011) *Optics Express*, 19 (25), pp. 25077-25083. Cited 15 times. Doi: 10.1364/OE.19.025077.
- 31) Taccheo, S., Gebavi, H., Monteville, A., Le Goffic, O., Landais, D., Mechin, D., Tregoat, D., Cadier, B., Robin, T., Milanese, D., Durrant, T., "Concentration dependence and self-similarity of photodarkening losses induced in Yb-doped fibers by comparable excitation" (2011) *Optics Express*, 19 (20), pp. 19340-19345. Cited 17 times. Doi: 10.1364/OE.19.019340.
- 32) Vitale-Brovarone, C., Novajra, G., Milanese, D., Lousteau, J., Knowles, J.C., "Novel phosphate glasses with different amounts of TiO₂ for biomedical applications: Dissolution tests and proof of concept of fibre drawing", (2011) *Materials Science and Engineering C*, 31 (2), pp. 434-442. Cited 11 times. Doi: 10.1016/j.msec.2010.11.001.
- 33) Gebavi, H., Milanese, D., Balda, R., Ivanda, M., Auzel, F., Lousteau, J., Fernandez, J., Ferraris, M., "Novel Tm³⁺-doped fluorotellurite glasses with enhanced quantum efficiency", (2011) *Optical Materials*, 33 (3), pp. 428-437. Cited 8 times. Doi: 10.1016/j.optmat.2010.10.013.
- 34) Milanese, D., Gebavi, H., Lousteau, J., Ferraris, M., Schülzgen, A., Li, L., Peyghambarian, N., Taccheo, S., Auzel, F., "Tm₃₊ and Yb³⁺ co-doped tellurite glasses for short cavity optical fiber lasers: Fabrication and optical characterization", (2010) *Journal of Non-Crystalline Solids*, 356 (44-49), pp. 2378-2383. Cited 5 times. Doi: 10.1016/j.jnoncrysol.2010.03.029.

- 35) Gebavi, H., Milanese, D., Balda, R., Chaussedent, S., Ferrari, M., Fernandez, J., Ferraris, M., "Spectroscopy and optical characterization of thulium doped TZN glasses", (2010) *Journal of Physics D: Applied Physics*, 43 (13), art. no. 135104. Cited 9 times. Doi: 10.1088/0022-3727/43/13/135104.
- 36) Massera, J., Haldeman, A., Milanese, D., Gebavi, H., Ferraris, M., Foy, P., Hawkins, W., Ballato, J., Stolen, R., Petit, L., Richardson, K., "Processing and characterization of core-clad tellurite glass preforms and fibers fabricated by rotational casting", (2010) *Optical Materials*, 32 (5), pp. 582-588. Cited 15 times. Doi: 10.1016/j.optmat.2009.12.003.
- 37) Chen, Q., Chen, Q., Milanese, D., Ferraris, M., "Thermal assisted direct bonding between structured glasses for lab-on-chip technology", (2009) *Microsystem Technologies*, 15 (12), pp. 1873-1877. Cited 6 times. Doi: 10.1007/s00542-009-0911-5
- 38) Chen, Q., Chen, Q., Milanese, D., Ferraris, M., "Micro-structures fabrication on glasses for micro-fluidics by imprinting technique", (2009) *Microsystem Technologies*, 15 (7), pp. 1067-1071. Cited 8 times. Doi: 10.1007/s00542-009-0881-7.
- 39) Gebavi, H., Milanese, D., Liao, G., Chen, Q., Ferraris, M., Ivanda, M., Gamulin, O., Taccheo, S., "Spectroscopic investigation and optical characterization of novel highly thulium doped tellurite glasses", (2009) *Journal of Non-Crystalline Solids*, 355 (9), pp. 548-555. Cited 19 times. Doi: 10.1016/j.jnoncrysol.2009.01.016.
- 40) Liao, G., Chen, Q., Xing, J., Gebavi, H., Milanese, D., Fokine, M., Ferraris, M., "Preparation and characterization of new fluorotellurite glasses for photonics application", (2009) *Journal of Non-Crystalline Solids*, 355 (7), pp. 447-452. Cited 18 times. Doi: 10.1016/j.jnoncrysol.2009.01.011.
- 41) Milanese, D., Vota, M., Chen, Q., Xing, J., Liao, G., Gebavi, H., Ferraris, M., Coluccelli, N., Taccheo, S., "Investigation of infrared emission and lifetime in Tm-doped $75\text{TeO}_2:20\text{ZnO}:5\text{Na}_2\text{O}$ (mol%) glasses: Effect of Ho and Yb co-doping", (2008) *Journal of Non-Crystalline Solids*, 354 (18), pp. 1955-1961. Cited 16 times. Doi: 10.1016/j.jnoncrysol.2007.11.010.
- 42) Chen, Q., Milanese, D., Chen, Q., Ferraris, M., Righini, G.C., "Fabrication and direct bonding of photosensitive multicomponent silicate glasses for lossless planar waveguide splitters", (2008) *Journal of Non-Crystalline Solids*, 354 (12-13), pp. 1230-1234. Cited 7 times. Doi: 10.1016/j.jnoncrysol.2006.11.045.
- 43) Menke, Y., Chiaretta, D., Milanese, D., Ferraris, M., "Microwave assisted diffusion of Au-nanoclusters in vitreous silica", (2006) *Journal of Non-Crystalline Solids*, 352 (23-25), pp. 2526-2531. Cited 1 time. Doi: 10.1016/J.JNONCRY SOL.2006.01.094.
- 44) Chiaretta, D., Milanese, D., Menke, Y., Ferraris, M., Pirri, F., "Structural and optical characterization of Rf-sputtered metal cluster doped silica thin films", (2006) *Journal of Non-Crystalline Solids*, 352 (23-25), pp. 2548-2552. Cited 8 times. Doi: 10.1016/j.jnoncrysol.2006.03.041.
- 45) Ferraris, M., Milanese, D., Menke, Y., Chen, Q., Chiesa, M., Giamello, E., "EPR and UV-Vis characterization of multicomponent germano-silicate glasses for photonics", (2006) *Journal of Non-Crystalline Solids*, 352 (21-22), pp. 2267-2278. Cited 3 times. Doi: 10.1016/j.jnoncrysol.2006.02.035.
- 46) Lancry, M., Douay, M., Niay, P., Beclin, F., Menke, Y., Milanese, D., Ferraris, M., Poumellec, B., "Self induced gratings in ternary $\text{SiO}_2:\text{SnO}_2:\text{Na}_2\text{O}$ bulk glasses by UV light seeding", (2005) *Optics Express*, 13 (18), pp. 6878-6886. Cited 4 times. Doi: 10.1364/OPEX.13.006878.
- 47) Ferraris, M., Milanese, D., Contardi, C., Chen, Q., Menke, Y., "UV-Vis, FT-IR and EPR investigation on multi-component germano-silicate glasses for photonics", (2004) *Journal of Non-Crystalline Solids*, 347 (1-3), pp. 246-253. Cited 7 times. Doi: 10.1016/j.jnoncrysol.2004.08.236.
- 48) Di Nunzio, S., Vitale Brovarone, C., Spriano, S., Milanese, D., Verné, E., Bergo, V., Maina, G., Spinelli, P., "Silver containing bioactive glasses prepared by molten salt ion-exchange", (2004) *Journal of the European Ceramic Society*, 24 (10-11), pp. 2935-2942. Cited 39 times. Doi: 10.1016/j.jeurceramsoc.2003.11.010.
- 49) Milanese, D., Ferraris, M., Menke, Y., Olivero, M., Perrone, G., Gawith, C.B.E., Brambilla, G., Smith, P.G.R., Taylor, E.R., "Photosensitive properties of a tin-doped sodium silicate glass for direct ultraviolet writing", (2004) *Applied Physics Letters*, 84 (17), pp. 3259-3261. Cited 7 times. Doi: 10.1063/1.1715148.

- 50) Chiesa, M., Ferraris, M., Giamello, E., Milanese, D., "Photosensitivity of germanium-doped multicomponent silicate glasses: Role of boron and sodium ions", (2003) *Journal of Non-Crystalline Solids*, 328 (1-3), pp. 215-226. Cited 4 times. Doi: 10.1016/S0022-3093(03)00471-X.
- 51) Chen, Q., Ferraris, M., Menke, Y., Milanese, D., Monchiero, E., "Novel erbium doped PbO and B₂O₃ based glasses with broad 1.5 μ m absorption line width and low refractive index", (2003) *Journal of Non-Crystalline Solids*, 324 (1-2), pp. 1-11. Cited 26 times. Doi: 10.1016/S0022-3093(03)00222-9.
- 52) Chen, Q., Ferraris, M., Milanese, D., Menke, Y., Monchiero, E., Perrone, G. "Novel Er-doped PbO and B₂O₃ based glasses: Investigation of quantum efficiency and non-radiative transition probability for 1.5 μ m broadband emission fluorescence", (2003) *Journal of Non-Crystalline Solids*, 324 (1-2), pp. 12-20. Cited 32 times. Doi: 10.1016/S0022-3093(03)00223-0.
- 53) Forastiere, M.A., Righini, G.C., Brenci, M., Pelli, S., Ferraris, M., Milanese, D., "Modelling of diffractive structures in photorefractive Er/Yb-co-doped glass waveguides", (2003) *Optics and Lasers in Engineering*, 39 (3), pp. 333-344. Cited 2 times. Doi: 10.1016/S0143-8166(01)00104-X.
- 54) Gawith, C.B.E., Fu, A., Bhutta, T., Hua, P., Shepherd, D.P., Taylor, E.R., Smith, P.G.R., Milanese, D., Ferraris, M., "Direct-UV-written buried channel waveguide lasers in direct-bonded intersubstrate ion-exchanged neodymium-doped germano-borosilicate glass", (2002) *Applied Physics Letters*, 81 (19), pp. 3522-3524. Cited 17 times. Doi: 10.1063/1.1519103.
- 55) Milanese, D., Fu, A., Contardi, C., Taylor, E.R.M., Ferraris, M., "Photosensitivity and directly UV written waveguides in an ion exchangeable bulk oxide glass", (2001) *Optical Materials*, 18 (3), pp. 295-300. Cited 19 times. Doi: 10.1016/S0925-3467(01)00117-3.
- 56) Perrone, G., Moro, A., Contardi, C., Milanese, D., "Ion exchanged waveguide in new active and photosensitive glass", (2000) *Electronics Letters*, 36 (22), pp. 1845-1846. Cited 6 times. Doi: 10.1049/el:20001318.
- 57) Verné, E., Vitale Brovarone, C., Milanese, D., "Glass-matrix biocomposites: Synthesis and characterization", (2000) *Journal of Biomedical Materials Research*, 53 (4), pp. 408-413. Cited 7 times. Doi: 10.1002/1097-4636(2000)53:4<408::AID-JBM15>3.0.CO;2-O.
- 58) Brambilla, G., Pruneri, V., Reekie, L., Contardi, C., Milanese, D., Ferraris, M., "Bragg gratings in ternary SiO₂:SnO₂:Na₂O optical glass fibers", (2000) *Optics Letters*, 25 (16), pp. 1153-1155. Cited 21 times. Doi: 10.1364/OL.25.001153.

Books and book chapters

- 1) Novajra, G., Bains, F., Raimondo, S., Lousteau, J., **Milanese, D.**, Vitale-Brovarone, C. Chapter 18: Bioactive Glasses for Nerve Regeneration (2017) *RSC Smart Materials*, 2017-January (23), pp. 420-441. DOI: 10.1039/9781782622017-00420
- 2) Audren J.T., Andersson J., Baets R., Bieller S., Bindig P., Bigo S., Blochwitz-Nimoth J., Carter A., Clapp T., Cotter D., Dämmig M., Dainty C., De Silvestri S., Dominguez C., Elbers J.P., Everett J., Fischer R., Fonjallaz P.Y., Friedel A., Fulbert L., Gosselin S., Grallert H.J., Grillet A., Gucciardi P.G., Haskal E., Herzig H.P., Jalocha A., Jonathan J.M., Judson J.P., Kaierle S., Klemmt M., Knapp W., Larkins E., Leebby M., Mayerhöfer T., **Milanese D.**, Mohr J., Napier B., Nayar B., Parker M., Pearsall T., Pickering C., Piegari A., Popp J., Ramponi R., Ristau D., Robin T., Sandner W., Sarger L., Smets B., Smit M., Stietz F., Svanberg K., Thienpont H., Thylén L., Torner L., Tremont M., Viglienzoni A., Visser P., Wale M., Walf G., Walker S., Wessler B., Wittrock U. (2010) *Lighting the way ahead: Photonics21 Strategic Research Agenda*. European Technology Platform Photonics21 - VDI Technologiezentrum, Dusseldorf, pp. 1-184.

Patents

- 1) Ugues D., **Milanese D.**, Chiaretta D., Doglione L. "Process for coating parts made of aluminium alloy and parts obtained therefrom" (2012). EP20100711752.
- 2) **Milanese D.**, Lousteau J., "Dispositivo in fibra ottica per emissione laser" (2009) TO2009A000969.

- 3) Ugues D., **Milanese D.**, Chiaretta D., Doglione L., "Procedimento per il rivestimento di particolari in lega di alluminio, in particolare in lega di alluminio pressocolata, e particolari realizzati tramite tale procedimento" (2009) TO2009A000234.
- 4) Chen Qiuping, Chen Qiuling, **Milanese D.**, Ferraris M., Fokine M., "Procedimento di produzione di un dispositivo microfluidico" (2007). 0001379665.
- 5) Cognolato L., **Milanese D.**, Monchiero E., "Method for producing optical waveguides" (2003) Agilent Technologies, Inc. US 2003/0046959.