

Allegato B

Decreto Rettore Università di Roma "La Sapienza" n. 2687/2023 del 18/10/2023

Prof. Stefano Trillo Curriculum Vitae:

Part I – General Information (removed personal data)

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
University graduation	1982	Università di Roma "La Sapienza"	Laurea, Ingegneria Elettronica, 110/110 cum laude, thesis "Feasibility experiment of a FEL over the electron storage ring Adone"
Post-graduate studies	1982	Istituto Nazionale Fisica Nucleare (INFN), Laboratori di Frascati	Research associate (LELA project)
PhD	1986	Università di Roma "La Sapienza"	Dottorato (I° ciclo), Elettromagnetismo Applicato, thesis "Instability, multistability, and stochastic phenomena in the nonlinear propagation in dielectric waveguides at optical frequencies"

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
2007	current	Università degli Studi di Ferrara	Full Professor
1998	2007	Università degli Studi di Ferrara	Associate Professor

IIIB – Other Appointments

Start	End	Institution	Position
1987	1998	Fondazione Ugo Bordoni	Senior researcher

IIIC – Academic Responsibilities

- Director (Coordinatore) of the PhD Program (Corso post-laurea di Dottorato) "Sciences of Engineering" (Scienze dell'Ingegneria), University of Ferrara, 2007-current. The Program is organized into 3 curricula: Civil Engineering; ICT Engineering; Mechanical Engineering, and counts >30 average PhD students in the three active cycles. Details at <https://www.unife.it/studenti/dottorato/it/corsi/riforma/ingegneria>
- Member of the technical and steering committee of IUSS (University Institute for Advanced Study), University of Ferrara, 2007-current.
- Member of national commission for scientific habilitation (ASN) in Electromagnetics (09/F1 Campi Elettromagnetici), 2012-2014, first tournament in Italy.

IIID – Other Academic Qualification

- National Scientific Qualification (ASN) for Full Professor (1a fascia), 2017-present, settori concorsuali (SC):
SC 02/B1 – Fisica Sperimentale della Materia (SSD FIS/01-FIS/03);
SC 02/B2 – Fisica Teorica della Materia (SSD FIS/03).

Part IV – Teaching experience

Stefano Trillo has twenty-five years of experience (1998-2023) in teaching basic and specialist subjects related to the 09/F1 Electromagnetic Fields competition sector, mainly developed at the University of Ferrara, first in the five-year old system degree courses (vecchio ordinamento, V.O.) , and then in the novel re-organization known as 3+2 years system, with experience in the 3-year degree (LT), and 2-year specialist degree (Laurea Specialistica, LS) and master's degree (Laurea Magistrale, LM) courses. Furthermore, he has taught at PhD level on subjects of broad interdisciplinary interest for mechanical, civil and information engineers. To date he has benefited from a single sabbatical for research reasons (art. 17 DM no. 382/1980) in the academic year 2019-20. The courses held by ownership are summarized in the table below. All courses are covered by proprietary teaching material freely available to the students.

Stefano Trillo has also played a key role to expanding the educational offer of the courses in EE and ICT Engineering with key contributions to set-up classes in Optical Communications (V.O.) and Antennas (LM), taught by other collaborators at University of Ferrara.

Teaching/class	Laurea Course	Academic years (A.A.)
Campi Elettromagnetici (12 CFU)	Ingegneria Elettronica (V.O.)	1998-99, 1999-00, 2000-01
Elaborazione Ottica dei Segnali (6+6 CFU)	Ingegneria Elettronica (V.O.)	1999-00, 2000-01, 2001-02
Propagazione (6 CFU)	LT Laurea in Ingegneria dell'Informazione (Automazione, Elettronica, Informatica, TLC) dal 2000-01 fino a 2010-11 LM-29 Ingegneria Elettronica e delle Telecomunicazioni (dal 2010-11)	2000-01, 2001-02, 2002-03, 2003-04, 2004-05, 2005-06, 2007-08, 2008-2009, 2009-10, 2010-11, 2012-13
Propagazione Guidata (6 CFU)	LS-32/S Ingegneria e Tecnologie per le Telecomunicazioni e l'Elettronica (dal 2003-04) LM-29 Ingegneria Elettronica e delle Telecomunicazioni (dal 2010-11) LM-29 Ingegneria Elettronica per l'ICT (dal 2019-20)	2007-08, 2009-10, 2010-11, 2012-13, 2014-15, 2016-17, 2018-19, 2021-22, 2022-23, 2023-24 (sem. I)
Dispositivi Ottici (6 CFU)	LS-32/S Ingegneria e Tecnologie per le Telecomunicazioni e l'Elettronica (dal 2003-04) LM-29 Ingegneria Elettronica e delle Telecomunicazioni (dal 2010-11) LM-29 Ingegneria Elettronica per l'ICT (dal 2019-20)	2006-07, 2008-09, 2011-12, 2013-14, 2015-16, 2017-18, 2021-22
Modelli matematici e fenomenologia delle onde (5 CFU)	Dottorato, Scienze dell'Ingegneria, corso obbligatorio	2022-23

PhD Students supervised at University of Ferrara

Dr. Silvia Valentini (PhD, 2005), Dr. Alberto Parini (PhD 2005), Dr. Andrea Armaroli (PhD 2008, joint supervision with University of Grenoble; today with habilitation, ASN, Associate Professor 09/F1), Dr. Michele Lauritano (PhD, 2008), Dr. Stefania Malaguti (PhD, 2011).

Teaching in national and international PhD Schools

- 1987, "Tecnologie per ottica integrata", Maiori, Salerno;
- 1988, "Materiali ottici nonlineari e loro applicazioni", Brallo di Pregola, Pavia; 1990
- 1990, "Nonlinear Waves in Solid State Physics", Erice, Trapani,
- 1992, "Guided Wave Nonlinear Optics", Cargès, Corsica (associated publication, book chapter n. 6 in the full list of publications)
- 1992, "Materiali ottici nonlineari e loro applicazioni", Laghi Alimini, Lecce
- 1994, "Nonlinear Optics and Guided Waves", ESF Study Center, Edinburgh, UK

- 1998, "Optical Solitons: Theoretical Challenges and Industrial Perspectives", Les Houches, France (associated publication, book chapter n. 8 in the full list of publications)
- 2004, "New Concepts in Photonics and Optical Communications", Dijon, Francia
- 2011, "Nonlinear optics and complexity in photonic crystal fibers and nanostructures", Erice, Trapani
- 2012, "Dispersive shocks: PDEs, multiscale asymptotics, computational and physical applications", SISSA, Trieste, IT
- 2015, "Rogue and shock waves in dispersive media", Cargès, France (associated publication, book chapter n. 17 in the full list of publications)
- 2019, "Nonlinear Photonics", 10th Optoelectronics and Photonics Winter School, Andalo, Trento, IT

Part V - Society memberships, Awards and Honors

Year	Title
2009	Optica Fellow (formerly OSA Fellow, from Optical Society of America), elected "for pioneering contributions in solitons, instabilities, and nonlinear waves in various systems",

Part VI - Funding Information [grants as PI-principal investigator or I-investigator]

Stefano Trillo has a vast experience of participation in activities related to projects from competitive calls (European, national, etc.), that dates back to his appointment at Fondazione Ugo Bordoni. The main grants obtained in the last 15 years are outlined below

Year	Role	Title	Program Call	Grant value
2008-2012	PI of local unit (uniFE)	PROMINER (Progetto per le Micro e Nano Tecnologie in Emilia Romagna)	Regional Call (Emilia-Romagna)	64K€
2010-2012	PI of local unit (uniFE)	Copernicus (Compact Otdm-wdm oPtical rEceiveRs based on photoNic crystal Integrated CircUitS)	STREP project of FP7 theme ICT-2009.3.8 (Organic photonics and other disruptive photonics technologies)	3M€ Thales, France (PI); UniNottingham, UK; CNRS, France; DTU, Denmark; UniFE, IT; U2T Photonics, Germany; TSA, France
2011-2013	PI (Coordinatore Nazionale)	Shock waves in optics: theory and experiments	PRIN 2009 2009P3K72Z	217 K€, 3 units
2014-2017	PI (Coordinatore Nazionale)	Extreme waves phenomena in optics and hydrodynamics	PRIN 2012 2012BFNWZ2	236 K€, 4 units
2022-2025	PI of local unit (uniFE)	Extreme waves emerging in full 2D+1 dimensional environments	PRIN 2020 2020X4T57A	600 K€, 4 units
2023-2025	PI (Coordinatore Nazionale)	Extreme wave phenomena in quadratic optical crystals	PRIN 2022 2022NCTCY	236 K€, 2 units

Part VII – Research Activities

Stefano Trillo has over 40-year experience in research, carried out in both top level research institutions and in the academia. He is widely recognized internationally as a leading scientist in the field of optics, specifically nonlinear optics with applications in photonics, thanks to several seminal contributions in such areas. These encompass both pioneering experimental results and creative theoretical work, due to a quite unique capacity to conjugate experimental skills in the lab with the ability to use mathematical and numerical tools for achieving ground-breaking results in theory. He is author of > 570 publications (details in section VIII and in the attached full list of publications) between international journals, contributed and invited conference papers, and invited book chapters, and has a vast international experience with

well established and long-standing collaborations in different countries.

Field of research (keywords)

Electrons-light interactions and dynamics of free-electron lasers (1982-1984); Nonlinear mode coupling in fiber optics and its exploitation for all-optical control of signals; Frequency conversion and parametric instabilities; Temporal solitons in fibers; Ultrashort pulse dynamics; Fiber lasers, mode-locking, and their dynamical behavior; Modeling of light-matter interactions from first principles; Linear and nonlinear localized (Bessel beams, X-waves, O-waves, etc.) wave-packets; Spatial solitons in waveguides and bulk media; Mathematical theory of soliton phenomena and nonlinear waves; Photonic crystals, nanocavities, and photonic circuits; Nano-optics; Shock waves and dispersive hydrodynamics; Quantum statistics of photons; Dynamical systems and chaos. Pattern formation in dissipative optical systems. Optical turbulence. Propagation in random media. Analogies between electromagnetic phenomena and phenomena occurring in related fields, such as fluo-dynamics, gas-dynamics, Bose-Einstein condensation, etc.;

Synthetic description of main achievements in research (1982-2023):

- First absolute experimental demonstration of free-electron laser gain in electron storage ring with undulator
- First observation of polarization instabilities in the evolution along standard as well as ad-hoc engineered silica optical fibers and its application to build all-optical devices
- Theory of Hamiltonian spatial chaos in the nonlinear mixing of modes in waveguides
- First prediction of pulse breaking-free switching based on temporal solitons in fibers
- First prediction of instabilities in passive cavities promoting optical frequency comb formation
- First detailed comparative study of discrete solitons in array of evanescently coupled waveguides
- First prediction and observation of modulational instability in second-harmonic generation
- Demonstration of group velocity mismatch compensation by means of resonance soliton excitation
- Full theory of gap-solitons and their stability in periodic media with different nonlinear response
- Exhaustive investigation of solitons, instability phenomena, and their applications in quadratic media
- Demonstration of the regenerative capability of 3-wave mixing over signals traveling along fiber optic links
- Opening of the field of nonlinear X waves (non-soliton 3D diffraction-free and dispersion-free wavepackets) along with the first absolute observation of their spontaneous formation
- Pioneering observation of spatial dispersive wave-breaking in nonlocal media
- Theory and observation of soliton and shock radiation in slow-light Photonic Crystal waveguides
- Observation of regimes of hydrodynamics which bear close similarities to electromagnetic phenomena
- First experimental demonstration in fibers of symmetry-breaking in context of the famous paradox known as Fermi-Pasta-Ulam recurrence
- First experimental realization of Riemann problem for light showing photon superfluid behavior
- Observation of separatrix crossing induced by loss/gain in multiwave mixing in fibers (first lab observation of separatrix crossing in an infinito-dimensional system)

International Experience

He has spent several research stage abroad, main ones at ETH, Zurich (1985, 4 months); Optical Sciences Center, U. of Arizona (years 1986-87, 15 months); CREOL, Orlando, Florida (1991, 1 month); Washington State Univ., Pullman (1998, NATO grant, 1 month); U. of Bourgogne, France (1997, 1998, 1999, 2004, 2012, 5 months), U. of Lille (2015-2019, 6 months). He took part in international PhD juries in UK, France, Belgium, Denmark, Australia. He has established several and long-standing international collaborations with most prestigious universities worldwide, which have led to > 100 papers in peer-review journals coauthored by >60 between junior and top scientists in different European countries, US and Japan (see list of publications).

Organization of major international conferences and workshops

He has an extensive experience in the organization of international events, including participations as TPC member at major conferences in optics: *CLEO Europe-EQEC*, IEEE-OSA, Munich, Germany, 2003, *Nonlinear Guided Waves and Their Applications*, OSA (Dresden 2005; Toronto 2004; as Program Chair, Cambridge, 1998); *Nonlinear Photonics*, OSA (Quebec City, Canada, 2007; Karlsruhe, Germany, 2010; Colorado Spring, USA, 2012); CLEO-QELS Fundamental Science, OSA, San Jose, USA, 2012-2014; or as Subcomitee Chair at *Nonlinear Photonics*, OSA, (Quebec City, Canada, 2007; Karlsruhe, Germany, 2010; Colorado Spring, USA, 2012), ICONO, St. Petersburg, 2005. He has been the organizers of several minisymposia in math-oriented conferences (SIAM, NEEDS) and events such as Intern. Workshop on *Optical Solitons*, Varenna, 2002 (as Chair), or the Intern. School *Spatio-temporal complexity in nonlinear optics*, Centro A. Volta, Villa del Grumello, Como, 2013 (with Prof. Wabnitz, Sella).

Editorials Boards of International Journals

Topical Editor, Optics Letters, Optica (formerly Optical Society of America), 1998-2004 (2;

Editorial Board member, Photonics Research, OSA, 2013(launching year)-2018;

Editorial Board member, Int. J. of Optics, Wiley (previously Hindawi), 2009-present.

Invited/Keynote/Plenary speeches (main, last 6 years, see overall list of publications for the full list)

- S. Trillo et al., The dispersive Riemann problem in nonlinear fiber optics, SIAM Nonlinear Waves and Coherent Structures, Anaheim, June, 2018, invited.
- S. Trillo, Dispersive Riemann problems and shock waves in optical fibers Workshop and summer school "Nonlinear Photonics", Novosibirsk, Aug. 21-24, 2018, invited.
- S. Trillo, Modulational Instability: an endless story, ETNO, Iseo, 2018, invited.
- Mussot, C. Naveau, F. Bessin, P. Szriftgiser, M. Conforti, A. Kudlinski, S. Trillo, New Insights on Modulation Instability in Optical Fibers, OFC, San Diego, 3-7 March 2019, invited.
- S. Trillo, Nonlinear PDEs describing real experiments: recurrences, solitons, and shock waves, The 11th IMACS Int. Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, Athens, Georgia, April 17-19, 2019, keynote speaker (plenary).
- S. Trillo, Competing mechanisms of nonlinear modulation instability, Waves Cote d'Azur, Nice, June 4-7, 2019, invited.
- S. Trillo et al., Nonlinear stage of modulational instability, Progress In Electromagnetic Research Symposium (PIERS) Conference, Rome, June 16-19, 2019, invited.
- S. Trillo et al., Nonlinear Modulational Instability: Recurrences, Broken Symmetry, and Breathers, Nonlinear Optics, OSA Topical Meeting, Hawaii, USA, July 16-19, 2019, invited.
- S. Trillo et al., Topographic fibers: a platform for fundamental physical phenomena, Optics at the Nanoscale (ONS), Anacapri, Italy, 9-11 Sept., 2019, invited.
- S. Trillo et al. Nonlinear stage of modulational instability: towards a global understanding, ICLO, St. Petersburg, June 8-12, 2020, invited.
- S. Trillo, From the Riemann problem to the focusing catastrophe: observations in nonlinear optics, Workshop HY2W05 "Physical Applications, Program "Dispersive Hydrodynamics", Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, Dec. 5-9, 2022, plenary talk. Public available at <https://www.newton.ac.uk/seminar/29627/>

Review research work

The vast and impactful research activity by Stefano Trillo leads periodically to write review works on different subjects which tend to be published in extremely prestigious journals or in chapters/books. The main and highly cited ones are:

- Book: *Spatial solitons*, S. Trillo, W.E. Torruellas, eds. (Springer, 2001), pp. 1-454, cited:>450 (GS).
- Review paper: A.V. Buryak, P. Di Trapani, D. Skryabin, S. Trillo, *Optical solitons due to quadratic nonlinearities: from basic physics to futuristic applications*, Physics Reports **370**, n. 2, pp. 63-235 (2002), cited:>450 (GS), IF in 2002: 12,64; IF in 2022: 30; Q1 (3/85 phys. multidisciplinary).
- Review paper: A. Mussot, M. Conforti, S. Trillo, F. Copie, A. Kudlinski, *Modulation instability in dispersion oscillating fibers*, Adv. Opt. Photonics **10**, 1-42 (2018); cited 62(GS), IF in 2018: 13,96, Q1 (3/90 optics).

Part VIII – Summary of Scientific Achievements

Stefano Trillo has a vast scientific production in terms of scientific publications. Referring to its full publication list (period 1983-2023) attached as a title (n.1) to this application, the publications are summarized in the table below. He has an academic seniority of 40 years (first paper 1983).

ORCID identifier <https://orcid.org/0000-0001-9434-5971>

Table 1: type of scientific publications (overall scientific production)

Product type	Number of contributions	Notes
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Papers (international journals)	237	Several of which in top ranking peer-review journals (1 Nature Photonics, 2 Nature Comm., 1 PNAS, 27 Phys. Rev. Lett., 2 Phys. Rev. X, >60 Opt. Lett.,...)
Book (research)	2	1 coedited with W. Torruellas, 1 related to Proceedings russian Conference ICONO
Invited book chapters	21	
Contributions to Conferences	313	of which: 59 invited/plenary, <15 national conferences
Total	573	

Table 2: Bibliometric indicators related to overall scientific activity (1983-2023)

Indicator	Value (origin of datum)
Total Citations	10452 (Scopus) 13679 (GS)
Average Citations per Product	~ 24 (Scopus; calculated over total of 440 products in the repository)
Hirsch (H) index	53 (Scopus) 60 (GS)
Total Impact factor	738 (WofS via IRIS) partial result calculated over 142 articles present in IRIS out of 237)

Table 3: other bibliometric data (as required in the selection call with reference to the indicators in the ASN)*

Indicator	Value (origin of datum)
numero complessivo di lavori su banche dati internazionali riconosciute per l'abilitazione scientifica nazionale (<i>ultimi 10 anni</i>)	74 (Scopus – WofS)
indice di Hirsch (<i>ultimi 15 anni</i>)	29 (Scopus – WofS)
numero totale delle citazioni (<i>ultimi 15 anni</i>)	2382 (Scopus-WofS)
numero medio di citazioni per pubblicazione (<i>ultimi 15 anni</i>)**	12,3 (Scopus-WofS) **
IF totale e IFmedio per pubblicazione, calcolati in relazione all'anno di pubblicazione (<i>ultimi 10 anni</i>)	IF 395 (WofS) – IF medio (WofS) 5,4

* Indicators obtained through simulation ASN made through IRIS, report attached to present application (see title n. 2)
 ** average citations per publication of 12,3 is obtained by dividing total citations 2382 by the total number of publications (194) in the repositories, but these include many contributions at conference which are not cited (in favour of citing the journal publication on the same subject). By using instead the number of effectively cited journals/chapter publications (103), the more effective average number of citations per publications rises to 23, similar to average citations per product in table 2.

Part IX– Selected Publications (16)

1. M. Conforti, S. Trillo, Dispersive wave emission from wave breaking, Optics Letters, **38**, 3815-3817 (2013). Q1 (optics); IF: 3.179; cited by 69 (GS)
2. M. Conforti, F. Baronio, S. Trillo, Resonant radiation shed by dispersive shock waves, Physical Review A **89**, 013807 (2014). Q1 (optics); IF: 2.808; cited by 96 (GS)
3. J. Fatome, C. Finot, G. Millot, A. Armaroli, S. Trillo, Observation of optical undular bores in multiple four-wave mixing, Physical Review X **4**, 021022 (2014). Q1 (physics, multidisc.); IF: 9.043; cited by 126 (GS)

Highlighted in:

(a) Physics viewpoint: B. Wetzels, A. Pasquazi, R. Morandotti, Water Waves in Optical Fibers, Physics **7**, 48 (2014).

(b) Research Highlights: Horiuchi, Noriaki, Nonlinear optics: Shock waves, Nature Photonics **8**, 499 (2014).

4. M. Conforti, A. Mussot, A. Kudlinski, S. Trillo, Parametric excitation of multiple resonant radiations from localized wavepackets, *Scientific Reports* **5**, 9433 (2015). Q1 (multidisc. sciences); IF: 5.228; cited by 60 (GS)
5. G. Xu, J. Garnier, D. Vocke, T. Roger, D. Faccio, S. Trillo, and A. Picozzi, From dispersive shocklets to giant collective incoherent shock waves in nonlocal turbulent flows, *Nature Communications* **6**, 8131 [pp. 1-10] (2015). Q1 (multidisc. sciences); IF: 11.329; cited by 56 (GS)
6. F. Copie, M. Conforti, A. Kudlinski, A. Mussot, S. Trillo, Competing Turing and Faraday instabilities in dispersion oscillating passive resonators, *Physical Review Letters* **116**, 143901 (2016). Q1 (phys., multidisc.); IF: 8.462; cited by 74 (GS)
7. B. Wetzal, D. Bongiovanni, M. Kues, Y. Hu, Z. Chen, J. M. Dudley, S. Trillo, S. Wabnitz, R. Morandotti, Experimental Generation of Riemann Waves in Optics: A Route to Shock Wave Control, *Physical Review Letters* **117**, 073902 (2016). Q1 (phys., multidisc.); IF: 8.462; cited by 54 (GS)
8. G. Xu, M. Conforti, A. Mussot, A. Kudlinski, S. Trillo, Dispersive dam-break flow of a photon fluid, *Physical Review Letters* **118**, 254101 (2017). Q1 (phys., multidisc.); IF: 8.839; cited by 82 (GS)

Highlighted in:

Physics, as Synopsis: "Rupture of a photon dam", by Katherine Wright (contributing editor, Physics).

Popularized in: "And suddenly, the dam broke, letting the grains of light gush forth...", *The Conversation* (<https://theconversation.com/europe>), authors: A. Mussot, M. Conforti, S. Trillo.

9. A. Mussot, M. Conforti, S. Trillo, F. Copie, A. Kudlinski, Modulation instability in dispersion oscillating fibers, *Advances in Optics and Photonics* **10**, pp. 1–42 (2018, review paper. Q1 (optics); IF: 13.963; cited by 62 (GS)
10. A. Mussot, C. Naveau, M. Conforti, A. Kudlinski, F. Copie, P. Szriftgiser, S. Trillo, Fibre multiwave-mixing combs reveal the broken symmetry of Fermi-Pasta-Ulam recurrence, *Nature Photonics* **12**, 303–308 (2018). Q1 (optics); IF: 31.583; cited by 138 (GS)
Popularized in: "In physics, a famous paradox that hangs by a thread of light", *The Conversation* (authors: A. Mussot, M. Conforti, S. Trillo)
11. F. Bessin, F. Copie, M. Conforti, A. Kudlinski, A. Mussot, S. Trillo, Real time characterization of period-doubling dynamics in uniform and dispersion oscillating fiber ring cavities, *Physical Review X* **9**, 041030 (2019). Q1 (physics, multidisc.); IF: 12.557; cited by 21 (GS).
12. F. Baronio, S. Chen, S. Trillo, Resonant radiation from Peregrine solitons, *Optics Letters* **45**, 427 (2020). Q1 (optics); IF: 3.776; cited by 29 (GS)
13. M. Conforti, A. Mussot, A. Kudlinski, S. Trillo, N. Akhmediev, Doubly periodic solutions of the focusing nonlinear Schroedinger equation: recurrence, period doubling and amplification outside the conventional modulation instability band, *Physical Review A* **101**, 023843 (2020). Q2 (optics); IF: 3.140; cited by 54 (GS)
14. G. Vanderhaegen, C. Naveau, P. Szriftgiser, A. Kudlinski, M. Conforti, A. Mussot, M. Onorato, S. Trillo, A. Chabchoub, N. Akhmediev, "Extraordinary" modulation instability in optics and hydrodynamics, *Proceedings of the National Academy of Sciences (PNAS)* **118**, 2019348118 (2021). Q1 (multidisc. sciences); IF: 11,1; cited by 41 (GS)
15. A. Bendhamane, G. Xu, M. Conforti, A. Kudlinski, A. Mussot, S. Trillo, The piston Riemann problem in a photon superfluid, *Nature Communications* **13**, 3137 [pp. 1-9] (2022). Q1 (multidisc. sciences); IF: 16,6; cited by 8 (GS)

16. L. Bu, F. Baronio, S. Chen, S. Trillo, Resonant radiation emitted by solitary waves via cascading in quadratic media, *Optics Express* **31**, pp. 8307–8324 (2023). Q1 (optics); IF: 3.8; cited by 1 (GS)

Note on the Individual contribution: In some papers (n. 4,5,10,15), the individual contribution by the authors is specified as required by the journal editor. Usually all the authors contribute equally well to different aspects of the work outlined in the paper. However, when S. Trillo figures as last author, as customary in the optics community, he had the particularly important role of proposition and coordination of the scientific work, during the whole process that brings from the initial idea to getting the final results necessary to finalize the paper. Although S. Trillo is mainly concerned with developing advanced theoretical aspects and conceive the possible lab demonstration of the predicted phenomena, he is also often involved fruitfully in the data analysis related to the experiments, due to his long-standing and direct involvement in experimental work during his early career. This aspect, once again, is at the core of the peculiarity of having a scientific production that embraces the most advanced theory as well as ground-breaking experimental demonstrations of new phenomena.

Part X. Lista of attached titles (Elenco titoli allegati alla domanda)

- 1) Lista completa delle pubblicazioni del sottoscritto nell'arco temporale 1983-2023 (pagg. 1-48)
- 2) Report riassuntivo della simulazione per gli indicatori ASN dall'applicativo IRIS, anno 2023 (pagg. 1-19)
- 3) Pergamena di nomina di Fellow, Optical Society of America (OSA), foglio singolo
- 4) Attestazione di apprezzamento per l'opera prestata come Associate Editor, svolta per 2 mandati pari a 6 anni, nel lancio della rivista OSA Photonics Research, foglio singolo

Ferrara, dec. 14, 2023

In fede, Prof. Stefano Trillo