

# CURRICULUM VITAE

FORMATO EUROPEO/EUROPEAN FORMAT

## INFORMAZIONI PERSONALI/ PERSONAL INFORMATION

Nome, Cognome/Name, Surname	Stefan Wabnitz
Indirizzo/Address	Dipartimento di Ingegneria dell'Informazione
Via, numero civico, c.a.p., città, nazione/ House number, street name, postcode, city, country	Via Branze 38, 25123, Brescia, Italia
Telefono/Telephone	030-3715846
Fax	030-380014
E-mail	stefan.wabnitz@unibs.it
Sito web/Website	<a href="http://nora.ing.unibs.it/staff/stefano/index.htm">http://nora.ing.unibs.it/staff/stefano/index.htm</a>
Nazionalità/Nationality	Italiana
Luogo e data di nascita/ Place and Date of birth	Roma, 17/10/1958

## ESPERIENZA PROFESSIONALE/ WORK EXPERIENCE

In ordine di data /Dates (from – to)	<b>Dal 2007 al 2017:</b> <u>Università degli Studi di Brescia</u> , Brescia, Italia, Educazione pubblica Professore Ordinario in Campi Elettromagnetici –SSD ING-INF/02, Insegnamento e Ricerca
[Iniziare con le più recenti ed elencare separatamente ciascun incarico ricoperto/ Add separate entries for each relevant post occupied, starting with the most recent.]	<b>2011:</b> <u>Massachusetts Institute of Technology</u> , Cambridge, MA, USA, Educazione pubblica, Visiting Professor, Ricerca scientifica
	<b>Dal 2003 al 2007:</b> <u>Université de Bourgogne</u> , Dijon, France; Educazione pubblica, Professeur en Physique, Insegnamento e ricerca
	<b>2003:</b> <u>Los Alamos National Laboratory</u> , Los Alamos, NM, USA; Istituto di Ricerca, Scientific Consultant, Ricerca scientifica.
	<b>Dal 2001 al 2003:</b> <u>Xtera Inc.</u> , Allen, TX USA; Optical Communication Equipment; Manager of Advanced Technology; Ricerca e sviluppo
	<b>Dal 1999 al 2001:</b> <u>Alcatel Research &amp; Innovation Labs</u> ; Optical Communication Equipment; Senior Optical Engineer; Ricerca e sviluppo
	<b>Dal 1996 al 1999:</b> <u>Université de Bourgogne</u> , Dijon, France; Educazione pubblica, Professeur en Physique, Insegnamento e ricerca
	<b>Dal 1985 al 1996:</b> <u>Fondazione Ugo Bordoni</u> , Roma, Italia, Istituto di Ricerca, Ingegnere Senior, Ricerca in comunicazioni ottiche
Nome e indirizzo del datore di lavoro / Name and address of employer	<b>Dal 1983 al 1985:</b> <u>Fondazione Ugo Bordoni</u> , Roma, Italia, Istituto di Ricerca, Borsista di ricerca, Ricerca in comunicazioni ottiche
Tipo o settore di attività / Type of business or sector	<b>Dal 1982 al 1983:</b> <u>California Institute of Technology</u> , Pasadena, CA USA, Educazione pubblica, Teaching Assistant, Insegnamento e ricerca

## ISTRUZIONE E FORMAZIONE / EDUCATION AND TRAINING

In ordine di data /Dates (from – to)	<b>1988:</b> Ministero della Pubblica Istruzione, Roma, Italia, Titolo di Dottorato di Ricerca in Campi elettromagnetici
	<b>Dal 1982 al 1983:</b> California Institute of Technology, Pasadena, CA USA, Educazione pubblica, Master of Science in Electrical Engineering
	<b>Dal 1977 al 1982:</b> Università di Roma I La Sapienza, Laurea in Ingegneria Elettronica

## ATTIVITA' DI RICERCA / RESEARCH ACTIVITIES

Attuali campi di ricerca / Research  
sectors

Recenti attività scientifiche/ Recent  
Scientific Activities.

## ULTERIORI INFORMAZIONI / ADDITIONAL INFORMATION

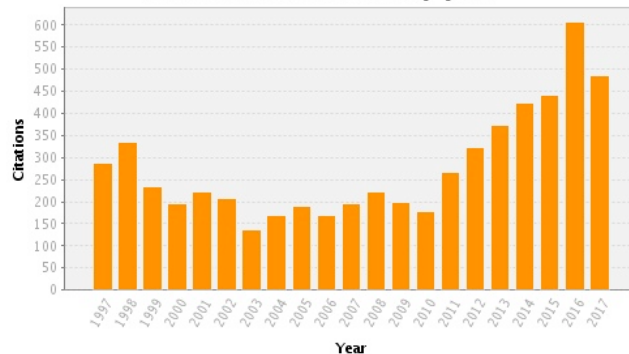
Nonlinear silicon photonics, theory and applications of optical solitons, all-optical switching, photonic crystal fibers and waveguides, supercontinuum laser sources. Design and modeling of high-bit-rate long-distance optical communication links and systems. Optical fiber lasers.

Theory and experiments of nonlinear polarization attraction in optical fibers; Optical rogue waves in multicomponent wave systems; Optical turbulence in fiber lasers; Cavity solitons and optical frequency combs in fiber ring lasers and optical microresonators.

Authored or co-authored >310 papers on international refereed journals, and > 350 papers at international conferences, schools and workshops, including more than 80 invited presentations, 30 book chapters. He is the Editor of two books, and the owner of 1 patent.

- Citations: h-index of 54 (Google Scholar; total cites: 11113; maximum cites: 534); h-index of 44 (Web of Science); ResearcherID: J-5578-2013;

**Citation Distribution by year**



Citation metrics (WOS, September 2017); 2009 Optical Society of America Fellow "for extensive and significant contributions to the field of nonlinear photonic devices and soliton communications"; Deputy Editor of Elsevier's Optical Fiber Technology (2008-present)

## PUBBLICAZIONI/ BOOKS AND ARTICLES

Elenco delle pubblicazioni realizzate negli ultimi 5 anni (selezione):

1. T Hansson, D Modotto, S Wabnitz, "[Dynamics of the modulational instability in microresonator frequency combs](#)," Physical Review A, Vol. 88, N. 2, 023819 (2013)
2. B. Varlot, S. Wabnitz, J. Fatome, G. Millot, and C. Finot, "[Experimental generation of optical flat-top pulses](#)," Optics Letters 38, 3899-3902 (2013)
3. S. Wabnitz, C. Finot, J. Fatome, and G. Millot, "[Shallow water rogue wavetrains in nonlinear optical fibers](#)," Physics Letters A 377 (12), 932-939 (2013)
4. S. Wabnitz, "[Optical tsunamis: shoaling of shallow water rogue waves in nonlinear fibers with normal dispersion](#)," Journal of Optics 15 (6), 064002 (2013)
5. M. Guasoni, V.V. Kozlov, and S. Wabnitz, "[Theory of modal attraction in bimodal birefringent optical fibers](#)," Optics Letters 38, 2029-2031 (2013)
6. J. Fatome, D. Sugny, S. Pitois, P. Morin, M. Guasoni, A. Picozzi, H.R. Jauslin, C. Finot, G. Millot, and S. Wabnitz, "[All-optical regeneration of polarization of a 40 Gbit/s return-to-zero telecommunication signal \[Invited\]](#)," Photonics research 1 (3), 115-123 (2013)
7. K. Turitsyn, S. Wabnitz, "[Stability analysis of polarization attraction in optical fibers](#)," Optics Communications 307, 62-66 (2013)
8. V.V. Kozlov, M. Barozzi, A. Vannucci, and S. Wabnitz, "[Lossless polarization attraction of copropagating beams in telecom fibers](#)," J. Opt. Soc. Am. B, Vol. 30, 530-540 (2013).
9. C. Finot, J. Fatome, A. Sysoliatin, A. Kosolapov, and S. Wabnitz, "[Competing four-wave mixing processes in dispersion oscillating telecom fiber](#)," Optics Letters 38, 5361-5364 (2013)
10. F. Amrani, B. Kibler, P. Grelu, S. Wabnitz, S. Trillo, and G. Millot, "[Cross-phase modulational instability induced by Raman scattering in highly birefringent fiber](#)," Optics Letters 38 (24), 5327-5330 (2013)
11. S. Wabnitz, "[Optical turbulence in fiber lasers](#)," Optics Letters 39, 1362-1365 (2014)
12. T. Hansson, D. Modotto, S. Wabnitz, "[On the numerical simulation of Kerr frequency combs using coupled mode equations](#)," Optics Communications 312, 134-136 (2014)
13. C. Lecaplain, P. Grelu and S. Wabnitz, "[Dynamics of the transition from polarization disorder to antiphase polarization domains in vector fiber lasers](#)," Physical Review A 89, 063812 (2014)
14. M. Guasoni and S. Wabnitz, "[Polarization Dependence of Modal Attraction in High Birefringence Bimodal Optical Fibers](#)," Journal of Lightwave Technology 32 (6), 1213-1220 (2014)
15. F. Feng, J. Fatome, A. Sysoliatin, Y.K. Chemo, S. Wabnitz, and C. Finot, "[Wavelength conversion and temporal compression of pulse train using dispersion oscillating fibre](#)," Electronics Letters 50 (10), 768-770 (2014)
16. T. Hansson, D. Modotto, S. Wabnitz, "[Analytical approach to the design of microring resonators for nonlinear four-wave mixing applications](#)," J. Opt. Soc. Am. B, Vol. 31, 1109-1117 (2014).

17. T. Hansson and S. Wabnitz, [Bichromatically pumped microresonator frequency combs](#), Physical Review A 90 (1), 013811 (2014)
18. C. Finot, F. Feng, Y. Chembo, and S. Wabnitz, [Gain sideband splitting in dispersion oscillating fibers](#), Optical Fiber Technology 20 (5), 513-519 (2014)
19. F. Baronio, M. Conforti, A. Degasperis, S. Lombardo, M. Onorato, and S. Wabnitz, ["Vector rogue waves and baseband modulation instability in the defocusing regime,"](#) Phys. Rev. Lett. 113, 034101 (2014)
20. S. Wabnitz and B. Wetzel, [Instability and noise-induced thermalization of Fermi–Pasta–Ulam recurrence in the nonlinear Schrödinger equation](#), Physics Letters A 378, 2750-2756 (2015)
21. G. Millot and S. Wabnitz, [Nonlinear polarization effects in optical fibers: polarization attraction and modulation instability \[Invited\]](#), J. Opt. Soc. Am. B, Vol. 31, 2754-2768 (2014).
22. M. Guasoni, J. Fatome, and S. Wabnitz, [Intensity noise-driven nonlinear fiber polarization scrambler](#), Optics Letters 39, 5309-5312 (2014)
23. A. Ankiewicz, Y. Wang, S. Wabnitz, N. Akhmediev, [Extended nonlinear Schrödinger equation with higher-order odd and even terms and its rogue wave solutions](#), Physical Review E 89, 012907 (2014)
24. T. Hansson, D. Modotto and S. Wabnitz, [Mid-infrared soliton and Raman frequency comb generation in silicon microrings](#), Optics Letters 39, 6747-6450 (2014)
25. F. Feng, P. Morin, Y.K. Chembo, A. Sysolyatin, S. Wabnitz, and C. Finot, [Experimental demonstration of spectral sideband splitting in strongly dispersion oscillating fibers](#) Optics Letters 40, 455-458 (2015)
26. A. Degasperis, S. Wabnitz, and A.B. Aceves, [Bragg grating rogue wave](#), Phys. Lett. A 379, 1067-1070 (2015)
27. Yi.Hu, A. Tehranchi, S. Wabnitz, R. Kashyap, Z. Chen, and R. Morandotti, [Improved Intrapulse Raman Scattering Control via Asymmetric Airy Pulses](#), Phys. Rev. Lett. 114, 073901 (2015)
28. C. Finot, A. Sysolyatin, and S. Wabnitz, [Nonlinear parametric resonances in quasiperiodic dispersion oscillating fibers](#), Optics Communic. 348, 24-30 (2015)
29. C. Finot and S. Wabnitz, [Influence of the pump shape on the modulation instability process induced in a dispersion-oscillating fiber](#), J. Opt. Soc. Am. B, Vol. 32, 892-899 (2015).
30. A. Picozzi, G. Millot and S. Wabnitz, [Nonlinear optics: Nonlinear virtues of multimode fibre](#), Nature Photonics 9, 289-291 (2015).
31. T. Hansson and S. Wabnitz, [Frequency comb generation beyond the Lugiato–Lefever equation: multi-stability and super cavity solitons](#), J. Opt. Soc. Am. B, Vol. 32, 1259-1266 (2015).
32. F. Baronio, S. Chen, P. Grelu, S. Wabnitz, M. Conforti, [Baseband modulation instability as the origin of rogue waves](#), Physical Review A 91, 033804 (2015)
33. A. Tonello, D. Modotto, K. Krupa, A. Labruyere, B. Shalaby, V. Couderc, A. Barthélémy, U. Minoni, S. Wabnitz, and A. Aceves, [Dispersive wave emission in dual concentric core fiber: the role of soliton-soliton collisions](#), Phot. Technol. Lett. 27, 1145-1148 (2015)
34. S. Wabnitz and B. Eggleton, Eds, All optical signal processing for communication and storage applications, Springer Series on Progress in Optical Science and Photonics (2015)
35. A Bendahmane, A Mussot, A Kudlinski, P Szriftgiser, M Conforti, S Wabnitz, S Trillo, [Optimal frequency conversion in the nonlinear stage of modulation instability](#), Optics Express 23 (24), 30861-30871 (2015)
36. S Sugavanam, N Tarasov, S Wabnitz, D V Churkin, [Ginzburg–Landau turbulence in quasi-CW Raman fiber lasers](#), Laser & Photonics Reviews 9, L35-L39 (2015)
37. L G Wright, S Wabnitz, D N Christodoulides, F W Wise, [Ultrabroadband dispersive radiation by spatiotemporal oscillation of multimode waves](#), Phys. Rev. Lett. 115 (22), 223902 (2015)
38. B Frisquet, B Kibler, J Fatome, P Morin, F Baronio, M Conforti, G Millot, S Wabnitz, [Polarization modulation instability in a Manakov fiber system](#), Physical Review A 92 (5), 053854 (2015)
39. F. Leo, T. Hansson, I. Ricciardi, M. De Rosa, S. Coen, S. Wabnitz, M. Erkintalo, [Walk-Off-Induced Modulation Instability, Temporal Pattern Formation, and Frequency Comb Generation in Cavity-Enhanced Second-Harmonic Generation](#), Physical Review Letters 116, 033901 (2016)
40. B Frisquet, B Kibler, P Morin, F Baronio, M Conforti, G Millot, S Wabnitz, [Optical dark rogue wave](#), Scientific Reports 6, 20785 (2016)
41. F Baronio, S Wabnitz, Y Kodama, [Optical Kerr spatiotemporal dark-lump dynamics of hydrodynamic origin](#), Physical Review Letters 116 (17), 173901 (2016)
42. L Gao, T Zhu, S Wabnitz, M Liu, W Huang, [Coherence loss of partially mode-locked fibre laser](#), Scientific Reports 6, 24995 (2016)
43. S Chen, X-M Cai, P Grelu, JM Soto-Crespo, S Wabnitz, F Baronio, [Complementary optical rogue waves in parametric three-wave mixing](#), Optics express 24 (6), 5886-5895 (2016)
44. F Leo, T Hansson, I Ricciardi, M De Rosa, S Coen, S Wabnitz, M Erkintalo, [Frequency-comb formation in doubly resonant second-harmonic generation](#), Physical Review A 93 (4), 043831 (2016)
45. K Krupa, A Tonello, A Barthélémy, V Couderc, B M Shalaby, A Bendahmane, G Millot, S Wabnitz, [Observation of geometric parametric instability induced by the periodic spatial self-imaging of multimode waves](#), Physical Review Letters 116 (18), 183901 (2016)
46. T. Hansson, F. Leo, M. Erkintalo, J. Anthony, S. Coen, I. Ricciardi, M. De Rosa, S. Wabnitz, [Single envelope equation modeling of multi-octave comb arrays in microresonators with quadratic and cubic nonlinearities](#), J. Opt. Soc. of Am. B 33 (6), 1207-1215 (2016)
47. B. Wetzel, D. Bongiovanni, M. Kues, Y. Hu, Z. Chen, S. Trillo, J.M. Dudley, S. Wabnitz, R. Morandotti, [Experimental generation of Riemann waves in optics: a route to shock wave control](#), Physical Review Letters 117 (7), 073902 (2016)

48. D. Ceoldo, A. Bendahmane, J. Fatome, G. Millot, T. Hansson, D. Modotto, S. Wabnitz, B. Kibler, [Multiple four-wave mixing and Kerr combs in a bichromatically pumped nonlinear fiber ring cavity](#), Optics letters 41 (23), 5462-5465 (2016)
49. J.M. Chávez Boggio, A. Ortega Moñux, D. Modotto, T. Fremberg, D. Bodenmüller, D. Giannone, M.M. Roth, T. Hansson, S. Wabnitz, E. Silvestre, L. Zimmermann, [Dispersion-optimized multicladding silicon nitride waveguides for nonlinear frequency generation from ultraviolet to mid-infrared](#), J. Opt. Soc. of Am. B 33 (11), 2402-2413 (2016)
50. F. Baronio, S. Chen, M. Onorato, S. Trillo, S. Wabnitz, Y. Kodama, [Spatiotemporal optical dark X solitary waves](#), Optics letters 41 (23), 5571-5574 (2016)
51. K Krupa, C Louot, V Couderc, M Fabert, R Guénard, BM Shalaby, A Tonello, D Pagnoux, P Leproux, A Bendahmane, R Dupiol, G Millot, S Wabnitz, [Spatiotemporal characterization of supercontinuum extending from the visible to the mid-infrared in a multimode graded-index optical fiber](#), Optics letters 41 (24), 5785-5788 (2016)
52. T Hansson, F Leo, M Erkintalo, S Coen, I Ricciardi, M De Rosa, S Wabnitz, [Singly resonant second-harmonic-generation frequency combs](#), Physical Review A 95 (1), 013805 (2017)
53. K Krupa, A Tonello, B M Shalaby, M Fabert, A Barthélémy, G Millot, S Wabnitz, V Couderc, [Spatial beam self-cleaning in multimode fiber](#), Nature Photonics 11, Issue 4, pp. 237-241 (2017)
54. M. Gagni, F.P. Guiomar, S. Wabnitz, A.N. Pinto, [Simplified high-order Volterra series transfer function for optical transmission links](#), Optics Express 25 (3), 2446-2459 (2017)
55. D. Ceoldo, K. Krupa, A. Tonello, V. Couderc, D. Modotto, U. Minoni, G. Millot, S. Wabnitz, [Second harmonic generation in multimode graded-index fibers: spatial beam cleaning and multiple harmonic sideband generation](#), Optics Letters 42 (5), 971-974 (2017)
56. R. Guenard, K. Krupa, R. Dupiol, M. Fabert, A. Bendahmane, V. Kermene, A. Desfarges-Berthelebot, J.L. Auguste, A. Tonello, A. Barthélémy, G. Millot, S. Wabnitz, V. Couderc, [Kerr self-cleaning of pulsed beam in an ytterbium doped multimode fiber](#), Optics Express 25 (5), 4783-4792 (2017)
57. R. Dupiol, A. Bendahmane, K. Krupa, A. Tonello, M. Fabert, B. Kibler, T. Sylvestre, A. Barthelemy, V. Couderc, S. Wabnitz, G. Millot, [Far-detuned cascaded intermodal four-wave mixing in a multimode fiber](#), Optics Letters 42 (7), 1293-1296 (2017)
58. T. Marest, F. Braud, M. Conforti, S. Wabnitz, A. Mussot, A. Kudlinski, [Longitudinal soliton tunneling in optical fiber](#), Optics Letters 42 (12), 2350-2353 (2017)
59. M. Parisi, N. Morais, I. Ricciardi, S. Mosca, T. Hansson, S. Wabnitz, G. Leo, M. De Rosa, [AlGaAs waveguide microresonators for efficient generation of quadratic frequency combs](#), J. Opt. Soc. of Am. B 34 (9), 1842-1847 (2017)
60. R. Dupiol, A. Bendahmane, K. Krupa, J. Fatome, A. Tonello, M. Fabert, V. Couderc, S. Wabnitz, G. Millot, [Intermodal modulational instability in graded-index multimode optical fibers](#), Optics Letters 42 (17), 3419-3422 (2017)
61. R. Guenard, K. Krupa, R. Dupiol, M. Fabert, A. Bendahmane, V. Kermene, A. Desfarges-Berthelebot, J.L. Auguste, A. Tonello, A. Barthélémy, G. Millot, S. Wabnitz, V. Couderc, [Nonlinear beam self-cleaning in a coupled cavity composite laser based on multimode fiber](#), Optics Express 25 (19), 22219-22227 (2017)
62. C Bao, Y. Xuan, D.E. Leaird, S. Wabnitz, M. Qi, A.M. Weiner, [Spatial mode-interaction induced single soliton generation in microresonators](#), Optica 4 (9), 1011-1015 (2017)

**TRATTAMENTO DEI DATI  
PERSONALI, INFORMATIVA E  
CONSENSO**

Il D.Lgs 30/06/2003, n. 196 "Codice in materia di protezione dei dati personali" regola il trattamento dei dati personali, con particolare riferimento alla riservatezza, all'identità personale e al diritto di protezione dei dati personali; l'interessato deve essere previamente informato del trattamento.

La norma in considerazione intende come "trattamento" qualunque operazione o complesso di operazioni concernenti la raccolta, la registrazione, l'organizzazione, la conservazione, la consultazione, l'elaborazione, la modifica, la selezione, l'estrazione, il raffronto, l'utilizzo, l'interconnessione, il blocco, la comunicazione, la diffusione, la cancellazione e la distruzione di dati, anche se non registrati in una banca dati.

In relazione a quanto riportato, autorizzo il CNR al trattamento dei dati contenuti nel presente *curriculum vitae* e nella documentazione della quale fa parte integrante, sollevandolo da ogni responsabilità e autorizzandolo alla pubblicazione, sul sito web del CNR, della relazione inerente alle proprie ricerche svolte nell'ambito del Progetto finanziato dal CNR. Inoltre acconsento all'aggiornamento delle informazioni intranet che mi riguardano sia relative le pubblicazioni sia alle ricerche svolte.

*The Undersigned hereby authorises the CNR to utilize and store the personal sensitive data contained in the attached Curriculum Vitae for the purposes of bilateral Joint research projects and within the framework of the Data protection Act No. 196, dates 30 June 2003 as promulgated by the Italian Government.*

( barrare la casella)      ×      **Si, acconsento**

