



Prof. Frédéric Grillot

Birthdate: August 22, 1974 (Versailles)

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Metric and evaluation as of 12/31/2015

Google h-factor: 21

Grand total citations: 1,550+

Publications:

Over 170 publications (both with journal and conference papers), 3 book chapters

Professional Preparation:

University of Dijon, France	Physics	M.Sc., 1999
University of Besançon, France	Electrical Engineering	Ph.D., 2003
University of Paris VII, France	Physics	Research Habilitation, 2012

Appointments:

August 2015-present: Research Professor, University of New Mexico, Albuquerque, USA;
May 2014-present: Associate Editor, Optics Express;
2012-present: Associate Professor, Télécom ParisTech (TPT), Paris, France;
2008-2009: Visiting Research Assistant Professor, University of New Mexico, Albuquerque, USA;
2004-2012: Assistant Professor, Institut National des Sciences Appliquées, Rennes, France;
2003-2004: Researcher, Institut d'Electronique Fondamentale, Université Paris-Sud, Paris, France;
1999-2003: PhD Student & Research Engineer, Alcatel-Lucent Research Labs, Marcoussis, France;
1998-1999: MSc Student, Near-Field Optics Group, University of Dijon, France.

Selected Professional Activities:

Vice Chair of the IEEE Photonics Society French Chapter;
Vice Chair of the French commission D at the International Union of Radio-Science (URSI);
Conference Chair, 3rd International Symposium on Physics and Applications of Laser Dynamics IS-PALD, Paris, France, 29-31 Oct. 2013;
Conference Chair, 5th International Symposium on Physics and Applications of Laser Dynamics IS-PALD, Metz, France, 04-07 Nov. 2015;
Optics Express Focus Editor of the 3rd International Symposium on Physics and Applications of Laser Dynamics IS-PALD, Paris, France, 29-31 Oct. 2013;
Member of the Program Committee member of the Physics and Simulation of Optoelectronic Devices XXIII conference at Photonic West (2015-Present);
Member of the Program Committee of the Quantum Sensing and Nanophotonic Devices XII conference at Photonics West (2015-Present);
Member of the Program Committee of the French National Conference JNOG "Journées Nationales d'Optique Guidée" (2014-Present).

Honors, Awards, and Society Offices:

Cited in the Who's Who in the World (since 2010);
Senior Member of SPIE – The International Society for Optical Engineering;
Senior Member of IEEE and IEEE Photonics Society;
Granted Scholarship, Windows on Science, US Air Force Research Laboratory, (2011 and 2013);

Granted Scholarship, Collaborative Support Program, Office of Naval Research Global, (2013);
Granted from the Deutscher Akademischer Austauschdienst (DAAD), Germany, (2013).

Areas of Current Research Interest:

Quantum Optoelectronics; Physics and simulation of quantum confined laser devices with semiconductor quantum well and quantum dot material structures; Quantum Cascade lasers, Nonlinear dynamics; Instabilities in semiconductor lasers; all-optical signal processing; Microwave photonics; Silicon Photonics.

Most Relevant Publications:

1. L. Salomon, F. Grillot, A. V. Zayats, and F. de Fornel, "Near-field distribution of optical transmission of periodic sub-wavelength holes in a metal film", *Phys. Rev. Lett.* **86**, pp. 1110, 2001.
2. F. Grillot, L. Vivien, S. Laval, D. Pascal and E. Cassan, "Size influence on the propagation loss induced by side-wall roughness in ultra-small SOI waveguides", *IEEE Photon. Technol. Letts.* **16** (#7), pp. 1661-1663, 2004.
3. F. Grillot, B. Dagens, J. G. Provost, H. Su and L. F. Lester, Gain compression and above-threshold linewidth enhancement factor in 1.3 μm InAs-GaAs quantum dot lasers, *IEEE J. of Quantum Electron.* **44** (#10), pp. 946-951, 2008.
4. N. A. Naderi, M. Pochet, F. Grillot, V. Kovanis, N. B. Terry and L. F. Lester, Modeling the Injection-Locked Behavior of a Quantum Dash Semiconductor Laser, ", *IEEE J. Selected Topics Quantum Electron.* **15** (#3), pp. 563-571, 2009.
5. F. Grillot, C. Wang, N. A. Naderi, and J. Even, "Modulation properties of self-injected quantum dot semiconductor diode lasers", *IEEE J. Selected Topics Quantum Electron.* **19** (#4), pp. 1900812, 2013.

Other Representative Publications:

1. M. T. Crowley, N. A. Naderi, H. Su, F. Grillot, and L. F. Lester, GaAs-Based Quantum Dot Lasers, *Advances in Semiconductor Lasers* (J. J. Coleman and A. C. Bryce, Eds.), *Semiconductors and Semimetals* **86**, pp. 371-417, Elsevier Academic Press, New York 2012.
2. Q. Y. Gu, M. Gicquel-Guezo, S. Loualiche, J. Le Poulliquen, T. Batte, H. Folliot, O. Dehaese, F. Grillot, Y. Battie, A. Loiseau, B. L. Liang, and D. Huffaker, "Photonics based on carbon nanotubes", *Nanoscale Res. Lett.* **8**, Art. 300, 2013.
3. R. Raghunathan, M. T. Crowley, F. Grillot, Y. Li, J. K. Mee, V. Kovanis, and L. F. Lester, "Pulse characterization of passively mode-locked quantum-dot lasers using a delay differential equation model seeded with measured parameters", *IEEE J. of Selected Topics in Quantum Electron.* **19** (#4), Art. 1100311 (11 pp.), 2013.
4. C. Wang, M. Osinski, J. Even, and F. Grillot, *Phase-amplitude coupling characteristics in directly modulated quantum dot lasers*, *Applied Physics Letters*, **105**, pp. 221114, 2014.
5. L. Jumpertz, K. Shires, M. Carras and F. Grillot, *Regimes of external optical feedback in 5.6 μm distributed feedback mid-infrared quantum cascade lasers*, *Applied Physics Letters*, **105**, pp. 131112, 2014.

Completed Research Grants:

- 2004-2007: Photonic Integrated Components and Circuits, (EPIXNET European Network of Excellence);
2004-2007: Self-Assembled semiconductor Nanostructures for new Devices in photonics and Electronics (SANDIE European Network of Excellence);
2008-2010: Carbon Nanotubes for Telecom Applications, (ANR);
2009-2012: Telecom Applications based on Quantum Dot devices (ANR);
2012-2014: Manipulation of the Phase-Amplitude Factor in Quantum Nanostructure based device for On-Chip Chirp Compensation and Low-Cost Applications (European Office of Aerospace Research & Development);
2013-2015: Silicon Optoelectronics, (NanoDesign & IDEX Paris-Saclay);
2013-2015: Nonlinear Photonics in Nanostructured Semiconductor Lasers, (PHC Procop).

On Going Research Grants:

2013-2016: Dynamics of mid-infrared quantum cascade lasers, (French Military Agency DGA);
2014-2015: Design, characterization and performance optimization of nanostructured semiconductor lasers for high bit rate telecommunications and optical sampling/clocking, (Program Research in Paris);
2014-2016: Phase-Amplitude Coupling in Complex Semiconductor Lasers with External Control, (PHC Orchid);
2014-2016: Nonlinear Photonics in Nanostructured Lasers: Applications to Ultra-Broadband Communications and to Microwave, Millimeter-Wave and Terahertz Signal Generations, (European Office of Aerospace Research & Development);
2016-2017: Rogue Waves in Optical RF Transmission Links, (Office of Naval Research Global);
2015-2018: PIC's 4ALL, Photonic Integrated Circuits Accessible to Everyone, (EU Program H2020).

Expertise activities:

External PhD examiner for Université Laval, Canada, (2016);
External PhD examiner for City University of Hong-Kong, Singapore, (2015);
Scientific expert of the FWO Flanders Research Program, (2015);
Scientific expert of the French Research National Agency (2014-present);
Scientific expert, Romanian National Council for Development and Innovation, Romania, (2011);
Scientific expert, Strategic Research Funding, The City University of Hong Kong, China, (2012);
External PhD examiner for Nanyang Technological University, Singapore, (2012);
Scientific expert for the Graduate Women in Science Organization, USA, (2013);

Main Collaborators Outside TPT During Last 48 Months:

Dr. Philip Poole, NRC Ottawa, Canada;
Prof. Sophie Laroche, COPL, Canada;
Prof. Marek Osinski, University of New-Mexico, USA;
Prof. Dieter Bimberg, TU Berlin, Germany;
Prof. Marc Sciamanna, Supelec, France;
Dr. Kathy Lüdge, TU Berlin, Germany;
Prof. Luke F. Lester, Virginia Tech., Blacksburg, VA;
Prof. Fan-Yi Lin, Institute of Photonics Technologies, National Tsing Hua University, Taiwan;
Prof. Nelson Sze Chun Chan, City University of Hong-Kong, China.

Vulgarization Activities in 2015:

Promoter and organizer of the International Year of Light at Télécom ParisTech
www.telecom-paristech.fr/annee-de-la-lumiere
Conference in the framework of the International Year of Light, LIONS Club
<http://www.lejssl.com/edition-le-creusot/2015/04/17/une-conference-lumineuse>