Curriculum Vitae

F. Grillot **Office: +33 175 319 300**
Professor of Photonics & Optical Communications email: grillot@telecom-paris.fr
Télécom Paris http://perso.telecom-paristech.fr/~grillot
Institut Polytechnique de Paris

Professional Preparation

- MSc, Physics, University of Dijon, France, 1999.
- PhD, Electrical Engineering, University of Bourgogne Franche-Comté, France, 2003.
- Thesis Habilitation, Physics, University of Paris Diderot, France, 2012.

Current Appointments

- January 2023- -: Head of the Optical Telecommunication Group, Télécom Paris, France;
- January 2017-: Tenured Professor of Photonics & Optical Communications, Télécom Paris, France;
- August 2015-: Research Professor, University of New Mexico, Albuquerque, USA;

Prior Appointments

- Sept. 2023- Dec. 2023: Visiting Professor, Politecnico di Milano, Italy;
- July 2023 - August 2023: Visiting Professor, University of Santa Barbara, USA;
- April 2017- Dec. 2017: Visiting Professor, University of California Los Angeles, USA;
- 2016-2021: Senior Consultant & Advisor Technology Partnerships, Baehl Innovation, France
- 2012-2016: Associate Professor, Télécom Paris, France ;
- 2008-2009: Visiting Research Professor, University of New Mexico, USA;
- 2004-2012: Assistant Professor, Institut National des Sciences Appliquées, France ;
- 2003-2004: Postdoc Fellow, Center for Nanoscience and Nanotechnologies, Université Paris-Saclay, France;
- 1999-2003: PhD Student, Alcatel-Lucent Research Labs, France;

Selected Professional Activities

- Jan. 2023-: Chair of the IEEE Photonics French Chapter;
- Sept. 2021-: Deputy Editor, Optics Express (Optica);
- 2019-2022: Chair URSI France - Commission D (Electronics & Photonics);
- 2014-2020: Associate Editor, Optics Express (Optica);
- 2016-2018-: Vice-Chair URSI French commission D (Electronics & Photonics);
- 2010-2018: Vice Chair of the IEEE Photonics Society French Chapter;
- Guest Editor, Special Issue "Conference on Numerical Simulation of Optoelectronic Devices (NUSOD)", IEEE Photonics Journal, 2023;
- Guest Editor, Special Issue "Research and Application of Semiconductor Lasers", MDPI Applied Science, 2021;
- Optics Express Invited Deputy Editor, 7th International Symposium on Physics and Applications of Laser Dynamics (IS-PALD), 2017;
- Optics Express Invited Focus Editor, 3rd International Symposium on Physics and Applications of Laser Dynamics (IS-PALD), 2013;

Program Committee

- 2021-: IEEE International Semiconductor Laser Conference;
- 2021-: CLEO Europe Conference (subcommittee Semiconductor Lasers);
- 2020-: Semiconductor Lasers and Laser Dynamics, Photonics Europe;
- 2018-2022: European Workshop on Semiconductor Lasers;
- 2015-: Physics and Simulation of Optoelectronic Devices XXIII, Photonic West;
- 2015-2018: Quantum Sensing and Nanophotonic Devices XII, Photonics West;

• IEEE RAPID Conference, Miramar Beach, 2018;
• Topic Chair of the IEEE Summer Topical Meetings, Lauderdale, USA, 2019;
• General Chair of the European Workshop on Semiconductor Lasers, Paris, France, 2021;
• General Chair of the URSI France conference on *Nano, Meso, Micro: Science & Innovation for Radio & Photonics,* Paris, France, 2022;
• Topic Chair of the IEEE Summer Topical Meetings on *Quantum Light Sources & Applications*, Cabo San Luca, Mexico, 2022;
• Topic Chair of the IEEE Summer Topical Meetings on *Quantum & Cryogenic Photonics*, Sicily, Italy, 2023.

Honors, Awards, and Society Offices

• Achievement Award in Quantum Sensing, Nanoelectronics and Photonics, *for his pioneering work on quantum dot lasers and high-speed transmissions in the mid infrared*, SPIE Photonics (2024).
• Fellow Member of Optica, formerly Optical Society of America, *for his pioneering work on mid infrared optoelectronics and quantum dot lasers for silicon photonics* (2024).
• Ampère Medal, Société de l'Électricité, de l'Électronique et des Technologies de l'Information et de la Communication (SEE), *for his extensive work in the field of photonics and in particular with regard to high-speed transmissions in the mid-infrared* (2023);
• Sara Zaminga, IEEE IPC Best Student Paper Award (2023);
• Ranked by Stanford University among the world top 2% scientists (2023);
• Bozhang Dong, Nature Springer Outstanding PhD Thesis, (2023);
• Front cover of Light Science & Applications (2023);
• IEEE Photonics Society Distinguished Lecturer Award (2022-2023);
• Front cover of Laser & Photonics Reviews (2022);
• Front cover of Laser & Photonics Reviews (2022);
• Selected for OPN's Year in Optics, (2021 & 2022);
• Selected by Advanced Photonics for the top papers collection 2020 - 2021;
• IEEE Photonics Technology Letters Best Paper Award, (2021);
• Front cover of ACS Photonics (2021);
• Olivier Spitz, Nature Springer Outstanding PhD Thesis, (2020)
• Innovation Award – The University of New-Mexico, (2020);
• Selected by Journal of Physics Photonics for the "Highlights of 2020" collection;
• Fellow Member of the SPIE, The International Society for Optical Engineering, *for the excellence of his work in optoelectronics on lasers, with application to quantum dot devices* (2019);
• Senior Member of the Optical Society America, (2019);
• Senior Member of the IEEE and IEEE Photonics Society, (2011);
• Ranked among the top articles in photonics and optoelectronics in Applied Physics Letters (2019);
• Selected by Scientific Reports (Nature Springer) in the Editor's choice highlighting the most promising research in semiconductor lasers (2019);
• Louise Jumpertz, Nature Springer Outstanding PhD Thesis, (2017);
• Windows on Science, US Air Force Research Laboratory, USA (2011, 2013, 2017, 2019);
• Fellowship from the Deutscher Akademischer Austauschdienst (DAAD), Germany, (2013).

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. Letts. **86**, 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**, 1661 (2004).
3. L. Jumpertz, K. Schires, M. Carras, M. Sciamanna and F. Grillot, *Chaotic light at mid Infrared wavelength,* Light: Sciences & Applications **5**, e16088 (2016).
4. O. Spitz, J. Wu, A. Herdt, G. Maisons, M. Carras, W. E. Elsasser, C.-W. Wong, and F. Grillot, *Extreme events in quantum cascade lasers*, Advanced Photonics **2**, 066001 (2020).

5. F. Grillot, J.C. Norman, J. Duan, Z. Zhang, B. Dong, H. Huang, W. W. Chow, and J.E. Bowers, *Physics and Applications of quantum dot lasers for silicon photonics (invited)*, Nanophotonics, 20190570 (2020).
6. F. Grillot, J. Duan, B. Dong, and H. Huang, *Uncovering recent progress in nanostructured light-emitters for information and communication technologies (review)* **10**, 156, Light: Sciences & Applications (2021).
7. O. Spitz, A. Herdt, J. Wu, G. Maisons, M. Carras, C.-W. Wong, W. Elsaesser, and F. Grillot *Private communication with quantum cascade laser photonic chaos*, Nature Communications **12**, 3327 (2021).
8 C. Shang, Y. Wan, J. Selvidge, E. Hughes, R. Herrick, K. Mukherjee, J. Duan, F. Grillot, W. W. Chow, and J. E. Bowers, *Perspectives on advances in quantum dot lasers and integration with Si photonic integrated circuits (Invited + Cover)*, ACS Photonics **8**, 2555 (2021).

On-going research grants[1]

2024-2027: *Optimization of encrypted infrared optical telecommunications through turbid atmosphere* ANR & French Department of Defense (~USD 400K)
2023-2026: *Frequency comb and ring quantum dot lasers*, Hewlett-Packard Enterprise (~USD 130K)
2023-2025 *Squeezed light and free-space quantum key distribution protocols operating in the thermal infrared window*, EOARD (~USD 200K);
2022-2025: *Talbot cavity with quantum cascade lasers*, French Department of Defense (~USD 65K);
2021-2024: *Phased array quantum cascade lasers for satellite communications and infrared countermeasures*, EOARD & Army & ONR (~USD 370K);
2020-2023: *Mid infrared cryptosystems using quantum cascade lasers*, French Department of Defense (~USD 130K);
2020-2023: *Noise properties of quantum dot lasers for quantum applications*, Institut Mines Télécom (~USD 130K);

CINT – Los Alamos Grants

2023: *Physics and performance of frequency-modulated comb based-semiconductor quantum dot lasers for integrated photonic applications* (submitted)
2022: *Colliding pulse quantum dot mode-locked lasers on silicon for photonic integrated circuits* (proposal #2022BU0168)
2021: *4-wave mixing and narrow linewidth in semiconductor quantum dot lasers heterogeneously integrated with silicon photonics* (proposal #2021BC0057)

Completed research grants[1]

2020-2021: *Quantum cascade lasers for free-space communications*, Institut Mines Télécom (~USD 70K).
2020-2021: *Frequency comb quantum dot lasers*, Hewlett-Packard Enterprise (~USD 70K)
2019-2020: *Light-emitting device having III-V semiconductor gain section coupled to whistle-geometry tunable filter*, Institut Mines Télécom (~USD 60K)
2018-2021: *Free-space communications with quantum cascade lasers*, French National Research Agency ANR (~USD 500K);
2017-2021: *Photonic Integrated Circuits Accessible to Everyone*, European Union H2020 (~USD 100K);
2018-2021: *Controlling intersubband nonlinear dynamics for secure communications, high-power lasers and optical countermeasures*, European Office of Aerospace Research & Development, EOARD (~USD 70K).
2018-2021: *Optoelectronic characterization and modeling of external cavity semiconductor diode lasers for metrological applications*, Bilateral project with EXFO (~USD 60K).
2018-2020: *Narrow linewidth semiconductor lasers for coherent communication systems*, International Franco-German Program PhC Procop (~USD 10K).
2015-2018: *Nanostructured Lasers for microwave, millimeter-wave and terahertz generation*,

[1] **In the European system, the amount indicated in USD corresponds to net money that is to say the money for doing research only. It does not include the summer faculty salary and the overheads.**

European Office of Aerospace Research & Development, EOARD (~USD 70K).
2015-2018: *Hybrid III-V/Si lasers for optical communications*, Bilateral project with Nokia (~USD 60K).
2015-2016: *Rogue Waves in Optical RF Transmission Links*, Office of Naval Research Global ONRG (~USD 180K);
2014-2016: *Phase-Amplitude Coupling in Complex Semiconductor Lasers with External Control*, International Franco-Taiwanese Program PhC Orchid (~USD 20K).
2013-2016: *Nonlinear photonics with quantum cascade lasers*, French Department of Defense (~USD 130K);
2013-2015: *Nonlinear Photonics in Nanostructured Semiconductor Lasers*, International Franco-German Program PhC Procop (~USD 10K);
2014-2015: *Design, characterization and performance optimization of nanostructured semiconductor lasers for high bit rate telecommunications and optical sampling/clocking*, Program Research in Paris (~USD 30K);
2013-2015: *Silicon Optoelectronics*, French National Research Agency ANR (~USD 100K);
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 EOARD (~USD 70K).
2009-2012: *Telecom Applications based on Quantum Dot devices*, French National Research Agency ANR;
2008-2010: *Carbone Nanotubes for Telecom Applications*, French National Research Agency ANR;
2004-2007: *Photonic Integrated Components and Circuits*, European Network of Excellence (FP6-IST);
2004-2007: *Self-Assembled Semiconductor Nanostructures for New Devices in Photonics and Electronics,* European Network of Excellence (FP6-IST).

PhD Supervised

[13] Shihao Ding, Exploring the nonlinear dynamics and amplitude-squeezing of quantum dot lasers, Winter 2024.
[12] Shiyuan Zhao, Noise, dynamics and squeezed light in quantum dot and interband cascade lasers, Winter 2023.
[11] Pierre Didier, Novel mid-infrared quantum cascade devices for applications in free-space optics, data security and microwave photonics, Fall 2023.
[10] Jannik Ehlert, Optoelectronic characterization and modeling of external cavity semiconductor diode lasers for metrological applications, Spring 2022.
[9] Bozhang Dong, Quantum-dot lasers on silicon: nonlinear properties, dynamics and applications, Winter 2021.
[8] Sandra Gomez, Effects of dynamics and optical feedback on Hybrid III-V/Silicon semiconductor lasers, Spring 2020.
[7] Olivier Spitz, Highly-coherent quantum cascade lasers for mid-infrared applications, Winter 2019.
[6] Jianan Duan, Dynamic and nonlinear properties of quantum dot lasers for photonic integrated circuits on silicon, Fall 2019.
[5] Antonin Gallet, Hybrid III-V silicon lasers for optical communications, Spring 2019.
[4] Jean Maxime Sarraute, Directly-modulated optical transmitters for short-distance high-speed optical links, Spring 2018.
[3] Heming Huang, Optical nonlinearities in quantum dot lasers for high-speed communications, Spring 2017.
[2] Louise Jumpertz, Nonlinear Photonics in Quantum Cascade Lasers, Fall 2016.
[1] Cheng Wang, Dynamical properties of nanostructure semiconductor lasers for optical communications, Spring 2015.

Expertise activities

- FWO Flanders Research Program;
- European Science Foundation;

- French Research National Agency (ANR);
- Romanian National Council for Development and Innovation, Romania;
- Graduate Women in Science Organization, USA;
- Strategic Research Funding, The City University of Hong Kong, China;
- National Research Foundation of Singapore, Singapore;
- External reviewer for Nanyang Technological University, Singapore.

Peer-Reviewed Journal Papers

[143] S. Ding, S. Zhao, H. Huang, and F. Grillot, *Reflection insensitive amplitude squeezed generator based on quantum dot laser technology*, Submitted (2024).
[142] S. Zhao, S. Ding, H. Huang, I. Zaquine, N. Fabre, N. Belabas, and F. Grillot, *Broadband amplitude squeezing in electrically driven quantum dot lasers,* Submitted (2024).
[141] S. Ding, S. Zhao, J. Norman, B. Dong, H. Huang, J. E. Bowers, and F. Grillot, *Unveiling the dynamical diversity of quantum dot lasers subject to optoelectronic feedback*, Submitted (2024).
[140] O. Spitz, Y. B. Shuai, S. Zhao, P. Didier, Daniel A. Dıaz-Thomas, A. N. Baranov, L. Cerutti, D. Rontani, J. Wu, and F. Grillot, *Broadband optical chaos at mid-infrared wavelength in a solitary interband cascade laser*, Submitted (2024).
[139] P. Didier, S. Zaminga, O. Spitz, J. Wu, E. Awwad, G. Maison, and F. Grillot, *Data encryption with chaotic light in the long wavelength infrared atmospheric window*, Submitted (2024)
[138] S. Ding, S. Zhao, H. Huang, J. E. Bowers, and F. Grillot, *Impact of external carrier noise on the linewidth enhancement factor of a quantum dot distributed feedback laser*, **31**, p. 35343(2023).
[137] Z. Jin, H. Huang, Y. Zhou, S. Zhao, S. Ding, C. Wang, Y. Yao, X. Xu, F. Grillot, and J. Duan, *Reflection sensitivity of dual-state quantum dot lasers*, **11**, p. 1713, Photonics Research (2023).
[136] D. Cui, J. Chen, A. Bousseskou, H. Huang, and F. Grillot, *Sustained feedback-induced oscillations in a hybrid single mode semiconductor plasmonic laser*, IEEE Photon. Technol. Letts., **35**, p. 1090 (2023).
[135] Q. Chu, S. Zhao, J. Wang, Y. Sun, Y. Yao, X. Xu, F. Grillot, and J. Duan *Optical noise characteristics of injection-locked epitaxial quantum dot lasers on silicon*, Optics Express, **31**, p. 25177 (2023).
[134] T. Renaud, H. Huang, G. Kurczveil, D. Liang, R.G. Beausoleil, and F. Grillot *Improved frequency comb operation of an InAs/GaAs hybrid multisection quantum dot laser on silicon (Editor Pick)*, Applied Physics Letters, **123**, p. 011105 (2023).
[133] E. Alkhazraji, W.W. Chow, F. Grillot, J. E. Bowers, and Y. Wan *Linewidth narrowing in self-injection-locked on-chip lasers*, Light: Science & Applications, **12**, p. 162 (2023).
[132] P. Didier, H. Knötig, O. Spitz, L. Cerutti, A. Lardschneider, E. Awwad. D. Diaz-Thomas, A. N. Baranov, R. Weih, J. Koeth, B. Schwarz, and F. Grillot *Interband cascade technology for energy-efficient mid-infrared free-space communication*, Photonics Research, **11**(4): 582(2023).
[131] S. Zhao and F. Grillot, *Stochastic model of sub-Poissonian quantum light in an interband cascade laser,* Phys. Rev. Applied, **18**(6), 064027, 2022.
[130] P. Didier, H. Dely, T. Bonazzi, O. Spitz, E. Awwad, E. Rodriguez, A. Vasanelli, C. Sirtori, and F. Grillot, *High-capacity free-space optical link in the midinfrared thermal atmospheric windows using unipolar quantum devices*, **4**, 056004 Advanced Photonics (2022).
[129] T. Renaud, H. Huang, F. Grillot and D. Bimberg, *Wave mixing efficiency in InAs/GaAs semiconductor quantum dot optical amplifiers and lasers*, Laser Phys. Lett. **19**, 116202 (2022).
[128] J. Duan, B. Dong, W. W. Chow, H. Huang, S. Ding, S. Liu, J. C Norman, J. E. Bowers, and F. Grillot, *Four-wave mixing in 1.3-micron epitaxial quantum dot lasers directly grown on silicon*, Photonics Research, **10**, 1264 (2022).
[127] S. Zhao and F. Grillot, *Modeling of Amplitude Squeezing in a Pump-Noise-Suppressed Interband Cascade Laser*, IEEE Photonics Journal, **14**, 1924208 (2022).
[126] F. Grillot, W. W. Chow, B. Dong, S. Ding, H. Huang, and J. E. Bowers, *Multimode Physics in the Mode Locking of Semiconductor Quantum Dot Lasers* (Invited paper), MDPI Applied Physics, **12**, 3504 (2022).
[125] W. W. Chow, Y. Wang, J. E. Bowers, and F. Grillot, *Analysis of the Spontaneous Emission Limited Linewidth of an Integrated III-V/SiN Laser*, Laser & Photonics Reviews, 2100620 (2022).

[124] S. Ding, B. Dong, H Huang, J. E. Bowers, and F. Grillot, *Reflection sensitivity of InAs/GaAs epitaxial quantum dot lasers under direct modulation*, Electronics Letters, **58**, 363 (2022).
[123] S. Ding, B. Dong, H Huang, J. E. Bowers, and F. Grillot, *Spectral dispersion of the linewidth enhancement factor and four wave mixing conversion efficiency of an InAs/GaAs multimode quantum dot laser* (Editor's Pick), Appl. Phys. Lett. **120**, 081105 (2022).
[122] O. Spitz and F. Grillot, *A review of recent results of mid-infrared quantum cascade photonic devices operating under external optical control* (Topical Review), Journal of Physics: Photonics, **4**, 022001 (2022).
[121] O. Spitz, L. Durupt, and F. Grillot, *Competition between entrainment phenomenon and chaos in a quantum cascade laser under strong optical reinjection*, **9**, 29 MDPI Photonics (2022).
[120] Y. Deng, Z.-F. Fan, B.-B. Zhao, X.-G. Wang, S. Zhao, J. Wu, F. Grillot and C. Wang, *Mid-infrared hyperchaos of interband cascade lasers*, Light: Sciences & Applications, **11**:7 (2022).
[119] O. Spitz, P. Didier, L. Durupt, D. Andres Diaz-Thomas, A. N Baranov, L. Cerutti, and F. Grillot *Free-Space Communication with Directly Modulated Mid-Infrared Quantum Cascade Devices,* IEEE Journal of Selected Topics in Quantum Electronics, **28**, 1200109 (2022).
[118] O. Spitz, A. Herdt, P. Didier, W. Elsäßer, and F. Grillot, *Mid-infrared free-space cryptosystem, Accepted in Nonlinear Theory and Its Applications*, IEICE Nonlinear Theory and Its Applications (NOLTA), **13**(1), 44 (2022).
[117] H. Dely, T. Bonazzi, O. Spitz, E. Rodriguez, D. Gacemi, Y. Todorov, K. Pantzas, G. Beaudoin, I. Sagnes, L. Li, A. G. Davies, E. H. Linfield, F. Grillot, A. Vasanelli, and C. Sirtori, *10 Gbit/s Free Space data transmission at 9 µm wavelength with unipolar quantum optoelectronics*, Laser & Photonics Reviews, 2100414 (2021).
[116] P. Didier, O. Spitz, L. Cerutti, D.A. Diaz-Thomas, A.N. Baranov, M. Carras, and F. Grillot, *Relative intensity noise and intrinsic properties of RF mounted interband cascade laser,* Applied Physics Letters **119**, 171107 (2021).
[115] C. Shang, Y. Wan, J. Selvidge, E. Hughes, R. Herrick, K. Mukherjee, J. Duan, F. Grillot, W. W. Chow, and J. E. Bowers, *Perspectives on advances in quantum dot lasers and integration with Si photonic integrated circuits (Invited + Cover)*, ACS Photonics, **8**, 2555 (2021).
[114] B. Dong, J. Duan, H. Huang, J. C. Norman, K. Nishi, K. Takemasa, M. Sugawara, J. E. Bowers, and F. Grillot, *Dynamic performance and reflection sensitivity of quantum dot distributed feedback lasers with large optical mismatch*, Photonics Research, **9**, 1550 (2021).
[113] F. Grillot, J. Duan, B. Dong, and H. Huang, *Uncovering recent progress in nanostructured light-emitters for information and communication technologies (review paper)*, Light: Sciences & Applications, **10**, 156 (2021).
[112] J. F Ehlert, A. Mugnier, G. He, and F. Grillot, *Modeling of a quantum dot gain chip in an external cavity laser configuration*, Laser Physics, **31**, 085002 (2021).
[111] O. Spitz, A. Herdt, W. Elsaesser, and F. Grillot, *Stimulating polarization switching dynamics in mid-infrared quantum cascade lasers*, Journal of the Optical Society of America B, **38**, 35 (2021).
[110] S. Zhao and F. Grillot, *Effect of Shockley-Read-Hall recombination on the static and dynamical characteristics of epitaxial quantum-dot lasers on silicon*, Physical Review A, **103**, 063521 (2021).
[109] O. Spitz, A. Herdt, J. Wu, G. Maisons, M. Carras, C.-W. Wong, W. Elsaesser, and F. Grillot *Private communication with quantum cascade laser photonic chaos*, Nature Communications, **12**, 3327 (2021).
[108] B. Dong, J.-D. Chen, F.-Y. Lin, J. C. Norman, J. E. Bowers, and F. Grillot, *Dynamic and nonlinear properties of epitaxial quantum-dot lasers on silicon operating under long- and short-cavity feedback conditions for photonic integrated circuits,* Phys. Rev. A, **103**, 033509 (2021)
[107] O. Spitz, J. Wu, A. Herdt, G. Maisons, M. Carras, W. E. Elsasser, C.-W. Wong, and F. Grillot, *Extreme events in quantum cascade lasers*, Advanced Photonics, **2**, 066001 (2020).
[106] J. Duan, Y. Zhou, B. Dong, H. Huang, J. C. Norman, D. Jung, Z. Zhang, C. Wang, J. E. Bowers, and F. Grillot, *Effect of p-doping on the intensity noise of epitaxial quantum dot lasers on silicon*, Optics Letters, **45**, 4887 (2020).
[105] Y. Zhou, J. Duan, F. Grillot, and C. Wang, *Optical noise of dual-state lasing quantum dot lasers*, IEEE Journal of Quantum Electronics, **56**, 2001207 (2020).
[104] B. Dong, X. C. de Labriolle, S. Liu, M. Dumont, H. Huang, J. Duan, J. C Norman, J. E. Bowers, and F. Grillot, *1.3 microns passively mode-locked quantum dot lasers epitaxially grown on silicon:*

gain properties and optical feedback stabilization, Journal of Physics: Photonics, **2**, 045006 (2020).
[103] F. Köster, J. Duan, B. Dong, H. Huang, Z. Lu, P. Poole, F. Grillot, and K. Lüdge, *Temperature dependent linewdith rebroadening in quantum dot semiconductor lasers*, Journal Physics: Photonics, **53**, 235106 (2020).
[102] X.-G. Wang, B.-B. Zhao, F. Grillot, and C. Wang, *Spectral linewidth reduction of quantum cascade lasers by strong optical feedback*, Journal of Applied Physics, **127**, 073104 (2020).
[101] F. Grillot, J.C. Norman, J. Duan, Z. Zhang, B. Dong, H. Huang, W. W. Chow, and J.E. Bowers, *Physics and Applications of quantum dot lasers for silicon photonics (invited)*, Nanophotonics, 20190570 (2020).
[100] S. Gomez, H. Huang, J. Duan, S. Combrié, G. Baili, A. de Rossi, F. Grillot, *High coherence collapse of a hybrid III-V/Si semiconductor laser with a large quality factor,* Journal Physics: Photonics, **2**, 025005 (2020).
[99] H. Huang, J. Duan, B. Dong, J. Norman, D. Jung, J.E. Bowers, and F. Grillot, *Epitaxial quantum dot lasers on silicon: systematic investigation of the optical feedback sensitivity on temperature and doping profiles*, APL Photonics, **5**, 016103 (2020).
[98] B. Dong, H. Huang, J. Duan, G. Kurczveil, D. Liang, R. Beausoleil, and F. Grillot, *Frequency comb dynamics of a 1.3-μm hybrid-silicon quantum dot semiconductor laser with optical injection,* Optics Letters, **44**, 5755 (2019).
[97] J. Duan, H. Huang, B. Dong, J. C. Norman, Z. Zhang, J. E. Bowers, and F. Grillot, *Dynamic and nonlinear properties of epitaxial quantum dot lasers on silicon for isolator-free integration*, Photonics Research, **7**, 1222 (2019).
[96] O. Spitz, J. Wu, A. Herdt, M. Carras, W. Elsaesser, C.-W. Wong, and F. Grillot, *Investigation of chaotic and spiking dynamics in mid-infrared quantum cascade lasers operating continuous-waves and under current modulation*, IEEE Journal of Selected Topics in Quantum Electronics, **25**, 1200311 (2019).
[95] B. Dong, J. Duan, C. Shang, H. Huang, A. B. Sawadogo, D. Jung, Y. Wan, J. E. Bowers, and F. Grillot, *Influence of the polarization anisotropy on the linewidth enhancement factor and reflection sensitivity of 1.55 micron InP-based InAs quantum dash lasers*, Applied Physics Letters, **115**, 091101 (2019).
[94] Y.-G. Zhou, J. Duan, H. Huang, X.-Y. Zhao, C.-F. Cao, Q. Gong, F. Grillot, and C. Wang, *Intensity noise and pulse oscillations of an InAs/GaAs quantum dot laser on germanium*, IEEE Journal of Selected Topics in Quantum Electronics, **25**, 1900110 (2019).
[93] O. Spitz, J. Wu, M. Carras, C.-W. Wong, and F. Grillot, *Chaotic optical power dropouts driven by low frequency bias forcing in a mid-infrared quantum cascade laser*, Scientific Reports, **9**, 4451 (2019).
[92] J. Duan, H. Huang, B. Dong, D. Jung, J. C. Norman, J. E. Bowers, F. Grillot 1.3 micron *Reflection Insensitive InAs/GaAs Quantum Dot Lasers Directly Grown on Silicon,* IEEE Photon. Technol. Letts, **31**, 345 (2019)
[91] J. Duan, X.-G. Wang, Y.-G. Zhou, C. Wang, and F. Grillot, *Carrier-Noise Enhanced Relative Intensity Noise of Quantum Dot Lasers*, IEEE J. of Quantum Electron., **54**, 2001407, (2018).
[90] H. Huang, J. Duan, D. Jung, A. Y. Liu, Z. Zhang, J. Norman, J. E. Bowers, and F. Grillot, *Analysis of the optical feedback dynamics in InAs/GaAs quantum dot lasers directly grown on silicon*, Journal of the Optical Society of America B, **35**, 2780, (2018).
[89] O. Spitz, J. Wu, M. Carras, C. W. Wong, F. Grillot, *Low-frequency fluctuations of a mid-infrared quantum cascade laser operating at cryogenic temperatures*, Laser Physics Letts, **15**, 116201, (2018).
[88] T. C. Newell, F. Grillot, A. Gavrielides, R. Kaspi, C. Lu, C. Yang, T. Bate, and S. Luong, *Experimental investigation of broad area quantum cascade lasers under external feedback*, Optics Express, **26**, 17927, (2018).
[87] J. Duan, H. Huang, D. Jung, Z. Zhang, J. Norman, J. E. Bowers, and F. Grillot, *Semiconductor quantum dot lasers epitaxially grown on silicon with low linewidth enhancement factor*, Applied Physics Letters, **112**, 251111, (2018).
[86] X.-G. Wang, B.-B. Zhao, F. Grillot, and C. Wang, *Frequency noise suppression of optical injection-locked quantum cascade lasers*, Optics Express, **26**, 15167, (2018).
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Plenary, Invited & Post-Deadlines Talks

[62] *Free-space communication & quantum photonics: Advancements in mid-infrared interband cascade lasers*, Photonics West, USA, Keynote, 2024.
[61] *Semiconductor Quantum Dot lasers: prospects & challenges*, IEEE Photonics Benelux Chapter, Annual Symposium, Ghent, Belgium Keynote, 2023.
[60] *Rogue Waves and Extreme Events in Mid Infrared Quantum Cascade Lasers Under External Optical Feedback*, NOLTA Conference, Catania, Italy, 2023.
[58] *Quantum Photonics with Interband Cascade Lasers,* NOLTA Conference, Catania, Italy, 2023.
[57] *Recent Advances in Interband Cascade Lasers for Mid-Wave Infrared Free-Space Optical Communications*, 16th International Conference on Mid-Infrared Optoelectronics: Materials and Devices (MIOMD), Norman, USA, 2023.
[56] *Secured free-space optics with mid-infrared quantum cascade lasers*, QUEST Conference, Paris, France, 2023.
[55] *Semiconductor Quantum Dots, why are they so quantum? Genesis, prospects & challenges*, IEEE International Conference on Nanoelectronics, Nanophotonics, Nanomaterials, Nanobioscience & Nanotechnology (IEEE 5NANO), Kerala, India, Keynote, 2023.
[54] *Dynamic and nonlinear properties of mid-infrared interband quantum cascade lasers*, Photonics West, San Francisco, USA, 2023.
[53] *Recent advances in high-speed data communications using mid-infrared quantum cascade lasers*, Photonics West, San Francisco, USA, 2023.
[52] *Semiconductor Quantum Dots, why are they so quantum? Genesis, prospects & challenges*, Annual Congress of the Danish Optical Society, Aarhus, Keynote, 2022.
[51] *High-speed data transfer with quantum cascade technology*, High-Frequency Technologies Workshop, Milan, Italy, 2022.
[50] *Free-space optical communications using mid infrared quantum cascade technology*, The IEEE International Photonics (IPC), Vancouver, 2022.
[49] *Nonlinear photonics in interband quantum cascade lasers*, Optics, Photonics & Lasers Conference, Virtual Event, 2022.
[48] *Semiconductor quantum dots genesis, prospects & challenges*, 3D-ICOMAS, Verona, 2022.
[47] *Bridging the 100 GHz – 10 THz domain with unipolar quantum optoelectronics*, SPIE Optics, San Diego, 2022.

[46] *Semiconductor quantum dots: genesis, prospects & challenges,* 3-day International Conference on Materials Science (3d-ICOMAS), Verona, 2022.
[45] *Unipolar quantum technology enabling high-speed free-space communication in the long-wave infrared regime*, Conference on Lasers and Electro-Optics (CLEO), Postdeadline paper, 2022.
[44] *The future of quantum dot lasers for next generation silicon photonics*, 20 Jahre CINSaT Workshop, Kassel, Germany, 2022.
[43] *Chaos-based mid-infrared communications,* Photonics West, San Francisco, USA, 2022.
[42] *Mode locking and frequency comb generation by four-wave mixing in a semiconductor quantum-dot active medium,* The Solvay Meeting, Brussels, Belgium, 2021.
[41] *Recent progress in quantum dot distributed feedback lasers with large wavelength detuning for uncooled and isolation-free applications*, The 26th Optoelectronics and Communications Conference, Virtual Event, 2021.
[40] *High performance semiconductor lasers made with a harmonic photonic potential,* WIAS Workshop: Nonlinear Dynamics in Semiconductor Lasers, Virtual Event, 2021.
[39] *Intensity noise and modulation dynamics of epitaxial quantum dot semiconductor lasers on silicon*, Photonics West, Virtual Event, USA, 2021.
[38] *Frequency-domain modeling of semiconductor mode lock lasers*, The IEEE International Photonics Conference (IPC), Virtual Event, 2020
[37] *Quantum dot lasers based photonic integrated circuits*, The IEEE International Photonics Conference (IPC), Virtual Event, 2020.
[36] *Nonlinear-optical properties of semiconductor quantum dots*, The 28th International Symposium on Nanostructures: Physics and Technology, Virtual Event, 2020.
[35] *Uncovering reflection insensitive lasers: from promise to reality*, The Optical Fiber Communication Conference (OFC), San Diego, USA, 2020.
[34] *High-performance mode-locked lasers on silicon*, Photonics West, San Francisco, USA, 2020.
[33] *Epitaxial integration of high-performance quantum-dot lasers on silicon*, Photonics West, San Francisco, USA, 2020.
[32] *Towards private communications with mid-infrared chaotic light*, Photonics West, San Francisco, USA, 2020.
[31] *1.3-µm high performance epitaxial quantum dot lasers on silicon,* The 7th International Workshop on Epitaxial Growth and Fundamental Properties of Semiconductor Nanostructures, Kobe, Japan, 2019.
[30] *High coherence semiconductor lasers for next generation silicon photonics*, The 11th International Conference on Information Optics and Photonics (CIOP), Xi'An, China, 2019.
[29] *Improved quantum dot uniformity and its impact on reflection sensitivity*, European Conference on Integrated Optics (ECIO), Ghent, Belgium, 2019
[28] *Quantum dot lasers for next generation optical networks***,** The 49th Winter Colloquium on the Physics of Quantum Electronics (PQE), Snowbird, USA, 2019.
[27] *Linewidth broadening factor and optical feedback sensitivity of silicon based quantum dot lasers*, SPIE Photonics West, San Francisco, 2019.
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