

EDUCATION

Ph.D. Paris, France
PARIS SACLAY UNIVERSITY 2012 - 2016

M.S. Grenoble, France
GRENOBLE INP - PHELMA 2009 - 2012

RESEARCH EXPERIENCES

University of Maryland - National Institute of Standards and Technology Maryland, USA
ASSISTANT RESEARCH SCIENTIST Jul. 2021 - present

- Study of chip-scale integrated micro-resonators made $\chi^{(3)}$ susceptible material for non-linear optics applications.
- Study of novel dispersion designs for broader, shorter wavelength, and new state of frequency combs in pulse regime
- Mentoring of students

University of Maryland - National Institute of Standards and Technology Maryland, USA
POSTDOCTORAL ASSOCIATE Feb. 2017 - Jun. 2021

- Study of chip-scale integrated micro-resonators made of Silicon Nitride for $\chi^{(3)}$ frequency comb applications.
- Development of in-house modelling tools, clean-room fabrication, development of new experimental setups

Thales Research and Technology Palaiseau, France
PHD CANDIDATE Dec. 2012 - Dec. 2016

- Study of carrier dynamics generated through $\chi^{(3)}$ non-linearity in III-V photonic crystals cavities
- Development of in-house computational solvers (FDTD, FEM, CMT), fabrication and measurement with custom developed setups

ACADEMIC EXPERIENCE

Teaching

- Teaching assistant – 1st and 2nd year undergraduate student – UNIVERSITY PARIS SACLAY – 2014

Mentoring

- Graduate Students: Edgar Perez – U.M.D – 2018 → present
Tahmid Raman – U.M.D – 2019 → present
Khoi Tuan Hoang – U.M.D – 2020 → present
Rahul Shresta – U.M.D – 2020 → present
Pradyoth Shandilya – U.M.B.C. – 2021 → present
Michal Chojnacky – U.M.D – 2022 → present
- Undergrad. Students: Dillion Cottrill – UNIVERSITY OF WEST VIRGINIA – 2020
Kristiana Ramos – U.M.D – 2021 → present

Contribution to Funded Projects

- Agence National de la Recherche (France): AUCTION (2013-2015) – ETHAN (2015-2016)
- DARPA (USA): DODOS (2017-2020) – ACES (2017-2021) – APhi (2019-present) – LUMOS (2021-present) – SAVANT (2021-present)
- Space Force & Air Force Research Laboratory (USA): PICs for SCPNT (2022-present)

SELECTED PUBLICATIONS

>30 peer-reviewed journal articles
>35 conference proceedings
2 book chapters
816 citations as of 06/2022
h-index of 15 as of 06/2022
h-index of 15 as of 06/2022

Articles

- G. Moille, E. F. Perez, et al. *Ultra-broadband Kerr microcomb through soliton spectral translation*. NATURE COMMUNICATIONS 12 (2021).
- X. Lu, G. Moille, et al. *Efficient photoinduced second-harmonic generation in silicon nitride photonics*. NATURE PHOTONICS (2020).
- G. Moille, L. Chang, et al. *Dissipative Kerr Solitons in a III-V Microresonator*. LASERS & PHOTONICS REVIEWS 14 (2020).
- X. Lu, G. Moille, et al. *Milliwatt-threshold visible-telecom optical parametric oscillation using silicon nanophotonics*. OPTICA 6 (2019).

Book Chapter

- G. Moille et al. Green Photonics and Electronics. “Nanophotonic Approach to Energy-Efficient Ultra-Fast All-Optical Gates”, pp. 107–137. Springer, Cham, 2017.

Conferences

- G. Moille et al. “Chip-Integrated Soliton Microcombs at Cryogenic Temperatures”. *Frontiers in Optics*. (2019).
- G. Moille et al. “Phase-locked two-color soliton microcombs”. *2018 Conference on Lasers and Electro-Optics (CLEO)*. (2018).

SERVICE TO COMMUNITY

Outreach

- Maintaining and updating an active github profile to share scripts for experiment control and in-house developed simulations tools. Combined, they account for 22 forks, 28 stars and an average of 25 unique views per week.

Peer Reviewing

- Referee for *Optica*, *JOSA B*, *Optics Letters*, *Optics Express*, *OSA Continuum*, *Nature Communications*, *Physical Review Letters*, *Physical Review Applied*, *Physical Review A*, *Physical Review Research*, *Laser and Photonics Reviews*, *ACS Photonics*, *Applied Physics Letters*, *Photonics*, *Micromachine*, *SPIE Advanced Photonics*

Review Committee Member

- Review applications for the OSA Siegman international school on laser for the 2019 and 2020 editions

SKILLS SUMMARY

Relevant Work	Experimental Skills	NanoFab	E.M. Modeling	Languages
Electromagnetism ●●●●●	Photonics Charac. ●●●●●	Design Layout ●●●●●	Comsol ●●●●●	French ●●●●●
Non-Linear Optics ●●●●●	Non-Linear Optics ●●●●●	EBL ●●●●●	Lumerical ●●●●●	English ●●●●●
Optoelectronics ●●●●●	Radio Freq. ●●●●●	Dy Etching ●●●●●	Mathematica ●●●●●	Italian ●●●●●
Quantum Physics ●●●●●	Metrology ●●●●●	Wet Etching ●●●●●	HFSS ●●●●●	Russian ●●●●●

Optica Publishing Group Publications

JOURNAL ARTICLES

- X. Lu, G. Moille, A. Rao, and K. Srinivasan. *Proposal for Noise-Free Visible-Telecom Quantum Frequency Conversion through Third-Order Sum and Difference Frequency Generation*. OPTICS LETTERS 46 (2021).
- X. Lu, A. Rao, G. Moille, D. A. Westly, and K. Srinivasan. *Universal frequency engineering tool for microcavity nonlinear optics: multiple selective mode splitting of whispering-gallery resonances*. PHOTONICS RESEARCH 8 (2020).
- X. Lu, G. Moille, A. Rao, D. A. Westly, and K. Srinivasan. *On-chip optical parametric oscillation into the visible: generating red, orange, yellow, and green from a near-infrared pump*. OPTICA 7 (2020).
- E. Perez, G. Moille, X. Lu, D. Westly, and K. Srinivasan. *Automated On-Axis Direct Laser Writing of Coupling Elements for Photonic Chips*. OPTICS EXPRESS 28 (2020).
- X. Lu, G. Moille, A. Singh, Q. Li, D. A. Westly, A. Rao, S.-P. Yu, T. C. Briles, S. B. Papp, and K. Srinivasan. *Milliwatt-threshold visible-telecom optical parametric oscillation using silicon nanophotonics*. OPTICA 6 (2019).
- X. Lu, Q. Li, D. A. Westly, G. Moille, A. Singh, V. Anant, and K. Srinivasan. *Chip-integrated visible-telecom entangled photon pair source for quantum communication*. NATURE PHYSICS 15 (2019).
- G. Moille, Q. Li, T. C. Briles, S.-P. Yu, T. Drake, X. Lu, A. Rao, D. Westly, S. B. Papp, and K. Srinivasan. *Broadband resonator-waveguide coupling for efficient extraction of octave-spanning microcombs*. OPTICS LETTERS 44 (2019).
- G. Moille, S. Combrié, L. Morgenroth, G. Lehoucq, S. Sauvage, M. El Kurdi, P. Boucaud, A. de Rossi, and X. Checoury. *Nonlinearities in gaas cavities with high cw input powers enabled by photo-oxidation quenching through ald encapsulation*. OPTICS EXPRESS 26 (2018).
- G. Moille, Q. Li, S. Kim, D. Westly, and K. Srinivasan. *Phased-locked two-color single soliton microcombs in dispersion-engineered Si 3 N 4 resonators*. OPTICS LETTERS 43 (2018).
- G. Moille, S. Combrié, K. Fuchs, M. Yacob, J. P. Reithmaier, and A. de Rossi. *Acceleration of the nonlinear dynamics in p-doped indium phosphide nanoscale resonators*. OPTICS LETTERS 42 (2017).
- Z. Han, G. Moille, X. Checoury, J. Bourderionnet, P. Boucaud, A. De Rossi, and S. Combrié. *High-performance and power-efficient 250 fs optical switch on silicon-on-insulator*. OPTICS EXPRESS 23 (2015).
- D. Fowler, S. Boutami, M. Duperron, G. Moille, G. Badano, F. Boulard, J. Rothman, O. Gravrand, and R. E. de Lamaestre. *Partially localized hybrid surface plasmon mode for thin-film semiconductor infrared photodetection*. OPTICS LETTERS 38 (2013).

CONFERENCE PROCEEDINGS

- G. Moille et al. "Ultra-Broadband Dissipative Kerr Soliton Microcomb through Dual Pumping Operation". CLEO: Science and Innovations. (2021).
- G. Moille et al. "Impact of Stoichiometric Silicon Nitride Growth Conditions on Dispersion and Broadband Kerr Microcombs in the Near-Visible". 2021 Conference on Lasers and Electro-Optics (CLEO). (2021).
- A. Rao et al. "Up to 50 dB Extinction in Broadband Single-Stage Thermo-Optic Mach-Zehnder Interferometers for Programmable Low-Loss Silicon Nitride Photonic Circuits". 2021 Conference on Lasers and Electro-Optics (CLEO). (2021).
- X. Lu et al. "Efficient widely-separated optical parametric oscillation". 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- S.-P. Yu et al. "Spontaneous Soliton Formation in Photonic-Crystal Ring Resonators". 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- T. Briles et al. "Semiconductor laser integration for octave-span Kerr-soliton frequency combs". 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- A. Rao et al. "Integrated photonic interposers for processing octave-spanning microresonator frequency combs". CLEO: Science and Innovations. (2020).
- G. Moille et al. "Stable Dissipative Kerr Solitons in a AlGaAs Microresonator Through Cryogenic Operation". 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- J. A. Black et al. "Optical synthesis by spectral translation". 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- X. Lu et al. "Efficient second harmonic generation in a Si3 N4 microring". CLEO: Science and Innovations. (2020).
- G. Moille et al. "Post-Processing Dispersion Engineering of Frequency Combs In Microresonator Addressing Atomic Clock". 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- S.-P. Yu et al. "Direct Mode-Frequency Control for Nonlinear Optics in Photonic-Crystal Ring Resonators". CLEO: Science and Innovations. (2019).
- X. Lu et al. "Efficient telecom-to-visible spectral translation using silicon nanophotonics". CLEO: Science and Innovations. (2019).
- G. Moille et al. "Broadband Resonator-Waveguide Coupling for Octave-Spanning Microresonator Frequency Combs". Frontiers in Optics. (2019).

- G. Moille et al. *“pyLLE: a Fast and User Friendly Software Package for Microcomb Simulations”*. *Frontiers in Optics*. (2019).
- X. Lu et al. *“Visible-telecom photon pair generation with silicon nitride nanophotonics”*. *CLEO: QELS_Fundamental Science*. (2018).
- S.-P. Yu et al. *“Bridging Telecom Wavelengths to Alkali Atomic Transitions with Tunable Kerr Frequency Combs”*. *Frontiers in Optics*. (2018).
- C. Husko et al. *“A hybrid silicon-phosphorene nanolaser”*. *Frontiers in Optics*. (2017).
- G. Moille et al. *“GaAs photonic crystal switch for electro-optic sampling”*. *2016 Conference on Lasers and Electro-Optics (CLEO)*. (2016).
- A. De Rossi. *“High-Q photonic crystal resonators for nonlinear optics”*. *Frontiers in Optics*. (2016).
- A. Martin et al. *“Triply-resonant continuous wave parametric source with a microwatt pump”*. *2016 Conference on Lasers and Electro-Optics (CLEO)*. (2016).
- G. Moille et al. *“Recovery time control in a nanophotonic nonlinear gate using atomic layer deposition”*. *CLEO: Science and Innovations*. (2015).
- Z. Han et al. *“High contrast and power-efficient thermally-controlled optical switch on Silicon-on-Insulator”*. *CLEO: Science and Innovations*. (2015).

Complete List of Publications

POPULAR WRITING

G. Moille and K. Srinivasan. **Small Cavities Make Noisy Homes for Light**. *American Physical Society* VOL. 13 (2020). URL: [HTTPS://PHYSICS.APS.ORG/ARTICLES/V13/192](https://physics.aps.org/articles/v13/192) (VISITED ON 12/12/2020)URL: [HTTPS://PHYSICS.APS.ORG/ARTICLES/V13/192](https://physics.aps.org/articles/v13/192) .

JOURNAL ARTICLES

- F. Zhou, X. Lu, A. Rao, J. Stone, G. Moille, E. Perez, D. Westly, and K. Srinivasan. *Hybrid-Mode-Family Kerr Optical Parametric Oscillation for Robust Coherent Light Generation on Chip*. *LASER & PHOTONICS REVIEWS* (2022).
- J. R. Stone, G. Moille, X. Lu, and K. Srinivasan. *Conversion efficiency in Kerr-microresonator optical parametric oscillators: From three modes to many modes*. *PHYSICAL REVIEW APPLIED* 17 (2022).
- T. C. Briles, S.-P. Yu, L. Chang, C. Xiang, J. Guo, D. Kinghorn, G. Moille, K. Srinivasan, J. E. Bowers, and S. B. Papp. *Hybrid InP and SiN Integration of an Octave-Spanning Frequency Comb*. *APL PHOTONICS* 6 (2021).
- G. Moille, E. F. Perez, J. R. Stone, A. Rao, X. Lu, T. S. Rahman, Y. K. Chembo, and K. Srinivasan. *Ultra-broadband Kerr microcomb through soliton spectral translation*. *NATURE COMMUNICATIONS* 12 (2021).
- S.-P. Yu, D. C. Cole, H. Jung, G. T. Moille, K. Srinivasan, and S. B. Papp. *Spontaneous Pulse Formation in Edgeless Photonic Crystal Resonators*. *NATURE PHOTONICS* 15 (2021).
- S. Mittal, G. Moille, K. Srinivasan, Y. K. Chembo, and M. Hafezi. *Topological Frequency Combs and Nested Temporal Solitons*. *NATURE PHYSICS* 17 (2021).
- X. Lu, G. Moille, A. Rao, and K. Srinivasan. *Proposal for Noise-Free Visible-Telecom Quantum Frequency Conversion through Third-Order Sum and Difference Frequency Generation*. *OPTICS LETTERS* 46 (2021).
- G. Moille, D. Westly, G. Simelgor, and K. Srinivasan. *Impact of the precursor gas ratio on dispersion engineering of broadband silicon nitride microresonator frequency combs*. *OPTICS LETTERS* 46 (2021).
- G. Moille, D. Westly, N. G. Orji, and K. Srinivasan. *Tailoring Broadband Kerr Soliton Microcombs via Post-Fabrication Tuning of the Geometric Dispersion*. *APPLIED PHYSICS LETTERS* 119 (2021).
- Q. Li, G. Moille, H. Taheri, A. Adibi, and K. Srinivasan. *Improved coupled-mode theory for high-index-contrast photonic platforms*. *PHYS. REV. A* 102 (6 2020).
- X. Lu, G. Moille, A. Rao, D. A. Westly, and K. Srinivasan. *Efficient photoinduced second-harmonic generation in silicon nitride photonics*. *NATURE PHOTONICS* (2020).
- X. Lu, A. Rao, G. Moille, D. A. Westly, and K. Srinivasan. *Universal frequency engineering tool for microcavity nonlinear optics: multiple selective mode splitting of whispering-gallery resonances*. *PHOTONICS RESEARCH* 8 (2020).
- G. Moille, L. Chang, W. Xie, A. Rao, X. Lu, M. Davanco, J. E. Bowers, and K. Srinivasan. *Dissipative Kerr Solitons in a III-V Microresonator*. *LASERS & PHOTONICS REVIEWS* 14 (2020).
- X. Lu, G. Moille, A. Rao, D. A. Westly, and K. Srinivasan. *On-chip optical parametric oscillation into the visible: generating red, orange, yellow, and green from a near-infrared pump*. *OPTICA* 7 (2020).
- L. Chang, W. Xie, H. Shu, Q.-F. Yang, B. Shen, A. Boes, J. D. Peters, W. Jin, C. Xiang, S. Liu, et al. *Ultra-efficient frequency comb generation in AlGaAs-on-insulator microresonators*. *NATURE COMMUNICATIONS* 11 (2020).
- E. Perez, G. Moille, X. Lu, D. Westly, and K. Srinivasan. *Automated On-Axis Direct Laser Writing of Coupling Elements for Photonic Chips*. *OPTICS EXPRESS* 28 (2020).
- G. Moille, Q. Li, L. Xiyuan, and K. Srinivasan. *pyLLE: A Fast and User Friendly Lugiato-Lefever Equation Solver*. *JOURNAL OF RESEARCH OF THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY* 124 (2019).
- I. Ghorbel, F. Swiadek, R. Zhu, D. Dolfi, G. Lehoucq, A. Martin, G. Moille, L. Morvan, R. Braive, S. Combr  , et al. *Optomechanical gigahertz oscillator made of a two photon absorption free piezoelectric III/V semiconductor*. *APL PHOTONICS* 4 (2019).
- X. Lu, G. Moille, A. Singh, Q. Li, D. A. Westly, A. Rao, S.-P. Yu, T. C. Briles, S. B. Papp, and K. Srinivasan. *Milliwatt-threshold visible-telecom optical parametric oscillation using silicon nanophotonics*. *OPTICA* 6 (2019).
- S.-P. Yu, T. C. Briles, G. T. Moille, X. Lu, S. A. Diddams, K. Srinivasan, and S. B. Papp. *Tuning Kerr-soliton frequency combs to atomic resonances*. *PHYSICAL REVIEW APPLIED* 11 (2019).
- G. Moille, X. Lu, A. Rao, Q. Li, D. A. Westly, L. Ranzani, S. B. Papp, M. Soltani, and K. Srinivasan. *Kerr-Microresonator Soliton Frequency Combs at Cryogenic Temperatures*. *PHYSICAL REVIEW APPLIED* 12 (2019).
- X. Lu, G. Moille, Q. Li, D. A. Westly, A. Singh, A. Rao, S.-P. Yu, T. C. Briles, S. B. Papp, and K. Srinivasan. *Efficient telecom-to-visible spectral translation through ultralow power nonlinear nanophotonics*. *NATURE PHOTONICS* 13 (2019).
- X. Lu, Q. Li, D. A. Westly, G. Moille, A. Singh, V. Anant, and K. Srinivasan. *Chip-integrated visible-telecom entangled photon pair source for quantum communication*. *NATURE PHYSICS* 15 (2019).

- G. Moille, Q. Li, T. C. Briles, S.-P. Yu, T. Drake, X. Lu, A. Rao, D. Westly, S. B. Papp, and K. Srinivasan. *Broadband resonator-waveguide coupling for efficient extraction of octave-spanning microcombs*. OPTICS LETTERS 44 (2019).
- C. Husko, J. Kang, G. Moille, J. D. Wood, Z. Han, D. Gosztola, X. Ma, S. Combrié, A. De Rossi, M. C. Hersam, et al. *Silicon-Phosphorene Nanocavity-Enhanced Optical Emission at Telecommunications Wavelengths*. NANO LETTERS 18 (2018).
- G. Moille, S. Combrié, L. Morgenroth, G. Lehoucq, S. Sauvage, M. El Kurdi, P. Boucaud, A. de Rossi, and X. Checoury. *Nonlinearities in gaas cavities with high cw input powers enabled by photo-oxidation quenching through ald encapsulation*. OPTICS EXPRESS 26 (2018).
- G. Moille, Q. Li, S. Kim, D. Westly, and K. Srinivasan. *Phased-locked two-color single soliton microcombs in dispersion-engineered Si 3 N 4 resonators*. OPTICS LETTERS 43 (2018).
- S. Combrié, G. Lehoucq, G. Moille, A. Martin, and A. De Rossi. *Comb of high-Q Resonances in a Compact Photonic Cavity*. LASER & PHOTONICS REVIEWS 11 (2017).
- G. Moille, S. Combrié, K. Fuchs, M. Jacob, J. P. Reithmaier, and A. de Rossi. *Acceleration of the nonlinear dynamics in p-doped indium phosphide nanoscale resonators*. OPTICS LETTERS 42 (2017).
- G. Moille, S. Combrié, L. Morgenroth, G. Lehoucq, F. Neuilly, B. Hu, D. Decoster, and A. de Rossi. *Integrated all-optical switch with 10 ps time resolution enabled by ALD*. LASER & PHOTONICS REVIEWS 10 (2016).
- M. Gay, L. Bramerie, L. A. Neto, S. D. Le, J.-C. Simon, C. Peucheret, Z. Han, X. Checoury, G. Moille, J. Bourderionnet, et al. *Silicon-on-insulator RF filter based on photonic crystal functions for channel equalization*. IEEE PHOTONICS TECHNOLOGY LETTERS 28 (2016).
- G. Moille, S. Combrié, and A. De Rossi. *Modeling of the carrier dynamics in nonlinear semiconductor nanoscale resonators*. PHYSICAL REVIEW A 94 (2016).
- Z. Han, G. Moille, X. Checoury, J. Bourderionnet, P. Boucaud, A. De Rossi, and S. Combrié. *High-performance and power-efficient 250-ps optical switch on silicon-on-insulator*. OPTICS EXPRESS 23 (2015).
- D. Fowler, S. Boutami, M. Duperron, G. Moille, G. Badano, F. Boulard, J. Rothman, O. Gravrand, and R. E. de Lamaestre. *Partially localized hybrid surface plasmon mode for thin-film semiconductor infrared photodetection*. OPTICS LETTERS 38 (2013).

BOOK CHAPTERS

- P. Colman, S. Combrié, A. De Rossi, A. Martin, and G. Moille. *Nonlinear Meta-Optics. "Nonlinear Photonic Crystals", pp. 199–250*. CRC Press, 2020.
- G. Moille, S. Combrié, and A. De Rossi. *Green Photonics and Electronics. "Nanophotonic Approach to Energy-Efficient Ultra-Fast All-Optical Gates", pp. 107–137*. Springer, Cham, 2017.

CONFERENCE PROCEEDINGS

- G. Moille et al. *"Ultra-Broadband Dissipative Kerr Soliton Microcomb through Dual Pumping Operation"*. CLEO: Science and Innovations. (2021).
- G. Moille et al. *"Impact of Stoichiometric Silicon Nitride Growth Conditions on Dispersion and Broadband Kerr Microcombs in the Near-Visible"*. 2021 Conference on Lasers and Electro-Optics (CLEO). (2021).
- A. Rao et al. *"Up to 50 dB Extinction in Broadband Single-Stage Thermo-Optic Mach-Zehnder Interferometers for Programmable Low-Loss Silicon Nitride Photonic Circuits"*. 2021 Conference on Lasers and Electro-Optics (CLEO). (2021).
- S. Mittal et al. *"Topological optical frequency combs and dissipative Kerr super-solitons"*. European Quantum Electronics Conference. (2021).
- X. Lu et al. *"Efficient widely-separated optical parametric oscillation"*. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- S.-P. Yu et al. *"Spontaneous Soliton Formation in Photonic-Crystal Ring Resonators"*. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- T. Briles et al. *"Semiconductor laser integration for octave-span Kerr-soliton frequency combs"*. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- A. Rao et al. *"Integrated photonic interposers for processing octave-spanning microresonator frequency combs"*. CLEO: Science and Innovations. (2020).
- G. Moille et al. *"Stable Dissipative Kerr Solitons in a AlGaAs Microresonator Through Cryogenic Operation"*. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- J. A. Black et al. *"Optical synthesis by spectral translation"*. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- X. Lu et al. *"Efficient second harmonic generation in a Si3 N4 microring"*. CLEO: Science and Innovations. (2020).
- G. Moille et al. *"Post-Processing Dispersion Engineering of Frequency Combs In Microresonator Addressing Atomic Clock"*. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- S.-P. Yu et al. *"Direct Mode-Frequency Control for Nonlinear Optics in Photonic-Crystal Ring Resonators"*. CLEO: Science and Innovations. (2019).
- X. Lu et al. *"Efficient telecom-to-visible spectral translation using silicon nanophotonics"*. CLEO: Science and Innovations. (2019).

- G. Moille et al. “*Broadband Resonator-Waveguide Coupling for Octave-Spanning Microresonator Frequency Combs*”. *Frontiers in Optics*. (2019).
- X. Lu et al. “*Sub-mW optical parametric oscillation across visible and telecommunications bands using silicon nanophotonics*”. *Laser Science*. (2019).
- G. Moille et al. “*pyLLE: a Fast and User Friendly Software Package for Microcomb Simulations*”. *Frontiers in Optics*. (2019).
- G. Moille et al. “*Chip-Integrated Soliton Microcombs at Cryogenic Temperatures*”. *Frontiers in Optics*. (2019).
- T. C. Briles et al. “*Generation of Octave-Spanning Microresonator Solitons with a Self Injection-Locked DFB Laser*”. *2019 IEEE Avionics and Vehicle Fiber-Optics and Photonics Conference (AVFOP)*. (2019).
- X. Lu et al. “*Visible-telecom photon pair generation with silicon nitride nanophotonics*”. *CLEO: QELS_Fundamental Science*. (2018).
- G. Moille et al. “*Phase-locked two-color soliton microcombs*”. *2018 Conference on Lasers and Electro-Optics (CLEO)*. (2018).
- S.-P. Yu et al. “*Bridging Telecom Wavelengths to Alkali Atomic Transitions with Tunable Kerr Frequency Combs*”. *Frontiers in Optics*. (2018).
- S. Combrié et al. “*High-Q optical comb based on a photonic harmonic potential (Conference Presentation)*”. *Quantum Sensing and Nano Electronics and Photonics XV*. (2018).
- G. Moille. “*Parametric Interactions with Microwatt Pump In III/V Resonators*”. *Integrated Photonics Research, Silicon and Nanophotonics*. (2017).
- C. Husko et al. “*A hybrid silicon-phosphorene nanolaser*”. *Frontiers in Optics*. (2017).
- G. Moille, A. De Rossi, and S. Combrié. “*All-optical gates based on photonic crystal resonators*”. *SPIE Photonics Europe*. (2016).
- G. Moille et al. “*GaAs photonic crystal switch for electro-optic sampling*”. *2016 Conference on Lasers and Electro-Optics (CLEO)*. (2016).
- A. De Rossi. “*High-Q photonic crystal resonators for nonlinear optics*”. *Frontiers in Optics*. (2016).
- J. Bourderionnet et al. “*Silicon-on-Insulator photonic crystal multi-tap microwave photonics filter*”. *2016 IEEE Photonics Conference (IPC)*. (2016).
- A. Martin et al. “*Triply-resonant continuous wave parametric source with a microwatt pump*”. *2016 Conference on Lasers and Electro-Optics (CLEO)*. (2016).
- G. Moille et al. “*Recovery time control in a nanophotonic nonlinear gate using atomic layer deposition*”. *CLEO: Science and Innovations*. (2015).
- Z. Han et al. “*High contrast and power-efficient thermally-controlled optical switch on Silicon-on-Insulator*”. *CLEO: Science and Innovations*. (2015).
- G. Moille et al. “*Towards faster InP photonic crystal all-optical-gates*”. *2015 International Conference on Photonics in Switching (PS)*. (2015).
- G. Moille et al. “*A Highly Linear All Optical Gate Based on Coupled Photonic Crystal Cavities*”. *Nonlinear Photonics*. (2014).
- S. Combrié et al. “*An efficient all-optical gate based on photonic crystals cavities and applications*”. *2014 16th International Conference on Transparent Optical Networks (ICTON)*. (2014).
- G. Moille et al. “*Photo-commutateur hyperfréquence à base de cristaux photoniques*”. *Assemblée Générale du GdR Ondes 2451” Interférences d’ondes*”. (2013).

OTHERS

- J. E. Bowers, A. Beling, S. M. Bowers, T. C. Briles, L. Chang, J. Chiles, R. Costanzo, M. Davanco, S. A. Diddams, T. E. Drake, et al. *Chip-scale optical resonator enabled synthesizer (CORES)* Tech. Report . 2019.
- G. Moille. “*Non-Linear Dynamics in Semiconductor Nano-Structures for Signal Processing*” PhD Thesis . 2016.

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