

EDUCATION	<div> <div>Ph.D.</div> <div>PARIS SACLAY UNIVERSITY</div> <div>Paris, France</div> <div>2012 - 2016</div> </div>	<div> <div>M.S.</div> <div>GRENOBLE INP - PHELMA</div> <div>Grenoble, France</div> <div>2009 - 2012</div> </div>
RESEARCH EXPERIENCES	<div> <div>University of Maryland - National Institute of Standards and Technology</div> <div>ASSISTANT RESEARCH SCIENTIST</div> <div> <ul style="list-style-type: none"> 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 </div> </div>	<div> <div>Maryland, USA</div> <div>Jul. 2021 - present</div> </div>
	<div> <div>University of Maryland - National Institute of Standards and Technology</div> <div>POSTDOCTORAL ASSOCIATE</div> <div> <ul style="list-style-type: none"> 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 </div> </div>	<div> <div>Maryland, USA</div> <div>Feb. 2017 - Jun. 2021</div> </div>
	<div> <div>Thales Research and Technology</div> <div>PHD CANDIDATE</div> <div> <ul style="list-style-type: none"> 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 </div> </div>	<div> <div>Palaiseau, France</div> <div>Dec. 2012 - Dec. 2016</div> </div>
ACADEMIC EXPERIENCE	<div> <div>Teaching</div> <div> <ul style="list-style-type: none"> Teaching assistant – 1st and 2nd year undergraduate student – UNIVERSITY PARIS SACLAY – 2014 </div> </div>	
	<div> <div>Mentoring</div> <div> <ul style="list-style-type: none"> Highschool. Students: Christy Li – MONTGOMMERY BLAIR HS (NOW AT MIT) – Jul. 2021 →Aug. 2022 Undergrad. Students: Dillion Cottrill – UNIVERSITY OF WEST VIRGINA – 2020 Kristiana Ramos – U.M.D – 2021→2022 Graduate Students: Edgar Perez –U.M.D – 2018 → present Tahmid Raman – U.M.D – 2019→present Khoi Tuan Hoang – U.M.D – 2020→present Shoa-Chein Out – U.M.D – 2022→present </div> </div>	<div> <div>Rahul Shresta – U.M.D – 2020→present</div> <div>Pradyoth Shandilya – U.M.B.C. – 2021→present</div> <div>Michal Chojnacky – U.M.D – 2022→present</div> </div>
	<div> <div>Contribution to Funded Projects</div> <div>Support staff:</div> <div> <ul style="list-style-type: none"> Agence National de la Recherche (France): AUCTOPUSS (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) </div> </div>	
	<div> <div>Co-Principal Investigator:</div> <div> <ul style="list-style-type: none"> Marsden Fund: “The light between: parametrically driven cavity solitons in pure-Kerr resonators” (2023-present) </div> </div>	
SELECTED PUBLICATIONS	<div> <div>Articles</div> <div> <ul style="list-style-type: none"> G. Moille et al. “Parametrically driven pure-Kerr temporal solitons in a chip-integrated microcavity”. in press NATURE PHOTONICS (2024). G. Moille et al. “Kerr-Induced Synchronization of a Cavity Soliton to an Optical Reference”. NATURE 624.7991 (2023). G. Moille al. “Ultra-broadband Kerr microcomb through soliton spectral translation”. NATURE COMM. 12.1 (2021). G. Moille et al. “Dissipative Kerr Solitons in a III-V Microresonator”. LASERS & PHOTONICS REV 14.8 (2020). G. Moille et al. “Broadband resonator-waveguide coupling for efficient extraction of octave-spanning microcombs”. OPTICS LETTERS 44.19 (2019). </div> </div>	
	<div> <div>Book Chapter</div> <div> <ul style="list-style-type: none"> 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 </div> </div>	

SERVICE TO
COMMUNITY

Conferences

- G. Moille et al. "All-Optical Kerr Synchronization of a Dissipative Kerr Soliton Microcomb to an Optical Reference". (invited) Nonlinear Optics. (2023). Nonlinear Optics. (2023)
- G. Moille et al. "Two-Dimensional Frequency Comb from a Single Dual-Pumped Microring Dissipative Kerr Soliton". (highlighted) CLEO: Science and Innovations. (2023).
- G. Moille et al. "All-Optical Kerr Synchronization of a Dissipative Kerr Soliton Microcomb to an Optical Reference for Clockwork Operation". (postdeadline) CLEO: Science and innovations. (2023).
- G. Moille et al. "Ultra-Broadband Dissipative Kerr Soliton Microcomb through Dual Pumping Operation". (highlighted) CLEO: Science and Innovations. (2021).
- G. Moille et al. "Stable Dissipative Kerr Solitons in a AlGaAs Microresonator Through Cryogenic Operation". (highlighted) CLEO: Science and Innovations. (2020).

Outreach

- Maintaining and updating an active github profile to share scripts for experiment control and in-house developed simulations tools. Combined, they account for **31 forks, 51 stars and an average of 30 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*

Committee Member

- 2010-2020 — Siegman international school: Review applications for the OSA Siegman international school on laser for the 2019 and 2020 editions
- 2023 - present — SPIE Photonics West: program committee member for Laser Resonators, Microresonators, and Beam Control XXVI conference

SKILLS
SUMMARY

Relevant Work

Electromagnetism ● ● ● ● ● ●
Non-Linear Optics ● ● ● ● ● ●
Optoelectronics ● ● ● ● ● ●
Quantum Physics ● ● ● ● ● ●

E.M. Modeling

Comsol ● ● ● ● ● ●
Lumerical ● ● ● ● ● ●
Mathematica ● ● ● ● ● ●
HFSS ● ● ● ● ● ●

Experimental Skills

Photonics Charac. ● ● ● ● ● ●
Non-Linear Optics ● ● ● ● ● ●
Radio Freq. ● ● ● ● ● ●
Metrology ● ● ● ● ● ●

Languages

French ● ● ● ● ● ●
English ● ● ● ● ● ●
Russian ● ● ● ● ● ●
Italian ● ● ● ● ● ●

NanoFab

Design Layout ● ● ● ● ● ●
EBL ● ● ● ● ● ●
Dy Etching ● ● ● ● ● ●
Wet Etching ● ● ● ● ● ●

Complete List of Publications

POPULAR
WRITING
JOURNAL
ARTICLES

2024

- C. J. Flower, M. J. Mehrabad, L. Xu, G. Moille, D. G. Suarez-Forero, Y. Chembo, K. Srinivasan, S. Mittal, and M. Hafezi. *Observation of Topological Frequency Combs*. ARXIV:2401.15547 (2024)
- G. Moille, U. A. Javid, M. Chojnacky, P. Shandilya, C. Menyuk, and K. Srinivasan. *AC-Josephson Effect and Sub-Comb Mode-Locking in a Kerr-Induced Synchronized Cavity Soliton*. ARXIV:2402.08154 (2024)

2023

- M. Soroush, E. Simsek, G. Moille, K. Srinivasan, and C. R. Menyuk. *Predicting Broadband Resonator-Waveguide Coupling for Microresonator Frequency Combs through Fully Connected and Recurrent Neural Networks and Attention Mechanism*. ACS PHOTONICS (2023).
- G. Moille, X. Lu, J. Stone, D. Westly, and K. Srinivasan. *Fourier Synthesis Dispersion Engineering of Photonic Crystal Microrings for Broadband Frequency Combs*. COMMUNICATIONS PHYSICS 6.1 (2023).
- E. F. Perez, G. Moille, X. Lu, J. Stone, F. Zhou, and K. Srinivasan. *High-Performance Kerr Microresonator Optical Parametric Oscillator on a Silicon Chip*. NATURE COMMUNICATIONS 14.1 (2023).
- G. Moille, J. Stone, M. Chojnacky, R. Shrestha, U. A. Javid, C. Menyuk, and K. Srinivasan. *Kerr-Induced Synchronization of a Cavity Soliton to an Optical Reference*. NATURE 624.7991 (2023).

2022

- 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).
- G. Moille, D. Westly, E. F. Perez, M. Metzler, G. Simelgor, and K. Srinivasan. *Integrated Buried Heaters for Efficient Spectral Control of Air-Clad Microresonator Frequency Combs*. APL PHOTONICS 7.12 (2022).
- J. R. Stone, X. Lu, G. Moille, and K. Srinivasan. *Efficient Chip-Based Optical Parametric Oscillators from 590 to 1150 Nm*. APL PHOTONICS 7.12 (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 17.2 (2022).
- A. Chopin, G. Marty, I. Ghorbel, G. Moille, A. Martin, S. Combr  , F. Raineri, and A. De Rossi. *Canonical Resonant Four-Wave-Mixing in Photonic Crystal Cavities: Tuning, Tolerances and Scaling*. IEEE JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS 29.1: NONLINEAR INTEGRATED PHOTONICS (2022).

2021

- 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 6.2 (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 12.1 (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 15.6 (2021).
- S. Mittal, G. Moille, K. Srinivasan, Y. K. Chembo, and M. Hafezi. *Topological Frequency Combs and Nested Temporal Solitons*. NATURE PHYSICS 17.10 (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 46.2 (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 46.23 (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 119.12 (2021).

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, 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 7.10 (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 8.11 (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 11.1 (2020).
- G. Moille and K. Srinivasan. *Small Cavities Make Noisy Homes for Light*. American Physical Society VOL. 13 (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 REV 14.8 (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 28.26 (2020).
- Q. Li, G. Moille, H. Taheri, A. Adibi, and K. Srinivasan. *Improved Coupled-Mode Theory for High-Index-Contrast Photonic Platforms*. PHYSICAL REVIEW A: ATOMIC, MOLECULAR, AND OPTICAL PHYSICS 102.6 (2020).

2019

- I. Ghorbel, F. Swiadek, R. Zhu, D. Dolfi, G. Lehoucq, A. Martin, G. Moille, L. Morvan, R. Braive, S. Combrié, et al. *Optomechanical Gigahertz Oscillator Made of a Two Photon Absorption Free Piezoelectric III/V Semiconductor*. APL PHOTONICS 4.11 (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 6.12 (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 11.4 (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 12.3 (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 13.9 (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 15.4 (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 44.19 (2019).
- 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).

2018

- 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 18.10 (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 26.5 (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 43.12 (2018).

2017

- 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 11.6 (2017).
- 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 42.4 (2017).

2016

- 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 10.3 (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 28.23 (2016).
- G. Moille, S. Combrié, and A. De Rossi. *Modeling of the Carrier Dynamics in Nonlinear Semiconductor Nanoscale Resonators*. PHYSICAL REVIEW A 94.2 (2016).

2015

Z. Han, G. Moille, X. Checoury, J. Bourderionnet, P. Boucaud, A. De Rossi, and S. Combri . *High-Performance and Power-Efficient 25\times 2 Optical Switch on Silicon-on-Insulator*. OPTICS EXPRESS 23.19 (2015).

2013

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 38.3 (2013).

BOOK CHAPTERS

P. Colman, S. Combri , A. De Rossi, A. Martin, and G. Moille. *Nonlinear Meta-Optics*. "Nonlinear Photonic Crystals", pp. 199–250 . 2020.

G. Moille, S. Combri , and A. De Rossi. *Green Photonics and Electronics*. "Nanophotonic Approach to Energy-Efficient Ultra-Fast All-Optical Gates", pp. 107–137 . 2017.

CONFERENCE PROCEEDINGS

2023

C. Li et al. "Dispersion Engineering and Low-Loss Optimization of Footprint-Efficient and Rotationally Asymmetric Resonators". CLEO: Science and Innovations. (2023).

G. Moille et al. "All-Optical Kerr Synchronization of a Dissipative Kerr Soliton Microcomb to an Optical Reference". Nonlinear Optics. (2023).

G. Moille et al. "Optimization of a Cavity Soliton Dispersive Wave through Kerr-Induced Synchronization". 2023 IEEE Photonics Conference (IPC). (2023).

G. Moille. "Dissipative Kerr Soliton for Microcomb Optical Clock: From Dispersion Engineering to Nonlinear Synchronization". 2023 IEEE Research and Applications of Photonics in Defense Conference (RAPID). (2023).

G. Moille et al. "Parametrically-Driven Cavity Solitons in a Pure Kerr Microresonator". 2023 Conference on Lasers and Electro-Optics Europe & European Quantum Electronics Conference (CLEO/Europe-EQEC). (2023).

G. Moille et al. "Two-Dimensional Frequency Comb from a Single Dual-Pumped Microring Dissipative Kerr Soliton". (Highlighted) CLEO: Science and Innovations. (2023).

G. Moille et al. "All-Optical Kerr Synchronization of a Dissipative Kerr Soliton Microcomb to an Optical Reference for Clockwork Operation". (Postdeadline) CLEO: Science and Innovations. (2023).

G. Moille et al. "Octave Spanning Microcomb Dispersive Wave Optimization from Self-Balanced Soliton under Kerr-Induced Synchronization". Frontiers in Optics + Laser Science 2023 (FIO, LS) (2023), Paper FTh3E.2. (2023).

G. Moille et al. "On-Chip Pure $\chi^{(3)}$ Parametrically-Driven Temporal Cavity Solitons". CLEO 2023. (2023).

P. H. Shandilya et al. "A Study of Dual-Pumped Microresonator Solitons Using 3-Wave Equations". Frontiers in Optics + Laser Science 2023 (FIO, LS) (2023), Paper JW4A.48. (2023).

J. R. Stone et al. "Advancing Kerr Microresonator Optical Parametric Oscillators for Chip-Based Laser Systems across the Visible and near-Infrared". CLEO 2023. (2023).

2022

G. Moille et al. "Engineering of Modal Coupling of Counter-Propagating Waves for Multi-Color Dissipative Kerr Soliton Operation". 2022 Conference on Lasers and Electro-Optics (CLEO). (2022).

G. Moille et al. "Temporal Binding of a Coherent Spectrally Translated Pulse from a Dissipative Kerr Soliton in a Synthetic Frequency Lattice". CLEO: QELS_Fundamental Science. (2022).

G. Moille et al. "Towards Lower Repetition Rate and Visible Wavelength Microresonator Frequency Combs for Optical Atomic Clocks". CLEO: Science and Innovations. (2022).

2021

S. Mittal et al. "Topological Optical Frequency Combs and Dissipative Kerr Super-Solitons". European Quantum Electronics Conference. (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).

G. Moille et al. "Ultra-Broadband Dissipative Kerr Soliton Microcomb through Dual Pumping Operation". (Highlighted) CLEO: Science and Innovations. (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).

2020

- J. A. Black et al. “*Optical Synthesis by Spectral Translation*”. 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).
- X. Lu et al. “*Efficient Widely-Separated Optical Parametric Oscillation*”. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- X. Lu et al. “*Efficient Second Harmonic Generation in a Si₃N₄ 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).
- G. Moille et al. “*Stable Dissipative Kerr Solitons in a AlGaAs Microresonator Through Cryogenic Operation*”. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).
- G. Moille et al. “*Stable Dissipative Kerr Solitons in a AlGaAs Microresonator through Cryogenic Operation*”. (Highlighted) CLEO: Science and Innovations. (2020).
- A. Rao et al. “*Integrated Photonic Interposers for Processing Octave-Spanning Microresonator Frequency Combs*”. CLEO: Science and Innovations. (2020).
- S.-P. Yu et al. “*Spontaneous Soliton Formation in Photonic-Crystal Ring Resonators*”. 2020 Conference on Lasers and Electro-Optics (CLEO). (2020).

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. “*Efficient Telecom-to-Visible Spectral Translation Using Silicon Nanophotonics*”. CLEO: Science and Innovations. (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. “*Broadband Resonator-Waveguide Coupling for Octave-Spanning Microresonator Frequency Combs*”. Frontiers in Optics. (2019).
- G. Moille et al. “*Chip-Integrated Soliton Microcombs at Cryogenic Temperatures*”. Frontiers in Optics. (2019).
- G. Moille et al. “*pyLLE: A Fast and User Friendly Software Package for Microcomb Simulations*”. Frontiers in Optics. (2019).
- S.-P. Yu et al. “*Direct Mode-Frequency Control for Nonlinear Optics in Photonic-Crystal Ring Resonators*”. CLEO: Science and Innovations. (2019).

2018

- 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. Combr   et al. “*High-Q Optical Comb Based on a Photonic Harmonic Potential (Conference Presentation)*”. Quantum Sensing and Nano Electronics and Photonics XV. (2018).

2017

- C. Husko et al. “*A Hybrid Silicon-Phosphorene Nanolaser*”. Frontiers in Optics. (2017).
- G. Moille. “*Parametric Interactions with Microwatt Pump In III/V Resonators*”. Integrated Photonics Research, Silicon and Nanophotonics. (2017).

2016

- J. Bourderionnet et al. “*Silicon-on-Insulator Photonic Crystal Multi-Tap Microwave Photonics Filter*”. 2016 IEEE Photonics Conference (IPC). (2016).
- A. De Rossi. “*High-Q Photonic Crystal Resonators for Nonlinear Optics*”. Frontiers in Optics. (2016).
- A. Martin et al. “*Tripoly-Resonant Continuous Wave Parametric Source with a Microwatt Pump*”. 2016 Conference on Lasers and Electro-Optics (CLEO). (2016).
- G. Moille, A. De Rossi, and S. Combr  . “*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).

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. *"Recovery Time Control in a Nanophotonic Nonlinear Gate Using Atomic Layer Deposition"*. 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).

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. *"A Highly Linear All Optical Gate Based on Coupled Photonic Crystal Cavities"*. Nonlinear Photonics. (2014).

2013

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.

DATE: FEBRUARY 17, 2024
Washington, D.C.

