

Education **Ph.D.** Paris, France **M.S.** Grenoble, France
 Paris Saclay University 2012 - 2016 Grenoble INP - Phelma 2009 - 2012

Research Experiences

Associate Research Scientist Feb. 2025 - present
 Joint Quantum Institute - UMD/NIST Maryland, USA

- Developing integrated architecture of optical clocks for transportable and deployable timekeeping applications.
- Studying of nonlinear synchronization of photonics dissipative Kerr solitons for enhanced metrology applications.
- Mentoring of students and postdocs

Assistant Research Scientist Jul. 2021 - Jan. 2025
 Joint Quantum Institute - UMD/NIST Maryland, USA

- Developed novel passive stabilization of chip-scale optical frequency combs for metrology applications.
- Studied and demonstrated new kind of parametric cavity solitons for enhanced time and frequency applications.
- Designed innovative photonic cavity dispersions for advanced soliton frequency combs.
- Mentored students.

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

- Studied chip-scale silicon nitride micro-resonators for $\chi^{(3)}$ frequency comb applications.
- Developed in-house modeling tools, cleanroom fabrication processes, and new experimental setups.

PhD Candidate Dec. 2012 - Dec. 2016
 Thales Research and Technology Palaiseau, France

- Studied carrier dynamics via $\chi^{(3)}$ nonlinearity in III-V photonic crystal cavities.
- Developed in-house computational solvers (FDTD, FEM, CMT) and custom fabrication and measurement setups.

Academic Experience

Teaching

- Teaching assistant: 1st and 2nd year undergraduate student, University Paris Saclay, 2014

Mentoring

- Highschool Student: Christy Li, Montgomery Blair (now MIT), 2012-2023
- Undergrad. Students: Dillion Cottrill, textscUniversity of West Virginia, 2020
 Kristiana Ramos, U.M.D, 2021-2022
- Graduate Students: Edgar Perez, U.M.D, 2018-2024 Tahmid Raman, U.M.D, 2019-2023
 Pradyoth Shandilya, U.M.B.C., 2021-present Michal Chojnacky, U.M.D, 2022-2024
 Shoa-Chein Ou, U.M.D, 2022-present

Contribution to Funded Projects

Support staff:

- 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)*
- Department of Defense: Microelectronics Commons Project QUPICS (2024-present)

Co-Principal Investigator:

- Marsden Fund: *"The light between: parametrically driven cavity solitons in pure-Kerr resonators"* (2023-present)

Selected Publications

>40 peer-reviewed journal articles
 >50 conference proceedings
 2 book chapters
 >2500 citations as of 03/2025
 h-index of 27 as of 03/2025

Articles

- G. Moille et al. *"Kerr-Induced Synchronization of a Cavity Soliton to an Optical Reference"*. Nature 624.7991 (2023).
- G. Moille et al. *"Parametrically driven pure-Kerr temporal solitons in a chip-integrated microcavity"*. Nature Photonics 18 617-624 (2024).
- G. Moille et al. *"Versatile optical frequency division with Kerr-induced synchronization at tunable microcomb synthetic dispersive waves"*. Nature Photonics 19, 36-43 (2025).
- 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).

Book Chapters

- 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

Conferences

- G. Moille *Kerr-Induced Synchronizations of Cavity Solitons and their Applications*. CLEO-Europe (2025) [invited].
- G. Moille *Kerr-Induced Synchronized Integrated Frequency Combs for Optical Atomic Clocks*. IEEE Summer Topical Meeting (2024) [invited].
- G. Moille et al. *All-Optical Kerr Synchronization of a Dissipative Kerr Soliton Microcomb to an Optical Reference* Nonlinear Optics. (2023) [invited].
- G. Moille et al. *Ultra-Broadband Dissipative Kerr Soliton Microcomb through Dual Pumping Operation*. CLEO: Science and Innovations (2021) [highlighted].
- G. Moille et al. *Stable Dissipative Kerr Solitons in a AlGaAs Microresonator Through Cryogenic Operation*. CLEO: Science and Innovations (2020) [highlighted].

Service to Community

Outreach

- Maintaining and updating an active github profile to share scripts for experiment control and in-house developed simulation tools. Combined, they account for **47 forks, 76 stars, and an average of over 30 unique views per week.** (as of 02/2025)

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 the Laser Resonators, Microresonators, and Beam Control XXVI conference
- Associate editor for the 2024-2025 special issue on nonlinear photonics in Optics Materials Express

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 ●●●●●
Metrology ●●●●●
Microwave ●●●●●

Languages

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

NanoFab

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

Complete List of Publications

Popular Writing

G. Moille and K. Srinivasan. Small Cavities Make Noisy Homes for Light. *American Physical Society* VOL. 13 (2020).

Journal Articles

2025

- L. Xu, M. J. Mehrabad, C. J. Flower, G. Moille, A. Restelli, D. G. Suarez-Forero, Y. Chembo, S. Mittal, K. Srinivasan, and M. Hafezi. On-Chip Multi-Timescale Spatiotemporal Optical Synchronization. *ARXIV:2502.15671* (2025)
- P. Shandilya, S.-C. Ou, J. Stone, C. Menyuk, M. Erkintalo, K. Srinivasan, and G. Moille. *All-Optical Azimuthal Trapping of Dissipative Kerr Multi-Solitons for Relative Noise Suppression*. *APL PHOTONICS* 10.1 (2025).
- G. Moille, P. Shandilya, A. Niang, C. Menyuk, G. Carter, and K. Srinivasan. *Versatile Optical Frequency Division with Kerr-Induced Synchronization at Tunable Microcomb Synthetic Dispersive Waves*. *NATURE PHOTONICS* 19.1 (2025).

2024

- U. A. Javid, M. Chojnacky, K. Srinivasan, and G. Moille. Terahertz Voltage-controlled Oscillator from a Kerr-Induced Synchronized Soliton Microcomb. *ARXIV:2404.16597* (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)
- G. Moille, P. Shandilya, M. Erkintalo, C. R. Menyuk, and K. Srinivasan. On-Chip Parametric Synchronization of a Dissipative Kerr Soliton Microcomb. *ARXIV:2409.05388* (2024)
- G. Moille, D. Westly, and K. Srinivasan. Broadband Visible Wavelength Microcomb Generation In Silicon Nitride Microrings Through Air-Clad Dispersion Engineering. *ARXIV:2404.01577* (2024)
- G. Moille, P. Shandilya, J. Stone, C. Menyuk, and K. Srinivasan. All-Optical Noise Quenching of An Integrated Frequency Comb. *ARXIV:2405.01238* (2024)
- G. Moille, M. Leonhardt, D. Patigora, N. Englebert, F. Leo, J. Fatome, K. Srinivasan, and M. Erkintalo. *Parametrically Driven Pure-Kerr Temporal Solitons in a Chip-Integrated Microcavity*. *NATURE PHOTONICS* (2024).
- J. R. Stone, X. Lu, G. Moille, D. Westly, T. Rahman, and K. Srinivasan. *Wavelength-Accurate Nonlinear Conversion through Wavenumber Selectivity in Photonic Crystal Resonators*. *NATURE PHOTONICS* 18.2 (2024).
- J. Stone, D. Westly, G. Moille, and K. Srinivasan. *On-Chip Kerr Parametric Oscillation with Integrated Heating for Enhanced Frequency Tuning and Control*. *OPTICS LETTERS* 49.11 (2024).
- C. J. Flower, M. Jalali Mehrabad, L. Xu, G. Moille, D. G. Suarez-Forero, O. Örsel, G. Bahl, Y. Chembo, K. Srinivasan, S. Mittal, and M. Hafezi. *Observation of Topological Frequency Combs*. *SCIENCE* 384.6702 (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

- X. Lu, G. Moille, A. Rao, D. A. Westly, and K. Srinivasan. *Efficient Photoinduced Second-Harmonic Generation in Silicon Nitride Photonics*. *NATURE PHOTONICS* 15 (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).
- A. Rao, G. Moille, X. Lu, D. A. Westly, D. Sacchetto, M. Geiselmann, M. Zervas, S. B. Papp, J. Bowers, and K. Srinivasan. *Towards Integrated Photonic Interposers for Processing Octave-Spanning Microresonator Frequency Combs*. *LIGHT: SCIENCE & APPLICATIONS* 10.1 (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. *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 Non-linear 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, 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. Combr e, 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 Si₃N₄ 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. Combrié. *High-Performance and Power-Efficient 2 \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. Combrié, A. De Rossi, A. Martin, and G. Moille. *Nonlinear Meta-Optics. "Nonlinear Photonic Crystals"*, pp. 199–250 . 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 . 2017.

Conference Proceedings

2025

- P. Shandilia et al. *"Multi-soliton relative-jitter suppression from all-optical trapping for metrology applications"*. *Laser Resonators, Microresonators, and Beam Control XXVI*. (2025).
- G. Moille et al. *"Optical parametric trapping of an integrated dissipative Kerr soliton"*. *Laser Resonators, Microresonators, and Beam Control XXVI*. (2025).
- P. Shandilia et al. *"Thermorefractive noise insensitive microcombs through Kerr-Induced synchronization"*. (invited) *Laser Resonators, Microresonators, and Beam Control XXVI*. (2025).

2024

- Y. Shen et al. *"Nonequilibrium Phase Transitions in a Dual-pumped Silicon Nitride Kerr Optical Parametric Oscillator"*. *CLEO 2024 (2024), Paper SW4F.2*. (2024).
- J. R. Stone et al. *"Noise Limits in Kerr Microresonator Optical Parametric Oscillators"*. *CLEO 2024 (2024), Paper STh3I.5*. (2024).
- P. Shandilya et al. *"All-Optical Noise Suppression in Integrated Frequency Combs via Kerr-Induced Synchronization"*. *2024 IEEE Photonics Conference (IPC)*. (2024).
- G. Moille et al. *"Frequency Agile All-Optical Frequency Division from an Integrated Multi-Color Kerr-induced Synchronized Microcomb"*. *2024 IEEE Photonics Conference (IPC)*. (2024).

- G. Moille. "Synchronization Regimes of Multi-Pumped Integrated Octave Spanning Frequency Comb". (Invited) *SIAM Conference on Nonlinear Waves and Coherent Structures*. (2024).
- G. Moille. "Kerr-Induced Synchronized Integrated Frequency Combs for Optical Atomic Clocks". (Invited) *IEEE Summer Topical Meeting*. (2024).
- P. Shandilya et al. "Suppression of Microcomb Thermorefractive Noise Using Kerr Induced Synchronization". *CLEO 2024 (2024), Paper SM1M.4*. (2024).
- M. Chojnacky et al. "Terahertz frequency comb generation from Kerr-induced synchronization". *Laser Resonators, Microresonators, and Beam Control XXVI*. (2024).
- G. Moille et al. "AC Kerr-induced synchronization". *Laser Resonators, Microresonators, and Beam Control XXVI*. (2024).
- P. Shandilya et al. "Self-balancing of a cavity soliton in the Kerr-induced synchronization regime for efficient carrier envelope detection". *Laser Resonators, Microresonators, and Beam Control XXVI*. (2024).
- C. R. Menyuk et al. "Multicolor, Broad-Bandwidth Solitons in Microresonators". *Active Photonic Platforms (APP) 2024*. (2024).

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". (Invited) *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". (Invited) *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).
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2020

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