List of Publications

Name:	Dr. Tabataba-Vakili, Farsane
Affiliation:	Ludwig-Maximilians-Universität (LMU) München, Fakultät für Physik, Center for NanoScience (CeNS) and Munich Center for Quantum Science and Technology (MCQST), Geschwister-Scholl-Platz 1, 80539 München
Date of Birth:	31/07/1991
Citizenship:	German
Gender:	Female
Languages:	German – native, English – native, French – fluent
E-Mail:	f.tabataba@physik.uni-muenchen.de
Website:	ftabatab.com
Google Scholar:	https://scholar.google.com/citations?user=JoafOmkAAAAJ&hl=en
ORCID:	0000-0001-5911-7594

I. Publications in peer-reviewed journals

1. M. Gromovyi, M. El Kurdi, X. Checoury, E. Herth, **F. Tabataba-Vakili**, N. Bhat, A. Courville, F. Semond, and P. Boucaud, Low-loss GaN-on-insulator platform for integrated photonics, *Opt. Express* **30**, 20737 (2022).

2. H. Zi, W. Y. Fu, **F. Tabataba-Vakili**, H. Kim-Chauveau, E. Frayssinet, P. De Mierry, B. Damilano, J-Y. Duboz, P. Boucaud, F. Semond, and H. W. Choi, Whispering-gallery mode InGaN microdisks on GaN substrates, *Opt. Express* **29**, 21280 (2021).

3. **F. Tabataba-Vakil**i, C. Brimont, B. Alloing, B. Damilano, L. Doyennette, T. Guillet, M. El Kurdi, S. Chenot, V. Brändli, E. Frayssinet, J.-Y. Duboz, F. Semond, B. Gayral, and P. Boucaud, Analysis of low-threshold optically pumped III-nitride microdisk lasers, *Appl. Phys. Lett.* **117**, 121103 (2020).

4. **F. Tabataba-Vakili**, B. Alloing, B. Damilano, H. Souissi, C. Brimont, L. Doyennette, T. Guillet, X. Checoury, M. El Kurdi, S. Chenot, E. Frayssinet, J.-Y. Duboz, F. Semond, B. Gayral, and P. Boucaud, Monolithic integration of ultraviolet microdisk lasers into photonic circuits in a III-nitride-on-silicon platform, *Opt. Lett.* **45**, 4276 (2020).

5. **F. Tabataba-Vakili**, L. Doyennette, C. Brimont, T. Guillet, S. Rennesson, B. Damilano, E. Frayssinet, J.-Y. Duboz, X. Checoury, S. Sauvage, M. El Kurdi, F. Semond, B. Gayral, and P. Boucaud, Demonstration of critical coupling in an active III-nitride microdisk photonic circuit on silicon, *Sci. Rep.* **9**, 18095 (2019).

6. **F. Tabataba-Vakili**, S. Rennesson, B. Damilano, E. Frayssinet, J.-Y. Duboz, F. Semond, I. Roland, B. Paulillo, R. Colombelli, M. El Kurdi, X. Checoury, S. Sauvage, L. Doyennette, C. Brimont, T. Guillet, B. Gayral, and P. Boucaud, III-nitride on silicon electrically injected microrings for nanophotonic circuits, *Opt. Express* **27**, 11800 (2019).

7. **F. Tabataba-Vakili**, L. Doyennette, C. Brimont, T. Guillet, S. Rennesson, E. Frayssinet, B. Damilano,

J.-Y. Duboz, F. Semond, I. Roland, M. El Kurdi, X. Checoury, S. Sauvage, B. Gayral, and P. Boucaud, Blue Microlasers Integrated on a Photonic Platform on Silicon, *ACS Photonics* **5**, 3643 (2018).

8. **F. Tabataba-Vakili**, I. Roland, T.-M. Tran, X. Checoury, M. El Kurdi, S. Sauvage, C. Brimont, T. Guillet, S. Rennesson, J.-Y. Duboz, F. Semond, B. Gayral, and P. Boucaud, Q factor limitation at short wavelength (around 300 nm) in III-nitride-on-silicon photonic crystal cavities, *Appl. Phys. Lett.* **111**, 131103 (2017).
9. **F. Tabataba-Vakili**, T. Wunderer, M. Kneissl, Z. Yang, M. Teepe, M. Batres, M. Feneberg, B. Vancil, and N.M. Johnson, Dominance of radiative recombination from electron-beam-pumped deep-UV AlGaN multi-quantum-well heterostructures, *Appl. Phys. Lett.***109**, 181105 (2016).
10. K. Bellmann, **F. Tabataba-Vakili**, T. Wernicke, M. Rychetsky, S. Kalinowski, G. Callsen, A. Hofmann, and M. Kneissl, Desorption induced GaN QDs on (0001) AlN by MOVPE, *Phys. Status Solidi RRL* **9**, 526 (2015).

II. Monographs

1. **F. Tabataba-Vakili**, III-nitrides on silicon: a platform for integrated photonics from the ultraviolet to the near-infrared, PhD thesis, Université Paris-Sacaly (2020).

III. Patents

1. **F. Tabataba-Vakili** and T. Wunderer. 2017. Vertical external cavity surface emitting laser utilizing an external micromirror array. US patent number US9780532B1, submitted 21 November 2016, and published 3 March 2017.

IV. Talks (invited, contributed, seminars, workshops)

1. Solid State and SFB 1073 Seminar, Universität Göttingen, Göttingen, Germany, 15 July 2021.
2. Experimental Nanophysics and Photonics Group, TU Berlin, Berlin, Germany. 6 January 2021.
3. CNRS-CRHEA, Université Côte d'Azur, Valbonne, France. 30 September 2020.
4. Nanophotonics Group, Ludwig-Maximilians-Universität München, Munich, Germany. 7 September 2020.
5. ICNS 13 - 13th International Conference on Nitride Semiconductors, Bellevue, WA, USA. 7-12 July 2019.
6. 39ièmes Journées Nationales d'Optique Guidée (JNOG) 2019, Palaiseau, France. 2-4 July 2019.
7. Electronic Materials and Devices Laboratory, PARC, a Xerox Company, Palo Alto, CA, USA. 9 May 2019.
8. Solid State Lighting and Energy Electronics Center, University of California, Santa Barbara (UCSB), Santa Barbara, CA, USA. 30 April 2019.
9. Semiconductor Lighting and Display Group, University of Hong Kong, Hong Kong. 21 November 2018.
10. International Workshop on Nitride Semiconductors 2018 (IWN 2018), Kazanawa, Japan. 11-16 November 2018.
11. CNRS-CRHEA, Université Côte d'Azur, Valbonne, France. 11 October 2018.
12. 32nd Heimbach Workshop, Mansfeld, Germany. 17-21 September 2018.
13. DPG Spring Meeting 2018, Berlin, Germany. 11-16 March 2018.
14. Photonics West 2018, San Francisco, CA, USA. 27 January - 1 February, 2018.

15. Experimental Sensing Group, Technische Universität Chemnitz, Chemnitz, Germany. 31 May 2016.
16. Quantum Dot and Photonic Nanostructures Group, Institut d'Électronique Fondamentale (IEF) CNRS-Université Paris-Sud, Orsay, France. 25 May 2016.
17. Nanophysics and Semiconductor Group, CEA-INAC, Grenoble, France. 24 May 2016.
18. CNRS-CRHEA, Université Côte d'Azur, Valbonne, France. 23 May 2016.
19. III-V Materials and Devices Group, Tyndall National Institute, Cork, Ireland. 27 April 2016.
20. Experimental Nanophysics and Photonics Group, TU Berlin, Berlin, Germany. 13 April 2016.
21. Electronic Materials and Devices Laboratory, PARC, a Xerox Company, Palo Alto, CA, USA. 23 March 2016.
22. 28th Heimbach Workshop, Mansfeld, Germany. 8-12 September 2014.
23. DPG Spring Meeting 2014, Dresden, Germany. 30 March - 4 April 2014.
24. Experimental Nanophysics and Photonics Group, TU Berlin, Berlin, Germany. 30 October 2013.

V. Posters

1. Bridging the Gap: Nano Meets Quantum – CeNS/MCQST Workshop, San Servolo, Italy, 19-22 September 2022.
2. ICSCE-11 – 11th International Conference on Spontaneous Coherence in Excitonic Systems, Burlington, VT, USA. 7-11 August 2022.
3. Munich Conference on Quantum Science and Technology 2022, Sonthofen, Germany. 4-6 July 2022.
4. Micro- and Nanophotonics Days 2019, Palaiseau, France. 20-21 November 2019.
5. ICPS 2018 - 34th International conference on the physics of semiconductors, Montpellier, France. 29 July - 3 August 2018.
6. ICNS 12 - 12th International Conference on Nitride Semiconductors, Strasbourg, France. 24 July - 28 July 2017.

VI. List of five most important publications

1. **F. Tabataba-Vakili**, L. Doyennette, C. Brimont, T. Guillet, S. Rennesson, E. Frayssinet, B. Damilano, J.-Y. Duboz, F. Semond, I. Roland, M. El Kurdi, X. Checoury, S. Sauvage, B. Gayral, and P. Boucaud, Blue Microlasers Integrated on a Photonic Platform on Silicon, *ACS Photonics* **5**, 3643 (2018).

   First demonstration of a blue microlaser coupled to a photonic circuit on-chip. Fully monolithic fabrication process. From PhD thesis.

2. **F. Tabataba-Vakili**, T. Wunderer, M. Kneissl, Z. Yang, M. Teepe, M. Batres, M. Feneberg, B. Vancil, and N.M. Johnson, Dominance of radiative recombination from electron-beam-pumped deep-UV AlGaN multi-quantum-well heterostructures, *Appl. Phys. Lett.***109**, 181105 (2016).

   Demonstration of high output power (> 200 mW) light emission from e-beam pumped deep-UV III-nitride quantum wells with dominant radiative recombination. From MSc thesis.

3. **F. Tabataba-Vakili**, L. Doyennette, C. Brimont, T. Guillet, S. Rennesson, B. Damilano, E. Frayssinet, J.-Y. Duboz, X. Checoury, S. Sauvage, M. El Kurdi, F. Semond, B. Gayral, and P. Boucaud, Demonstration of critical coupling in an active III-nitride microdisk photonic circuit on silicon, *Sci. Rep.* **9**, 18095 (2019).

   Shortest wavelength and smallest gap size demonstration of critical coupling in a microdisk-waveguide system, exemplifying my expertise in nanofabrication. From PhD thesis.

4. **F. Tabataba-Vakili**, S. Rennesson, B. Damilano, E. Frayssinet, J.-Y. Duboz, F. Semond, I. Roland, B. Paulillo, R. Colombelli, M. El Kurdi, X. Checoury, S. Sauvage, L. Doyennette, C. Brimont, T. Guillet, B. Gayral, and P. Boucaud, III-nitride on silicon electrically injected microrings for nanophotonic circuits, *Opt. Express* **27**, 11800 (2019).

   Demonstration of a platform for electrical injection in III-nitride microrings compatible with underetched photonic circuits. From PhD thesis.

5. **F. Tabataba-Vakili**, C. Brimont, B. Alloing, B. Damilano, L. Doyennette, T. Guillet, M. El Kurdi, S. Chenot, V. Brändli, E. Frayssinet, J.-Y. Duboz, F. Semond, B. Gayral, and P. Boucaud, Analysis of low-threshold optically pumped III-nitride microdisk lasers, *Appl. Phys. Lett*. **117**, 121103 (2020).

   Demonstration of low-threshold III-nitride microdisk lasers in the blue spectral range with a critical discussion of results from literature. From PhD thesis.