

Curriculum Vitae

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

Research interest and expertise

My current research interests focus on light-matter interaction of two-dimensional (2D) materials and their heterostructures. I currently study interlayer excitons, exciton-polaritons, and exciton-plasmon-polaritons in transition metal dichalcogenides (TMDs) using low-temperature confocal and momentum-space optical spectroscopy under external electric and magnetic fields. I plan to combine TMD moiré heterostructures with novel 2D materials, such as 2D magnets or multiferroics, in order to build devices with advanced functionalities, such as intrinsically valley-polarized moiré polaritons. I also want to experimentally investigate the light-matter interaction of new 2D materials, such as magnetic semiconductors, in optical microcavities.

During my PhD and MSc, I studied light-matter interaction in the lasing regime, and I developed expertise in nanophotonic and optoelectronic semiconductor devices, such as microlasers, microcavities, light emitting diodes, laser diodes, and photonic circuits based on the III-nitride material system. My key scientific contributions from my PhD include the first demonstration of microdisk lasers monolithically integrated into photonic circuits in the visible and ultraviolet spectral ranges, as well as the shortest-wavelength demonstration of critical coupling in such systems.

Employment

08/2022 – present **Marie Skłodowska-Curie Actions Postdoctoral Fellow**, Faculty of Physics, LMU München, Munich, Germany.
05/2021 – 07/2022 **Munich Center for Quantum Science and Technology Distinguished Postdoc Fellow**, Faculty of Physics, LMU München, Munich, Germany.
11/2020 – 04/2021 **Postdoctoral Researcher**, Faculty of Physics, LMU München, Munich, Germany.

- 10/2016 – 09/2020 **PhD Candidate in Experimental Physics**, Centre de Nanosciences et de Nanotechnologies (C2N), CNRS, Université Paris-Saclay, Palaiseau, France and CEA, IRIG-PHELIQS, Université Grenoble Alpes, Grenoble, France.
- 11/2014 – 03/2016 **Internship and Master Thesis Project**, Electronic Materials and Devices Laboratory (EMDL), PARC, a Xerox Company, Palo Alto, CA, USA.
- 11/2013 – 10/2014 **Student Research Assistant**, Fraunhofer Heinrich Hertz Institute for Telecommunications (HHI), Berlin, Germany.
- 04/2012 – 03/2014 **Teaching Assistant/Tutor**, Institute of Optics and Atomic Physics, TU Berlin, Berlin, Germany.

Education

- 09/2020 **PhD in Physics**, Université Paris-Saclay, Palaiseau, France,
Thesis: “III-nitrides on silicon: a platform for integrated photonics from the ultraviolet to the near-infrared”.
- 05/2016 **MSc in Physics**, TU Berlin, Berlin, Germany, Grade: 1.0 (very good),
Thesis: “Design and characterization of e-beam pumped AlGaN UVC emitters”.
- 10/2013 **BSc in Physics**, TU Berlin, Berlin, Germany, Grade: 1.3 (very good),
Thesis: “Morphological Properties of GaN Nanostructures grown on AlN by MOVPE”.
- 06/2010 **German Abitur**, John F. Kennedy Schule, Berlin, Germany, Grade: 1.4 (very good).
- 06/2009 **American High School Diploma**, John F. Kennedy Schule, Berlin, Germany.

Awards, Scholarships and Memberships

- 2022 **Marie Skłodowska-Curie Actions Postdoctoral Fellowship**, European Commission, two years of funding.
- 2021 **MCQST Distinguished Postdoc Fellowship**, Munich Center for Quantum Science and Technology, Munich, Germany, one year of funding awarded to excellent female postdoctoral researchers.
- 2020 **Prix de thèse Physique des Ondes et de la Matière (PhOM)**, Thesis award "physics of light and matter" of the Graduate School of Physics of Université Paris-Saclay in the category "Optics"; 8 categories, 1 laureate per category.
- 2019 **CNRS Preuve par l'image award**, (The proof is in the picture) for an SEM image entitled "Photonic forest".
- 2018 **Student Award** at the International Workshop on Nitride Semiconductors (IWN) 2018; 20 prizes were awarded; 373 presentations were eligible.
- 2018 **Bourse France l'Oréal-UNESCO pour les Femmes et la Science** (French l'Oréal-UNESCO grant for women in science), awarded to thirty young female researchers (out of 900 applicants) during their PhD or postdoc for their scientific achievements in order to promote careers for women in science.

- 2018 **Best Student Poster Award** at ICPS 2018 - 34th International conference on the physics of semiconductors. Eight prizes were awarded.
- 2017 **Erwin-Stephan-Preis** of the TU Berlin for exceptionally quick and good studies in the Master's degree. Sole laureate in 2017.
- 2017 **Physik-Studienpreis** of the Physikalische Gesellschaft zu Berlin (PGzB) and financially supported by Siemens AG, awarded to the top eight students of the three Berlin universities and the University of Potsdam for an extraordinary Master's degree in physics.
- Since 2010 Member of the Deutsche Physikalische Gesellschaft (DPG).
- 2009 **Berliner Schülerpreis** of the PGzB for extraordinary achievement in the advanced physics course (Physikleistungskurs).