

# Tigran A. Sargsyan, PhD

sargtigran97@gmail.com

tigran.sargsian@rau.am



## EDUCATION

- **07.2020-07.2023**, PhD, Semiconductor Physics, Department of General Physics and Quantum Nanostructures, Russian-Armenian University, Yerevan, Armenia.
- **01.2021-12.2022**, President of SPIE's Russian-Armenian University and National Academy of Sciences Chapter. **01.2023-12.2023**, Treasurer. **01.2020-12.2023**, member of SPIE.
- **09.2018-06.2020**, MSc, Microelectronics and Nanoelectronics, Department of General Physics and Quantum nanostructures, Russian-Armenian University, Yerevan, Armenia (Diploma with honors).
- **09.2014-06.2018**, BSc, Electronics and Nanoelectronics, Department of General Physics and Quantum nanostructures, Russian-Armenian University, Yerevan, Armenia (Diploma with honors).

## EXPERIENCE

- **01.2024-up to now**, Researcher, Institute of Chemical Physics after A.B. Nalbandyan, Yerevan, Armenia. **07.2022-12.2023**, Junior Researcher.
- **09.2023- up to now**, Lecturer, Department of General Physics and Quantum nanostructures, Russian-Armenian University, Yerevan, Armenia. **09.2020-07.2021**, Teaching Assistant.
- **09.2021-up to now**, Participant in Project 21SCG-1C008 "Single Photons Sources and Entangled Photons Pairs Sources based on Coupled Colloidal Quantum Dots for Quantum Computing", The Science Committee of the Republic of Armenia.
- **01.2021-12.2023**, Participant in Project "Twinning towards the Russian-Armenian University's scientific excellence and innovation capacity in nanomaterials for quantum information and quantum optics", Horizon 2020 WIDESPREAD-05-2020.
- **11.2021-12.2022**, Participant in Project "Colloidal Quantum Dots as Platforms for Quantum Information Science", Faculty Research Funding Program implemented by Enterprise Incubator Foundation with support of PMI Science.
- **01.2021-12.2022**, Participant in Project 20RF-048 "Controllable Exciton Transport In 2D Hybrid Organic-Inorganic Perovskites", The Science Committee of the Republic of Armenia and Russian Foundation for Basic Research.
- **02.2020-07.2020**, Participant in Project "Synthesis of micro-porous matrices based on inorganic composite compounds with various pore sizes and study of their physical characteristics", Funded by Philip Morris Armenia LLC and Enterprise Incubator Foundation.
- **09.2018-08.2020**, Participant in Project 18T-1C222 "Optical Properties of MXenes - Novel 2D Nanostructures", The Science Committee of the Republic of Armenia.

## **AWARDS AND HONORS**

- **2023**, Beneficiary of "Competition for the Purchase of Scientific Licensed Software Packages" implemented within the framework of the Young Scientists Support Program (23YSSPS-18).
- **2023**, Beneficiary of the "Competition for Encouraging Young Scientists for the Publication of Scientific Articles" implemented within the framework of the Young Scientists Support Program (23YSSPI-003).
- **2022**, Beneficiary of the PhD Support Program 2022, implemented by the Enterprise Incubator Foundation with support of PMI Science.
- **2019**, Nationwide competition for "Best Student", award in the field of engineering.
- **2019-2020**, Samvel Kocharyants Scholarship.
- **2019-2020**, Scholarship of the Government of Russian Federation.
- **2018-2019**, Scholarship of the Mayor of Moscow.
- **2018**, Russian-Armenian University "Student of the Year" award.

## **PUBLICATIONS**

- Bleyan, Y.Y., Sargsian, T.A., Kostanyan, A.A., Hayrapetyan, D.B. and Mantashyan, P.A., 2023. Impact of intense laser Bessel beam on excitonic complexes in ellipsoidal quantum dot. *Journal of Luminescence*, 263, p. 120101.
- Sargsian, T.A., 2023. Electronic States in a Cylindrical Quantum Dot under the Influence of Gaussian and Bessel Laser Beams. *Journal of Contemporary Physics (Armenian Academy of Sciences)*, 58(1), pp.38-44.
- Sargsian, T.A., Mantashyan, P.A. and Hayrapetyan, D.B., 2023. Effect of Gaussian and Bessel laser beams on linear and nonlinear optical properties of vertically coupled cylindrical quantum dots. *Nano-Structures & Nano-Objects*, 33, p.100936.
- Vinnichenko, M.Y., Makhov, I.S., Ustimenko, R.V., Sargsian, T.A., Sarkisyan, H.A., Hayrapetyan, D.B. and Firsov, D.A., 2022. Doping effect on the light absorption and photoluminescence of Ge/Si quantum dots in the infrared spectral range. *Micro and Nanostructures*, p.207339.
- Sargsian, T.A., Vinnichenko, M.Y. and Hayrapetyan, D.B., 2022, March. Linear and nonlinear optical properties of vertically coupled cylindrical double quantum dots with modified Pöschl-Teller potential. In *Journal of Physics: Conference Series (Vol. 2227, No. 1, p. 012018)*. IOP Publishing.
- Sargsian, T., 2022. External Electric Field Effect on Interband Optical Absorption and Photoluminescence in Vertically Coupled Cylindrical Quantum Dots with Modified Pöschl-Teller Potential. In *International Youth Conference on Electronics, Telecommunications and Information Technologies (pp. 377-384)*. Springer, Cham.
- Gonçalves, M., Melikyan, A., Minassian, H., Makaryan, T., Petrosyan, P. and Sargsian, T., 2021, February. Interband, Surface Plasmon and Fano Resonances in Titanium Carbide (MXene) Nanoparticles in the Visible to Infrared Range. In *Photonics (Vol. 8, No. 2, p. 36)*. Multidisciplinary Digital Publishing Institute.
- Sargsian, T.A., Mkrtychyan, M.A., Sarkisyan, H.A. and Hayrapetyan, D.B., 2021. Effects of external electric and magnetic fields on the linear and nonlinear optical properties of InAs cylindrical

quantum dot with modified Pöschl-Teller and Morse confinement potentials. *Physica E: Low-dimensional Systems and Nanostructures*, 126, p.114440.

- Sargsian, T.A., 2019. Absorption Spectra of Hydrogen-Like Donor Impurity in GaAs Quantum Well with Modified Pöschl-Teller Potential. *Journal of Contemporary Physics (Armenian Academy of Sciences)*, 54(2), pp.168-174.

## **CONFERENCES AND SCHOOLS**

- Driving Force of Science: Applied Physics, 10 July 2023, Yerevan, Armenia.
- Co-Organizer of the School on Optics and Photonics 2023, 15-20 May 2023, Yerevan, Armenia.
- Sixteenth Annual Scientific Conference of Russian-Armenian University, 5-9 December 2022, Yerevan, Armenia.
- Fifteenth Annual Scientific Conference of Russian-Armenian University, 6-10 December 2021, Yerevan, Armenia.
- Organizer of the School on Optics and Photonics 2021, 4-11 December 2021, Yerevan-Ashtarak, Armenia.
- The XXIII Russian Youth Conference on Physics of Semiconductors and Nanostructures, Opto- and Nanoelectronics, 22 - 26 November 2021, St. Petersburg, Russia.
- Organizer and Co-Chair of the School Dedicated to the International Day of Light IDL-2021, 17-20 May 2021, Yerevan, Armenia.
- International Conference "International Youth Conference on Electronics, Telecommunications and Information Technologies" (YETI-2021), 22-23 April 2021, Saint Petersburg, Russia.
- Young Scientists Conference «Physics of Nanostructures», 7-8 December 2020, Yerevan, Armenia.
- V International Conference of Biotechnology and Health, 29-31 October 2020, Yerevan, Armenia.
- Annual Research Conference of Russian-Armenian University, 2-6 December 2019, Yerevan, Armenia.
- International Conference Laser Physics 2019 organized by the Institute for Physical Research (IPR) of NAS of Armenia, 17–20 September 2019, Ashtarak, Armenia.
- International School of Optics and Photonics ISOP-2019, 1-7 July 2019, Yerevan, Armenia.
- Annual Student Scientific Conference of Russian-Armenian University, 26-30 April 2019, Yerevan, Armenia.