



**Tamar Tchelidze**

**Associate Professor**

**Condensed Matter Physics**

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**Education:**

- **University Diploma in Physics (Theoretical Physics), Ivane Javakhishvili Tbilisi State University**
- **Ph.D, in Solid State Physics and Quantum liquids, Ivane Javakhishvili Tbilisi State University**

**Teaching Courses:**

- **Modern Semiconductor Physics**
- **Optical Properties of Condensed Matter**
- **Physics on Nanoscale**
- **Basics in Condensed Matter Physics (practicum)**
- **Introduction to Solid State Physics (practicum)**
- **Molecular Physics (practicum)**

**Research Interests**

- **Investigation of electronic and optical properties of semiconductor nanostructures**
- **Investigation of wide band gap semiconductor oxides (problem of conductivity control)**

**Running projects**

- **Investigation of luminescence blinking in nanostructures (SRGNF, STCU)**
- **Investigation of electrical and optical properties of Ga<sub>2</sub>O<sub>3</sub>**

## Selected Publications

1. T. Kereselidze, **T. Tchelidze**, A. Devdariani, "Interband optical transitions in ellipsoidal shaped nanoparticles" *Physica B: Condensed Matter*, 511, pp. 36-41 (2017).
2. T. Kereselidze, **T. Tchelidze**, T. Nadareishvili, R.Ya. Kezerashvili, "Energy spectra of a particle confined in a finite ellipsoidal shaped potential well" *Physica E: Low-Dimensional Systems and Nanostructures*, 81, pp. 196-204 (2016).
3. E. Chikoidze, M. Boshta, M. Goma, **T. Tchelidze**, D. Daraselia, D. Japaridze, A. Shengelaya, Y. Dumont, M. Neumann-Spallart, "Control of p-type conduction in Mg doped monophasic CuCrO<sub>2</sub> thin layers" *Journal of Physics D: Applied Physics*, 49 (20), art. no. 205107 (2016).
4. **T. Tchelidze**, T. Kereselidze, T. Nadareishvili, "Perspectives of enhancement of p-type conductivity in ZnO nanowires" *Physica Status Solidi (C) Current Topics in Solid State Physics*, 12 (1-2), pp. 111-116 (2015).
5. **T. Tchelidze**, T. Gagnidze, A. Shengelaya, "Thermodynamic analysis of defect formation in BiFeO<sub>3</sub>" *Physica Status Solidi (C) Current Topics in Solid State Physics*, 12 (1-2), pp. 117-119(2015).
6. T. Kereselidze, **T. Tchelidze**, T. Nadareishvili, R.Ya. Kezerashvili, "Energy levels of a particle confined in an ellipsoidal potential well", *Physica E: Low-Dimensional Systems and Nanostructures*, 68, pp. 65-71(2015).
7. E. Chikoidze, **T. Tchelidze**, E. Popova, P. Maso, N. Ponjavidze, N. Keller, Y. Dumont, "Conductivity type inversion in wide band gap antiferromagnetic FeTiO<sub>3</sub>", *Applied Physics Letters*, 102 (12), art. no. 122112,(2013).
8. F. Vietmeyer, **T. Tchelidze**, V. Tsou, B. Janko, M. Kuno, Electric field-induced emission enhancement and modulation in individual CdSe nanowires, *ACS Nano*, 6 (10), pp. 9133-9140(2012).
9. **T. Tchelidze**, T., A. Davydok, "Strain distribution in GaAs/Si quantum wires" *Physica Status Solidi (C) Current Topics in Solid State Physics*, 9 (10-11), pp. 1916-1919(2012).
10. **T. Tchelidze**, E. Chikoidze, F. Jomard, O. Gorochoy, P. Galtier, "Influence of oxygen annealing on electrical properties of ZnO:Cl thin films," *Materials Research Society Symposium Proceedings*, 994, pp. 15-21(2007).
11. **T. Tchelidze**, E. Chikoidze, O. Gorochoy, P. Galtier, "Perspectives of chlorine doping of ZnO" *Thin Solid Films*, 515 (24 SPEC. ISS.), pp. 8744-8747 (2007).
12. **T. Tchelidze**, E. Chikoidze, T. Kereselidze, Y. Dumont, "Excitons in ZnO/Zn<sub>1-x</sub>Mn<sub>x</sub>O quantum wells" *Physica Status Solidi (B) Basic Research*, 244 (5), pp. 1495-1499 (2007).
13. T. V. Butkhuzi, **T. G. Tchelidze**, E.G. Chikoidze, N.P. Kekelidze, N.P. Silver doped p-type ZnS crystals *Physica Status Solidi (B) Basic Research*, 229 (1), pp. 365-370 (2002).
14. T. V. Butkhuzi, **T. G. Tchelidze**, A. N. Georgobiani, D. L. Jashiashvili, T. G. Khulordava, and B. E. Tsekvava, "Exciton photoluminescence of hexagonal ZnO", *Phys. Rev. B* **58**, 10692 (1998)