Сведения об официальном оппоненте № 2

ФИО	Доленко Татьяна Альдефонсовна
Ученая степень	Кандидат физико-математических наук
Отрасль науки, по которой защищена диссертация	01.04.03 Радиофизика, включая квантовую радиофизику.
Полное и сокращенное наименование организации, являющейся основным местом работы	Федерального государственного бюджетного образовательного учреждения высшего образования «Московский государственный университет имени М.В.Ломоносова», ФГБОУВО МГУ им. М.В.Ломоносова
Структурное подразделение	Физический факультет, группа лазерной спектроскопии наносистем в жидких средах
Должность	Ведущий научный сотрудник
Список основных публикаций по теме диссертации в рецензируемых научных изданиях за последние 5 лет (не более 15)	1. A.M. Vervald, K.A.Laptinskiy, M. Yu.Khmeleva, T.A.Dolenko. Toward carbon dots from citric acid and ethylenediamine. part I: Structure, optical properties, main luminophore at different stages of synthesis. Carbon Trends, 2025, v. 19, p. 100452. https://www.elsevier.com/locate/cartre 2. S.A. Burikov, O.E.Sarmanova, A.A. Fedyanina, I.V. Plastinin, T.A.Dolenko. A step towards versatile temperature luminescent nanosensor: Combination of luminescent and time-resolved spectroscopy of NaYF: Yb*/ Tm'* nanoparticles. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy. 2025, v. 334. p. 125902. https://www.sciencedirect.com/science/article/pii/S1386142525002082?via%3Dihub 3. A.M.Vervald, K.A.Laptinskiy, M.Yu.Khmeleva, T.A.Dolenko. Plurality of luminophores of super-bright carbon dots synthesized from citric acid and ethylenediamine. Bulletin of the Russian Academy of Sciences: Physics. 2024. v. 88, Ng Suppl. 2. pp. S141-S147 https://link.springer.com/article/10.1134/S1062873824708924 4. A. Korepanova, K.Laptinskiy, T.Dolenko. Manifestation of donor-acceptor properties of N-doped polymer carbon dots during hydrogen bonds formation in different solvents. Polymers. 2024. v.16(24). p. 3585. https://www.mdpi.com/2073-4360/16/24/3585 5. А.М.Вервальд, К.А.Лаптинский, М. Ю. Хмелёва, Т.А.Доленко. Спектроскопия ИК-поглощения углеродных точск из лимонной кислоты и эгилендиамина: взаимосвязь их фотолюминесценции и структуры. Оптика и Спектроскопия. 2024. т. 132. № 3. с. 215-221. Vervald A.M., Laptinskiy K.A., Khmeleva M.Yu, Dolenko T.A. IR absorption spectroscopy of carbon dots from citric acid and

ethylenediamine: the relationship between their photoluminescence and structure. Optics and Spectroscopy (English translation of Optika i Spektroskopiya).
2024, v.132, N. 3, pp. 193-198.
https://dx.doi.org/10.61011/EOS.2024.03.58740.24-24

6. G.N.Chugreeva, O.E.Sarmanova, K.A.Laptinskiy, S.A.Burikov, T.A.Dolenko. Application of Convolutional Neural Networks for Creation of Photoluminescent Carbon Nanosensor for Heavy Metals Detection. Optical Memory and Neural Networks (Information Optics). 2023, v. 32. Nº S2. pp. S244-S251.
https://link.springer.com/article/10.3103/S1060992X23060036

7. A.M. Vervald, K.A.Laptinskiy, G.N.Chugreeva, S.A.Burikov, T.A.Dolenko. Quenching of Photoluminescence of Carbon Dots by Metal Cations in Water: Estimation of Contributions of Different Mechanisms. J. of Phys. Chem. C. 2023. v. 127. N. 44, pp. 21617-21628.
https://doi.org/10.1021/acs.jpcc.3c05231

8. G.Bikbaeva. A.Pilip. A.Egorova, IKolesnikov, D.Pankin, K.Laptinskiy, A. Vervald, T.Dolenko, G.Leuchs, A.Manshina. All-in-One Photoactivated Inhibition of Butyrylcholinesterase Combined with Luminescence as an Activation and Localization Indicator: Carbon Quantum Dots @Phosphonate Hybrids. Nanomaterials, 2023. v. 13. N 17. pp. 2409 - 2418 (20 pp).
http://dx.doi.org/10.3390/nano13172409

9. O.E.Sarmanova, K.A.Laptinskiy, S.A.Burikov, G.N.Chugreeva, T.A.Dolenko. Implementing neural network approach to create carbon-based optical nanosensor of heavy metal ions in liquid media. Spectrochimica Acta A. 2023. v. 286. p. 122003.
https://doi.org/10.1016/j.saa.2022.122003

10. K.A. Laptinskiy, M.Yu.Khmeleva, S.A.Burikov, A.M.Vervald, T.A.Dolenko. Carbon dots with up-conversion luminescence as pH-sensor. Applied Sciences. 2022. N12. p. 12006.
https://www.mdpi.com/journal/applsci

11. S.A.Burikov, A.A.Fedyanina, K.A.Laptinskiy, T.A.Dolenko. Calibration of up-conversion luminescence of lanthanide-doped nanoparticle suspensions using Raman scattering. Optics Letters. 2022, v. 47, N. 12, pp. 3043-3046.
https://opg.optica.org/ol/fulltext.cfm?uri=ol-47-12-3043&id=476788

12. A.M. Vervald, A.V.Lachko, O.S.Kudryavtsev, O.A.Shenderova, S. V.Kuznetsov,
I.I. Vlasov, T.A.Dolenko. The Effect of Environment pH on

	Surface Photoluminescence of Oxidized Nanodiamonds. J. of Phys. Chem. C, 2021, v. 125, N. 33. pp. 18247-18258. https://pubs.acs.org/doi/10.1021/acs.jpcc.1c03331 13. O.E.Sarmanova, K.A.Laptinskiy, S.A.Burikov, M.Yu.Khmeleva, A.A.Fedyanina, A.E.Tomskaya, A.O.Efitorov, S.A.Dolenko, T.A.Dolenko. Machine learning algorithms to control concentrations of carbon nanocomplexes in biological medium via optical absorption spectroscopy: how to choose and what to expect? Applied Optics. 2021, v. 60, N 27. pp. 8291- 8298. 14. O.E.Sarmanova, K.A.Laptinskiy, M.Y.Khmeleva, S.A.Burikov, S.A.Dolenko, A.F.Tomskaya, T.A.Dolenko. Development of the fluorescent carbon nanosensor for pH and temperature of liquid media with artificial neural networks. Spectrochimica Acta A. 2021, v. 258. p.119861 (8 p.). https://doi.org/10.1016/j.saa.2021.119861 15. K.A. Laptinskiy, S.A.Burikov, A. Vervald, T.A.Dolenko. Coherent anti-Stokes Raman spectroscopy of nanodiamond-lysozyme interactions in water. Laser Physics, 2021, v. 31, N 6, pp. 065702. https://doi.org/10.1088/1555-661Xabtcsb