Personal Information

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Current Position

- PhD, Assistant Professor, the Biophysics Department, School of Fundamental Biology and Biotechnology, Siberian Federal University
- Senior Researcher, Photobiology Laboratory, Institute of Biophysics SB RAS, Federal Research Center "Krasnoyarsk Science Center SB RAS", Krasnoyarsk

Research Interests

coelenterazine-dependent bioluminescence, luciferases, photoproteins, bioluminescence mechanisms, bioluminescence imaging.

Education and Academic Degrees

- Ph.D. thesis Molecular mechanism of active photoprotein complex formation
- 2013 Ph.D., Biochemistry, Wageningen University, Wageningen, The Netherlands
- 2010 Ph.D., Biophysics, Institute of Biophysics SB RAS, Krasnoyarsk, Russia
- 2005 M.Sc., Biochemistry, Krasnoyarsk State University, Krasnoyarsk, Russia

Professional Career

- 2020-present - Laboratory of Photobiology, Institute of Biophysics SB RAS, senior researcher
- 2011-2020 - Laboratory of Photobiology, Institute of Biophysics SB RAS, researcher
- 2008-2011 - Laboratory of Photobiology, Institute of Biophysics SB RAS, junior researcher

Recent Publications

- Eremeeva E.V., Jiang T., Malikova N.P., Li M., Vysotski E.S. Bioluminescent properties of semi-synthetic obelin and aequorin activated by coelenterazine analogues with modifications of C-2, C-6, and C-8 substituents. Int J Mol Sci, 2020, 21, 5446. IF= 5.923, Q1, DOI: 10.3390/IJMS21155446
- Ding B.W., Eremeeva E.V., Vysotski E.S., Liu Y.J. Luminescence activity decreases when v-coelenterazine replaces coelenterazine in calcium-regulated photoprotein—a theoretical and experimental study. Photochem Photobiol. 2020, 96, 1047-1060. IF=3.421, Q2, DOI: 10.1111/PHP.13280
- Burakova L.P., Eremeeva E.V., Vysotski E.S. The interaction of C-terminal Tyr208 and Tyr13 of the first α-helix ensures a closed conformation of ctenophore photoprotein berovin. Photochem Photobiol Sci. 2020, 19, 313-323. IF = 3.982, Q2, DOI: 10.1039/C9PP00436J
- Eremeeva E.V., Vysotski E.S. Exploring bioluminescence function of the Ca2+-regulated photoproteins with site-directed mutagenesis. Photochem Photobiol. 2019, 95, 8-23. IF=3.421, Q2, DOI: 10.1111/PHP.12945
- Eremeeva E.V., Vysotski E.S. Bioluminescent and biochemical properties of Cys-free Ca2+-regulated photoproteins obelin and aequorin. J Photochem Photobiol B. 2017, 174, 97-105. IF = 6.252, Q1, DOI: 10.1016/J.JPHOTOBIOL.2017.07.021

Conferences

- Protein-protein interactions in coelenterazine-dependent bioluminescence systems: transient-state kinetic analysis. 19th Int. Symposium on Bioluminescence and Chemiluminescence (Tsukuba, Japan, 2016)
- Formation and stabilization of 2-hydroperoxycoelenterazine within substrate-binding cavity of Ca2+-regulated photoproteins. 18th International Symposium on Flavins and Flavoproteins, (Cha-Am, Thailand, 2014)
- An insight in active obelin complex formation. 35th FEBS Congress (Gothenburg, Sweden, 2010)

Grants (leader)

- RFBR № 14-04-31092 (2014-2015) " Mechanism of light emitter formation in the coelenterazine-dependent bioluminescent systems: spectral and kinetic studies"
- RFBR-NSFC № 20-54-53011 (2020-2021) «Structural and biochemical studies of the Ca2+-regulated photoproteins and their mutants activated with various coelenterazine analogues»
- RFBR-KRFS № 20-44-240006 (2021-2022) «Identification of structural factors that determine the photophysical characteristics of the bioluminescence emitters of Ca2+-regulated photoproteins»

Awards

- 2008 - winner of Marlene DeLuca Prize for the young scientists (The talk "The coelenterazine binding with apoobelin and apoaequorin" on 15th Int. Symposium on Bioluminescence and Chemiluminescence, Shanghai, China, 2008)