Curiculum Vitae

Boroda Andrey Victorovich

National Scientific Center of Marine Biology of Far Eastern Branch of the Russian Academy of Sciences (NSCMB FEB RAS), http://www.imb.dvo.ru/e_info.htm
17 Palchevsky St., Vladivostok, 690041, Russia

Tel: **+7 (423) 2311161**
Cell: **+7 964 434 0321**
Fax: **+7 (423) 2310900**
E-mail: borodandy@gmail.com
Birth date: September 29, 1985
Citizenship: Russian Federation

2010 – Ph.D. Cell Biology, IMB FEB RAS, Vladivostok, Russia
2007 – M.Sc. (with Honours) Biochemistry, Far Eastern National University, Vladivostok, Russia

Professional Experience

2017 – present – Senior researcher, Laboratory of Cytotechnology, NSCMB FEB RAS, Vladivostok, Russia.
2011 – 2017 – Researcher, Laboratory of Cytotechnology, IMB FEB RAS, Vladivostok, Russia.
2013 – 2016 – Researcher, Laboratory of marine biotechnology, Federal State budgetary institution of science, the Scientific and Educational Complex «Primorsky Aquarium», FEB RAS, Vladivostok, Russia.
2014, February 07 – 2014, July 03 – Professional Scientific Collaborator, Loring Lab, The Scripps Research Institute, San Diego, CA, USA.
2007 – 2010 – Research Assistant, Postgraduate student research work, Laboratory of Cytotechnology, IMB FEB RAS, Vladivostok, Russia.
2005 – 2007 – Research Assistant, Graduate student research work, Laboratory of Cell Biophysics, IMB FEB RAS, Vladivostok, Russia.

Qualification / Specialization:

- Cell biology/culture
- Marine organisms: algae, invertebrates, mammals
- Induced pluripotent stem cells: obtaining, cultivation, analysing
- Cryobiology: cryopreservation of marine organism cells; cryomicroscopy, flow cytometry

Attendance at international symposia/workshops/training course:

2017 – Training course on flow cytometry, September 13, NSCMB FEB RAS, Vladivostok, Russia.
2015 – International Conference "Cell cultures of marine and fresh-water animals". Vladivostok (Marine Biological Station “Vostok”, IMB FEB RAS), Russia. September 8-10, 2015.
2014 – Advanced training course in induced pluripotent stem cells of mammals during working on the collaborative international project “Generating Induced Pluripotent Stem Cells from Cryopreserved Tissues of Rare and Endangered Marine Mammal Species” (U.S. Civilian Research & Development Foundation, grant № RUB1-7083-VL-13)
2013 – CRYO 2013. 50th Annual Meeting of the Society for Cryobiology, July 28-31, Rockville, USA.
2012 – “Environmental Management: Oceanography” (Open World Program), October 24–26, Washington DC, October 27 – November 3, San Diego, USA.
2012 – Advanced training course in Written English Translation (Foreign Languages Department, FEB RAS), February 16 - April 19, Vladivostok, Russia.
2010 – Training course on cryopreservation of animal germ cells and methods of cryomicroscopy, February 23 – April 5, Institute of cell biophysics, Laboratory of genetic resource cryopreservation, Puschino, Russia.
2009 – CRYO 2009. 46th Annual Meeting of the Society for Cryobiology, July 19-23, Sapporo, Japan.
2008 – “Cryopreservation as a way to save the biodiversity”, October 28-30, Puschino, Russia.
2008 – 1st Far-Eastern International Symposium on Life Sciences, September 2-7, Vladivostok, Russia.

Honors and Rewards:

2017 – Certificate № MK-264.2017.4 for the grant of the President of Russian Federation for the governmental assistance of young Russian scientists (https://grants.extech.ru/grants/res/winners.php?OZ=4&TZ=K&year=2017)

2017 – Laureate of the award of academician A.V. Zhirmunsky for the research work series "Cryopreservation of cells and tissues of marine hydrobionts". http://www.febras.ru/component/content/article/64-uncategorised/2017/4427-20-07-2017-laureaty-premii-imeni-vydayushchikhsya-uchenykh-dalnego-vostoka-rossii-podrobnee.html

2015 – Elsevier Reviewer Recognition Certificate (Algal Research, IF 5.014)

2010 – Laureate of the contest "The Best post-graduate students of the Russian Academy of Sciences", Russian Science Support Foundation

2009 – The Best Student Poster Award, 46th Annual Meeting of the Society for Cryobiology, Sapporo, Japan

2015, 2013, 2011, 2008, 2006 – The Best Oral Presentation, "The Annual Conference for Young Scientists", IMB FEB RAS.

PhD thesis:

2010: Ph.D. in Cell Biology

Boroda A.V., The influence of exogenous lipids and antioxidants on survival and functional activity of larval cells of marine mollusks and echinoderms after cryopreservation // PhD thesis, A.V. Zhirmunsky Institute of Marine Biology, Far Eastern Branch of the Russian Academy of Sciences, 2010. p. 109. (in Russian)

Articles:

1. Odintsova N.A., Boroda A.V., Maiorova M.A., Yakovlev K.V. The death pathways in mussel larval cells after a freeze-thaw cycle // **Cryobiology**. 2017. V. 77. P. 41-49.
2. Boroda A.V. Marine mammal cell cultures: To obtain, to apply, and to preserve // **Marine Environmental Research**. 2017. V. 129. P. 316-328.
3. Andreev A.A., Sadikova D.G., Ivlicheva N.A., Boroda A.V. Formation of ice microparticles in cryoprotective solutions // **Biophysics**. 2017. V. 62, № 2. P. 151-157.
4. Boroda A.V., Kipryushina Y.O., Yakovlev K.V., Odintsova N.A. The contribution of apoptosis and necrosis in freezing injury of sea urchin embryonic cells // **Cryobiology**. 2016. Vol. 73, № 1. P. 7-14.
5. Odintsova N.A., Ageenko N.V., Kipryushina Y.O., Maiorova M.A., Boroda A.V. Freezing tolerance of sea urchin embryonic cells: Differentiation commitment and cytoskeletal disturbances in culture // **Cryobiology**. 2015. Vol. 71, № 1. P. 54–63.
6. Boroda A.V., Zacharenko P.G., Maiorova M.A., Peterson S.E., Loring J.F., Odintsova N.A. The first steps towards generating induced pluripotent stem cells from cryopreserved skin biopsies of marine mammals // **Russian Journal of Marine Biology**. 2015. Vol. 41, № 5. P. 405–408.
7. Boroda A.V., Aizdaicher N.A., Odintsova N.A. The influence of ultra-low temperature storage on marine microalgal cells // **Journal of Applied Phycology**. 2014. Vol. 26, № 1. P. 387-397.
8. Odintsova N.A., Boroda A.V. Cryopreservation of the cells and larvae of marine organisms // **Russian Journal of Marine Biology**. 2012. V. 2, № 38, P. 101-111.
9. Odintsova N.A., Boroda A.V., Velansky P.V., Kostetsky E.Ya. Fatty acid profile changes of embryonic cells of marine invertebrates during cryopreservation // **Cryobyology**. 2009. V. 59. P. 335–343.
10. Kostetsky E.Y., Boroda A.V., Odintsova N.A. The change in lipid content of embryo cells of mussel *Mytilus trossulus* at cryopreservation // **Biophysics**. 2008. V. 53, № 4. P. 658–665. *(in Russian)*

The patent of Russian Federation:

1. Boroda A.V., Aizdaicher N.A., Odintsova N.A. The method for cryopreservation of marine microalgae // Invention patent № 2496318. Moscow, 2013. Registered October 27, 2013. *(in Russian)*
2. Odintsova N.A., Boroda A.V., Ageenko N.V., Kostetsky E.Y. The method for cryopreservation of marine invertebrate cells // Invention patent № 2314687. Moscow, 2008. Bulletin № 2. *(in Russian)*

Conferences:

1. Odintsova N.A., Kipryushina Y.O., Boroda A.V. Attempts to modulate apoptosis in cryopreserved molluscan cells // CRYO 2018. Abstracts of 55th Annual Meeting of the Society for Cryobiology. July 10-13, 2018. Madrid, Spain. P.58.
2. Kipryushina Y.O., Maiorova M.A., Golochvastova R.V., Boroda A.V. Cryobanking biological material of marine mammals: purpose, methods and successes // Abstracts of the International Conference "Scientific and Technological Developments of Research and Monitoring of Marine Biological Resources". 2017. May 22-24. Vladivostok, Russia. P. 23-24. http://primocean.ru/en/science/about-a-conference.html

3. Ageenko N.V., Boroda A.V., Kipryushina Yu.O., Maiorova M.A., Yakovlev K.V., Odintsova N.A. Why do sea urchin embryonic cells die after freezing-thawing? // Abstracts of the 12th International Congress of Cell Biology. 2016. July 21-25. Prague, Czech Republic. P. 266. http:// www.sbbc.org.br/iccb-2016-prague.
4. Boroda A.V., Zacharenko P.G., Maiorova M.A., Peterson S.E., Montague S.C., Pivaroff C.G., Stein J.W., Lee C.-Y., Loring J.F., Odintsova N.A. The first steps towards generating induced pluripotent stem cells from cryopreserved skin biopsies of marine mammals // Proceedings of the International Conference "Cell cultures of marine and fresh-water animals". Vladivostok, Russia. September 8-10, 2015. P. 7.
5. Kipryushina Y.O., Ageenko N.V., Boroda A.V., Maiorova M.A., Odintsova N.A. The effects of cryoinjury on differentiation commitment of sea urchin embryonic cells // Proceedings of the International Conference "Cell cultures of marine and fresh-water animals". Vladivostok, Russia. September 8-10, 2015. P. 15.
6. Peterson S.E., Boroda A.V., Lee C.-Y., Pivaroff C.F., Loring J.F. Cellular reprogramming of skin fibroblasts from the Lake Baikal seal Pusa sibirica: a new strategy for conserving marine mammals // Proceedings of the International Conference "Cell cultures of marine and fresh-water animals". Vladivostok, Russia. September 8-10, 2015. P. 18.
7. Boroda A.V., Maiorova M.A., Odintsova N.A. Analysis of cytoskeletal changes and cytoskeletal-bound proteins in cells of mollusks and echinoderms after cryopreservation at different conditions // Biophysics of living cell. 2014. V. 10. P. 45-47. Puschino, Russia, October 28–30. *(in Russian)*
8. Boroda A.V., Peterson S.E., Montague S.C., Pivaroff C.G., Stein J.W., Lee C.-Y., Loring J.F. and Odintsova N.A. Generating induced pluripotent stem cells from cryopreserved skin biopsies of Lake Baikal seal (*Pusa sibirica*) and Steller Sea Lion (*Eumetopias jubatus*) // Abstracts of VIII International Conference “Marine Mammals of The Holarctic”, September 22–27, 2014, Saint-Petersburg, Russia. P. 16.
9. Boroda A.V., Aizdaicher N.A., Odintsova N.A. The influence of cryopreservation on marine microalgal cells // Abstracts of 50th Annual Meeting of the Society for Cryobiology, CRYO 2013, (28-31 July 2013), Rockville, USA. P. 53-54.
10. Odintsova N.A., Ageenko N.V., Boroda A.V., Kiprushina Yu.O. Spicule formation and pigment cell differentiation in primary cell cultures of sea urchin embryos. Cryopreservation of the cultures //Abstracts of «Marine invertebrate cell culture Symposium», Corcarneau, France, August 30–31, 2012. P. 9.
11. Boroda A.V., Andreev A.A., Kostetsky E.Ya., Odintsova N.A. The search of new cryoprotective compounds for marine invertebrate cells // CRYO 2009. 46th Annual Meeting of the Society for Cryobiology. July 19–23, 2009, Sapporo, Japan. P. 212.
12. Boroda A.V., Odintsova N.A., Kostetsky E.Y. The change in lipid content of marine invertebrate embryo cells at cryopreservation // Biophysics of living cell. 2008. V. 9. P. 29. Puschino, Russia, October 28–30. *(in Russian)*
13. Boroda A.V., Odintsova N.A. Cryopreservation of mollusk and echinoderm embryo cells // Cytology. 2008. V. 50. P. 797. [Russian school for cell biology. Saint Petersburg, Russia, October 6–11]. *(in Russian)*
14. Boroda A.V., Odintsova N.A., Kostetsky E.Y. Cryoresistance study of marine hydrobiontes and Cryobank foundation // Abstracts of 1st Far-Eastern International Symposium on Life Sciences. Vladivostok, Russia, September, 2–7, 2008. P. 15.
15. Odintsova N.A., Ageenko N.V., Boroda A.V., Kostetsky E.Y. The new cryoprotectants are the key step to establish marine invertebrate’s Cryobank // International scientific conference “Innovations in science and education – 2005”, October 19–21. Kaliningrad, Russia, 2005. P. 79–80. *(in Russian)*

Revisions:

1. Ji-San Ha, Jun-Woo Lee, Seong-Hyun Seo, Chi-Yong Ahn, Gyu-Jin Rho, Hyung-Gwan Lee, Hee-Mock Oh. Optimized cryopreservation of *Ettlia sp.* using short cold acclimation and a controlled freezing procedure // **Journal of Applied Phycology**. Manuscript Number: JAPH-D-18-00600. **IF 2.401**.
2. Farzaneh Fekrat, Behnam Nami, Hossein Ghanavati, Akram Ghaffari, Maryam Shahbazi. Optimization of chitosan/activated charcoal-based purification of *Spirulina platensis* phycocyanin using response surface methodology // **Journal of Applied Phycology**. Manuscript Number: JAPH-D-18-00306. **IF 2.401**.
3. Xiao-fei Wu, Min Zhang, Bhesh Bhandari, Chunquan Liu. Effects of cryoprotectants on Nostoc sphaeroides superchilled at -3.0°C and their action mechanisms // **Food Bioscience**. Manuscript Number: FBIO_2017_663. **IF 1.964**.
4. Amal Maadane, Redouane Benhima, Youssef Bakri, Said Amzazi, Imane Wahby, Nawal Merghoub. Effect of three different stresses on antioxidant activity and biochemical composition of *N. gaditana* isolated from Moroccan coastlines // **Journal of Applied Phycology**. Manuscript Number: JAPH-D-17-00454. **IF 2.616**.
5. Alireza Einali. The induction of salt stress tolerance by propyl gallate treatment in green microalga *Dunaliella bardawil*, through enhancing ascorbate pool and antioxidant enzymes activity // **Journal of Applied Phycology**. Manuscript Number: JAPH-D-17-00232. **IF 2.616**.

6. Alla Silkina, Graham D. Nelson, Catherine E. Bayliss, Craig L. Pooley, John G. Day. Bioremediation efficacy - comparison of nutrient removal from an anaerobic digest waste-based medium by a mixed algal consortium before and after cryopreservation // **Journal of Applied Phycology**. Manuscript Number: JAPH-D-16-00596. IF 2.372.
7. Virginie Gaget, Yi-Ting Chiu, Melody Lau and Andrew R. Humpage. From an environmental sample to a long lasting culture: the steps to better isolate and preserve cyanobacterial strains // **Journal of Applied Phycology**. Manuscript Number: JAPH-D-16-00141. IF 2.372.
8. Chunli Liao, Xiaobo Liu, Anfang Zhao, Linna Shan. Optimization of cryoprotectants to harvest high active cells of algicidal bacterium against *Scenedesmus sp.* during long-term preservation // **Algal Research**. August 2015. P. 30. Impact Factor 5.014. 3 reviews.
9. Rodolfo Iturriaga and Cornelius W. Sullivan. Long-term preservation of microalgal cells and their optical properties // **Oceanography: Open Access**. August 2015. P. 18.

Supervising:

1. Second-year student work “Isolation of cell cultures from skin of several marine mammal species”, Golochvastova R.V. School of Natural Sciences of FEFU. Report on June 07, 2017.
2. Second-year student work “Methods to work with cell culture of sea urchin *Strongylocentrotus intermedius*”, Veselova M.D. School of Natural Sciences of FEFU. Report on June 10, 2016.