

## **CURICULUM VITAE**

### **Konstantin V. Yakovlev, Ph.D.**

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#### **MAJOR RESEARCH INTERESTS**

- Gametogenesis and germ cells
- Regulation of embryogenesis
- Gene activity
- Translation

#### **EDUCATION**

**2008:** Ph.D. in Cell Biology, A.V. Zhirmunsky Institute of Marine Biology FEB RAS, Vladivostok, Russia.

Ph.D. Thesis project title: *Agrobacterium*-mediated transformation of sea urchin embryos and abnormalities of embryogenesis as a result of expression of plant oncogenes *rolB* and *rolC*.  
Principal Investigator: Nelly A. Odintsova.

**1999-2004:** Specialist in Cell Biology, Department of Cell Biology, Far Eastern National University, Vladivostok, Russia.  
Graduated with Honors (*magna cum laude*).

Qualification Thesis project title: Influence of foreign regulatory genes on growth and differentiation of embryonic cells of sea urchins. Principal Investigator: Nelly A. Odintsova.

#### **RESEARCH EXPERIENCE**

**2016-present:** Researcher, Laboratory of Cytotechnology, A.V. Zhirmunsky National Scientific Center of Marine Biology FEB RAS, Vladivostok, Russia.

**2009-2016:** Researcher, Laboratory of Cytotechnology, A.V. Zhirmunsky Institute of Marine Biology FEB RAS, Vladivostok, Russia. Head: Professor Nelly A. Odintsova.

**2008-2009:** Research associate, Laboratory of Cell Biophysics, IMB FEB RAS, Vladivostok, Russia

**2004-2007:** Ph.D. student research work, Laboratory of Cell Biophysics, A.V. Zhirmunsky Institute of Marine Biology FEB RAS, Vladivostok, Russia.

**2001-2004:** Graduate student research work, Laboratory of Cell Biophysics, A.V. Zhirmunsky Institute of Marine Biology FEB RAS, Vladivostok, Russia.

**Jan 2006 – Mar 2006, Nov 2006 – Dec 2006:** Visiting scientist, Laboratory of Developmental Genetics, Institute of Cytology and Genetics SB RAS, Novosibirsk, Russia. Head: Professor Oleg L. Serov.

## RESEARCH SKILLS

**Animals:** *Drosophila*, Sea urchins, some experience with nematode *Panagrellus redivivus*, zebrafish and mice.

**Genetics:** transgenesis, site-directed mutagenesis, generating fly strains.

**Bacteria:** bacterial cultures, transformation with plasmids, white/blue selection.

**DNA:** total and plasmid DNA purification, PCR, molecular cloning, creation of EGFP reporters.

**RNA:** total RNA purification, RT-PCR, 3' and 5' RACE, *in vitro* transcription.

**Protein:** immunization of rabbits and preparing Ig fractions from blood serum, SDS-PAGE, Western blot, immunolocalization.

**Histology:** paraffin sectioning and cryosectioning.

**Microscopy:** epifluorescent microscopy, laser scanning microscopy (experience with Zeiss LSM 510 Meta and LSM 780 confocal microscopes), transmission electron microscopy.

**Bioinformatics and bioimaging:** Design of synthetic peptides for antibody production, DNA and protein multiple alignment, creation of phylogenetic trees, experience with ImageJ.

## Grant writing and collaboration experience

## AWARDS

- **2017:** Winner of the academissian V.L. Kasyanov Prize for young scientists of FEB RAS for the research work series in the area of molecular and cell biology.
- **2007:** “Best Ph.D. students of the Russian Academy of Sciences”, Award of the Russian Science Support Foundation.
- **2006:** “The best oral presentation” at the X<sup>th</sup> Young Investigators School-Conference on Actual Problems of Chemistry and Biology, MES, PIBOC FEB RAS, Russia.
- **2004:** “The Best Master’s research in science and humanities” of the Ministry of Education and Science of the Russian Federation Award.

## AFFILIATIONS

Member of the Society for Developmental Biology.

## FUNDING

Research grants of the Far Eastern Branch of the Russian Academy of Sciences:

- **2014-2016:** Research grant of the Russian Scientific Foundation (grant no. 14-50-00034).
- **2012-2014:** Research grants of Far East Presidium of RAS № 12-III-A-06-099, 12-I-0-06-015.
- **2009:** Grant for junior researchers of Far East Presidium of RAS № 09-III-B-06-270.
- **2006-2008:** Grant for junior researchers.

- **2004:** Grant for students participating in research at the FEB RAS.

#### **SUPERVISION AND TEACHING EXPERIENCE**

- **2008-2014:** Annual participation with lectures and practical lessons for pupils in the Day of Science and the School for Marine Biology organized by the Far Eastern Branch of the Russian Academy of Sciences and the Museum of the A.V. Zhirmunsky Institute of Marine Biology, FEB RAS.
- **2006-2014:** Lecturer for three lectures, course Molecular Biology of the Cell “Transcription”, “Posttranscriptional Modification of RNA” and “Regulation of gene activity”, Department of Cell Biology and Genetics, Far Eastern Federal University, Vladivostok, Russia.
- **2010-2011:** Co-supervision undergraduate student research project dealt with reproductive cycle of freshwater mollusk *Corbicula japonica* (co-supervisor, Assoc. Prof. S. Rybalkina, Department of Cell Biology and Genetics, Far Eastern Federal University).

#### **PROFESSIONAL DEVELOPMENT**

- **11-12/2006:** Molecular Biology Methods. RT PCR, Molecular Cloning, Chemical Transformation and Electroporation of Bacteria. Individual postgraduate course. Novosibirsk State University. Novosibirsk, Russia.
- **09/2005:** Recent Advances in Confocal Microscopy and Their Applications. Leica Microsystems Course. Moscow, Russia.

#### **LIST OF MAIN PUBLICATIONS**

##### **Publications with peer review process:**

1. Odintsova NA, Boroda AV, Maiorova MA, **Yakovlev KV**. (2017) The death pathways in mussel larval cells after a freeze-thaw cycle. *Cryobiology*, 77, 41-49.
2. Boroda AV, Kipryushina YO, **Yakovlev KV**, Odintsova NA. (2016). The contribution of apoptosis and necrosis in freezing injury of sea urchin embryonic cells. *Cryobiology*, 73, 7-14.
3. Barr J, **Yakovlev KV**, Shidlovskii Y, Schedl P. (2016). Establishing and maintaining cell polarity with mRNA localization in Drosophila. *BioEssays*, 38, 244-253.
4. **Yakovlev KV**. (2016). Localization of germ plasm-related structures during sea urchin oogenesis. *Developmental Dynamics*, 245, 56-66.
5. Kipryushina YO, **Yakovlev KV**, Odintsova NA. (2015). Vascular endothelial growth factors: A comparison between invertebrates and vertebrates. *Cytokine and Growth Factor Reviews*, 26, 687-695.
6. Kipryushina YO, **Yakovlev KV**, Kulakova MA, Odintsova NA. (2013). Expression pattern of vascular endothelial growth factor 2 during sea urchin development. *Gene Expression Patterns*, 13, 402-406. (**Co-first author**).
7. Odintsova NA, Usheva LN, **Yakovlev KV**, Kiselev KV. (2011). Naturally occurring and artificially induced tumor-like formations in marine invertebrates: a search for permanent cell lines. *Journal of Experimental Marine Biology and Ecology*, 407, 241-249.
8. **Yakovlev KV**, Battulin NR, Serov OL, Odintsova NA. (2010). Isolation of oogonia from ovaries of the sea urchin *Strongylocentrotus nudus*. *Cell and Tissue Research*, 342, 479-490. (**Reprint author**).
9. Bulgakov VP, Kiselev KV, **Yakovlev KV**, Zhuravlev YN, Gontcharov AA, Odintsova NA. (2006). *Agrobacterium*-mediated transformation of sea urchin embryos. *Biotechnology Journal*, 1, 454-461. (**This paper was cited by the F1000**).
10. Odintsova NA, Kiselev KV, Bulgakov VP, Koltsova EA, **Yakovlev KV**. (2003). Influence of the activator of transcription gal4 on growth and development of embryos and embryonic

cells in primary cultures of sand dollar. Russian Journal of Developmental Biology, 34, 217-222.