
PERSONAL DATA



Name: Jelena Vasilevska
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SUMMARY

Highly enthusiastic molecular biologist with over 8 years multidisciplinary research experience in cancer gene therapy, viral vectors and immunology. Extensive experience in targeted gene delivery, mouse models, drug screening and immune response. Passionate about combining multiple disciplines in one project. Key qualifications include:

- High curiosity and creativity to experimental therapies
- Working on own initiative and quickly adapting to new projects
- Effectively collaborating in a diverse team environment
- Skilled in presenting data clearly and concisely to a wide variety of audiences

EDUCATION

- 2012 – 2016 **PhD in molecular biology (defended 20.12.2016)**
Alphavirus vectors as gene delivery tools in cancer therapy
 Biomedical Research and Study Centre (BMC), University of Latvia / Supervisor: Anna Zajakina, PhD
- 2014 – 2015 **Sciex-NMS^{ch} Junior Researcher (Switzerland – Latvia)**
Development of a novel alphavirus-based gene therapy for the treatment of PTEN deficient tumors
 Institute of Oncology Research (IOR), Switzerland / Supervisor: Andrea Alimonti, MD, PhD
- 2009 – 2011 **MSc in molecular biology and biochemistry**
Replication Deficient Semliki Forest virus vector bio-distribution in mice: modeling of cancer treatment
 BMC, University of Latvia / Supervisor: Anna Zajakina, PhD
- 2006 – 2009 **BSc in microbiology and biotechnology**
Study of mRNA stability in E.coli cells
 BMC, University of Latvia, Supervisor: Jana Denisova, MSc

PROFESSIONAL EXPERIENCE

- 2019 – **Postdoctoral researcher- Melanoma targeted therapy**
 Institute of Anatomy, University of Zurich, Switzerland / PI: Lukas Sommer, PhD
- 2017 –2018 **Postdoctoral researcher- inflammatory liver disease and immunity**
 Department of Molecular Medicine II, Heinrich Heine University, Düsseldorf, Germany / PI: Philipp Lang, MD, PhD
- 2014 – 2016 **Research assistant –macrophage-based cancer immunotherapy**
 IOR, Switzerland / PI: Andrea Alimonti, MD, PhD
- 2009 – 2016 **Research assistant – cancer virotherapy**
 BMC, University of Latvia / PI: Anna Zajakina, PhD
- 2010 – 2012 **Research assistant - organic synthesis and gene delivery**
 Institute of Organic Synthesis, University of Latvia / PI: Aiva Plotniece, PhD
- 2008 – 2009 **Laboratory assistant - microbiology**
 Department of Microbiology and Biotechnology, University of Latvia
- 2006 – 2008 **Laboratory assistant – plant genetics**
 Laboratory of Plant Genetics, Institute of Biology, University of Latvia

MOBILITY AND SCHOLARSHIPS AWARDED

- 2014 Sciex-NMS^{ch} Junior Researcher Fellowship (12 months)
Viral particle-based cancer Immunotherapy, IOR, Switzerland
- 2014 ERASMUS scholarship (3 months)
Liquid chromatography–mass spectrometry, Oslo University Hospital, Norway
- 2013 Institute Curie - Paris Sud University scholarship (1 month)
2nd From Pigment Cells Development to Melanomas course, Paris, France
- 2012 European Social Fund PhD fellowship (36 months)
BMC, Riga, Latvia
- 2011 Summer internship in Cancer Research 2011 (2 months)
German Cancer Research Center (DKFZ), Heidelberg, Germany
- 2010 Boehringer Ingelheim Fonds scholarship (2 weeks)
EMBO advanced symposium and practical course: *Viral Vectors in Gene Therapy*, Kuopio, Finland.

LABORATORY SKILLS (SELECTION)

Cell biology: cancer cell line isolation, cultivation and *in vitro* drug screenings. Harvesting and genetic manipulation of mouse embryonic fibroblasts (MEFs), SILAC cell labeling, cell proliferation analysis; human umbilical endothelial cells (HUVECs) cultivation and analysis of angiogenesis.

Virology (up to biosafety level 2): broad experience in recombinant alphaviral, lentiviral and retroviral vectors production, infection, titration, purification and concentration.

Gene delivery: lipofection, electroporation, calcium phosphate transfection, cargo-transfection using nano-particles. Broad experience in CRISPR/CAS9 technology (transient and stable expression, vectors generation, crispr/cas9 library).

Molecular biology: DNA/RNA extraction; RNA transcription *in vitro*; PCR; Real-Time PCR; gel electrophoresis; vector design (primers design, digestions, ligations, cloning); proteomics analysis (SILAC/labeled free LC-MS, protein microarray); immunohistochemistry and immunofluorescence staining; ELISA, Apoptosis, Cell signaling, western blotting, B-gal senescence assay, luciferase detection.

Immunology: isolation, cultivation, activation and polarization of primary immune cells *e.g.* PBMC, bone marrow precursors, macrophages, myeloid cells, dendritic cells. Flow cytometry for immune cell subset innumeration / cell apoptosis, cell sorting.

Animal experiments (FELASA B certificate): handling, feeding, breeding, marking and genotyping of transgenic mice. Injections (s.c., i.t., i.p., i.v.), blood sampling and excision of organs *e.g.*: irradiation and immune system reconstitution; tumor models (allografts and xenografts); *in vivo* imaging. Assisting surgery for ischemia

Microbiology: Bacterial cell transformation, culturing, selection, media preparation and plating.

SUPERVISION OF STUDENTS AND TEACHING

- 2013 – 2015 Supervision of BSc student Artis Linars, BMC, University of Latvia
Effect of melanoma tumor microenvironment on alphavirus vectors transduction ability
- 2012 – 2014 Supervision of BSc student Baiba Kurena, BMC, University of Latvia
Determination of Doxorubicin and 5-Fluoruracil anti-cancer activity in combined treatment with oncolytic alphavirus vectors
- 2012 – 2014 Co-supervision of MSc student Agnese Ezerta, BMC, University of Latvia
The studies of macrophage phenotype in tumors treated with alphaviral vectors
- 2012 – 2014 Teaching for undergraduates, BMC, University of Latvia
Instrumental methods in biology

CERTIFICATIONS AND MEMBERSHIPS

Federation for Laboratory Animal Science Associations (FELASA) B certificate

Driving license category B (passenger car)

Member of The Latvian Biochemical Society

LANGUAGE ABILITIES

Russian	Native speaker
English	Full professional proficiency
Latvian	Full professional proficiency

COMPUTER SKILLS (SELECTION)

FACS analyses: FlowJo /Molecular biology: Vector NTI / Pathway analyses: PANTHER / Image analyses: ImageJ/ Graphing and statistics: GraphPad Prism, Microsoft Excel / Graphics editing: Adobe Illustrator / Publishing: Reference Manager / Presentation: Microsoft PowerPoint / Operating Systems: Windows XP / Windows 7

HOBBIES AND OTHER INTERESTS

Dogs, beach volleyball, The Swiss Alps, hiking and documentary films

REFERENCES

Prof. Dr. med. Philipp Lang

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Heinrich Heine University
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Andrea Alimonti, MD, PhD

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Anna Zajakina, PhD

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Diletta Di Mitri, PhD

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Humanitas Research Center, Milano, Italy
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PEER-REVIEWED ARTICLES

- 1) Heinen A, Nederlof R, Panjwani P, Spychala A, Tschaidse T, Reffelt H, Boy J, Raupach A, Gödecke S, Petzsch P, Köhrer K, Grandoch M, Petz A, Fischer JW, Alter C, Vasilevska J, Lang P, Gödecke A: IGF1 Treatment Improves Cardiac Remodeling after Infarction by Targeting Myeloid Cells. *Mol Ther*. 2019, Jan 2;27(1):46-58
- 2) Di Mitri D, Vasilevska J*, Calcinotto A, Gil G, Boysen G, Pasquini E, Revandkar A, D'Antuono R, Delaleu N, Chiorino G, Ostano P, Rinaldi A, Gnetti L, Graupera M, Waugh D, Samson O, Barry S, De Bono J, Alimonti A: (* equal contribution) Re-education of tumor-associated macrophages by CXCR2 blockade drives senescence enhancement and tumor inhibition in advanced prostate cancer. *Nat Commun* 2017, in revision.
- 3) Vasilevska J, De Souza GA, Stensland M, Skrastina D, Zhulenvovs D, Paplausks R, Kurena B, Kozlovska T, Zajakina A: Comparative protein profiling of B16 mouse melanoma cells susceptible and non-susceptible to alphavirus infection: Effect of the tumor microenvironment. *Cancer Biol Ther* 2016:1-16.
- 4) Zajakina A, Vasilevska J, Kozlovska T, Lundstrom K: Alphavirus vectors for cancer treatment. In: *Viral Nanotechnology*. Edited by Khudyakov Y, Pumpens P: CRC Press; 2015.
- 5) Zajakina A, Vasilevska J*, Zhulenkovs D, Skrastina D, Spaks A, Plotniece A, Kozlovska T: (* equal contribution) High efficiency of alphaviral gene transfer in combination with 5-fluorouracil in a mouse mammary tumor model. *BMC Cancer* 2014, **14**:460.
- 6) Vasilevska J, Skrastina D, Spunde K, Garoff H, Kozlovska T, Zajakina A: Semliki Forest virus biodistribution in tumor-free and 4T1 mammary tumor-bearing mice: a comparison of transgene delivery by recombinant virus particles and naked RNA replicon. *Cancer gene therapy* 2012, **19**(8):579-587.