OMB No. 0925-0001 and 0925-0002 (Rev. 09/17 Approved Through 03/31/2020)

BIOGRAPHICAL SKETCH

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NAME: Myakishev-Rempel, Max

eRA COMMONS USER NAME (credential, e.g., agency login): maxmyakishev

POSITION TITLE: Core Director

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Moscow State University, Moscow, Russia	M.S.	1986	DNA synthesis
Institute of Gene Biology, Moscow, Russia	Ph.D.	1994	Biomedical Engineering

A. Personal statement

In my role at the Stem Cell Genomics and Microscopy Core Facility within the Stanford Consortium for Genomic Medicine, UCSD, I bring experience in bioinformatics, next-generation sequencing, cancer research, experimental and computational genomics, and microscopy. In my Ph.D. work, I developed a fluorescence-based Sanger sequencer and a microfluidic DNA extraction device. I have managed complex technical projects, such as a large-scale automated genotyping project involving sequencers, robotics, and automated data processing at the Medical College of Virginia. Further, at the University of Rochester and Laget Inc., I was integral to the development of a biophysical therapy device for arthritis. I have expertise in next-generation sequencing (NGS), single-cell and spatial genomics. Additionally, I am experienced in confocal, two-photon, and spinning disk microscopy and high-resolution animal imaging, enriched by my work at the National Cancer Institute and Rochester University.

As Director of the gCore Stem Cell Genomics Core, I offer single-cell and spatial RNAseq, long-read sequencing, methylation analysis, and high-resolution microscopy, supported by bioinformatics expertise for interpreting complex molecular data.

B. Positions and Honors

Positions and Employment

1986 - 1988	Research Scientist, Laboratory of Plant Genetic Engineering, Engelhard Institute of Molecular Biology, Moscow.
1988 - 1996	Research Scientist, Laboratory of Genome Organization, Institute of Gene Biology, Russian Academy of Sciences, Moscow.
1996 - 1999	Postdoctoral Research Associate, Laboratory of Molecular Genetics, Virginia Commonwealth University, Richmond, VA.
1999 - 2000	Research Fellow, Biochemistry, National Cancer Institute, NIH, Bethesda, MD.
2000 - 2002	Research Fellow, Laboratory of Metabolism, National Cancer Institute, NIH, Bethesda, MD.
2002 - 2003	Applications Scientist, Invitrogen, Informax, Bethesda, MD.
2003 - 2006	Research Fellow, Laboratory of Metabolism, National Cancer Institute, NIH, Bethesda, MD.
2004 - 2004	Instructor, Foundation for Advanced Education in the Sciences, Bethesda, MD.
2006 - 2008	Research Fellow, Dermatology, University of Rochester, NY.
2008- 2008	Adjunct professor, Alfred University, Alfred, NY.
2008 - 2009	President, H. Photonics, Rochester, NY.
2008 - 2011	Faculty, Orthopedics Department, Rochester University, Rochester, NY.
2008 - 2011	Chief Scientist, LAGET LLC, Rochester, NY.
2012 - 2023	CEO, Localized Therapeutics, LLC, San Diego, CA.
2023-present	Director of Stem Cell Genomics and Microscopy Core, Sanford Consortium, UCSD, San Diego, CA

C. Contribution to Science

1. My main focus is biomedical engineering and the development of biomedical instrumentation.
    a. Beritashvili, David R., **Max Myakishev-Rempel**, Gennady M. Ershov, George P. Georgiev, and George I. Kapanadze. 1997. Centrifugal method and apparatus for isolating a substance from a mixture of substances in a sample liquid. USPTO 5610074. *US Patent*, filed February 24, 1993, and issued March 11, 1997. https://www.google.com/patents/US5610074.
    b. **Myakishev-Rempel**, M., J. Kuper, B. Mintz, S. Hutchinson, J. Voris, K. Zavislan, S. Offley, et al. 2011. "Investigation of the Peak Action Wavelength of Light-Activated Gene Transduction." *Gene Therapy* 18 (11): 1043–51.
    c. **Myakishev-Rempel**, Max, Istvan Stadler, Philip Brondon, David R. Axe, Mark Friedman, Frances Barg Nardia, and Raymond Lanzafame. 2012. "A Preliminary Study of the Safety of Red Light Phototherapy of Tissues Harboring Cancer." *Photomedicine and Laser Surgery* 30 (9): 551–58.
    d. **Myakishev-Rempel**, Max, Istvan Stadler, Oksana Polesskaya, Alifiya S. Motiwala, Frances Barg Nardia, Benjamin Mintz, Ancha Baranova, James Zavislan, and Raymond J. Lanzafame. 2015. "Red Light Modulates Ultraviolet-Induced Gene Expression in the Epidermis of Hairless Mice." *Photomedicine and Laser Surgery* 33 (10): 498–503.
    e. **Myakishev-*Rempel***, *M., J. Kuper, B. Mintz, S. Hutchinson, J. Voris, K. Zavislan, S. Offley, et al. 2011. "Investigation of the Peak Action Wavelength of Light-Activated Gene Transduction." Gene Therapy 18 (11): 1043–51.*
    f. Polesskaya, Oksana, Ancha Baranova, Sarah Bui, Nikolai Kondratev, Evgeniya Kananykhina, Olga Nazarenko, Tatyana Shapiro, and Max **Myakishev-Rempel**, 2018. "Optogenetic Regulation of Transcription." *BMC Neuroscience* 19 (1): 12.
    g. Sarah Bui, Nikolai Kondratev, Evgeniya Kananykina, Olga Nazarenko, Frances Barg Nardia, Tatyana Shapiro, Vladimir Kornienko, Oksana Polesskaya, Ancha Baranova, Max **Myakishev-Rempel.** 2016, submitted. "Therapeutic Promise of Optogenetic Regulation of Transcription." *BioDrugs: Clinical Immunotherapeutics, Biopharmaceuticals, and Gene Therapy*
    h. Polesskaya, Oksana, Evgeniya Kananykhina, Astrid M. Roy-Engel, Olga Nazarenko, Irina Kulemzina, Ancha Baranova, Yegor Vassetsky, and Max **Myakishev-Rempel**. "The role of Alu-derived RNAs in Alzheimer's and other neurodegenerative conditions." Medical hypotheses 115 (2018): 29-34.
    i. Vikhorev, Aleksandr V., Ivan V. Savelev, Oksana O. Polesskaya, Michael M. Rempel, Richard A. Miller, Alexandre A. Vetcher, and **Max Myakishev-Rempel**. "The Avoidance of Purine Stretches by Cancer Mutations." *International Journal of Molecular Sciences* 25, no. 20 (2024): 11050.

Complete List of Published Work in MyBibliography: **https://www.ncbi.nlm.nih.gov/myncbi/1-GV-eSrJwn5z/bibliography/public/**

D. Research Support

Completed research support

1R43MH110273-01A1 (SBIR), Myakishev-Rempel (PI), 2017 - 03/2019
NIH/NIMH
Optogenetic control over transgene expression for the therapy of brain and spine
Role: PI

1R43AR065884-01A1 (SBIR), Myakishev-Rempel (PI), 2015 - 2017
NIH/NIAMS
An infrared-activated promoter for gene therapy of arthritis
Role: PI

1 R43 AR057589 (SBIR), Myakishev-Rempel (PI), 2009 - 2011
NIH/NIAMS
Laser-guided gene therapy for cartilage defects.
Role: PI

20000306 Myakishev-Rempel (PI) 2009
Center for Emerging and Innovative Sciences, CEIS/NYSTAR
MRI imaging in light-activated gene therapy
Role: PI

5 T32 AR 007472 Pentland (PI) 2006-2008
NIH/NIAMS
Training Grant in Dermatology
Role: Research Fellow

5 R01 MH 045390 Straub (PI) 1996-1999
NIH/NIMH
Molecular Genetics of Schizophrenia
Role: Co-Investigator

5 K05 MH 001277 Kendler (PI) 1996-1999
NIH/NIMH
Psychiatric Genetics
Role: Co-Investigator

5 R01 DA 010228 Kendler (PI) 1996-1999
NIH/NIDA
Detecting Susceptibility Genes for Nicotine Addiction
Role: Co-Investigator