YELENA BUDOVSKAYA

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Scientific Projects Lead with Ph.D. in Molecular Genetics, Business Development and R&D experience and expertise in aging, cancer genetics and microbiology.

EXPERIENCE

DECEMBER, 2016 – PRESENT

SR. SCIENTIST, STANFORD UNIVERSITY SCHOOL OF MEDICINE, STANFORD, CA

Developing genomic testing protocols and running proof of concept studies for the current and upcoming clinical trials on patients with relapsed or refractory stage IB-IVB Mycosis Fungoides or Sezary Syndrome leading by Stanford University. I utilized Next-generation sequencing methods (whole Exome and RNAseq) to identify old as well as novel mutations that correlate with patient response to the pembrolizumab treatment. The long-term goal of developing the personalized treatment for each patient based on his or her genetic and disease profile.

- Genomic Project lead: leading the scoping, planning, scheduling, cost estimating, pricing, directing and monitoring projects
- Responsible for the contractual relationship management with external partners and vendors
- Stakeholders management (doctors, researchers, IT, and service providers)
- Establish and maintain functionally integrated project schedules
- Ensure alignment with project sub-teams and functional partners

SEPTEMBER 2016 – PRESENT

SCIENTIFIC CONSULTANT AND BUSINESS ANALYST, 9.8 GROUP, NEW YORK, NY

- Evaluation of the scientific merit, regulatory compliance, and market success of the product for the various biotech and pharmaceutical companies
- Recommendation of the best market entry strategies through understanding of the consumer, business, regulatory, and technological trends
- Editing white papers to better communicate company's goals to the potential investors and the general public

AUGUST, 2017 – JANUARY, 2018

CO-FOUNDER AND CEO, TRUEAGE INC., SOUTH SAN FRANCISCO, CA

TrueAge has developed an epigenetic test - TrueAge index - that calculates the rate of aging by analyzing the methylation profile of human genome as a biomarker of the aging process. TrueAge index is highly reflective of age-related changes in metabolism, physiology, and most importantly - lifestyle. It is has been shown that aging can be reversed by illumination of the major driver of the aging process, such as inflammation. The TrueAge test is a platform for fast and accurate screening for efficacy and safety of anti-aging and wellness therapies, vitamins, supplements, and/or lifestyle changes.

- Leading R&D team in the development and patenting an epigenetic test - TrueAge index

- Managed relationships with TrueAge Inc stakeholders in academia and industry
- Ensure alignment of internal teams across functions
- Establish and maintain functionally integrated project schedules ensure accurate inputs are provided into business planning processes
- Oversee and prepare TrueAge Inc. budget including resources and costs
- Communicate, document and archive TrueAge Inc. activities and decisions
- Prepare presentations and marketing material
- Presenting TrueAge projects to potential investors, collaborators, and media
- Facilitate TrueAge Inc. meetings, cross-functional communication, and decision making, ensuring alignment with internal and external stakeholders
- Search and recruit new team members

JUNE 2016 – JANUARY 2018

CO-FOUNDER AND CSO, XNSION LLC, SOUTH SAN FRANCISCO, CA

Under my lead, Xnsion LLC team developed a novel technology that allows the routine diagnostic test for mosquito- and tick-borne virus detection using standard molecular laboratory equipment. Our panel of tests was designed with the intention of serving economically under-developed countries as well as providing global access to a rapid, cost-effective, and accurate test for the various flaviviruses. Due to a lack of an available vaccine, rapid diagnosis plays an important role in the early management of patients. Our invention helps to reliably and accurately identify CHIKV, ZIKV, YFV, WNV, and the other flavivirus infection at the early onset of symptoms and in asymptomatic patients in a single step RT-PCR test at the fraction of the cost of the current technologies. Our other aim is prevention and to help combat the spread of these viruses through early and rapid detection that is widely available.

- Lead development, validation, and patenting of the Mosquito- and Tick-borne Viruses test that offers rapid detection of the Zika virus as well as other mosquito-borne viruses in a single reaction without prior RNA isolation
- Established multiple academic and industry collaborations to facilitate clinical validation for the Mosquito- and Tick-borne Viruses test
- Lead clinical validation of the Mosquito- and Tick-borne Viruses test in CLIA certified laboratory
- Designing and writing SOP's and validation reports for the clinical studies
- Cost analysis and market research for the Mosquito- and Tick-borne Viruses
- Establish and maintain functionally integrated project schedules to enable the accurate project, financial and portfolio analyses and ensure accurate inputs are provided into business planning processes
- Preparation of the validation report and extra documentation to obtain FDA approval under Emergency Use Authorization (EUA)

JULY, 2015 – DECEMBER, 2016

SR. SCIENTIST, RESEARCH AND DEVELOPMENT, INNOVATION LEAD UBIOME INC., SAN FRANCISCO, CA

- Lead the development to validation efforts of NGS based novel clinical diagnostic tests to detect and quantify pathogenic and commensal microorganisms.
- Build first R&D laboratory at uBiome.
- Design and lead comprehensive assay development from DNA extraction to NGS sequencing
- Wrote and executed comprehensive and clear SOPs, validation protocols, and reports

- Lead the design, performance, troubleshooting, analysis, and reporting results for both R&D and validation studies
- Protocols design and validation to be adopted in automation
- Lead the design, implementation, analysis, and presentation of the new methods and assays to demonstrate methods feasability and to transfer to production and automation (scale up)
- Worked with LIMS databases to record and monitor laboratory activities
- Established collaborations and partnerships with leading companies in the microbiology, oncology, virology, and food industries
- Demonstrated excellent communication and presentation skills, that secured several important collaborations between uBiome and leading food, nutrition, and cosmetic companies
- Developed training and educational opportunities for staff.
- Proven ability to solve complex problems in genomics research, for example reducing failure rate of sequencing samples by 70%.
- Addressed consumers concerns and question about the microbiome, attracted new customers to our product.

MARCH 2011 – JUNE 2015

ASSISTANT PROFESSOR OF MOLECULAR BIOLOGY, UNIVERSITY OF AMSTERDAM, AMSTERDAM, NETHERLANDS

Executed cutting-edge research focused on the molecular biology of aging, displaying honed abilities in experimental design, protocol development, biomarker discovery, and characterization, as well as establishing viable collaborations. Guided research assistant, Ph.D. student, and master students. Performed complex laboratory research, procured equipment resources, and garnered expert knowledge from the global scientific community. Recognized for developing first research group to conduct genetic, genomic, molecular biology and physiology studies of the aging process in C. elegans, and published groundbreaking research on the role of Wnt signaling in aging.

- Evaluated the dual role of Wnt signaling pathway during aging in *Caenorhabditis elegans*.
- Utilized RNA-sequencing technique to analyze gene expression changes in various components of Wnt signaling pathway mutants and wild-type worms during aging, lending insight into the mechanism of development of various diseases such as cancer and Alzheimer's.
- Led the design and validation of the experimental pipeline to use metabolomics, behavior assays, and high-resolution video microscopy in collaboration with scientific leaders hailing from Virginia Commonwealth University, as well as AMC and FOM Institute AMOLF in Amsterdam.
- Displayed honed abilities in project coordination, experimental design, and the establishment of efficient research pipeline in collaborating with global scientific partners.
- Co-managed project of using C. elegans as model system for studying the role of Highly Active Anti-Retroviral Therapy (HAART) in premature and accelerated aging in HIV patients.
- Mentored and lead to graduation 2 Ph.D. and 6 Master students
- Project management of 4 international research and educational endeavors (North America, EU and Eastern European countries): managing teams of scientists and contractors that performed lab experiments. Managing/documenting protocols, experimental workflow and standard operating procedures;
- Identify and prioritize key organizational aspects necessary to achieve short-term and long-term goals;
- Evaluated and provided (or arranged) necessary training to the existing or new personnel;
- Managing funds inquired for the project, as well as managing application for new funding opportunities: to data secured and managed more than 1 million euros in extramural funding;
- Experience fostering open communication among colleagues in inter-disciplinary and cross-cultural contexts by fostering collaborations, organizing conferences and seminar series;

- Served as a project menager/coordinator for the ItentA consortium: I led 6 academic research groups, and 4 small and medium size biotech companies in afford to obtain funding from the European Commission towards Identification and functional validation of common signatures for Ageing and human cancers;
- Engaging public speaker capable of distilling complex research results: through my exciting lectures and contagious scientific enthusiasm

EDUCATION

MARCH 2005

PHD IN MOLECULAR GENETICS, THE OHIO STATE UNIVERSITY, COLUMBUS, OH

An evolutionary proteomics approach for the identification of substrates of the cAMP-dependent protein kinase in *Saccharomyces cerevisiae.*

JUNE 1995

MASTERS IN MOLECULAR BIOLOGY WITH HONORS, INSTITUTE OF PROTEIN RESEARCH, PUSCHINO, MOSCOW REGION, RUSSIA

The first 37 residues are sufficient for dimerization of ribosomal L7/L12 protein.

JUNE 1995

BACHELOR IN MOLECULAR BIOCHEMISTRY WITH HONORS, KHARKOV NATIONAL UNIVERSITY, KHARKOV, UKRAINE

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PUBLICATIONS

Select Publication Credits (Full List of Publications & Presentations Available Upon Request)

- Almonacid DE, Kraal L, Ossandon FI **Budovskaya YV**, Cardenas JP, Bik EM, Goddard AD, Richman J, Apte ZS. 16s rRNA Gene Sequencing And Healthy Reference Ranges For 28 Clinically Relevant Microbial Taxa From The Human Gut Microbiome. Plos One. 2017 May 3;12(5):E0176555. DOI: 10.1371/Journal.Pone.0176555.
- Daniel E Almonacid, Laurens Kraal, Francisco J Ossandon, **Yelena V Budovskaya**, Juan Pablo Cardenas, Jessica Richman, Zachary S Apte. 16s rRNA Gene Sequencing As A Clinical Diagnostic Aid For Gastrointestinal-Related Conditions. DOI**:** Https://Doi.Org/10.1101/084657
- Lezzerini, M., Koenders, B., **Budovskaya, Y.V.** The *Wrm-1*/Betta-Catenin Activates Rapid Metabolic Reprogramming During Aging. (Projected For Gene And Development – November, 2018).
- Van De Ven, K., Veerman, M., Zange, N., Lezzerini, M., Brul, S., And **Budovskaya, Y.V.** Specific RNA Interference In *Caenorhabditis Elegans* By Ingested dsRNA Expressed In *Bacillus Subtilis*. Plos One 2015 Apr 30;10(4):E0124508.
- Lazzerini, M., and **Budovskaya, Y**. A Dual Role Of The Wnt Signaling Pathway During Ageing In Caenorhabditis Elegans. Aging Cell, 2013 Feb;13(1):8-18.
- Lazzerini, M., Smith, R.L., and **Budovskaya, Y.V.** Developmental drift as a mechanism for ageing: lessons form nematodes. Biogerontology 2013, Dec;14(6):693-701.
- Smith, R.L., de Boer, R., Brul, S., **Budovskaya, Y.**, van Spek, H. Premature and accelerated ageing: HIV or HAART? Frontiers of Genetics in Ageing 2013, 3:328.

- Kim, S.K., **Budovskaya, Y.V**., Johnson, T.E. Reconciliation of daf-2 suppression by elt-3 in *Caenorhabditis elegans* from Tonasket et. Al (2012) and Kim et. al. (2012). Mechanisms of Ageing and Development 134(1-2):64-65.
- Anisimov, V.N., Bartke, A., Barzilai, N., Batin, M.A., Blagosklonny, M.V., Brown-Borg, H., **Budovskaya, Y.V.,** Campisi, J., Friguet, B., Fraifeld, V., Franceschi, C., Gems, D., Gladyshev, V., Gorbunova, V., Gudkov, A.V., Kennedy, B., Konovalenko, M., Kraemer, B., Moskalev, A., Petropoulos, I., Pasyukova, E., Rattan, S., Rogina, B., Seluanov, A., Shaposhnikov, M., Shmookler, Reis, R., Tavernarakis, N., Vijg, J., Yashin, A., Zimniak, P. "The Second International Conference "Genetics of Ageing and Longevity". (2012) Ageing (Albany, NY).
- Kim, S.K., **Budovskaya, Y.V.,** and Johnson, T.E. Response to Tonsaker et.al. (2012) Mechanisms of Ageing and Development 133(1):54-56.
- **Budovskaya, Y.V.,** Wu, K., Southworth, L.K., Jiang, M., Tedesco, P., Johnson, T.E., and Kim, S.K. (2008) An elt-3/elt-5/elt-6 GATA transcription circuit guides aging in *C. elegans*. Cell 134:291-303. (f1000 star 5)
- **Budovskaya, Y.V**., Stephan, J.S., Deminoff, S.J., and Herman, P.K. An evolutionary proteomics approach identifies substrates of the cAMP-dependent protein kinase. (2005) Proc Natl Acad Sci U S A 102 (39): 13933-13938.
- **Budovskaya, Y.V.,** Stephan, J.S., Reggiori, F., Klionsky, D.J., and Herman, P.K. (2004) The Ras/cAMP-dependent protein kinase signaling pathway regulates an early step of the autophagy process in *Saccharomyces cerevisiae*. J Biol Chem 279 (20): 20663-20671.
- **Budovskaya, Y.V.,** Hama, H., DeWald, D.B., and Herman, P.K. (2002) The C terminus of the Vps34p phosphoinositide 3-kinase is necessary and sufficient for the interaction with the Vps15p protein kinase. J Biol Chem 277 (1): 287-294.
- Howard, S.C., **Budovskaya, Y.V.,** Chang, Y.W., and Herman, P,K. (2002) The C-terminal domain of the largest subunit of RNA polymerase II is required for stationary phase entry and functionally interacts with the Ras/PKA signaling pathway. J Biol Chem 277 (22): 19488-19497