

# Alex Y Borovkov

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## PROFESSIONAL EXPERIENCE

<b>SYNBUILD, LLC, Mesa, AZ</b> <b>Founder, Chief Executive and Scientific Officer</b> Synthetic gene assembly and expression. Gene shuffling, site-specific mutagenesis, region saturation. Immunoglobulin gene cloning, grafting, epitope shifting, affinity maturation.	<b>2009-current</b>
<b>THE BIODESIGN INSTITUTE, Arizona State University, Tempe, AZ</b> <b>Associate Professor</b> High fidelity gene assembly from marginal quality microarray synthesized oligonucleotides. Construction and genome-wide screening of viral and bacterial proteomes for protective antigens. Charged micro-nano gold complexes for biolistic delivery of biological molecules. Self-assembled nano-particles for genetic immunization.	<b>2006-2009</b>
<b>MACROGENICS, Inc., Rockville, MD</b> <b>Associate Director of Affinity Maturation</b> Immunoglobulin humanization, affinity maturation, epitope shifting. Dual expression vectors.	<b>2005-2006</b>
<b>Associate Director of Vaccine Discovery</b> Vaccine discovery by functional screening of proteome expression libraries. High throughput assembly of linear expression elements. Genetic adjuvants for genetic immunization.	<b>2003-2005</b>
<b>MONSANTO Co., St. Louis, MO</b> <b>Project Leader (Plant Genomics)</b> Construction and normalization of full length cDNA libraries. Cloning of rare and low copy transcripts. Non-biased cDNA amplification.	<b>2000-2003</b>
<b>Senior Scientist (NatureMark)</b> Vectors and protocols for assembly and cloning of multicistronic expression cassettes. Use of site specific recombination for generation of marker free transgenic plants. Gene inactivation by inverted repeats.	<b>1997-2000</b>
<b>NORTH DAKOTA STATE UNIVERSITY, Fargo, ND</b> <b>Visiting Professor</b> Regulation of starch metabolism in potato tubers during cold storage	<b>1991-1996</b>
<b>INSTITUTE OF MOLECULAR BIOLOGY, Moscow, Russia</b> <b>Program Director (Biotechnology)</b>	<b>1991-1996</b>
<b>OIL CROPS RESEARCH INSTITUTE, Krasnodar, Russia</b> <b>Program Director (Biotechnology)</b>	<b>1986-1991</b>
<b>INSTITUTE OF CYTOLOGY AND GENETICS, Novosibirsk, Russia</b> <b>Senior Scientist, Group leader (Molecular biology)</b>	<b>1980-1986</b>

## EDUCATION

- 1983** Ph.D. (Molecular Genetics), Institute of Cytology and Genetics, Novosibirsk, Russia.  
**1975** B.S./M.S. (Genetics), Novosibirsk State University, Novosibirsk, Russia.