Jonathan Scolnick, Ph.D.

Professional Experience

Co-Founder March 2017-Present

Proteona

* Responsible for setting scientific direction and developing multi-national scientific team
* Set up initial lab in Singapore, building lab capacity in Germany

Research Assistant Professor January 2018-present

Sr Research Fellow May 2015 – January 2018

National University of Singapore

* Multi-omic analysis of tumor cells and tumor infiltrating lymphocytes

Scientist

NuGEN Technologies, San Carlos, Ca October 2012 – April 2015

* Inventor and scientific lead for both research and development of the Ovation© Target Enrichment family of assays including target enrichment products for genomic DNA, gene fusion identification and digital gene expression.

Co-Founder

Alaneo Genetics, llc, San Francisco, Ca June 2013 – March 2016

* Alaneo Genetics has developed a proprietary chemistry and coupled it with innovative temperature control environments and robotics for the high throughput extraction of DNA from plant material.
* Worked closely with sales and marketing to understand customer needs and adjust product offering accordingly.

Scientist

Natera, Inc, San Carlos, Ca April 2012-October 2012

* Led development of a genetic carrier screening product through CLIA validation. Product launched in September 2012.
* Led research and development on a second genetic carrier screening product that utilizes high throughput sequencing as a readout. This was the first diagnostic product to market that utilized high throughput sequencing to determine copy number variation at a specific locus.

Senior Research Associate, The Scripps Research Institute, La Jolla, Ca January 2011-April 2012

Senior Research Engineer, A\*STAR, Singapore July 2009-January 2011

**PI: Dr. Sydney Brenner**

* Developed assays for nucleic acid aptamer discovery that utilize high throughput sequencing and bioinformatics to discover and optimize DNA aptamers.

Co-Founder, Genebytes, Inc. San Diego, Ca. 2007-2010

Genebytes, Inc was founded based on the market need for DNA sequence analysis. Genebytes developed software to create an environment where biologists and informaticians could work together to better analyze the large data being generated by sequencing machines.

Postdoctoral Research Associate, The Salk Institute for Biological Studies, La Jolla, CA. 2007-2009

PI: Dr. Fred H. Gage

* Developed human iPS model of Parkinson’s Disease
* Developed assays for studying neurodegenerative diseases that utilized high throughput sequencing. These included methods for studying alternative RNA splicing and selective genomic resequencing.

Graduate Student/Postdoctoral Research Scientist, University of California, Berkeley 2000-2007

PI: Dr. John Ngai

* Identified molecules involved in the development of the mammalian nervous system.
* Developed assays for printing microarrays and amplifying RNA for microarray studies.

Peer reviewed articles

Jonathan Scolnick, Shawn Hoon, Karima Larbi, Yannick Simoni, Even Newell, Gene Yeo. ESCAPE RNA sequencing: combining protein and nucleic acid measurements to profile immune cells. *In preparation.*

Scolnick, J.A, Dimon, M., Wang, I., Amorese, D. An Efficient Method for Targeted RNA Sequencing Identifies Gene Fusions In Clinically Relevant RNA Samples. *PLOS one.* July, 2015.

Hoon, S., Zhou, B., Janda, K., Brenner, S., Scolnick, JA\*. Aptamer Selection and Optimization By High Throughput Sequencing and Informatic Analysis. Biotechniques, 2011 51(6):413-416. \*corresponding author

Jonathan A Scolnick; Kai Cui; Cynthia D Duggan; Shouhong Xuan; Xiao-bing Yuan; Argiris Efstratiadis; John Ngai. Role of IGF Signaling in Olfactory Sensory Map Formation and Axon Guidance. Neuron, 2008. 57: 847-857.

Wu JI, Centilli MA, Vasquez G, Young S, Scolnick J, Durfee LA, Spearow JL, Schwantz SD, Rennebeck G, Artzt K. Tint maps to mouse chromosome 6 and may interact with a notochordal enhancer of Brachyury. Genetics. 2007 Oct; 177(2):1151-61.

Lin, D.M.\*, Yang, Y.H.\*, Scolnick, J.A., Brunet, L.J., Marsh, H., Peng, V., Okazaki, Y., Hayashizaki, Y., Speed, T.P., and Ngai, J. A Spatial Map of Gene Expression in the Olfactory Bulb. Proc Natl Acad Sci U S A. 2004 Aug 24;101(34):12718-23.

Patents (published)

Scolnick, J.A., Schroeder, B., Amorese, D., Huelga, S. Digital measurements from targeted sequencing. USPTO 20160203259.

Huelga, S., Scolnick, J.A., Amorese, D., Methods and composition for pooling amplification primers. USPTO 20160275240

Amorese, D., Kurn, N., Scolnick, J.A., Wang, A., Composition and methods for targeted nucleic acid sequence enrichment and high efficiency library generation. USPTO 20160153039

Amorese, D., Schroeder, B., Scolnick, JA. *Sequential Sequencing*. USPTO 20140274738

Amorese, D., Scolnick, JA, Schroeder, B. Composition and methods for identification of a duplicate sequencing read. USPTO 20150132763

Scolnick, JA., Yeo, G., Gage, FH., *GREPSEQ: An almost inexhaustible, cost-effective, high-throughput protocol for the generation of selector sequences.* uspto 12/996,008

Invited Speaking Events

Proteogenomic analysis of tumors. Single Cells:Technology to Biology, Cell Symposia. Feb 2019

Combining protein and gene expression measurements in cell therapy. Asian Federation of Biotechnology, January 2019.

ESCAPE RNA sequencing: combining protein and nucleic acid measurements to profile immune cells. 10x Genomics User Group Meeting South East Asia, October 2018.

ESCAPE RNA sequencing: combining protein and nucleic acid measurements to profile immune cells. Single Cell Omics Seminar Series, Genome Institute of Singapore. 2018.

Target Enrichment Technology: Analysis of SNPs, Copy Number, and Gene Fusions. 5th Next Generation Sequencing Asia Congress. 2015

Targeted Sequencing for Variant Detection and Gene Fusion Identification. Beyond the Genome 2014.

Abstracts and Presentations

Jonathan Scolnick, Shawn Hoon, Karima Larbi, Yannick Simoni, Even Newell, Gene Yeo. ESCAPE RNA sequencing: combining protein and nucleic acid measurements to profile immune cells. Federation of Clinical Immunology Societies. 2018

Jonathan Scolnick, Shawn Hoon, Karima Larbi, Yannick Simoni, Even Newell, Gene Yeo. ESCAPE RNA sequencing: combining protein and nucleic acid measurements to profile immune cells. Advances In Genome Biology and Technology. 2018

Scolnick, J.A., Hoon, S., Larbi, K.,Newell, E., Yeo, G. Multiplex protein expression analysis using DNA tagged antibodies., 8th Models of Physiology and Disease Symposium. 2016

Scolnick, J.A., Yeo, G. and Gage, F.H. (2007) Utilizing Human Embryonic Stem Cells to Model Neurodegenerative Diseases. Stem Cells Meeting on the Mesa

Scolnick, J.A., Lin, D.M., Yang, Y.H., Brunet, L.J., Marsh, H., Peng, V., Okazaki, Y., Hayashizaki, Y., Speed, T.P., and Ngai, J. (2003) Differential Gene Expression Across the Mouse Olfactory Bulb. Poster. Gordon Conference; Chemical Senses

Grants funded as PI

Measuring proteins and nucleic acids in the same individual cells. Singapore MIT Alliance for Research and Technology. 2017-2019

Awards/Recognition

Faculty Member, Faculty of 1000

NuGEN Technologies “Hero” Award (given to top performing employees) (2013)

California Institute of Regenerative Medicine Scholar (2007)

Special Honors in microbiology, University of Texas at Austin (2000)

Member of Phi Beta Kappa (2000)