

Hani Goodarzi

Assistant Professor

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ACADEMIC

APPOINTMENTS

- **2016-present:** Assistant Professor.
Department of Biochemistry & Biophysics,
Department of Urology,
and Helen Diller Family Comprehensive Cancer Center.
- **2012-2016:** Postdoctoral Fellow in Cancer Genomics.
Laboratory of Systems Cancer Biology at Rockefeller University. Dr. Sohail F. Tavazoie.
- **2010-2012:** Postdoctoral Associate in Genomics.
Princeton/Columbia University. Continued post-doctoral work in thesis lab.
Dr. Saeed Tavazoie.

EDUCATION **Princeton University**, Princeton, NJ USA

Ph.D., Molecular Biology, November 2010

- Thesis Title: Experimental and Computational Approaches for Genetic Dissection of Complex Phenotypes
- Advisor: Dr. Saeed Tavazoie

University of Tehran, Tehran, Iran

B.S., Biotechnology, June 2006

AWARDS AND HONORS

- **2015:** Blavatnik Regional Award Winner for Life Sciences
- **2015:** NIH Pathway to Independence Award (K99/R00)
- **2015:** Tri-Institutional Breakout Prize for Junior Investigators
- **2014:** Ruth L. Kirschstein National Research Service Award
- **2014:** RUCCTS/CDDS/SCBN Pilot Project Award
- **2012:** Anderson Cancer Center Postdoctoral Fellowship
- **2006:** William G. Bowen Merit Fellowship
- **2006:** Top undergraduate researcher, University of Tehran, Iran
- **2004:** Ministry of Sciences, Research and Technology Fellowship, Iran
- **2002:** University of Tehran Fellowship, Iran
- **2002:** Presidential Award for Exceptional Talents, Iran
- **2002:** Silver medal, The 13th International Biology Olympiad, Latvia

PUBLICATIONS

Goodarzi H^{†*}, Nguyen HCB*, Zhang S, Dill BD, Molina H, Tavazoie SF[†] (2015). Abundance of specific tRNA species drives cancer progression. *Cell*, 165: 1416-1427. [†]Corresponding authors

Alarcon C, **Goodarzi H**, Lee H, Tavazoie S, Tavazoie SF (2015). HN-RNPA2B1 is a mediator of m6A-dependent nuclear RNA processing events. *Cell*, 162: 1299-1308.

Goodarzi H, Liu X, Nguyen HCB, Zhang S, Fish L, Tavazoie SF (2015). Endogenous tRNA-derived fragments suppress breast cancer progression via YBX1 displacement. *Cell*, 161: 790-802.

Goodarzi H, Zhang S, Buss CG, Fish L, Tavazoie S, Tavazoie SF (2014). Metastasis-suppressor transcript destabilization through TARBP2 binding of mRNA hairpins. *Nature* 513, 255-260.

Alarcon C, Lee H*, **Goodarzi H***, Tavazoie SF (2014). m⁶A site marks primary miRNAs for processing. *Nature*, 519, 482-485. *Equal contribution

Goodarzi H, Tavazoie S, Tavazoie SF (2014). TARBP2 binding structured RNA elements drives metastasis. *Cell Cycle* 13:18, 2799-2800. Invited editorial feature.

Oikonomou P*, **Goodarzi H***, Tavazoie S (2014). Systematic Identification of Regulatory Elements in Conserved 3' UTRs of Human Transcripts. *Cell Reports* 7(1): 281-292. *Equal contribution

Freddolino PL*, **Goodarzi H***, Tavazoie S (2013). Revealing the genetic basis of natural bacterial phenotypic divergence. *J. Bacteriol.* 196(4):825-39. *Equal contribution

Chiu IM, Morimoto ETA, **Goodarzi H**, et al., Tavazoie S, Myers RM, Maniatis T (2013). A Neurodegeneration-Specific Gene-Expression Signature of Acutely Isolated Microglia from an Amyotrophic Lateral Sclerosis Mouse Model. *Cell Reports* 4(2): 385-401.

Freddolino PL*, **Goodarzi H***, Tavazoie S (2012). Fitness landscape transformation through a single amino acid change in the Rho terminator. *PLoS Genet* 8(5), e1002744. *Equal contribution

Goodarzi H, Najafabadi HS, Oikonomou P, Greco TM, Fish L, Salavati R, Cristea IM, Tavazoie S (2012). Systematic discovery of structural elements governing stability of mammalian messenger RNAs. *Nature* 485, 264-268.

Goodarzi H, Bennet BD, Amini S, Reaves ML, Hottes AK, Rabinowitz JD, Tavazoie S (2010). Regulatory and metabolic rewiring during laboratory evolution of ethanol tolerance in *E. coli*. *Mol Syst Biol* 6:378.

Goodarzi H, Elemento O, Tavazoie S (2009). Revealing Global Regulatory Perturbations across Human Cancers. *Mol Cell* 36: 900-911.

Najafabadi HS*, **Goodarzi H***, Salavati R (2009). Universal function-specificity of codon usage. *Nucl Acids Res* 37(21):7014-7023. *Equal contribution

Goodarzi H, Hottes AK, Tavazoie S (2009). Global discovery of adaptive mutations. *Nature Methods* 6(8):581-3.

Amini S, **Goodarzi H**, Tavazoie S (2009). Genetic Dissection of an Exogenously Induced Biofilm in Laboratory and Clinical Isolates of *E. coli*. *PLoS Pathog* 5:e1000432.

Goodarzi H[†], Torabi N, Najafabadi HS, Archetti M (2008). Amino acid and codon usage profiles: adaptive changes in the frequency of amino acids and codons. *Gene* 407(1-2):30-41. [†]Corresponding author

Goodarzi H[†], Katanforoush A, Torabi N, Najafabadi HS (2007). Solvent accessibility, residue charge and residue volume, the three ingredients of a robust amino acid substitution matrix. *J Theor Biol* 245(4):715-25. [†]Corresponding author

Torabi N, **Goodarzi H**[†], Shateri Najafabadi H. (2007). The case for an error minimizing set of coding amino acids. *J Theor Biol* 244(4):737-44. [†]Corresponding author

Marashi SA, **Goodarzi H**, Sadeghi M, Eslahchi C, Pezeshk H (2006). Importance of RNA secondary structure information for yeast donor and acceptor splice site predictions by neural networks. *Comput Biol Chem* 30(1):50-7.

Najafabadi HS, **Goodarzi H**, Torabi N, Banihosseini SS.(2006). Applying a neural network to predict the thermodynamic parameters for an expanded nearest-neighbor model. *J Theor Biol* 238(3):657-65.

Goodarzi H[†], Shateri Najafabadi H, Torabi N (2005). On the coevolution of genes and genetic code. *Gene* 362:133-40. [†]Corresponding author

Goodarzi H[†], Shateri Najafabadi H, Nejad HA, Torabi N (2005). The impact of including tRNA content on the optimality of the genetic code. *Bull Math Biol* 67(6):1355-68. [†]Corresponding author

Goodarzi H[†], Shateri Najafabadi H, Torabi N (2005). Designing a neural network for the constraint optimization of the fitness functions devised based on the load minimization of the genetic code. *Biosystems* 81(2):91-100. [†]Corresponding author

Najafabadi HS, **Goodarzi H**, Torabi N (2005). Optimality of codon usage in Escherichia coli due to load minimization. *J Theor Biol* 237(2):203-9.

Goodarzi H[†], Najafabadi HS, Hassani K, Nejad HA, Torabi N (2005). On the optimality of the genetic code, with the consideration of coevolution theory by comparison of prominent cost measure matrices. *J Theor Biol* 235(3):318-25. [†]Corresponding author

Goodarzi H[†], Nejad HA, Torabi N (2005). On the optimality of the genetic code, with the consideration of termination codons. *Biosystems* 77(1-3):163-73. [†]Corresponding author

SEMINARS AND CONFERENCES

Goodarzi H, Najafabadi HS, Tavazoie S (2012). Systematic discovery of structural regulatory elements. *Systems Biology: Global Regulation of Gene Expression*. Cold Spring Harbor Laboratory, USA. *Poster*

Goodarzi H, Bennet BD, Hottes HK, Rabinowitz JD, Tavazoie S (2010). Regulatory and metabolic rewiring in laboratory evolution of ethanol tolerance. *6th Annual NIH Directors Pioneer Award Symposium*. Bethesda, MD, USA. *Poster*

Goodarzi H, Elemento O, Tavazoie S (2008). Module-Level Analysis of Genome-wide Datasets. *16th Annual International Meeting on Microbial Genomics*. Lake Arrowhead, CA USA. *Poster*

TEACHING EXPERIENCE

- Teaching “**Genes, Health and Society (MOL205)**” in Princeton (Spring Semester 2009).
- Teaching “**Introduction to Genomics and Computational Molecular Biology (COS551)**” in Princeton (Fall Semester 2008).
- Teaching “**Introduction to Cellular & Molecular Biology (MOL214)**” in Princeton (Spring semester 2008).
- Teaching general biology in Biology Olympiad preparatory classes held by Ministry of Education for talented high school students in different regions of Iran.
- Teaching molecular biology to the members of National Biology Olympiad teams in Young Scholars Club, Tehran, Iran.

PUBLIC PROJECTS

iGET (integrated Genomic Exploratory Tools)

An online portal for using a suite of information-theoretic software for analyzing whole-genome quantitative datasets. With close to 1,000 users, iGET enables researchers to analyze their data with a variety of tools developed by me and my colleagues(*e.g.* **TEISER**, **FIRE** and **iPAGE**).

- **Genophilia**

A scientific blog with both technical and popular posts on recently published studies and/or other life science-related issues.