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EDUCATION

National Institutes of Health, Bethesda, MD   2009–present
Postdoctoral Research Fellow
Mentor: Dr. Andre Nussenzweig

Texas A&M University, College Station, TX   2005-2009
Ph.D. in Computational Biology
Adviser: Dr. Edward R. Dougherty

Sharif University of Technology, Tehran, Iran   1996-1997
M.Sc. in Electrical Engineering

Sharif University of Technology, Tehran, Iran   1991-1995
B.Sc. in Electrical Engineering

JOURNAL PUBLICATIONS

*co-first authors

1. M.A. Santos, **R.B. Faryabi**, A.V. Ergen, A.M. Day, A. Malhowski, A. Canela, M. Onozawa, J. Lee, E. Callen, P. Gutierrez-Martinez, H. Chen, N. Wong, N. Finkel, A. Deshpande, S. Sharrow, D.J. Rossi, K. Ito, K. Ge, P.D. Aplan, S.A. Armstrong, A. Nussenzweig, "DNA-Damage Induced Differentiation of Leukemic Cells as an Anti-Cancer Barrier", <u>Nature</u>, DOI 10.1038/nature13483.

2. J. Barlow*, **R.B. Faryabi***, E. Callen, N. Wong, A. Malhowski, H.T. Chen, G. Gutierez-Cruz, H. Sun, P. McKinnon, G. Wright, R. Casellas, D. F. Robbiani, L. Staudt, O. Fernandez-Capetillo, A. Nussenzweig, "Identification of Early Replicating Fragile Sites that Contribute to Genome Instability", <u>Cell</u>, vol. 152, no. 3, pp. 620-632, January 2013. <u>*co-first authors</u>

3. E. Callen, **R.B. Faryabi**, M. Luckey, B. Hao, J. Daneil, W. Yang, H.W. Sun, G. Dressler, W. Peng, H. Chi, K. Ge, M. S. Krangel, J. Park, , A. Nussenzweig, "The DNA Damage- and Transcription-Associated Protein Paxip1 Controls Thymocyte Development and Emigration", <u>Immunity</u>, vol. 37, no. 6, pp. 971-985, December 2012.

4. E. Callen, M. Di Virgilio, M.J. Kruhlak , M. Nieto-Soler, N. Wong, H.T. Chen, **R.B. Faryabi**, F. Polato, M. Santos, L.M. Starnes, D.R. Wesemann, J.E. Lee, A. Tubbs, B.P. Sleckman, J.A. Daniel, K. Ge, F.W. Alt, O. Fernandez-Capetillo, M.C. Nussenzweig, A. Nussenzweig, "53BP1 Mediates Productive and Mutagenic DNA Repair through Distinct Phosphoprotein Interactions", <u>Cell</u>, vol. 153, no. 6, pp. 1266-1280, June 2013.

5. S. Bunting, E. Callen, M. Kozak, J. Kim, N. Wong, A. Lopez-Contreras, T. Ludwig, R. Baer, **R.B. Faryabi**, A. Malhowski, H.-T Chen, O. Fernandez-Capetillo, A D'Andrea, A. Nussenzweig, "BRCA1 Functions Independently of Homologous Recombination in DNA Interstrand Crosslink Repair", <u>Molecular Cell</u>, vol. 46, no. 2, 27, pp. 125-135, April 2012.

6. G. Vahedi, **R.B. Faryabi**, J.-F. Chamberland, A. Datta, E. R. Dougherty, "Sampling-Rate-Dependent Probabilistic Boolean Networks", <u>Journal of Theoretical Biology</u>, vol. 261, no. 4, pp. 463-477, December 2009.

7. **R.B. Faryabi** G. Vahedi, A. Datta, J.-F. Chamberland, E. R. Dougherty, "Recent Advances in the Control of Markovian Gene Regulatory Networks", <u>Current Genomics</u>, vol. 10, no. 7, pp. 540-547,

November 2009.

8. G. Vahedi, **R.B. Faryabi**, J.-F. Chamberland, A. Datta, E. R. Dougherty, "Optimal Intervention Strategies for Cyclic Therapeutic Methods", *IEEE Transactions on Biomedical Engineering*, vol. 56, no. 2, pp. 281–291, February 2009.

9. **R.B. Faryabi**, G. Vahedi, J.-F. Chamberland, A. Datta, E. R. Dougherty, "Intervention in Context-Sensitive Probabilistic Boolean Networks Revisited", *EURASIP Journal on Bioinformatics and Systems Biology*, vol. 2009, Article ID 360864, 2009.

10. **R.B. Faryabi**, J.-F. Chamberland, G. Vahedi, A. Datta, E. R. Dougherty, "Optimal Intervention in Asynchronous Genetic Regulatory Networks", *IEEE Journal of Selected Topics in Signal Processing*, vol. 2, no. 3, pp. 412–423, June 2008.

11. **R.B. Faryabi**, G. Vahedi, J.-F. Chamberland, A. Datta, E. R. Dougherty, " Optimal Constrained Stationary Intervention in Gene Regulatory Networks", *EURASIP Journal on Bioinformatics and Systems Biology* vol. 2008, Article ID 620767, 2008.

12. G. Vahedi, **R.B. Faryabi**, J.-F. Chamberland, A. Datta, E. R. Dougherty, "Intervention in Gene Regulatory Networks via a Stationary Mean-First-Passage-Time Control Policy", *IEEE Transactions on Biomedical Engineering*, vol. 2, no. 10, 2319-2331, October 2008.

13. **R.B. Faryabi**, A. Datta, E. R. Dougherty, "On Approximate Stochastic Control in Genetic Regulatory Networks", *IET Journal of Systems Biology*, vol. 1, no. 6, pp. 361–368, November 2007.

CONFERENCE PROCEEDINGS

1. **R.B. Faryabi**, G. Vahedi, J.-F. Chamberland, A. Datta, E. R. Dougherty, "Open-Loop Feedback Intervention: Control of Gene Regulatory Networks with Unknown Context", in *Workshop on Genomic Signal Processing and Statistics*, , Minneapolis, Minnesota, May 2009.

2. **R.B. Faryabi**, G. Vahedi, J.-F. Chamberland, A. Datta, E. R. Dougherty, "Constrained Intervention in a Cancerous Mammalian Cell-Cycle Network", in *Workshop on Genomic Signal Processing and Statistics*, Phoenix, Arizona, June 2008.

3. G. Vahedi, **R.B. Faryabi**, J.-F. Chamberland, A. Datta, E. R. Dougherty, "Modeling Cyclic Therapy in Gene Regulatory Networks", in *Workshop on Genomic Signal Processing and Statistics*, Phoenix, Arizona, June 2008.

4. G. Vahedi, **R.B. Faryabi**, J.-F. Chamberland, A. Datta, E. R. Dougherty, "Mean First-Passage Time Control Policy versus Reinforcement-Learning Control Policy in Gene Regulatory Networks", in *American Control Conference*, Seattle, Washington, June 2008.

5. **R.B. Faryabi**, J.-F. Chamberland, G. Vahedi, A. Datta, E. R. Dougherty, "Optimal Intervention in Semi-Markov-based Asynchronous Genetic Regulatory Networks", in *American Control Conference*, Seattle, Washington, June 2008.

6. **R.B. Faryabi**, A. Datta, E. R. Dougherty, "On Reinforcement Learning in Genetic Regulatory Networks", in *IEEE Workshop on Statistical Signal Processing*, Madison, Wisconsin, August 2007.

INVITED PRESENTATIONS

⋄ IEEE Workshop on Genomic Signal Processing and Statistics, Houston, TX, November 2013
⋄ Bioinformatics and Bio-imaging Seminar, Virginia Tech University, Arlington, VA, November 2013
⋄ Center of Excellence in Chromosome Biology Workshop on Chromosome Biology, Bethesda, MD, June 2013
⋄ Green Center for Systems Biology, University of Texas Southwestern Medical Center, Dallas, TX, April 2009
⋄ National Center for Biotechnology Information, Bethesda, MD, March 2009
⋄ ABCS Workshop on Bioinformatics, Computational Biology and Systems Biology, College Station, TX, February 2008
⋄ Institute of Systems Biology, Seattle, WA, June 2008

Honors and Awards

◇ Texas A&M Student Research Award Prize, 2007
◇ Edward S. Rogers Sr. Scholarship, University of Toronto, ON, Canada, 2004
◇ Edward S. Rogers Sr. Scholarship, University of Toronto, ON, Canada, 2003

Teaching and Mentoring

◇ National Institutes of Health Undergraduate Mentoring: two students, 2013-2014
◇ Teaching Assistant, Network Programming, University of Toronto, 2005
◇ Teaching Assistant, System Design & Technical Communication, University of Toronto, 2004
◇ Teaching Assistant, Computer Networks, University of Toronto, 2003

Conference Presentations

◇ Keystone Symposia, DNA Replication and Recombination, Banff, AL, Canada, March 2013
◇ RECOMB Conference on Regulatory and Systems Genomics, San Francisco, CA, November 2012
◇ Keystone Symposia, Epigenomics and Chromatin Dynamics, Keystone, CO, January 2012

Media Coverage

◇ "Breaking News on Fragile Sites in Cancer", Cancer Cell, 2013
◇ "Damage Control for a Natural Killer", Cell, 2013
◇ "Early Replication Fragile Sites: Where Replication–Transcription Collisions Cause Genetic Instability", The EMBO Journal, 2013
◇ "DNA Breaks Early in Replication Process Associated with B Cell Cancers", National Cancer Institute News Note, 2013

Work & Research Experience

Postdoctoral Fellow National Cancer Institute, Bethesda, MD	2009-present
Research Assistant Genomic Signal Processing Laboratory, Texas A&M University, TX	2005-2009
Research Assistant Wireless and Internet Research Laboratory, University of Toronto, ON, Canada	2003-2005
Design Engineer Dow Chemical Design & Construction, Houston, TX	1999-2003

Professional Services

• Technical Program Committee:
    IEEE Workshop on Genomic Signal Processing and Statistics, 2014
    IEEE Workshop on Genomic Signal Processing and Statistics, 2013
• Reviewer:
    IEEE Transactions in Biomedical Engineering, EURASIP Journal of Bioinformatics and Systems Biology, IET Journal of Systems Biology, IEEE Journal of Selected Topics in Signal Processing

REFERENCES

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