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PROFESSIONAL APPOINTMENT

Department of Biochemistry and Computer Science 2017-present
Assistant professor, Purdue University,

EDUCATION & TRAINING

National Institutes of Health, Bethesda, MD 2013- 2016
Postdoctoral research fellow
Mentor: Warren J. Leonard

University of Illinois at Urbana-Champaign, IL 2007-2013
Ph.D. in Computer Science
Dissertation title: “*Cis-regulatory module analysis*”
Advisor: Saurabh Sinha

University of Tehran, Iran 2004-2007
M.Sc. in Machine Intelligence and Robotics
Dissertation title: “*Fusion of protein secondary structure classifiers*”
Advisor: Behzad Moshiri

University of Shahed, Tehran, Iran 1999-2004
B.Sc. in Computer Hardware Engineering
Dissertation title: “Moving objects' tracking system”
Advisor: Amin Mahabadi

AWARDS AND HONORS

NIH K22 career transition award, NHLBI 2015-2020
Foundation for Advanced Education in Science, training in Animal and Human Cell Culture 2015
NIH Intramural Research Training Award Fellowship 2013-2015
International training course on bioinformatics sponsored by ICGEB and TWAS 2004
High rank in nation-wide postgraduate school entrance exam (master entrance exam, top 1%) 2003
Graduated with honors (ranked 2nd among all computer engineering students) 2003

PUBLICATIONS

1. S. Chakravorty, B. Yan, C. Wang, J. Majumder, L. Wang, M. Olson, A. Canaria, D. Chauss, G. Chopra, B. Afzali, B. Zhao, **M. Kazemian**, “*Integrated pan-cancer map of EBV-associated neoplasms reveals functional host-virus interactions*”, *Cancer Research*, 2019, In press.
2. E. G. Porter, A. Dhiman, B. Chowdhury, B. C. Carter, H. Lin, J. C. Stewart, **M. Kazemian**, M. K. Wendt, E. C. Dykhuizen, “*PBRM1 regulates stress response in epithelial cells*”, *iScience*, 2019, 15:196-210.
3. R. Spolski, E. West, P. Li, S. Veenbergen, S. Yang, **M. Kazemian**, J. Oh, Z. Yu, A. Freeman, S. Holland, P. Murphy, W. Leonard, “*IL-21/type I interferon interplay regulates neutrophil-dependent innate immune responses to *Staphylococcus aureus**”, *eLife*, 2019, 8, e45501.
4. G. Povoleri, E. Nova-Lamperti, C. Scottà, G. Fanelli, Y. Chen, P. Becker, D. Boardman, B. Costantini, M. Romano, P. Pavlidis, R. McGregor, E. Pantazi, D. Chauss, H. Sun, H. Shih, D. Cousins, N. Cooper, N. Powell, C. Kemper, M. Pirooznia, A. Laurence, S. Kordasti, **M. Kazemian**, G. Lombardi, B. Afzali, “*Retinoic acid-regulated CD161+ Tregs support wound repair in intestinal mucosa*”, *Nature Immunology* 2018;19(12):1403-1414. doi: 10.1038/s41590-018-0230-z.
5. **M. Kazemian***, M. Halfon*, “*CRM Discovery Beyond Model Insects*”, Chapter 10, *Insect Genomics*, *Methods Mol Biol.* 2019;1858:117-139. doi: 10.1007/978-1-4939-8775-7_10.
6. J. Lin, N. Du, P. Li, **M. Kazemian**, T. Gebregiorgis, R. Spolski, WJ Leonard, “Critical roles for STAT5

- tetramers in the maturation and survival of natural killer cells”, *Nature communications* 2017 8 (1), 1320.
7. B. Afzali, J. Grönholm, J. Vandrovцова, C. O'Brien, H. Sun, I. Vanderleyden, FP Davis, A. Khoder, Y. Zhang, AN Hegazy, AV Villarino, IW Palmer, J. Kaufman, NR Watts, **M. Kazemian**, O. Kamenyeva, J. Keith, A. Sayed, D. Kasperaviciute, M. Mueller, JD Hughes, IJ Fuss, M F Sadiyah, K Montgomery-Recht, J McElwee, NP Restifo, W. Strober, MA Linterman, PT Wingfield, HH Uhlig, R. Roychoudhuri, TJ Aitman, P. Kelleher, MJ Lenardo, JJ O'Shea, N. Cooper, ADJ Laurence, “BACH2 immunodeficiency illustrates an association between super-enhancers and haploinsufficiency”, *Nature Immunology* 2017 Jul;18(7):813-823. doi: 10.1038/ni.3753.
 8. EE West, R. Spolski, **M. Kazemian**, C. Kemper, W. J. Leonard, “TSLP acts on neutrophils to drive complement-mediated killing of methicillin-resistant *Staphylococcus aureus*”, *Science Immunology*, 18 Nov 2016:Vol. 1, Issue 5, eaaf8471, DOI: 10.1126/sciimmunol.aaf8471.
 9. Y. Sun, H. Zhang, **M. Kazemian**, JM. Troy, C. Seward, X. Lu, L Stubbs, “*ZSCAN5B* and primate-specific paralogs bind RNA polymerase III genes and extra-TFIIC (ETC) sites to modulate mitotic progression”, *Oncotarget*, 2016, *Oncotarget*. 2016 Nov 8; 7(45): 72571–72592.
 10. **M. Kazemian**, M. Ren, J. Lin, W. Liao, R. Spolski, W. J. Leonard, “Comprehensive assembly of novel transcripts from unmapped human RNA-Sequencing data and their association with cancer”, *Molecular Systems Biology* 11 (8), 826, (2015).
 11. **M. Kazemian**, W.J. Leonard, “Possible HPV38 contamination of endometrial cancer RNA-Seq samples in The Cancer Genome Atlas database”, *J. Virology*, doi: 10.1128/JVI.00822-15, (2015).
 12. C. Wan, A. Andraski, R. Spolski, P. Li, **M. Kazemian**, J. Oh, L. Samsel, P. Swanson, D. McGavern, E. Sampaio, A. Freeman, J. Milner, S. Holland, W. Leonard, “Opposing Roles of *STAT1* and *STAT3* in *IL-21* Function in *CD4+* T cells”, *PNAS* 112 (30), 9394-9399, (2015).
 13. C Blatti, **M. Kazemian**, S. Wolfe, M. Brodsky, S. Sinha, *Integrating motif, DNA accessibility, and gene expression data to build regulatory maps in an organism*. *Nucleic Acids Research*, 43: 3998-4012, (2015), **Selected as breakthrough paper.**
 14. **M. Kazemian**, K. Suryamohan, J. Chen, Y. Zhang, Md. A. H. Samee, M. S. Halfon, S. Sinha, *Evidence for deep regulatory similarities in early developmental programs across highly diverged insects*. *Genome Biology and Evolution*. 6 (9): 2301-2320. doi: 10.1093/gbe/evu184, (2014).
 15. T. Duque, Md. A. H. Samee, **M. Kazemian**, H. N. Pham, M. H. Brodsky, S. Sinha, “Simulations of enhancer evolution provide mechanistic insights into gene regulation”, *Mol Biol Evol*, doi:10.1093/molbev/mst170, (2013).
 16. **M. Kazemian**, Hannah Pham, M. Brodsky, S. Sinha, “Widespread and distinct sequence signatures of combinatorial transcriptional regulation”, *Nucleic Acids Research*, doi: 10.1093/nar/gkt598, (2013).
 17. Q. Cheng, **M. Kazemian**, H. Pham, C. Blatti, S. E. Celniker, S. A. Wolfe, M. H. Brodsky, S. Sinha, “Computational identification of diverse mechanisms underlying transcription factor-DNA occupancy”, *PLoS Genetics*. Aug;9(8):e1003571, (2013).
 18. M. S. Enuameh, Y. Asriyan, A. Richards, R. G. Christensen, V. L. Hall, **M. Kazemian**, C. Zhu, H. Pham, Q. Cheng, C. Blatti, J. A. Brasefield, M. D. Basciotta, J. Ou, J. C. McNulty, L. J. Zhu, S. E. Celniker, S. Sinha, G. D. Stormo, M. H. Brodsky, and S. Wolfe, “Global analysis of *Drosophila Cys2-His2* zinc finger proteins reveals a multitude of novel recognition motifs and binding determinants”, *Genome Research*, doi:10.1101/gr.151472.112, (2013).
 19. S. Shahinfar, H. Mehrabani-Yeganeh, C. Lucas, A. Kalhor, **M. Kazemian**, and K. A. Weigel, “Prediction of Breeding Values for Dairy Cattle Using Artificial Neural Networks and Neuro-Fuzzy Systems”, *Computational and Mathematical Methods in Medicine*, Volume 2012, Article ID 127130, 9 pages, doi:10.1155/2012/127130, (2012).
 20. **M. Kazemian**, Q. Zhu, M. S. Halfon, S. Sinha, “Improved accuracy of supervised CRM discovery with interpolated Markov models and cross-species comparison”, *Nucl. Acids Research*, first published online August 5, 2011 doi:10.1093/nar/gkr621, (2011).
 21. **M. Kazemian**, M. H. Brodsky, S. Sinha, “Genome surveyor 2.0: cis-regulatory analysis in *Drosophila*”, *Nucl. Acids Research*, first published online May 18, 2011 doi:10.1093/nar/gkr291, (2011).
 22. L. J. Zhu, R. G. Christensen, **M. Kazemian**, C. J. Hull, M. S. Enuameh, M. D. Basciotta, J. A. Brasefield, C. Zhu, Y. Asriyan, D. S. Lapointe, S. Sinha, S. A. Wolfe, and M. H. Brodsky, “FlyFactorSurvey: a database of *Drosophila* transcription factor binding specificities determined using the bacterial one-hybrid system”. *Nucl. Acids Res.* first published online November 19, 2010 doi:10.1093/nar/gkq858, (2010).
 23. **M. Kazemian**[†], C. Blatti[†], A. Richards, M. McCutchan, N. Wakabayashi-Ito, A. Hammonds, S. Celniker, S.

- Kumar, S. Wolfe, M. Brodsky, and S. Sinha. “*Quantitative analysis of the Drosophila segmentation regulatory network using pattern generating potentials*”. PLoS Biology, 8(8): e1000456. doi:10.1371/journal.pbio.1000456, (2010).
24. **M. Kazemian**, B. Moshiri, C. Lucas, H. Nikbakht, V. Palade, "Using classifier fusion techniques for protein secondary structure prediction", Int. J. Comput. Intelligence in Bioinformatics and Systems Biology, Vol. 1, No. 4, pp. 418-434, (2010).
25. M. R. Kantorovitz[†], **M. Kazemian**[†], S. Kinston, D. Miranda-Saavedra, Q. Zhu, G. E. Robinson, B. Göttgens, M. S. Halfon, S. Sinha, “*Motif-Blind, genome-wide discovery of cis-regulatory modules in Drosophila and mouse*”, Developmental Cell, Volume 17, Issue 4, 568-579, 20 October, (2009).
26. **M. Kazemian**, B. Moshiri, H. Nikbakht, C. Lucas. “*A new expertness index for assessment of secondary structure prediction engines*”, Journal of Computational Biology and Chemistry 31(1): 44-47, (2007).
27. A.H. Keyhanipoor, B. Moshiri, **M. Kazemian**, C. Lucas, “*Aggregation of web search engines based on users' preferences in WebFusion*”, Knowledge-based Systems, 20(4): 321-328, (2007).
28. **M. Kazemian**, B. Moshiri, H. Nikbakht, C. Lucas. “*Architecture for biological database integration*”, Special Issue on AI & Specific Applications, ICGST International Journal on Artificial Intelligence and Machine Learning, AIML, Volume 6, pp.15-19, (2006).
29. **M. Kazemian**, Y. Ramezani, C. Lucas, B. Moshiri, “*Swarm clustering based on flowers pollination by artificial bees*”, Studies in computational intelligence, Swarm Intelligence and Data Mining, Springer, chapt.8, pp. 191-203, (2006).
30. **M. Kazemian**, B. Moshiri, H. Nikbakht, C. Lucas. “*Protein secondary structure classifiers fusion using OWA*”, Lecture Notes in Computer Science. Springer-Verlag Berlin Heidelberg 3745 -pp. 338 -345, (2005).

TEACHING EXPERIENCES

Purdue University, Computational Genomics (BCHM495/CS498) Instructor	2018-present
National Institutes of Health, Laboratory of Molecular Immunology Next generation sequencing tools, challenges, and opportunities Mentoring graduate student	2013-2014
Dept. of Computer Science, University of Illinois Data structures and programing principles (CS225) Teaching Assistant	2007
University of Hormozgan, University of Arak, International University of Chabahar, Iran Data structures, Object oriented programming, Operating Systems, Matlab as a mathematical package Instructor	2005-2007

INVITED TALKS/LECTURES

Walther Cancer Foundation Symposium, “Pan-Cancer Analysis Reveals Novel Host-Pathogen Interactions in EBV-Associated Tumors”, Norte Dame University	2018
New Frontiers in Immunology, “Pan-cancer analysis of EBV-host interaction”, Purdue University	2017
Cell Identity and Signaling retreat, “How can I help the Purdue Cancer Community”, Purdue University	2017
Biochemistry Horizons, “Pan-cancer analysis of EBV-host interaction”, Purdue University	2017
Leadership recruitment, “Fighting cancer with computers”, Purdue University	2017
Purdue Cancer Center for Research, “From big data to drug discovery: What NGS data	2017

tells us about EBV in cancer”, Purdue university

PROFESSIONAL SERVICES

Reviewer 2012-present
PLOS ONE, PLOS Bioinformatics, BMC, Nucleic acids research
Knowledge and Information Systems
ISMB/ECCB 2013, BIBM 2012

Review Editor for Frontiers in Immunology