ADRIAN SALAVATY

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SKILLS

- **Bioinformatics and Systems Biology:** Genomics (cancer genomics), Epigenomics (familiar with epigenetic modifications/gene regulation), NGS data analysis, Transcriptomics (RNA-seq and microarray data analysis), Proteomics (protein sequence and structure analysis), Interactomics, Investigation of protein-protein interactions, visualization and analysis of biological networks, homology modelling, function prediction, …
- **Programming languages and skills:** R, R package development, Shiny app development, Python, Python package development, Linux and command-line-based high performance computing (HPC)
- **Machine learning (ML):** Supervised ML, Unsupervised ML, Familiar with both classical (*e.g.* SVM, Random Forest, Decision Tree) and modern (neural network-based) ML models, Dimension reduction, Feature selection/extraction
- **Statistics:** Biostatistics, Data mining, Meta-analysis
- **Scientific writing:** Reference manager (EndNote, Mendeley, Citavi)
- **Computer skills:** MS Office, Adobe Photoshop, Adobe Illustrator

CERTIFICATES

- Python Essential Training
  LinkedIn Learning   Feb 2022
- Learning Python
  LinkedIn Learning   May 2021
- Workshop on Application of Next-Generation Sequencing in Cancer Diagnosis and Management
  Isfahan University of Medical Sciences, Department of Genetics and Molecular Biology
  OMICS™   October 2015
  BGI Tech   Isfahan, Iran
- Bioinformatics Workshop   June 2014
  Shahid Chamran University of Ahvaz   Ahvaz, Iran

DEVELOPMENTS

- **AutoClone: Calculation of distances (clonality) based on color features**
  URL: https://autoclone.erc.monash.edu/
  Monash University   2021

- **Influential Software Package web portal**
  URL: https://influential.erc.monash.edu/
  ExIR Shiny app
  IVI Shiny app
  Monash University   2021

- **influential: Identification and Classification of the Most Influential Nodes**
  R package, released on CRAN
  CRAN link: https://cran.r-project.org/package=influential
  Website: https://asalavaty.github.io/influential/
  GitHub repo: https://github.com/asalavaty/influential
  Experimental-data-based Integrative Ranking (ExIR)
  Integrated Value of Influence (IVI)
  SIR model-based Influence Ranking (SIRIR)
  Monash University   2020-2021

EDUCATION

Ph.D. in Bioinformatics   2019-2022
Australian Regenerative Medicine Institute, Monash University   Melb, AUS
PhD thesis: Identification of commonalities in clonal selection during normal and cancer tissue development using bioinformatics and systems biology techniques

Master of Science in Biology-Biochemistry   2016-2018
University of Kashan   Kashan, Iran
Master thesis: Computational functional analysis and annotation of lung adenocarcinoma prognostic long non-coding RNAs
GPA: 3.82/4

Bachelor of Science in Genetics   2011-2015
Shahid Chamran University of Ahvaz   Ahvaz, Iran
GPA: 3.72/4

PROFESSIONAL EXPERIENCES

Affiliations

- Post-doctoral Research Officer, Children's Cancer Institute Australia   2022-present

- Scientific Advisor, MEDDA (Next Generation Alternative Medicine)   2021-present
- The Systems Biology Institute Australia   2019-present
- Professional Member of Cancer Epigenetics Society (ID Number: 1537)   2018-present
- Member of Young Researchers and Elite Club, Iran   2016-present
- Research fellow (Bioinformatician), Al-Zahra Medical Genetics Laboratory,   2015-2018
  Isfahan, Isfahan, Iran
- Member of National Elites Foundation, Iran   2015-present
- Member of Complex Biological Systems Alliance (CBSA),   2015-present
  a global non-profit research consortium

Editorial and reviewer

- Reviewer, Frontiers in Genetics   2020
- Reviewer, Journal of Rare Diseases Research & Treatment   2017
- Reviewer, Molecular Neurobiology   2017
- Editor, AMOR: Advances in Modern Oncology Research   2015-2019
- Reviewer, MOJPB: MedCrave Online Journal of Proteomics & Bioinformatics   2014-2016

Teaching experiences

- TA of medical biotechnology; genomics, proteomics and bioinformatics (BRM5012)   2021
  Monash University   Melbourne, Australia
- TA of Introduction to Bioinformatics (BMS5021)   2021
  Monash University   Melbourne, Australia
- TA of Genomics and its applications (GEN3040)   2020-2021
  Monash University   Melbourne, Australia
- Cancer Systems Biology Workshop   2018
  Tehran University of Medical Sciences   Tehran, Iran
- Manuscript Writing Workshop   2016
  University of Kashan   Kashan, Iran
- Secondary school-level courses in English language   2015
  Ghalamchi Educational Foundation   Isfahan, Iran

AWARDS AND HONORS

- Awardee of Postgraduate Publication Award   2022
  Monash University top 30 PhD students according to publication records/prospects
- Awardee of the Best Oral Talk Based on People's Choice
  COMBINE-ABACBS Student Symposium   2021
- Awardee of the Best Student Oral Talk
  Victorian Cancer Bioinformatics Symposium   2021

- Awardee of Australia's Global Talent Permanent Residency Visa
  Data Science sector   2020
- Ph.D. scholarship from Monash University, (awarded and taken up)   2018
- Ph.D. scholarship from the Vancouver Prostate Center, University of British Columbia, (offered, but not taken up)   2018
- Ph.D. scholarship from Griffith University, (offered, but not taken up)   2018
- Ph.D. scholarship from the John Curtin School of Medical Research, Australian National University, (offered, but not taken up)   2018
- Ranked 2nd among all M.Sc. students in Biochemistry, University of Kashan   2018
- Ranked among the top 4% of participants in the   2011
  National University Entrance Exam, Iran

GRANTS

Monash Data Futures Institute Seed Grants - AI and Data Science for Monash Global Challenges. *Finding the right targets: most influential nodes in complex networks*

Chief investigators: Ramialison, Currie, Dowe   August 2021
Abbas Salavaty is a named investigator in this grant.

PUBLICATIONS, PRESENTATIONS, AND ABSTRACTS

Publications (Google Scholar Citations = 558)

- **Salavaty A**, Sara Alaei Shehni, Ramialison M, Currie P. Systematic molecular profiling of acute leukemia cancer stem cells allows identification of druggable targets. *Heliyon*. October 2022. PMID: 36281397
- **Salavaty A**, Ramialison M, Currie P. Integrated Value of Influence: An Integrative Method for the Identification of the Most Influential Nodes within Networks. *Patterns*. August 2020. PMID: 33205118
- **Salavaty A**, Rezvani Z, Najafi A. Survival analysis and functional annotation of long non-coding RNAs in lung adenocarcinoma. *Journal of Cellular and Molecular Medicine*. June 2019. PMID: 31211495
- **Salavaty A**, Movahedi Motlagh F, Barabadi M, Cheshomi H, Dehghan Esmatabadi MJ, Shahmoradi M, Soleimanpour-lichaei HR. Potential role of RAB6C-AS1 long noncoding RNA in different cancers. *Journal of Cellular Physiology*. August 2018. PMID: 30076712
- **Salavaty A**, Rezvani Z, Najafi A. Long non-coding RNA LINC00987 may function as a tumor suppressor in lung adenocarcinoma. *F1000Research*. May 2018. DOI: 10.12688/f1000research.14785.1

- **Salavaty A**, Mohammadi N, Shahmoradi M, Naderi Soorki M. Bioinformatic analysis of circadian expression of oncogenes and tumor suppressor genes. *Bioinformatics and Biology Insights*. December 2017. PMID: 29276378
- Hajjari M, Sadeghi I, **Salavaty A**, Nasiri H, Birgani MT. Tissue Specific Expression Levels of Apoptosis Involved Genes Have Correlations with Codon and Amino Acid Usage. *Genomics & Informatics*. 14(4):234-240. December 2016. PMID: 28154517
- Sedghi M, Esfandiari E, Fazel-Najafabadi E, Salehi M, **Salavaty A**, Fattahpour S, Dehghani L, Nouri N, Mokarian F. Genomic rearrangement screening of the BRCA1 from seventy Iranian high-risk breast cancer families. *Journal of Research in Medical Sciences*. 21:95. November 2016. PMID: 28163741
- Hajjari M, **Salavaty A**, Crea F, Shin YK. The potential role of PHF6 as an oncogene: a genotranscriptomic/proteomic meta-analysis. *Tumor Biology*. 37:5317-5325. April 2016. PMID: 26561469
- **Salavaty A**. Carcinogenic effects of circadian disruption: an epigenetic viewpoint. *Chinese Journal of Cancer*. 34-38. June 2015. PMID: 26253128
- Hajjari M, **Salavaty A**. *HOTAIR*: an oncogenic long non-coding RNA in different cancers. *Cancer Biology & Medicine*. 12:1-9. March 2015. PMID: 25859406

Working manuscripts

- **Salavaty A**, Douek AM, Thijs A, Kreuder F, Stamatis S, Steele JR, Hanchapola I, Shah AD, Schittenhelm RB, Ramialison M, Currie PD, Kaslin J. Systems-level investigation of mucopolysaccharidosis IIIA identifies deficient synaptic activity as a key driver of disease progression. *Preprinted in biorXive*. October 2022. DOI: 10.1101/2022.10.03.510585.

Presentations and abstracts

- Australasian Genomic Technologies Association (AGTA)   October/November 2022
  Sunshine Coast, Queensland, Australia
  - Poster presentation: **Salavaty A**, Pinese M. InCRIMP: a versatile computational model for the integrative analysis of multi-omics data.

- Oral presentation: **Salavaty A**, Ramialison M, Currie P. Identification, classification, and prioritization of most influential players in normal biological processes and diseases.
  - COMBINE-ABACBS Student Symposium   November 2021
  - Victorian Cancer Bioinformatics Symposium   October 2021
  - Oz Single Cell – PERTH   September 2021
  - ANZSCDB   August 2021

- ISMB/ECCB conference alliance   July 2021
  Virtual

- E-Poster and Short Talk: **Salavaty A**, Ramialison M, Currie P. Identification, classification, and prioritization of most influential players in normal biological processes and diseases.
- E-Poster and Short Talk: **Salavaty A**, Ramialison M, Currie P. Identification of the most influential nodes involving all topological dimensions of a network.

- Global Meet on Nanomedicine & Healthcare   November 2017
  New Orleans, USA
  E-Poster: **Salavaty A**, Shahmoradi M. Application of nanobioinformatics in drug design and delivery systems. *Biol Med Case Rep*. DOI: 10.13140/RG.2.2.24092.39043

- 5th International Conference on Proteomics & Bioinformatics   September 2015
  OMICS Group, Valencia, Spain
  Abstract: **Salavaty A**, Hajjari M. Meta-analysis of RAG2 using a genotranscriptomic/proteomic approach: suggestive of its oncogenic role. *Journal of Proteomics & Bioinformatics*. 8:88. October 2015. DOI: 10.4172/0974-276X.S1.077

Books

- Co-translator of "Next Generation Sequencing Technologies in Medical Genetics" book
  ISBN: 978-600-356-502-9; National Bibliography Number (NBN): 4282468
  Shahid Chamran University of Ahvaz   2015
  Supervisor: Dr. Maryam Naderi Soorki

RESEARCH INTERESTS

- Bioinformatics and systems biology analysis of cancer initiation/progression causes
- Cancer stem cells
- Epigenetic basis of carcinogenesis
- Development of tools and packages for the identification, classification, prioritization, and visualization of biological molecules

TEACHING INTERESTS

- Graduate/undergraduate-level courses in Bioinformatics
- Graduate/undergraduate-level courses in Systems Biology
- Graduate/undergraduate-level courses in Molecular Oncology