MOOSA REZWANI
CURRICULUM VITAE

CONTACT INFORMATION

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EDUCATION

- **M.Sc.** 2016-2019
  Tarbiat Modares University, Tehran, Iran
  Medical Immunology
  Thesis: "Natural Killer Cells Extraction from Used Leuko-Reduction Filters in Blood Transfusion"
  Advisor: Prof. Ali Akbar Pourfathollah

- **B.Sc.** 2010-2015
  University of Tehran, Tehran, Iran
  Cell and Molecular Biology

RESEARCHES AND PROJECTS

- **Disturbances in NK Cells and Tumors' Protein-Protein Interaction Network, a Pan-Cancer Analysis** 2019-Present

This is still an unpublished project.

- **Establishing Blood Transfusion waste products as a source of NK cells (Part of M.Sc. Thesis)** 2017-2019

Our project was one of several projects carried out by the Iranian Blood Transfusion Organization with the primary goal of introducing blood transfusion waste products as a sustainable and economic source of bio-molecules and cells. This is particularly important in under-developed countries where fundings and resources are limited. Methods including flow cytometry, immune cells isolation, ELISA, cell culture, and killing assays were used. NK cells obtained by our approach is comparable to peripheral blood's NK cells in term of viability, Sub-populational composition, and function.

- **rbioapi: User-Friendly R Interface to Biologic Web Services' API (Open-source R package software – Links: CRAN, GitHub Repo., Website)** 2020-2021

We developed an R package, *rbioapi*, a consistent, user-friendly, and scalable interface to biological and medical databases and web services. To date, *rbioapi* fully supports Enrichr, JASPAR, miEAA, PANTHER, Reactome, STRING, and UniProt. We aim to expand this list and make rbioapi as comprehensive as possible. To this end, we developed an infrastructure that facilitates collaborations and the implementation of new services.

- **parapurrr: Do purrr in Parallel**
  (Open-source R package software - Links: GitHub Repo**.)** 2021

We developed a simple yet fully customizable way to run functions iteratively in R using multiple CPU cores (instead of the default, one). The package parapurrr achieves that by bridging purrr to foreach package and its adaptors. We added support for all purrr's map family functions and every foreach adaptor available in CRAN.

HONORS AND AWARDS

- **Received research grant** 2017
  National Institute for Medical Research Development (*NIMAD*), g*rant* Number 982968
- **Scored 99th percentile in Iran's master's degree entrance examination** 2016
- **Scored 99th percentile in Iran's national universities entrance examination** 2010

SKILLS AND EXPERIENCES

- **Laboratory Skills:**
  Flow cytometry, Mammalian cells culture, ELISA, qPCR, Mouse handling, Immune cells isolation (FACS, MACS), Western blotting (familiar with), General genetics lab skills (RNA isolation, Transduction, Genes cloning, Gel electrophoresis, etc.), General biochemistry lab skills (Chromatography, Spectrophotometry, Density gradient centrifugation, etc.)
- **Bioinformatics and Data Science:**
  R programming language, RNA-seq analysis, Microarray analysis, Software development, High-throughput data analysis, Systems biology, Data processing, Machine learning, Graphs and network analysis, Bioconductor, Primer design
- **Tools:**
  Git, Unix/Linux shell and Bash scripting, Cloud computing and working with remote servers, Python (familiar with), FlowJo, SPSS, SQL (familiar with), Microsoft Office

PUBLICATIONS

- **Moosa Rezwani**, Ali Akbar Pourfathollah, Farshid Noorbakhsh, rbioapi: user-friendly R interface to biologic web services' API, *Bioinformatics*, 2022, https://doi.org/10.1093/bioinformatics/btac172
- **Moosa Rezwani**, Abdulbaset Mazarzaei, Zahra Abbasi-Malati, Ali Akbar Pourfathollah, Leukocyte-Reduction Filters as Reliable and Economic Source of Natural Killer Cells. Iranian Journal of Immunology, 2022 (Accepted, Manuscript ID IJI-2108-2158)
- **Moosa Rezwani**, Ali Akbar Pourfathollah, Farshid Noorbakhsh, Disturbances in NK Cells and Tumors' Protein-Protein Interaction Network, a Pan-Cancer Analysis, 2022 (In prep)

LANGUAGES

- **English**: Proficient
  (TOEFL scores 107, Reading 30, Listening 27, Writing 24, Speaking 26)
- **Arabic**: Proficient
- **Persian:** Native
- **Larestani:** Native

CERTIFICATES

- **Experimental Methods in Systems Biology** 2016
  (Coursera Certificate)
- **Introduction to Systems Biology** 2016
  (Coursera Certificate)
- **Biology Meets Programming: Bioinformatics for Beginners** 2016
  (Coursera Certificate)
- **Making Biologic Medicines for Patients: The Principles of Biopharmaceutical Manufacturing** 2016
  (edX Certificate)
- **Data Science and Machine Learning Essentials** 2015
  (edX Certificate)
- **Introduction to Computer Science and Programming Using Python** 2015
  (edX Certificate)
- **The Immune System: New Developments in Research** 2015
  (edX Certificate)