

# MOOSA REZWANI

## CURRICULUM VITAE

### CONTACT INFORMATION

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### EDUCATION

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- **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

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- **Disruption in NK Cells and Tumors’ Protein-Protein Interaction Network, a Pan-Cancer Analysis** 2020-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This is still an unpublished project.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 part of a series conducted by the Iranian Blood Transfusion Organization to introduce blood transfusion waste products as a sustainable and cost-effective 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-population composition, and function.
- **rbioapi: User-Friendly R Interface to Biologic Web Services’ API (Open-source R package software – Links: [CRAN](#), [GitHub Repo.](#), [Website](#), [Research paper](#))** 2020-2021  
The R package, *rbioapi*, is an interface to biological and medical databases and web services. This package provides consistency, a smooth learning curve for the users, and scalability for the developers. To date, *rbioapi* fully supports Enrichr, JASPAR, miEAA, PANTHER, Reactome, STRING, and UniProt. I aim to expand this list and make *rbioapi* as comprehensive as possible by inviting collaborations and contributions.
- **parapurrr: Do purrr in Parallel (Open-source R package software - Links: [GitHub Repo.](#))** 2021

The R package, *parapurrr*, offers a simple yet fully customizable way to iteratively run functions in R using multiple CPU cores (instead of the default, one). The package *parapurrr* deliver that by bridging *purrr* to *foreach* package and its adaptors. All of *purrr*'s mapping functions and every *foreach* adaptor available in CRAN are supported.

## SKILLS AND EXPERIENCES

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- **Laboratory Skills:**

Flow cytometry, Mammalian cells culture, ELISA, qPCR, 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.), Mouse handling

- **Bioinformatics and Data Science:**

R programming language, RNA-seq analysis, Software development, High-throughput data analysis, Systems biology, Graphs and network analysis, Data processing, Machine learning, Big data, 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

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- **Moosa Rezwani**, Ali Akbar Pourfathollah, Farshid Noorbakhsh, *rbioapi: user-friendly R interface to biologic web services' API*, *Bioinformatics*, Volume 38, Issue 10, 15 May 2022, Pages 2952–2953, <https://doi.org/10.1093/bioinformatics/btac172>
- **Moosa Rezwani**, Abdulbaset Mazarzaei, Zahra Abbasi-Malati, Ali Akbar Pourfathollah, *Leukocyte-Reduction Filters are 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, *Disruption in NK Cells and Tumors' Protein-Protein Interaction Network, a Pan-Cancer Analysis*, 2022 (Analysis completed, manuscript in prep.)

## LANGUAGES

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

## CERTIFICATES

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- **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](#))