

Curriculum vitae (C.V)

Mona Fani Assistant Professor of Medical Virology Personal

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Scholar: <https://scholar.google.com/citations?hl=en&user=2DSwnNwAAAAJ>

<https://www.scopus.com/authid/detail.uri?authorId=57204922068>.

CURRENT POSITION: Assistant Professor of Medical Virology at North Khorasan University of Medical Sciences

ACADEMIC QUALIFICATIONS:

February 2005 – February 2007. Diploma of Collegial Student, Shahid Beheshti University Medical Sciences. Laboratory of Science
February 2009 – February 2011. Bachelor's degree, Mashhad University of Medical Sciences. Laboratory of Science
September 2011 – September 2014. Master's Degree in medical virology, Razi Vaccine and Serum Research Institute, Tehran, Iran Master Thesis: "Molecular Characterization and Phylogenetic Analysis of the G6 and G10 Genotypes of Rotaviruses from Iran."
February 2015 – 2020. PhD Degree in medical virology, Ahvaz Jondishapour University of Medical Sciences, Ahvaz, Iran PhD Thesis: Design, construction, and evaluation of a nanocomposite electrochemical sensor for the measuring of human T-cell leukemia virus type 1 load in clinical specimens
May 2021-now Assistant Professor of Medical Virology Department of Pathology and Laboratory Sciences, School of Medicine North Khorasan University of Medical Sciences

Practical Skills:

1. Cell culture technique, 2. Virus culture technique and purification, 3. Viral Plaque Assay and TCID₅₀% technique for titration of virus, 4. MTT assay, 5. Gene Cloning of PCR products, 6. CRISPR-Cas system, 7. PCR, RT-PCR, and Real-time PCR, 8. Gene transfer to cells by lentiviral vector and analysis, 9. Transformation and transfection of DNA and RNA in prokaryotic and eukaryotic cells, 10. Enzyme Immunosorbent Assay (EIA), 11. Gel Electrophoresis by SDS-PAGE for confirmation of protein

expression, 12. Using chicken embryonated eggs for inoculation of virus, 13. DNA and RNA Extraction from any sample and Preparation of Plasmid DNA

Submitting Sequence Data to Gen Bank:

Accession number: K 243016, K 243015, OR770572

PAPERS:

Original Articles:

- 1) **Mona Fani**, Nastaran Khodadad, Ali Teimoori, Rahil nahidsamiei, Saeedeh Ebrahimi, Hadis Langari. Zinc Sulfate in Narrow Range as an Anti-HSV-1 In Vitro Assay (Biological trace element research). (2020)
- 2) **Mona Fani**, Majid Rezayi, Zahra Meshkat, Seyed Abdolrahim Rezaee, Manuchehr Makvandi. A Novel electrochemical DNA biosensor based on a gold nanoparticles-reduced graphene oxide-polypyrrole nanocomposite for detecting of Human T-lymphotropic Virus-1 (IEEE sensor journal). (2020)
- 3) Seyyede Nafise Vakili, Majid Rezayi, Mohammad Chahkandi, Zahra Meshkat, **Mona Fani**, Afagh Moattari, A novel electrochemical DNA biosensor based on hydroxyapatite nanoparticles to detect BK polyomavirus (BK virus) in the urine samples of Bone marrow and renal transplant patients (IEEE sensor journal). (2020)
- 4) Rahil nahidsamiei, Saeedeh Ebrahimi, **Mona Fani**, Nastaran Khodadad, Manoocher Makvandi, Ali Teimoori. In vitro effect of some nucleoside reverse transcriptase inhibitors against HSV-1 replication (European Review for Medical and Pharmacological Sciences). (2020)
- 5) Nastaran Khodadad, **Mona Fani**, Saeedeh Ebrahimi, Manoocher Makvandi, Ali Teimoori. A knockdown of the herpes simplex virus type-1 gene in all-in-one CRISPR vectors (Folia Histochemica et Cytobiologica). (2020)
- 6) **Mona Fani**, Majid Rezayi, Hamid R. Pourianfar, Zahra Meshkat, Manoocher Makvandi, Mehrdad Gholami, Seyed Abdolrahim Rezaee. Rapid and label-free electrochemical DNA biosensor based on a facile one-step electrochemical synthesis of rGO-Ppy-(L-

Cys)- AuNPs nanocomposite for the HTLV-1 oligonucleotide detection (Biotechnology and Applied Biochemistry). (2021)

- 7) Saeedeh Ebrahimi, Hashem Khanbabaee, Samaneh Abbasi, **Mona Fani**, Saber Soltani, Milad Zandi, and Zahra Najafimemar. CRISPR-Cas System: A Promising Diagnostic Tool for Covid-19.(Avicenna Journal of Medical Biotechnology) (2022).
- 8) **Mona Fani**, Riam Sadooni, Mahmoud Haghghat Nejad, Neda Naseri Mirzavieh, SaraMobarak, Reza Pakzad, Yousef Erfani, Shokrollah Salmanzadeh, Samaneh Abbasi. Two Oncoviruses of HPV and EBV in Breast Cancer: An Iran-based Study. (Journal of Liaquat University of Medical & Health Sciences) (2023).
- 9) **Mona Fani**, Hamed Ghasemzadeh-Moghaddam, Alex Belkum, Hamid Reza Shoraka, Amir Azimian, Zahra Hosseini. Correlation between elevated bradykinin concentrations and death by COVID-19. (Journal of Liaquat University of Medical & Health Sciences) (2024).
- 10) Saber Soltan, Milad Zandi, **Mona Fani**, Armin Zakeri, Reza Pakzad, Shokrollah Salmanzadeh, Iman Naamipouran, Seyed Mohamad Ali Malaekheh, Samaneh Abbasi. Co-infection of SARS-CoV-2 and Influenza A: a report from in Southwestern Iran. (Malawi Medical Journal) (2024).
- 11) Nasiri-Jahrodi, A., Barati, M., Sheikholeslami, F.-M., **Fani, M.**, Nikoozadeh, A. A case of lung and fungus ball lesions associated with Cladosporium Subcinereum A48 in a diabetic patient. (Future Microbiology) (2024).
- 12) Nima Firouzeh, Ali Pasban, Hamed Ghasemzadeh-Moghaddam, **Mona Fani**, Reza Besharati, Seyedeh Nastaran Asadzadeh. The Antibacterial and Catalytic Activity of Iron Magnetite Nanoparticles in the Removal of Ciprofloxacin. (Journal of Mazandaran University of Medical Sciences) (2024).
- 13) Narges Karami, Shaghik Barani, **Mona Fani**, Seppo Meri, Reza Shafiei, Kurosh Kalantar. The effects of killer cell immunoglobulin-like receptor (KIR) genes on susceptibility to severe COVID-19 in the Iranian population. (BMC Immunology) (2024).

Review articles:

- 1) **Mona Fani**, Milad Zandi, Majid Rezayi, Nastaran Khodadad, Hadis Langari, Iraj S Amiri. The Role of microRNAs in the viruses Infection (Current Pharmaceutical Design) (2018)
- 2) Majid Rezayi, Majid Ghayour-Mobarhan, Seyedeh Belin Tavakoly Sany, **Mona Fani**, Amir Avvan, Zahra Pasdar, Gordon Ferns, Ebrahim Abouzari-Lotf and Iraj S Amiri Comparison of Analytical Methods for Measuring Concentrations of 25-hydroxy vitamin D in Biological Samples (Analytical Methods). (2018)
- 3) Pegah Mahmoodi; **Mona Fani**; Majid Rezayi; Amir Avan; Zahra Pasdar; Ehsan Karimi; Iraj S Amiri; Majid Ghayour-Mobarhan. Early detection of cervical cancer based on high risk HPV DNA-genosensors: A systematic review (Biofactors Journal). (2019)
- 4) **Mona Fani**, Majid Rezayi, Zahra Meshkat, Seyed Abdolrahim Rezaee, Manuchehr Makvandi, Ebrahim Abouzari-Lotf, Gordon A. Ferns. Current approaches for detection of Human T-lymphotropic virus type 1: A systematic review (Cellular physiology) (2019)
- 5) **Mona Fani**; Pegah Mahmoodi; Maryam Emadzadeh; Majid Rezayi; Amir Avan; Ehsan Kaimi. Correlation of Human Papillomavirus 16 and 18 with cervical cancer and their diagnosis methods in Iranian women: A systematic review and meta-analysis (Current Problems in Cancer). (2020)
- 6) **Mona Fani**, Ali Teimoori, Shokoh Ghafari, Comparison of the COVID-2019 (SARS-CoV-2) pathogenesis with SARS-CoV and MERS-CoV infections (Future Virology). (2020)
- 7) **Mona Fani**, Milad Zandi, Saber Soltani, Samaneh Abbasi. Future developments in biosensors for field-ready SARS-CoV-2 virus diagnostics (Biotechnology and Applied Biochemistry). (2021)
- 8) **Mona Fani**, Hasan Namdar-Ahmadabad, Amir Azimian, Hamed Ghasemzadeh-Moghaddam. Predicting MicroRNAs as anti-viral agents in SARS-CoV-2 infection based on the bioinformatics approach: A systematic review. (Journal of Cellular and Molecular Anesthesia) (2021)
- 9) **Mona Fani**, Milad Zandi, Saeedeh Ebrahimi, Saber Soltani, Samaneh Abbasi. The role of microRNAs in COVID-19 disease. (future virology journal) (2021)

- 10) Milad Zandi, Saber Soltani, **Mona Fani**, Samaneh Abbasi, Saeedeh Ebrahimi, Ali Ramezani. Severe acute respiratory syndrome coronavirus 2 and respiratory syncytial virus coinfection in children. (Osong Public Health and Research Perspectives) (2021).
- 11) Milad Zandi, Maryam Shafaati, Davood Kalantar-Neyestanaki, Hossein Pourghadamyari, **Mona Fani**, Saber Soltani, Hassan Kaleji, Samaneh Abbasi. The role of SARS-CoV-2 accessory proteins in immune evasion. (Biomedicine and Pharmacotherapy) (2022)
- 12) Milad Zandi, **Mona Fani**. Target genes used for biosensor development in COVID-19 diagnosis. (Biosensors and Bioelectronics) (2022)
- 13) Peyman Kamali, Milad Zand, Hamed Ghasemzadeh-Moghaddam, **Mona Fani** (**corresponding author**) Comparison between various biosensor methods for human T-lymphotropic virus-1 (HTLV-1) detection. (Molecular Biology Reports) (2022).
- 14) **Mona Fani**, Maryam Moossavi, Hasan Bakhshi, Abozar Nasiri Jahrodi, Mohammad Reza Khazdair, Amir Hossein Zardast, Shokouh Ghafari. Targeting host calcium channels and viroporins: a promising strategy for SARS-CoV-2 therapy. (Future Virology) (2023).
- 15) Hasan Bakhshi, Amir Masoud Jafari-Nozad, Kourosh Arzamani, Hamed GhasemzadehMoghaddam, **Mona Fani**, Mohammad Shoushtari, Navid Dinparast-Djadid, Anna-Bella Failloux. Emergence of Mosquito-borne Viruses in Iran and Adjacent Countries: The Case of Chikungunya. (Journal of Health Sciences & Surveillance System) (2023).

Congress:

Zinc Sulfate as an in Vitro Anti-HSV-1 Assay” had been selected for the Oral presentation at the “14th International Conference on Virology, Emerging diseases and vaccines Amsterdam, Netherlands”

Research studies:

1. Effect of zinc ion on the synthesis of herpes simplex1 DNA and IFN- β
2. Study of adapted genome of HSV-1 in cell cultures to determine the oncolytic candidate genes
3. Fabrication and characterization of electrochemical nanobiosensor for measurement of human T-cell leukemia virus type 1 in clinical specimens (as a shared thesis between

Mashhad University and Ahvaz Jundishapur University of Medical Sciences. Ethics Committee in Mashhad University of Medical Sciences is 970218 and in Ahvaz Jundishapur University of Medical Sciences is OG-9701) (IR.MUMS.REC.1397.087)

4. Designing and evaluation of a DNA hybridization biosensor for the detection of *Mycobacterium simiae* in clinical specimens (IR.MUMS.MEDICAL.REC.1397.746).
5. Designing and evaluation of a method for identification of *Mycobacterium tuberculosis* complex using a DNA nano-electrochemical sensor (IR.MUMS.MEDICAL.REC.1397.661).
6. Fabrication of electrochemical biosensor based on hydroxyl apatite nanoparticles for human polyoma virus(Bk) detection in real samples (IR.MUMS.MEDICAL.REC.1398.253)
7. Evaluation of concomitant rotavirus and SARS-COV-2 infection in patients with Covid-19 with gastroenteritis symptoms in Abadan.
8. Serological epidemiology of chikungunya virus in North Khorasan province in 2021 to 2022. (IR.NKUMS.REC.1400.138)
9. Investigating the killer immunoglobulin-like receptors (KIRs) gene content in patients with COVID-19 hospitalized in the intensive care unit (ICU) in comparison to the patients with low clinical symptoms. (IR.SUMS.REC.1400.462)
10. Investigating of the TLR7 polymorphisms in patient with COVID-19 hospitalized in the intensive care unit (ICU) in comparison to the patient with low clinical symptoms. (IR.SUMS.REC.1401.569)
11. Investigation of the role of SARS-CoV-2 accessory proteins in the pathogenesis of Covid-19 disease. (IR.ABADANUMS.REC.1401.061)
12. SARS-CoV-2 infection (COVID-19) in pediatric and adults. (IR.ABADANUMS.REC.1400.011)
13. SARS-CoV-2 and Respiratory Syncytial Virus Coinfection in Children. (IR.ABADANUMS.REC.1399.218)

14. Investigation of Human Papillomavirus Virus (HPV) and Epstein-Barr Virus (EBV) in paraffinized biopsy samples in patients with breast cancer compared to the control group in Abadan city. (IR.ABADANUMS.REC.1398.013).
15. Evaluation of immunogenicity inhalation structure using trimethyl chitosan nanoparticles containing vp8 antigens against rotavirus in C57 mouse model. (IR.NKUMS.AEC.1403.004)

Teaching:

- 1) Technical Assistant in Molecular Laboratory of North Khorasan University of Medical Sciences, Bojnurd, Iran (2021-now)
- 2) Assistant Professor of Medical Virology at North Khorasan University of Medical Sciences, Bojnurd, Iran.

Referee of some articles in the following journals:

1. Medical virology journal. IF: 12.7
2. Journal of Neurovirology. IF: 3.2
3. Journal of comparative effectiveness research. IF: 2.1
4. Journal of cellular physiology. IF: 5.6
5. IUBMB Life. IF: 4.6
6. Scandinavian Journal of Immunology. IF: 3.7
7. Biotechnology and applied biochemistry. IF: 2.8
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8. Frontiers in genetics. IF: 3.7
9. Frontiers in immunology. IF: 7.3
10. Microchemical journal. IF: 4.8