Curriculum Vitae

Mohammadreza Asadikaram, PhD
Associate Professor, Department of Molecular Biology
Pasteur Institute of Iran

Personal Information:

- **Name**: Mohammad Reza
- **Surname**: Asadi Karam
- **Date and Place of Birth**: 21.03.1979, Kerman, Iran
- **Marital status**: Married
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Positions:

✓ **Associate professor at Pasteur Institute of Iran, Molecular Biology Dept. Oct 2012 onward.**

✓ **Director of Molecular Biology Department, Pasteur Institute of Iran, 2025 to now.**

Educations:

- 2006- 2012: **Ph.D** of Biological product (Medical Biotechnology), Pasteur Institute of Iran, Tehran, Iran.
- 2001-2003: **M.Sc** of Medical Microbiology, Pasteur Institute of Iran, Tehran, Iran.
- 1999-2001: **B.Sc** of Laboratory Science, Shahid Beheshti University of Medical Sciences and Health Services, Tehran, Iran.
- 1997-1999: **Super Diploma** of Laboratory Science, Kerman University of Medical Sciences and Health Services, Kerman, Iran.

Ph.D Thesis:

- **Construction, expression and characterization of recombinant hybrid protein consisting of fliC (flagella) and fimH (type I pili) of uropathogenic *Escherichia coli.*** **Supervisors**: Saeid Bouzari (Ph.D) **as the deputy of research and technology in Pasteur Institute of Iran** and Mana Oloomi (Ph.D). Department of Molecular Biology, Pasteur Institute of Iran, Tehran, Iran.

M.Sc Thesis:

- **Detection and Typing of *eae* (intimin) gene in *Escherichia coli* isolated from patients with diarrhea.**
  Supervisors: Saeid Bouzari (Ph.D) and Anis Jafari (Ph.D). Department of Molecular Biology, Pasteur Institute of Iran, Tehran, Iran.

Publications:

- **Books:**
  - Practical Techniques for Molecular Biology. Shahed University publications, Tehran, Iran (translated to Persian).
  - Laboratory Methods for the Diagnosis of Meningitis caused by *Neisseria meningitides, Streptococcus pneumoniae* and *Haemophilus influenza*. WHO Manual. 2ND Edition. Eshraghieh publications, Tehran, Iran (translated to Persian).
  - Collection of Microbiology tests in a book for Master Degree of Science in Medical Laboratory Science. Mir Book publications, Tehran, Iran.

- **Papers (English):**

1. Vaccination with recombinant FimH fused with flagellin enhances cellular and humoral immunity against urinary tract infection in mice. **Mohammad Reza Asadi Karam**, Mana Oloomi, Mehdi Mahdavi, Mehri Habibi, Saeid Bouzari. **Vaccine 2013**; 13:1210-1216.

2. Assessment of immune responses of the flagellin (FliC) fused to FimH adhesin of Uropathogenic *Escherichia coli*. **Mohammad Reza Asadi Karam**, Mana Oloomi, Mehdi Mahdavi, Mehri Habibi, Saeid Bouzari. **Molecular Immunology 2013**; 54: 32-39.

3. A novel multi-peptide subunit vaccine admixed with AddaVax adjuvant produces significant immunogenicity and protection against Proteus mirabilis urinary tract infection in mice model. Ehsan Choubini, Mehri Habibi, Ahmad Khorshidi, Amir Ghasemi, **Mohammad Reza Asadi Karam**[*], Saeid Bouzari. **Molecular Immunology 2018**; 96: 88–97.

4. Intranasal immunization with fusion protein MrpH.FimH and MPL adjuvant confers protection against urinary tract infection caused by uropathogenic *Escherichia coli* and *Proteus mirabilis.* Mehri Habibi, **Mohammad Reza Asadi Karam**, Mohammad Ali Shokrgozar, Mana Oloomi, Anis Jafari, Saeid Bouzari. **Molecular Immunology 2015**; 64: 285-294.

5. Evaluation of the effect of MPL and delivery route on immunogenicity and protectivity of different formulations of FimH and MrpH from uropathogenic *Escherichia coli* and *Proteus mirabilis* in a UTI mouse model. Mehri Habibi, **Mohammad Reza Asadi Karam**, Saeid Bouzari. **International Immunopharmacology 2015**; 28(1): 70-78.

6. Construction and evaluation of the immune protection of a recombinant divalent protein composed of the MrpA from MR/P fimbriae and flagellin of *Proteus mirabilis* strain against urinary tract infection. Mehri Habibi, **Mohammad Reza Asadi Karam***, Saeid Bouzari. **Microbial Pathogenesis 2018**; 117: 248-355.

7. A heterologous prime-boost route of vaccination based on the truncated MrpH adhesin and adjuvant properties of the flagellin from *Proteus mirabilis* against urinary tract infections. **Mohammad Reza Asadi Karam**, Ali Mohammad Shirzad, Mehri Habibi, Saeid Bouzari. **International Immunopharmacology 2018**; 58: 40–47.

8. Use of flagellin and cholera toxin as adjuvants in intranasal vaccination of mice to enhance protective immune responses against uropathogenic *Escherichia coli* antigens. **Mohammad Reza Asadi Karam**, Mehri Habibi, Saeid Bouzari. **Biologicals 2016**; 44: 1-9.

9. Evaluation of prevalence, immunogenicity and efficacy of FyuA iron receptor in uropathogenic Escherichia coli isolates as a vaccine target against urinary tract infection. Mehri Habibi, **Mohammad Reza AsadiKaram***, Saeid Bouzari. **Microbial Pathogenesis 2017**; 110: 477-483.

10. Determination immunogenic property of truncated MrpH.FliC as a vaccine candidate against urinary tract infections caused by Proteus mirabilis. Zakaria Bameri, **Mohammad Reza Asadi Karam**, Mehri Habibi, Parastoo Ehsani, Saeid Bouzari. **Microbial Pathogenesis 2018**; 114: 99-106.

11. Antiadhesive hydroalcoholic extract from Apium graveolens fruits prevents bladder and kidney infection against uropathogenic *E. coli*. S. Sarshar, J. Sendker, X. Qin, F.M. Goycoolea,

M.R. Asadi Karam, M. Habibi, S. Bouzari, U. Dobrindt, A. Hensel. **Fitoterapia 2018**; 127: 237-244.

12. Aqueous extract from Orthosiphon stamineus leaves prevents bladder and kidney infection in mice. Sarshar S, Brandt S, **Asadi Karam MR**, Habibi M, Bouzari S, Lechtenberg M, Dobrindt U, Qin X, Goycoolea FM, Hensel A. **Phytomedicine 2017**; 28: 1-9.

13. Transurethral instillation with fusion protein MrpH.FimH induces protective innate immune responses against uropathogenic *Escherichia coli* and *Proteus mirabilis.* Mehri Habibi, **Mohammad Reza Asadi Karam**, Saeid Bouzari. **APMIS 2016**; 124(6): 444-52.

14. Distribution of Extended-Spectrum beta-Lactam, Quinolone, and Carbapenem Resistance Genes, and Genetic Diversity among Uropathogenic *Escherichia coli* isolates in Tehran, Iran. Shahla Shahbazi, **Mohammad Reza Asadi Karam**, Mehri Habibi, Atefeh Talebi, Saeid Bouzari. **Journal of Global Antimicrobial Resistance 2018**; 14:118-125.

15. Evaluation of immunological responses to recombinant Porin A protein (rPoA) from native strains of Neisseria meningitidis serogroups A and B using OMV as an adjuvant in BALB/c mice. Parviz Afrough, Saeid Bouzari, Seyed Fazlollah Mousavi, **Mohammad Reza Asadi Karam**, Farzam Vaziri, Abolfazl Fateh, Ava Behrouzi, Mohammadali Malekan, Seyed Davar Siadat. **Microbial Pathogenesis 2017**; 112: 209-214.

16. Urinary tract infection: Pathogenicity, antibiotic resistance and development of effective vaccines against Uropathogenic *Escherichia coli.* **Mohammad Reza Asadi Karam**, Mehri Habibi, Saeid Bouzari. **Molecular immunology 2019.** 2019 Apr;108:56-67.

17. Antibiotic resistance, virulence and genetic diversity of *Klebsiella pneumoniae* in community- and hospital-acquired urinary tract infections in Iran. Eghbalpoor F, Habibi M, Azizi O, **Asadi Karam MR,** Bouzari S. **Acta Microbiol Immunol Hung. 2019** Sep 1;66(3):349-366.

18. Surface display of uropathogenic Escherichia coli FimH in Lactococcus lactis: In vitro characterization of recombinant bacteria and its protectivity in animal model. Derakhshandeh S, Shahrokhi N, Khalaj V, Habibi M, Moazzezy N, Asadi Karam MR, Bouzari S. Microbial pathogenesis 2020. 8;141:103974.

19. Characterization of Antibiotic-Susceptibility Patterns, Virulence Factor Profiles and Clonal Relatedness in *Proteus mirabilis* Isolates from Patients with Urinary Tract Infection in Iran. Mirzaei A, Habibi M, Bouzari S, Asadi Karam MR. Infect Drug Resist. 2019 Dec 27;12:3967-3979.

20. Effect of nontypeable Haemophilus influenzae protein E (PE) as a microbial adjuvant on the amount of antibody against PRP of Haemophilus influenzae type b (Hib) in BALB/c mice. Tavakoli M, Bouzari S, Jafari A, Oloomi M, Asadi Karam MR, Najar-Peerayeh S, Siadat SD. Microb Pathog. 2019 Apr;129:78-81.

21. Silk Fibroin Nanoadjuvant as a Promising Vaccine Carrier to Deliver the FimH-IutA Antigen for Urinary Tract Infection. Sara Hasanzadeh, Mehdi Farokhi, Mehri Habibi, Mohammad Ali Shokrgozar, Reza Ahangari Cohan, Fatemeh Rezaei, Mohammad Reza Asadi Karam, and Saeid Bouzari. ACS Biomaterials Science & Engineering. 2020; 2020, 6: 4573−4582.

22. In silico analysis and in vivo assessment of a novel epitope‑based vaccine candidate against uropathogenic *Escherichia coli*. Sara Hasanzadeh, Mehri Habibi, Mohammad Ali Shokrgozar, Reza Ahangari Cohan, Khadijeh Ahmadi, Mohammad Reza Asadi Karam* & Saeid Bouzari. Scientific Reports. 2020; 10:16258.

23. Protective multi-epitope candidate vaccine for urinary tract infection Mana Oloomi, Maryam Javadi, Mohammad Reza Asadi Karam, Jamil Kheirvari Khezerloo, Zohreh Haghri, Saeid Bouzari. Biotechnology Reports. 2020; 28: e00564.

24. First Study of Antimicrobial Activity of Ceftazidime-Avibactam and Ceftolozane-Tazobactam Against Pseudomonas aeruginosa Isolated from Patients with Urinary Tract Infection in Tehran, Iran. Mohammad Rahimzadeh, Mehri Habibi, Saeid Bouzari, Mohammad Reza Asadi Karam. Infection and Drug Resistance. 2020. 13; 533–541.

25. Computational evaluation of modified peptides from human neutrophil peptide 1 (HNP-1) Neda Moazzezy, Elham Rismani, Maryam Rezaei, Mohammad Reza Asadi, Karam, Sima Rafati, Saeid Bouzari & Mana Oloomi. Journal of Biomolecular Structure and Dynamics. 2020; 26:1-9.

26. *Pasteurella multocida* Vaccine Candidates: A Systematic Review. Mostaan S, Ghasemzadeh A, Sardari S, Shokrgozar MA, Nikbakht Brujeni G, Abolhassani M, Ehsani P, Asadi Karam MR.Avicenna J Med Biotechnol. 2020 Jul-Sep;12(3):140-147.

27. Inhibition and eradication activity of truncated α-defensin analogs against multidrug resistant uropathogenic Escherichia coli biofilm. Neda Moazzezy, Mohammad Reza Asadi Karam , Sima Rafati, Saeid Bouzari , Mana Oloom. PLoS One. 2020 Jul 14;15(7):e0235892.

28. A Synthetic Peptide $2Abz^{23}S^{29}$ Reduces Bacterial Titer and Induces Pro-Inflammatory Cytokines in a Murine Model of Urinary Tract Infection. Moazzezy N, Asadi Karam MR, Rafati S, Bouzari S, Oloomi M.Drug Des Devel Ther. 2020 Jul 17;14:2797-2807

29. Immunization with recombinant protein Ag43::UpaH with alum and 1,25(OH)2D3 adjuvants significantly protects Balb/C mice against urinary tract infection caused by uropathogenic Escherichia coli. Habibi M, Azimi S, Khoobbakht D, Roghanian P, Asadi Karam MR.Int Immunopharmacol. 2021 Apr 10;96:107638.

30. Vaccination of mice with hybrid protein containing Exotoxin S and PcrV with adjuvants alum and MPL protects Pseudomonas aeruginosa infections. Mohammad Reza Asadi Karam, Farzad Badmasti, Khadijeh Ahmadi, Mehri Habibi. Scientific reports, 2021.

31. Bioinformatics analyses for the designation of a hybrid protein against urinary tract infections caused by *Pseudomonas aeruginosa* and investigation of the presence of pre-existing antibodies in infected humans. Hedyeh Sharbatdaralaei, Mohammad Reza Asadi Karam , Khadijeh Ahmadi , Mehri Habibi. Journal of Biomolecular Structure and Dynamics, 2022.

32. Design of a chimeric protein composed of FimH, FyuA and CNF-1 virulence factors from uropathogenic *Escherichia coli* and evaluation its biological activity and immunogenicity in vitro and in vivo. Sheida Hedayat, Mehri Habibi*, Reza Hosseini Doust, Mohammad Reza Asadi Karam. Microbial Pathogenesis, 2023.

33. Development of a multi-epitope vaccine candidate against *Pseudomonas aeruginosa* causing urinary tract infection and evaluation of its immunoreactivity in a rabbit model. Hamidreza Kalantari , Mehri Habibi , Atosa Ferdousi , Mohammad Reza Asadi Karam , Taher Mohammadian. Journal of Biomolecular Structure and Dynamics, 2023.

34. Investigation of the effects of antimicrobial and anti-biofilm peptide IDR1018 and chitosan nanoparticles on ciprofloxacin-resistant *Escherichia coli*. Aida Haji Hossein Tabrizi, Mehri Habibi*, Fatemeh Foroohi, Taher Mohammadian, Mohammad Reza Asadi Karam. Journal of Basic Microbiology, 2022.

35. Design and computational analysis of an effective multi-epitope vaccine candidate using subunit B of cholera toxin as a build-in adjuvant against urinary tract infections. Maryam Rezaei, Mehri habibi, Parastoo Ehsani, Mohammad Reza Asadi Karam, Saeid Bouzari. BioIpmpacts 2022.

36. Design and fabrication of a vaccine candidate based on rOmpA from *Klebsiella pneumoniae* encapsulated in silk fibroin-sodium alginate nanoparticles against pneumonia infection. Shahla Shabazi, Farzad Badmasti, Samira Sabzi, Mehri Habibi, Mehdi farohki, Mohammad Reza Asadi Karam. International Immunopharmacology, 2023.

37. Antibiotic resistance and genetic diversity among *Pseudomonas aeruginosa* isolated from urinary tract infections in Iran. Mohammad Rahimzadeh, Shahla Shabazi, Samira Sabzi, Mehri Habibi, Mohammad Reza Asadi Karam. Future Microbiology 2023.

38. Immunogenic Potential and Therapeutic Efficacy of Multi-Epitope Encapsulated Silk Fibroin Nanoparticles against *Pseudomonas aeruginosa*-Mediated Urinary Tract Infections. Azam Rezvanirad, Mehri Habibi, Mehdi Farokhi, Mohammad Reza Asadi Karam. Macromolecular Bioscience 2023.

39. Development of a multi-epitope vaccine from outer membrane proteins and identification of novel drug targets against *Francisella tularensis*: an *In Silico* approach. Safoura Moradkasani , Saber Esmaeili , Mohammad Reza Asadi Karam , Ehsan Mostafavi , Behzad Shahbazi , Amir Salek Farrokhi , Mohsen Chiani , Farzad Badmast. Front Immunol, 2025.

40. Immunostimulatory Chimeric Protein Encapsulated in Gelatin Nanoparticles Elicits Protective Immunity against *Pseudomonas aeruginosa* Respiratory Tract Infection. Maryam Parvaei, Mehri Habibi, Shahla Shahbazi, Mercedeh Babaluei, Mehdi Farokhi, Mohammad Reza Asadi Karam. International Journal of Biological Macromolecules, 2024.

41. Polydopamine-based nano adjuvant as a promising vaccine carrier induces significant immune responses against Acinetobacter baumannii-associated pneumonia. Samira Sabzi, Mehri Habibi, Farzad Badmasti, Shahla Shahbazi, Mohammad Reza Asadi Karam, Mehdi Farokhi . International Journal of Pharmaceutics, 2024.

42. Detection of ESBL and AmpC producing *Klebsiella pneumoniae* ST11 and ST147 from urinary tract infections in Iran. Shaghayegh Shahkolahi , Pegah Shakibnia, Shahla Shahbazi , Samira Sabzi, Farzad Badmasti, Mohammad Reza Asadi Karam , Mehri Habibi. Acta microbiologica et Immunologica Hungaricay,. 2022.

43**.** In silico design and in vivo evaluation of two multi-epitope vaccines containing build-in adjuvant with chitosan nanoparticles against uropathogenic *Escherichia coli* . Maryam Rezaei, Fariba Esmaeili, Mohammad Reza Asadi Karam, Parastoo Ehsani, Zeinab Abbasnezhad Farsangi, Saeid Bouzari. International Immunopharmacology, 2023.

44. In silico and in vivo investigations of the immunoreactivity of Klebsiella pneumonia OpmA protein as a vaccine candidate. Shahla Shahbazi, Farzad Badmasti, Mehri Habibi, Samira Sabzi,

Narjes Noori Goodarzi, Mehdi Farokhi, Mohammad Reza Asadi Karam. Iranian Biomedical Journal, 2024.

45. Evaluation of accessible regions of *Escherichia coli fimH* mRNA through computational prediction and experimental investigation. Elnaz Harifi Mood, Alireza Japoni-Nejad, Mohammadreza Asadi Karam, Mohammad Pooya, Saeid Bouzari, Nader Shahrokhi. Iranian Journal of Microbiology, 2021.

46. *Pasteurella multocida* PlpE Protein Polytope as a Potential Subunit Vaccine Candidate. Saied Mostaan, Abbas Ghasemzadeh, Mohammad Reza Asadi Karam, Parastoo Ehsani, Soroush Sardari, Mohammad Ali Shokrgozar, Mohsen Abolhassani, Gholamreza Nikbakht Brujeni. Vector-Borne and Zoonotic Diseases, 2021.

47. Enhancing bioactivity, physicochemical, and pharmacokinetic properties of a nano-sized, anti-VEGFR2 Adnectin, through PASylation technology. Safieh Aghaabdollahian, Reza Ahangari Cohan, Dariush Norouzian, Fatemeh Davami, Mohammad Reza Asadi Karam, Fatemeh Torkashvand, Golnaz Vaseghi, Reza Moazzami, Sakineh Latif Dizaji. Scientific reports, 2019.

48**.** Preparation and pre-clinical evaluation of flagellin-adjuvanted NOM vaccine candidate formulated with Spike protein against SARS-CoV-2 in mouse model. Narges Farshidi, Tayebeh Ghaedi, Mehdi Hassaniazad, Ebrahim Eftekhar, Hamed Gouklani, Hossein Farshidi, Mohammad Reza Asadi Karam, Behzad Shahbazi, Mehdi Kalani, Khadijeh Ahmadi · Microbial Pathogenesis, 2022.

49. Immunogenic Potential of a Multi -Peptide Vaccine Construct Against Uropathogenic Escherichia coli-Associated Urinary Tract Infection. Saeide Mirsharifi, Mehri Habibi , Touraj Rahimi , Fatemeh Foroohi1, Mohammad Reza Asadi Karam. Iranian Biomedical Journal, 2025.

50. Rapid detection of methicillin-resistant *Staphylococcus aureus* isolates by turanose fermentation method. Javad Raeisi, Mahnaz Saifi, Mohammad Reza Pourshafie, Mohammad Reza Asadi Karam, Hamid Reza Mohajerani. Jundishapur Journal of Microbiology 2015; 8(9): e21198.

51. Cloning of *fimH* and *fliC* and expression of the fusion protein FimH/FliC from Uropathogenic *Escherichia coli* (UPEC) isolated in Iran. Asadi Karam MR, Oloomi M, Habibi M, Bouzari S. Iranian Journal of Microbiology 2012; 4 (2): 55-62.

52. Relationships between Virulence Factors and Antimicrobial Resistance among *Escherichia coli* Isolated from Urinary Tract Infections and Commensal Isolates in Tehran, Iran. **Mohammad Reza Asadi Karam,** Mehri Habibi, Saeid Bouzari. **Osong public health and research perspectives 2018**; 8(6):1-9.

53. Evaluation of prevalence, homology and immunogenicity of dispersin from Enteroaggregative *Escherichia coli* isolates from Iran. **Mohammad Reza Asadi Karam**, Ali Akbar Rezaei, Seyed Davar Siadat, Mehri Habibi, Saeid Bouzari. **Iranian Biomedical Journal 2017**; 21(1): 40-47.

54. Genotypic characterization of virulence factors in *Escherichia coli* isolated from patients with acute cystitis, pyelonephritis and asymptomatic bacteriuria. Mohsen Tabasi, **Mohammad Reza Asadi Karam**[*], Mehri Habibi, Ehsan Mostafavi, Saeid Bouzari. **Journal of Clinical and Diagnostic Research 2016**; 10(12): DC01-DC07.

55. Rapid Identification of Vancomycin Resistant *Enterococcus Faecalis* Clinical Isolates using a Sugar Fermentation Method. Raeisi J, Saifi M, Pourshafie MR, Habibi M, Mohajerani HR, Akbari N, **Asai Karam MR**[*]. **Journal of Clinical and Diagnostic Research 2017**; 11(3): DC14-DC17.

56. *In silico* design of fusion protein of FimH from uropathogenic *Escherichia coli* and MrpH from *Proteus mirabilis* against urinary tract infections. Mehri Habibi, **Mohammad Reza Asadi Karam**, Saeid Bouzari. **Advanced biomedical research 2015**; 4: 217.

57. Phenotypic Assays to Determine Virulence Factors of Uropathogenic *Escherichia coli* (UPEC) Isolates and their Correlation with Antibiotic Resistance Pattern. Mohsen Tabasi,

Mohammad Reza Asadi Karam*, Mehri Habibi, Mir saeid Yekaninejad, Saeid Bouzari. **Osong public health and research perspectives 2015**; 6(4): 261–268.

58. Phenotypic and Genotypic characterization of Enteropathogenic *Escherichia coli* (EPEC) strains in Tehran, Iran. **Asadi Karam MR**, Bouzari S, Oloomi M, Aslani MM, Jafari A. **Iranian Journal of Microbiology 2010**; 2(1): 3-7.

59. High yield expression and modified purification of novel recombinant truncated protein FimH.MrpH against Urinary Tract Infections by *Escherichia coli* and *Proteus mirabilis.* Zakaria Bameri, **Mohammad Reza Asadi Karam**, Mana Oloomi, Anis Jafari, Parastoo Ehsani, Shahram Shahraki, Saeid Bouzari. **Journal of Clinical and Diagnostic Research 2018**; 12(1): KC06-KC09.

60. *In silico* Studies for Comparison of FliCs from *Salmonella typhimorium, Pseudomonas aeruginosa,* and *Escherichia coli* and their Implication as an Adjuvant. Zakaria Bameri, **Mohammad Reza Asadi Karam**, Mehri Habibi, Mana Oloomi, Parastoo Ehsani, Saeid Bouzari. **International Biological& Biomedical Journal (IBBJ) 2018**; 4(2): 1-7.

61. Cloning of Protective and Broadly Conserved Vaccine Antigens from the Genome of Extraintestinal Pathogenic Escherichia coli into pET28a Vector. Kheirvari Khezerloo J, Haghri Z, **Asadi Karam MR**, Habibi M, Oloomi M. **Journal of Pharmaceutical and Health Sciences 2017**; 5(3): 251-262.

62. Distribution of genes encoding iron uptake systems among the *Escherichia coli* isolates from diarrheal patients of Iran. Aida Hajihosein –Tabrizi, Mehri Habibi, Mohsen Tabasi, **Mohammad Reza Asadi Karam***. **Journal of Medical Microbiology and Infectious Diseases 2018**; 1(6): 25-30.

63. Bioinformatic studies and expression of a truncated form of Pta protein as a novel target against urinary tract infection. Choubini E, **Asadi Karam MR***, Khorshidi A, Habibi M, Ghasemi A, Bouzari S. **Vaccine Research 2017**; 3(7): 30-35.

64. In silico Study of Toll-Like Receptor 4 Binding Site of FimH from Uropathogenic *Escherichia coli*. Mehri Habibi, **Mohammad Reza Asadi Karam**, Saeid Bouzari**. Journal of Medical Microbiology and Infectious Diseases 2014**; 1 (2): 36-40.

65. Detection of Metallo-β-Lactamases (MBLs) producing *Pseudomonas aeruginosa* isolates in Tehran hospitals, Iran. Mohsen Tabasi, Reza Azizian, Mohammad Reza Eskandarion, Mehri Habibi, **Mohammad Reza Asadi Karam*** . **Journal of Medical Microbiology and Infectious Diseases 2014**; 5 (3-4): 47-50.

66. Detection of Methicillin Resistance in *Staphylococcus aureus* by Disk Diffusion and PCR Methods. Mehri Habibi, Horieh Saderi, Parviz Owlia, **Mohammad Reza Asadi Karam**. **Iranian Journal of Pathology 2008**; 3(1): 11-14.

67. PorA typing of *Neisseria meningitides* isolates from Iranian children for vaccine design. Afruogh P, Vosogh M, **Asadi Karam MR**, Behruozi A, Mardani G, Siadat SD. **Vaccine Research 2018:** 5(1,2): 4-6 (Letters to Editor).

68. A Survey of Integrons and Their Relationships with Antibiotic Resistance Among the Escherichia coli Isolates Collected from Urinary Tract Infection of Patients referred to the hospitals in Tehran, Iran. Habibi M, **Asadi Karam M.R***, Mohammadzadeh A. **Horizon of Medical Sciences 2018**. 24(4), 277-285.

69. The phenotypic and genotypic evaluation of resistance to quinolone antibiotics in clinical *Escherichia coli* isolated from urinary tract infection of hospitalized patients in Tehran, Iran in 2017. Mehri Habibi, Omid Azizi, **Mohammad Reza Asadi Karam***. **Journal of Torbat Heydariyeh University of Medical Sciences 2018**; 6(1): 1-10.

70. The frequency and nucleotide sequence of genes encoding the iron adsorption receptors in *Proteus mirabilis* isolated from patients with urinary tract infections in Iran. Habibi M, **Asadi Karam MR***. **Yafteh Journal 2018**.

71. Evaluation of the Effectiveness of Polyclonal Antibody Developed against a Recombinant Multi-Epitope Protein Composed of Uropathogenic *Escherichia coli* Antigens. Sheida Hedayat, Mehri Habibi, Reza Hosseini Doust, Mohammad Reza Asadi Karam. Vaccine Research, 2023.

72. Detection of Autotransporter Genes and Evaluation of the Relationship Between the Autotransporters and Biofilm Formation in Uropathogenic *Escherichia coli* Isolated from urinary tract infection. Mohammad Reza Asadi Karam, Mehri Habibi. International Journal of Enteric Pathogens, 2022.

73. *In silico* Evaluation, Cloning, and Expression of Omp22 as a Promising Vaccine Candidate against *Acinetobacter baumannii*. Samira Sabzi, Farzad Badmasti, Narjes Noori Goodarzi, Mehri Habibi, Shahla Shahbazi, Mohammad Reza Asadi Karam, Mehdi Farokhi. Vaccine Research, 2023.

- **Papers (Persian):**

مقایسه تکاملی سویه های اشریشیاکلی دارای ژن eae در ایران با سویه های دیگر مناطق بر اساس تعیین جایگاه ورودی عامل LEE. محمدرضا اسدی کرم، محمد مهدی اصلانی، مهری حبیبی و مانا علومی. مجله علمی- پژوهشی پزشکی دانشور- انتشارات دانشگاه شاهد- تیر ماه ۱۳۸۶

- **Published Contribution to Conferences:**

1. Bioinformatics studies and assessment the immunogenicity of a truncated fusion protein composed of iron scavenger receptors of *Proteus mirabilis* as a novel vaccine candidate against urinary tract infection. Mohammad Reza Asadi Karam, Mehri Habibi, Saied Bouzari. The 28th ECCMID congress, 21-24 April 2018, Spain, Madrid.

2. Designing and evaluation the efficacy of a new vaccine candidate composed of flagellin and MR/P fimbriae of *Proteus mirabilis* strains against urinary tract infections. Mehri Habibi, Mohammad Reza Asadi Karam, Saeid Bouzari. The 28th ECCMID congress, 21-24 April 2018, Spain, Madrid.

3. Construction and assessment of a fusion protein from different antigens of uropathogenic *Escherichia coli* isolates as a new vaccine candidate against urinary tract infection. Mohammad Reza Asadi Karam, Mehri Habibi, Saied Bouzari. The 27th ECCMID congress, 22-25 April 2017, Austria, Vienna.

4. *In silico* design and *in vitro* expression of Multiepitope Subunit Vaccine from uropathogenic *Escherichia coli* against urinary tract infections. Sara Hasanzadeh, Saied Bouzari, Mohammad Reza Asadi Karam, Mehri Habibi, Kahdijeh Ahmadi. The 27th ECCMID congress, 22-25 April 2017, Austria, Vienna.

5. Phenotypic and genotypic characterization of Proteus mirabilis isolated from patients with urinary tract infection. Arezoo Mirzaie, Saied Bouzari, Mohammad Reza Asadi Karam, Mehri Habibi. The 27th ECCMID congress, 22-25 April 2017, Austria, Vienna.

6. Determination of virulence genes among uropathogenis Escherichia coli (UPEC) and their association with clinical features of patients with urinary tract infection. Mohammad Reza Asadi Karam, Mehri Habibi, Saeid Bouzari. The 26th ECCMID congress, 9-12 April 2016, Amsterdam, the Netherland.

7. In silico studies, construction and expression of novel fusion protein MrpH.FimH.FliC against urinary tract infections. Zakaria Bameri, Mohammad Reza Asadi Karam, Mehri Habibi, Mana Oloomi, Parastoo Ehsani, Saeid Bouzari. The 26th ECCMID congress, 9-12 April 2016, Amsterdam, the Netherland.

8. Construction and evaluation of vaccine candidate fimH.fliC against *Escherichia coli* urinary tract infection. Asadi Karam M, Oloomi M, Habibi M, Bouzari S. International Journal of Infectious Diseases. Volume 16, Supplement 1. June 2012, page 300. 15th International Congress on Infectious Diseases (ICID), June 13-16 2012, Bangkok, Thailand.

9. Molecular Characterization of Diarrheagenic *Escherichia coli*. Bouzari, S., Jafari, A. Asadi Karam, M.R. Aslani, M.M. Oloomi, M. Shahrokhi, N. Dashti, A. International Journal of Infectious Diseases, June 15-18, 2006, Lisbon Portugal.

10. Expression and purification of an iron scavenger receptor of *Proteus mirabilis* as a new target against urinary tract infections. Mohammad Reza Asadi Karam, Mehri Habibi. The 19th International congress of Microbiology 4-6 September 2018, Tehran, Iran.

11. Assessment of frequency and nucleotide sequence of iron receptor PMI0842 in *Proteus mirabilis* collected from urinary tract infections cases in Tehran, Iran. Behnam Kaveie, Mehri Habibi, Mohammad Reza Asadi Karam. The 19th International congress of Microbiology 4-6 September 2018, Tehran, Iran.

12. Detection of plasmid mediated quinolone resistance genes among *Klebsiella pneumoniae* isolates collected from urinary tract infections. Shaghayegh Shahkolahi, Mohammad Reza Asadi Karam, Saied Bouzari, Mehri Habibi. The 19th International congress of Microbiology 4-6 September 2018, Tehran, Iran.

13. Detection and sequence evaluation of *upaH* gene among Uropathogenic *Escherichia coli* isolated from urinary tract infections as a new vaccine candidate. Saba Azimi, Mohammad Reza Asadi Karam, Saied Bouzari, Mehri Habibi. The 19th International congress of Microbiology 4-6 September 2018, Tehran, Iran.

14. Evaluation of motility inhibition of Uropathogenic *Escherichia coli* isolates by antibodies induced against flagella of the isolates. Asadi Karam MR*, Habibi M, Bouzari S. 6th International Congress of Laboratory& Clinic 12-14 February 2014, Tehran, Iran.

15. Causative agents and antimicrobial susceptibilities of urinary tract infections in Tehran hospitals. Asadi Karam MR*, Habibi M, Asadi Karam A, Shahidian H, Tabasi M. 6th International Congress of Laboratory& Clinic 12-14 February 2014, Tehran, Iran.

16. Determination of prevalence and antibiotic resistance of isolated bacteria from tracheal aspirated in intubated to intensive care unit at imam hossein hospital, Tehran. Tabasi M, Asadi Karam MR, Skandarion MR, Zamani F. 6th International Congress of Laboratory& Clinic 12-14 February 2014, Tehran, Iran.

17. In vitro biofilm formation by uropathogenic Escherichia coli and their antimicrobial susceptibility patterns in various hospitals of Tehran, Iran. Tabasi M, Asadi Karam MR*, Habibi M, Bouzari S. 7th International Congress of Laboratory& Clinic 12-14 February 2015, Tehran, Iran.

18. First general report of metallo-beta-lactamase (MBL) producing *Pseudomonas aeruginosa* in various hospitals in capital of Iran-Tehran. Tabasi M, Asadi Karam MR*, Azardokht Tabatabai. 7th International Congress of Laboratory& Clinic 12-14 February 2015, Tehran, Iran.

19. Biofilm assay in clinical isolated of Proteus mirabilis from urinary tract infection. Mirzaei M, Asadi Karam MR*, Habibi M. 8th International Congress of Laboratory& Clinic 12-14 February 2016, Tehran, Iran.

20. Distribution of genes encoding toxins among Uropathogenic *Escherichia coli* (UPEC) isolated from patients with cystitis, pyelonephritis and asymptomatic bacteriuria. Tabasi M, Asadi Karam MR*, Habibi M, Bouzari S. The 3nd Iranian congress of medical Microbiology 13-15 November 2015, Tehran, Iran.

21. Association of adhesin virulence determinants in Uropathogenic *Escherichia coli* with clinical manifestation of patients with urinary tract Infection Tabasi M, Asadi Karam MR*, Habibi M, Bouzari S. The 3nd Iranian congress of medical Microbiology 13-15 November 2015, Tehran, Iran.

22. Construction and assessment of immune responses of a new candidate vaccine against urinary tract infection. Asadi Karam MR, Habibi M, Oloomi M, Bouzari S. Presented the Lecture in the 14th International Iranian congress of Microbiology 28-30 August 2013, Tehran, Iran.

23. Phenotypic characterization of uropathogenic Escherichia coli isolates in urinary tract infection. Asadi Karam MR, Habibi M. The 2nd Iranian congress of medical Microbiology 2-4 October 2013, Tehran, Iran.

24. Detection of *mrpH* gene among *Proteus mirabilis* isolated from urinary tract infections as a new vaccine candidate. Habibi M, Asadi Karam MR, oloomi M, Jafari A, Shokrgozar MA,

Bouzari S. The 14th International Iranian congress of Microbiology 28-30 August 2013, Tehran, Iran.

25. Construction and expression of vaccine candidate fimH/fliC against *Escherichia coli* urinary tract infection. Asadi Karam M, Oloomi M, Bouzari S. Presented the Lecture entitled in the 11th Intarnational Congress of Immunology& Allergy, 26-29 April 2012, Tehran, Iran.

26. Detection and Molecular Typing of Attaching and Effacing Gene in Diarrheagenic *E.coli*. Bouzari, S., Jafari, A. Asadi Karam, M.R. Asalni, M.M. Oloomi, M. Shahrokhi, N. The 7th Iranian congress of Microbiology 1-3 Feb. 2005, Semnan, Iran.

27. Detection of intimin β gene among diarrheagenic *Escherichia coli*. Asadi Karam MR, Dashti Khavidak A, Jafari A, Oloomi M, Shahrokhi N, Bouzari S. The 14th Iranian congress on infectious Disease and tropical medicine 17-21 Dec 2005, Tehran, Iran.

28. Comparison of phenotypic and genotypic methods in detection of *Staphylococcus aureus* isolates. Habibi M, Asadi Karam M, Saderi H. The 10th Iranian congress of Microbiology 21-23 April 2009, Ilam, Iran.

29. Expression and evaluation of antibody response of dispersin protein of Enteroaggregative *Escherichia coli* as a detection tool. Asadi Karam MR*, Rezaei A, Siadat SD, Habibi M, Bouzari S. Presented the Lecture entitled in 12th International Congress of Immunology& Allergy, 29 April-2 May 2014, Tehran, Iran.

30. Construction and expression of a new vaccine candidate against urinary tract infections. Habibi M*, Asadi Karam MR, Oloomi M, Jafari A, Shokrgozar MA, Bouzari S. Presented the Lecture entitled in 12th International Congress of Immunology& Allergy, 29 April-2 May 2014, Tehran, Iran.

31. Intranasal immunization with recombinant FimH fused with flagellin enhances immunity against urinary tract infection. Asadi Karam MR*, Habibi M, Bouzari S. Presented the Lecture entitled in the 15th International congress of Microbiology 26-28 August 2014, Tehran, Iran.

32. Antimicrobial susceptibility pattern of Escherichia coli causing urinary tract infections in Tehran, Iran. Mohsen Tabasi, Asadi Karam MR, Habibi M, Bouzari S. The 15th International congress of Microbiology 26-28 August 2014, Tehran, Iran.

33. Phenotypic characterization of Uropathogenic *Escherichia coli* strains isolated from patients with urinary tract infection in Tehran, Iran. Mohsen Tabasi, Asadi Karam MR, Habibi M, Bouzari S. The 15th International congress of Microbiology 26-28 August 2014, Tehran, Iran.

34. Construction and assessment of novel fusion protein MrpH.FimH against urinary tract infection. Mehri Habibi, Asadi Karam MR, Mana ollomi, Anis Jafari, Bouzari S. The 15th International congress of Microbiology 26-28 August 2014, Tehran, Iran.

35. In silico studies for construction of novel fusion protein MrpH.FimH against urinary tract infection. Mehri Habibi, Asadi Karam MR, Mana ollomi, Anis Jafari, Bouzari S. The 15th International congress of Microbiology 26-28 August 2014, Tehran, Iran.

36. Antibiotic susceptibility pattern of Pseudomonas aeruginosa isolated from patients with urinary tract infection admitted to different hospitals of Tehran, Iran. Mohsen Tabasi, Asadi Karam MR. The 15th International congress of Microbiology 26-28 August 2014, Tehran, Iran.

37. EVALUATION OF EFFICACY OF CHOLERA TOXIN (CT) AS AN ADJUVANT IN THE ENHANCEMENT OF IMMUNE RESPONSES AGAINST UROPATHOGENIC *ESCHERICHIA COLI* ANTIGENS. Asadi karam MR, Habibi M, Bouzari S. Presented the Lecture entitled in the 16th International congress of Microbiology 25-27 August 2015, Tehran, Iran.

38. DISTRIBUTION OF GENES ENCODING TOXINS AMONG UROPATHOGENIC *ESCHERICHIA COLI* (UPEC) ISOLATED FROM PATIENTS WITH CYSTITIS, PYELONEPHRITIS AND ASYMPTOMATIC BACTERIURIA. Tabasi M, Asadi karam MR, Habibi M, Bouzari S. The 16th International congress of Microbiology 25-27 August 2015, Tehran, Iran.

39. DESIGNING AND IN SILICO STUDYING FUSION PROTEIN MRPH.FIMH.FLIC AGAINST URINARY TRACT SYSTEM INFECTIONS. Asadi karam MR, Oloomi M, Habibi M, Ehsani P, Bouzari S, Bameri Z. The 16th International congress of Microbiology 25-27 August 2015, Tehran, Iran.

40. EVALUATION OF INNATE IMMUNE RESPONSES OF FUSION PROTEIN MRPH.FIMH FROM UROPATHOGENIC *ESCHERICHIA COLI* AND *PROTEUS MIRABILIS*. Habibi M, Asadi karam MR, Oloomi M, Bouzari S. Presented the Lecture entitled in the 16th International congress of Microbiology 25-27 August 2015, Tehran, Iran.

41. Determination of the prevalence of the genes encoding outer membrane siderophore receptors in uropathogenic *Escherichia coli* isolated from urinary tract infections as new vaccine candidates. Asadi karam MR, Habibi M, Bouzari S. The 17th International congress of Microbiology 23-25 August 2016, Tehran, Iran.

42. Hemagglutination properties of Proteus mirabilis isolated from urinary tract infection. Mirzaie A, Habibi M, Bouzari S, Asadi Karam MR. The 17th International congress of Microbiology 23-25 August 2016, Tehran, Iran.

43. Bioinformatics studies, cloning and expression of fusion protein MrpA.FliC of *Proteus Mirabilis* as a new target against urinary tract infection. Shabnam Bahadori, Saeid Bouzari, Mohammad Reza Asadi Karam, Mehri Habibi. The 17th International congress of Microbiology 23-25 August 2016, Tehran, Iran.

44. Designing and *in silico* studies of fusion protein FliC.MrpH against urinary tract infections caused by *Proteus Mirabilis*. Ali mohammad Shirzad, Mehri Habibi, Saeid Bouzari, Mohammad Reza Asadi Karam*. The 17th International congress of Microbiology 23-25 August 2016, Tehran, Iran.

45. Molecular analysis of Metallo beta-lactamase resistance genes among uropathogenic *Escherichia coli* isolated from urine of patients with urinary tract infection. Shahla Shahbazi, Mohammad Reza Asadi Karam, Mehri Habibi, Saied Bouzari. The 17th International congress of Microbiology 23-25 August 2016, Tehran, Iran.

46. Expression and purification the MrpA protein of *Proteus mirabilis* as a new target against urinary tract infections. Ehsan Choubini, Ahmad Khorshidi, Mehri Habibi, Saeid Bouzari, Abbas Allahverdi, Mohammad Reza Asadi Karam*. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

47. Phenotypic characterization of virulence factors in *Klebsiella Pneumoniae* isolated from patients with urinary tract infections in Iran. Fatemeh Eghbalpour, Mehri Habibi, Saeid Bouzari, Mohammad Reza Asadi Karam*. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

48. Expression and purification the yersiniabactin iron receptor of uropathogenic *Escherichia coli* isolates as a target against urinary tract infection. Mohammad Reza Asadi Karam*, Saeid Bouzari, Mehri Habibi. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

49. Antibiotic sucheptibility patterns of Klebsiella pneumoniae strain isolated from urinary speciments. Fatemeh Eghbalpour, Mohammad Reza Asadi Karam*. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

50. Cloning and purification the Flagellin (FliC) protein of *Proteus mirabilis* isolates as an adjuvant in vaccines against urinary tract infection. Mehri Habibi, Mohammad Reza Asadi Karam, Saeid Bouzari. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

51. Assessment the correlation between the prevalence of the genes encoding iron uptake receptors with biofilm formation in uropathogenic *Escherichia coli* isolated from urinary tract infections. Mehri Habibi, Saied Bouzari, Mohammad Reza Asadi Karam. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

52. IN SILICO DESIGN AND IN VITRO EXPRESSION OF MULTIEPITOPE SUBUNIT VACCINE FROM UROPATHOGENIC ESCHERICHIA COLI AGAINST URINARY TRACT INFECTIONS. Sara Hasanzadeh, Saied Bouzari, Mohammad Reza Asadi Karam, Mehri Habibi, Khadijeh Ahmadi. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

53. CLONING AND EXPRESSION OF HUMORAL-RELATED EPITOPES OF URINARY TRACT INFECTIONS INTO PBAD VECTOR. Zohreh Haghri, Jamil Khyrvari, Mohammad Reza Asadi Karam, Mehri Habibi, Mana Oloomi, Saied Bouzari. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

54. CLONING AND EXPRESSION OF CELLULAR-RELATED EPITOPES OF URINARY TRACT INFECTIONS INTO PBAD VECTOR. Jamil Khyrvari, Zohreh Haghri, Mohammad Reza Asadi Karam, Mehri Habibi, Mana Oloomi, Saied Bouzari. The 18th International congress of Microbiology 29-31 August 2017, Tehran, Iran.

Honor and Awards:

- Awarded as the first rank in the entrance exam of Ph.D course by Ministry of health and Medical education, 2006, Tehran, Iran.
- Awarded as the first rank in the entrance exam of M.Sc course by Shahid Beheshti University of Medical Sciences and Health Services, Tehran, Iran.
- Top graduation of Ph.D course, Pasteur Institute of Iran, Tehran, Iran.
- Top graduation of M.Sc course, Pasteur Institute of Iran, Tehran, Iran.
- Top graduation of Super Diploma course, Kerman University of Medical Sciences and Health Services, Kerman, Iran.
- Receive of writing card and join to society of writers in Iran.
- Awarded as the best article (Oral presentation) presented in The 16th International congress of Microbiology 25-27 August 2015, Tehran, Iran.
- Awarded as the best assistant professor in Pasteur Institute of Iran, 1398.

Some current and previous projects:

Proposals*:*				
Topic	**Funding Organization**	**Start Date** (YY/MM/DD)	**End Date** (YY/MM/DD)	**Total Budget [in million Rial]**
Evaluation of humoral immune responses against designed vaccine candidates based on uropathogenic *Escherichia coli* and *Proteus mirabilis* virulence factors in patients with urinary tract infection	Pasteur Institute of Iran	1399/09/15	1401/09/15	620000000
Generation of a recombinant *Lactococcus lactis* strain expressing a multi-peptide composed of proteins S, nsp3, nsp8, and protein N of SARS-Cov-2 virus and evaluation of its immunogenicity in animal	NIMAD	1399/06/20	1401/06/20	1050000000

model				
Generation of a recombinant *Lactococcus lactis* strain expressing the receptor binding domain of proteins S of SARS-Cov-2 virus	صندوق توسعه زیست فناوری کشور	2020	2022	880000000
ارزیابی برون تنی کارایی نانوذرات کیتوزان حاوی پپتید ضد بیوفیلم IDR-1018 پوشش داده شده بر سطح کاتترهای ادراری در ممانعت از کلونیزاسیون سویه های اشرشیاکلی یوروپاتوژنیک	Pasteur Institute of Iran	1398/09/30	1400/08/05	340000000
ارزیابی درون تنی کارایی نانوذرات کیتوزان حاوی پپتید ضد بیوفیلم IDR-1018 پوشش داده شده بر سطح کاتترهای ادراری در ممانعت از کلونیزاسیون اشرشیاکلی یوروپاتوژنیک در مدل موشی	Pasteur Institute of Iran	1401/02/10	1402/04/09	650000000
ارزیابی ایمنی زایی لاکتوکوکوس لاکتیس نوترکیب بیان کننده پروتئین مولتی اپی توپ از آنتی ژن های شاخص بروسلا ملی تنسیس در مدل موشی	Pasteur Institute of Iran	1402/06/20	1403/06/03	1545000000
Evaluation of immunogenicity and protection of *Salmonella typhimurium* expressing the immunogenic epitopes of OMP25, BLS and BtuB from *Brucella Melitensis* and *Brucella abortus*	Pasteur Institute of Iran	1396/12/15	1398/12/15	415000000
Intranasal immunization with recombinant *Lactobacillus casei*	Pasteur Institute of Iran	1396/11/14	1398/11/14	350000000

strain displaying a multiepitope protein of uropathogenic *Escherichia coli* and evaluation of its immunogenicity and efficacy in the mice model				
Detection of diarrheagenic E. coli serotypes in Iran for identification of native serotypes and adapt necessary policies to follow in epidemic situation in country sensitive cells	Pasteur Institute of Iran, Ministry of health and medical education	1391/05/01	1396/05/01	1930000000
کلونینگ، بیان و تخلیص پروتئین های SucB ،DnaK ،GroEL ،FopA ، و Acetyl-CoA carboxylase فرانسیسلا تولارنسیس در FTT0975 میزبان بیانی اشریشیا کلای و استفاده از آنها در طراحی تست الایزا جهت تشخیص سرولوژیکی تولارمی در انسان	Pasteur Institute of Iran	1401/01/21	1403/01/20	1،282،400،000
Evaluation of FimH.FliC fusion protein administered intranasally as a vaccine candidate against urinary tract infection caused by uropathogenic *Escherichia coli*	Pasteur Institute of Iran	1392/05/15	1393/11/15	130000000
Construction and evaluation of fusion protein FimH.CNF1.Iron made of virulence factors of uropathogenic *Escherichia coli* as a novel vaccine candidate against urinary tract infection	Pasteur Institute of Iran, and Deputy of Research and Technology, Ministry of health	1393/11/25	1395/05/25	300000000
Designing and construction of screening ELISA kit based on the flagellin and endotoxin isolated from *Salmonella typhimurium* and *Salmonella entritidis* for detection of the bacteria in serum and food samples	Pasteur Institute of Iran	1394/11/19	1396/11/19	500000000

Construction, expression and characterization of recombinant hybrid protein consisting PorA protein neisseria meningitides serogroup A & B with OMV adjuvant in BALB/c Mice as a vaccine candidate	National Science Foundation Country, Deputy for Science and Technology	1394/05/10	1396/05/10	250000000
Designing and construction of a polyepitope vaccine from bacteria causing urinary tract including: uropathogenic *Escherichia coli, Proteus mirabilis* and *Klebsiella pneumonia* and evaluation of its immunogenicity and protection	Pasteur Institute of Iran	1393/07/10	1395/07/10	200000000
Evaluation of immune responses and the protection level of a fusion protein containing antigenic epitopes MrpA, UcaA and Pta of *Proteus mirabilis* strains in BALB/C mice	Pasteur Institute of Iran	1393/07/10	1395/07/10	250000000
Detection of microbiome in urinary tract of patients with urinary tract infection and normal humans without urinary tract infection	Pasteur Institute of Iran	1394/12/01	1396/12/01	130000000
Screening of bile samples collected from patients in 4 hospitals in Tehran, Iran for *Salmonella typhi*	Pasteur Institute of Iran	1395/01/21	1397/01/21	350000000
Determination of common pathogens forming biofilm on catheters of hospitalized patients, and evaluation of the genes involved in this process with special reference to uropathogenic *E. coli* (UPEC)	Pasteur Institute of Iran	1394/12/08	1395/12/08	130000000
Detection of phenotypic and genotypic Pseudomonas aeruginosa strains isolated from patients with urinary tract	Research center, Rasoul Akram hospital, Medical university of Iran	1393/03/1	1395/03/1	95070000

infection				
Evaluation of apoptosis in pcDNA_Apoptin in 6 cell lines as a gene therapy construct	Pasteur Institute of Iran	1394/06/1	1395/06/1	50000000
Evaluation of the frequency of virulence genes and antibiotic resistance among Proteus mirabilis isolated from urinary tract infections in Iran and Tehran Medical hospitals	Research center of pediatrics infectious disease	1394/02/20	1395/02/20	100000000
Evaluation of frequency of plasmid genes encoding quinolone resistance including qnrA, qnrB, aac(6)-lb-cr, qepA in *Escherichia coli* isolated from urinary tract infection by PCR method	Research center of pediatrics infectious disease	1393/03/21	1395/03/21	100000000
Construction of recombinant *Listeria monocytogenes* expressing FimH and evaluation of the FimH production in THP1 macrophage	Pasteur Institute of Iran	1393/03/23	1395/03/23	130000000

Workshop holdings:

1- The use of bioinformatics and immunoinformatics for prediction of B- and T- cell epitopes in designing of recombinant vaccine candidates. As the organizer and presenter, Pasteur Institute of Iran, 2017-2025.

2- The use of bioinformatics softwares in designing of bacterial vaccines. As the As the organizer and presenter, Pasteur Institute of Iran, 2018-2025.

3- The use of molecular methods in identification and detection of bacterial pathogens, As the As the organizer and presentor, Azad university of Sharbabak, Keramn, 2018-2025.

4- The use of genetic engineering methods for designing of animal vaccines, As the As the organizer and presentor, Azad university of Sharbabak, Keramn, 2018-2025.

5- Immunoinformatic and Reverse vaccinology, Pasteur Institute of Iran, 2024.

6- Genetic engineering, cloning and expression, Tarbiat modarres university, 2023.

Activities and responsibilities in the congress and seminars:

- **The member of Editorial Board the "Public Health-Open journal" from 2015 to now**
- Contribution to "The 1st International Congress on Health Genomics and Biotechnology" and " The 4th Iranian Congress of Genetic Disorders and Disabilities" as an active member in scientific activities, 24-26 November 2007, Tehran, Iran.
- Contribution to "The 1st International Congress on Health Genomics and Biotechnology" and "The 4th Iranian Congress of Genetic Disorders and Disabilities" as a scientific referee, 24-26 November 2007, Tehran, Iran.
- Contribution to "The 15th International congress of Microbiology" as an active member in executive and scientific committee, 26-28 August 2014, Tehran, Iran.
- Contribution to "The 15th International congress of Microbiology" as a scientific referee, 26-28 August 2014, Tehran, Iran.
- Contribution to "The 16th International congress of Microbiology" as an active member in scientific committee, 25-27 August 2015, Tehran, Iran.
- Contribution to "The 16th International congress of Microbiology" as a scientific referee, 25-27 August. 2015, Tehran, Iran.
- Contribution to "The 17th International congress of Microbiology" as an active member in scientific committee, 23-25 August 2016, Tehran, Iran.
- Contribution to "The 17th International congress of Microbiology" as a scientific referee, 23-25 August 2016, Tehran, Iran.
- Contribution to "The 18th International congress of Microbiology" as an active member in scientific committee, 29-31 August 2017, Tehran, Iran.

- Contribution to "The 18th International congress of Microbiology" as a scientific referee, 29-31 August 2017, Tehran, Iran.
- Contribution to "The 19th International congress of Microbiology" as an active member in scientific committee, 4-6 September 2018, Tehran, Iran.
- Contribution to "The 19th International congress of Microbiology" as a scientific referee, 4-6 September 2018, Tehran, Iran.
- Contribution to "The 18th International congress of Microbiology" as an active member in scientific committee, 2019, Tehran, Iran.
- Contribution to "The 18th International congress of Microbiology" as an active member in scientific committee, 2020-2025, Tehran, Iran.
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Teachings:

- Teaching of Hematology for laboratory science students of University of Shahrebabak, Kerman, 2005.
- Teaching of Medical Microbiology course for Ph.D students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Cellular and Molecular Biology course for M.Sc students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.
- Teaching of New methods in Medical Biotechnology as practical course for Ph.D students of Pharmaceutical Biotechnology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Physiology of Microorganisms course for Ph.D students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Cellular and Molecular Biology course for M.Sc students of Medical Microbiology, Shahed University, Tehran, Iran, 2013.
- Teaching of Genetic of Microorganisms course for M.Sc students of Medical Microbiology, Shahed University, Tehran, Iran, 2013.
- Teaching of Genetic of Microorganisms course for M.Sc students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.

- Teaching of Bacterial Advanced Genetic as theoretical and practical course for Ph.D students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Cellular and Molecular Biology in Prokaryote and Eukaryote course for M.Sc students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Practical Bacteriology course for M.Sc students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Cellular and Molecular Biology course for Ph.D students of Medical Biotechnology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Medical Microbiology as theoretical and practical courses for M.Sc students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Detection of anaerobic bacteria as practical course for Ph.D students of Medical Microbiology, Pasteur Institute of Iran, 2012 onward.
- Teaching of Bioinformatic course for Ph.D students of Medical Microbiology, Pasteur Institute of Iran, 2016 onward.
- Teaching of Molecular Epidemiology course for Ph.D students of Medical Microbiology, Pasteur Institute of Iran, 2015 onward.
- Teaching of Bacterial Pathogenesis course for Ph.D students of Medical Microbiology, Pasteur Institute of Iran, 2015 onward.
- Teaching of Genetic Engineering and Molecular genetic course for Ph.D students of Medical Biotechnology, Pasteur Institute of Iran, 2015 onward.
- Teaching of Molecular detection of bacteria as practical course for Ph.D students of Medical Microbiology, Pasteur Institute of Iran, 2015 onward.
- Teaching of Biochemistry course for laboratory science students of University of Shahrebabak, Kerman, 2016.

Patents (in Iran):

- "Evaluation of fusion FimH.FliC as a vaccine candidate against urinary tract infection caused by *Escherichia coli* strain in animal model" with registered number: 78577.

- "Evaluation of Montanide adjuvant in combination with FimH and FliC antigens of *Escherichia coli* as an candidate against urinary tract infection caused by *Escherichia coli*" with registered number: 80435.
- "Construction of fusion protein MrpH.FimH from *Proteus mirabilis* and *Escherichia coli* isolates and evaluation of its ability in stimulation of innate immunity" with registered number: 85264.
- "Evaluation of fusion MrpH.FimH admixed with MPL adjuvant administered intranasally as a vaccine candidate against urinary tract infection caused by *Escherichia coli* and *Proteus mirabilis* strains" with registered number: 88697.

GeneBank Submissions:

1. **DQ486634.1**: Escherichia coli strain MBU.E coli-76-2 intimin gene, partial cds.
2. **JX847136.1**: Escherichia coli strain MM_1857 *fliC* gene, complete cds.
3. **JX847135.1**: Escherichia coli strain MM_1856 *fimH* gene, complete cds.
4. **JX624727.1**: Synthetic construct FimH.FliC fusion gene, complete cds.
5. **KJ028043:** Escherichia coli strain *aap* gene, partial cds.
6. **KJ182940:** Synthetic construct FimH.MrpH fusion gene, complete cds.
7. **KJ130024:** Escherichia coli *mrpH1* gene, complete cds.
8. **KJ130025:** Escherichia coli strain *mrpH2* gene, complete cds.

Local and National Service

2014-2025 Reviewer, Pasteur Institute of Iran, J Med Microbiol Infec Dis

2014-2025 Reviewer, Pasteur Institute of Iran, Vaccine Research

2014-2025 Reviewer, Pasteur Institute of Iran, Iranian Biomedical Journal, index in PubMed

2015-2025 Reviewer, Microbial Pathogenesis, ISI-PubMed index journal

2015-2025 Reviewer, Journal of Clinical and diagnostic Research, index in PubMed

2015-2025 Reviewer, Iranian Journal of Microbiology, Tehran, Iran, index in PubMed

2015-2025 Reviewer, BioMed Research International, ISI-PubMed index journal

Workshops:

- Participation in the "Microarray" workshop, held by Pasteur Institute of Iran, Aug 13-15, 2005.
- Participation in the "SPSS software" workshop, held by Pasteur Institute of Iran, May 2011.
- Participation in the "Scientific Writing" workshop, held by Pasteur Institute of Iran, June 2011.
- Participation in the "Biosafety" workshop, held by Pasteur Institute of Iran, Aug 2009.
- Participation in the "Laboratory animals" workshop, held by Pasteur Institute of Iran, 2013.
- Participation in the "Microbial resistance" workshop, held by Pasteur Institute of Iran, 2018.
- Participation in the "Proteomics" workshop, held by Pasteur Institute of Iran, 2010.

Contribution to conferences:

- Contribution to "The 15th International Congress on Infectious Diseases (ICID)", June 13-16 2012 Bangkok, Thailand.
- Contribution to "The 7th International Immunology& Allergy Congress", 15-17 May 2006, Mashhad, Iran.
- Contribution to "The 10th International Congress of Immunology& Allergy", April 2012, Tehran, Iran.
- Contribution to "The 11th International Congress of Immunology& Allergy", April 2013, Tehran, Iran.
- Contribution to "The 12th International Congress of Immunology& Allergy", April 2014, Tehran, Iran.

- Contribution to "The 13th International Congress of Immunology& Allergy", April 2015, Tehran, Iran.
- Contribution to "The 14th International Congress of Immunology& Allergy", April 2015, Tehran, Iran.
- Contribution to "The 1st International Congress on Health Genomics and Biotechnology" and "The 4th Iranian Congress of Genetic Disorders and Disabilities", 24-26 Nov. 2007, Tehran, Iran.
- Contribution to "The 14th Iranian congress on infectious Disease and tropical medicine" 17-21 Dec. 2005, Tehran, Iran.
- Contribution to "The 7th Iranian congress of Microbiology", 1-3 Feb. 2005, Semnan, Iran.
- Contribution to "The 10th Iranian congress of Microbiology" 21-23 April 2009, Ilam, Iran.
- Contribution to "The 14th International congress of Microbiology", Aug. 2012, Tehran, Iran.
- Contribution to "The 15th International congress of Microbiology", Aug. 2014, Tehran, Iran.
- Contribution to "The 16th International congress of Microbiology", Aug. 2015, Tehran, Iran.
- Contribution to "The 17th International congress of Microbiology", Aug. 2016, Tehran, Iran.
- Contribution to "The 18th International congress of Microbiology", Aug. 2017, Tehran, Iran.
- Contribution to "The 19th International congress of Microbiology", Aug. 2018, Tehran, Iran.
- Contribution to "The 2nd Iranian congress of Medical Bacteriology", 2-4 Oct. 2013, Tehran, Iran.
- Contribution to "The 3th Iranian congress of Medical Bacteriology", 2-4 Oct. 2014, Tehran, Iran.

- Contribution to "The second Franco-Iranian Seminar" on "advances in Oncology", 16-17 May 2003, Tehran, Iran.
- Contribution to "The Third Iranian Proteomics Congress", Pasteur Institute of Iran, May 26-27, 2010, Tehran, Iran.
- Contribution to "The Immunology-Leishmania Immunology Seminar", Pasteur Institute of Iran, May 2009, Tehran, Iran.
- Contribution to "The 2th Iranian Virology Congress", 24-26 Dec 2002, Tehran, Iran.

Supervisor and advisor of M.Sc projects:

1. Mohsen Tabasi: Phenotypic and Genotypic characterization of *Escherichia coli* isolated from patients with urinary tract infection, Pasteur Institute of Iran, Tehran, Iran.

2. **Arezoo Mirzaei**: Phenotypic and Genotypic characterization of *Proteus mirabilis* isolated from patients with urinary tract infection, Pasteur Institute of Iran, Tehran, Iran.

3. **Fatemeh Eghbalpoor**: Evaluation of Characteristics of *Klebsiella Pneumonia* isolated from urinary tract infections, Pasteur Institute of Iran, Tehran, Iran.

4. Behnam Kaveie: Evaluation of Genotype, cloning, expression and purification of Iron scavenger factors in *Proteus mirabilis* isolated from urinary tract infections, Pasteur Institute of Iran, Tehran, Iran.

5. Ehsan Chubini: Designing of a new target against urinary tract infections and evaluation of it efficacy in animal models, Kashan Medical University, Kashan, Iran.

6. Shahla Shahbazi: Phenotypic and genotypic evaluation of frequency of genes encoding resistance to beta lactamase (ESBL) in *Escherichia coli* isolated from urinary tract infections, (Co-supervisor) Pasteur Institute of Iran, Tehran, Iran.

7. Mohammad Shirzad: Construction of MrpH.FliC construct from *Proteus mirabilis* and evaluation of adjuvant properties of FliC in stimulation of immune responses against MrpH antigen, (Co-supervisor) Pasteur Institute of Iran, Tehran, Iran.

8. Farhad Emami. Molecular evaluation of Extended-spectrum beta lactamases (ESBLs), AmpC beta-lactamase and class 1 integrons in *Proteus mirabilis* isolated from patients with urinary tract infection, Pasteur Institute of Iran, Tehran, Iran.

9. Maryam Pouraskari: Construction, expression and purification of galactose-dehydrogenase from bacterial strains, Azad University of Tehran, Iran.

10. Mahdieh NaserBakht: Production of recombinant form Dehydrolipoel hydrogenase isolated from *Bacillus badius* KZ19, Azad University of Tehran, Iran.

11. Masomeh Omid-Ali: Evaluation of hypermethylation in promoter of inhibitor genes of tumor growth dnmt3a and dnmt3b with endometrial cancer.

12. **Kimia Talebi**: Design and construction of a brucella vaccine candidate based on BP26 antigen loaded in niosome adjuvant system and evaluation of its humoral response in mouse model

13. **Mahsa Vadadi**: Design and synthesis of a multi-epitope peptide from immunodominant proteins from brucella proteins using Reverse.

14. Shabnam Bahadori: Designing, construction, and expression of hybrid protein FliC.MrpA isolated from Proteus mirabilis in prokaryotic expression system, Pasteur Institute of Iran, Tehran, Iran.

Supervisor of Projects (Ph.D):

1- **Sara Hasanzadeh**: Construction and characterization of silk nanoparticles as an adjuvant and carrier system for polypeptides containing immunogenic epitopes FimH.IutA as a new vaccine candidate against urinary tract infection caused by uropathogenic *Escherichia coli*. Pasteur Institute of Iran, Tehran, Iran.

2- **Soodabeh Darakhshandeh**: Generation of a recombinant lactobacillus strain expressing FimH protein of standard uropathogenic *Escherichia coli* and evaluation of its specific immune responses in the mice model. Pasteur Institute of Iran, Tehran, Iran.

3- **Mohammad Rahimzadeh**: Genotyping of antibiotic resistance *Pseudomonas aeruginosa* isolates from urinary tract infections using the PFGE and MLST methods. Pasteur Institute of Iran, Tehran, Iran.

4- **Maryam Rezaie**: Evaluation of protective efficacy of Hma.FdeC.UpaB virulance genes of UPEC, associated with CTB and chitosan adjuvant against urinary tract infection. Pasteur Institute of Iran, Tehran, Iran.

5- **Azam Rezvani-Rad**. Design and construction of multi peptide antigen derived from virulence factors of *Pseudomonas aeruginosa* encapsulated in silk based carrier applicable fabrication against urinary tract infection. Pasteur Institute of Iran, Tehran, Iran.

6- **Maryam Parvaei**. Evaluation of the protectivity of gelatin-based nanoparticles carrying chimeric protein derived from proteins S and OprI of *Pseudomonas aeruginosa* in mice model.

7- **Shahla Shabazi**. Design and fabrication of a vaccine candidate based on rOmpA from *Klebsiella pneumoniae* encapsulated in silk/alginate nanoadjuvat against pneumonia infection.

8- **Samira Sabzi**. Design and fabrication of *Acinetobacter baumannii* vaccine candidate based on polydopamine nanoadjuvant carrying rOmp22 protein against respiratory infection (pneumonia) in mouse model.

9- **Rahim Pirhajati**. Design and fabrication of Brucella vaccine candidate based on a hybrid protein (OMP19, L7 / L12) loaded in Liposomal delivery system and evaluation of its immunogenicity in mice and sheep model.

10. **Fatemeh Navab-Moghadam**: Design of an ELISA kit for serological detection of Francisella tularemia in humans using recombinant proteins acetylcoA, FopA, GroEL, DnaK, Ftt0975 Francisella tularemia

11. **Safoura Moradkasani**: Preparation of niosomal nanostructure containing recombinant protein synthesized from immunodominant epitopes of *Francisella tularensis* proteins using Reveres Vaccinology and investigation of its immunogenicity in animal model.

12. **Erfaneh Jafari**: Evauation of the effect of recombinant phage endolysin on antibiotic-resistant Pseudomonas aeruginosa isolates.

13. Sheida Hedayat. Intranasal immunization with *Lactococcus lactis* expressing a multi-epitope protein composed of uropathogenic *Escherichia coli* and evaluation of humoral responses and its efficacy against urinary tract infection in the mice model.

Advisor of Projects (Ph.D):

1. Mehri Habibi: Construction, expression and characterization of recombinant hybrid protein consisting of FimH of Uropathogenic *E.coli* and MrpH of *Proteus mirabilis* as vaccine candidate against urinary tract infection, Pasteur Institute of Iran, Tehran, Iran.

2. Zakaria Bameri: Construction, expression and evaluation of recombinant hybrid truncated protein FimH.MrpH.FliC as a new vaccine candidate against urinary tract infection caused by uropathogenic *Escherichia coli* and *Proteus mirabilis,* Pasteur Institute of Iran, Tehran, Iran.

3. Safieh Aghaabdollahian: Designing of Pesillated form of CV+ and evaluation of its physicochemical and bioactivity, Pasteur Institute of Iran, Tehran, Iran.

4. Parviz Afrough: Evaluation of immune response of complex PorA recombinant protein Neisseria meningitides indigenous dominant strains of serogroup A & B, Pasteur Institute of Iran, Tehran, Iran.

5- Elnaz Harifi: Evaluation the inhibitor effects of antisense peptide nucleic acid oligomers conjugated to the peptides crossing from membrane in prevention the colonization and causing to urinary tract infection by uropathogenic *Escherichia coli*, Pasteur Institute of Iran, Tehran, Iran.

6. Neda Moazzezy: Antimicrobial activity of truncated HNP-1 (human neutrophil peptide 1) analogues, alone and in combination with antibiotics against urinary tract infection caused by UPEC.

Fields of interests:

1- Vaccine design and vaccine researches in bacterial infections such as urinary tract infections and intestinal pathogens

2- Molecular epidemiology studies such as Phenotypic and Genotypic detection of bacterial infections

3- Detection of antibiotic resistance among bacterial infections.

Skills and expertise:

Molecular biology techniques (PCR, RT-PCR, Real time PCR, Cloning, electrophoresis, DNA sequencing, protein expression in bacterial hosts, purification of expressed proteins…), Mammalian cell techniques (culture, transfection, intra cellular signaling analysis,…), Different animal studies (mouse, rabbit, guinea pig and hamster), Immunologic tests (Immunization, ELISA, Western blotting, ELISPOT, Cytokine assay …), Bacterial detection techniques (Phenotypic and Genotypic methods), antibiotic resistance studies (Phenotypic and Genotypic methods), Bioinformatics (Data submitting and retrieval to and from different molecular biology data bases, phylogenetic analyses, primary and secondary protein structure analyses,…), Medical statistical analyses (Excel, SPSS, Prism…), Epidemiological research methodologies, Principles of GMP, computer skills including Operating Systems: Dos, NC, Microsoft Windows, XP, Vista; Microsoft Office (Word, PowerPoint, Excel, Access, Publisher); Graphic (Adobe Photoshop); Webpage Designing (Macromedia Dreamweaver MX, Microsoft FrontPage XP); 2D Animation(Macromedia Flash MX); Reference Manager 12, EndNote X3.

Language skills: Persian (native language), English (speaking/writing good), Arabic (reading/understanding/writing: moderate)