

PERSONAL INFORMATION

Meysam Sarshar


✉ m.sarsharjeryandeh@unilink.it

🌐 <https://scholar.google.it/citations?user=oQaNVqMAAAAJ&hl=en&oi=ao> 🌐

<https://www.scopus.com/authid/detail.uri?authorId=55207523600> 🌐

<https://orcid.org/0000-0002-5726-2090>

20/12/2023-Present

Associate Professor in Clinical Microbiology (06/A3 SSD MED/07)

Link Campus University of Rome (Italy)

01/03/2020–Present

Principal Investigator

Research Laboratories, Bambino Gesù Children's Hospital, IRCCS, Rome (Italy)

Research Activities:

"MicroRNAs as messenger molecules for bacteria-host communications"

"Circulating biomarkers for the diagnosis and follow up of pediatric diseases and use of nanotechnology and 3D bioprinting approaches in biomedicine"

"Fecal microRNAs potential biomarkers of celiac disease and study of phenotypic and genotypic characteristics of *E. coli* for disease classification"

Association of intestinal permeability-derived miRNAs and pathogenic *E. coli* with insulin resistance "Feeding" cohort.

28/05/2021

Italian National Scientific Qualification (ASN 2018/2020) for Associate Professor (Scientific field: Microbiology and Clinical Microbiology, 06/A3 SSD MED/07)

01/03/2018–01/03/2020 Postdoctoral Research Fellow

Department of Public Health and Infectious Diseases, Sapienza University of Rome (Italy)

Research Activities:

"Scientific assessment of mechanical and physical effects of D-mannose for the prevention of urinary tract infections (UTIs)"

"FimH and anti-adhesive therapeutics: mannopyranoside antagonists as potential adhesion inhibitors against uropathogenic *Escherichia coli* (UPEC)"

"Adaptation strategies of UPEC: evaluation of transcriptional profiles of virulence/fitness factors of strain CFT073 incubated in synthetic urine and in contact with bladder cells"

01/12/2017–30/11/2018 Visiting Scientist

Microbiology Research Center (MRC), Pasteur Institute of Iran, Tehran (Iran)

Project title:

"Evaluation of gut microbiota pattern and related metabolites in Type 1 & 2 diabetic patients"

01/10/2014–13/02/2018 Ph.D. in Infectious Diseases, Microbiology and Public Health

EQF level 8

Department of Public Health and Infectious Diseases, Microbiology Section, Sapienza University of Rome (Italy)

Thesis title:

"*Escherichia coli* colonizes colorectal adenomatous polyps: insights into genotypic, phenotypic and pro-carcinogenesis features"

01/03/2017–31/08/2017 **Doctoral Fellowship**

FILAS S.p.A. Foundation Group, Lazio (Italy)

Department of Public Health and Infectious Diseases, Microbiology Section, Sapienza University of Rome, Rome (Italy)

Project title:

"Quantification and validation of innovative procedures for titration of DNA and RNA viruses"

15/06/2008–20/09/2012 **M.Sc. thesis/Project assistant**

EQF level 7

Department of Microbiology, Molecular Biology Unit, Institute Pasteur of Iran, Tehran (Iran)

Thesis title:

"Application of oligonucleotide array method for the rapid detection of foodborne pathogens"

20/09/2007–20/09/2010 **M.Sc. in Cellular and Molecular Biology- Microbiology**

EQF level 7

Department of Biology, Islamic Azad University of Jahrom, Jahrom (Iran)

01/06/2003–
06/09/2007 **B.Sc. in Cellular and Molecular Biology- Microbiology**

EQF level 6

Department of Biology, Islamic Azad University of Tonekabon, Tonekabon (Iran)

PERSONAL SKILLS

Mothertongue (s)

Persian (Farsi)

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Italian	B1	B1	B1	B2	B1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages - Self-assessment grid

PERSONAL SCIENTIFIC
COLLABORATIONS

2018–Present "Developing of bacteria-organoids co-cultivation experimental models and assessing the beneficial *E. coli*-based probiotics in IBD patient-derived intestinal organoids" (Sapienza University of Rome, Italy)

2019–Present "Intestinal organoids as a new model to unravel the role of exosomes in host-nematode interaction" (Sapienza University of Rome, Italy)

2019–Present "Therapeutic effects of FimH mannopyranoside antagonists as potential adhesion inhibitors against Uropathogenic *E. coli* (UPEC)" (Sapienza University of Rome, Italy and Department of Chemistry, Université du Québec à Montréal, Canada)

2020–Present "Taking it personally: identification of human-derived commensal *E. coli* as beneficial probiotics targeted for IBD" (Sapienza University of Rome, Italy)

2021–Present "Evaluation of the impact of bacterial superinfections in post-COVID19 patients and surveillance on antimicrobial resistance of major pulmonary pathogens" (Department of Human Sciences and Promotion of the Quality of Life, San Raffaele Roma Open University, Italy)

2021–Present "Network analysis of circulating and fecal microRNAs associated with intestinal *E. coli* pathoadaptation as predictors of obesity and co-existing comorbidities" (Research Laboratories, Bambino Gesù Children's Hospital, Rome, Italy)

JOB-RELATED SKILLS

Molecular biology techniques: Extraction of DNA, RNA, lipopolysaccharides and proteins from bacteria and eukaryotic cells, agarose and polyacrylamide gel electrophoresis, cloning, PCR, RT-PCR, Real-Time PCR, DNA sequencing, protein expression in bacterial hosts, Drug susceptibility testing (MIC), Dot blot hybridization, bacterial genotyping and phylogenetic techniques: RAPD-PCR, MLST and ERIC-PCR.

Microbiological techniques: Sterilization methods, preparation of culture media, cultivation of pathogenic and not pathogenic bacteria, isolation and preparation of pure cultures, preservation of microorganisms, Gram staining technique, bacteria identification using biochemical and molecular biology technique; bacterial conjugation, transduction and transformation, preparation and analysis of bacterial biofilms, motility assays, genotoxins production assays.

Cell cultures: Maintenance and propagation of cell cultures, techniques for cell separation, cell storage (freezing and thawing), bacterial infection, transfection. *Ex vivo* samples treatment (biopsies, fecal samples, swabs, etc.) for bacterial recovery and identification.

Statistical: Word processor, Excel, Vector NTI advance11, Gene Runner, GraphPad Prism, SPSS.

Images analysis tools: Photoshop CS6, ImageJ, Adobes, Image View software

Bioinformatics software: BLAST, CLUSTAL

Databases: NCBI, UNIPROT

SCIENTIFIC PUBLICATIONS

1. Mousavifar L, **Sarshar M**, et al. Insightful Improvement in the Design of Potent Uropathogenic *E. coli* FimH Antagonists. *Pharmaceutics*, **2023**, 15(2), 527; <https://doi.org/10.3390/pharmaceutics15020527>.
2. Perruzza L, Zagaglia C, Vitiello L, **Sarshar M**, et al. The *Shigella flexneri* virulence factor apyrase is released inside eukaryotic cells to hijack host cell fate. *Microbiology Spectrum*, **2023**, 11(6), e00775-23; <https://doi.org/10.1128/spectrum.00775-23>.
3. Mukherjee S, Patra R, Behzadi P, Masotti A, Paolini A, **Sarshar M**. Toll-like receptor-guided therapeutic intervention of human cancers: molecular and immunological perspectives. *Front. Immunol*, **2023**, 14:1244345; <https://doi.org/10.3389/fimmu.2023.1244345>.
4. Behzadi P, García-Perdomo HA, Autrán Gómez AM, Pinheiro M, **Sarshar M**. Uropathogens, urinary tract infections, the host-pathogen interactions and treatment. *Front. Microbiol*, **2023**, 14:1183236; doi: 10.3389/fmicb.2023.1183236
5. Ghorbani-Dalini S, Azarpira N, Sangtarash MH, Urbach V, Yaghoobi R, Soleimanpour-Lichaei HR, **Sarshar M**. Optimization of 3D islet-like cluster derived from human pluripotent stem cells: an efficient in vitro differentiation protocol. *Gene*. **2022**; 84500:146855; <https://doi.org/10.1016/j.gene.2022.146855>.
6. **Sarshar M**, Scribano D, Palamara AT, Ambrosi C, Masotti A. The *Acinetobacter baumannii* model can explain the role of small non-coding RNAs as potential mediators of host-pathogen interactions. *Front. Mol. Biosci*, **2022**; 9:1088783. <https://doi.org/10.3389/fmolb.2022.1088783>
7. Bellini I, Scribano D, **Sarshar M**, et al. Inflammatory response in Caco-2 cells stimulated with *Anisakis* messengers of pathogenicity. *Pathogens*, **2022**, 11(10), 1214; <https://doi.org/10.3390/pathogens11101214>.
8. Behzadi P, Ambrosi C, Scribano D, Zanetti S, **Sarshar M**, et al. Current perspectives on *Pseudomonas aeruginosa*: epidemiology, virulence and contemporary strategies to combat multidrug-resistant (MDR) pathogens. *Front. Microbiol*. **2022**; 13, 975616. <https://doi.org/10.3389/fmicb.2022.975616>.
9. **Sarshar M**, Scribano D, Behzadi P, Masotti A, Ambrosi C. Outer membrane vesicles are the powerful cell-to-cell communication vehicles that allow bacteria to monitor

- extracellular milieu. *ExRNA*. **2022**; <https://dx.doi.org/10.21037/exrna-22-18>.
10. Behzadi P, Sameer AS, Nissar S, Banday MZ, Gajdacs M, García-Perdomo HA, Akhter K, Pinheiro MB, Magnusson P, **Sarshar M**, Ambrosi C. The Interleukin-1 (IL-1) Superfamily Cytokines and Single Nucleotide Polymorphisms. *J Immunol. Res.* **2022**; 2054431. <https://doi.org/10.1155/2022/2054431>.
 11. Paolini A, Baldassarre A, Bruno SP, Felli C, Muzi C, Ahmadi Badi S, Siadat SD, **Sarshar M**, Masotti A. Improving the diagnostic potential of extracellular miRNAs coupled to multiomics data by exploiting the power of Artificial Intelligence. *Front Microbiol.* **2022**; 13: 888414. <https://doi.org/10.3389/fmicb.2022.888414>.
 12. Paolini A, **Sarshar M**, et al. Biomarkers to Monitor the Adherence to Gluten-free Diet by Celiac Disease Patients: Gluten Immunogenic Peptides and Urinary miRNAs. *Foods*. **2022**; 11(10), 1380; <https://doi.org/10.3390/foods11101380>.
 13. Marazzato M, Scribano D, **Sarshar M**, et al. Genetic Diversity of Antimicrobial Resistance and Key Virulence Features in Two Extensively Drug-Resistant *Acinetobacter baumannii* Isolates. *Int J Environ Res Public Health*. **2022**; 19(5), 2870. <https://doi.org/10.3390/ijerph19052870>.
 14. **Sarshar M**, et al. Adaptive strategies of the uropathogenic *Escherichia coli* CFT073: From growth in lab media to virulence during host cell adhesion. *Int. J. Microbiol.* **2022**; 25(3), 481–494. <https://doi.org/10.1007/s10123-022-00235-y>.
 15. Pompilio A, Scribano D, **Sarshar M**, et al. Gram-negative bacteria holding together in a biofilm: The *Acinetobacter baumannii* way. *Microorganisms*. **2021**; 9 (7), 1353. doi: 10.3390/microorganisms9071353.
 16. Scribano D, **Sarshar M**, et al. Urinary tract infections: Can we prevent uropathogenic *Escherichia coli* infection with dietary intervention. *Int J Vitam Nutr Res*. **2021**; 1-5. doi:10.1024/0300-9831/a000704.
 17. **Sarshar M**, et al. *Acinetobacter baumannii*: An Ancient Commensal with Weapons of a Pathogen. *Pathogens*. **2021**; 10(4):387. <https://doi.org/10.3390/pathogens1004038>.
 18. Ambrosi C, Prezioso C, Checconi P, Scribano D, **Sarshar M**, et al. SARS-CoV-2: Comparative analysis of different RNA extraction methods. *J Virol Methods*. **2021**; 287:114008. doi: 10.1016/j.jviromet.2020.114008.
 19. Ambrosi C, Scribano D, **Sarshar M**, et al. *Acinetobacter baumannii* Targets Human Carcinoembryonic Antigen-Related Cell Adhesion Molecules (CEACAMs) for Invasion of Pneumocytes. *mSystems*. **2020**;5(6):e00604-20. doi: 10.1128/mSystems.00604-20.
 20. **Sarshar M**, et al. Fecal microRNAs as Innovative Biomarkers of Intestinal Diseases and Effective Players in Host- Microbiome Interactions. *Cancers (Basel)*. **2020**; 12(8):2174. doi: 10.3390/cancers12082174.
 21. Hozhabri H, Picci Sparascio F, Sohrabi H, Mousavifar L, Roy R, Scribano D, De Luca A, Ambrosi C, **Sarshar M**. The Global Emergency of Novel Coronavirus (SARS-CoV-2): An Update of the Current Status and Forecasting. *Int J Environ Res Public Health*. **2020**; 17(16):5648. doi: 10.3390/ijerph17165648.
 22. Scribano D, **Sarshar M**, et al. d-Mannose Treatment neither Affects Uropathogenic *Escherichia coli* Properties nor Induces Stable FimH Modifications. *Molecules*. **2020**; 25(2):316. doi: 10.3390/molecules25020316.
 23. **Sarshar M**, et al. FimH and Anti-Adhesive Therapeutics: A Disarming Strategy Against Uropathogens. *Antibiotics (Basel)*. **2020**; 9(7):397. doi: 10.3390/antibiotics9070397.
 24. Mardani Valandani F, Ghorbani-Dalini S, Ramzi M, Aghababa H, **Sarshar M**, et al. Protective Effect of HLA-E*0101*0103 Genotype in Survival of Patients After Allogeneic Hematopoietic Stem Cell Transplant. *Exp Clin Transplant*. **2020** Apr 7. doi: 10.6002/ect.2019.0370.
 25. Ghorbani-Dalini S, Azarpira N, Sangtarash MH, Soleimanpour-Lichaei HR, Yaghobi R, Lorzadeh S, Sabet A, **Sarshar M**, Al-Abdullah IH. Optimization of activin-A: a breakthrough in differentiation of human induced pluripotent stem cell into definitive endoderm. *3 Biotech*. **2020**; 10(5):215. doi: 10.1007/s13205-020-02215-3.
 26. Ambrosi C, **Sarshar M**, et al. Colonic adenoma- associated *Escherichia coli* express

- specific phenotypes. *Microbes Infect.* **2019**; 21(7):305-312. doi: 10.1016/j.micinf.2019.02.001.
27. Sarshar M, et al. A simple, fast and reliable scan-based technique as a novel approach to quantify intracellular bacteria. *BMC Microbiol.* **2019**; 19(1):252. doi: 10.1186/s12866-019-1625-1.
 28. Scribano D, Marzano V, Levi Mortera S, Sarshar M, et al. Insights into the Periplasmic Proteins of *Acinetobacter baumannii* AB5075 and the Impact of Imipenem Exposure: A Proteomic Approach. *Int J Mol Sci.* **2019**; 20(14):3451. doi: 10.3390/ijms20143451.
 29. Ahmadi Badi S, Moshiri A, Fateh A, Rahimi Jamnani F, Sarshar M, et al. Microbiota-Derived Extracellular Vesicles as New Systemic Regulators. *Front Microbiol.* **2017**; 8:1610. doi: 10.3389/fmicb.2017.01610.
 30. Sarshar M, et al. Genetic diversity, phylogroup distribution and virulence gene profile of *pks* positive *Escherichia coli* colonizing human intestinal polyps. *Microb Pathog.* **2017**; 112:274-278. doi: 10.1016/j.micpath.2017.10.009.
 31. Nasrabadi Z, Ranjbar R, Poorali F, Sarshar M. Detection of eight foodborne bacterial pathogens by oligonucleotide array hybridization. *Electron Physician.* **2017**; 9(5):4405-4411. doi: 10.19082/4405.
 32. Ranjbar R, Mortazavi SM, Mehrabi Tavana A, Sarshar M, et al. Simultaneous Molecular Detection of *Salmonella enterica* Serovars *Typhi*, *Enteritidis*, *Infantis*, and *Typhimurium*. *Iran J Public Health.* **2017**; 46(1):103-111.
 33. Ghorbani-Dalini S, Kargar M, Doosti A, Abbasi P, Sarshar M. Molecular Epidemiology of ESBL Genes and Multi-Drug Resistance in Diarrheagenic *Escherichia Coli* Strains Isolated from Adults in Iran. *Iran J Pharm Res.* **2015**; 14(4):1257-62.
 34. Souod N, Sarshar M, et al. The study of the *oipA* and *dupA* genes in *Helicobacter pylori* strains and their relationship with different gastroduodenal diseases. *Gastroenterol Hepatol Bed Bench.* **2015**; 8(Suppl 1): S47-53.
 35. Sarshar M, et al. Simultaneous Detection of *Escherichia coli*, *Salmonella enterica*, *Listeria monocytogenes* and *Bacillus cereus* by Oligonucleotide Microarray. *Int J Enteric Pathog.* **2015**; 3(4): e30187.
 36. Momtaz H, Karimian A, Madani M, Safarpour Dehkordi F, Ranjbar R, Sarshar M. Uropathogenic *Escherichia coli* in Iran: serogroup distributions, virulence factors and antimicrobial resistance properties. *Ann Clin Microbiol Antimicrob.* **2013**; 12:8. doi: 10.1186/1476-0711-12-8.
 37. Souod N, Kargar M, Doosti A, Ranjbar R, Sarshar M. Genetic Analysis of *cagA* and *vacA* Genes in *Helicobacter Pylori* Isolates and Their Relationship with Gastroduodenal Diseases in the West of Iran. *Iran Red Crescent Med J.* **2013**; 15(5):371-5. doi: 10.5812/ircmj.3732. Epub 2013 May 5.
 38. Momtaz H, Dehkordi FS, Hosseini MJ, Sarshar M. Serogroups, virulence genes and antibiotic resistance in Shiga toxin-producing *Escherichia coli* isolated from diarrheic and non-diarrheic pediatric patients in Iran. *Gut Pathog.* **2013**; 5(1):39. doi: 10.1186/1757-4749-5-39.
 39. Momtaz H, Souod N, Dabiri H, Sarshar M. Study of *Helicobacter pylori* genotype status in saliva, dental plaques, stool and gastric biopsy samples. *World J Gastroenterol.* **2012**; 18(17):2105-11. doi: 10.3748/wjg.v18.i17.2105.
 40. Ranjbar R, Mohseni A, Moosavi A, Sarshar M, et al. The Prevalence of *Sodc1* and *Sope1* genes among the clinical serotypes of *Salmonella enterica* in Tehran, Iran. *J. Mil. Med.* **2014**; 16(3).
 41. Ranjbar R, Sarshar M. The study of genetic diversity among clinical strains of *Salmonella enterica* serovar *typhimurium*. *J. Mil Med.* **2012**; 14(1): 43-47.
 42. Sarshar M, et al. Detection of *Escherichia coli*, *Salmonella enterica* and *Shigella dysenteriae* by analysis of 23S ribosomal DNA gene. *J. Isfahan. Med Sch.* **2013**; 30(219); 2333-43. [In Persian]
 43. Ahmadi Z, Ranjbar R, Sarshar M. Genotyping of *Salmonella enterica* Serovar *enteritidis* strains isolated from clinical samples by Pulsed-Field Gel Electrophoresis (PFGE). *J.*

Isfahan. Med Sch. **2013**; 31(240): 819-29. [In Persian]

44. **Sarshar M**, et al. The study of antibiotic resistance and distribution of tetracycline resistance genes of diarrhoegenic *E. coli* from pediatric patients. *Iranian journal of infectious diseases and tropical medicine.* **2012**; 17(57): 13-18. [In Persian]
45. Ghorbani-Dalini S, Kargar M, Doosti A, Abbasi P, **Sarshar M**. Survey of Multidrug-resistant (MDR) ESBLs producing diarrhoegenic *E. coli* strains isolated from children under 5 Years of Age. *Iranian journal of infectious diseases and tropical medicine.* **2012**; 17(56): 13-19. [In Persian]

BOOK CHAPTER

- Karami A, **Sarshar M**, et al. Book title: The Prokaryotes: Other Major Lineages of Bacteria and The Archaea. Chapter: The Phylum Spirochaetaceae. *Springer Berlin Heidelberg.* Volume, 97836423895422014, **2014**, pp:915-929.
- Gajdác M, García-Perdomo HA, **Sarshar M**, et al. Book title: The Immune and Non-Immune Systems Related Cytokines. Chapter: A World of Wonders: Interleukin-1 (IL-1) and IL-2 Families. *IntechOpen*, **2021**, doi: 10.5772/intechopen.98664.

CONFERENCES

1. Perruzza L, **Sarshar M**, et al. The *Shigella flexneri* virulence factor apyrase is released inside eukaryotic cells to manipulate host cell fate. 50th Italian National Congress of Microbiology. **2022**, Napoli, Italy.
2. **Sarshar M**, et al. Fecal-associated *Enterobacteriales* isolates from celiac disease patients: could dietary sugars drive changes in bacterial composition? 50th Italian National Congress of Microbiology. **2022**, Napoli, Italy.
3. Scribano D, **Sarshar M**, et al. The protein HslJ boosts *Acinetobacter baumannii* survival against oxidative stress. 50th Italian National Congress of Microbiology. **2022**, Napoli, Italy.
4. **Sarshar M**, et al. Adaptive strategies of uropathogenic *Escherichia coli* CFT073: From growth in lab media to virulence during host cell adhesion. 49th Virtual Italian National Congress of Microbiology. **2021**, Milan, Italy.
5. Ambrosi C, **Sarshar M**, et al. Intestinal organoid modeling for intestinal bacteria competition assay. 49th Virtual Italian National Congress of Microbiology. **2021**, Milan, Italy.
6. Scribano D, **Sarshar M**, et al. D-mannose treatment neither affects uropathogenic *Escherichia coli* properties nor induces stable FimH modifications. 49th Virtual Italian National Congress of Microbiology. **2020**, Milan, Italy.
7. Scribano D, **Sarshar M**, et al. Fatal attraction: *Acinetobacter baumannii* exploits carinoembryonic antigen-related cell adhesion molecules (CEACAMs) for cellular adherence. 12th International symposium on the Biology of *Acinetobacter*. **2019**, Frankfurt, Germany.
8. Scribano D, **Sarshar M**, et al. Fatal attraction: *Acinetobacter baumannii* exploits carcinoembryonic antigen- related cell adhesion molecules (CEACAMs) for cellular adherence. 47th Italian National Congress of Microbiology. **2019**, Rome, Italy.
9. Scribano D, Marzano V, Levi Mortera S, **Sarshar M**, et al. Insights into the periplasmic proteins of *Acinetobacter baumannii* AB5075 and the impact of imipenem exposure: a proteomic approach. 47th Italian National Congress of Microbiology. **2019**, Rome, Italy.
10. Ambrosi C, Perruzza L, Rottoli E, Strati F, **Sarshar M**, et al. Apyrase, the *Shigella flexneri* virulence factor downregulates caspases activity through the degradation of intracellular ATP. 46th Italian National Congress of Microbiology. **2018**, Palermo, Italy.
11. **Sarshar M**, et al. Genetic diversity, phylogroup distribution and virulence gene profile of *pks+* *Escherichia coli* colonizing human intestinal polyps. 8th BeMM Symposium, Biology and Molecular Medicine. Sapienza University of Rome. 20 November **2017**, Rome, Italy
12. **Sarshar M**, et al. A new, fast and reliable technique for quantification of intracellular bacteria by In- Cell Western Odyssey Assay. 45th Italian National Congress of Microbiology. **2017**, Genova, Italy.

13. **Sarshar M**, et al. *Escherichia coli* colonizes colorectal adenomatous polyps: insights into genotypic and phenotypic features. 45th Italian National Congress of Microbiology. **2017**, Genova, Italy.
14. **Sarshar M**, et al. Genotoxic Mucosa-Associated *Escherichia coli* in colon diseases: bad bugs in our gut. 44th Italian National Congress of Microbiology. **2016**, Pisa, Italy.
15. **Sarshar M**, et al. The study of tetracycline resistance and ESBLs in diarrheagenic *E. coli* strains isolated from southwest of Iran. 4th EKMUD Congress (Infectious Diseases & Clinical Microbiology). **2012**, Istanbul, Turkey.
16. Ghorbani-Dalini S, Kargar M, Doosti A, **Sarshar M**, et al. Prevalence of s, m and i alleles of *vacA* gene in *Helicobacter pylori* strains and gastric disorders in Iranian population. 4th EKMUD Congress (Infectious Diseases & Clinical Microbiology). **2012**, Istanbul, Turkey.
17. Noorbazargan H, Momtaz H, **Sarshar M**, et al. A study of antibiotic resistance genes of diarrheagenic *Escherichia coli* from young children in Tehran, Iran. 4th EKMUD Congress (Infectious Diseases & Clinical Microbiology). **2012**, Istanbul, Turkey.
18. **Sarshar M**, et al. Use of 23S rDNA gene diversity for the discrimination of foodborne pathogenic bacteria by oligonucleotide microarrays. 4th Ditan International Conference on Infectious Diseases. **2010**, Beijing, China.
19. Kargar M, Ghorbani-Dalini S, Doosti A, Abbasi P, **Sarshar M**. Multiplex PCR assay for rapid determination of *bla*TEM, *bla*SHV and *bla*CTX-M genes in diarrheagenic *E. coli* isolated from Iran, Shiraz. 5th Ditan International Conference on Infectious Diseases. **2011**, Beijing, China.
20. Ghorbani-Dalini S, Kargar M, Doosti A, **Sarshar M**, et al. Quantitation of bacteria in gastric biopsy specimen from patients with gastrointestinal disorders: relationship between counts and clinical features. 5th Ditan International Conference on Infectious Diseases. **2011**, Beijing, China.
21. **Sarshar M**, et al. Clarithromycin resistance assessment in *Helicobacter pylori* isolates using 23S rRNA gene molecular markers. 5th Ditan International Conference on Infectious Diseases. **2011**, Beijing, China.

RESEARCH SUPPORT

01/03/2015–Present

- Research collaborator in a project entitled: Role of Colibactin-producing *Escherichia coli* strains in the onset of polyp and colorectal cancer supervised by Prof. Annamaria Pronio. Sapienza University of Rome, Italy. protocol number: C26A15EY8F.
- Participation in a research project entitled: Apyrase, the *Shigella flexneri* virulence factor downregulates caspases activity through the degradation of intracellular ATP supervised by Prof. Fabio Grass. Institute for Research in Biomedicine, Bellinzona, Switzerland.
- Research collaborator of the project "Evaluation of gut microbiota pattern and related metabolites in Type 1 & 2 diabetic patients and Microbiota-derived extracellular vesicles as new Systemic regulators in health and diseases." coordinated by Prof. Seyyed Davar Siadat at the Microbiology Research Center (MRC), Pasteur Institute of Iran.
- Participation in the research activity within the project "optimization of activin A, a breakthrough in differentiation of human induced pluripotent stem cell (iPSC) into definitive endoderm (DE) and evaluation of different human leukocyte antigen (HLA) genotypes in survival of patients after allogeneic hematopoietic stem cell transplant" coordinated by Prof. Negar Azarpira, Transplant Research Center, Shiraz University of Medical Sciences, Shiraz, Iran.
- Research collaborator of project "Proteomic approach to identify periplasmic protein(s) associated with carbapenem resistance in the *Acinetobacter baumannii* model strain AB5075" supervised by Prof. Carlo Zagaglia. protocol number: RP11715C7DA6918A, Sapienza University of Rome, Rome, Italy.
- Participation in the research activity within the project "Circulating miRNAs and fecal miRNAs as diagnostic and/or prognostic biomarkers of pediatric disease; use of nanotechnology approaches and 3D bioprinting for the characterization and delivery of non-

Curriculum vitae

coding RNAs from animal, bacteria and vegetable origin." Coordinated by Prof. Andrea Masotti, Research Laboratories, Bambino Gesù Children's Hospital, IRCCS, Rome, Italy.

- Participation in the research activity of the project "Shedding light on the pathogenic role of colibactin-producing *Escherichia coli* in precancerous colorectal lesions: an Italian/Iranian cooperation." coordinated by Prof. Anna Teresa Palamara (Sapienza University of Rome, Italy) and Prof. Saeid Bouzari (Scientific Director of the Pasteur Institute of Tehran, Iran).

- Participation as a collaborator in the research activities within the project "Development of standardized analytical protocols for the contamination control of medical devices caused *Burkholderia cepacia* complex." coordinated by Prof. Anna Teresa Palamara, Sapienza University of Rome, Rome, Italy.

- Collaboration with Prof. Giovanni Di Bonaventura, Department of Medical, Oral and Biotechnological Sciences at the "G. d'Annunzio" of Chieti-Pescara, within the research project "genotypic and phenotypic characteristics and in vivo pathogenicity of adenoma-associated *E. coli* isolates in patients presenting adenomatous colonic polyps".

- Collaboration with Prof. Bernhard B. Singer, Institute of Anatomy, Medical Faculty, University Duisburg-Essen, Essen, Germany, within the research project entitled "*Acinetobacter baumannii* targets human carcinoembryonic antigen-related cell adhesion molecules (CEACAMs) for invasion of pneumocytes."

- Participation in the research activity within the industrial research and experimental development project in the 12 Specialization Areas identified by the NAOCN PNR 2015-2020 Research Project (ARS01_00597) "New antimicrobials obtained from compounds of natural origin", in collaboration with the Prof. Anna Teresa Palamara, Sapienza University of Rome, Rome, Italy

- Participation as a component in the research activities of the project entitled: "Analysis of Biofilm and Antibiotic Resistance in Neuroinjured patients" in the National Military Research Plan (PNRM) called ABRAN, supervised by Prof. Anna Teresa Palamara, Sapienza University of Rome, Rome, Italy

- Participation as a component in the research activities of the project entitled: "Resistome Genomic Analysis of Nosocomial Infections of Operational Theaters" in the National Military Research Plan (PNRM) called AGRINTO, supervised by Prof. Anna Teresa Palamara, Sapienza University of Rome, Rome, Italy

- Collaboration with the research group supervised by Prof. René Roy, Department of Chemistry, Université du Québec à Montréal, Centre-Ville, Montréal, Canada, within a common project of research entitled "Therapeutic effects of FimH Mannopyranoside antagonists as potential adhesion inhibitors against Uropathogenic *Escherichia coli* (UPEC).

- Participation as a component in the research activities of the project entitled: "Water Genomic Analysis of Operative Theaters" within the program of "Interforce Health Research", National Plan of Military Research (PNRM) called AGITO, supervised by Prof. Anna Teresa Palamara, Sapienza University of Rome, Rome, Italy

- Participation in the research activity within the research projects "Deciphering host-parasite interactions using an in vitro system with Caco-2 cells and Anisakis exosomal microRNAs" and "Exploring pathogenicity and tumorigenic potential of *Anisakis pegreffii* using intestinal organoids" coordinated by Dr. Serena Cavallero and Prof. Stefano d'Amelio, Department of Public Health and Infectious Diseases, Sapienza University of Rome, Rome, Italy.

- Collaboration with Dr. Federica Facciotti, Department of Experimental Oncology, European Institute of Oncology (IEO), Milan, Italy, within the research project entitled "Mucosa-associated *E. coli* drive pathogenic functions in IBD-derived intestinal NKT cells."

- Participation in the research activities of the project entitled: "Evaluation of the impact of bacterial superinfections in post-COVID-19 patients and surveillance on antimicrobial resistance of major pulmonary pathogens." supervised by Dr. Cecilia Ambrosi. Department of Human Sciences and Promotion of the Quality of Life, San Raffaele Roma Open University, Rome, Italy

- Member of the Research Group of the "Organoids" Laboratory, Department of Public Health and Infectious Diseases, Sapienza University of Rome, directed by Prof. Anna Teresa

Curriculum vitae

Palamara. Ongoing research projects are: "Developing of bacteria-organoids co-cultivation experimental models." and "Developing of beneficial *E. coli*-based probiotics in IBD patient-derived intestinal organoids."

REVIEWER AND EDITORIAL BOARDS

- Editorial Board of "*Interdisciplinary Perspectives on Infectious Diseases*" Hindawi Publishing, London, England, United Kingdom. <https://www.hindawi.com/journals/ipid/editors/>
- Editorial Board of "*BMC Microbiology*" Springer Nature, BioMed Central Ltd, London, England, United Kingdom. <https://bmcmicrobiol.biomedcentral.com/about/editorial-board>
- Topic Editor of "*Biology journal, Cancers journal, and IJMS journal*" the multidisciplinary digital publishing institute (mdpi), Basel, Swaziland. https://www.mdpi.com/topics/toll_like
- Guest Editor of "*J. Immunol. Res.*" Hindawi Publishing, London, England, United Kingdom. Special Issue "The Role of Interleukins in Infectious Diseases 2022" <https://www.hindawi.com/journals/jir/si/162753/>
- Guest Editor of "*Frontiers in Microbiology*" Frontiers Media SA, Avenue du Tribunal Fédéral 341005, Lausanne, Switzerland. Special Issue "Uropathogens, Urinary tract infections, the Host-Pathogen interactions and Treatment" <https://www.frontiersin.org/research-topics/30981/uropathogens-urinary-tract-infections-the-host-pathogen-interactions-and-treatment>
- Guest Editor of "*Microorganisms*" the multidisciplinary digital publishing institute (mdpi), Basel, Swaziland. Special Issue "Resistance Matters: Current Issues and Future Strategies to Combat Multidrug-Resistant Bugs" https://www.mdpi.com/journal/microorganisms/special_issues/resistance_matters
- Guest Editor of "*Int. J. Environ. Res.*" the multidisciplinary digital publishing institute (mdpi), Basel, Swaziland. Special Issue "Understanding Host-Microbe Interactions: Conflict or Harmony?" https://www.mdpi.com/journal/ijerph/special_issues/HostMicrobe_Interactions
- Topical Advisory Panel of "*Int. J. Environ. Res.*" The multidisciplinary digital publishing institute (mdpi), Basel, Swaziland. https://www.mdpi.com/journal/ijerph/topical_advisory_panel
- Topical Advisory Panel of "*International Journal of Molecular Sciences*" the multidisciplinary digital publishing institute (mdpi), Basel, Swaziland. https://www.mdpi.com/journal/ijms/topical_advisory_panel
- Reviewer board of "*Antibiotics*" the multidisciplinary digital publishing institute (mdpi), Basel, Swaziland. https://www.mdpi.com/journal/antibiotics/submission_reviewers
- Reviewer board of "*Microorganisms*" the multidisciplinary digital publishing institute (mdpi), Basel, Swaziland. https://www.mdpi.com/journal/microorganisms/submission_reviewers
- Reviewer board of "*Foods*" the multidisciplinary digital publishing institute (mdpi), Basel, Swaziland. https://www.mdpi.com/journal/foods/submission_reviewers

AWARDS AND GRANTS

Funded Projects:

- Starting Grant Project (Ricerca Finalizzata 2018) from the Italian Ministry of Health; 2020-2023. € 130.000 (Role: coordinator and PI).
- Consultancy award assigned by the company S.I.I.T., Innovative Healthcare Products for the classification approval of the product based on D-mannose as a medical device. 2019-2020. € 5.000 (Role: project responsible and PI).

Curriculum vitae

- E-COST-GRANT-CA21108-6e0a82cc" through international collaboration hosted by Biocenter, Institute of Molecular Biology, Medical University of Innsbruck, Austria. 2023-07 to 2023-08.
- Visiting Scientist through international collaboration at Microbiology Research Center (MRC), Pasteur Institute of Tehran, Iran. 1/12/2017–30/11/2018.
- Taring school. COST ACTION CA17140. Cancer Nanomedicine: from bench to bedside, Institute of Oncology Research (IOR), Bellinzona, Switzerland. 2023-05.
- Doctoral Fellowship Grant from Sapienza University of Rome, FILAs Foundation Group; 2017-2018. € 6.000 (Role: coordinator and PI).
- Scholarships from Sapienza University of Rome, LAZIODISU Foundation Group. 2016-2019.
- Best abstract award on "Comparison of the disk diffusion and polymerase chain reaction for the detection of antibiotic resistance *Escherichia coli*". The National Student's Congress on Infections& Drug Resistance, May 1-2, 2013, Guilan, Iran.
- Best abstract award on "Application of 16S and 23S rDNA target genes for the detection and screening of three common enteric bacterial pathogens using oligonucleotide macroarray". The 4th student and research festival, BUMC, 2013, Tehran, Iran.
- Best abstract award on "Frequency of clinical isolates of *Salmonella enterica* serotype in Tehran at 2009-2011". The 3rd student and research festival, 2012, BUMC, Tehran, Iran.
- Scientific award as creative and innovative young researcher at the 4th Iranian Superior young festival. 2012, Tehran, Iran.
- Best article award on "Use of 23S rDNA gene diversity for the discrimination of foodborne pathogenic bacteria by oligonucleotide microarrays". The 4th Ditan International Conference on Infectious Diseases, 15-18 July 2010, Beijing, China.

TEACHING ACTIVITIES

Elective teaching activity for the course in Microbiology of the international sector of the Faculty of Medicine and Surgery at the Sapienza University of Rome relating to the academic's years of 2017-2018 on *Helicobacter pylori* and 2018-2019, 2019-2020 on *Enterobacteriaceae*.

PATENTS

1. Versatile blade holder surgical instruments, Registration number: 69770 [InPersian].
2. Simultaneous diagnostic kit of water and foodborne pathogenic bacteria, Registration number:73685 [In Persian].
3. Bacterial Nucleic acid(DNA) extraction kit, Registration number: 74971 [InPersian].
4. Diagnostic kit of four bacterial species in the genus of *S. enterica*, Registration number: 77105 [InPersian].
5. Molecular diagnostic kit of *V. cholerae*, *Sh. dysenteriae* and *S. enterica*. Registration number: 76034 [In Persian].

COURSES

- Training course in theoretical and practical aspects of cell lines, human induced pluripotent and mesenchymal stem cells culture. 20-24 August 2017, Transplant Research Center, Shiraz University of Medical Sciences, Shiraz, Iran.
- Second International Course on Viruses and Human Cancer. 01 - 09 July 2016. Institute Pasteur of Rome, Italy.
- Bioinformatics: Theory and Applications from Genomes to Drugs. June 5th - July 5th, 2017. School of Molecular Biology and Medicine. Sapienza University of Rome, Rome, Italy.
- Practical Course on Molecular Phylogeny and Population Genetics. 24 - 26 March 2015. Roma TRE University, Rome, Italy.

MEMBERSHIPS

- Scientific Board, COST Action CA21145 (European Network for diagnosis and treatment of antibiotic-resistant bacterial infections). 2022-Present.



Curriculum vitae

- Scientific Board, COST Action CA20110 (RNA communication across kingdoms: new mechanisms and strategies in pathogen control). 2022-Present.
Italian Society of Microbiology. 2016 - Present.
Microbiota Research Group of Iran. 2017 - Present.
Microbiology Research Center(MRC), Pasteur Institute of Iran. 2014 - Present.
Iranian Young Researchers & Elite Club. 2012 - Present.
Iranian Inventors Association. 2011 - Present.
Iranian Society of Microbiology. 2009 - Present.

Meysam Sarshar Ph.D.

Rome, Italy, 25-03-2024

Meysam Sarshar