

Dr Nahal Hadi cv

Associate Professor of Molecular Genetics in Bacteriology

E-mail: hadina@sums.ac.ir

Tel: +98-71-3230 5884 Ext: 4551

Dr Nahal Hadi
Office No, 408- 4th Floor
Department of Bacteriology and Virology
School of Medicine, Zand Street
Shiraz, Iran

ORCID: <https://orcid.org/0000-0001-9022-948X>

Scopus Author ID: [14019557000](https://scopus.com/authid/detail.url?authorID=14019557000)

Researcher ID: [S-9937-2018](https://orcid.org/0000-0001-9022-948X)



Education

- Postdoctoral fellowship in molecular genetics, “The University of Sheffield” Sheffield, UK.
- PhD, in Molecular Microbiology, “The University of Sheffield,” Sheffield, UK.
- MSc in Medical microbiology, “Shiraz University of Medical Sciences” Shiraz, Iran BSc in
- BSc in Microbiology, “ Tehran University” Tehran, Iran

Title of MSc Thesis: Detection of Mycobacterial Antigen and Antibody in Tuberculosis Patient’ Serum by Hemagglutination Methods (PHA & RPHA) and Their Association with Therapy.

Title of PhD Thesis: Genetic Characterization of MSHA gene Cluster Producing ‘Bundle Forming Pili (Bfp)’ of *Aeromonas veronii* bv. sobria (BC88)

Honour, and Awards

- Awarded as the Best professor of Medical School, Shiraz Univ. Med. Sci., 2019
- Awarded for the best MSc thesis in faculty of Microbiology, Medical School, Shiraz Univ. Med. Sci., 2001

Teaching/ Administration Positions

2020- Present Head of Bacteriology and Virology department, Medical school, Shiraz University of Medical sciences (SUMS)

2019- Present Associate Professor, Bacteriology and virology department, Medical school, Shiraz University of Medical sciences (SUMS), Shiraz, Iran; Laboratory manager, Department of Bacteriology and Virology, SUMS

2019-2021 research deputy of the Bioinformatics and computational research centre (BCB)

- 2012–2018** Assistant Professor, Bacteriology and virology department, Medical school, Shiraz University of Medical sciences (SUMS), Shiraz, Iran; Laboratory manager, Department of Bacteriology and Virology, SUMS
- 2016–Present** Research deputy of Bioinformatics and computational Biology Research Centre
- 2010–2011** Lab demonstrator for MSc students of “Molecular Medicine” 1 year taught course. The university of Sheffield, Sheffield, UK.
- 2000–2006** Lecturer of medical bacteriology, Shiraz University of Medical Sciences (SUMS), Shiraz, Iran
- 2003–2006** Medical microbiology lab manager, (SUMS) Shiraz, Iran

Research interests

My principal research interests lie in the field of molecular genetics in bacteriology, including genotyping, gene knock out, molecular epidemiology, gene cloning and protein expression in a bacterial system. My other research projects are generally focused on quorum sensing (QS) and the other molecular mechanisms controlling bacterial virulence.

I am currently undertaking some project Including design, expression and purification of single and chimeric proteins of *Shigella* spp as an immunogenic candidates.

Independently, I take particular interest in use of nanoparticles and nano-materials, for its antibacterial activity in medicine and industry.

I have also been studying and working for years on *Mycobacteria*, in particular *Aeromonas*, and many other routine bacteria.

Publications (book)

- مبانی میکروبی شناسی پزشکی - جلد سوم؛ رابرت دیوید، برایان جی. هورل - پروین حسن زاده، نهاد هادی، کیوان پاکشیر، قاسم عسکری؛ چاپ اول، 1381 - انتشارات دانشگاه شیراز
- مکانیسم عملکرد و مقاومت دارو های ضد میکروبی - تألیف - امیر امامی، غلامرضا حاتم، نهاد هادی: چاپ اول - انتشارات دانشگاه علوم پزشکی شیراز - 1395
- مایکوباکتریوم لیپرا و مایکوباکتریوم های غیر سلی - در دست تألیف
- بیماری های زونوز - در دست تألیف

Ongoing projects

1. Production of egg yolk (IgY) antibodies against chimeric protein consisting of StxB, IpaD and TolC proteins from *Shigella* bacterium and evaluation of its prophylactic effect in mice
2. Expression and purification of immunogenic region of TolC recombinant protein from *Shigella flexneri* and evaluation of its immunogenicity in animal model
3. The implication of Flow cytometry to detect carbapenemase resistance genes in comparison with Multiplex- PCR and evaluation of expression of these genes by real-time PCR in *klebsiella pneumoniae* isolated from patients admitted to Faghihi and Namazi hospitals in Shiraz

4. Studying the antibacterial effect of synthesized ferrous nanoparticles, conjugated with different classes of antibiotics against clinical isolates of Methicillin-resistant *Staphylococcus aureus*(MRSA) and *Pseudomonas aeruginosa*
5. Evaluation of synergistic effects of silver-iron core shell nanostructures with different classes of antibiotics against metycilin resistant *Staphylococcus aureus* isolated from patients with cutaneous infection.
6. Prevalence of *Helicobacter pylori* in patients who underwent endoscopy in Namazi Hospital in Shiraz
7. A survey on prevalence of infectious aetiologies of vaginal bleeding in 1st trimester of pregnancy in child & mother Shooshtari hospital 2020-2021
8. Identification and Frequency of Colistin Resistant *Acintobacter baumannii* and multidrug resistance from of this bacteria, isolated from hospitalized patients in southwestern Iran
9. Evaluation of biofilm formation in *Escherichia coli* isolated from urine of pregnant women hospitalized with urinary tract infections in Zeinabiyeh Hospital of Shiraz

Recent Publications ([Google Scholar](#))

- 1 [Rehabilitation, a necessity in hospitalized and discharged people infected with COVID-19: a narrative review](#) 2021
N Sedighimehr, J Fathi, N Hadi, ZS Rezaeian
Physical Therapy Reviews 26 (3), 202-210
- 2 [Quorum-quenching activity of some Iranian medicinal plants](#) 2021
Farhad Moradi, Nahal Hadi
<https://doi.org/10.1016/j.nmni.2021.100882> - Available online 23 April 2021, 100882
- 3 [Rehabilitation, a necessity in hospitalized and discharged people infected with COVID-19: a narrative review](#) 2021
N Sedighimehr, J Fathi, N Hadi*, ZS Rezaeian
Physical Therapy Reviews, 1-9
- 4 [Inquiry about Anti-bacterial & Anti-Quorum sensing effects of *Dionysia revolute* Boiss against secondary bacterial infections isolated from patients with SARS COVID-19; in vitro ...](#) 2021
N Hadi, F Moradi, RR Jahromi, M Akbari
Herbal Medicines Journal 5 (3)
- 5 [Determining spa-type of methicillin-resistant *Staphylococcus aureus* \(MRSA\) via high-resolution melting \(HRM\) analysis, Shiraz, Iran](#) 2020
Z Hashemizadeh, A Bazargani, D Kalantar-Neyestanaki, S Mohebi, N Hadi*..
BMC research notes 13 (1), 1-4
- 6 [Epidemiology of Kidney Stone and Bacterial Strains with Antibiotic Resistance in Shiraz, Southwest of Iran during 2014-2019](#) 2020
F Kakian, M Ghasemi Palangi, N Hadi*
International Journal of Epidemiology and Health Sciences
- 7 [Evaluation the Expression of Efflux Pump Genes "Tap & P55 in *Mycobacterium Tuberculosis* Clinical Isolates in Fars, Iran](#) 2020
F Khoob, MSS Abadi, N Hadi*, F Avazzadeh, Z Zarei
- 8 [Characterization and antibiotic resistance pattern of diffusely adherent *Escherichia coli* \(DAEC\), isolated from paediatric diarrhoea in Shiraz, southern Iran](#) 2020
K Javadi, S Mohebi, M Motamedifar, N Hadi*
New Microbes and New Infections 38, 100780
- 9 [Evaluation of quorum-sensing inhibitory effects of extracts of three traditional medicine plants with known antibacterial properties](#) 2020
F Moradi, N Hadi*, A Bazargani
New Microbes and New Infections 38, 100769
- 10 [Antibacterial activity and mechanism of action of chitosan nanofibers against toxigenic *Clostridioides \(Clostridium\) difficile* Isolates](#) 2020
MSS Abadi, E Mirzaei, A Bazargani, A Gholipour, H Heidari, N Hadi*

Annali di igiene: medicina preventiva e di comunita 32 (1), 72-80

- [A Five-Year Retrospective Multicenter Study on Etiology and Antibiotic Resistance Pattern of Bacterial Meningitis Among Iranian Children](#) 2019
N Hadi, K Bagheri
Infection Epidemiology and Microbiology 5 (4), 17-24
- 12 [Determining spa-type of methicillin-resistant Staphylococcus aureus \(MRSA\) via High-Resolution Melting \(HRM\) analysis, Shiraz, Iran](#) 2019
N Hadi, Z Hashemizadeh, A Bazargani, S Mohebi, ...
- 13 [Virulence genes profile and biofilm formation ability of Acinetobacter baumannii strains isolated from inpatients of a tertiary care hospital in southwest of Iran](#) 2019
S Jahangiri, Y Malekzadegan, M Motamedifar, N Hadi*
Gene Reports 17, 100481
- 14 [Characterization of SCCmec, spa types and Multi Drug Resistant of methicillin-resistant Staphylococcus aureus isolates among inpatients and outpatients in a referral hospital ...](#) 2019
Z Hashemizadeh, N Hadi*, S Mohebi, D Kalantar-Neyestanaki, ...
BMC research notes 12 (1), 1-6
- 15 [Determining spa-type of methicillin-resistant Staphylococcus aureus \(MRSA\) via High-Resolution Melting \(HRM\) analysis, Shiraz, Iran](#) 2019
N Hadi, Z Hashemizadeh, A Bazargani, S Mohebi, ...
- 16 [The First Report of Prevalence of Class 1-3 Integrons in Clinical Isolates of Staphylococcus aureus in Southwestern Iran: A Multicenter Study](#) 2019
SM Hosseini, N Hadi*, A Bazargani, A Emami, N Pirbonyeh
Jundishapur Journal of Microbiology 12 (11)
- 17 [Isolation and Molecular Identification of Aeromonas Wound Infection in Iranian Burn Patients](#) 2019
N Hadi, Z Mahmoodi, A Emami, Y Malekzadegan, T Valadbeygi
Infectious Disorders-Drug Targets (Formerly Current Drug Targets-Infectious ...
- 18 [Evaluation of the bacterial frequency causing ventilator associated pneumonia \(VAP\) in patients admitted in internal ICUs and internal wards at Shiraz Teaching Hospitals](#) 2019
T Khalili, N Samadi, MSS Abadi, MAD Panah, M Motamedifar, N Hadi*
- 19 [Toxin profiles and antimicrobial resistance patterns among toxigenic clinical isolates of Clostridioides \(Clostridium\) difficile](#) 2019
H Heidari, HS Ebrahim-Saraie, A Amanati, M Motamedifar, N Hadi, ...
Iranian journal of basic medical sciences 22 (7), 813
- 20 [Synthesis of zirconium doped copper oxide \(CuO\) nanoparticles by the Pechini route and investigation of their structural and antibacterial properties](#) 2018
H Mersian, M Alizadeh, N Hadi
Ceramics International 44 (16), 20399-20408
- 21 [The highly conserved domain of RND multidrug efflux pumps in pathogenic Gram-negative bacteria](#) 2018
MSS Abadi, A Gholipour, N Hadi*
Cellular and Molecular Biology 64 (13), 79-83
- 21 [Study of Comparison Biofilm Production and Frequency of Adhesion Factors among Clinical Isolates of Methicillin Resistant Staphylococcus Aureus from Different Sources of ...](#) 2018
M Ghasemnezhad, N Hadi, A Emami, A Bazargani, SM Hosseini, ...
Fresenius Environmental Bulletin 27 (3), 1868-1874
- 22 [Molecular characteristics of multiple and extensive drug-resistant Acinetobacter baumannii isolates obtained from hospitalized patients in Southwestern Iran.](#) 2018
B Soltani, H Heidari, HS Ebrahim-Saraie, N Hadi, J Mardaneh, ...
Le infezioni in medicina: rivista periodica di eziologia, epidemiologia ...

Professional Membership

- Society of General Microbiology (SGM)
- Iranian Society of Microbiology

Experience

- | | |
|--|---|
| DNA, RNA and Protein techniques: | <ul style="list-style-type: none">• PCR, RT-PCR, Real time PCR, Gene cloning, Transformation and Bacterial Conjugation, Cassette mutagenesis, Transposon mutagenesis, Gene Expression, DNA analysis, Southern and Western blotting, Protein Over-expression and Purification, SDS-PAGE, Promoter activity assay |
| Cell culturing techniques | <ul style="list-style-type: none">• Cell and tissue culturing |
| Microscopy techniques | <ul style="list-style-type: none">• Different methods of bacterial and cell staining. light, fluorescence, phase contrast and Electron microscopy (TEM) |
| Bioinformatics | <ul style="list-style-type: none">• Working with many software packages including Artemis, GeneJockey, PlasMap, Sequence Analysis, PyMol, and many other online available programs using in bioinformatics for gene and protein beside and phylogenetic analysis |
| Bacterial and enzymatic bioassays | <ul style="list-style-type: none">• Conventional Bacteriologic assays including Mycobacterial specific diagnostic tests, β-galactosidase assay, ELISA haemagglutination, AHL reporter bioassay, Ames' Test and so on |
| Bacterial Adhesion assays | <ul style="list-style-type: none">• Biofilm formation and cell adhesion techniques, cell invasions |
| IT and Statistical Skills | <ul style="list-style-type: none">• Highly skilled at working with power-point, word, Excel, Prism, SPSS, Endnote, Data analysis and statistics |

Teaching courses

- Medical Bacteriology for Medicine, Pharmaceutical, Dentistry and International medical students (Teaching In English)
- Medical Bacteriology- Theory and Practical ('3 credit course, fellowships of Laboratory Sciences)
- Systematic Bacteriology ("3 credit course", PhD students of Bacteriology)
- Advanced Genetics ("3 credit course", PhD students of Bacteriology)
- Bioinformatics ("2 credit course", PhD students of Bacteriology)
- Gene cloning (MSc and Ph.D students)
- Advanced Bacteriology(3 credit course for PhD students of bacteriology)
- Bacterial Pathogenicity (1 credit course for PhD students of bacteriology)
- Molecular Diagnostic ("2 credit course", PhD students of Bacteriology)

Updated 26/2/2022

- Oral microbiology("1 credit course", PhD students of Bacteriology)
- Antimicrobial agents: ("1 credit course", PhD students of Bacteriology)
- Mycobacteriology- Theory and Practical (PhD students of Bacteriology)
- Microbial Genetics("2 credit course", PhD students of Bacteriology)
- Host and Parasite relationship(2 credit course for MSc students of Microbiology)
- Bacterial Physiology (2 credit course for MSc students of Microbiology)
- Cell and Molecular biology (2 credit course for MSc students of Microbiology)
- Microbial Genetics (2 credit course for MSc students of Microbiology and Virology)
- Practical Molecular Genetics, ("2 credit course" for PhD students of Bacteriology)
- Molecular Diagnostic, (2 credit course for MSc students of Microbiology)