

## **Curriculum Vitae**

**Name:** Hamid

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**Personal Data Birth Date:** August 23, 1986

**Nationality:** Iranian

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### **EDUCATION**

#### **1- PhD**

Medical Bacteriology-Pasteur Institute of Iran (2012-2017)

#### **2- MSc**

Medical microbiology-Isfahan University of Medical Sciences (2009-2012)

Thesis title

#### **PhD:**

Evaluation of Phenotype and Genotype of Carbapenemase Producing Enterobacteriaceae Family Isolated from Carriers and Clinical Samples

#### **MSc:**

Detection of mutation of *oprD* *gyrA* and *parC* genes and investigation of antibiotic resistance pattern in isolates of *Pseudomonas aeruginosa* isolated from patients hospitalized in the ICU department of Al-Zahra Hospital, Isfahan.

#### **Academic Rank:**

Assistant Professor. Isfahan Endocrine and Metabolism Research Center, Isfahan University of Medical Sciences, Isfahan, Iran

## **RELEVANT WORK EXPERIENCE**

- 1- Head of Comprehensive Research Laboratory of Isfahan University of Medical Sciences, Iran. 2024.
- 2- Vice Chancellor in Research of Amin Hospital, Isfahan University of Medical Sciences, Isfahan, Iran. 2023.
- 3- Head of Clinical Research and Development Unit of Amin Educational, Research and Therapeutic, Center, Isfahan University of Medical Sciences 2022 until now.
- 4- Head of Antimicrobial Stewardship Unit of Khurshid Educational, Research and Treatment Center. Isfahan University of Medical Sciences. 2022 until now.
- 5- Member of Diabetic Wound Committee of Diabetic Foot Wound Clinic in Isfahan University of Medical Sciences based in Amin Hospital. 2021 until now.
- 6- Scientific Secretary of the Infection Control Committee of Amin Educational, Research and Treatment Center, Isfahan University of Medical Sciences. 2020 until now.
- 7- Member of the Infection Control Committee at Khurshid Medical Education Center, Isfahan University of Medical Sciences. 2020 until now.

## **RESEARCH EXPERIENCE**

- 1- Molecular and clinical epidemiology of *Klebsiella pneumoniae* infections resistant to carbapenem and colistin in patients admitted to the intensive care unit during the fifth wave of covid-19 in Amin Hospital, Isfahan, Iran. (Isfahan University of Medical Sciences 2023- Present)
- 2- Investigating the therapeutic effect of degradable and tissue-adherent gelatin hydrogels on the healing of diabetic wounds in streptozotocin-induced diabetic rats. (Isfahan University of Medical Sciences 2023- Present)
- 3- Investigation and comparison of clinical characteristics and outcome of diabetic and non-diabetic patients with gram-negative bacterial infections resistant to carbapenem treated with colistin in intensive care units. (Isfahan University of Medical Sciences 2023- Present)
- 4- A comparative study of antibiotic consumption and superinfections following the administration of tocilizumab and disease outcomes in diabetic and non-diabetic patients with COVID-19 admitted to the intensive care unit during the fifth peak of the

- epidemic in Amin Hospital. (Isfahan University of Medical Sciences 2023- Present)
- 5- Investigating the healing effects of hydrogel dressing on non-infectious diabetic wounds: a preliminary study. (Isfahan University of Medical Sciences 2023- Present)
  - 6- Evaluation of the positive duration of PCR test in the nose and throat of patients admitted with COVID-19 pneumonia improved and its association with high lymphopenia and CRP (Isfahan University of Medical Sciences 2020- Present)
  - 7- Evaluation of secondary or concurrent bacterial infections in COVID-19 patients hospitalized in Amin hospital, Isfahan. (Isfahan University of Medical Sciences 2022)
  - 8- Frequency of plasmid genes *qnrA*, *qnrB*, *qnrS*, *aac-6* and *qepA* in isolates of ESBL producing *Klebsiella pneumoniae* isolated from clinical samples (Isfahan University of Medical Sciences 2018-2020)
  - 9- Molecular study of broad-spectrum beta-lactamases and metallo- $\beta$ -lactamases genes in resistant Enterobacteriaceae strains isolated from clinical specimens of hospitals under the auspices of Shahid Beheshti University, Iran and Tehran (supported by Pasteur Institute of Iran 2017-2018)
  - 10- Molecular typing of isolates of carbapenemase producing enterobacteriaceae and determination of genomic structure of plasmids carrying carbapenemase genes (supported by Pasteur Institute of Iran 2017-2019)
  - 11- Molecular epidemiology of carbapenemase producing *Pseudomonas aeruginosa* from ICU patients (supported by Pasteur Institute of Iran 2015-2017)
  - 12- Identification of *parC*, *parE*, *gyrA* and *gyrB* genes in enterococcal strains isolated from clinical samples of patients and determination of antibiotic resistance pattern. (Supported by Iran University of Medical Sciences 2015-2016)

### **TEACHING EXPERIENCE**

- 1- Antimicrobial stewardship 6 sessions (12 hours), (target group: professors and residents of the internal department), Khurshid educational, research and therapeutic center, Isfahan University of Medical Sciences, 2023.
- 2- Antimicrobial stewardship 6 sessions (12 hours), (target group: professors and residents of the internal department), Khurshid educational, research and therapeutic center, Isfahan University of Medical Sciences, 2022.
- 3- Antibiotics in aspiration pneumonia and skin infections (target group: professors and

- intern, resident and fellowship students), Khurshid Educational, Research and Treatment Center, Isfahan University of Medical Sciences. 2022
- 4- Methods of studying microbial resistance (beta-lactamases) (antimicrobial agents and the mechanism of drug resistance), PhD students in Bacteriology (Teaching time: 4 hours; Pasteur Institute of Iran 2014)
  - 5- Molecular bacteriology (PFGE), PhD students in bacteriology (Teaching time: 16 hours; Pasteur Institute of Iran 2014)
  - 6- Practical bacteriology, Graduate students (Teaching time: 10 hours; Pasteur Institute of Iran 2014-2016)
  - 7- Diagnostic Molecular Bacteriology (Teaching time: 16 hours; Pasteur Institute of Iran 2014-2016)
  - 8- Antimicrobial agents and the mechanism of drug resistance PhD students in bacteriology (Teaching time: 6 hours; Pasteur Institute of Iran 2015)

## **Publications**

1. **Solgi H**, Badamchi A, Shahcheraghi F, Badmasti F, Akbari M, Behzadfar M.A comparative evaluation of five phenotypic methods for identification of carbapenemase producing Enterobacteriaceae: a modified carbapenemase detection test. *Microbiology Spectrum* (IF: 3.9) 2024. ([Corresponding Author](#)).
2. Adariani AR, Sokhanvari S, Nikbin VS, Hosseinzadeh M, Khoram Z, **Solgi H**. First case of New Delhi metallo  $\beta$ -lactamase-1 (NDM-1)-producing *Burkholderia cepacia* complex in Iran. *Heliyon* (IF: 4) 2024. ([Corresponding Author](#)).
3. Sanikhani R, Akbari M, Hosseinzadeh M, Siavash M, Badmasti F & **Solgi H**. Outbreak of colistin and carbapenem-resistant *Klebsiella pneumoniae* ST16 co-producing NDM-1 and OXA-48 isolates in an Iranian hospital. *BMC Microbiology* (IF: 4.3) 2024. ([Corresponding Author](#)).
4. Akbari M, Siavash M, Parsa Motamed P, **Solgi H**. The increasing spread of carbapenem resistant Gram-negative bacilli in Iran's hospitals raises the need for an urgent action against antimicrobial resistance. *Journal of Global Antimicrobial Resistance*. 2023. ([Corresponding Author](#)).
5. **Pourajam S**, Zafarbaksh A, **Hosseinzadeh M**, **Shirzadi M**, Siavash M, **Solgi H**. Secondary bacterial *infection* caused by ST16 NDM-1 and OXA-48-producing colistin and carbapenem-resistant *K. pneumoniae* treated with tigecycline in a

- pregnant woman with COVID-19. *Journal of Pharmaceutical Policy and Practice*. 2023. [\(Corresponding Author\)](#).
6. Sami R, Sadegh R, Fani F, Atashi V, **Solgi H**. Assessing the knowledge, attitudes and practices of physicians on antibiotic use and antimicrobial resistance in Iran: a cross-sectional survey. *Journal of Pharmaceutical Policy and Practice*. 2022. [\(Corresponding Author\)](#).
  7. Sami R, Salehi K, Sadegh R, **Solgi H**, Atashi V. Barriers to rational antibiotic prescription in Iran: a descriptive qualitative study. *Antimicrobial Resistance & Infection Control*. 2022.
  8. Pourajam S, Kalantari E, Talebzadeh H, **Solgi H**. Secondary bacterial infection and clinical characteristics in patients with COVID-19 admitted to two intensive care units of an 2 academic hospital in Iran during the first wave of the pandemic. *Frontiers in Cellular and Infection Microbiology*. 2022. [\(Corresponding Author\)](#).
  9. Bolourchi N, Giske CG, Nematzadeh S, Mirzaie A, SeyyediAbhari S, **Solgi H**, Badmasti F. Comparative resistome and virulome analysis of clinical NDM-1 producing carbapenem-resistant *Enterobacter cloacae* complex. *Journal of Global Antimicrobial Resistance*. 2022. [\(Corresponding Author\)](#).
  10. Bolourchi N, Goodarzi N, Giske GC, Nematzadeh S, Haririzadeh F, **Solgi H**, Badmasti F. Comprehensive pan-genomic, resistome and virulome analysis of clinical OXA-48 producing carbapenem-resistant *Serratia marcescens* strains. *GENE* 2022. [\(Corresponding Author\)](#).
  11. Talebzadeh H, Melali H, **Solgi H**. Association of fluoroquinolone resistance and ESBL production in hypervirulent *Klebsiella pneumoniae* ST11 and ST893 in Iran. *Acta Microbiologica et Immunologica Hungarica*. 2022. [\(Corresponding Author\)](#).
  12. Sadeghi S, Nasri P, Nasri E, **Solgi H**, et al. The correlation between viral shedding duration and blood biomarkers in COVID-19 patients. *J Res Med Sci*. (IF: 1.8) 2022.
  13. Bolourchi N, Shahcheraghi F, G. Giske C, Nematzadeh S, **Solgi H**, Badmasti F. Genome analysis of an OXA-48-producing carbapenem- and colistin-resistant *Klebsiella pneumoniae* sequence type 11 clone isolated from an inpatient. *Gene Reports (Scopus)*; 2021. [\(Corresponding Author\)](#)
  14. Bolourchi N, Shahcheraghi F, G. Giske C, Nematzadeh S, Noori Goodarzi N, **Solgi H**, Badmasti F. Comparative genome analysis of colistin-resistant OXA-48-producing *Klebsiella pneumoniae* clinical strains isolated from two Iranian hospitals. *Ann Clin Microbiol Antimicrob*. 2021. [\(Corresponding Author\)](#)

15. Badmasti F, Azizi O, Mohaghegh MA, **Solgi H**. Data on the prevalence and distribution of carbapenemase genes in *Enterobacterales* species isolated from clinical specimens in the center of Iran. Data in Brief (Scopus); 2021. (Corresponding Author)
16. Sanikhani R, Moeinirad M, **Solgi H**, Hadadi A, Shahcheraghi F, Badmasti F. The face of hypervirulent *Klebsiella pneumoniae* isolated from clinical samples of two Iranian teaching hospitals. *Ann Clin Microbiol Antimicrob*.
17. Nazari M, Azizi O, **Solgi H**, Fereshteh S, Shokouhi S, Badmasti F. Emergence of carbapenem resistant *Acinetobacter baumannii* clonal complexes CC2 and CC10 among fecal carriage in an educational hospital. *International Journal of Environmental Health Research*. <https://doi.org/10.1080/09603123.2021.1892036>.
18. **Solgi H**, Shahcheraghi F, Bolourchi N. Molecular characterization of carbapenem resistant serotype K1 hypervirulent *Klebsiella pneumoniae* ST11 harbouring blaNDM-1 and blaOXA-48 carbapenemases in Iran. *Microbial Pathogenesis* 149 (2020).
19. **Solgi H**, Nematzadeh S, Giske CG. Molecular epidemiology of OXA-48 and NDM-1 producing *Enterobacterales* species at a university hospital in Tehran, Iran between 2015 and 2016. *Frontiers in Microbiology*. 2020.
20. Aghamohammad S, Badmasti F, **Solgi H**, Aminzadeh Z, Shahcheraghi F. First report of ESBL-producing *K. pneumoniae* among fecal carriage in Iran: High diversity of clonal relatedness and virulence factor profiles. *Microb Drug Resist*. 2020.
21. Shahin M, Farajzadeh A, Shokoohizadeh L, **Solgi H**, F Ghanbari. Multidrug-resistant blaNDM-1 producing and co-harboring of carbapenemase genes in clinical isolates of *P. aeruginosa*. *Iranian Journal of Public Health*. 2020.
22. Badamchi A, Javadinia S, Farahani R, **Solgi H**. Molecular Detection of Plasmid-Mediated Quinolone Resistant Genes in Uropathogenic *E. coli* from Tertiary. *Archives of Pharmacology and Therapeutics* (2019).
23. Soltani Shirazi A, Shafiei M, **Solgi H**, et al. Different Virulence Capabilities and ompA Expressions in ST2 and ST513 of Multidrug-Resistant *Acinetobacter baumannii* from Referral Hospital in Tehran, Iran. *Current Microbiology*. <https://doi.org/10.1007/s00284-019-01686-9>. 2019
24. Aghamohammad S, Badmasti F, Soltani Shirazi A, Darabi H, **Solgi H**, Sabeti S, Shahcheraghi F. Considerable rate of putative virulent phylo-groups in fecal carriage of extended-spectrum  $\beta$ -lactamase producing *Escherichia coli*. *Infect Genet Evol*.

[doi.org/10.1016/j.meegid.2019.04.035](https://doi.org/10.1016/j.meegid.2019.04.035). 2019

25. **Solgi H**, Badmasti F, Giske C, Aghamohammad S, Shahcheraghi F. Molecular epidemiology of NDM-1 and OXA-48 producing *Klebsiella pneumoniae* in an Iranian hospital; clonal dissemination of ST11 and ST893. *Journal of Antimicrobial Chemotherapy*. 2018.
26. **Solgi H**, Badmasti F, Aminzadeh Z, Shahcheraghi, F. Gastrointestinal colonization with three different NDM-1-producing enterobacterial species isolated from an inpatient in Tehran, Iran. *Journal of Global Antimicrobial Resistance*. 2018 <https://doi.org/10.1016/j.jgar.2017.11.016>.
27. **Solgi H**, Badmasti F, Aminzadeh Z, et al. Molecular characterization of intestinal carriage of carbapenem-resistant Enterobacteriaceae among inpatients at two Iranian university hospitals: first report of co-production of *bla*<sub>NDM-7</sub> and *bla*<sub>OXA-48</sub>. *Eur J Clin Microbiol Infect Dis*. 2017 Jun 21. doi: 10.1007/s10096-017-3035-3.
28. **Solgi H**, Giske C, Badmasti F, Aghamohammad S, Havaei SA, Sabeti S, Mostafavizadeh K, Shahcheraghi F. Emergence of carbapenem resistant *Escherichia coli* isolates producing *bla*<sub>NDM</sub> and *bla*<sub>OXA-48</sub>-like carried on IncA/C and IncL/M plasmids at two Iranian university hospitals. *Infect Genet Evol*. 2017. <https://doi.org/10.1016/j.meegid.2017.10.003>.
29. Mirshekar M, Shahcheraghi, F, Azizi O, **Solgi H**, Badmasti F. Diversity of Class 1 Integrons, and Disruption of *carO* and *dacD* by Insertion Sequences among *Acinetobacter baumannii* Isolates in Tehran, Iran. *Microb Drug Resist*. 2017.
30. Taheri H, Peighambari SM, Shahcheraghi, F, **Solgi H**. Pulsed-field gel electrophoresis (PFGE) of *Salmonella* serovar Infantis isolates from poultry. *Iranian Journal of Veterinary Medicine*. 2017
31. Piran A, Shahcheraghi F, **Solgi H**, Rohani M, Badmasti F. A reliable combination method to identification and typing of epidemic and endemic clones among clinical isolates of *Acinetobacter baumannii*. *Infect Genet Evol*. 2017 Aug 19; 54:501-507.
32. Shahcheraghi F, Aslani MM, Mahmoudi H, Karimitabar Z, **Solgi H**, Bahador A, Alikhani MY. Molecular study of carbapenemase genes in clinical isolates of Enterobacteriaceae resistant to carbapenems and determining their clonal relationship using pulsed-field gel electrophoresis. *J Med Microbiol*. 2017 May; 66(5):570-576.
33. **Solgi H**, Ghafarzadeh, H, Shahcheraghi, F. Evaluation of phenotypic and genotypic carbapenemase genes in gram-negative bacteria resistant to carbapenem and determining their antibiotic resistance. *Journal of Isfahan Medical School*. 2017; 34:

1290-1296.

34. Fazeli H, Norouzi-Barough M, Ahadi AM, Shokri D, **Solgi H**. Detection of New Delhi metallo-beta-lactamase-1 (NDM-1) in carbapenem-resistant *Klebsiella pneumoniae* isolated from a university hospital in Iran. *Hippokratia*. 2015 Jul-Sep; 19(3):205-9.
35. Fazeli, H, Motallebi-Rad, T, Esfahani, BN, **Solgi H**, Nazari, F. Prevalence and antibiotic resistance pattern of *Acinetobacter* species isolated from Al-Zahra hospital in Isfahan, Iran. *Journal of Isfahan Medical School*. 2013; 31: 493-501.
36. Fazeli, H, Havaei, SA, **Solgi H**, Shokri D, Motallebirad T. Pattern of Antibiotic Resistance in *Pseudomonas Aeruginosa* Isolated from Intensive Care Unit, Isfahan, Iran. *Journal of Isfahan Medical School*. 2013; 31: 433-438. **(Corresponding Author)**
37. Fazeli H, Havaei SA, Saedi S, Badamchi A, Zamani FZ, **Solgi H**. Molecular Detection of *gyrA*, *parC* and *oprD* Mutation in *Pseudomonas aeruginosa* Isolates from a University Hospital of Isfahan, Iran during 2016. *J Med Bacteriol*. Vol. 6, No. 1, 2 (2017): pp.34- 40. **(Corresponding Author)**
38. Fazeli H, **Solgi H**, Havaei, S.A, Shokri D, Norouzi Barogh M, Zamani FZ. Carbapenem and Fluoroquinolone Resistance in Multidrug Resistant *Pseudomonas aeruginosa* Isolates from Al-Zahra Hospital, Isfahan, Iran. *J Med Microbiol Infec Dis*, 2014, 2 (4) **(Corresponding Author)**
39. Nemati AH, **Solgi H**, Vaziri F, Shahcheraghi F. Antimicrobial Susceptibility of *Stenotrophomonas maltophilia* Clinical Isolates from Blood Samples in Iran. *J Med Microbiol Infec Dis*, 2015, 3 (1).

## **PRESENTATIONS AND POSTER SESSIONS**

- 1- **Solgi H**, Successful control of an outbreak caused by *Serratia marcescens*. The 24th International and Iranian Congress of Microbiology 2023.
- 2- **Solgi H**, Evaluation of bacterial infections and antibiotic resistance before and after the onset of the COVID-19 during the first pandemic wave. The 13th international & 18th national congress on quality improvement in clinical laboratories. 2022.
- 3- Solgi H. Infection-Prevention and Control Measures to Reduce Colonization and Infection of ICU-Acquired Infections. During the 4th panel of the 22nd International Virtual Congress of Microbiology. August 31, 2021. Lecture
- 4- **Solgi H**, Badmasti F, Shahcheraghi, F. Fecal carriage of carbapenem resistance



Enterobacteriaceae among inpatients in a university hospital in Iran” has been accepted after review for Oral Presentation at our Infection Prevention-2017 to be held during Dec 14-15, 2017 in **Rome, Italy**. (Oral lecture: F, Shahcheraghi)

- 5- **Solgi H**, Shahcheraghi F, Sabeti S, Kashi MS, Hosseinzadeh M. First detection of OXA-48 producing carbapenemase *Escherichia coli* in Iran. The 17 th International and Iranian Congress of Microbiology **2016**. (Oral lecture: H. Solgi)
- 6- Shahbazi T, Shahcheraghi F, Owlia P, Badmasti F, Nikbin VS, **Solgi H**. Polymorphism of fimbriae and pertactin genes among bordetella pertussis clinical isolates on 2014-2016. The 17 th International and Iranian Congress of Microbiology **2016**.
- 7- Nemati AH, **Solgi H**, Badmasti F, Shahcheraghi F. Antimicrobial susceptibility assay and pfge typing of *S. maltophilia* clinical and environmental isolates from blood samples. The 17 th International and Iranian Congress of Microbiology **2016**.
- 8- Nemati AH, **Solgi H**, Shahcheraghi F. Class 1 integron distribution in *S. maltophilia* clinical and environmental isolates. The 17 th International and Iranian Congress of Microbiology **2016**.
- 9- **Solgi H**, Nobari S, Rahmati Ghezalgeh F, Shahcheraghi F Carbapenem resistance among of *Klebsiella pneumoniae* clinical isolates in Iran. *VII International Conference on Environmental, Industrial and Applied Microbiology; Barcelona (Spain) during 28-30 October 2015. (F93)*
- 10- Peighambari, S.M, Taheri, H, Shahcheraghi, F, **Solgi, H** .Pulse-field gel electrophoresis (PFGE) of Salmonella serovarInfantis isolates from poultry. The 6<sup>th</sup> *International Veterinary Poultry Congress, February 27 - March 01, 2018- Tehran, Iran*

## **RESEARCH INTERESTS**

Bacterial antimicrobial resistance, molecular epidemiology, infection control and antimicrobial stewardship.

## **PROFESSIONAL MEMBERSHIPS**

2013 until now, Iranian Society of Microbiology

2020 until now, Iranian Association of Clinical Laboratory Doctors

## **Scholarships and Awards**

- 1- PhD in Bacteriology, Pasteur Institute of Iran, first rank during the years 2012-2017.
- 2- Winner of the Special Duty System Award (Alternative Military Service Plan) in 2017 from the National Elite Foundation of Iran.
- 3- Winner of Dr. Kazem Ashtiani Award in March 2018 from the National Elite Foundation of Iran.
- 4- Member of the Health Working Group of Elite Foundation of Isfahan Province 2022 until now.