

# Shiva Mirkalantari

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## Education

- Ph.D Bacteriology, Faculty of Medicine, Tehran University of Medical Sciences, Tehran-Iran, Average Score:18.91/20, **first rank**, 2007-2013
  - M.S: Bacteriology, Faculty of Medicine, Tarbiat Modares University, Tehran-Iran, Average Score: 18.69/20, **Second rank**, 2004-2007
  - **Third rank** in **entrance exam** of **Tarbiat Modares**
  - B.S: Laboratory Sciences, Faculty of Medicine, Ahwaz University of Medical Sciences, Ahwaz-Iran, Average Score: 18.22/20, **first rank**, 1999-2003
  - Diploma: Experimental Sciences, Imam Khomeini high school, , Average Score: 19.16/20, **first rank**, 1999
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## Work experiences

- Pasteur Institute, Biotechnology Department, 2007, Tehran-Iran
- Microbiology Department, Faculty of Medicine, Shahrekord University of Medical Sciences, Shahrekord-Iran, 2003-2004
- Teaching virology and bacteriology courses (theoretical and practical) at Mazandaran University during 2008-2009.
- Teaching virology and bacteriology courses at Iran Medical Sciences University during 2008-2010.
- Teaching bacteriology courses at Semnan Medical Sciences University since 2012-2017 as **assistant professor**
- Teaching bacteriology courses at Iran University of medical science since 2017 as **assistant professor**
- Teaching bacteriology courses at Iran University of medical science since 2022 as associate professor
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- **Scientific and practical participation in the following projects:**

1-Production of *Brucella melitensis* recombinant protein conjugated with detoxified LPS as a diagnostic-immunogenic antigenic component.

2-Frequency of Gram negative bacilli producing of carbapenemases and NDM-1 isolated from patients admitted in Ali Asghar hospital; Tehran, Iran 2010-2011.

3-Detection of bacterial agents of children meningitis by culture, PCR and Real time

PCR method.

- 4- Detection of *Actinobacillus actinomycetemcomitans* from periodontitis and healthy individuals by culture and PCR and comparison of these two methods.
- 5- Comparison of PCR and ELISA methods for diagnosis of Brucella in human serum samples
- 6- Determination of TEM and SHV genes in Escherichia coli producing Extended-spectrum beta-lactamase that isolated from urinary tract infection in patient that referred to Semnan hospitals using PCR
- 7- Genotyping of *Klebsiella pneumonia* harboring blaCTXM-1 gene isolated from patients in Semnan hospitals by VNTR analysis Multiple-locus
- 8- Evaluation of *Brucella abortus* recombinant OprF Immunogenicity in BALB/c mouse model
- 9- Genotyping of Brucella strains isolated from human and animal by Variable number tandem repeat
- 10- Molecular detection, typing and biofilm formation among ST131 clone type of Escherichia coli producing ESBL in Tehran hospital
- 11- The Antimicrobial Effect of Plant Extracts of Plantago major and Laurus nobilis on of some of Gram-positive and Gram-negative Bacteria
- 12- Determination of antibacterial activity of tatura and prosopis extract on gram negative and gram positive bacteria

**Advisor of Thesis:**

- 1- Prevalence of Escherichia coli strains producing Extended- spectrum beta-lactamase that isolated from urinary tract infection in patient that referred to Amol hospital using PCR
- 2- Detection of the Klebsiella pneumoniae carbapenemase (KPC) in K.pneumoniae Isolated from the Clinical Samples by the Phenotypic and Genotypic Methods.
- 3- Detection of Aminoglycoside genes (AAC (6')-I and AAC(3)-II) in Klebsiella pneumoniae isolated from patients referred to hospitals of Semnan
- 6- Isolation of vaginal lactobacilli from healthy and patient and analysis of probiotics characteristics
- 5- Analysis of Lon protease effect on expression of Toxin and antitoxin system in

*Klebsiella*

- 6- Determination of toxin and antitoxin system among *Brucella* isolates
- 7- Evaluation of enterotoxigenic *Bacteroides fragilis* correlation with the expression of cellular signaling pathway genes in Iranian patients with colorectal cancer
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**Supervisor of Thesis:**

- 1- Detection of qnrS and qnrA genes in *Klebsiella pneumoniae* isolated from patients referred to hospitals of Semnan
- 2- Detection of class I and class II integron in *Klebsiella pneumoniae* isolated from patients referred to hospitals of Semnan
- 3- Virulence factors and antimicrobial resistance in uropathogenic *Escherichia coli* strains isolated from cystitis and pyelonephritis
- 4- Evaluation of cytokines IL1 and IL6 production by peripheral blood mononuclear cells from endometriosis patients against *Lactobacillus acidophilus*
- 5- Evaluation of cytokines IL1 and IL6 production by peripheral blood mononuclear cells from Endometriosis patients against *Lactobacillus rhamnosus*
- 6- Investigation of the biofilms formation and virulence genes (rtxa, lvh) in *Legionella pneumophila* species isolated from water resources in iran universiteis hospitals
- 7- Isolation of *Legionella* from water sources of hopitals with culture and real-time PCR and Evaluation of invasion of isolated by cell culture
- 8- Distribution and expression of virulence genes (hlyA, sat) and genotyping of *Escherichia coli* O25b/ST131 by multi-locus variable number tandem repeat analysis

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- 1- Sh.Mirkalantari “**Seroreactivity determination of Brucellosis patients to Virb12 recombinant protein resulting from cloning and expression from *Brucella melitensis* by indirect ELISA**”. Ph.D Thesis, Faculty of medicine, Tehran and Iran university of medical sciences, Tehran, Iran,

2013

## Publications & References

- 2- Sh.Mirkalantari, “**Detection of *Legionella pneumophila* in Bronchoalveolar Lavage (BAL) by PCR**“, M.S Thesis, Faculty of Medicine, Tarbiat Modares University, Tehran-Iran, 2007
- 3- Sh. Mirkalantari, A.M. Mobarez, R.H. Doust, “**Detection of *Legionella pneumophila* in BAL Fluid Specimen**“, Abstract, the 14<sup>th</sup> International congress on Infectious Disease and Tropical Medicine, Tehran-Iran, 2006
- 4- Sh. Mirkalantari, A.M. Mobarez, R.H. Doust, “**Relation between *Mycobacterium Tuberculosis* and *Legionella pneumophila* in BAL Specimen**“, Abstract, the 3<sup>rd</sup> congress of Military Medical, Tehran-Iran, 2006
- 5- H. Zeighami, Sh. Mirkalantari, M. Rahmati , “**Study of Bacteria Contaminate in Water Stream in Tabriz**“, Abstract, the 2<sup>nd</sup> student seminar of Health Sciences , Tehran-Iran, 2006
- 6- Sh. Mirkalantari, A.M. Mobarez, R.H. Doust.2010 “**Detection of *Legionella pneumophila* in Bronchoalveolar Lavage (BAL) by PCR and culture**“, Tarbiat Modares Journal. (3) ,75-83.
- 7- R.H. Doust , A.M. Mobarez, Sh.Mirkalantari , **Nosocomial Legionnaires’ Disease Outbreak in Tehran.2009.** Research Journal of Microbiology,4(1).23-30.
- 8- M. Ramez, Sh. Mirkalantari, R. Mirnejad, **Detection of *Actinobacillus actinomycetemcomitans* from peridontitis and healthy individuals by culture and PCR method.**2011.11<sup>th</sup> Iranian Microbiology Congress & 1<sup>st</sup> East Mediterranean Microbiology Congress.
- 9- S. Shoja, Sh. Mirkalantari, Elmira. Gheytnanchi. **Assessing the frequency and antibiotic susceptibility pattern of isolated bacteria from septicemic patients in Hashminejad hospital of Tehran ,Iran 2007-2008.**2011. 11<sup>th</sup> Iranian Microbiology Congress & 1<sup>st</sup> East Mediterranean Microbiology Congress.
- 10- M. Ahmadi, R. Mirnejad, Sh. Mirkalantari. **Clinical and serological evaluation of Brucellosis in patients referring to Taleghani Health Center in Songhor city.** 2008. 9<sup>th</sup> Iranian Microbiology Congress.
- 11- R. Mirnejad, P. Shapori, Sh. Mirkalantari, **Assessment of bacterial contamination water reservoirs, air and devices surfaces and dentistry equipments in several wards of a density center.** 2008. 9<sup>th</sup> Iranian Microbiology Congress.
- 12- R. Mirnejad, E. Gheytnanchi, Sh. Mirkalantari. **Determining prevalence**

and the antibiotic resistance pattern of blood cultured microorganisms, Isolated in Modares and Firozgar Therapeutic Center, Tehran. 2008. 9<sup>th</sup> Iranian Microbiology Congress.

- 13- Sh. Mirkalantari, A. Mobarez. **Compration of culture and PCR methods for isolation and identification of *Legionella pneumophila* from bronchoalveolar lavage (BAL) fluid Specimens.** 2008. 9<sup>th</sup> Iranian Microbiology Congress
- 14- Sh. Mirkalantari, N. Amirmozafari. **Cloning and expression of protein of *Brucella* as diagnostic component .** 2010. 4<sup>th</sup> Iranian Congress of Clinical Microbiology.
- 15- M. Ramez, R. Mirnejad, F. Masjedian, Sh. Mirkalantari. **Detection of *Actinobacillus actinomycetemcomitans* from periodontitis and healthy individuals by culture and PCR and comparison of these two methods.** 2010, 4<sup>th</sup> Iranian Congress of Clinical Microbiology
- 16- Sh.Mirkalantari, N. Amirmozafari, B. Kazemi, Gh. Irajian. 2012. **Molecular cloning of *virB12* gene of *Brucella melitensis* 16M in *pet28a* vector.** *Asian pacific journal of tropical medicine.* 5(7). 511-13.
- 17- P. Parsian, N. Khoramabadi, H. Aghababa, Sh. Mirkalantari. **Recombinant TraQ of *Brucella melitensis* Elicited Potent IFN- $\gamma$  and IL-12 Response in BALB/c Mice.** 2013. 3rd International Student Biotechnology Congress.
- 18- Reza Mirnejad; Maryam Dehghani; Faramarz Masjedian; Shiva Mirkalantari. **Distribution of *BlaKPC* Genes Among *Acinetobacter baumannii* Isolated From Patients in Hospital of Tehran.** 13th Iranian Congress of Clinical Microbiology.
- 19- Masoume Bina, Shiva Mirkalantari, Malihe Talebi, Gholamreza Irajian. **Detection of the *Klebsiella pneumoniae* carbapenemase (KPC) in *K.pneumoniae* Isolated from the Clinical Samples by the Phenotypic and Genotypic Methods.** 2015. *Iranian Journal of Pathology.* 10 (3), 199 – 205
- 20- **Simultaneous identification and comparison of pathogenic *Brucella* species in human serum and blood samples by means of multiplex PCR and confirmation of the results by PCR-RFLP.** 2015. *SJKU.* 20(1): 10-17
- 21- Shiva Mirkalantari. **Optimizing of *Brucella* *OprF* Recombinant Protein Expression as a Soluble Protein in *Escherichia Coli*.** Focus

Sci. 2016-2(1)

- 22- **Purification Of Brucella VirB12 As a Soluble Recombinant Protein From Inclusion Bodies.** 16th Iranian Microbiology Congress. 2015
- 23- **Optimizing Brucella VirB12 recombinant protein expression as a soluble protein .** The First Annual Research *Congress*. 2014
- 24- **Molecular detection of Ureaplasma urealyticum from prostate tissues using PCR-RFLP method,** Tehran, Iran. *Iranian journal of Pathology*.2016
- 25- **Detection of *ctx-M* gene in ESBL- producing *E.coli* strains isolated from urinary tract infection, Semnan, Iran.** *Electro Physician journal*. 2016.
- 26- Mohammad Reza Akbari, Ali Ahmadi, Shiva Mirkalantari, Jafar Salimian. **Anti-Vibrio cholerae IgY Antibody Inhibits Mortality in Suckling Mice Model.** *Journal of the National Medical Association*. 101(1):2018.84-88
- 27- Reza Mirnejad, Gholamali Moradli, Shiva Mirkalantari, Reza Golmohammadi. **Molecular genotyping of Acinetobacter baumannii species isolated from patients in Tehran, Iran, by repetitive element PCR fingerprinting.** *Iranian journal of pathology*. 2018. 13(2):144.
- 28- Hosseinali GHAZVINI, Keyvan TAHERI, Elahe EDALATI, Mansour SEDIGHI, Shiva MIRKALANTARI. **Virulence factors and antimicrobial resistance in uropathogenic Escherichia coli strains isolated from cystitis and pyelonephritis.** *Turk J Med Sci*. 2019. 49. 361-367
- 29- Shiva Mirkalantari, Nastaran Momeni, Reza Mirnejad, Farahnaz Bineshian. **Assessment of the Prevalence of Class I and II Integrons in Klebsiella pneumoniae Isolates from Patients Referred to the Hospitals of Semnan, Iran.** *Journal of Applied Biotechnology Reports*.2018 4(4). 719-722
- 30- Shiva Mirkalantari, Kosar Fateh. **The Effect of Plant Extracts of Plantago major and Laurus nobilis on the Antimicrobial Properties of some of Gram-positive and Gram-negative Bacteria.** *Complementary Medicine Journal of faculty of Nursing & Midwifery*. 2018:8(3). 3433-3443
- 31- Shiva Mirkalantari, Amir-Hassan Zarnani, Mahboobeh Nazari, Gholam Reza Irajian, Nour Amirmozafari. **Brucella melitensis VirB12 recombinant protein is a potential marker for serodiagnosis of human brucellosis.** *Annals of clinical microbiology and antimicrobials*.

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- 32- Ali Jazayeri Moghadas, Farzaneh Kalantari, Mohammad Sarfi, Soroush Shahhoseini, Shiva Mirkalantari. **Evaluation of Virulence Factors and Antibiotic Resistance Patterns in Clinical Urine Isolates of Klebsiella pneumoniae in Semnan, Iran.** Jundishapur Journal of Microbiology. 11(7). 1-6
- 33- Shiva Mirkalantari, Ali Jazayeri Moghadas. **Diversity Determination of CTX-M1 Producing Klebsiella pneumoniae Using Multilocus Variable-Number Tandem Repeat Analysis, Semnan, Iran.** Jundishapur Journal of Microbiology.
- 34- Khashayar Mohseni, Reza Mirnejad, Vahab Piranfar, Shiva Mirkalantari. **A comparative evaluation of ELISA, PCR, and serum agglutination tests for diagnosis of Brucella using human serum.** Iranian journal of pathology. 12(4). 2017.371
- 35- Kian B, Mirnejad R, Moradli G, Mirkalantari S, Golmohammadi R. Molecular Genotyping of Acinetobacter baumannii Species Isolated from Patients in Tehran, Iran, by Repetitive Element PCR Fingerprinting. Iran J Pathol. 2018;13(2):144–150.
- 36- Mirkalantari, S., Momeni, N., Mirnejad, R., Bineshian, F. (2017). Assessment of the Prevalence of Class I and II Integrons in Klebsiella pneumoniae Isolates from Patients Referred to the Hospitals of Semnan, Iran. Journal of Applied Biotechnology Reports, 4(4), 719-722.
- 37- Mirkalantari sh. Virulence factors and antimicrobial resistance in uropathogenic Escherichiacoli strains isolated from cystitis and pyelonephritis. Turkish Journal of Medical Sciences. (2019) 49: 361-367
- 38- Barati M, Mirkalantari S, Ansari S, Salari S, Fattahi A. Determination of antimicotic susceptibility pattern of Candida species isolated from patients with symptomatic candiduria. J Res Med Sci. 2019;24:35. Published 2019 Apr 26. doi:10.4103/jrms.JRMS\_880\_18

## Scientific & Additional Activities

- Information presentation in the 5<sup>th</sup> and 6<sup>th</sup> periods of familiar with Central Library, Tarbiat Modares University, Tehran-Iran, 2006-2007
- Cooperation in plane “Survey of using another students from Tarbiat Modares Library “,Tehran-Iran, 2006
- Scientific Lectures regarding “review on Hemorrhagic Fiver“, Faculty of Medical, Ahvaz university, Ahvaz-Iran, 2001

- Presence in science workshops.

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- **laboratory skills including:**

**Memberships**

**PCR, ELISA, SDS PAGE, WESTERN BLOT, DNA Cloning, Protein Expression, Protein purification, coating, Legionella culture, Plasmid purification and Molecular typing**

**Courses**

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**Computer Skills**

- Student Society of Ahwaz university of medical sciences, Ahwaz-Iran, 2002.
- Red Cross Society of Ahwaz university of medical sciences, Ahwaz-Iran, 2002.

**Languages**

- Red Cross Society of Chaharmahal & Bakhtiari Province, Shahrekord-Iran, Since 2002.
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- Teaching ability Course with Certificate, Tarbiat modares university, Tehran-Iran, 2006.
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- ICDL (7 skills)
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- English: Medium

- Arabic: Medium
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**Interest & Hobbies**

- Studying, Walking, Climbing, Movie, Driving (with Driving license)
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