

Curriculum Vita

Personal/Social Information:

Name: Reza Saberi

Sex: Male

Nationality: Iranian

Date of birth: September 15, 1989 (34 years old)

Place of birth: Ilam, Iran

Married status: Married

Qualification: Ph.D

Language: Persian, English

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Education:

Academic education:

-Ph.D., in Medical Parasitology, Department of Medical Parasitology, Mazandaran University of Medical Sciences, Sari, Iran.

Thesis: Molecular identification and protein analysis of *Leishmania* RNA virus (LRV) in *Leishmania* parasites isolated from Cutaneous Leishmaniasis patients and reservoir hosts (rodent) in Golestan province and study their role in the pathogenicity and drug sensitivity of infected *Leishmania* parasites to LRV.

Supervisors: Dr. Mahdi Fakhar, Dr. Homa Hajjaran

-MSc., in Medical Parasitology, Department of Medical Parasitology, Shahid beheshti University of Medical Sciences, Tehran, Iran.

Dissertations: Identification of *Leishmania* species using N-acetylglucosamine-1-phosphate transferase gene in a zoonotic cutaneous leishmaniasis focus of Iran.

Supervisors: Dr. Vahideh Moin-vaziri, Dr. Homa Hajjaran

Publications and Articles:

1. Niyyati M, **Saberi R**, Lorenzo-Morales J, Salehi R. High occurrence of potentially pathogenic free-living amoebae in tap water and recreational water sources in South- West Iran. *Trop Biomed*. 2016; 33(1):95-101.
2. Niyyati M, **Saberi R**, Latifi A, Lasjerdi Z. Distribution of Acanthamoeba genotypes isolated from recreational and therapeutic geothermal water sources in Southwestern Iran. *Environmental health insights*. 2016 Jan; 10: EHI-S38349.
3. **Saberi R**, Moin-Vaziri V, Hajjaran H, Niyyati M, Taghipour N, Kheirandish F, Abadi A. Identification of Leishmania species using N-acetylglucosamine-1-phosphate transferase gene in a zoonotic cutaneous leishmaniasis focus of Iran. *Journal of vector borne diseases*. 2018; 55(1):14.
4. Hosseini Z, Sharif M, Sarvi S, Amouei A, Hosseini SA, Chegeni TN, Anvari D, **Saberi R**, Gohardehi S, Mizani A, Sadeghi M. Toxoplasmosis seroprevalence in rheumatoid arthritis patients: a systematic review and meta-analysis. *PLoS neglected tropical diseases*. 2018 Jun 5;12(6):e0006545.
5. Fakhar M, Chegeni TN, Bastani R, Hosseini Z, **Saberi R**, Armat S. Intestinal parasites among migrant barn swallows (*Hirundo rustica*) in the central region of Mazandaran Province, Northern Iran. *Veterinary world*. 2018 Aug;11(8):1179.
6. **Saberi R**, Sharif M, Sarvi S, Aghayan SA, Hosseini SA, Anvari D, Chegeni TN, Hosseini Z, Daryani A. Is *Toxoplasma gondii* playing a positive role in multiple sclerosis risk? A systematic review and meta-analysis. *Journal of Neuroimmunology*. 2018 Sep 15;322:57-62.
7. Asfaram S, Daryani A, Sarvi S, Pagheh AS, Hosseini SA, **Saberi R**, Hoseiny SM, Soosaraei M, Sharif M. Geospatial analysis and epidemiological aspects of human infections with *Blastocystis hominis* in Mazandaran Province, northern Iran. *Epidemiology and health*. 2019;41.
8. Sarvi S, Chegeni TN, Sharif M, Montazeri M, Hosseini SA, Amouei A, Hosseini Z, Anvari D, **Saberi R**, Gohardehi S, Daryani A. Congenital toxoplasmosis among Iranian neonates: a systematic review and meta-analysis. *Epidemiology and health*. 2019;41.
9. Siyadatpanah A, Anvari D, Zeydi AE, Hosseini SA, Daryani A, Sarvi S, Budke CM, Dizaji RE, Mohaghegh MA, Kohansal MH, Dodangeh S, **Saberi R**. A systematic review and meta-analysis of the genetic characterization of human echinococcosis in Iran, an endemic country. *Epidemiology and health*. 2019;41.

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10. Anvari D, Sharif M, Sarvi S, Aghayan SA, Gholami S, Pagheh AS, Hosseini SA, **Saberi R**, Chegeni TN, Hosseininejad Z, Daryani A. Seroprevalence of Toxoplasma gondii infection in cancer patients: a systematic review and meta-analysis. Microbial pathogenesis. 2019 Apr 1;129:30-42.
11. Nayeri Chegeni T, Sharif M, Sarvi S, Moosazadeh M, Montazeri M, Aghayan SA, Balalami NJ, Gholami S, Hosseininejad Z, **Saberi R**, Anvari D. Is there any association between Toxoplasma gondii infection and depression? A systematic review and meta-analysis. PloS one. 2019 Jun 13;14(6):e0218524.
12. Ghaffarifar F, Fakhar M, **Saberi R**. Medicinal plants with anti-Acanthamoeba activity: A systematic review. Infectious Disorders Drug Targets. 2020;20(5):620-650.
13. **Saberi R**, Fakhar M, Mohebbi M, Anvari D, Gholami S. Global status of synchronizing Leishmania RNA virus in Leishmania parasites: A systematic review with meta-analysis. Transboundary and emerging diseases. 2019 Nov;66(6):2244-51.
14. **Saberi R**, Najafi A, Naserifar R. Detection of Acanthamoeba spp. from dust phenomenon in Ilam Province, West Iran. Acta microbiologica et immunologica Hungarica. 2019 Dec;66(4):459-68.
15. **Saberi R**, Fakhar M, Sedighi O, Espahbodi F, Latifi A, Makhloogh A, Sharifpour A, Hezarjaribi HZ, Asfaram S. First Molecular Evidences of Acanthamoeba T3, T4 and T5 Genotypes in Hemodialysis Units in Iran. Acta Parasitologica. 2019 Dec 1;64(4):911-5.
16. Anvari D, **Saberi R**, Sharif M, Sarvi S, Hosseini SA, Moosazadeh M, Hosseininejad Z, Chegeni TN, Daryani A. Seroprevalence of Neospora caninum infection in dog population worldwide: A systematic review and meta-analysis. Acta Parasitologica. 2020 Jan 9:1-8.
17. Kialashaki E, Fakhar M, Sharif M, Daryani A, **Saberi R**. The mixed AII and BIII genotypes of human Giardia lamblia isolates circulating in Mazandaran Province, northern Iran. Infectious disorders drug targets. 2020 Jan 27.
18. Anvari D, Narouei E, Hosseini M, Narouei MR, Daryani A, Shariatzadeh SA, Pagheh AS, Gholami S, Sarvi S, Sargazi D, **Saberi R**. Sarcocystosis in ruminants of Iran, as neglected food-borne disease: A systematic review and meta-analysis. Acta Parasitologica. 2020 Sep;65(3):555-68.
19. **Saberi R**, Seifi Z, Dodangeh S, Najafi A, Abdollah Hosseini S, Anvari D, Taghipour A, Norouzi M, Niyayati M. A systematic literature review and meta- analysis on the global prevalence of Naegleria spp. in water sources. Transboundary and Emerging Diseases. 2020 May 22.
20. **Saberi R**, Fakhar M, Asfaram S, Akhtari J, Nakhaei M, Keighobadi M. A Systematic Literature Review of Curcumin With Promising Antileishmanial Activity. Infectious Disorders Drug Targets. 2020 May 24.

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21. Esboei BR, Fakhar M, **Saberi R**, Barati M, Moslemi M, Hassannia H, Moghadam Y, Jalallou N. Genotyping and phylogenic study of Acanthamoeba isolates from human keratitis and swimming pool water samples in Iran. *Parasite Epidemiology and Control*. 2020 Jun 29:e00164.
22. **Saberi R**, Fakhar M, Hajjarian H, Ataei-Pirkooh A, Mohebal M, Hezarjaribi HZ, Taghipour N, Moghadam Y. Presence and diversity of Leishmania RNA virus in an old zoonotic cutaneous leishmaniasis focus, northeastern Iran: haplotype and phylogenetic based approach. *International Journal of Infectious Diseases*. 2020 Dec 1; 101:6-13.
23. **Saberi R**, Fakhar M, Makhloogh A, Sedighi O, Tabaripour R, Asfaram S, Latifi A, Espahbodi F, Sharifpour A. First Evidence for Colonizing of Acanthamoeba T4 Genotype in Urinary Tracts of Patients with Recurrent Urinary Tract Infections. *Acta Parasitologica*. 2021 Mar 13:1-6.
24. Hezarjaribi HZ, Toluee E, **Saberi R**, Moghadam YD, Fakhar M, Akhtari J. In vitro anti-Acanthamoeba activity of the commercial chitosan and nano-chitosan against pathogenic Acanthamoeba genotype T4. *Journal of Parasitic Diseases*. 2021 Mar 25:1-9.
25. Hosseini SA, Sharif M, Sarvi S, Janbabai G, Keihanian S, Abediankenari S, Gholami S, Amouei A, Javidnia J, **Saberi R**, Shekariz R. Toxoplasmosis among cancer patients undergoing chemotherapy: a population study based on the serological, molecular and epidemiological aspects. *Transactions of the Royal Society of Tropical Medicine and Hygiene*. 2021; 115(6):677-86.
26. Fakhar M, Nakhaei M, Sharifpour A, Safanavaei S, Abedi S, Tabaripour R, Aliyali M, Modanloo M, **Saberi R**, Kalani H, Banimostafavi ES. Morphological and Molecular Identification of Emerged Lophomonas blattarum Infection in Mazandaran Province, Northern Iran: First Registry-Based Study. *Acta Parasitologica*. 2021 Jun 11:1-7.
27. Afshar MJ, Elikaee S, **Saberi R**, Mohtasebi S, Mohebal M. Expression analysis of centrin gene in promastigote and amastigote forms of leishmania infantum Iranian isolates: a promising target for live attenuated vaccine development against canine leishmaniasis. *BMC Veterinary Research*. 2021 Dec; 17(1):1-7.
28. Afshar MJ, Mohebal M, Mohtasebi S, Teimouri A, Sedaghat B, **Saberi R**. Intestinal parasites among intellectually disabled individuals in Iran: a systematic review and meta-analysis. *Gut pathogens*. 2021 Dec; 13(1):1-1.
29. Alikhani M, **Saberi R**, Hosseini SA, Rezaei F, Mirzaei A. Identification of Trichomonas Vaginalis Genotypes Using by Actin Gene and Molecular Based Methods in Southwest of Iran. *Reports of Biochemistry and Molecular Biology*. 10(1):135-43.
30. Hajjarian H, **Saberi R**, Borjian A, Fakhar M, Hosseini SA, Ghodrati S, Mohebal M. The geographical distribution of human cutaneous and visceral Leishmania species identified

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- by molecular methods in Iran: A systematic review with meta-analysis. *Frontiers in Public Health*. 2021; 9:835.
31. **Saberi R**, Ghelich Zadeh A, Abbaszadeh Afshar M J, Fakhar M, Keighobadi M, Mohtasebi S, Rahimi-Esboei B. In vivo anti-leishmanial activity of concocted herbal topical preparation against *Leishmania major* (MRHO/IR/75/ER). *Annals of Parasitology* 2021, 67(3), 483–488.
 32. Norouzi M, **Saberi R**, Niyayati M, Lorenzo-Morales J, Mirjalali H, Fatemi M, Javanmard E, Karamati SA. Molecular Identification of Pathogenic Free-Living Amoeba from Household Biofilm Samples in Iran: A Risk Factor for *Acanthamoeba Keratitis*. *Microorganisms*. 2021; 9(10):2098.
 33. Hezarjaribi HZ, Dadimoghaddam Y, Saravi KH, Faridnia R, Kalani H, Fakhar M, Jorjani O, **Saberi R**, Tolouei E, Bazgir M. The effectiveness of different culture media on the growth and proliferation of *Acanthamoeba* T4 genotype. *Comparative Clinical Pathology*. 2021 May 4:1-4.
 34. Nakhaei M, Fakhar M, Sharifpour A, Banimostafavi ES, Zakariaei Z, Mehravaran H, **Saberi R**, Safanavaei S, Abedi S, Aliyali M, Soleimani M. First Co-morbidity of *Lophomonas blattarum* and COVID-19 Infections: Confirmed Using Molecular Approach. *Acta parasitologica*. 2022 Mar;67(1):535-538.
 35. Siyatpanah A, Mirzaei F, Hossain R, Islam MT, Fatemi M, Norouzi R, Koohestan MG, Namdar F, Almeida RS, Mubarak MS, **Saberi R**. Anti-parasitic activity of the *Olea europaea* and *Ficus carica* on *Leishmania major*: new insight into the anti-leishmanial agents. *Biologia*. 2022 Jul;77(7):1795-803.
 36. Dadimoghaddam Y, Ziaei Hezar Jaribi H, Fakhar M, Pagheh A, **Saberi R**, Sharbatkhori M, Ghalehnoei H, Nazar E. Molecular detection of *Critidia fasciculata* and other blood parasites in *Rhombomys opimus* from northern Iran as endemic area. *International Journal of Molecular and Clinical Microbiology*. 2021 Dec 30;11(2):1548-55.
 37. Hajjarian H, Ebadizadeh M, Ataei-Pirkooh A, Mohebbali M, Samimi-Rad K, **Saberi R**, Naddaf SR. Development of an Indirect Fluorescent Antibody (IFA) assay for the detection of *Leishmania* RNA Viruses 2 (LRV2) in *Leishmania* parasites. *Iranian Journal of Parasitology*. (Accept).
 38. Moin-Vaziri V, Zare F, Seyyed Tabaei SJ, **Saberi R**, Hajjarian H. Successful isolation of *Leishmania* RNA virus (LRV) from *Leishmania major* in a Cutaneous Leishmaniasis focus in central Iran: an update on cases. *Acta Parasitologica*. 2022. Jun 30:1-9 DOI: 10.1007/s11686-022-00575-9.
 39. **Saberi R**, Nakhaei M, Fakhar M, Zarrinfar H, Sharifpour A, Hezarjaribi HZ. Molecular identification and genotyping of *Acanthamoeba* spp., in bronchoalveolar lavage fluid

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from immunocompetent patients with chronic respiratory disorders (CRD). *Parasitol Res.* 2022 Aug 5;1-5.

40. **Saberi R**, Fakhar M, Hajjaran H, Abbaszadeh Afshar MJ, Mohebal M, Hezarjaribi HZ, Moghadam Y, Sharbatkhori M. *Leishmania* RNA virus 2 (LRV2) exacerbates dermal lesions caused by *Leishmania* major and comparatively unresponsive to meglumine antimoniate treatment. *Exp Parasitol.* 2022 Aug 3;108340.
41. Ziaei Hezarjaribi H, **Saberi R**, Fakhar M, Sadeghian N. Is There Any Relationship between *Trichomonas vaginalis* Infection and Male Urethritis Risk? A Systematic Review and Meta-Analysis. *Interdiscip Perspect Infect Dis.* 2022 Sep 6;2022:8359859.
42. Pourabbasi Ardekan A, Niyyati M, **Saberi R**, Zanjirani Farahani L, Fatemi M. Isolation and genotyping of *Acanthamoeba* species and *Vahlkampfiidae* in the harsh environmental conditions in the centre of Iran. *J Water Health.* 2023 Oct;21(10):1572- 1579.
43. Mirabedini Z, Mirjalali H, Kazemirad E, Khamesipour A, Samimirad K, Koosha M, **Saberi R**, Rahimi HM, Mohebal M, Hajjaran H. The effects of *Leishmania* RNA virus 2 (LRV2) on the virulence factors of *L. major* and pro-inflammatory biomarkers: an in vitro study on human monocyte cell line (THP-1). *BMC Microbiol.* 2023 Dec 14;23(1):398. doi: 10.1186/s12866-023-03140-0.
44. Moghaddam Y, Ziaei Hezarjaribi H, Pagheh AS, Fakhar M, **Saberi R**, Sharbatkhori M, Montazeri M, Ghalehnoei H, Nazar E. Phylogenetic analysis and antimony resistance of *Leishmania* major isolated from humans and rodents. *Acta Microbiol Immunol Hung.* 2024 Mar 21;71(1):89-98.

Articles summery	
First Author	12 publications
Corresponding Author	4 publications
H-index in Google Scholar	14
H-index in Scopus	12

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Professional experience

1. Assistance professor of Medical Parasitology in Mazandaran University of Medical Sciences
2. Deputy of Toxoplasmosis Research Center, Mazandaran University of Medical Sciences.
3. Scientific committee member (Parasitology /Oral presentation) in 14th International Congress of Medical Lab and Clinic.

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Teaching Experiences (Theoretical)

1. Teaching theoretical parasitology course (*Leishmania* and *Trypanosoma*) for laboratory science students of Mazandaran University of Medical Sciences
2. Teaching protozoology 1 course (*Leishmania* and *Trypanosoma*) for MS.c students of Mazandaran University of Medical Sciences
3. Teaching helminthology 1 course (Schistosomiasis and Bilharziasis) for MS.c students of Mazandaran University of Medical Sciences
4. Teaching practical parasitology for medical students of Shahid Beheshti University of Medical Sciences
5. Teaching Research Methods course for parasitology students (MS.c) of Mazandaran University of Medical Sciences
6. Teaching Research Methods course for mycology students (MS.c) of Mazandaran University of Medical Sciences
7. Teaching Research Methods course for microbiology students (MS.c) of Mazandaran University of Medical Sciences

Teaching Experiences (practical)

For Ph.D and MS.c students at Mazandaran University of Medical Sciences:

- 1- Extraction and identification of *Leishmania* proteins using proteomics technique
- 2- Isolation and culture of Free-living amoeba (*Acanthamoeba*, *Naegleria* and ...)
- 3- Isolation *Leishmania* spp. from CL patients and parasite culture in N.N.N., RPMI1640 and etc.
- 4- Isolation of *Leishmania major* from liver, spleen of mice and parasite culture
- 5- *Toxoplasma* parasite inoculation to mice
- 6- Cell culture
- 7- Direct Agglutination Test (DAT)
- 8- Molecular methods (DNA extraction, RNA extraction, cDNA synthesis, PCR techniques)
- 9- Preservation and recovery of parasites in cryopreservation method

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Workshop Instructor (practical)

1. Proposal writing workshops held by Toxoplasmosis Research Center, Mazandaran University of Medical Sciences.
2. Submission articles workshops held by Toxoplasmosis Research Center, Mazandaran University of Medical Sciences.
3. Gene registration in the GenBank workshops held by Toxoplasmosis Research Center, Mazandaran University of Medical Sciences.
4. Phylogenetic analysis (Pop Art, Mega, Dan SP, Uniprat, etc.) workshops held by Toxoplasmosis Research Center, Mazandaran University of Medical Sciences.
5. Free-living Amoeba culture workshops held by Toxoplasmosis Research Center, Mazandaran University of Medical Sciences.
6. PCR and qPCR workshop held by Toxoplasmosis Research Center, Mazandaran University of Medical Sciences.

Postgraduate Workshop:

1. Educational Symposium on pathogenic free-living amoeba, Shahid Beheshti University of Medical Science, 2015.
2. Educational Symposium on real time PCR, Shahid Beheshti University of Medical Science, 2016.
3. Workshop on EndNote application in medical research, 2017. Shahid Beheshti University of Medical Science, 2017.
4. Workshop on Systematic review and Meta-analysis study, Mazandaran University of Medical Science, 2018.

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Registered genes in GenBank:

- *Leishmania* RNA virus 2: Accession: MT268281- MT268295
- Whole genome *Leishmania* RNA virus 2: Accession: MN013357-MN013358
- *Leishmania major*: Accession: KX759007-KX759014
- *Leishmania major*: Accession: MT674939-MT674942
- *Acanthamoeba* sp: Accession: MT378220-MT378248
- *Acanthamoeba* sp: Accession: MN339659-MN339664
- *Lophomonas* sp: Accession: MN243135- MN243136
- *Acanthamoeba* sp: Accession: MK726087-MK726098
- *Toxoplasma gondii*: Accession: MH687540-MH704544
- *Toxoplasma gondii*: Accession: MH704618-MH704622
- *Acanthamoeba* sp: Accession: MK192784-MK192801
- *Acanthamoeba* sp: Accession: KU356836-KU356851
- *Crithidia fasciculate*: Accession: MT674943-MT674945

National Institute for Medical Research Development (NIMAD) projects

1. Phylogenetic analysis of *Leishmania* RNA virus 2 (LRV2) using Next- Generation Sequencing.
2. MicroRNA 155, mir-133a and mir-146b expression analysis in human macrophages in response to *Leishmania major* infected to *Leishmania* RNA virus2

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Research design collaboration

1. Evaluation of HSP 90 and MPI gene expression in Leishmania parasites isolated from cutaneous leishmaniasis patients infected with leishmania RNA virus (LRV) in comparison with Leishmania without LRV using qRT-PCR in Golestan province.
2. Molecular identification and protein analysis of Leishmania RNA virus (LRV) in Leishmania parasites isolated from Cutaneous Leishmaniasis patients and reservoir hosts (rodent) in Golestan province and study their role in the pathogenicity and drug sensitivity of infected Leishmania parasites to LRV virus.
3. Investigation of therapeutic effects of traditional ointment formulation (Aloe, Provsia, Nigella, Propolis, Lavender and Olive Oil) on Leishmania major wound in Balb/C
4. Isolation and detection of *Acanthamoeba* in Broncho alveolar lavage (BAL) specimens among patients referred to national lophomoniasis registry center in Imam Khomeini hospital using morphology and molecular methods
5. Isolation, morphological and molecular identification of *Acanthamoeba* spp from haemodialysis machines and their room dust at teaching hospitals of Mazandaran University of Medical Sciences, 2018
6. Morphological and molecular identification of *Acanthamoeba* spp isolated from urine specimens in patients with recurrent urinary tract infections refereed to Immam Khomini hospital and Mostafavian clinic.
7. Seroprevalence of *Neospora caninum* in dog: a systematic review and meta-analysis.
8. Seroprevalence of toxoplasmosis in cancer patients: a systematic review and meta-analysis.
9. Toxoplasmosis seroprevalence in rheumatoid arthritis patients: a systematic review and meta-analysis.
10. Toxoplasmosis seroprevalence in multiple sclerosis patients: a systematic review and meta-analysis.
11. A systematic review and meta-analysis on toxoplasmosis of neonates in Iran.
12. Spatial distribution and Geographic Information System (GIS) of *Neospora caninum* infection in cattle in Mazandaran province.

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13. Mesenchymal stem cells as a promising therapy for leishmania-induced ulcers: a systematic review
14. Molecular identification of Leishmania RNA virus (LRV) in Leishmania parasites isolated from patients with cutaneous leishmaniasis in North Khorasan province.
15. Comparison of the expression levels of HSP 90 and mpi genes in Leishmania parasites infected with LRV+ and LRV- viruses using qRT-PCR method.

Book

Leishmania and Leishmania virus: from structure to diagnosis (preparing).

Honors, Prizes and Awards

Top researcher in Tabari Festival in Ph.D course.

International Conferences

1. The 7th International Congress Laboratory and Clinical Sciences (Poster presentation).
2. The 14th International Congress of Medical Lab and Clinic (Tehran, Iran).
3. The 2rd International & 9th National Congress of Parasitology & Parasitic Diseases of Iran (NICOPA 9) (Poster presentation).
4. The 3rd International & 10th National Congress of Parasitology & Parasitic Diseases of Iran (NICOPA 10) (Poster presentation).
5. The 4rd International & 11th National Congress of Parasitology & Parasitic Diseases of Iran (NICOPA 11) (Poster presentation).

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Skills

General experiences:

- MS Office (Word, PowerPoint, Excel, Access)
- SPSS
- End note
- Windows management
- Primer Design
- BLAST (Basic Local Alignment Search Tool)
- Bioinformatics software (Chromas, Sequencher, MEGA, DNsap, Pop ART)

Laboratory Skills

- DNA and RNA extraction
- Double strand RNA extraction
- PCR methods (PCR-RFLP, Nested- PCR, Multiplex PCR, RT-PCR)
- ELISA (Enzyme-Linked Immunosorbent Assay)
- IFA
- Bradford assay
- Protein extraction
- Proteomics
- SDS- page
- Two-dimensional gel electrophoresis
- Sequencing
- Enzyme digestion
- In vitro and in vivo assay
- Working with the animal model (blood sampling, IV&IM injection, lesion leishmaniasis)
- Parasitological methods (Culture of *Leishmania*, *Acanthamoeba*, and ...)

Membership in Scientific Societies

- ✓ Iranian Society of parasitology-February, 2015- Present.
- ✓ American Society for Microbiology, 2018- Present.

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References

1. Professor Ali Haghighi, Department of Parasitology and Mycology, School of Medicine Shahid Beheshti University of Medical Sciences. [Email: a_haghighi@sbmu.ac.ir](mailto:a_haghighi@sbmu.ac.ir).
2. Professor Maryam Niyati, Department of Parasitology and Mycology, School of Medicine Shahid Beheshti University of Medical Sciences. Email: maryamniyati@yahoo.com
3. Professor Homa Hajjaran, Department of Medical Parasitology, Tehran University of Medical Sciences, Tehran, Iran. Email: hajjaranh@tums.ac.ir.