

Maryam Saleh

Pasteur Institute of Iran
Department of Influenza and Respiratory Viruses

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Maryam Saleh, Researcher, Microbiology, Ph.D.

Maryam Saleh is currently serving at Pasteur Institute of Iran, Influenza and Respiratory Viruses Department as Institute member and research director of microbiology.

Her interest and field of expertise is Microbiology, Immunology, Virology, Cell and Molecular Biology and Biotechnology and most of her research focus is on the antiviral activity. She is generally interested in variety of Molecular cell –biochemistry such as Cell Culture techniques and genetic engineering techniques including protein and DNA extraction and purification, SDS-PAGE, Western Blotting, Protein-Electro-elution, Affinity Chromatography, PCR& RT PCR, and Gene Cloning and she gained satisfying experiences in them.

Maryam has several refereed publications in international journals.

Education

1- Ph.D. in Microbiology (2019) Islamic Azad University, Tehran, Iran.

Thesis title: Prokaryotic production of chimeric proteins containing conserved regions of hemagglutinin, matrix protein and nucleoprotein influenza virus (A / H1N1) and its immunogenicity in a mouse model

Supervisors: Dr.J.Nowroozi, Professor of Medical Microbiology and Dr.F.Fotouhi, Professor in Medical Virology.

2- M.Sc. in Medical Parasitology (1992-1996) Tehran University, Hygiene Faculty and Hygienic Research Institute, Tehran, Iran (**As a Top Student**).

Thesis title: Study and Investigation of Congenital Toxoplasmosis in Animal Model

Supervisors: Dr. M. Ghorbani Samin, Professor of Medical Parasitology and Dr. M. Asmar, Professor of Medical Parasitology.

3- B.Sc in Microbiology (1988-1992), Tehran University, Faculty of Science, Tehran, Iran (**The third rank**).

Thesis title: Determination of MIC, MBC on Streptococcal samples in Iran.

Supervisors: Dr. R. Pakravan, Professor of Microbiology; Dr. Ahmad Siadati, Professor of Infectious Disease and Dr.AhmadReza Bahrehmand, Assistant Professor of Medical Microbiology

Honors and Awards

- Awarded registration fee and travel grant for Annual International Conference on microbiology, France (2002)
- The best graduate in M.Sc. of Hygiene Faculty and Hygienic Research Institute, Tehran University, Tehran, Iran(1996)
- First ranked in M.Sc. Entrance Exam, Tehran University(1992)
- As one of the 3 top students in **B.Sc in Microbiology** (1992).

Research Interest

Biotechnology, Microbiology, Virology, and Molecular biology:

- Development of Vaccine and Drug Delivery Systems
- Development of new vaccine against influenza and respiratory vaccines
- Quality aspects of the Pharmaceutical and Diagnostic Productions
- Drug/Vaccine delivery systems and Adjuvants
- Human vaccine production
- Quality Management Systems (Quality control, Quality assurance, Risk assessment)
- Mycobacteriology (Tuberculosis)

Skills & Professional Experience

A. Techniques:

Molecular Biology

- Mammalian cell culture and Transfection
- Protein and Nucleic acid (DNA and RNA) extraction and purification methods
- Molecular Genotyping by different methods: PCR, RT-PCR, Real-time PCR
- Gene expression in *E.coli*, Recombinant DNA and Gene Cloning
- Primer designation
- RNA interference
- CRISPR/Cas9 gene editing

Immunological and Biochemical Techniques:

- CTL assay
- proliferation assay
- cytokine assay
- MTT assay
- ELISA
- Immunohistochemistry and H&E staining
- Spectrophotometry
- Protein-ElectroElution
- Protein Electrophoresis
- Affinity chromatography

- Gel filtration Chromatography
 - Gel electrophoresis
 - Downstream and upstream processing in Fermentation
 - SDS-PAGE
 - Western Blotting
 - Protein Purification in E.coli
 - Ultrafiltration
- ✚ **Handling of laboratory animals** (Rabbit, Mice and Rattus rattus)
- ✚ **Microbiological Experience such as:**
- Cultivation
 - Isolation and Identification of pathogens (bacteria and fungi)
 - Diagnostic of parasites in clinical samples
 - Preparation of culture media
 - Identification of typical and atypical Mycobacteria(according to WHO and IUATLD methods)
 - Susceptibility testing of MDR-TB, Microbial Quality Control tests for pharmaceutical products
 - Microbiological Quality Control Tests of Products

B. Instrument Handling and operation

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| ▪ FTIR | ▪ UV Transilluminator |
| ▪ CD | ▪ Air Laminar flow Hood and Cabinet |
| ▪ Zeta potentiometer | ▪ Oven |
| ▪ ELISA microplate reader | ▪ Microscopy (TEM, SEM, Inverted, Fluorescence and Compound Microscopies |
| ▪ Thermo-cycler | ▪ Centrifuge (Refrigerated, Micro- and Ultra-Centrifuges) |
| ▪ pH meter | ▪ Thermocycler |
| ▪ Autoclave System | |
| ▪ Ultra-sonicator | |
| ▪ Co ₂ Incubator and shaker Incubator | |
| ▪ Spectrophotometer (picodrop) | |
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C. Bioinformatics & Computer Knowledge:

- Microsoft Office Software (The International Computer Driving Licence (ICDL): "Internet; Windows Vista, XP, 7, 10; Microsoft Office Word; PowerPoint; Excel; Access" and PhotoshopDos, etc)
- Statistics Software: SPSS, SPSS/PC, EPI INFO and GraphPad
- Reference manager Software: Endnote
- Familiar with Some bioinformatics tools and software including:

- NCBI (nucleotide, gene, dbSNP, pubmed)
- Multiple sequence alignment
- Genome Editing tool (CRISPR)
- Nucleotide BLAST
- Primer blast
- Chromas

Research projects (Director* & co-worker)

- ❖ Pasteur Institute of Iran, Influenza and other Respiratory Viruses Department, 2008-present, Researcher
- ✓ *Prokaryotic expression of the Respiratory Syncytial Virus F Protein Conserved Domain, and evaluation of its immunogenicity and protectivity in a mouse model, for vaccine Development(2023-2024)
- ✓ Evaluation gamma inactivated influenza vaccine in inducing protective immune response by different adjuvant formulation in murine influenza model(2023-2024)
- ✓ *Prokaryotic production of chimeric proteins containing conserved regions of hemagglutinin, matrix protein and nucleoprotein influenza virus (A / H1N1) and its immunogenicity in a mouse model. 2017-2019
- ✓ *Prokaryotic production, expression and purification of conserved Matrix protein 1 (M1) of Influenza A Virus used in broad-spectrum subunit vaccine cocktails. 2018-2019
- ✓ Production and protectivity assessment of intranasal administration of polyclonal Antibodies against whole Influenza A/H1N1virus and conserved proteins (HA2& M2) in mice (no:944)
- ✓ Prokaryotic production and Immunogenicity assessment of chimer Protein consisting of Influenza Virus conserved Domains of Hemagglutinin and Matrix proteins (3M2e-HA2) in mouse model. “2014-2016” (no:759)
- ✓ Suspending MDCK cell line for large scale culture of influenza virus “2012-2014” (no:606)
- ✓ Evaluation of protective and anti-influenza immunity of influenza virosome potency as carrier of plasmid expressing influenza M2 gene and GM-CSF as genetic adjuvant in BALB/c mice model"2018-2020"
- ✓ Expression of Hemagglutinin (HA) proteins in Tobacco plant for production of virus-like particles as vaccine candidate"2017-2019"(no: 6036).
- ✓ Application of avian Newcastle disease virus (NDV) in combination with influenza hemagglutinin Fusogenic membrane glycoproteins (FMGs) gene as novel therapy for murine model of human papillomavirus –induced cancer"2017-2019"
- ✓ Formulation of oil adjuvant with capability to inducing TH1 immune responses'2017-2018"
- ✓ Production of influenza virus M2 protein, Leshmania Major HSP70 and M2- HSP chimeric protein in prokaryotic system (E. coli) and assessment of its immunogenicity in mice.“2012-2014” (no:611)
- ✓ Construction of a chimerical expression vector carrying influenza virus M₂ protein and HSP70 gene and protein expression in COS-7 and/or HEK 293 cells “2009-2010” (no:459)
- ✓ Expression of Human Influenza Hemagglutinin in BES (Baculovirus Expression system) for subunit vaccine production“2008-2010”(no:415)

- ✓ Molecular analysis of Influenza A virus "amantadine" resistance in Pediatric Infectious Research Center's outpatients during Fall and Winter of 1387
- ✓ Virosome construction from Influenza virus to include Nucleoprotein gene as DNA Vaccine against the virus

- ❖ 2005-2008, Researcher and Instructor of Quality Control Department, Production & Research Complex, Pasteur Institute of Iran, Tehran-Karaj Highway, Iran

- ❖ 2002-2005, Researcher, Medical Technologist, and Lab Instructor of Mycobacteriology Department, Pasteur Institute of Iran, Tehran

- ❖ 1997- 2002, Researcher, Department of Pilot Biotechnology, Pasteur Institute of Iran, Tehran
- ✓ Standardization of Islet cell isolation and purification for transplantation in diabetic mice. “2001-2002”.
- ✓ Evaluation of *Plasmodium Falciparum* protease to design inhibitor “1999-2001” (no: 140).
- ✓ Extraction and purification of (NADH) by *Saccaromyces Cervisiae PTCC 5080* “1998-2000” (no: 115).
- ✓ Purification of the delta-endotoxin and cytolytic proteins of *Bacillus Thuringiensis Subsp H14 Israelensis* and Inspection of toxin effect in Rat cell. “1998-2000” (no: 180).

- ❖ 1996-1997, Medical Technologist (Lab Instructor, Expertise, Specialist, and Training), Microbiology Department, Central Hospital of National Iranian Oil Company, Tehran, Iran

Published Papers

- 1- Mahnoosh Maleki, Seyed Masoud Hosseini, Behrokh Farahmand, **Maryam Saleh**, Hadiseh Shokouhi, Ali Torabi, Fatemeh Fotouhi. Induction of Homosubtypic and Heterosubtypic Immunity to Influenza Viruses Using a Conserved Internal and External Proteins. *Current Microbiology* 2023 May 16- 80 (6):212. Doi: 10.1007/s00284-023-03331-y.
- 2- Zahra Latif, Behrokh Farahmand, **Maryam Saleh**, Zahra Barghi. Prokaryotic Expression of the Influenza A (H5N1) Neuraminidase. *Journal of Mazandaran University of Medical Sciences*, April 2021, 31(195):94-102
- 3- Mehrnaz Forqani, Seyed Masoud Hosseini, Behrokh Farahmand, **Maryam Saleh**, Hadiseh Shokouhi, Ali Torabi & Fatemeh Fotouhi. Combination of conserved recombinant proteins (NP & 3M2e) formulated with Alum protected BALB/c

- mice against influenza A/PR8/H1N1 virus challenge. *Biotechnology Letters*. 2021; <https://doi.org/10.1007/s10529-021-03174-2>.
- 4- **Maryam Saleh***, Jamileh Nowroozi, Behrokh Farahmand, Fatemeh Fotouhi An approach to the influenza chimeric subunit vaccine (3M2e-HA2-NP) provides efficient protection against lethal virus challenge. *Biotechnology Letters*. 2020; <https://doi.org/10.1007/s10529-020-02822-3>.)
 - 5- **Maryam Saleh***, Jamileh Nowroozi, Fatemeh Fotouhi, Behrokh Farahmand Physicochemical study of the influenza A virus M2 protein and aluminum salt adjuvant interaction as a vaccine candidate model. *Future Virology*. 2019; Vol. 14, No. 8 <https://doi.org/10.2217/fvl-2019-0019>
 - 6- Hatami Sh, Fotouhi F, Hashemi M, **Saleh M**, Nazeri E ,Shokouhi H and Farahmand B*. Prokaryotic expression of chimeric trimer protein (3M2e-HA2-NP) derived from conserved domains of influenza virus A/H1N1 as a promising universal subunit vaccine. *Scientific Journal of Kordistan University of medical sciences*. 2018; 20(91); 111-120.
 - 7- Fateme Khosravi Node, Farida Behzadian ,Vahideh Mazaher ,Hadiseh Shokouhi, **Maryam Saleh** and Behrokh Farahmand*. Purification of Influenza virus A (H1N1) recombinant Hemagglutinin (HA1) and polyclonal antibody production. *Tehran University Medical Journal*, 2017; 75(8); 585-592.
 - 8- Feizi N, Mehrbod P, Romani B, Soleimanjahi H, Bamdad T, Feizi A, Jazaeri EO, Jamali A, **Saleh M**, Targhi H, Fotouhi F, Nargesabad RN, Abdoli A*. Autophagy induction regulates influenza virus replication in a time-dependent manner. *J Med Microbiol*. 2017 Apr; 66(4):536-541.
 - 9- Asghar Abdoli, Hoorieh Soleimanjahi, Abbas Jamali, Mehrbod P, Shima Gholami, Zahra Kianmehr, Neda Feizi, **Maryam Saleh**, Fariborz Bahrami, Talat Mokhtari-Azad, Mohsen Abdoli, Masoumeh Tavassoti Kheiri (2016) Comparison between MDCK and MDCK-SIAT1 cell lines as preferred host for cell culture-based influenza vaccine production, *Biotechnology Letters*, 38 (6):941-948.
 - 10- SadeghiNeshat, S., Farahmand, B., Kianmehr, Z., Zamani, S., **Saleh, M.**, Fotouhi, F. (2015) Immunogenesis enhancement of influenza virus stalk domain using leishmania major heat shock protein, one step closer to universal vaccine. *Journal of Isfahan Medical School* Volume 33, Issue 349, 1, 12p.
 - 11- Siavash chalabiani, Fatemeh Fotouhi, **Maryam Saleh**, Mansoureh Tabatabaian, Behrokh Farahmand, Mohammad ali Alavi Esfahani, Ali Torabi (2014) Prokaryotic production of Influenza Virus M2 protein fused to Leishmania major HSP70 in order to prepare an effective flu vaccine. *Journal of Isfahan Medical School*, 32(288): 1-12

- 12- **Maryam Saleh***, Ali-Asghar Saeedi, Ali AliPooran (2014) Brain tuberculomas: Report of a Case. Jundishapur Journal of Microbiology 7(7):11252. doi: 10.5812/jjm.11252
- 13- **Maryam Saleh***, Rouha Kasra Kermanshahi, Sargol Aminnezhad, ozra Bagheri. Effect of *Althaea officinalis* extract on growth and biofilm formation in *Pseudomonas aeruginosa* (submitted in Scand J Infec Dis, Dec 2013)
- 14- O. Bagheri, N. Jonaidi Jafari, R. Ranjbar, S. Aminnezhad, F. Bagheri and **M. Saleh** (2012) Evaluation of Antimicrobial Activity of *Lactobacillus casei* and *Lactobacillus fermentum* Metabolites on the *Shigella flexneri* Clinical Samples, Biosciences Biotechnology Research Asia 9(2):609-615
- 15- Tavakoli R, Fotouhi F, Tavassoti-Kheiri M, Farahmand B, **Saleh M**, Tabatabaeiyan M. Expression of Influenza Hemagglutinin Globular Head in Different Eukaryotic Cells. Iranian Journal of Virology 2012;6(1): 13-17
- 16- Alavi Esfahani MA, Fotouhi F, Ghaemi A, **Saleh M**, Chalabiani S, Farahmand B, TavasotiKheiri M. Expression of M2 Protein of Human Influenza Virus (H1N1) In *E. coli*. Journal of Isfahan Medical School. 2013, 30(216): 1-12
- 17- Hossainzadeh S, Fotouhi F, Farahmand B, **Saleh M**, Yousefi A, Heydarchi B, Kheiri MT. Construction of recombinant bacmid DNA encoding influenza virus A(H1N1) hemagglutinin gene. Modares Journal of Medical Sciences, Pathobiology.2012 Vol.14, No.4, PP: 37-47.
- 18- Esghaei M, Monavari SH, Tavassoti-Kheiri M, Shamsi-Shahrabadi M, Heydarchi B, Farahmand B, **Saleh M**, Fotouhi F. Expression of the influenza M2 protein in three different eukaryotic cell lines. J Virol Methods. 2012 Jan;179(1):161-5.
- 19- Farahmand B, Khodabandeh M, Mahboudi F, Fotouhi F, **Saleh M**, Barkhordari F, Tabatabaian M, Nasab FP, Kheiri MT. The Influenza Virus hemagglutinin: a model for protein N-glycosylation in recombinant *Escherichia coli*. Intervirology journal, Vol. 55, No. 3, p219-244. February 2012.
- 20- Farahmand B, Khodabandeh M, Mahboudi F, Fotouhi F, Barkhordari F, **Saleh M**, Kheiri T M. Isolation, cloning, and sequencing of influenza A (H1N1) hemagglutinin for production of hemagglutinin gene bank. Arak Medical University Journal (Rahavard Danesh), 2011; 13(4): 59-67
- 21- Rahimifard N, Shoeibi Sh, Pirali Hamedani M, Saleh M, Saadati Sh, Bagheri F, and Noori Z, The Microbial Quality of Poultry Paste as Raw Material Cooked and Raw Meats In Iran, Journal of Pure & Applied Microbiology, 2009. Vol.03, No.01.
- 22- Rahimifard N, Shoeibi Sh, Pirali Hamedani M, **Saleh M**, Bagheri F, Saadati Sh, Noori Z, Pirouz B, and Asghari Sh, 2009, Microbiological Control of the Cosmetic Material During 2004 and 2005 in Iran, Biosciences, Biotechnology Research Asia Vol.06, No.01.

- 23- Rahimifard N, Shoeibi Sh, Pirali Hamedani M, **Saleh M**, Bagheri F, Saadati Sh, and Noori Z, 2008, Presence and Control of Salmonella in Food Stuffs, Biosciences, Biotechnology Research Asia Vol.05, No.02.
- 24- Davoud Nouri Inanlou, Bagher Yakhchali, **Maryam Saleh**, 2006. Histon-like Proteins in Bacteria, Journal of Modern Genetics, No.6&7, p: 9-13.
- 25- **Maryam Saleh***, M.Assmar 2005, Comparable Survey of Chronic Congenital Toxoplasmosis with Reinfection in Rat. Yazd Medical University Journal. 13 (1): 32-37
- 26- **Maryam Saleh***, M. Assmar 2003, Investigation on Congenital Toxoplasmosis in *Rattus rattus*, Iranian Infectious Disease and Tropical Medicine Journal, 23, 56-59.
- 27- D.Norouzian, A.Akbarzadeh, D.Nouri Inanlou, **M.Saleh**, B. Farahmand, F.Sheikh-ul-eslam, J.Vaez. 2003. Biotransformation of alcohols to aldehydes by Immobilized cells of *Saccharomyces cerevisiae* PTCC5080. Enzyme and Microbial Technology 33, 150-153
- 28- Sh. Yari, F.Yari, **M.Saleh**, B.Farahmand, D.Nouri Inanlou and A.Akbarzadeh. January 2002. Effects of protoplast fusion on delta-endotoxin production in *Bacillus thuringiensis* subsp (H14). Iranian Biomedical Journal 6(1) p.25-29
- 29- D. Norouzian, K. Rostami, D.Nouri Inanlou and **M.Saleh**. 2000. Subsite mapping of purified of glucoamylase I, II, III produced by *Arthrobotrys amerospora* ATCC 34468. World Journal of Microbiology & Biotechnology 16:155-161.

International Presentation, Abstracts and Meeting Attended

1. Alireza Jalalvand, **Maryam Saleh**, Somayeh Behjat Khatouni, Zahra Bahri Najafi, Foroozan Fatahinia, Narges Ismailzadeh, Behrokh Farahmand, In Silico Study of Antiviral Three Important Proteins of SARS-COV-2 Using Molecular Docking Method, **World Academy of Science, Engineering and Technology, International Journal of Pharmacological and Pharmaceutical Science, Vol: 17, No:07, 2023, Copenhagen, Denmark**
2. **Maryam Saleh**, Jamileh Nowroozi, Fatemeh Fotouhi, Behrokh Farahmand, Influenza virus M2 protein vaccine candidate as a model for the study of protein and aluminum salt- adjuvant interaction, **Influenza Vaccines for the World Conference (IVW Conference), 2-4 April 2019, Edinburgh, Scotland, UK, Switzerland**
3. **Maryam Saleh**, Jamileh Nowroozi, Fatemeh Fotouhi, Behrokh Farahmand, Elucidation of structural perturbation of an aluminum salt-adjuvant antigen-based vaccine in influenza virus, 2018, **The Twelfth International&Seventeen National Congress on Quality Improvement in Clinical Laboratories**

4. Chalabiani S, Fotouhi F, **Saleh M**, Alavi Esfehiani. MA, Ghaemi A, Farahmand B, Tavasoti Kheiri M. Subunit vaccine against influenza viruses: A vaccine Based on influenza virus M2 protein and leishmania major HSP70 gene. **11th International Congress of Immunology & Allergy.2012.**
5. Alavi Esfehiani. MA, Fotouhi F, **Saleh M**, Ghaemi A, Chalabiani S, Farahmand.B, Tavasoti Kheiri M. Universal vaccine candidate: Overexpression and characterization of Influenza Virus M2 protein in prokaryotic systems. **11th International Congress of Immunology & Allergy.2012.**
6. Atiyeh Akbari, Fatemeh Fotouhi, Mehrdad Hashemi, Neda Jalili, **Maryam Saleh**, Khadijeh Akbari, Abbas Mohammadpour, Ali Torabi, Zahra Kianmehr, Behrokh Farahmand. Prokaryotic Expression of Influenza Virus Hemagglutinin Stalk Domain(HA2) in Order to Universal Subunit Vaccine Production, **7th International Iranian Congress of Clinical Microbiology (ICCM), Shiraz, Iran, 2013, 19-21 Oct, p:164 (As a Poster Presentation).**
7. Neda Jalili, Fatemeh Fotouhi, Mehrdad Hashemi, **Maryam Saleh**, Atiyeh Akbari, Khadijeh Akbari, Zahra Kianmehr, Ali Torabi, Maryam Ghahramani, Abbas Mohammadpour, Behrokh Farahmand. Prokaryotic Expression of Influenza A (H1N1) Hemagglutinin Small Subunit 3M2e chimeric Protein for Subunit Vaccine Development, **7th International Iranian Congress of Clinical Microbiology (ICCM), Shiraz, Iran, 2013, 19-21 Oct, (As a Poster Presentation).**
8. K.Akbari, A.Mohammadpour, F.Fotouhi, V.Mazaheri, R Kamali Jamil, **M.Saleh**, M.Tabatabaian, M Tavasoti Kheiri, A.Shabrangi, B.Farahmand. Isolation and Cloning of Human St6galnac5 (siat7e) from Cancer Cells for MDCK Cell Suspending. **7th International Iranian Congress of Clinical Microbiology (ICCM), Shiraz, Iran, 2013, 19-21 Oct (As a Poster Presentation).**
9. Abdoli. A, Biglari. P, Hosseini. M, Jamali. A, Nezam Kheirabadi. F, Rahmatollahi. H, **Saleh. M**, Tavasoti Kheiri. M, Torabi. A, The Effect of Chronic Stress on the Efficiency of Influenza Gene Vaccines to Induce Immune Response Against Influenza Virus in Mouse Model, **14th International Iranian Congress of Microbiology 2013, 28-30 August (As a Poster Presentation).**
10. Rezvan Tavakoli, Fatemeh Fotouhi, Masoumeh T. Kheiri, Behrokh Farahmand, **Maryam Saleh**, Mansoureh Tabatabaeiyan, Behnaz Heydarchi. Construction of Expression Vector Encoding Hemagglutinin global Head of Swine Influenza A (H1N1) Virus and its Expression in BHK Cells. **5th International Iranian Congress of Clinical Microbiology (ICCM), Shiraz, Iran, 2011, 8-10 Nov (As a Poster Presentation).**

11. B.Farahmand, M.Khodabandeh, F.Mahboodi, F.Fotouhi, **M.Saleh**, F.Barkhordari, M.Tabatabaeian, A.Torabi, M.T.Kheiri, **Cloning and Expression of Influenza Virus A (H1N1) Haemagglutinin large subunit in Escherichia coli. International Biotechnology Symposium 2010, 14-18 Sep, Rimini, Italy (As a Poster Presentation).**
12. B.Farahmand, M.Khodabandeh, F.Mahboodi, F.Fotouhi, **M.Saleh**, F.Barkhordari, F.Parsaei Nassab, M.Aebi, M.T.Kheiri, **Co-Expression of Influenza Haemagglutinin (HA1) and C.jujeni Glycosylation System in Escherichia coli. 3rd International Influenza 2010, 21-23Sep, St.Hilda's College, Oxford, UK (As a Poster Presentation).**
13. F.Bagheri, M.Hakemi Vala, P.Kavakeb, G.Fazel, **M.Saleh**, Feb (2009), Frequency of Staphylococcus Species among Nosocomial Infections, **IMED, Vienna, Austria (As a Poster Presentation).**
14. **Maryam SALEH**, Aug 2008, Proteomics and Its Role in the Clinical Diagnosis Diseases, **HUPO 7th Annual World Congress Amsterdam, the Netherlands, Amsterdam (As a Poster Presentation).**
15. **Maryam Saleh**, Virander Singh Chauhan 2006. RNAi technique in Malaria Parasite and its possible use in treatment. **8th International Congress on "Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases" (MEEGID VIII), Bangkok, Thailand, 30th Nov- 2nd Dec (As a Poster Presentation).**
16. Fatemeh Bagheri-Bejestani, **Maryam Saleh** Behnaz Akhoondi-Lavassani, 9-13 July 2006. Survey of Anti-Bacterial Effects of *Pteridea Adiantum capillus-veneris* Extract on *Helicobacter pylori*. **International Symposium on Environmental Biotechnology, Leipzig, Germany (As a Poster Presentation).**
17. Davoud Nouri Inanlou, Zeinab Abedian, **Maryam Saleh**, Ahmadreza Bahrmand 2005, Drug Resistance Profile of Mycobacterium tuberculosis Isolated from Patients Referred to Pasteur Institute of Iran From 2002 to 2004. **The Second International Congress on Pulmonary Disease, Intensive Care and Tuberculosis**, Shahid Beheshti University, 15-18 Nov, No. of Poster 20, Page: 52, 113. **Tehran, Iran (As a Poster Presentation).**
18. Zeinab Abedian, Davoud Nouri Inanlou, **Maryam Saleh**, Ahmadreza Bahrmand **2005**. Hapatotuberculosis (Case report). **Keystone Symposia" Tuberculosis: Integrating Host and Pathogen Biology"**, Whistler, BC, Canada, April 2-7, p: 41 (As a Poster Presentation).
19. B.Farahmand, Sh.Yari, A.Akbarzadeh, D.Nouri Inanlou, **M.Saleh**, J.Vaez, Sh.Jamshidi, A.Farhangi 2003. Purification of the Delta-toxin and Cytolytic Proteins of *Bacillus thuringiensis* Subsp H14 israelensis and Inspection of Toxin

Effect in Rat Cells. **The 10th Congress of Federation of Asian&Oceanin Biochemists and Molecular Biologists (FAOBMB), Bangalore, India, December 7-11, Abstract supplement, p.3-4(As a Poster Presentation).**

20. **Maryam Saleh** et al, 2002. Effects of protoplast fusion on δ -endotoxin production in *Bacillus thuringiensis* Subsp H14. **The Xth International Congress of Bacteriology and Applied Microbiology, Paris, France, 27th July to 1st August (As a Poster Presentation).**
21. D. Norouzian, B.Farahmand, **M.Saleh**, Sh.Yari, D.Nouri Inanlou, A.Akbarzadeh, Transform of NAD to NADH by permeabilized cells of *Saccharomyces cerevisiae* PTCC 5080. 2001. **The 10th European Congress on Biotechnology, Biotechnological challenges in the New Millennium, July 8-11, Spain, Abstract Supplement p: 229 (As a Poster Presentation).**
22. **M.Saleh**, M.Ghorbani, M.Asmar 1997. Study and Investigation of congenital Toxoplasmosis in Rat. **The Second International Parasitic Diseases Congress, Tehran, Iran, October 19-22, Abstract Supplement P:90 (Also in the 6th International Meeting on Epidemiological Markers, August 27-30, 2003, Les Diablerets, Switzerland (As a Poster Presentation).**
23. **Maryam Saleh**, Dr. Ghorbani Oct 19-22, 1997. Congenital Toxoplasmosis and Animal Models, **Second International Congress of Parasitic Diseases, Tehran University, Tehran, Iran (As an Oral Presentation).**

Teaching Experience and Workshop performance

1. Teaching French Language Course for Kids and Teenagers
2. Theory and Practice of Recombinant DNA, Cloning, SDS-PAGE and Western-blotting Methods (2010-2020), To Students of Summer School Course in Pasteur Institute of Iran.
3. Practical Course of Virology (2010- 2015), To Students of Pasteur Institute of Iran.
4. Theory and Practice of Quality Controls of Drugs (2008), to PhD Students of Pasteur Institute of Iran.

Language Skills:

- Speaking, Reading and Writing Farsi: Proficient (Native)
- Speaking, Reading and Writing English: Advanced
- Speaking, Reading and Writing French: Intermediate (B1)
- Speaking, Reading and Writing Germany: Elementary (A2)
- Speaking, Reading and Writing arabic: Elementary
- Speaking, Reading and Writing chinese: Beginner