

# Mohammad Arjmand

**Metabolomics Lab.**

**Dept. of Biochemistry,**

**Pasteur Institute of Iran, Tehran, 13164**

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## **Objective:**

Assistant Professor, Endocrinology

## **Education:**

Ph.D., *Endocrinology*,

Post Graduate Institute of Basic Medical Sciences, University of Madras, India 1994

Concentrations: Human Endocrinology and metabolism

Dissertation : Endocrine, Biochemical and Histological studies on the effect of Solasonine a plant alkaloid on testis.

M.Phil., *Endocrinology*,

Post Graduate Institute of Basic Medical Sciences, University of Madras, India 1988

Concentrations: Human Endocrinology and human contraceptives

Thesis: Immunization and effect of Anti-FSH on testicular lipid and lipogenic enzymes.

## **Academic Experience:**

Lecturer, 1995-1996

Shiraz Medical University (Fasa)

Course: Biochemistry

Lecturer, 1996-2010

Pasteur Institute of Iran,

Head of Endocrinology Laboratory 1996- 2010

Head of Biochemistry Dept. 2008-2010

## **Courses:**

Advanced Biochemistry to Medical Biotechnology Ph.D. Students (Theoretical & Practical)

Advanced Biochemistry to Pharmaceutical Biotechnology Ph.D. Students (Theoretical & Practical)

Applied Advanced Biochemistry to Medical Biotechnology Ph.D. Students (Theoretical

& Practical)

General Biochemistry to Microbiology MSc. Students (Theoretical)

### Executive Experiences:

International Relation Officer, Pasteur Institute of Iran 1996-1997

National and International Relation Officer, Pasteur Institute of Iran 1997-1999

Director for Administration and Finance, Pasteur Institute of Iran 1999-2002.

Director for International Scientific Affairs, Pasteur Institute of Iran 2002-2004

Member of Production Committee, Pasteur Institute of Iran, 1999-2002

Member of Research Committee, Pasteur Institute of Iran, 2000-2002

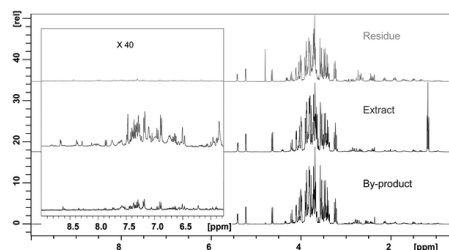
Member of Research Committee, Pasteur Institute of Iran, 2007-2009

Managing Director, Bucharest Medical Laboratories. Tehran ([www.bml.ir](http://www.bml.ir)). 2006-2010

Consultant to MedLinX enterprises, Tehran, ([www.medlinx.ir](http://www.medlinx.ir)). 2005-2010

### Research Skills:

Extensive knowledge of Radioiodination, radioimmunoassay, Elisa, chemiluminescence, plant extraction, protein purification, spectrophotometry, fluorometry, ultracentrifugation, enzyme kinetics, electrophoresis, ion chromatography, thin layer chromatography, atomic absorption, nuclear magnetic resonance NMR, chemometrics and metabolomics.



### Current & Passed Projects:

- Study the metabolite profile of *plasmodium falciparum* in ring and trophozoite stages by <sup>1</sup>H NMR spectroscopy
- Study the *in vitro* effect of Artemisinin on metabolome profile of *Plasmodium falciparum* in ring and trophozoite stages by <sup>1</sup>H NMR spectroscopy.
- Study the metabolome profile in poly cystic ovary by help of <sup>1</sup>H NMR
- Design and fabrication of electrochemical multisensory for determination of glucose and uric acid in diabetic patient.

- Modification of Urease layer in Nano-sensitive urea detectometer.
- Surveying the bone metabolism markers in major beta thalassemia patients.
- Determination of lipoprotein subclasses by <sup>1</sup>H NMR and comparison with current methods.
- Effect of exercise on salivary IgA, cortisol and alpha amylase response in well trained swimmers during the day.
- Studying metabolite profile (metabolomics) in the liver of hyperthyroidism rat by the help of NMR and chemometrics.
- Immunobiochemical evaluation of prostaglandin (PG) and nitric oxide (NO) modulation in physiopathology of susceptible Balb/C mice infected with *Leishmania major*.
- Study of Eosin B as a new antimalarial drug and its effect on glutathione-s-transferase as a drug target.
- Effects of *Hemiscorpius leturus* venom's toxic fraction on liver metabolism and histologyImmuno-biochemical.
- Metabonomic Study on Colon Cancer with the Aim of Obtaining a Biomarker for a Pattern Recognition between Patients and Normal.
- Isolation and purification of butylated hydroxy toluene (antioxidants) from natural resources.
- Isolation and purification of butylated hydroxyanisol (antioxidants) from natural resources.

- Isolation and purification of heparin from natural resources.
- Semi industrial production of BSA.
- Production of CRP diagnostic kit
- Solasonine a plant alkaloids as male contraceptives.
- Vaccine as male contraceptives.



### Presentations:

**Arjmand, M.**, Saleh, S., Zamani, Z, Parvizzadah, N., Akbari,Z., Mohabati, R., Micheal aruldas, M and Arunakaran,J.(2010) "Studying metabolite ingerprint (metabonomics) in hyperthyroid rat's liver tissue by the help of 1H NMR spectroscopy Presented in 1st International Metabolomics Symposium in Germany . March 10-12, 2010 in Freising-Weihenstephan, Germany .

**M. Arjmand**, M. Kompany-Zareh, M. Vasighi, N. Parvizzadeh, Z. Zamani, F. Nazgooei,(2009)."Rapid diagnosis of beta thalassemia using 1H NMR spectroscopy of human blood serum ". Presented as oral at third International biochemistry and molecular biology . Nov 16-19 , Tehran

**M. Arjmand**, M. Kompany-Zareh, M. Vasighi, N. Parvizzadeh, Z. Zamani, F. Nazgooei,(2009)." Metabolism based diagnosis of beta thalassemia using 1H NMR spectrum of human blood serum and linear vector quantization". Presented at Euromedlab June 7-11 Innsbruck Austeria.

**M. Arjmand**, T.Nikravesh, Vasighi,M. Rofoei, MK. Movahed, A. Parvizzadeh, N. Kompany-Zareh, F. Nazgooei,(2009)."Determining the risk of Cornory heart disease (CHD) using 1H NMR spectra of plasma lipoprotein with the help of pattern recognition techniques". Presented at Euromedlab June 7-11 Innsbruck Austeria.

H. Nahravanian, M. Farahmand, M. Amini, **M. Arjmand**, R. Hajihossieni and F. Ghasemi (2009) Immunotherapy of cutaneous Leshmaniasis by inhibition of prostaglandin and induction of nitric oxide in susceptible Balb/C infected with Leishmania major. Int. J. of Inf. Dis. Suppl. (13) page.S94

**Arjmand, M.**, Zamani, Z., Ezadyar, M., Parvizzadeh, N., Mirkhani, F., Nazgooei, F., Rouhi, S. " A Metabonomic (2008 )"Study Using HNMR Spectroscopy for Pattern Recognition

Between Thalassemic Patients and Healthy Normal". Conference on Computational Aspects Biomolecular NMR, Italy

Sadeghi Tafreshi, Z. Zamani, H. Nahravanian, **M. Arjmand**, B. Lamerad, S. Sadeghi, P. Saidi, F. Mirkhani, M. tamimi, A. Irvani. (2008) "Study of Eosin B as a new drug against P. Berghei and its effect on Gst." Presented at Australia.

A. Hasanzadeh Rad, F. Darvizeh, M. Jalali- Heravi, **M. Arjmand**, M. Gholipour, A. Tabrizi. (2009). "Theoretical and experimental study of metabolite variations caused by physical activity using anthropometric and 1 H NMR method " Presented at Conferentia Chemometrica Sept. 27-30. Hungary.

Zamani, z Razavi, M. R. Sadeghi, S., Nadaf, S., Pourfallah, F., Feizabadi, H., Ebrahimi, M., **Arjmand, M.**, Assmar, M., (2007). "A study of the C terminal region of merozoite surface protein 1". Presented at 1<sup>st</sup> International congress on health genomics and biotechnology Nov, 24-26 at Tehran.

**Arjmand, M.**, Zamani, Z., Ezadyar, M., Parvizzadeh, N., Mirkhani, F., Nazgooei, F., Rouhi, S. (2007) "A Metabonomic Study Using HNMR Spectroscopy for Pattern Recognition Between Thalassemic Patients". Presented at European Conference on Synthetic Biology (ECSB); Spain



### Publications:

**Mohammad Arjmand**, Mohsen Kompany-Zareh, Mahdi Vasighi, Nastran Parvizzadeh, Zahra Zamani, Fereshteh Nazgooei (2010). "Nuclear magnetic resonance-based screening of thalassemia and quantification of some hematological parameters using chemometric methods" **Talanta**. 15; 81(4-5): 1229-36.

Younesi, V. , Nikzamir, H., Yousefi, M., Khoshnoodi, J., **Arjmand, M.** Rabbani, H. and Shokri, F. ( 2010). "Epstein Barr virus inhibits the stimulatory effect of TLR7/8 and TLR9 agonists but not CD40 ligand in human B lymphocytes" .Microbiology and Immunology .(Manuscript submitted)

M. Gholipour, A. Tabrizi, and **M. Arjmand** (2010) "Training-induced changes in body composition, GH, IGF-1, and their relationship in overweight female college students" (Manuscript In preparation).

**Mohammad Arjmand**, Fatemeh Darvizeh, Mehdi Jalali-Heravi,, Majid Gholipour , Zahra Zamani, Nastarn Parvizzadeh and Arezoo Tabrizi (2010) Study of metabolite variations caused by physical activity using anthropometric and <sup>1</sup>HNMR methods.(Manuscript submitted)

Fahimi Zahra, Rabiee Mohammad, **Arjmand Mohammad**, Shayan Mahdis (2010) "Smart amperometric biosensor based on gold sputtered electrodes for rapid and low-cost detection of small molecules" .(Manuscript submitted)

Zahra Zamani, Mohammad Reza Razavi, Sedigheh Sadeghi, Saeed Naddaf, Fatemeh Pourfallah, **Mohammad Arjmand**, Hossein Feizhaddad, Mina Ebrahimi Rad, Marzieh Tamimi and Mahdi Assmar. (2009)" Sequence diversity of the C- terminal region of *Plasmodium falciparum* merozoite surface protein 1 in southern Iran".

Shahidi, F., Taghikhani,M., Aminian,T., Kordi,M.R., Saghiri,R and **Arjmand. M** (2008). Effect of Exresis on liptin and steroidal hormones in obeise women. Fasl Nameh Pazhohesh dar Oloom Varseshi, (Persian) No.4 Page 2

Naghdi, N., Mohadess, G., Khamnei, S., **Arjmand, M.** (2005)."No Signi icant Difference Between Lactat and Testesteron Depleted or Administrated Male Rats in Spatial Learning and Memory" Iranian Journal of Pharmaceutical Research. 1: 29-32

Vafa, M.R., Talebian, F., Syasi, F., Kimiagar,M. Mehrabi,Y., **Arjmand. M.**, Aminpour., A.and Entezari, MH.( 2004). Study pf;pmg-tern effects of marginal vitamin A deficiency during gestation on two generations on growth and metabolic indices in rats. Hakim (Persian) Vol.7 No.2 page 53-60

Asgherzadeh, M., Rafee, N..... and **Arjmand, M.** (2000). Isolation of resistant bacteria to heat in hot water of Sabalan area. proceeding of 3rd Congress on Microbiology, Hamedan, Iran.

**Arjmand, M.** Chinikar,S. and Saghiri, R. ( 1998). Effect of Solasonine, a plant alkaloid, on sperm maturation and epididymis. Middle East Fertility Society Journal 3:55.

**Arjmand, M.**, Arulldhas, M.M. and Govindarajulu, P. (1998). Effect of passive immunization with specific anti-FSH on testicular lipids and some lipogenic enzymes of adult bonnet monkeys. Bio. Med. J. Of Iran 2: 39-44.

Malini,T., **Arjmand,M.**, Arulldhas,M.M. and Govindarajulu,P. (1993). Effect of solasonine on ventral prostate of albino rats. XI National Symposium on Reproductive Biology and Comparative Endocrinology. 29-30, Jan., S.V.University, Tirupati, India.

Govindarajulu,P., **Arjmand,M.**, Malini,T. and Arulldhas,M.M. (1992). Effect of solasonine on the pituitary-testicular hormone axis, spermatogenesis and accessory sex organs. Annual Conference on Current Trends in Plant Science. New lett, Vol.2, Feb.1992.

**Arjmand, M.**, Aruldas,M.M., Anand,F.R., Jeyaraj,D.A. and Govindarajulu,P. (1992). Anti-FSH induced changes in testicular lipids and few enzymes of the pyruvate malate cycle involved in lipogenesis. International Conference on Fertility Regulation, Bombay, India.

**Arjmand, M.**, Malini,T. Aruldas,M.M. and Govindarajulu,P. (1992). Effect of Solasonine on pituitary-testicular hormone axis and spermatogenesis. Chinese J. Andrology, 6 : (Suppl). 63.

**Arjmand, M.**, Malini,T. Aruldas,M.M. and Govindarajulu,P. (1992). Effect of Solasonine, A plant alkaloid, on the epididymis.I Histology and specific activity of enzymes involved in carbohydrate metabolism. J. Reprod. Biol. Com. Endocrinol., 4 : 46-56.



### **Skills and Qualifications:**

- ISO 15189 Medical Laboratories fundamental and Documentation 2009  
TUV NORD Iran-Germany
- Microsoft Office, Internet
- Programming ability in Basic language and Matlab.
- Fluent in English

### **Membership:**

Iranian biochemistry society.

Iranian Infectious disease and tropical medicine society.

### **Collaborate Center:**

Dept. of Analytical chemistry, Sharif University.

Dept. of Electrical Engineering, Sharif University

Dept. of Medical engineering, Amirkabir University

Dept. of Biochemistry, Payam Noor University.

Dept. of Chemistry, Tarbiat Molam University.

Dept. of Analytical chemistry, Zanzan University.

Dept. of Biochemistry, Bushehr Medical University.

Dept. of Immunology, Tehran Medical University.



**Papers are available on request**