



## **CURRICULUM VITA**

**Ali Farhangi**

**Faculty Member and Assistant Director of NanoBiotechnology Department of Pasteur Institute of Iran**

First name: **Ali**

Last name: **Farhangi**

Date of birth: **1976-01-26**

Place of birth: **Tehran, Iran**

Gender: **Male**

Marital Status: **Married**

Nationality: **Iranian**

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### **Education:**

- **Ph.D.**, Bioinformatics- Institute of Biochemistry and Biophysics (IBB), The University of Tehran, 2017
- **M.Sc.**, Azad University of Iran, Chemical engineering, /Biotechnology, 2003 (Top Student)
- **B.S.**, Azad University of Iran, Chemical Engineering / Design of Petroleum Industrial Processes, 2000

### **Title of Theses:**

- Bioinformatics study of Neuraminidase and Haemagglutinin gene sequences' changes of H1N1 influenza virus in GenBank from 2006- 2013 in order to find their relation with virus variations, 2017 (PhD)
- Modeling of kinetic of enzymatic reaction for production of hexyl acetate by immobilized Chitinase in a Batch Stirred Tank Reactor(BSTR), 2002 (M.Sc.)
- Design of adhesive production unit on the basis of Resole (B.S)

### **Occupations:**

- Researcher and Assistant Director of NanoBiotechnology Department of Pasteur Institute of Iran (Since 2002)
- Program Officer and eIMS (electronic Integrated Management System) Administrator of the Family Planning Association of the Islamic Republic of Iran (From 2003 to 2005)

### **English and Computer Literacy:**

- Proficiency in running computer soft wares such as, Microsoft Windows, Microsoft Office, C++, MatLab, other Softwares, Internet and Bioinformatics Softwares
- International Computer Driving License (ICDL)
- Proficiency in English (written and spoken) and Translation

## **Publications:**

1. Immunotherapy in 1200 morphine addicts in IRAN with morphine vaccine, Patent No. 27320, 14 Aug. 2002 in Islamic Republic of IRAN
2. RNA silencing as a defensive system of plant against viruses, The 1<sup>st</sup> National Biology Congress of young Researchers, 2003, Tonekabon-Ramsar, Iran
3. Stabilization of Nitrogen by glamorous, The 1<sup>st</sup> National Biology Congress of young Researchers, 2003, Tonekabon-Ramsar, Iran
4. Renewed activity of hepatitis B virus, The 1<sup>st</sup> National Biology Congress of young Researchers, 2003, Tonekabon-Ramsar, Iran
5. Effect of protoplast fusion on Delta-endotoxin production in *Bacillus thuringiensis* Spp.(H14), The 8<sup>th</sup> Iranian Genetics Congress, May 20-22, 2003, Tehran-Iran
6. Chlamydia pneumonia and atherosclerosis, Laboratory Diagnosis (Scientific Magazine), Number 26 May & June 2003 (ISSN: 1561-6363)
7. Immunotherapy in 1200 Morphine Addicts in Iran with Morphine Vaccine, ASRAR: Journal of Sabzevar School of Medical Sciences, Volume 10, Number 3 (2003); 3, 6-22 (ISSN: 1606-7487)
8. Biotransformation of alcohols to aldehydes by immobilized cells of *saccharomyces cerevisiae* PTcc5080, The 3<sup>rd</sup> National Congress of Biotechnology, September 9-11, 2003, Mashhad-Iran
9. Purification of DnaK-ATPase Domain for crystallography, The 3<sup>rd</sup> National Congress of Biotechnology, September 9-11, 2003, Mashhad-Iran
10. Islet cells Isolation and purification for treatment of Streptozotocin-induced diabetic rats by transplantation, Molecular Cellular proteomics vol. 2, no. 9, September 2003 ISSN: 1535-9476 HUPO 2<sup>nd</sup> annual & IUBM XIX World Congress, Montreal-Canada
11. Chlamydia pneumonia and atherosclerosis, Medicine Today Journal (PEZESHKY EMROOZ), 2003
12. Comparison of intrapretoneal and testis subcutaneously islet cells transplantation for treatment of streptozotocine-induced diabetic rats, The 10<sup>th</sup> Congress of Federation of Asian & Oceanian Biochemists and Molecular Biologists, December 7-11, 2003, Bangalore-India
13. Nicotine vaccine for the prevention of cigarette (nicotine) addiction, The 10<sup>th</sup> Congress of Federation of Asian & Oceanian Biochemists and Molecular Biologists, December 7-11, 2003, Bangalore-India

14. Purification of the Delta-endotoxin and cytolytic proteins of *Bacillus Thuringiensis* Subsp. H14 and inspection of toxin effect in rat cells, The 10<sup>th</sup> Congress of Federation of Asian & Oceanian Biochemists and Molecular Biologists, December 7-11, 2003, Bangalore-India
15. Anti-morphine catalytic antibodies, The 7<sup>th</sup> Iranian Congress of Biochemistry, 26-29 January 2004, Ahwaz-Iran
16. Active immunization with Morphine-Protein conjugate Attenuate morphine effects, The 7<sup>th</sup> Iranian Congress of Biochemistry, 26-29 January 2004, Ahwaz-Iran
17. Peripheral morphine-blocking agents; new medications for morphine dependence, The 7<sup>th</sup> Iranian Congress of Biochemistry, 26-29 January 2004, Ahwaz-Iran
18. Purification of the Delta-endotoxin and cytolytic proteins of *Bacillus Thuringiensis* Subsp. H14 and inspection of toxin effect in rat cells, The 7<sup>th</sup> Iranian Congress of Biochemistry, 26-29 January 2004, Ahwaz-Iran
19. Isolation and Purification of Rat Islet Cells, Journal of Sabzevar School of Medical Sciences, Vol. 12, No. 2, September 2005 (ISSN 1606-7487)
20. Application of Bio-Bar codes in the rapid diagnosis of diseases, The 4<sup>th</sup> National Congress on Improving the Quality in Clinical Laboratories, 1-3 Feb. 2006, Tehran-Iran
21. Effect of pH on the Synthesis of L-3,4-Dihydroxyphenylalanine by Tyrosinase of Edible Mushroom, Asian Journal of Biochemistry 1(4): 333-337, 2006 (ISSN 1815-9923)
22. Treatment of streptozotocine induced diabetes mellitus in male rats by immunisolated transplantation of purified Langerhans islet cells, Asian Journal of Biochemistry, 2 (1): 31-41,2007 (ISSN 1815-9923)
23. Study of human therapeutic morphine vaccine: Safety and Immunogenicity, Asian Journal of Biochemistry, 2 (1): 58-65,2007 (ISSN 1815-9923)
24. Treatment of streptozotocin induced Diabetes in male Rats by Immunisolated Transplantation of Islet cells, Indian Journal of Clinical Biochemistry, 2007 / 22 (1) 71-76
25. Induction of Diabetes by Streptozotocin in Rats, Indian Journal of Clinical Biochemistry, 2007/ 22 (2) 60- 64
26. Stabilization of Tyrosinase- Bovine Serum Albumin Crystals by Glutaraldehyde, American Journal of Biochemistry and Biotechnology 3 (3): 110- 113, 2007 (Science Publications: ISSN 1553- 3468)

27. Immobilization of Mushroom Tyrosinase by Different Methods in Order to Transform L- Tyrosine to L- 3,4 Dihydroxyphenylalanine (L- dopa), *Biotechnology* 6(3): 436- 439, 2007 (ISSN 1682- 296)
28. Surveying Desferal Production Increment by Inducing Mutation in *Streptomyces Griseoflavus*. *Medical Sciences Journal of Islamic Azad University*. Vol. 16, No. 4, Winter 2007, Tehran- Iran.
29. Study of Desferal Production by *Streptomyces griseoflavus*, The 1<sup>st</sup> National Iranian Conference on Applied Microbiology, Alzahra University, July 2007, Tehran- Iran
30. Synthesis and Characterization of Silver Nanoparticles and Their Complex with Lysine and Antibody of PSA and Their Application in Producing Diagnostic Prostate Cancer Kit, European and International Forum on Nanotechnology (EuroNanoForum 2007), Düsseldorf (Germany), 19-21 June 2007
31. Synthesis and Characterization of Copper Nanoparticles and Their Complex with Lysine and Antibody of PSA and Their Application in Producing Diagnostic Prostate Cancer Kit, European and International Forum on Nanotechnology (EuroNanoForum 2007), Düsseldorf (Germany), 19-21 June 2007
32. Cocaine Blocking by Anti- Cocaine Catalytic antibody in Circulatory System Before Getting into reward Pathway, 18<sup>th</sup> Iranian Congress of Physiology & Pharmacology, Mashhad- Iran, 26- 30 August 2007
33. Mutation of *Streptomyces griseoflavus* in order to obtain high yield desferrioxamine producing fused cells, *Pakistan Journal of Biological Sciences*, 10 (24): 5027-5030, 2007 (ISSN 1028- 8880)
34. Safety and immunogenicity of human therapeutic morphine vaccine in morphine addicts, *Journal of Sabzevar School of Medical Sciences*, Volume 14, Number 1, Spring 2007 (ISSN: 1606- 7487S)
35. Immunotherapy of morphine addicts by therapeutic morphine vaccine in kerman province, The 1<sup>st</sup> International Congress on Health Genomics and Biotechnology, November 24-26, 2007- Tehran, Iran
36. Mutation of *streptomyces pilosus* 40714 to obtain high titer desferrioxamine producing fused cells of *streptomyces pilosus*, The 1<sup>st</sup> International Congress on Health Genomics and Biotechnology, November 24-26, 2007- Tehran, Iran (Best abstract winner of the 1<sup>st</sup> International Congress on Health Genomics and Biotechnology)
37. Isolation and purification of rat islet cells by flow cytometry, *Indian Journal of Clinical Biochemistry*, 2008/ 23 (1) 57-61

38. Single phase synthesis of functionalized gold nanoparticles with tryptophane and lysine, The 3<sup>rd</sup> Iranian Student Conference on Nanotechnology, Nanotechnology Research Institute, Shiraz University, 6-9 February 2008
39. Rapid Synthesis of gold nanoparticles using metal displacement reduction via amino acids residues, The 3<sup>rd</sup> Iranian Student Conference on Nanotechnology, Nanotechnology Research Institute, Shiraz University, 6-9 February 2008
40. Synthesis and size control of mono-disperse copper nanoparticles by polyol method, The 2<sup>nd</sup> conference on Nanostructures (NS 2008), 11-14 March 2008, Kish University
41. Size evolution effect of the reduction rate on the synthesis of gold nanoparticles, The 2<sup>nd</sup> conference on Nanostructures (NS 2008), 11-14 March 2008, Kish University
42. Synthesis and characterization of gold nanoparticles colloid in water by phenylalanine: a green method, The 2<sup>nd</sup> conference on Nanostructures (NS 2008), 11-14 March 2008, Kish University
43. Kinetic characteristics of Immobilized Tyrosinase of edible mushroom in synthesizing 1-3, 4- Dihydroxyphenylalanine (L- Dopa), Dynamic Biochemistry, Process Biotechnology and Molecular Biology 2 (1), 26- 29© 2008 Global Science Books (ISSN: 1749- 0626)
44. Morphine vaccine: safety and immunogenicity in rats, The 4<sup>th</sup> National Congress on Addiction: Prevention and Treatment, 13- 15 May 2008, Zahedan University of Medical Sciences, Zahedan- Iran (ISSN: 1735- 076x)
45. Immunotherapy of Kerman, Kermanshah and Fars provinces of Iran by morphine vaccine, The 4<sup>th</sup> National Congress on Addiction: Prevention and Treatment, 13- 15 May 2008, Zahedan University of Medical Sciences, Zahedan- Iran (ISSN: 1735- 076x)
46. Effect of adding soy flour to the culture medium of *corrynebacterium glutamicum* in order to increase the production rate of L-lysine, National Congress on Biology and Modern World, 16-17 October 2008, Gorgan University of Agricultural sciences and Natural Resources, Gorgan- Iran
47. Application of L- Phenylalanine in synthesis of gold nanoparticles and study of their stability with SDS. Journal of Sciences, Islamic Azad University (JSIAU) Vol. 8, No. 68, Summer 2008 (ISSN: 1682- 0169)
48. Immunotherapy of 347 volunteer outpatient morphine addicts by human Therapeutic Morphine Vaccine in Kermanshah Province of Iran, Journal of Pharmacology and Toxicology (Academic Journals- Science Alert), 2008 (ISSN 1816- 496X) (Volume 4 Number (1), 2009)

49. Synthesis and characterization of Gold nanoparticles by Tryptophane. American Journal of Applied Sciences (Science Publications) 6 (4): 691- 695, 2009 (ISSN 1546- 9239)
50. Attenuation of oxidative stress in Streptozotocin- induced diabetic rats by Eucalyptus Globulus. Indian Journal of Clinical Biochemistry, 2009/ 24 (4) 419-425
51. Effects of garlic extract treatment in normal and streptozotocin diabetic rats infected with *Candida albicans*. Indian Journal of Clinical Biochemistry, 2010/ 25 (2) 182-187
52. Optimization of culture medium to increase the production of Desferrioxamine B (Desferal) in *Streptomyces pilosus*. Pakistan Journal of Biological Sciences, 2010 (ISSN 1028- 8880)
53. Improved production of L- lysine by over- expression of Mesodiaminopimelate decarboxylase enzyme of *Corrynebacterium glutamicum* in *Escherichia coli*. Pakistan Journal of Biological Sciences, 2010 (ISSN 1028- 8880)
54. Safety of human therapeutic morphine vaccine employing Lohmann specific pathogen free eggs. Pakistan Journal of Biological Sciences, 2010 (ISSN 1028- 8880)
55. Production of Desferrioxamine B (Desferal) using corn steep liquor in *Streptomyces pilosus*. Pakistan Journal of Biological Sciences, 2010 (ISSN 1028- 8880)
56. Immunosuppressive proteins isolated from spiral and coccoid cytoplasmic solutions of *Helicobacter pylori*. Pakistan Journal of Biological Sciences, 2011(ISSN 1028- 8880) DOI: 10.3923/pjbs.2011
57. Immunotherapy of 436 morphine addicts by therapeutic morphine vaccine in Kerman province (I.R. Iran).Journal of Vaccines and Vaccination, OMICS Publishing Group. 2011 (ISSN 2157- 7560)
58. Production and purification of rabbit's polyclonal antibody against factor VIII. Indian Journal of Clinical Biochemistry, Springer. Oct- Dec 2011, 26(4): 354- 359
59. Solvent effects on structural and thermo- chemical properties of p53 tumor-suppressor gene: a molecular modeling approach in drug design. International Journal of Nanomedicine, 2011:6, 1-7.
60. Study of Nano- fiber cellulose production by *Glucanacetobacter xylinum* ATCC 10245. Pakistan Journal of Biological Sciences, 2011.

61. Cloning of the *Corynebacterium glutamicum* ddh gene in order to increase the lysine production. Medical Science Journal of Islamic Azad University, Vol. 21, NO. 2, Summer 2011.
62. Cisplatin induces down regulation of BCL2 in T47D cancer cell line. Advanced Studies in Biology, Vol. 4, 2012, No. 1, 19-25
63. Effect of Artemisinin liposome and Artemisinin liposome polyethyleneglycol on MCF-7 cell line. International Journal of Life Sciences Biotechnology and Pharma Research, Vol.2, No.1, January 2013, 349- 355 (ISSN 2250- 3137)
64. Characteristics of penicillin G acylase immobilized onto iron oxide nanoparticles. British Biotechnology Journal, 3(3): 367-376 2013.
65. Synthesis of Gold Nanoparticles Coated with Aspartic Acid and Their Conjugation with FVIII Protein and FVIII Antibody. Indian Journal of Clinical Biochemistry, 2013 (DOI 10.1007/s12291-013-0323-2)
66. Preparation and Characterization of Gold Nanoparticles with Amino Acids; Examination of Their Stability. Indian Journal of Clinical Biochemistry, 2013 (DOI 10.1007/s12291-013-0358-4)
67. Cytotoxicity and Apoptosis Inducing Activities of 2-Amino-4H-chromene-3-carbonitrile Derivatives Loaded on Gold Nanoparticles against Human Breast Cancer Cell Line T47D. Indian Journal of Clinical Biochemistry, 2014 (DOI 10.1007/s12291-014-0417-5)
68. In vitro antitumor evaluation of 4H-chromene-3-carbonitrile derivatives as a new series of apoptotic inducers. Tumor Biology, 2014 (DOI 10.1007/s13277-014-1775-6)
69. Study of niosomated cytarabine. Journal of Chemical and Pharmaceutical Research, 2015, 7(4):1586-1590
70. Efficacy of pegylated liposomal etoposide nanoparticles on breast cancer cell lines. Turkish Journal of Medical Sciences, 2016, 46: 567- 571 (DOI 10.3906/sag-1412-67)
71. Kinetics of alkaline protease production by *Streptomyces griseoflavus* PTCC1130. Iranian Journal of Microbiology. Volume 8 Number 1 (February 2016) 8- 13.
72. Bioinformatics study of complete amino acid sequences of Neuraminidase (NA) antigen of H1N1 influenza viruses from 2006 to 2013 in Iran. Vaccine Research, Volume 2- Number 5, 6- Aug, Nov 2015, 123-129.



73. A bioinformatics study of complete amino acid sequences' changes of Hemagglutinin antigen of H1N1 influenza viruses in GenBank from 2006 to 2013 in Iran. Jundishapur Journal of Microbiology, 2017 August; 10(8): e44718.
74. Pegylated niosomal nanoparticles loaded with Vincristine: characterization and in vitro evaluation. Tropical Journal of Pharmaceutical Research, 2017; 16(5): 975- 980.

**Books:**

1. Health for everybody, 2004
2. General Biochemistry (2008)
3. Inorganic Chemistry in Biology (2010)
4. Plenty of Room for Biology at the Bottom: An Introduction to Bionanotechnology (2011)
5. Basic Cloning Procedures (2011)
6. Nanotechnology Dictionary (2012)
7. Glossary of NanoTechnology(2015)

**Attending different seminars, workshops and educational courses such as:**

1. The 3<sup>rd</sup> International congress of Chemical Engineering, Ahwaz-Iran, 1997
2. Antibody analysis of peptides and proteins, Pasteur Institute of Iran, February 2003
3. Vision Building Workshop, New Delhi – India, 2004
4. electronic Integrated Management System (eIMS), Kathmandu-Nepal,2005
5. Cold Sample Manager (Educational Course held by AsianMedInfo), Pasteur Institute of Iran, 2005
6. The 2<sup>nd</sup> Advanced Educational Course on Industrial Biotechnology, Biotechnology Group of Chemical Engineering Department of Tarbiat Modarres university with cooperation of the High Council of Biotechnology, 28-31 May 2006, Tehran-Iran
7. The 1<sup>st</sup> workshop on Regulations, Benefits of Inventor and Biotechnology Development, Pasteur Institute of Iran with cooperation of the High Council of

Biotechnology and Biotechnology Association of Iran, 9 May 2007, Tehran-Iran

8. Educational Course on ICDL (International Computer Driving License)
9. The 1<sup>st</sup> International Congress on Health Genomics and Biotechnology, 24- 26 November 2007, Summit Meeting Conference Hall, Tehran- Iran
10. The 4<sup>th</sup> Iranian Congress of Genetic Disorders and Disabilities, 24- 26 November 2007, Summit Meeting Conference Hall, Tehran- Iran
11. The 2<sup>nd</sup> Conference on Nanostructures (NS2008), 11-14 March 2008, Kish University, Kish Island-Iran
12. The Second Congress on World Rabies Day, 4 October 2008, Pasteur Institute of Iran, Tehran- Iran
13. The 1<sup>st</sup> National Conference of Biology and Modern World, 16- 17 October 2008, Gorgan University of Agricultural Sciences & Natural Resources, Gorgan- Iran.
14. Workshop on “Bio Safety 1”, 2009, Pasteur Institute of Iran, Tehran- Iran.
15. Workshop on “Fermentation”, 2009, Pasteur Institute of Iran, Tehran- Iran.
16. Training course on “New Techniques in Real Time PCR”, Hangzhou Bioer Co., 2010, Pasteur Institute of Iran
17. The Third Iranian Proteomics Congress, 26-27 May 2010, Pasteur Institute of Iran, Tehran- Iran
18. Educational Seminar on Nanobiotechnology, 22 April 2010, Pasteur Institute of Iran, Tehran- Iran
19. Nanotechnology Seminar, 9 March 2011, Pasteur Institute of Iran, Tehran-Iran
20. Educational Workshop on “Working with Laboratory Animals”, 23- 25 October 2011, Pasteur Institute of Iran, Tehran- Iran
21. Genomic of Complex Disorders Symposium, 20- 21 November 2011, Pasteur Institute of Iran, Tehran- Iran
22. Educational Courses of Quality Assurance Management Committee, 2012, Pasteur Institute of Iran, Tehran- Iran.
23. Educational Workshop on “Acquaintance with the Structure of Registerable Companies and Their Financial and Taxation Interactions”, 5 May 2013, Pasteur Institute of Iran, Tehran- Iran.

24. Educational Course on “The Procedure of Registration and Establishment of Companies”, 19 May 2013, Pasteur Institute of Iran, Tehran- Iran.
25. Educational Course on “Practical Method of Documentation in Laboratory”, June 2013. Pasteur Institute of Iran.
26. Educational Course on “Principles of Nutrition”, June 2013. Pasteur Institute of Iran.
27. Educational Course on “Proposal System and Cooperative Management”, June 2013. Pasteur Institute of Iran.
28. Educational Course on “Principles of Intellectual Property Rights”, December 2013. Pasteur Institute of Iran.
29. Educational Course on First Aid and Relief, 2014, Red Crescent Society of I. R. of Iran. Pasteur Institute of Iran, Tehran- Iran.
30. Educational Course on Fire Extinction, 2014, Pasteur Institute of Iran, Tehran- Iran.
31. Educational Course on Acquaintance with Bio- Safety Principles, 2014, Pasteur Institute of Iran, Tehran- Iran.
32. Educational Course on Methods of Disposal of Laboratory Materials, 2014, Pasteur Institute of Iran, Tehran- Iran.
33. Educational Course on Voluntary Skills, 2014, Red Crescent Society of I. R. of Iran. Pasteur Institute of Iran, Tehran- Iran.
34. Educational Course on “Documentation in Laboratory”, August 2015, Pasteur Institute of Iran.
35. Educational Course on “Fire Extinction”, August 2015, Pasteur Institute of Iran, Tehran- Iran.
36. Educational Course on “Equipment Management”, December 2015, Pasteur Institute of Iran, Tehran- Iran.
37. Educational Course on “Introduction to Automation and Training System”, January 2016, Pasteur Institute of Iran, Tehran- Iran.
38. Educational Course on “Quality Management Based on the Latest Updated Version of ISO 15189 Standard”, January 2016, Pasteur Institute of Iran, Tehran- Iran.
39. Educational Course on “Passive Defense”, January 2016, Pasteur Institute of Iran, Tehran- Iran.
40. Educational Course on “Cloning of Erythropoietin Analog in E. coli”, February 2016, Pasteur Institute of Iran, Tehran- Iran.(As the trainer of workshop)
41. Educational Course on “Introduction to Zika Virus”, February 2016, Pasteur Institute of Iran, Tehran- Iran.
42. Educational Course on “Cloning of Erythropoietin Analog in E. coli”, July 2016, Pasteur Institute of Iran, Tehran- Iran.(As the trainer of workshop)

43. Educational Course on “General Principals of Biosafety with Regards to New Standards”, July 2016, Pasteur Institute of Iran, Tehran- Iran.
44. Educational Course on “Introduction to the Processes in the Laboratory Based on ISO 15189 Standard, August 2016, Pasteur Institute of Iran, Tehran- Iran.
45. Educational Course on “Equipment Management Based on ISO 15189 Standard”, August 2016, Pasteur Institute of Iran, Tehran- Iran.
46. Educational Course on “HPLC”, September 2016, Pasteur Institute of Iran, Tehran- Iran.
47. Educational Course on “Determination of Maximum Allowable Error for Samplers and Controlling Their Performance in the Lab”, September 2016, Pasteur Institute of Iran, Tehran- Iran.
48. Educational Course on “Organizational Communications”, November 2016, Pasteur Institute of Iran, Tehran- Iran.
49. Educational Course on “Principals of Biosafety”, January 2017, Pasteur Institute of Iran, Tehran- Iran.
50. Educational Course on “Preparing the MSDS of Materials”, January 2017, Pasteur Institute of Iran, Tehran- Iran.

### **Research Projects:**

- 1- Investigation of effects of delta endotoxin of *Bacillus Thuringiensis* sub sp. *Israelensis* in biological control of house fly larvae and mouse
- 2- Laboratory scale production of mono-valent and mono-specific antisera for sero-diagnostic of whole enteropathogenic *Escherichia Coli* serotypes
- 3- Designing and production of morphine vaccine for prevention and treatment of morphine abusers (addicts)
- 4- Designing and production of nicotine vaccine for prevention and treatment of cigarette smokers
- 5- Designing and production of heroine vaccine for prevention and treatment of heroine abusers (addicts)
- 6- Production of anti-morphine antibody
- 7- Production of anti-heroine antibody
- 8- Production of anti-nicotine antibody
- 9- Standardization of islet cells: Isolation and purification for transplantation to diabetic people
- 10- Production of Desferrioxamine (Desferal) in a 5 liters fermentor (293)
- 11- Biological production of L-Lysine in laboratory scale from *Corynebacterium Glutamicum* (380)

- 12- Conversion of tyrosine and its analogues to 3,4-dihydroxyphenylalanine (L-DOPA) by free and immobilized tyrosinase (231)
- 13- Design and production of Nano Particles
- 14- Nanoliposomal Encapsulation of Human Recombinant Erythropoietin and Evaluation of its Physicochemical Properties(621)
- 15- Pegylated Liposomal Desferal and evaluation of its efficacy in animal model
- 16- Feasibility study of recombinant human insulin production by EcoliBL21(DE3)include insulin productable gene and evaluating its capability to express bioactive form of insulin
- 17- Study of material surface modification by cold plasma jet.
- 18- Conjugation of Heparin to collagen type I.
- 19- Construction of Piezoelectric immunosensor for diagnosis of hepatitis B antigen.
- 20- Induction of Taxol in cell suspension of Taxus species.