

## Curriculum Vitae

### Personal information:

Surname: Bakhshandeh Abkenar

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### Education:

- 1997-2003: Pharm.D., School of Pharmacy, Tehran University of Medical Sciences, Tehran, Iran.

Pharm.D., Thesis: Formulation And characterization of Cetrimide Gel 0.5%.

Supervisor: Prof., Fatemeh Atyabi

- 2005- 2011: Ph.D., School of Pharmacy, Shaheed Beheshti University of Medical Sciences, Tehran, Iran.

Ph.D. Thesis: Design and preparation of a biocompatible artificial cornea containing loaded nanoparticles by effective factors in human amniotic membrane.

Supervisors: Prof. Fatemeh Atyabi, Dr. Mohammad Erfan

### Professional Experiences:

- Assistant Professor: 2015, Pilot Biotechnology Department, Pasteur Institute of Iran, Tehran, Iran.
- Assistant Professor: 2012, Department of Pharmaceutics, School of pharmacy, Zanjan University of Medical Sciences.
- Assistant Professor: 2013, Department of Nanotechnology, School of pharmacy, Zanjan University of Medical Sciences.
- Assistant Professor: 2013, Department of Pharmaceutical Biomaterials, School of pharmacy, Zanjan University of Medical Sciences.
- Research Member: 2013, Pharmaceutical Nanotechnology Research Center.
- Executive Member: 2012, Controlled Release Journal (CRJ)

- Lecturer: 2010-2013, Pharmacists Training and Education, Novel Drug Delivery Systems: Tissue Engineering, Controlled Release Society of Iran.
- Supervisor: Ph.D. Thesis 2014, School of Pharmacy, Zanjan University of Medical Sciences, Design and fabrication of polymeric nanofibrous scaffold containing TGF- $\beta$ 1 loaded nanoparticles for in vitro cartilage tissue engineering using mesenchymal stem cells
- Supervisor: Pharm.D. Thesis 2013, School of Pharmacy, Zanjan University of Medical Sciences, *Preparation and characterization of topical nanoemulsion of silver sulfadiazine for the treatment of burning*
- Supervisor: Pharm.D. Thesis 2013, School of Pharmacy, Zanjan University of Medical Sciences, *Preparation and optimization of polysaccharide nanoparticles by polyelectrolyte complexation for growth factor delivery in tissue engineering*
- Supervisor: Pharm.D. Thesis 2013, School of Pharmacy, Zanjan University of Medical Sciences, *Characterization of polysaccharide nanoparticles prepared by polyelectrolyte complexation for growth factor delivery in tissue engineering*
- Consultant supervisor: M.Sc Thesis, 2010, Department of Biochemistry, School of Medicine, Zanjan University of Medical Sciences, *Extraction, Partial purification and study of the effects of Human Amniotic membrane proteins in order to improve the biocompatibility of "Artificial Cornea"s.*
- Consultant supervisor: Pharm.D. Thesis, 2009, School of Pharmacy, Tehran University of Medical Sciences, *Preparation and characterization of polysaccharide nanoparticles containing effective factors of human amniotic membrane.*
- Teaching Assistant: 2008, Biopharmacy and Pharmacokinetic, School of Pharmacy, Islamic Azad University.
- Executive Specialist and Coordinator of Research Centers, 2002-2004, Vice-Chancellor for Research, Tehran University of Medical Sciences.

#### **Membership in Professional Associations and societies:**

- Controlled Release Society (U.S.A)
- Controlled Release Society of Iran
- Iranian Association of Pharmaceutical Sciences
- Iran Pharmacists Association

#### **Complementary Courses and Certificates:**

- Advanced statistics, 2014, school of pharmacy, Zanjan University of Medical Sciences.
- Isolation and purification methods for proteins workshop, 2011, Department of Biochemistry, Pasteur Institute of Iran

- Experimental design and optimization workshop, 2009, School of Pharmacy, Shaheed Beheshti University of Medical Sciences
- Polymers in Medicine: Biodegradable Polymers, Stem Cells And Tissue Engineering, 8<sup>th</sup> Workshop, 2008, Iran Polymer and Petrochemical Institute
- Curriculum Vitae workshop, 2006, School of Pharmacy, Shaheed Beheshti University of Medical Sciences
- Endnote workshop, 2006, School of Pharmacy, Shaheed Beheshti University of Medical Sciences
- Pharmaceutical Statistics workshop, 2005, Pharmaceutical sciences research center, Pharmacy Faculty, Tehran University of Medical Sciences
- Research Method in Pharmacy Workshop, 2004, Pharmaceutical sciences research center, Pharmacy Faculty, Tehran University of Medical Sciences
- Scientific Writing Workshop (Intermediate Level), 2003, History of Medical Sciences Museum, Tehran University of Medical Sciences
- Scientific Writing Workshop (preliminary Level), 2003, History of Medical Sciences Museum, Tehran University of Medical Sciences
- Strategic Planning Workshop, 2003, History of Medical Sciences Museum, Tehran University of Medical Sciences
- Neural Networks Workshop, 2002, Pharmaceutical sciences research center, Pharmacy Faculty, Tehran University of Medical Sciences

### **Research Projects:**

- Investigator, 2013, Design and fabrication of polymer nanofibers containing TGF- $\beta$ 1 loaded nanoparticles for in vitro cartilage tissue engineering using mesenchymal stem cells,(With a grant from INSF and collaboration of Stem Cells Technology Research Center)
- Co-investigator, 2010, Extraction, Partial purification and study of the effects of Human Amniotic membrane proteins in order to improve the biocompatibility of "Artificial Corneas" (with a grant from Vice-Chancellor for Research, Tehran University of Medical Sciences and Zanjan University of Medical Sciences)
- Co-investigator, 2009- present, Preparation and characterization of polysaccharide nanoparticles containing effective factors of human amniotic membrane (with a grant from Vice-Chancellor for Research, Tehran University of Medical Sciences)
- Co-investigator, 2008- present, Design and preparation of a biocompatible artificial cornea containing loaded nanoparticles by effective factors in human amniotic membrane (with a grant from deputy for research and technology of the Ministry of Health and Medical Education of Iran)

- Co-investigator, 2002-2003, Review And Organization of TUMS Research Centers's Functions, Vice-Chancellor for Research, Tehran University of Medical Sciences (HSR project)

## **Publications and Presentations:**

### **Papers:**

- Amniotic Membrane Extract Preparation: What is the Best Method? M. Mahbod, S. Shahhoseini, M. Khabazkhoob, A.H. Beheshtnejad, **H. Bakhshandeh**, F. Atyabi, H. Hashemi, Journal of Ophthalmic and Vision Research, 2014; 9 (3): 314-319.
- Poly ( $\epsilon$ -caprolactone) nanofibrous ring surrounding a polyvinyl alcohol hydrogel for the development of a biocompatible two-part artificial cornea, **H. Bakhshandeh**, M.Soleimani, S. Shah Hosseini, H. Hashemi, I. Shabani, A. Shafiee, A.H. Behesht Nejad, M. Erfan, R. Dinarvand, F. Atyabi, International Journal of Nanomedicine, 2011:6 1509–1515.
- Preparation and Optimization of Polysaccharide Nanoparticles for Delivery of Bioactive Molecules in Cartilage Tissue Engineering, T. Hadi Esfahani, A. Azadi, N. Joodi' **H. Bakhshandeh**, Drug Development and Industrial Pharmacy. Submitted.

### **Oral presentation:**

- Development and Characterization of Chitosan-Dextran Sulfate Nanoparticles Containing Bioactive Factors from Human Amniotic Membrane for Ocular Delivery and Corneal Tissue Engineering, 2012, 13th Iranian Pharmaceutical Science Congress (IPSC)
- Poly ( $\epsilon$ -caprolactone) nanofibrous ring surrounding a polyvinyl alcohol hydrogel for the development of a biocompatible two-part artificial cornea, 2011, XXI Annual Congress of the Iranian Society of Ophthalmology
- Effect of amniotic membrane extract (AME) on proliferation of rabbit limbal stem cells (LSCs) and Human umbilical vein endothelial cells (HUVECs), 2010, 12th Iranian Pharmaceutical Science Congress (IPSC)

### **Posters:**

- Preparation and Optimization of Polysaccharide Nanoparticles loaded by TGF- $\beta$  via Polyelectrolyte Complex formation Method, aimed for Cartilage Tissue Engineering, 2014, The 1<sup>st</sup> Middle east & 6<sup>th</sup> Iranian Controlled Release Conference 2014
- Fabrication and Physical Characterization of a Biocompatible Nanofibrous-Hydrogelic Artificial Cornea, 2012, International Congress on Nanoscience & Nanotechnology (ICNN2012)
- Amniotic membrane extract: preparation and characterization, 2009, the 4th Iranian Controlled Release Conference (ICRC)

- Extraction and Characterization of Bioactive Factors from Human Amniotic Membrane, for Ocular Delivery and Corneal Tissue Engineering, 2009, 36th Annual Meeting & Exposition of the Controlled Release Society (CRS), Denmark.
- Cassette Dosing Approaches In Drug Development: Valuable Tool or Flawed Science?, 2006, 10<sup>th</sup> Iranian pharmaceutical sciences conferences (IPSC)

**Research interests & Activities:**

- Peptide and protein drug delivery
- Controlled release drug delivery systems
- Nanocarriers as drug delivery systems
- Polymeric (natural & synthetic) nanoparticulate drug delivery systems
- Tissue engineering:
  - Fabrication of polymeric nanofibrous scaffolds
  - Nanofibrous drug delivery
  - Growth factor delivery in tissue engineering

**Professional skills:**

- Cellular biology: (Cell culture of primary cells and cell lines, flow cytometry, immunocytochemistry)
- Molecular biology (RT-PCR, Real time PCR, SDS-PAGE)
- Biochemistry: (ELISA)
- Protein extraction from cells and tissue and fractionation