

# Curriculum Vitae

## Amir Norouzy

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## Education

-**2010-2015** PhD in Biotechnology at Jacobs University Bremen, Germany

-**2004-2007** Master of Science in biochemistry at Babol University of medical sciences (MUBabol), Babol, Iran  
Total GPA: **17.0/20.0**.

-**1999-2003** Bachelor of Science in applied chemistry at Azad University Center of Tehran Branch (IAUCTB),  
college of basic sciences, Tehran, Iran Total GPA: **16.01/20.0**

## Publications

[1] Shahabi M, Hajhosseini R, Nau WM, Noghabi KA, Norouzy A. Augmenting Peptide Flexibility by Inserting Gamma-Aminobutyric Acid (GABA) in Their Sequence. *International Journal of Peptide Research and Therapeutics*, **2020**.

[2] Reihaneh Khosravi MD, Zahra Azizi, Mohammad Hosein Sanati, Maryam Mohaghegh, Amir Norouzy Improving Reaction Yields of Binding Amino Acids to Wang Resin and Peptide Labeling with (5/6)-Carboxyfluorescein. *Journal of Cellular and Molecular Researches*, **2020**.

[3] Safaei M, Maleki H, Soleimanpour H, Norouzy A, Zahiri HS, Vali H, *et al.* Development of a novel method for the purification of C-phycoerythrin pigment from a local cyanobacterial strain *Limnospira* sp. NS01 and evaluation of its anticancer properties. *Scientific Reports*, **2019**;9:9474.

[4] Shakibaie M, Tabandeh F, Shariati P, Norouzy A. Synthesis of a thin-layer gelatin nanofiber mat for cultivating retinal cell. *Journal of Bioactive and Compatible Polymers*, **2018**;33:371-381.

[5] Norouzy A, Qujeq D, Habibi-Rezaei M. Evaluation and Characterization of Free and Immobilized Acetylcholinesterase with Fluorescent Probe, Differential Scanning Calorimetry and Docking. *International Biological and Biomedical Journal*, **2015**;1:103-111.

[6] **Norouzy A**, Azizi Z, Nau WM. Indicator displacement assays inside live cells. *Angewandte Chemie International Edition*, **2015**;54:792-795.

[7] Carvalho CP, Norouzy A, Ribeiro V, Nau WM, Pischel U. Cucurbiturils as supramolecular inhibitors of DNA restriction by type II endonucleases. *Organic & biomolecular chemistry*, **2015**;13:2866-2869.

[8] Norouzy A, Nau W. Synthetic macrocyclic receptors as tools in drug delivery and drug discovery. *Drug Target Review*, **2014**.

[9] **Norouzy A**, Assaf KI, Zhang S, Jacob MH, Nau WM. Coulomb Repulsion in Short Polypeptides. *The Journal of Physical Chemistry B*, **2014**;119:33-43.

- [10] Abdali N, Barth E, Norouzy A, Schulz R, Nau WM, Kleinekathöfer U, *et al.* Corynebacterium jeikeium jk0268 constitutes for the 40 amino acid long PorACj, which forms a homooligomeric and anion-selective cell wall channel. *PloS one*, **2013**;8:e75651.
- [11] Qujeq D, Roushan T, Norouzy A, Habibi-Rezaei M, Mehdinejad-Shani M. Effects of dichlorvos and carbaryl on the activity of free and immobilized acetylcholinesterase. *Toxicology and Industrial Health*, **2012**;28:291-295.
- [12] Jacob MH, Dsouza RN, Ghosh I, Norouzy A, Schwarzlose T, Nau WM. Diffusion-enhanced Förster resonance energy transfer and the effects of external quenchers and the donor quantum yield. *The Journal of Physical Chemistry B*, **2012**;117:185-198.
- [13] Norouzy A, Habibi-Rezaei M, Qujeq D, Vatani M, Badiei A. Adsorptive immobilization of acetylcholine esterase on octadecyl substituted porous silica: optical bio-analysis of carbaryl. *Bulletin of the Korean Chemical Society*, **2010**;31:157-161.
- [14] Norouzy A, Qujeq D, Habibi-Rezaei M. The inhibitory effect of dissolved carbaryl in dioxane on physically adsorbed acetylcholinesterase. *Reaction Kinetics and Catalysis Letters*, **2009**;98:391.

## Research Grants

- Synthesis and Study of Blood-brain Barrier Penetrating Peptides, awarded by *National Institute of Genetic Engineering and Biotechnology (NIGEB) 2019*
- Synthesis and Comparative Study of Novel and Unspecific Cell-penetrating Peptides for Carrying Drugs and Fluorescent Probes into Cells, awarded by *Iran National Science Foundation (INSF) 2018*
- Synthesis Oligoaspartate and Oligoarginine Peptides and Compare their Cell-penetrating Capability, awarded by *National Institute of Genetic Engineering and Biotechnology (NIGEB) 2018*
- Synthesis and Dynamic Evaluation of Super Flexible Peptides for Binding to Hydrophobic Guest-molecules, awarded by *National Institute of Genetic Engineering and Biotechnology (NIGEB) 2017*
- Design and Synthesis new Oligopeptides Against Tumor Antigens, awarded by *National Elites Foundation 2016*

## Supervised Dissertations

- Comparing the Cell-penetrating Efficiency of the Short-peptides with Opposite Electric Charges, 2020, M.Sc
- Synthesis a Labeled Peptide and Study its Supramolecular Binding to p-Sulfonatocalix[4]arene and Curcumin Molecules, 2019, M.Sc
- Synthesis and Dynamic Evaluation of Super Flexible Peptides, 2018, M.Sc
- Comparative Study of MOG with Cuprizone in EAE Mice Model, 2017, M.Sc

## Positions and Projects

**2004 M.Sc. Thesis:** Preparation & characterization of structural and catalytical properties of immobilized acetylcholinesterase. (*Department of biochemistry and biophysics, Babol University of medical sciences, Babol/Iran*)

**2008, Internship:**

- Chemically synthesis peptide silaffin R5 for biomineralization and imaging of silica particles and eGFP expression in E.Coli. (*TUM-Munich, Germany*)

**2009, Researcher:**

- Studying scorpion's toxin effect on metabolism and histology of Balb-C mice. (*Pasteur Institute of Iran*)

**2010, PhD Thesis (Two Main Projects):**

- 1- Indicator Displacement Assays in Live Cells.
- 2- Polypeptide Dynamics and Structure Studies Simultaneously by Collision-induced Fluorescence Quenching and Resonance Energy Transfer in the 10-Å Domain.  
(*Jacobs University Bremen, Germany*)

**2015, Researcher (at NIGEB):**

- Technology development for semi-industrial synthesis and US-pharmacopeia trial of Leuprolide acetate, a peptide-based drug.
- Design and synthesis of novel oligopeptide-based drugs against tumor antigens

**2017, Faculty member at NIGEB**

- Synthesis and Study Biological Function of Blood-brain Barrier Penetrating Peptides
- Evaluating the Binding Affinity of the Labeled Peptides to HLA-A2
- Design and Synthesis of Novel Cyclic Cell-penetrating Peptides
- Pharmacopeia Trial of Leuprolide Acetate
- Supervising EU Pharmacopeia Tests on Growth Hormone

**Communications:**

- A. Norouzy (talk), Z. Azizi "Peptide Design and Utility Based on Chemical Features of Amino Acid Side Chains" The 3<sup>rd</sup> conference on protein & peptide sciences, 25<sup>th</sup> to 26<sup>th</sup> April 2018 in Shiraz, Iran

- A. Norouzy (talk) “ Macrocyclic-based Hosting as a Tool for Detecting Intracellular Small Biomolecules and Drug Delivery” 1<sup>st</sup> Congress of Chemical Biotechnology, 6<sup>th</sup> to 8<sup>th</sup> March 2016 in NIGEB, Tehran, Iran
- Chairman and member of panels at the 1<sup>st</sup> Congress of Chemical Biotechnology, 6<sup>th</sup> to 8<sup>th</sup> March 2016 in NIGEB, Tehran, Iran
- A. Norouzy, Z. Azizi, W. M. Nau “Host–Guest Reporter Pair with ‘Turn-on’ Fluorescence Response to Monitor the Uptake of Cationic Analytes into Live Cells ” Molecular life sciences, 3<sup>rd</sup> to 6<sup>th</sup> October 2013 in Frankfurt, Germany
- A. Norouzy (talk) ”Host-guest Reporter Pairs with ‘Turn-on’ Fluorescence Response to Signal the Uptake of Cationic Analytes into Live Cells” Retreat Molife center, 25<sup>th</sup> and 26<sup>th</sup> of March 2013 in Bad Bevensen Germany.
- “Hybrid in Microscopy” Workshop from 30<sup>th</sup>-31<sup>st</sup> January 2013 at Jacobs University Bremen.
- A. Norouzy, I. Ghosh, M. H. Jacob and W. M. Nau, “Simultaneous short-distance FRET and collision-Induced Fluorescence Quenching to quantify how peptide conformation and dynamics depend on side-chain charge” Förster resonance energy transfer, 27<sup>th</sup> to 30<sup>th</sup> of March, 2011 Göttingen, Germany
- A. Rei, I. Ghosh, R. D'Souza, A. Norouzy, M. H. Jacob, W. M. Nau, 2011, “Short-distance FRET applied to the polypeptide chain” MAF 12<sup>th</sup> conference on methods and applications of fluorescence spectroscopy, Imaging and Probes, Strasbourz, France, September, 2011
- A. Norouzy; Qujeq, D., 2008. “Effect of carbaryl and dioxan on physically adsorbed acetylcholinesterase kinetic”. The 8<sup>th</sup> Iran biophysical chemistry conference, University of Sistan-O Baluchestan, Zahedan, Iran.
- A. Norouzy; Qujeq, D,.... 2007. “Preparation and characterization of immobilized Acetylcholinesterase”. The second International Congress of Biochemistry and Molecular Biology. Oral presentation, Shiraz University of medical sciences, Shiraz, Iran.
- A. Norouzy , Theoretical and Experimental workshop of “immobilization of enzymes” Main director and lecturer, Babol University of Medical Sciences, Babol, Iran.
- A. Norouzy; Qujeq, D.2007. “A New Approach to Protein Analysis through Bound-Alkyl/Thioflavin T Competition procedure”. First Iranian proteomics congress, University of Tehran, Tehran, Iran.
- Qujeq, D; A. Norouzy,... 2005.”Determination Of Serum Iron, TIBC and Ferritin of patients with hepatitis B”. The First International Congress of Biochemistry and Molecular Biology. Oral presentation, Tarbiat Modarres University, Tehran, Iran.

## Memberships:

- German chemical society (GDCh: gesellschaft deutscher chemiker )
- The European peptide society (EPS: <http://www.eurpepsoc.com>)
- Iranian national elites foundation (<http://en.bmn.ir/>)
- Bioprocess engineering faculty, NIGEB

## English proficiency:

-2009 ibt-TOEFL. Score: 101/120

-1990-present Studying English language, last diploma is pre FCE-2 from Kalam English Institute, Tehran, Iran. Total GPA: 92/100.

-1998 ITC (Instructors Training Course) Diploma, From Sadegh English Institute, Signed by M.S Hamzepoor, PhD

## Awards and Honors

2016 Postdoc scholarship: Salary and research grant from national elites foundation

2010-2013 DAAD fellowship: *Research Grants for Doctoral Candidates and Young Academics and Scientists*

2008 Awarded for excellent teaching at Zabol University of medical sciences.

2002, 2003 accepted among top-five students for three serial semesters in (IAUCTB), college of basic science.

2004 13<sup>th</sup> placed among thousands of volunteers in the national University entrance examination in the field of medical biochemistry.

2004 29<sup>th</sup> Placed among thousands of volunteers in the national University entrance examination in the field of biochemistry.

## Technical Skills

### 1- Spectroscopic

- Time-Resolved Fluorescence Spectroscopy
- Steady-stated Fluorescence Spectroscopy
- Fluorescence Studying of Proteins and Peptides
- UV-Visible Spectroscopy
- Circular Dichroism (CD) Spectroscopy for Studying Proteins structure

### 2- Chemical Synthesis

- Chemical Synthesis of Peptides (SPPS method)

- Organic Synthesis (DBO fluorophore was synthesized in 13 serially steps)
- Chemical Synthesis and Purification of Cucurbit[n]urils.
- Functionalizing of Inorganic Matrixes

### **3- Enzymes and Proteins**

- Enzyme Handling (both pure or extracted from animal tissues)
- Immobilization of Enzymes and Proteins
- Protein Purification by HPLC
- Protein-based Biomineralization

### **4- Laboratory animal handling & Rat dissecting**

### **5- Cellular**

- Cell Culture and Other Routine Cell Handling Skills
- Cell Manipulation (Microinjection)
- *in vivo* Macromolecular Host/Dye Displacement Assay
- Fluorescence and CLSM (Confocal Laser Scanning Microscopy) Imaging

## **Teaching Experiences**

**-2000-2006:** Teaching chemistry at many institute and schools to high school students.

**-2005-2006:** Teaching biochemistry and organic chemistry to graduated and bachelor students in preparatory class held by many institutes.

**-2002-2007:** Teaching English in many language institutes.

**-2005-2006:** Teaching biochemistry and biochemistry laboratory in Babol University of medical science, professor assistant.

**-2007-2008:** Faculty of science at Zabol University of medical science.

- 2010: Faculty of science at National Institute of Genetic Engineering and Biotechnology (NIGEB)