

## Curriculum Vita

Maryam Nikkhah

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### Educational background

Subject	Place of study	Date	Degree	Project and supervisor's name
Cell and Molecular Biology	University of Tehran	1992 - 1996	BSc	
Biophysics	University of Tehran	1996 - 1999	MSc	The effect of Hyperthermia on the production of embryonic human growth hormone. Supervisor: Prof. Bahram Goliaei
Biophysics	University of Tehran	1999 - 2005	PhD	Cloning, expression and characterization of a peptide from the scorpion venom. Supervisor: Prof. M. N. Sarbolouki

### **Short-Term Fellowships:**

- ✓ Protein Engineering, Biochemistry Department, University of Cambridge, UK, 2000-2001.
- ✓ Collaboration in EPIC project (exploiting protein complexes in cell death), national university of Ireland-Galway, 2016- .

### **Research interests:**

- Development of optical nanobiosensors for cancer detection.
- Development of Nanocarriers for drug delivery.
- Self-assembly of the proteins involved in neurodegenerative diseases.

### **Selected Publications:**

- 1- Molecular cloning, sequence analysis, and expression of a cDNA encoding the luciferase from the glow-worm, *Lampyris turkestanicus*, Alipour, BS; Hosseinkhani, S; Nikkhah, M; et al. (2004) *BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS*, 325(1) Pages: 215-222, 2004.
- 2- Design and development of a whole-cell luminescent biosensor for detection of early-stage of apoptosis, M Torkzadeh-Mahani, F Ataei, M Nikkhah, S Hosseinkhani (2012) *Biosensors and Bioelectronics* 38 (1), 362-368.
- 3- Preparation, characterization, and efficient transfection of cationic liposomes and nanomagnetic cationic liposomes, HR Samadikhah, A Majidi, M Nikkhah, S Hosseinkhani (2011) *International journal of nanomedicine* 6, 2275.
- 4- Engineering of  $\beta$ -propeller protein scaffolds by multiple gene duplication and fusion of an

idealized WD repeat, M Nikkhah, Z Jawad-Alami, M Demydchuk, D Ribbons, M Paoli (2006) *Biomolecular engineering* 23 (4), 185-194.

- ❑ 5- cDNA cloning, expression and homology modeling of a luciferase from the firefly *Lampyroidea maculata*, AR Emamzadeh, S Hosseinkhani, M Sadeghizadeh, M Nikkhah, et al (2006) *BMB Reports* 39 (5), 578-585.
- ❑ 6- Utilizing the micron sized non-thermal atmospheric pressure plasma inside the animal body for the tumor treatment application, S Mirpour, S Piroozmand, N Soleimani, NJ Fahaarani, H Ghomi, et al (2016) *Scientific reports* 6, 29048.
- ❑ 7- The selective characterization of nonthermal atmospheric pressure plasma jet on treatment of human breast cancer and normal cells, S Mirpour, H Ghomi, S Piroozmand, M Nikkhah, SH Tavassoli, SZ Azad (2014) *IEEE Transactions on Plasma Science* 42 (2), 315-322.
- ❑ 8- Disruption of mitochondrial membrane integrity induced by amyloid aggregates arising from variants of SOD1, AO Abbasabadi, A Javanian, M Nikkhah, AA Meratan, P Ghiasi, et al (2013) *International journal of biological macromolecules* 61, 212-217.
- ❑ 9- Biopolymer-coated nanoliposomes as carriers of rainbow trout skin-derived antioxidant peptides, L Ramezanzade, SF Hosseini, M Nikkhah (2017) *Food chemistry* 234, 220-229.
- ❑ 10- Mechanism of adsorption of single and double stranded DNA on gold and silver nanoparticles: investigating some important parameters in bio-sensing applications, N Farkhari, S Abbasian, A Moshaii, M Nikkhah (2016) *Colloids and Surfaces B: Biointerfaces* 148, 657-664.
- ❑ 11- Unmodified gold nanoparticles as a colorimetric probe for visual methamphetamine detection M Yarbakht, M Nikkhah (2016) *Journal of Experimental Nanoscience* 11 (7), 593-601.

- 12- Development of novel recombinant biomimetic chimeric MPG-based peptide as nanocarriers for gene delivery: imitation of a real cargo, A Majidi, M Nikkhah, F Sadeghian, S Hosseinkhani (2016) *European Journal of Pharmaceutics and Biopharmaceutics* 107, 191-204.
- 13- Adsorption of DNA on colloidal Ag nanoparticles: Effects of nanoparticle surface charge, base content and length of DNA, S Abbasian, A Moshaii, M Nikkhah, N Farkhari (2014) *Colloids and Surfaces B: Biointerfaces* 116, 439-445.
- 14- Design of a Coupled Bioluminescent Assay for a Recombinant Pyruvate Kinase from a Thermophilic *Geobacillus*, S Mohammadi, M Nikkhah, M Nazari, S Hosseinkhani (2011) *Photochemistry and photobiology* 87 (6), 1338-1345.
- 15- A novel microRNA located in TrkC gene regulates Wnt signaling pathway and is differentially expressed in colorectal cancer specimens, S Dokanehiifard, A Yasari, H Najafi, M Jafarzadeh, M Nikkhah, SJ Mowla, et al (2017) *Journal of Biological Chemistry*, jbc. M116. 760710
- 16- Effect of BCD plasma on a bacteria cell membrane, N Navabsafa, H Ghomi, M Nikkhah, S Mohades, H Dabiri, S Ghasemi (2013) *Plasma Science and Technology* 15 (7), 685
- 17- Simultaneous Gene Delivery and Tracking through Preparation of Photo-Luminescent Nanoparticles Based on Graphene Quantum Dots and Chimeric Peptides, SM Ghafary, M Nikkhah, S Hatamie, S Hosseinkhani (2017) *Scientific reports* 7 (1), 9552.
- 18- Enhanced reduction of single-wall carbon nanotube cytotoxicity in vitro: Applying a novel method of arginine functionalization, F Charbgoon, M Behmanesh, M Nikkhah (2015) *Biotechnology and applied biochemistry* 62 (5), 598-605.
- 19- Mitochondrial membrane disruption by aggregation products of ALS-causing superoxide dismutase-1 mutants, M Salehi, M Nikkhah, A Ghasemi, SS Arab (2015) *International journal*

of biological macromolecules 75, 290-297.

- 20- Nano-liposomal entrapment of bioactive peptidic fraction from fish gelatin hydrolysate, SF Hosseini, L Ramezanzade, M Nikkhah (2017) International journal of biological macromolecules 105, 1455-1463.
- 21- Enhanced and selective permeability of gold nanoparticles functionalized with cell penetrating peptide derived from maurocalcine animal toxin, S Khamehchian, M Nikkhah, R Madani, S Hosseinkhani (2016) Journal of Biomedical Materials Research Part A 104 (11), 2693-2700.
- 22- Dicistronic expression of human proinsulin–protein A fusion in tobacco chloroplast, M Yarbakht, M Jalali-Javaran, M Nikkhah, M Mohebodini (2015) Biotechnology and applied biochemistry 62 (1), 55-63.
- 23- Ag nanostructures produced by glancing angle deposition with remarkable refractive index sensitivity, S Abbasian, A Moshaii, NS Vayghan, M Nikkhah (2017) Plasmonics 12 (3), 631-640.
- 24- RNAi mediated gene silencing of *ITPA* using a targeted nanocarrier: Apoptosis induction in SKBR3 cancer cells, F Charbgoon, M Behmanesh, M Nikkhah, EG Kane (2017) Clinical and Experimental Pharmacology and Physiology 44 (8), 888-894.
- 25- Enhancement of cell internalization and photostability of red and green emitter quantum dots upon entrapment in novel cationic nanoliposomes, HR Samadikhah, M Nikkhah, S Hosseinkhani (2017) Luminescence 32 (4), 517-528.
- 26- Design and bioinformatics analysis of novel biomimetic peptides as nanocarriers for gene transfer, A Majidi, M Nikkhah, S Hosseinkhani (2015) Nanomedicine Journal 2 (1), 29-38.

- 27- Efficient in vitro refolding and characterization of a new peptide from the scorpion *Buthotus saulcyi* venom produced in *Escherichia coli*, M Nikkhah, H Naderi-Manesh, MN Sarbolouki, B Ranjbar (2006) *Protein and peptide letters* 13 (7), 659-664.
- 28- The inhibitory effects of biomimetically designed peptides on  $\alpha$ -synuclein aggregation, Rezaeian, N Shirvanizadeh, S Mohammadi, M Nikkhah, SS Arab (2017) *Archives of biochemistry and biophysics* 634, 96-106.
- 29- A sensitive biosensor based on gold nanoparticles to detect *Ralstonia solanacearum* in soil S Khaledian, M Nikkhah, M Shams-bakhsh, S Hoseinzadeh (2017) *Journal of General Plant Pathology* 83 (4), 231-239.
- 30- Investigation of the effects of carbon-based nanomaterials on A53T alpha-synuclein aggregation using a whole-cell recombinant biosensor, S Mohammadi, M Nikkhah, S Hosseinkhani (2017) *International journal of nanomedicine* 12, 8831
- 31- Simultaneous isolation and detection of single breast cancer cells using surface-enhanced Raman spectroscopy, M Yarbakht, M Nikkhah, A Moshaii, K Weber, C Matthäus, D Cialla-May et al, (2018) *Talanta* 186, 44-52.
- 32- Chitosan/sodium tripolyphosphate nanoparticles as efficient vehicles for antioxidant peptidic fraction from common kilka, SF Hosseini, MR Soleimani, M Nikkhah (2018) *International journal of biological macromolecules* 111, 730-737.
- 33- Fabrication of Silver Chevron Arrays as an Efficient and Stable SERS Substrate: Implications in Biological Sensing, M Yarbakht, M Nikkhah, A Moshaii, S Abbasian, A Dellith (2018) *Plasmonics* 13 (2), 715-726.
- 34- Apoptosome formation upon overexpression of native and truncated Apaf-1 in cell-free and

cell-based systems, AR Noori, ES Hosseini, M Nikkhah, S Hosseinkhani (2018)

Archives of biochemistry and biophysics 642, 46-51.

- ❑ 35- Loss in Toxic Function of Aggregates of  $\alpha$ -Synuclein Mutants by a  $\beta$ -Synuclein Derived Peptide, S Mohammadi, M Nikkhah, S Hosseinkhani (2017) Protein and peptide letters 24 (8), 757-764.
- ❑ 36- The effect of graphite sources on preparation of photoluminescent graphene nano-sheets for biomedical imaging, S Moasses Ghafary, S Hatamie, M Nikkhah, S Hosseinkhani (2017) Nanomedicine Journal 4 (3), 164-169.
- ❑ 37- Evaluation of antioxidant activity of protein hydrolysate from common kilka (*Clupeonella cultriventris caspia*), MR Soleimani, M Nikkhah (2016) Fisheries Science and Technology 5 (3), 95-108
- ❑ 38- cDNA cloning, sequence analysis and molecular modeling of a new peptide from the scorpion *Buthotus saulcyi* venom, M Nikkhah, H Naderi-Manesh, M Taghdir, M Talebzadeh et al. (2006) BMB Reports 39 (3), 284-291.
- ❑ 39- Gene Delivery to Tobacco Root Cells with Single-Walled Carbon Nanotubes and Cell-Penetrating Fusogenic Peptides, A Golestanipour, M Nikkhah, A Aalami, S Hosseinkhani (2018) Molecular biotechnology 60 (12), 863-878.
- ❑ 40- Preparation of liposomal doxorubicin-graphene nanosheet and evaluation of its in vitro anti-cancer effects, S Tajvar, S Mohammadi, A Askari, S Janfaza, M Nikkhah, E Tamjid, et al. (2018) Journal of liposome research, 1-28
- ❑ 41- Fabrication of Ag nanostructures with remarkable narrow plasmonic resonances by glancing angle deposition, S Abbasian, A Moshaii, NS Vayghan, M Nikkhah (2018) Applied Surface

Science 441, 613-620.

- 42- Size of single-wall carbon nanotube affects the folate receptor-mediated cancer cell targeting  
F Charbgo, M Nikkhah, M Behmanesh, (2018) *Biotechnology and applied biochemistry* 65 (3), 328-337.
- 43- Recovery of Bioactive Peptide Fractions from Rainbow Trout (*Oncorhynchus mykiss*) Processing Waste Hydrolysate, L Ramezanzade, SF Hosseini, M Nikkhah, E Arab-Tehrany (2018) *ECOPERSIA* 6 (1), 31-40.
- 44- Development of Metal-Enhanced Fluorescence-Based Aptasensor for Thrombin Detection Using Silver Dendritic Nanostructures, A Lotfi, M Nikkhah, A Moshaii (2018) *Plasmonics*, 1-8.
- 45- Surface Plasmon Resonance in Small Gold Nanoparticles: Introducing a Size-Dependent Plasma Frequency for Nanoparticles in Quantum Regime, S Karimi, A Moshaii, S Abbasian, M Nikkhah (2018) *Plasmonics*, 1-10.