

## **Curriculum Vitae**

### **A. Personal Information:**

**Name:** Dina, Morshedi

Associated Professor at

National Institute of Genetic Engineering and Biotechnology (NIGEB), Shahrak-e- Pajoohesh, 15<sup>th</sup> Km, Tehran -Karaj Highway, Tehran, Iran.

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### **B. Education:**

Ph.D, Biochemistry, 2004-2008, Institute of Biochemistry and Biophysics, University of Tehran

M.Sc, Biochemistry, 1991-94, Institute of Biochemistry and Biophysics, University of Tehran

B.Sc, Molecular and cellular biology, 1986-1990, University of Tehran

### **C. Working Records:**

1. Faculty member of National Institute of Genetic Engineering and Biotechnology since 2002.
2. Research assistant in an Institute of Biochemistry and Biophysics (IBB). Tehran University since 1996-2002

### **D. Research Interests:**

- Study on the different aspects of amyloidal neurodegenerative diseases, especially Parkinson's disease and roles of alpha-synuclein fibrillation/cytotoxicity and pharmacognosy related to these problems.
- Application of nanofibrils and nanocarriers regarding drug delivery.

### **E. Honors and awards:**

1. The 1<sup>st</sup> rank in PhD Entrance Exam. Tehran University.
2. The 2<sup>nd</sup> rank in MSc Entrance Exam. Tehran University.
3. Achievement several grants for participating and selected as an oral presenter in the courses that organized by INTERNATIONAL CENTRE FOR GENETIC ENGINEERING AND BIOTECHNOLOGY (ICGEB).
4. Achievement two grants from ICRP.
5. Achievement several grants from INSF
6. Achievement award and grant from Iranian Science Elites Federation
7. Achievement a grant from ORC
8. Achievement several grants from NIGEB

## **F. Titles of some projects supported by NIGEB, INSF, ICRP,ORC and ISEF:**

1. Overexpression of alpha-synuclein in a neuronal cell line as a cellular model of Parkinson's disease by employing the *third-generation lentiviral* vector system.
2. Assessment transferring the drug for alpha-synuclein fibrillation/toxicity using nanoliposomes.
3. Using of the system biology methods to verify the signaling pathways and regulatory networks involved in Parkinson's disease due to alpha-synuclein toxicity
4. Evaluation of the effect of liposomal nanosystem on alpha-synuclein fibrillation and cytotoxicity
5. Inhibition of alpha-synuclein fibrillation (involved in neurodegenerative diseases, including Parkinson's) and its destructive effects on nerve cells using fig-olive extracts as drug candidates
6. Study on the effects of *Lavandula officinalis* and *Cuminum Cyminum* strains on alpha-synuclein fibrillation/toxicity and assessing the mechanism of their protective effects on the treated PC12 cells.
- 7.** Induction of alpha-synuclein fibrillation and exploring the effect of chemical chaperons on the fibrillation.
- 8.** Design, fabrication and application of silica porous mesoparticles for controlled release of cuminaldehyde to prevent the formation of alpha-synuclein amyloid
9. Evaluation of the effect of Avastin on human corneal epithelial cells based on nanoliposome drug carrier system.
10. Structural rearrangement of lens crystalline proteins to induce nano-fibrillar structures and evaluation the efficiency of the nanofibrils in the separation of azo dyes from aqueous solutions.
11. Study of biochemical-biophysical and cellular mechanisms of fibrillation of proteins in related to amyloid-dependent diseases and the inhibitory effect of small compounds on it.
12. Seeding and cross-seeding of preformed fibrils aimed to elevation of templating effect in protein fibrillation process.

## **G: Publications:**

1. Aliakbari F, Mohammad-Beigi H, Abbasi S, Rezaei-Ghaleh N, Lermyte F, Parsafar S, et al. Multiple protective roles of nanoliposome-incorporated baicalein against alpha-synuclein aggregates. *Adv Funct Mater.* 2020 <https://doi.org/10.1002/adfm.202007765>;
2. Malakouti–Nejad, M, H Bardania, F Aliakbari, A Baradaran-Rafii, E Elahi,, D. Morshedi. Formulation of nanoliposome-encapsulated bevacizumab (Avastin): Statistical optimization for enhanced drug encapsulation and properties evaluation. 2020 *International Journal of Pharmaceutics*, 119895, <https://pubmed.ncbi.nlm.nih.gov/32956821/>
3. S Parsafar, Z Nayeri, F Aliakbari, F Shahi, M Mohammadi, D Morshedi. Multiple neuroprotective features of *Scutellaria pinnatifida*–derived small molecule. 2020 *Heliyon* 6 (8), e04737, <https://pubmed.ncbi.nlm.nih.gov/32913905/>
4. M Khaleghi, E Ahmadi, MK Shahraki, F Aliakbari, D Morshedi. Temperature-dependent formulation of a hydrogel based on Hyaluronic acid-polydimethylsiloxane for biomedical applications. 2020 *Heliyon* 6 (3), e03494, <https://pubmed.ncbi.nlm.nih.gov/32258450/>
5. AT Marvian, F Aliakbari, H Mohammad-Beigi, ZA Ahmadi, S Mehrpouyan, Morshedi D. The status of the terminal regions of  $\alpha$ -synuclein in different forms of aggregates during fibrillization *International Journal of Biological Macromolecules.* 2020;155:543-550 doi: 10.1016/j.ijbiomac.2020.03.238. <https://pubmed.ncbi.nlm.nih.gov/32240735/>
6. Najarzadeh Z, Mohammad-Beigi H, Nedergaard Pedersen J, Christiansen G, Sønderby TV, Shojaosadati SA, Morshedi D, Strømgaard K, Meisl G, Sutherland D, Skov Pedersen J, Otzen DE. Plant Polyphenols Inhibit Functional Amyloid and Biofilm Formation in *Pseudomonas* Strains by Directing Monomers to Off-Pathway Oligomers. *Biomolecules*, 2019 Oct 26;9(11). pii: E659. doi: 10.3390/biom9110659. <https://pubmed.ncbi.nlm.nih.gov/31717821/>
7. Bardania H, Shojaosadati SA, Kobarfard F, Morshedi D, Aliakbari F, Tahoori MT, Roshani E. RGD-Modified Nano-Liposomes Encapsulated Eptifibatide with Proper Hemocompatibility and Cytotoxicity Effect 2019 *Iran J Biotechnol.* 20;17(2):e2008. doi: 10.21859/ijb.2008. <https://pubmed.ncbi.nlm.nih.gov/31457055/>
8. Tafvizizavareh S, Shariati P, Sharifirad A, Maleki B, Aliakbari F, Christiansen G, Morshedi D. Antibiotic hypersensitivity in MRSA induced by special protein aggregates.

2019 Sep 15;137:528-536. doi: 10.1016/j.ijbiomac.2019.07.001. Epub 2019 Jul 2.  
<https://pubmed.ncbi.nlm.nih.gov/31271798/>

9. مرشدی, دینا, ع. اکبری, فرهنگ, پارسافر, سها, م. بیگی, د.ع. آبادی, فائزه, ا. نودیجه, مهار سمیت روتنون در مدل سلولی بیماری پارکینسون با عصاره متانولی زیتون‌های ایرانی. مجله پژوهش‌های سلولی و مولکولی. (۲۰۱۹). [http://cell.ijbio.ir/article\\_1624.html](http://cell.ijbio.ir/article_1624.html)
10. Tayaranian M. A, Koss J. K, Aliakbari F, Morshedi D\*, Outeiro F, O. (2019) In vitro models of synucleinopathies: informing on molecular mechanisms and protective strategies. Journal of Neurochemistry, <https://doi.org/10.1111/jnc.14707>
11. Heravi M, Dargahi L, Parsafar S, Tayaranian M A, Aliakbaria F, **Morshedi D\*** (2019) The primary neuronal cells are more resistant than PC12 cells to  $\alpha$ -synuclein toxic aggregates. Neuroscience Letters, 701, 14: 38-47, <https://pubmed.ncbi.nlm.nih.gov/30776494/>
12. Mohammad-Beigi H, Aliakbari F, Sahin C, Lomaxl Ch, Tawfike A, Schafer N, Amiri-Nowdijeh A, Eskandari H, Møller I, Hosseini-Mazinani M, Christiansen G, Ward J, **Morshedi D\***, Otzen D. (2019) Oleuropein derivatives from olive fruit extracts reduce  $\alpha$ -synuclein fibrillation and oligomer toxicity. The Journal of Biological Chemistry, 294, 4215-4232. <https://pubmed.ncbi.nlm.nih.gov/30655291/>
13. Aliakbari F, Mohammad-Beigi H, Rezaei-Ghaleh N, Becker S, Dehghani Esmatabad F, Eslampanah Seyedi HA, Bardania H, Tayaranian Marvian A, Collingwood JF, Christiansen G, Zweckstetter M, Otzen DE, **Morshedi D\***.(2018). The potential of zwitterionic nanoliposomes against neurotoxic alpha-synuclein aggregates in Parkinson's Disease. *Nanoscale*. 17;10(19):9174-9185. <https://pubmed.ncbi.nlm.nih.gov/29725687/>
14. Aliakbari F, Shabani AA, Christiansen G, Otzen DE, **Morshedi D\*** (2017). Formulation and anti-neurotoxic activity of baicalein-incorporating neutral nanoliposome. *Colloids Surf B Biointerfaces*.161:578-587. <https://pubmed.ncbi.nlm.nih.gov/29149763/>
15. Mahdyeh Sashourpour, Saber Zahri , Tayebbeh Radjabian , Viktoria Ruf, Francisco Pan-Montojo, **Dina Morshedi\*** (2017). A Study on the Modulation of Alpha-synuclein

Fibrillation by *Scutellaria pinnatifida* Extracts and Its Neuroprotective Properties. PlosOne, 12(9): e0184483 <https://pubmed.ncbi.nlm.nih.gov/28957336/>

16. Amir Tayaranian, and **Dina Morshedi** (2017). Exophers expel toxic aggregates: The new discovery of a defense mechanism against misfolded or toxic proteins. Movement Disorders. 32(6):841. <https://pubmed.ncbi.nlm.nih.gov/28394086/>
17. Maleki, Behnam, Fatemeh Tabandeh, Zahra-Soheila Soheili, and **Dina Morshedi\*** (2017). Application of proteinous nanofibrils to culture retinal pigmented epithelium cells: A versatile biomaterial. Reactive and Functional Polymers. 115, 36–42 <https://www.sciencedirect.com/science/article/abs/pii/S1381514817300524>
18. Farhang Aliakbari, Ali. Akbar Shabani, Hassan Bardania, Hadiieh Alsadat Eslampanah Seyedi, Hossein Mohammad-Beigi, Amir Tayaranian Marvian, Mahour Nassoti, Abbas Ali Vafaei, Seyed Abbas Shojaosadati 6, Ali Akbar Saboury 7, Gunna Christiansen 8, **Dina Morshedi\***. (2017) Neurotoxicity of pre-incubated alpha-synuclein with neutral nanoliposomes on PC12 and SHSY5Y cell lines. ScientiaIranica. 24.3 [http://scientiairanica.sharif.edu/article\\_4419.html](http://scientiairanica.sharif.edu/article_4419.html)
19. Nayere Taebnia, **Dina Morshedi\***, Soheila Yaghmaei, Farhang Aliakbari, Fatemeh Rahimi, and Ayyoob Arpanaei. (2017) Curcumin-loaded amine-functionalized mesoporous silica nanoparticles inhibit the  $\alpha$ -synuclein fibrillation and reduce its cytotoxicity-associated effects. Langmuir, 32 (50), pp 13394–13402 <https://pubs.acs.org/doi/abs/10.1021/acs.langmuir.6b02935>
20. Negar Mirzazadeh Dizaji, Hossein Mohammad-beigi, Farhang Aliakbari, Amir Tayaranian Marvian, Seyed Abbas Shojaosadati, **Dina Morshedi\***. (2016). Inhibition of Lysozyme Fibrillation by Human Serum Albumin Nanoparticles: Possible Mechanism. International Journal of Biological Macromolecules, 93, Part A, 1328–1336 <https://www.sciencedirect.com/science/article/abs/pii/S0141813016318396>
21. Hossein Mohammad-Beigi, **Dina Morshedi**, Seyed Abbas Shojaosadati, Jannik, Jan Skov Pedersen, Daniel E. Otzen. (2016). Gallic acid loaded onto polyethylenimine-coated human serum albumin nanoparticles (PEI-HSA-GANPs) stabilizes a-synuclein in the

unfolded conformation and inhibits aggregation. RSC Adv., 6, 85312–85323.

<https://pubs.rsc.org/en/content/articlelanding/2016/ra/c6ra08502d/unauth#!divAbstract>

22. **Dina Morshedi\***, Mahour Nasouti. (2016). Essential oils may drive  $\alpha$ -synuclein to toxic fibrils formation, Parkinson's Disease, 16(1):1-10.  
<https://www.hindawi.com/journals/pd/2016/6219249/abs/>
23. Hossein Mohammad-Beigi, Seyed Abbas Shojaosadati, **Dina Morshedi**, Negar Mirzazadeh, Ayyoob Arpanaei (2016) The Effect of Different Desolvating Agents on the Physicochemical Properties of Human Serum Albumin Nanoparticles Prepared by Desolvation Method, the Iranian Journal of Biotechnology, 14(1): 50-58  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5435013/>
24. Hossein Mohammad-Beigi, Seyed Abbas Shojaosadati, Amir Tayaranian Marvian, Mingdong Dong, **Dina Morshedi\***, Daniel E. Otzen\* (2015). Strong Interactions with Polyethylenimine-Coated Human Serum Albumin Nanoparticles (PEI-HSA NPs) Alter ASN Conformation and Aggregation Kinetics. Nanoscale. 7(46):19627-40  
<https://pubs.rsc.org/en/content/articlelanding/2015/nr/c5nr05663b/unauth#!divAbstract>
25. Masoome Khalife, **Dina Morshedi\***, Farhang Aliakbari, Amir Tayaranian Marvian, Hossein Mohammad Beigi, Sadegh Azimzadeh Jamalkandi, Francisco Pan-Montojo. (2015) Alpha-Synuclein fibrils interact with dopamine reducing its cytotoxicity on PC12 cells. Protein Journal, 34:291-303 <https://link.springer.com/article/10.1007/s10930-015-9625-y>
26. Nayyere Taebnia, **Dina Morshedi\***, Mohsen Doostkam, Soheila Yaghmaei, Farhang Ali-Akbari, Gurvinder Singh, Ayyoob Arpanaei.(2015) The effect of mesoporous silica nanoparticles surface chemistry and concentration on the  $\alpha$ -synuclein fibrillation. RSC Adv. 5: 60966-60974  
<https://pubs.rsc.org/en/content/articlelanding/2015/ra/c5ra08405a/unauth#!divAbstract>
27. **Dina Morshedi\***, Farhang Aliakbari, Amir Tayaranian Marvian, Afshin Fassihi, Francisco Pan-Montojo, Horacio Pérez-Sánchez (2015). Cuminaldehyde as the major component of Cuminum cyminum, a natural aldehyde with inhibitory effect on alpha-

synuclein fibrillation and cytotoxicity. Journal of Food Science. 80( 10): 2336-45  
<https://onlinelibrary.wiley.com/doi/abs/10.1111/1750-3841.13016>

28. Hossein Mohammad-Beigi. shojaosadati · **Dina Morshedi** · Ayyoob Arpanaei · Amir Tayaranian (2015) Preparation and in vitro characterization of gallic acid-loaded human serum albumin nanoparticles. Journal of Nanoparticle Research,17:167  
DOI:10.1007/s11051-015-2978-5 <https://link.springer.com/article/10.1007/s11051-015-2978-5>
29. **Dina Morshedi\***, Tayyebali Salmani Kesejini, Farhang Aliakbari, Rouhollah Karami-Osboo, Mehdi Shakibaei , Amir Tayaranian Marvian, Masoomeh Khalifeh, Mona Soroosh (2014) Identification and characterization of a compound from Cuminum cyminum essential oil with high antifibrillation effect and cytotoxic effect. Research in Pharmaceutical Sciences. 9(6): 431-443  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4326981/>
30. Jafar Falahi, **DinaMorshedi\*** (2014). In silico and in vitro analysis about effects of the affinity tags on the rate of amyloid fibrillation of proteins. Genetic Novin,9(3):267-78  
<https://www.sid.ir/en/journal/ViewPaper.aspx?ID=409267>
31. Zeinab Mohammadi, **Dina Morshedi\***, Masoud Mashhadi Akbar Boojar, Farhang Aliakbari (2014). Designing a simple method with high efficiency to purify hen egg white lysozyme by using the ion-exchange chromatography. IFSTRJ,. 2015.  
<https://www.magiran.com/paper/1506538/?lang=en>
32. Farhang Aliakbari, Seyedeh Felour Mazhar, Rouhollah Karami-Osboo, Parvin Shariati, **Dina Morshedi**, Davoud Farajzadeh (2014). Decontamination of tomato, red cabbage, carrot, fresh parsley and fresh green onion inoculated with Shigella sonnei and Shigella flexneri by some Essential oils (*in vitro* conditions). Novelty in Biomedicin, 2:36-77  
<https://journals.sbmu.ac.ir/nbm/article/view/5973>
33. Mazhar, S.F., Aliakbari, F., Karami-Osboo, R. Morshedi, D., Shariati, P. Farajzadeh, D. (2014). Inhibitory Effects of Several Essential Oils towards Salmonella typhimurium, Salmonella paratyphi A and Salmonella paratyphi B, Applied Food Biotechnology, 1(1): 44-54 <https://www.sid.ir/en/journal/ViewPaper.aspx?id=466605>
34. **Dina Morshedi\***, Farhang Aliakbari, Hamid Reza Noori, Majid Lotfinia. Using small molecules as a new challenge to redirect metabolic pathway. 3 BIOTECH. (2013). DOI: 10.1007/s13205-013-0184-7. <https://link.springer.com/article/10.1007/s13205-013-0185-6>
35. **Dina Morshedi\***, Zeinab Mohammadi, Masoud Mashhadi Akbar Boojar, Farhang Aliakbari (2013). Using protein nanofibrils to remove azo dyes from aqueous

solution by the coagulation process. *Colloids and Surfaces B: Biointerfaces* . 112: 245–254. <https://www.sciencedirect.com/science/article/abs/pii/S0927776513005080>

36. **Dina Morshedi\***, Farhang Aliakbari (2012). The inhibitory effects of cuminaldehyde on the amyloid fibrillation and cytotoxicity of alpha-synuclein. *MJMS: Pathobiology*. 15(1): 13-28. [https://mjms.modares.ac.ir/browse.php?a\\_id=1026&sid=30&slc\\_lang=en](https://mjms.modares.ac.ir/browse.php?a_id=1026&sid=30&slc_lang=en)
37. Mostafa Hosseini & Ali Asghar Karkhane & Bagher Yakhchali & Mehdi Shamsara & Saeed Aminzadeh & **Dina Morshedi** & Kamahldin Haghbeen & Ibrahim Torktaz & Esmat Karimi & Zahra Safari (2012). In Silico and Experimental Characterization of Chimeric Bacillus termocatenlatus Lipase with the Complete Conserved Pentapeptide of Candida rugosa Lipase. *Appl Biochem Biotechnol*, 169(3):773-85 <https://link.springer.com/article/10.1007/s12010-012-0014-0>
38. Atefeh Rabiee, Azadeh Ebrahim-Habibi, Latifeh Navidpour, **Dina Morshedi**, Atiyeh Ghasemi, Marjan Sabbaghian, Maryam Nemat-Lay, Mohsen Nemat-Gorgani (2011). Benzofuranone derivatives as effective small molecules related to insulin amyloid fibrillation: a structure-function study”. *Chemical Biology & Drug Design*. 78 495–738 <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1747-0285.2011.01197.x>
39. **Dina Morshedi**, Ebrahim-Habibi A, Moosavi-Movahedi A.A, Nemat-Gorgani M (2010). Chemical modification of lysine residues in lysozyme may dramatically influence its amyloid fibrillation submission. *Biochemica et Biophysica Acta*. 1804 714-722 <https://www.sciencedirect.com/science/article/abs/pii/S157096390900346X>
40. Ebrahim-Habibi A, **Dina Morshedi**, Rezaei -Ghaleh N, Sabbaghian M, Nemat-Gorgani M (2010). Protein-protein interactions leading to aggregation: some perspectives on mechanism, significance and control. *Journal of the Iranian Chemical Society* 7(3) : 521-544. <https://link.springer.com/article/10.1007/BF03246041>
41. Rezaei-Ghaleh N, Zweckstetter M, **Dina Morshedi**, Ebrahim-Habibi A, Nemat-Gorgani M(2009). Amyloidogenic potential of alpha-chymotrypsin in different conformational states. *Biopolymers*. 91(1):28-36 <https://onlinelibrary.wiley.com/doi/abs/10.1002/bip.21079>



42. **Dina Morshedi**, Rezaei-Ghaleh N, Ebrahim-Habibi A, Ahmadian S, Nemat-Gorgani M. Inhibition of amyloid fibrillation of lysozyme by indole derivatives--possible mechanism of action. FEBS J. 2007 274(24):6415-25  
<https://febs.onlinelibrary.wiley.com/doi/full/10.1111/j.1742-4658.2007.06158.x>
43. Daliri M, Ghorashi A, **Dina Morshedi**, Taraneh Hajian ,Kian Afshar.( 2007) Detection of bovine viral diarrhoea virus in bovine semen using nested-PCR Iranian Journal of Biotechnology,5,48-51
44. Omumi A, **Dina Morshedi**, Samadi A(2001) Isolation of a novel stable peptide from cultivated raphanus with peroxidase activity. World journal of Microbiology and Biotechnology,17(8),827-828
45. Ghorashi, S.A., Daliri Joupari, M., **Dina Morshedi.**, Hajian, T., Lotfi, M. Detection of pestivirus contamination in cell cultures by nested-PCR. Journal of Veterinary Research 63 (1): 17-22
46. Kargar R, Ghorashi S.A, Sadeghi M.R., **Dina Morshedi**, Massoudi, S., and Pourbakhsh S.A. Detection of different Iranian isolates of Bovine Herpesvirus Type-1 (BHV-1) using polymerase chain reaction. Archives of Razi. 2003 55: 11-18
47. Sadeghi,M.R ;Ghorashi,S.A ;Kargar Moakhar,R; **Dina Morshedi** (2006). Polymerase chain reaction for the detection and differentiation of Marek's disease virus strains MDV-1 and HVT ,Iranian Journal of Veterinary Research.University of Shiraz.Vol.7 No.1 17-21
48. Rabbani A, **Dina Morshedi**. The effects of Vitamin A derivatives on protein and RNA synthesis in developing macrophages .J. Science (Az-Zahra University)2000(13):19-27
49. Rabbani A, Faravardeh L, **Dina Morshedi**: The effect of retinoic acid on alveolar macrophages.Iranian Journal of Biology 2001(10) 22-31

## **F. Patents:**

13. **Dina Morshedi**, Farhang Aliakbari, Producing of recombinant Alpha synuclein (related protein with Parkinson' Diseases) using a native and economical carbon source. No. 1390/05/11-70923. Tehran. Iran.
14. **Dina Morshedi**, Farhang Aliakbari, Jafar Fallahi, Purification of Alpha synuclein with no tag using properties of salt chelating. No. 1393/02/02-82700. Tehran. Iran.
15. **Dina Morshedi**, Fatemeh Omrani, Arash Yazdani. Formulation of one step production of nanofibrils with high potential to adsorb azo dyes. 1394/12/1-

## **G: TEACHING RECORDS:**

1. Protein science. National Institute of genetic Engineering and Biotechnology, since 2014 (Master student).
2. Protein formulation. National Institute of genetic Engineering and Biotechnology, since 2015 (Master student).
3. Biochemistry of chromatin, Islamic Azad University, Science and Research Branch, Tehran, since 2015 (Master and PhD students).
4. DNA structure and DNA replication. National Institute of genetic Engineering and Biotechnology, 2012 and 2013 (Master students).
5. Macromolecular structures. National Institute of genetic Engineering and Biotechnology. 2013 (Master students).
6. Human and Plant genetics. Semnan University of Medical sciences. 2013 (PhD student).
7. Protein Engineering. Semnan University of Medical sciences. 2013 (PhD student).
8. Macromolecular structures. Semnan University. 2012. 2013 (Master student).
9. General Biochemistry, Islamic Azad University, Science and Research Branch, Tehran, 2010. (Bachelor Student).

## **H: WORKSHOPS ORGANIZED/ PARTICIPATED**

- Executive manager and lecturer in workshop entitled “Concept of writing a scientific paper” Organized by the National Institute of Genetic Engineering and Biotechnology (NIGEB) on 19 January 2020, Tehran, Iran.
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- Executive manager and lecturer in workshop entitled: "A 3-day Hands-on Workshop on Recombinant protein expression, SDS-PAGE and Western blotting"

Organized by the National Institute of Genetic Engineering and Biotechnology (NIGEB) on 16-18 May 2015, Tehran, Iran.

- . Executive manager and lecturer in workshop entitled: "A 2-day Hands-on Workshop on Cell Culture and Assessment of Cell death and Cytotoxicity" Organized by the National Institute of Genetic Engineering and Biotechnology (NIGEB) on 5-6 May 2015, Tehran, Iran.
- . Executive manager and lecturer in workshop entitled: "A 2-day Hands-on Workshop on Cell Culture and Assessment of Cell death and Cytotoxicity" Organized by the National Institute of Genetic Engineering and Biotechnology (NIGEB) on 5-6 December 2014, Tehran, Iran.
- Executive manager and lecturer in workshop entitled: "A 2-day Hands-on Workshop on Cell Culture and Assessment of Cell death and Cytotoxicity" Organized by the National Institute of Genetic Engineering and Biotechnology (NIGEB) on 5-6 May 2014, Tehran, Iran.
- Advanced in protein biotechnology course. National Institute of Genetic Engineering and Biotechnology (NIGEB). Second semester. 2014-2015. (For the Master of Science students).
- Protein engineering course. Medical science university of semnen. Second semester. 2014-2015. (For the Ph.D student)
- Cell culture. Azad Islamic University, Pishva Branch. Second semester. 2014-2015. (For the Master of Science student).
- 8. Downstream processing course. National Institute of Genetic Engineering and Biotechnology (NIGEB). Second semester. 2014-2015. (For the Master of Science students).
- Teaching assistant in a work shop entitled: "Genetic engineering" .Arak University April 2004
- Teaching assistant in a work shop entitled: "Genetic engineering" .Islamic Azad University May 2005
- Teaching assistant in an international workshop entitled:" large scale protein purification and application in the production of therapeutic products". Nov.1996, National Institute of Genetic Engineering and Biotechnology

## **J: Books:**

Protein Nanotechnology 2020 published by National Institute of Genetic Engineering and Biotechnology