

Elham Bidram

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- <https://scholar.google.com/citations?user=E3U5FIsAAAAJ&hl=en&oi=ao>
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EDUCATION

- **University of Melbourne, Australia**

2012-2017 | Ph.D. Chemical and *Biomolecular* Engineering

- Supervisors: Prof. David Dunstan, davided@unimelb.edu.au, Prof. Alastair Stewart, astew@unimelb.edu.au>
- Dissertation: 'Study of Cancer Treatment Using Over Expressed Receptors Blockage'
- In collaboration with Bio-medical department, Pharmacology and Therapeutics group

- **Tarbiat Moddares University, Iran**

2006-2009 | M.S Clinical Biochemistry

- Supervisors: Prof. Abbas Sahebghadam Lotfi, lotfi-ab@nigeb.ac.ir, Dr Mehdi Shamsara, shamsa@nigeb.ac.ir
- Dissertation: "Partial Over Expression Of α 1- antitrypsin In *Pichia pastoris* And Its Nanoencapsulation"

- **University of Isfahan, Iran**

2001-2005 | B.S. Cellular & Molecular Biology (Microbiology)

EXPERIENCE

- **Assist. Prof of Nanobiotechnology & Deputy of Research, Biosensor Research Centre (BRC)**
2019- Present | Faculty of Advanced Sciences & Technologies, Isfahan University of Medical Sciences
- **Mentor of Biotechnology and Clinical Imaging's Team, Young Researchers Club,**
2021- Present | Tehran University of Medical Sciences
- **Member of the University's Committee of Research Centres**
2021- Present | Isfahan University of Medical Sciences
- **Research fellow**
2018- 2019 | Faculty of Advanced Sciences & Technologies, | University of Isfahan, Iran

RESEARCH PROJECTS

1. Investigation of the effect of various gold nanoparticles on graphene oxide's fluorescence and targeting to introduce the optimal biosensor; in vivo study. **2022-2023**
2. Fabrication of a flexible biosensor via extrusion printing of reduced graphene oxide/chitosan ink on bacterial-nano cellulose paper for detection of glucose in sweat. **2021-2022**
3. Use of flexible materials in wearable and non-invasive electrochemical sensors for continuous glucose analysis, **2021-2022**
4. Evaluation of embryonic haemoglobin (HbF) induction by disrupting KLF1 gene using CRISPR technology in human hematopoietic stem cells. **2020-2022**
5. Investigating the role of nanotechnology in diagnosis and treatment of coronavirus, **2020-2021**
6. Investigating the current state of three-dimensional organoid systems and its future prospects, **2020-2021**
7. Investigation of the effect of different shapes and sizes of gold nanoparticles on the fluorescence and targeted of graphene oxide quantum-dots for biosensing purposes, **2020-2021**
8. The effect of reduced graphene oxide on the properties of electrospun scaffold polyhydroxybutyrate-chitosan for use in bone tissue engineering. **2020-2021**
9. On-site detection of cancer cells using cytosensors based on three-dimensional graphene-gold nanostructures-aptamer, **2020-2021**
10. Design and fabrication of graphene-based quantum dot nanocomposites for Simultaneous diagnosis and treatment of breast & colon cancer cells, **2019-2021**
11. Fabrication of silicon-based tranostatic nanosystem (MCM-41) for simultaneous tracking, imaging and treatment, **2019-2021**
12. Design and fabrication of intelligent silica mesoporous nanosystem (MCM-41)-Chitosan to increase the loading of curcumin and drug delivery to breast cancer tissue, **2019-2021**
13. Investigation of derivetized GO photoluminescence, **2015-2021**
14. Cancer treatments and its challenges, **2016-2018**

PUBLICATIONS

1. M Mohammadi Tabar, M Khaleghi, A Zarrabi, E Bidram, Beta-lactam antibiotics-loaded on graphene oxide to revive the antibiotics against methicillin-resistant Staphylococcus aureus. Microbial Biotechnology, 2022 (Under Revision).
2. Yasaman Esmaeili, Zahra Mohammadi, Mohammad khavani, Alireza Sanati, Laleh Shariati, Elham Bidram*, Ali Zarrabi*. Fluorescent Anisotropy Cytosensing of Folate

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Receptor Positive Tumor Cells Using 3D-GO-Fibers: Molecular Dynamics & In Vitro Study. Applied Surface Science. 2022 (Under Revision)

3. Yasaman Esmaeili, Hooria Seyedhosseini Ghaheh, Fahimeh Ghasemi, Laleh Shariati, Mohammad Rafienia, Elham Bidram*, Ali Zarrabi. Graphene Oxide Quantum Dot-Chitosan Nanotheranostic Platform as a pH-responsive Carrier for Improving Curcumin Uptake Internalization: In Vitro & In Silico Study. Journal of materials-science-and-engineering-c. 139 (2022) 213017. <https://doi.org/10.1016/j.bioadv.2022.213017>
4. Rahimmanesh, Ilnaz, Boshtam, Maryam, Kouhpayeh, Shirin; Khanahmad, Hossein, Dabiri, Arezou, Ahangarzadeh, Shahrzad, Esmaeili, Yasaman, Bidram, Elham, Vaseghi, Golnaz, Haghjoy javanmard, Shaghayegh, Shariati, Laleh, Zarrabi, Ali. Gene editing-based technologies for beta-hemoglobinopathies treatment. Biology 2022, 11, 862. <https://doi.org/10.3390/biology11060862>
5. Y Esmaeeli, E Bidram, Z Yarjanli, F pakniya, A Zarrabi. Targeting autophagy, oxidative stress, and ER stress for neurodegenerative disease treatment. Journal of Controlled Release, 345 (2022) 147–175. <https://doi.org/10.1016/j.jconrel.2022.03.001>
6. Alireza Sanati, Yasaman Esmaeili, Elham Bidram, Laleh Shariatib, Mohammad Rafienia, Sara Mahshid, Onur Parlake. Recent advancement in electrode materials and fabrication, microfluidic designs, and self-powered systems for wearable non-invasive electrochemical glucose monitoring. Applied Materials Today, 2022 (26). <https://doi.org/10.1016/j.apmt.2021.101350>
7. E Bidram, Y Esmaeeli, A Amini, L Shariati. Organoid Technology: Current standing and future perspectives. Stem Cells. 2021, 1-25. <https://doi.org/10.1002/stem.3379>.
8. L Shariati, Y Esmaeeli, A Amini, E Bidram*. Nanotechnology thrives diagnosis and treatment of Coronaviruses, ACS Applied Materials & Interfaces. 2021 (7) 2150-2176. <https://doi.org/10.1021/acsbio.1c00318>.
9. Y Esmaeeli, Abbas Amini, Ali Zarrabi, C Cheng, E Bidram*. Graphene Oxide and its Derivatives as promising *in-vitro* bio-imaging platforms. Scientific Reports. 2020 (10) 18052. <https://doi.org/10.1038/s41598-020-75090-w>.
10. Y Esmaeeli, E Bidram, A Zarrabi, Z Mirahmadi. Hierarchical multifunctional graphene oxide cancer nanotheranostics agent for synchronous switchable fluorescence imaging and chemical therapy. Microchimica Acta. 2020 (187) 553. <https://doi.org/10.1007/s00604-020-04490-6>.
11. J Kolahi, E Bidram, P Iranmanesh. Science map of Cochrane Systematic Reviews receiving the most altmetric attention score: A network visualization and machine learning perspective. Journal of Scientometric Research. 2020; 9(3):293-299. <https://doi.org/10.1101/19006817>.

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12. E Bidram*, Y Esmaeeli, H Ranji-Burachaloo, N Al-Zaubai, A Zarrabi, A Stewart, DE Dunstan. A concise review on cancer treatment methods and delivery systems. *Journal of Drug Delivery Science and Technology* 2019 (54) 101350. <https://doi.org/10.1016/j.jddst.2019.101350>.
13. S Khorrami, A Khosravi, E Bidram, Z Abdellahi, G Eshaghi, A Zarrabi. An improved method for fabrication of Ag-GO nanocomposite with controlled anti-Cancer and anti-bacterial behavior; a comparative study. *Scientific Reports* 2019 (9). <https://doi.org/10.1038/s41598-019-45332-7>
14. J Kolahi, S Khazaei , E Bidram, R Kelishadi. Altmetric analysis of contemporary Iranian medical journals. *International Journal of Preventive Medicine* 2019 (10). https://doi.org/10.4103/ijpvm.IJPVM_134_19
15. J Kolahi, DG Dunning, EF Rossomando, E Bidram, S Khazaei. Preprints in dental science: DentRxiv as a strategy to bring dental research into the information age. *Dental Hypotheses* 2019 (10). [https://DOI: 10.4103/denthyp.denthyp_36_19](https://DOI:10.4103/denthyp.denthyp_36_19)
16. E Bidram, Adrian Sulistio, HJ Cho, Trudi Harris, G Qiao, A Stewart. Targeted graphene oxide networks: cytotoxicity and synergy with anticancer agents. *ACS Applied Materials & Interfaces* 2018 (10). <https://doi.org/10.1021/acsami.8b17531>
17. E Bidram, A Sulistio, A Amini, Q Fu, GG Qiao, A Stewart and D. E. Dunstan., Fractionation of Graphene oxide single nano-sheets in water-glycerol solutions using gradient centrifugation. *Carbon* 2016 (103), 363-371. <https://doi.org/10.1016/j.carbon.2016.02.095>
18. E Bidram, A Stewart and DE Dunstan. Graphene oxide as a photoluminated carrier. *Materials Today: Proceedings* 2016 (3) 240-244. <https://doi.org/10.1016/j.matpr.2016.01.064>
19. H Atri, E Bidram, DE Dunstan. Reconstituted Keratin biomaterial with enhanced ductility. *Materials*. 2015, 8(11), 7472-74851. <https://doi.org/10.3390/ma8115392>.
20. S Arjmand*, E Bidram*, AS Lotfi, M Shamsara, SJ Mowla. "Expression and purification of functionally active recombinant human alpha 1-antitrypsin in methylotrophic yeast *Pichia pastoris*". *Avicenna Journal of Medical Biotechnology*. 2011, 3 (3), 127. <https://pubmed.ncbi.nlm.nih.gov/23408781/>
21. S Arjmand*, E Bidram*, A Sahebghadam Lotfi, H Mahdavi. "Evaluation of Poly (D, L-lactide-co-glycolide) for nanoencapsulation of Alpha 1-antitrypsin and in vitro release study". *International Journal of Bioscience, Biochemistry and Bioinformatics*. 2011, 1 (1), 68-72. <https://doi.org/10.7763/IJBBB.2011.V1.13>

CONFERENCE ORAL PRESENTATIONS

1. *Targeted graphene oxide networks as a novel cancer treatment. Oral presentation as the invited speaker by "Experts Meet on Cancer Therapy 2018" Nov. 2018, Australia-Melbourne*
2. *Graphene Oxide networks as the traceable components. Poster for 24th Australian Conference on Microscopy and Microanalysis Feb. 2016, Australia-Melbourne/Best speaker for 3M project introduction*
3. *Graphene Oxide as a Photoluminated Carrier. Advances in Functional Materials Conference, Jul. 2015, USA -Stony Brook.*
4. *Expression of Functionally Active Recombinant Human Alpha 1-antitrypsin in ethylo-trophic Yeast Pichia Pastori. May 2011 WASET, France-Paris.*
5. *In vitro Sustained Release of Alpha 1-Antitrypsin from Poly (D,L-Lactide-co-Glycolide) Nanoparticles. International Conference on Bioscience, Biochemistry and Bioinformatics - ICBBB 2011, Singapore.*
6. *AAT loaded in PLGA Nanoparticles. Poster for 9th Iranian Student Conference on Nanotechnology, 2011, Iran-Tehran.*
7. *AAT nanoencapsulation. Poster for 3rd international conference on Nanostructures, 2010, Iran-Kish.*
8. *Study the effect of different media on cell growth and recombinant protein expression in Pichia pastoris". 10th National Congress of Biochemistry and 3rd International Congress of Biochemistry and Molecular Biology, 2009, Iran-Tehran.*

MEDIA ARTICLES

1. *Nanotechnology in Tissue engineering, (as the invited speaker by the programme Masir Danesh (Knowledge Path) broadcast on 21 June 2020 by IRIB local radio of Isfahan, Iran.*
2. *Nanotechnology in Wound Dressing, as the invited speaker by the programme Masir Danesh (Knowledge Path) broadcast on 23 June 2020 by IRIB local radio of Isfahan, Iran. 23 Jun 2020 IRIB Local Radio of Isfahan*
3. *Nanotechnology in Surgery, (as the invited speaker by the programme Masir Danesh (Knowledge Path) broadcast on 25 June 2020 by IRIB local radio of Isfahan, Iran.*

PATENT

1. Iranian Patent of AAT Loaded PLGA Nanoparticles, **2009**.

HONORS AND AWARDS

1. Melbourne Abroad travelling Scholarship, **2015**

2. International Postgraduate Research Scholarship (IPRS), funded by the Australian Government, **2012**
3. Melbourne International Fee Remission Scholarship (MIRS & MIFRS), founded by University of Melbourne, **2012**
4. Research Scholarship, Ministry of Science, Research and Technology of Islamic Republic of Iran, **2011**
5. Ranked 8th out of 9945 in Clinical biochemistry MSc Nation-Wide University Entrance Exam, **2006**

SKILLS

Computer

- MS Office Package, Adobe (Image, Photoshop),
- Reference Manager,
- Imaging analysis software (Imaris, Fiji),
- Origin, Prism

Laboratory

- Gene Cloning, PCR
- Transformation methods: Calcium-Chloride, Electroporation
- Cellular Assays: Affinity Chromatography, Gel Filtration, HPLC, FTIR,
- NMR, SDS-PAGE, Western-Blotting, ELISA
- Toxicity assays: MTT, MTS, WST assays
- Immobilization Method: Nanoencapsulation (oil-in-oil emulsification, solvent evaporation method).
- Light Microscopy, Fluorescence Microscopy, Confocal Microscopy, Dynamic Light Scattering
- Cell culture

Teaching

- Melbourne Teaching Certificate for Graduate Researchers
- Tarbiat Modares Certificate for Teaching