A. NAME:

- Morteza Hosseini

B. BUSINESS ADDRESS:

- *Department of Life Science Engineering, Faculty of New Sciences & Technologies, University of Tehran, Amirabad Road, Tehran, Iran.*
- Phone: +98-21-86093198
- Fax: +98-21-61115775
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C. OTHER PERSONAL DATA:

- Date of Birth: April 22, 1975
- Birthplace: Mazandaran Province, Iran
- Citizenship: Iranian
- Marital Status: Married, child.

D. EDUCATIONAL BACKGROUND:

- Ph. D. (2001-2005), Faculty of science, Tarbiat Modares, Tehran, Iran
- M. Sc. (1998-2001), Faculty of Science, Tehran University, Tehran, Iran
- B. Sc. (1994-1998), Faculty of Science, Gilan University, Rasht, Iran
- Visiting Professor in MC Master University, supervisor: Yingfu Li

Department of Biochemistry and Biomedical Sciences, McMaster University
Canada 2019

E. CURRENT STATUS AT Tehran UNIVERSITY:

- Professor, Department of Life Science Engineering, Faculty of New Sciences & Technologies, University of Tehran
- Head of central lab, University of Tehran (Tehran, Iran) (2012-2016)
- Head of central lab, Excellent of Electrochemical Institute, University of Tehran (2016-)

F. PROFESSIONAL ORGANIZATIONS:

- Iranian Chemical Society, 2012-

G. EMPLOYMENT HISTORY:

- Professor, *Faculty of New Sciences & Technologies*, University of Tehran , starting from July 8th, 2020

- Associate Professor, *Faculty of New Sciences & Technologies*, Tehran University , starting from February 22th, 2015-
- Assistant Professor, *Faculty of New Sciences & Technologies*, Tehran University , December, 2010 - February, 2015

Awards and Honor

- 1% Iranian ISI Scientist in engineering (2017)
- 1% Iranian ISI Scientist in chemistry (2020-)
- The Chinese Academy of Sciences (CAS) President's International Fellowship Initiative(PIFI) **Selected Fellowship 2024**
- Selected by the Federation of Scientific Elits of IRAN (2023)
- Selected researcher at the research festival of the University of Tehran (2022)
- Selected top scientist at the international festival of the University of Tehran & Medical Tehran university (2022)
- Ranked 2nd in the best researchers in science research by The Academy of Medicine Science (2020)
- The Second Class Award of Innovation talents in Tehran province 2016.
- Selected researcher at the research festival of the University of Tehran (2017)
- Selected young scientist at the international festival of the University of Tehran (2015)

I. AREAS OF RESEARCH INTEREST:

- Design and construction of new Biosensor & Nanobiosensor
- Design of new portable diagnostic devices
- Synthesis of new nanomaterials (Quantum dots, metal clusters,..) and application of these in Diagnostics
- Epigenetics recognition (DNA methylation detection)
- Functional Nucleic Acid nanobiosensors
- Aptasensors
- Electrochemiluminescence and chemiluminescence for analysis
- Biopolymer synthesis and biodegradation

K. RESEARCH FUNDING (2010-)

- Title: Design and construction of optical aptasensor for recognition of the oxytetracycline in food samples

  The name of applicants: Morteza Hosseini

Source agency: Iran National Science Foundation (INFS)

- Title: Design and construction of nanobiosensor for diagnosis of epigenetic disorders
  The name of applicants: Morteza Hosseini
  Source agency: Iran National Science Foundation (INFS)

- Wireless electrochemiluminescence multiplex Covid-19 immunosensors using smartphone detector, cabon nanohorn, and cobalt-noble metal nanocomposite, **CAS-Iranian VicePresidency for Science and Technology Joint Research Project(2021-2023)**

- Title: Design of new ECL portable nanobiosensor for corona viruses **(L'Agence Universitaire de la Francophonie- AUF- 2021)**
- Title: Design and construction of optical nanobiosensor based on metal nanocluster for recognition of point mutation in human serum
  Source agency: Iran National Science Foundation (INFS)

L. PUBLICATIONS :

a) Journal articles *Corresponding author

WOS (Published: 301 H: 55 citation : 10107)

More detail: http://orcid.org/0000-0002-1492-7443

GoogleScholar:
https://scholar.google.com/citations?hl=en&user=PS4HgIAAAAAJ&view_op=list_works&sortby=pubdate

Invited Chapters Books(Selected)

- **DNA-Templated Silver Nanoclusters for DNA Methylation Detection**, Hanie Ahmadzade Kermani, **Morteza Hosseini***, Mehdi Dadmehr, DNA Nanotechnology, Springer 2018
- **Application of Graphene Materials in Molecular Diagnostics**, Foad Salehnia, Neda Fakhri , **Morteza Hosseini***, Mohammad Reza Ganjali, Handbook of Graphene Set, Wiley 2019

- **Lanthanide materials as chemosensors**, FarnoushFaridbod, Mohammad R.Ganjali, **Morteza Hosseini**, Lanthanide-Based Multifunctional Materials, Elsevier, 2018
- **Early detection of lung cancer biomarkers through biosensor**, Mehdi Dadmehr, Pouria Jafari and **Morteza Hosseini**, Biosensor Based Advanced Cancer Diagnostics, Elsevier, 2021
- **Colorimetric technique-based biosensors for early detection of cancer**, Kosar Shahsavar, Aida Alaei and **Morteza Hosseini**, Biosensor Based Advanced Cancer Diagnostics, Elsevier, 2021
- **Graphene-based devices for cancer diagnosis**, Fatemeh Nemati, Azam Bagheri Pebdeni and **Morteza Hosseini**, Biosensor Based Advanced Cancer Diagnostics, Elsevier, 2021
- **Novel paper-based diagnostic devices for early detection of cancer**, Maryam Mousavizadegan, Amirreza Roshani and **Morteza Hosseini**, Biosensor Based Advanced Cancer Diagnostics, Elsevier, 2021

- Ali Firoozbakhtian, Morteza Hosseini, Javad Gilnezhad and Mohammad Reza Ganjali , **Lab-on-a-chip systems for aptamer-based cancer biomarker screening**, Aptasensors for Point-of-Care Diagnostics of Cancer From lab to clinics, IOP publisher, 2024
- Ali Firoozbakhtian, Morteza Hosseini , **Low-Cost Electrochemiluminescence Sensors Empower Point-of-Care Diagnostics in Low-cost Diagnostics**, RSC 2024
- Electrochemiluminescence sensors in bioanalysis, Ali Firoozbakhtian, Neso Sojic, Guobao Xu, Morteza Hosseini, Elsiver 2024
- Lab-on-a-chip: A Road Map of Silicon Chemistry to Multipurpose Microfluidic Chips , Neshat Askarzadeh; Javad Mohammadi; Hodjattallah Rabbani; Morteza Hosseini **, Lab-on-a-chip Devices for Advanced Biomedicines: Laboratory Scale Engineering to Clinical Ecosystem,** RSC book 2024

Selected paper (2010-) (Documents in top 25% journals= 69.6%)(Documents in top citation = 64.6%)

1- Machine learning-assisted image-based optical devices for health monitoring and food safety, Maryam Mousavizadegan, Farzaneh Shalileh, Saba Mostajabodavati, Javad Mohammadi, **Morteza Hosseini**, **Trends in Analytical Chemistry**, 2024

2- Emerging trends and recent advances in MXene/MXene-based nanocomposites toward electrochemiluminescence sensing and biosensing, Nastaran Arab, **Morteza Hosseini**, Guobao Xu, **Biosensors and Bioelectronics** 2024

3- CRET-based immunoassay on magnetic beads for selective and sensitive detection of Nanog antigen as a key cancer stem cell marker, Fatemeh Mehrabi, Bijan Ranjbar,

Morteza Hosseini, Niloufar Sadeghi, Javad Mohammadi, Mohammad Reza Ganjali, **Microchimica Acta**, 2024

4- A Ti3C2 modified single electrode electrochemical system for the gold nanoprism-enhanced ECL detection of HER2, Mehrdad Fathi Kazerouni, Hadi Shirzad, Ali Firoozbakhtian, **Morteza Hosseini**, Hodjattallah Rabbani, Seyed Amin Mousavinezhad, Mohammad Panji, **Journal of Electroanalytical Chemistry**, 2024

5- Boosting Electrochemiluminescence Immunoassay Sensitivity via Co–Pt Nanoparticles within a Ti_3C_2 MXene-Modified Single Electrode Electrochemical System on Raspberry Pi, Ali Firoozbakhtian, **Morteza Hosseini**, Yiran Guan, Guobao Xu, **Analytical Chemistry**, 2023

6- Detection of COVID-19: a smartphone-based machine-learning-assisted ECL immunoassay approach with the ability of RT-PCR CT value prediction, Ali Firoozbakhtian, **Morteza Hosseini**, Mahsa Naghavi Sheikholeslami, Foad Salehnia, Guobao Xu, Hodjattallah Rabbani, Ebtesam Sobhanie, **Analytical Chemistry,2022**

7- MicroRNA sensing using integrating DNA-functionalized hydrogels with aggregation-induced emission of silver nanoclusters, Elnaz Ahmadi-Sangachin, **Morteza Hosseini**, Javad Mohammadnejad, **Sensors and Actuators B: Chemical**, 2023

8- Sensitive detection of H2O2 released from cancer cells with electrochemiluminescence sensor based on electrochemically prepared polypyrrole@ Ce: Dy tungstate/polyluminol, Ebtesam Sobhanie, **Morteza Hosseini**, Farnoush Faridbod, Mohammad Reza Ganjali, **Journal of Electroanalytical Chemistry**, 2023

9- Smart fluorescence aptasensor using nanofiber functionalized with carbon quantum dot for specific detection of pathogenic bacteria in the wound, AB Pebdeni, **M Hosseini**, A Barkhordari, **Talanta** 246, 123454, 2022

10- Multiplex Detection of Antibiotic Residues in Milk: Application of MCR-ALS on Excitation–Emission Matrix Fluorescence (EEMF) Data Sets,MN Sheikholeslami, Y Hamidipanah, F Salehnia, S Arshian, **M Hosseini**, ...,**Analytical Chemistry** 94 (16), 6206-6215, 2022

11- Recent trends and advancements in electrochemiluminescence biosensors for human virus detection, E Sobhanie, F Salehnia, G Xu, Y Hamidi, S Arshian, A Firoozbakhtian, **M Hosseini** ...**TrAC Trends in Analytical Chemistry**, 116727, 2022

12- Fluorescence immunoassay based on nitrogen doped carbon dots for the detection of human nuclear matrix protein NMP22 as biomarker for early stage diagnosis of bladder cancer Othman, H. O., F. Salehnia, **M. Hosseini***, R. Hassan, A. Faizullah and M. R. Ganjali 2020 **Microchemical Journal** 157

13- A novel dual-mode and label-free aptasensor based methodology for breast cancer tissue marker targeting Borghei, Y. S., **M. Hosseini***, M. R. Ganjali and S. Hosseinkhani 2020 **Sensors and Actuators, B: Chemical** 315

14- Improved Performance for Acyclovir Sensing in the Presence of Deep Eutectic Solvent and Nanostructures and Polymer Hamtak, M., L. Fotouhi*, **M. Hosseini*** and P. Seyed Dorraji 2020 **IEEE Sensors Journal** 20(2) , pp. 623-630

15- A New Eye Dual-readout Method for MiRNA Detection based on Dissolution of Gold nanoparticles via LSPR by CdTe QDs Photoinduction Borghei, Y. S. and **M. Hosseini*** 2019 **Scientific Reports** 9(1)

16- A unique FRET approach toward detection of single-base mismatch DNA in BRCA1 gene Borghei, Y. S., **M. Hosseini***, M. R. Ganjali and H. Ju 2019 **Materials Science and Engineering C** 97, pp. 406-411

17- A fluorometric study on the effect of DNA methylation on DNA interaction with graphene quantum dots Rafiei, S., M. Dadmehr, **M. Hosseini***, H. A. Kermani and M. R. Ganjali 2019 **Methods and Applications in Fluorescence** 7(2).

18- Early detection of cell apoptosis by a cytochrome C label-Free electrochemiluminescence aptasensor Karimi Pur, M.R., **Hosseini*, M.**, Faridbod, F., Ganjali, M.R., Hosseinkhani, S.2018 **Sensors and Actuators, B: Chemical** 257, pp. 87-95

19- Fluorescence turn-on sensing of thiamine based on Arginine – functionalized graphene quantum dots (Arg-GQDs): Central composite design for process optimization Nemati, F., Zare-Dorabei, R., **Hosseini, M.**, Ganjali, M.R. 2018 **Sensors and Actuators, B: Chemical**255, pp. 2078-2085

20- Recent advances in biosensor technology in assessment of early diabetes biomarkers Salek-Maghsoudi, A., Vakhshiteh, F., Torabi, R., (...), **Hosseini, M.**, Abdollahi, M. 2018 **Biosensors and Bioelectronics** 99, pp. 122-135 1

21- Fluorometric determination of microRNA via FRET between silver nanoclusters and CdTe quantum dots Borghei, Y.-S., **Hosseini*, M.**, Ganjali, M.R. 2017 **Microchimica Acta** 184(12), pp. 4713-4721

22- Highly sensitive label-free electrochemiluminescence aptasensor for early detection of myoglobin, a biomarker for myocardial infarction Pur, M.R.K., **Hosseini, M***., Faridbod, F., Ganjali, M.R.2017 **Microchimica Acta** 184(9), pp. 3529-3537

23- Disulfide-induced self-assembled targets: A novel strategy for the label free colorimetric detection of DNAs/RNAs via unmodified gold nanoparticles Shokri, E., Hosseini*, M., Davari, M.D., (...), Peppelenbosch, M.P., Rezaee, F. 2017 **Scientific Reports**

7,45837

24- FRET-based aptamer biosensor for selective and sensitive detection of aflatoxin B1 in peanut and rice Sabet, F.S., Hosseini, M*., Khabbaz, H., Dadmehr, M., Ganjali, M.R. 2017 **Food Chemistry** 220, pp. 527-532

25- DNA methyltransferase activity detection based on graphene quantum dots using fluorescence and fluorescence anisotropy Kermani, H.A., **Hosseini, M***., Dadmehr, M., Hosseinkhani, S., Ganjali, M.R.2017 **Sensors and Actuators, B: Chemical**

241, pp. 217-223

26- Label-free fluorescent detection of microRNA-155 based on synthesis of hairpin DNA-templated copper nanoclusters by etching (top-down approach) Borghei, Y.-S., Hosseini, M*, Ganjali, M.R., Hosseinkhani, S. 2017 **Sensors and Actuators, B:** Chemical 248, pp. 133-139

27- A novel solid-state electrochemiluminescence sensor for detection of cytochrome c based on ceria nanoparticles decorated with reduced graphene oxide nanocomposite Pur, M.R.K., Hosseini, M*, Faridbod, F., Dezfuli, A.S., Ganjali, M.R. 2016 **Analytical and Bioanalytical Chemistry** 408(25), pp. 7193-7202

28- Rapid restriction enzyme free detection of DNA methyltransferase activity based on DNA-templated silver nanoclusters Kermani, H.A., Hosseini, M*., Dadmehr, M., Ganjali, M.R. 2016 **Analytical and Bioanalytical Chemistry** 408(16), pp. 4311-4318

29- Visual detection of cancer cells by colorimetric aptasensor based on aggregation of gold nanoparticles induced by DNA hybridizationBorghei, Y.-S., Hosseini, M*., Dadmehr, M., (...), Ganjali, M.R., Sheikhnejad, R. 2016 **Analytica Chimica Acta**

30- Label free colorimetric and fluorimetric direct detection of methylated DNA based on silver nanoclusters for cancer early diagnosis Dadmehr, M., Hosseini, M*., Hosseinkhani, S., Reza Ganjali, M., Sheikhnejad, R. 2015 **Biosensors and Bioelectronics** 73, pp. 108-113

c) Poster presentation at international meetings

- A novel solid-state electrochemiluminescence sensor for detection of cytochrome c based on ceria nanoparticles decorated with reduced graphene oxide nanocomposite, Bordeaux, France, 29-31 August, 2016.
- Selective recognition of monohydrogen phosphate by fluorescence enhancement of a new cerium complex. *The International Symposium on lanthanide structure*, Kiev, Ukraine 16-18, 2010.