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نام و نام خانوادگی: محمد رضا محمودیان (h-index:37)  
مؤسس، فناوری و رییس هیئت مدیره شرکت دانش بنیان نوآوران نانو صنعت معین  
عضو هیئت علمی دانشگاه فرهنگیان (بهشتی تهران) (دانشیار)  
عضو پاره وقت دفتر تالیف کتب درسی (گروه شیمی)  
عضو شورای برنامه ریزی کتب درسی شیمی دفتر تالیف کتب درسی  
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مسئول گروه شیمی شهر تهران (آموزش و پرورش شهر تهران) ۱۳۸۱ تا ۱۳۸۵  
مسئول مرکز کارافرینی و نوآوری دانشگاه فرهنگیان از ۱۳۹۹ تا ۱۴۰۱

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#### تحصیلات:

- ۱-پسا دکتري: حسگرهای الکتروشیمیایی 1390-1391
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- ۳- کارشناسی ارشد: دانشگاه اراک، ایران، 1377-1380
- ۴- کارشناسی: دانشگاه تربیت معلم تهران - ایران، 1367-1371

#### وابستگی حرفه ای / عضویت وابستگی حرفه ای / عضویت

- ۱- انجام پروژه های بین المللی در کشورهای کره جنوبی و مالزی از سال ۹۱ تا کنون
- ۲- اجرای کارگاه آموزشی EIS برای اساتید دانشگاه آزاد 1395

- ۳- اجرای کارگاه آموزشی برای اساتید دانشگاه UM مالزی 1395
- ۴- انجمن نانو آمریکا، ایالات متحده آمریکا، عضو، ۲۰۱۱، (بین المللی)  
<http://members.nanosociety.us/reza>

The International Advisory Editorial Board of *International Journal of Electroactive Materials*

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#### تدریس و فعالیت:

- ۱- عضو هیئت علمی دانشگاه فرهنگیان (مرکز بهشتی تهران) (دانشیار)
- ۲- معلم شیمی در دبیرستان، 1372-1387
- ۳- سر گروه شیمی سازمان آموزش و پرورش شهر تهران، از سال 1381-1387
- ۴- دانشگاه آزاد دماوند، 1382-1387، شیمی پایه و شیمی تجزیه
- ۵- مدرس دوره ضمن خدمت تهران، زاهدان (1377-1396)
- ۶- عضو هیئت مدیر international conferences AMPT 2009

#### دروس مورد تدریس:

- ۱- شیمی عمومی ۱ و آزمایشگاه شیمی عمومی ۱
- ۲- شیمی عمومی ۲ و آزمایشگاه شیمی عمومی ۲
- ۳- شیمی تجزیه ۱ و آزمایشگاه شیمی تجزیه ۱
- ۴- شیمی تجزیه ۲ (الکتروشیمی) و آزمایشگاه شیمی تجزیه ۲
- ۵- آنالیز دستگاهی
- ۶- شیمی تجزیه پیشرفته
- ۷- تحلیل محتوای آموزشی در شیمی
- ۸- راهبردهای تدریس در آموزش شیمی

#### جوایز:

- ۱- انتخاب طرح نانو افزودنی Sn-doped TiO<sub>2</sub> برای کنترل خوردگی اینجانب بعنوان طرح نوآورانه سال ۹۵ از طرف معاونت فناوری ریاست جمهوری و ستاد نانوفناوری
- ۲- سه کمک هزینه پروژه از دانشگاه مالایا، (۲۰۰۹، ۲۰۱۰ و ۲۰۱۱)
- ۳- انتخاب کتاب تحت عنوان "ساختار اتمی" (محراب قلم، تهران، ایران، 1384) در جشنواره رشد (ایران، 1384)
- ۴- داری سطح بلوغ فناوری ۸ (TRL) برپایه تولید و فناوری نانو افزودنی ضد خوردگی از وزارت علوم و فناوری
- ۵- فناوری برگزیده کشوری دانشگاه فرهنگیان ۱۴۰۴

#### کتاب:

- ۱- کتاب معلم شیمی ۳ و آزمایشگاه (وزارت آموزش و پرورش 1393)
- ۲- ساختار اتم برای معلم شیمی " (قائم مقام فراهانی، تهران ایران، 1387)
- ۳- "چرخه بورن هابر" (معراج، تهران ایران، 1386)
- ۴- تصویر سازی در آموزش شیمی " (فرهیختگان علوی، تهران. ایران، 1385)
- ۵- "ساختار اتم" (محراب قلم، تهران، ایران، 1383)

زمينه هاى تخصص:

- ۱- الکتروشیمی (الکتروسینتز ، Electrodeposition)
- ۲- خوردگی ( طیف سنجی امپدانس الکتروشیمیایی)
- ۳- حسگرهای الکتروشیمیایی و بیولوژی

كتب بين المللى :

Abdolhossein Saaedi, Mahmood Moradi, Mohamed H. Alkordi,  
Mohammad Reza Mahmoudian, Gholam Hossein Bordbar, Ramin Yousef, Functional  
Nanomateria, Graphene-Metal-Organic Framework Modified Gas Sensor, Springer, 2020.

همکاریهای بین المللی:

- ۱- انجام پروژه مشترک با دانشگاه هانگ یانگ کره جنوبی



- ۲- انجام پروژههای مشترک با دانشگاه Malaya University

16 July 2021

To whom it may concern,

It is hereby to confirm that the following projects have been carried out in collaboration with Dr. Mohammad Reza Mahmoudian from Farhangian University in the Department of Chemistry, Universiti Malaya and their cost have been paid using the grants mentioned in each article. The cost per article for purchasing materials and characterization was an average of RM 5,000 which a part of this amount was spent for living cost for Dr. Mohammad Reza Mahmoudian during his stay in Malaysia.

- Synthesis of polyaniline microtubes/Pt reduced N-graphene oxide in the presence of L-glutamine for the detection of  $Hg^{2+}$  2020  
MR Mahmoudian, WJ Basirun, PM Woi, Y Alias  
Journal of Applied Electrochemistry 50 (12), 1269-1280  
Impact Oriented Interdisciplinary Research Grant (IIRG013B-2019) and Prototype Research Grant Scheme (PR003-2018A)
- Investigating the effectiveness of  $g-C_3N_4$  on Pt/ $g-C_3N_4$ /polythiophene nanocomposites performance as an electrochemical sensor for  $Hg^{2+}$  detection 2020  
MR Mahmoudian, WJ Basirun, Y Alias, P MengWoi  
Journal of Environmental Chemical Engineering 6 (5), 104204  
Impact Oriented Interdisciplinary Research Grant (IIRG013B-2019) and Prototype Research Grant Scheme (PR003-2018A)
- An electrochemical sensor based on Pt/ $g-C_3N_4$ /polyaniline nanocomposite for detection of  $Hg^{2+}$  2020  
MR Mahmoudian, Y Alias, PM Woi, R Yousefi, WJ Basirun  
Advanced Powder Technology 31 (8), 3372-3380  
Impact Oriented Interdisciplinary Research Grant (IIRG013B-2019) and Prototype Research Grant Scheme (PR003-2018A)
- Voltammetric sensing of formaldehyde by using a nanocomposite prepared by reductive deposition of palladium and platinum on polypyrrole-coated nitrogen-doped reduced graphene oxide 2019  
MR Mahmoudian, WJ Basirun, PM Woi, H Hazarkhani, YB Alias  
Microchimica Acta 186 (6), 1-12  
Prototype Research Grant Scheme (PR003-2018A)
- Synthesis and characterization of  $\alpha-Fe_2O_3$ /polyaniline nanotube composite as electrochemical sensor for uric acid detection 2019  
MR Mahmoudian, WJ Basirun, M Sookhakian, PM Woi, E Zalnezhad, YB Alias  
Advanced Powder Technology 30 (2), 384-392  
Prototype Research Grant Scheme (PR003-2018A)

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L-Glutamine-assisted synthesis of ZnO oatmeal-like/silver composites as an electrochemical sensor for  $Pb^{2+}$  detection 2019

MR Mahmoudian, WJ Basirun, PM Woi, R Yousefi, Y Alias  
Analytical and bioanalytical chemistry 411 (2), 517-526  
Prototype Research Grant Scheme (PR003-2018A)

If you require further clarifications, please reach me by [pmwoi@um.edu.my](mailto:pmwoi@um.edu.my)

Yours truthfully,

  
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Associate Professor, Faculty of Science  
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PI for IIRG013B-2019  
Co-PI for PR003-2018A

To whom it may concern,

This is to confirm that Dr. Mohammad Reza Mahmoudian (Passport No: Z26722660) has successfully initiated and embarked on two electrochemical sensor projects, with the collaboration of Department of Chemistry, University of Malaya, during his visit here. They are:

- a) Synthesis and characterization of Pt/PPy and Pd/PPy nano-spherical for mercury(II) ions detection.
- b) A sensitive dopamine biosensor based on Ag<sub>2</sub> Pd, nano-spherical and AgCuO nano-rose morphology.

Thank you, best regards.

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25 July 2015

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پروژه های در حال انجام تحت شرکت دانش بنیان نوآوران نانو صنعت معین که منجر به قرارداد صنعتی شده است:

- ۱- تثبیت گرد و غبار تحت نظارت ستاد ملی مبارزه با گرد و غبار ریاست جمهوری ( منطقه رود شور بین شهرستان بم و زاهدان)
- ۲- پوشش پیچ وپابند صنایع ریلی وزارت راه و شهر سازی (راه آهن جمهوری اسلامی ایران)(مرحله چهارم)
- ۳- بک فیلتر برای جذب ذرات معلق نصب شده در انتهای لوله آگزوز اتوبوس های شهری (معاونت حمل و نقل شهرداری کرج)

پروژه های در حال انجام تحت حمایت معاونت علمی ریاست جمهوری:

- ۱- تولید اسپری رنگ مقاوم به حرارت ( ستاد نانو معاونت علمی ریاست جمهوری)
- ۲- تولید عایق حرارتی برای سیستم های گرمایشی و سرمایشی (بنیاد علم ایران)

طرحهای انجام شده در دانشگاه فرهنگیان:

- ۱- بهبود عملکرد دانشجویان رشته شیمی در فرایند کارورزی
- ۲- تولید رنگ کویل برای صنایع نوب آهن

**Publications: ISI Journals (Accepted or Published):**

- 1- Zohreh Haghighi Kafash, Mohammad Reza Mahmoudian, Introducing a back filter: the impact of metal type on reducing particulate matter and sulfide emissions from diesel engine exhaust, 2025, Environmental Science and Pollution Research, 32(36) 21559-21575
- 2- Mohammad Reza Mahmoudian, Zohreh Haghighi Kaffash, Studying environmental concerns in high school textbooks and presenting a strategy for introducing the capacity of knowledge-based companies active in this field within the framework of looking to the future in chemistry textbooks, 2025, Research in Chemistry Education , in press.
- 3- Jinjin Pei, Vahid Khorramshahi, Fatemeh Safari, Mehran Sookhakian, MR Mahmoudian, Morteza Nouri, Ramin Yousefi, Enhancing NO<sub>2</sub> gas sensing with ZnO/W<sub>18</sub>O<sub>49</sub> heterostructures: experimental insights and DFT analysis, 2025, Journal of Materials Chemistry C, 13(35) 18371-18380
- 4- M.R.Mahmoudian, Examining the reasons behind the academic failure of students in the process of online education on the science course of the first half of the secondary schools in Shahryar City, 2025, Research in Chemistry Education
- 5- Hongxia Zhang, Hassanali Azimi, MR Mahmoudian, Mehdi Ebadi, Razieh Moradi, Abbas Shirmardi, Ramin Yousefi, Efficient degradation of tetracycline antibiotics using a novel rGO/Ag/g-C<sub>3</sub>N<sub>4</sub> photocatalyst for hospital wastewater treatment, 2024, Journal of Environmental Management, 370, 122734
- 6- E Rasouli, WJ Basirun, MR Johan, M Rezayi, M.R. Mahmoudian, Electrochemical DNA-nano biosensor for the detection of cervical cancer-causing HPV-16 using ultrasmall Fe<sub>3</sub>O<sub>4</sub>-Au core-shell nanoparticles, 2023, Sensing and Bio-Sensing Research 40, 100562
- 7- M.R. Mahmoudian, L-Cysteine-assisted synthesis of polypyrrole-coated copper nanobelts and their application in the detection of hydrazine, Microchemical Journal 2022(183)107995
- 8- M.R. Mahmoudian, Synthesis and characterization of Fe<sub>3</sub>O<sub>4</sub>/Polyaniline microtube composite as electrochemical sensor for Lead (II) detection, Journal of Research on Many-body Systems 12 , 2022(1), 101-114
- 9- M.R. Mahmoudian, W.J. Basirun, P.M. Woi, Y. Alias, Synthesis of polyaniline microtubes/Pt reduced N-graphene oxide in the presence of L-glutamine for the detection of Hg<sub>2</sub><sup>+</sup>, Journal of Applied Electrochemistry 50, 2020 (12), 1269-1280
- 10- M.R. Mahmoudian, W.J. Basirun, Y. Alias, P. MengWoi, Investigating the effectiveness of g-C<sub>3</sub>N<sub>4</sub> on Pt/g-C<sub>3</sub>N<sub>4</sub>/polythiophene nanocomposites performance as an electrochemical sensor for Hg<sub>2</sub><sup>+</sup> detection, Journal of Environmental Chemical Engineering 8 , 2020(5), 104204

- 11-M.R. Mahmoudian, Y. Alias, P.M. Woi, R. Yousefi, W.J. Basirun, An electrochemical sensor based on Pt/g-C<sub>3</sub>N<sub>4</sub>/polyaniline nanocomposite for detection of Hg<sup>2+</sup>, *Advanced Powder Technology* 31, 2020 (8), 3372-3380
- 12-L. Shokrzadeh, P. Mohammadi, M.R. Mahmoudian, W.J. Basirun, M. Bahreini, L-glycine-assisted synthesis of SnO<sub>2</sub>/Pd nanoparticles and their application in detection of biodeteriorating fungi, *Materials Chemistry and Physics* 240, 2020, 122172
- 13-A. Saaedi, M. Moradi, M.H. Alkordi, M.R. Mahmoudian, G.H. Bordbar, Graphene-metal-organic framework modified gas sensor, *Functional Nanomaterials*, 2020, 117-142
- 14-M.R. Mahmoudian, W.J. Basirun, P.M. Woi, H. Hazarkhani, Y.B. Alias, Voltammetric sensing of formaldehyde by using a nanocomposite prepared by reductive deposition of palladium and platinum on polypyrrole-coated nitrogen-doped reduced graphene oxide, *Microchimica Acta* 186, 2019 (6), 1-12
- 15-R. Yousefi, M.R. Mahmoudian, The use of nanotechnology in preventing corrosion of metal pipe and equipment of Shahid Abbaspour Dam, *Journal of Dam and Hydroelectric Powerplant* 6, 2019 (20), 31-37
- 16-- MR Mahmoudian, WJ Basirun, PM Woi, R Yousefi, Y Alias, l-Glutamine-assisted synthesis of ZnO oatmeal-like/silver composites as an electrochemical sensor for Pb<sup>2+</sup> detection, *Analytical and bioanalytical chemistry*, 411, 2019 (2), 517-526
- 17- MR Mahmoudian, WJ Basirun, M Sookhakian, PM Woi, E Zalnezhad, Synthesis and characterization of  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/polyaniline nanotube composite as electrochemical sensor for uric acid detection, *Advanced Powder Technology*, 30, 2019 (2), 384-392
- 18- R Yousefi, HR Azimi, MR Mahmoudian, WJ Basirun, The effect of defect emissions on enhancement photocatalytic performance of ZnSe QDs and ZnSe/rGO nanocomposites, *Applied Surface Science* 435, 2018, 886-893
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- 20- M Cheraghizade, F Jamali-Sheini, R Yousefi, F Niknia, MR Mahmoudian, The effect of tin sulfide quantum dots size on photocatalytic and photovoltaic performance, *Materials Chemistry and Physics* 195, 2017, 187-194
- 21- F Jamali- Sheini, F Niknia, M Cheraghizade, R Yousefi, MR Mahmoudian, Broad Spectral Response of Se- Doped SnS Nanorods Synthesized through, *Electrodeposition, ChemElectroChem* 4 (6) 2017, 1478-1486
- 22- MR Mahmoudian, WJ Basirun, Y Alias, Synthesis of 3D hierarchical Ag/CuO nanostructures in the presence of l-histidine and their application, *Journal of Alloys and Compounds* 699, 2017, 803-811

- 23- M Sookhakian, WJ Basirun, MAM Teridi, MR Mahmoudian, M Azarang, Prussian blue-nitrogen-doped graphene nanocomposite as hybrid electrode for energy storage applications, *Electrochimica Acta* 230, 2017, 316-323
- 24-MR Mahmoudian, WJ Basirun, E Zalnezhad, M Ladan, Y Alias, L-Glutamine-assisted synthesis of flower-like NiO and ball-flower-like NiO/Ag as an electrochemical sensor for lead (II) detection, *RSC Advances* 7 (49)2017, 30870-30878
- 25- HR Azimi, M Ghoranneviss, SM Elahi, MR Mahmoudian, F Jamali-Sheini, Excellent photocatalytic performance under visible-light irradiation of ZnS/rGO nanocomposites synthesized by a green method, *Frontiers of Materials Science* 10 (4)2016, 385-393
- 26- R Yousefi, MR Mahmoudian, A Sa, M Cheraghizade, F Jamali-Sheini, Effect of annealing temperature and graphene concentrations on photovoltaic and NIR-detector applications of PbS/rGO nanocomposites, *Ceramics International* 42 (14)2016, 15209-15216
- 27- WJ Basirun, IM Saeed, H Ghadimi, M Ladan, MR Mahmoudian, M Ebadi, Lead corrosion and formation of lead oxides from a lead-air cell in methanesulfonic acid, *Journal of New Materials for Electrochemical Systems* 19 (4) 2016, 217-222
- 28-M.R. Mahmoudian, WJ Basirun, Y binti Alias, A sensitive dopamine biosensor based on polypyrrole coated palladium silver nanospherical composites, *Industrial & Engineering Chemistry Research*, 2016, 55 (25), pp 6943–6951.
- 29-Abdolhossein Sa, Ramin Yousefi, Farid Jamali-Sheini, Ali Khorsand Zak, Mohsen Cheraghizade, M.R. Mahmoudian, Mohammad Amin Baghchesara, Abbas Shirmardi Dezaki, XPS studies and photocurrent applications of alkali-metals-doped ZnO nanoparticles under visible illumination conditions, *Physica E: Low-dimensional Systems and Nanostructures* 79, 113-118
- 30-M.R. Mahmoudian, WJ Basirun, PM Woi, M Sookhakian, R Yousefi and Yatimah Alias, Synthesis and characterization of Co<sub>3</sub>O<sub>4</sub> ultra-nanosheets and Co<sub>3</sub>O<sub>4</sub> ultra-nanosheet-Ni (OH)<sub>2</sub> as non-enzymatic electrochemical sensors for glucose detection, *Materials Science and Engineering: C* 59, 500-508
- 31-M.R. Mahmoudian, WJ Basirun, Y Alias, A sensitive electrochemical Hg<sup>2+</sup> ions sensor based on polypyrrole coated nanospherical platinum, *RSC Advances* 6 (43), 36459-36466.
- 32-M Sookhakian, NA Ridwan, E Zalnezhad, GH Yoon, Majid Azarang, M.R. Mahmoudian, Y Alias, Layer-by-Layer Electrodeposited Reduced Graphene Oxide-Copper Nanopolyhedra Films as Efficient Platinum-Free Counter Electrodes in High Efficiency Dye-Sensitized Solar Cells, *Journal of The Electrochemical Society* 163 (5), D154-D159
- 33-Ramin Yousefi, M.R. Mahmoudian, Abdolhosain Sa, Mohsen Cheraghizade, Farid Jamali-Sheini, M Azarang, Effect of annealing temperature and graphene concentrations



on photovoltaic and NIR-detector applications of PbS/rGO nanocomposites, *Ceramics International*, Volume 79, May 2016, Pages 113–118

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39- Pooria Moozarm Nia, Author Vitae, Woi Pei Meng, Author Vitae, Farnaz Lorestani, Author Vitae, M.R. Mahmoudian, Author Vitae, Y. Alias, Electrodeposition of copper oxide/polypyrrole/reduced graphene oxide as a nonenzymatic glucose biosensor, *Sensors and Actuators B: Chemical*, 209, 31 2015, 100–108

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41-M.T. Tajabadi, W.J. Basirun, F. Lorestani, R. Zakaria, S. Baradaran, Y.M. Amin, M.R. Mahmoudian, M. Rezayi, M. Sookhakian, Nitrogen-doped graphene-silver nanodendrites for the non-enzymatic detection of hydrogen peroxide, *Electrochimica Acta*, 151, 2015, 126–133

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