RAZIUM ALI

BEIJING UNIVERSITY OF CHEMICAL TECHNOLOGY, BEIJING, CHINA

RESEARCHER

PROFESSIONAL PROFILE

As a dedicated researcher, my focus is on cutting-edge research in the fields of materials, nanomaterials designed for energy storage, and biosensors. Through my research endeavours, I have authored over 70 papers, including representative papers in prestigious journals such as Biosensors and Bioelectronics, Sensors and Actuators B, and Nano-micro-Letters.

CAREER SUMMARY

POSTDOCTORAL RESEARCHER (JAN-2019 TO JAN-25)

BEIJING ADVANCED INNOVATION CENTRE FOR SOFT MATTER SCIENCE AND ENGINEERING,
BEIJING UNIVERSITY OF CHEMICAL TECHNOLOGY, BEIJING, CHINA

Work description:(Synthesizing nanostructure-based platforms and their engineering in energy storage, supercapacitors, biosensors, and Battery applications)

Expertise: Electrochemistry, Battery systems, Supercapacitors, Electrochemical Biosensors.

SENIOR SCIENTIST/ASSISTANT PROFESSOR (NANOBIOTECHNOLOGY) (17-07-2017 TO 16-062018)

NATIONAL INSTITUTE FOR BIOTECHNOLOGY AND GENETIC ENGINEERING, PAKISTAN ATOMIC ENERGY COMMISSION (PAEC), PAKISTAN

Work description:(Synthesizing nanostructure-based platforms and their engineering in optical sensors, biosensors, and electrochemical sensors)

Expertise: Electrochemistry, Electrochemical Biosensors, Optical Sensor.

LECTURER (CHEMISTRY) (18-01-2012-TILL TO 15-07-2017)

UNIVERSITY OF SINDH AFFILIATED GOVERNMENT BOYS DEGREE COLLEGE QASIMABAD, HYDERABAD SINDH, PAKISTAN

Work description:(Delivered the lectures and taught the laboratory experiments to the undergraduate and intermediate students)

Expertise: Intermediate curriculum, Undergraduate curriculum.

RESEARCH PROJECTS

C0-PRINCIPAL INVESTIGATOR

HEC, PAKISTAN (NATIONAL RESEARCH PROGRAM FOR UNIVERSITIES (NRPU) (7207/FEDERAL/ NRPU/R&D/HEC/ 2017)

Title: (Development of carbon quantum dots-based electrochemical nano-biosensor for selective detection of clinically essential biomolecules)

RESEARCH FELLOWSHIP AWARD

RESEARCH FELLOW UNDER TUBITAK-2216 PROGRAM (JUNE 2015-DEC 2016)

INSTITUTE OF GENETICS AND BIOENGINEERING DEPARTMENT, FATIH UNIVERSITY, İSTANBUL, TURKEY

Training: (Electrochemical techniques and biosensors construction)

VISITING PHD FELLOWSHIP (JAN 2015 – JUNE 2015)

INTERFACE ANALYSIS CENTER, UNIVERSITY OF BRISTOL, UK

Training: (FE-SEM and XRD, XPS instrumentation)

EDUCATIONAL BACKGROUND

PHD/ ANALYTICAL CHEMISTRY/NANOSCIENCE & TECHNOLOGY (MS-LEADING) (JUL 2010 – JUNE 2016)

NATIONAL CENTRE OF EXCELLENCE IN ANALYTICAL CHEMISTRY, UNIVERSITY OF SINDH, JAMSHORO (76080) SINDH, PAKISTAN

Research Title: Synthesis, characterization, and application of metal and metal oxide nanostructures

Grading (CGPA: 3.77 out of 4.0)

B.S. CHEMISTRY (SILVER MEDALIST) (DEC 2005 – DEC 2009)

DR. M. A. KAZI INSTITUTE OF CHEMISTRY, UNIVERSITY OF SINDH, JAMSHORO (76080) SINDH, PAKISTAN

Grading (CGPA: 3.76 out of 4.0)

HSC/ PRE-ENNGINRING (AUG 2003- SEP 2005)

BOARD OF INTERMEDIATE & SECONDARY EDUCATION HYDERABAD, SINDH, PAKISTAN

Major Subjects - Chemistry, Physics, Mathematics, English

Grading (Grade: "A")

SSC/ SCIENCE (APR 2001-MAY 2003)

BOARD OF INTERMEDIATE & SECONDARY EDUCATION HYDERABAD, SINDH, PAKISTAN ISE HYDERABAD

Major Subjects - Chemistry, Physics, Maths, English

Grading (Grade: "A")

POST-COMPULSORY EDUCATION TEACHING QUALIFICATION

MASTER OF EDUCATION (OFF-CAMPUS) (JUL 2014- JUNE 2016)

UNIVERSITY OF SINDH, JAMSHORO (76080) SINDH, PAKISTAN

Grading (Class: Second)

BACHELOR OF EDUCATION (OFF-CAMPUS) (JUL 2012- JUNE 2014)

UNIVERSITY OF SINDH, JAMSHORO (76080) SINDH, PAKISTAN

Grading (Class: Second)

RESEARCH TRACK-RECORDS

RESEARCH SUMMARY

https://scholar.google.com/citations?user=O8ZRoX0AAAAJ&hl=en

https://www.webofscience.com/wos/alldb/summary/33742934-2467-4d0c-b0748a7b45a76867-bb87a111/relevance/1

PUBLICATIONS

REPRESENTATIVE PAPERS

1. Wei, Yi, Peng Zhang, **Razium Ali Soomro,** Qizhen Zhu, and Bin Xu. "Advances in the Synthesis of 2d Mxenes." **Advanced Materials,** 33 (2021): 2103148. ***(Cited: 426, IF: 29.4)***
2. Zhang, Peng, Qizhen Zhu, **Razium Ali Soomro,** Shiyu He, Ning Sun, Ning Qiao, and Bin Xu. "In Situ Ice Template Approach to Fabricate 3d Flexible Mxene Film-Based Electrode for High-Performance Supercapacitors." **Advanced Functional Materials,** 30 (2020): 2000922. ***(Cited: 213, IF: 19.92)***
3. Zhang, Peng, **Razium Ali Soomro,** Zhaoruxin Guan, Ning Sun, and Bin Xu. "3d Carbon-Coated Mxene Architectures with High and Ultrafast Lithium/Sodium-Ion Storage." **Energy Storage Materials,** 29 (2020): 163-71. ***(Cited: 151, IF: 20.83)***
4. **Razium Ali Soomro,** Syed Tufail Hussain Sherazi, Najma Memon, Mohammad Raza Shah, Nazar Hussain Kalwar, Keith Richard Hallam, and Afzal Shah. "Synthesis of Air Stable Copper Nanoparticles and Their Use in Catalysis." **J Advanced Materials Letters,** 5 (2014): 191-98. ***(Cited: 141, IF: 2.4)***
5. **Razium Ali Soomro,** Ayman Nafady, Najma Memon, Tufail H. Sherazi, and Nazar H. Kalwar. "L-Cysteine Protected Copper Nanoparticles as Colorimetric Sensor for Mercuric Ions." **Talanta**, 130 (2014): 415-22. ***(Cited: 104, IF: 6.56)***
6. **Razium Ali Soomro,** Zafar Hussain Ibupoto, Sirajuddin, Muhammad Ishaq Abro, and Magnus Willander. " Electrochemical Sensing of Glucose B, based on Novel Hedgehog-Like Nio Nanostructures." **Sensors and Actuators B: Chemical,** 209 (2015): 966-74. ***(Cited: 101, IF: 9.22)***
7. Wei, Yi, **Razium Ali Soomro,** Xiuqiang Xie, and Bin Xu. "Design of Efficient Electrocatalysts for Hydrogen Evolution Reaction Based on 2d Mxenes." **Journal of Energy Chemistry**, 55 (2021): 244-55. ***(Cited: 100, IF: 13.59)***
8. Fu, Feng, Huidong Shen, Wenwen Xue, Yanzhong Zhen, **Razium Ali Soomro,** Xiaoxia Yang, Danjun Wang, Bin Xu, and Ruan Chi. "Alkali-Assisted Synthesis of Direct Z-Scheme Based Bi2o3/Bi2moo6 Photocatalyst for Highly Efficient Photocatalytic Degradation of Phenol and Hydrogen Evolution Reaction." **Journal of Catalysis**, 375 (2019): 399-409. ***(Cited: 98, IF: 8.05)***
9. **Soomro, Razium Ali**, Sana Jawaid, Qizhen Zhu, Zaheer Abbas, and Bin Xu. "A Mini-Review on Mxenes as Versatile Substrate for Advanced Sensors." **Chinese Chemical Letters,** 31 (2020): 922-30. ***(Cited: 91, IF: 8.46)***
10. Ali, Asim, Rasool Bux Mahar, **Razium Ali Soomro,** and Syed Tufail Hussain Sherazi. "Fe3o4 Nanoparticles Facilitated Anaerobic Digestion of Organic Fraction of Municipal Solid Waste for Enhancement of Methane Production." **Energy Sources, Part A: Recovery, Utilization, and Environmental Effects**, 39 (2017): 1815-22. ***(Cited: 90, IF: 2.90)***
11. Kumar, Jai, Rana R. Neiber, Jaewon Park, **Razium Ali Soomro,** George W. Greene, Shaukat Ali Mazari, Heun Young Seo, Jin Hong Lee, Minyoung Shon, and Dong Wook Chang. "Recent Progress in Sustainable Recycling of Lifepo4-Type Lithium-Ion Batteries: Strategies for Highly Selective Lithium Recovery." **Chemical Engineering Journal**, 431 (2022): 133993. ***(Cited: 87; IF: 15.1)***
12. Jiang, Mingchi, Ning Sun, **Razium Ali Soomro,** and Bin Xu. "The Recent Progress of Pitch-Based Carbon Anodes in Sodium-Ion Batteries." **Journal of Energy Chemistry,** 55 (2021): 34-47. ***(Cited: 77, IF:***

13.59)

13. Liu, Wei, Danjun Wang, **Razium Ali Soomro,** Feng Fu, Ning Qiao, Yun Yu, Ran Wang, and Bin Xu. "Ceramic Supported Attapulgite-Graphene Oxide Composite Membrane for Efficient Removal of Heavy Metal Contamination." **Journal of Membrane Science,** 591 (2019): 117323. ***(Cited: 77; IF: 10.53)***
14. Tunesi, Mawada Mohammed, **Razium Ali Soomro,** Xi Han, Qizhen Zhu, Yi Wei, and Bin Xu. "Application of Mxenes in Environmental Remediation Technologies." **Nano Convergence**, 8 (2021): 1-19. ***(Cited: 67, IF: 10.04)***

OTHER PAPERS

1. Karakuş, Selcan, Sadam Hussain Tumrani, İbrahim Mizan Kahyaoğlu, **Razium Ali Soomro,** Sirajuddin, Riyadh H. Alshammari, Abdullah A. Al-Kahtani, and Ayman Nafady. "Wrinkled Mxene-Modified ScreenPrinted Electrodes for Highly Efficient Sarcosine Detection." **Biochemical Engineering Journal**, 202 (2024): 109151.
2. **Razium Ali Soomro,** Jai Kumar, Rana R. Neiber, Amerah M. Alotaibi, Shoyebmohamad F. Shaikh, Nazeer Ahmed, and Ayman Nafady. "Natural Oxidation of $\mathbf{Ti_3C_2T_x}$ to Construct Efficient $TiO_2/Ti_3C_2T_x$ Photoactive Heterojunctions for Advanced Photoelectrochemical Biosensing of Folate-Expressing Cancer Cells." **Analytica Chimica Acta**, 1251 (2023): 341016.
3. **Razium Ali Soomro,** Peng Zhang, Baomin Fan, Yi Wei, and Bin Xu. "Progression in the Oxidation Stability of Mxenes." **Nano-micro letters,** 15 (2023): 108.
4. Chang, Xiaqing, Ning Sun, Guang Li, Botao Yang, **Razium Ali Soomro,** and Bin Xu. "Capillary Evaporation-Induced Fabrication of Compact Flake Graphite Anode with High Volumetric Performance for Potassium Ion Batteries." **Advanced Materials Interfaces,** 10 (2023): 2201940.
5. Chang, Xiaqing, Ning Sun, Huanyu Zhou, **Razium Ali Soomro,** and Bin Xu. "Soft Carbon-Coated Bulk Graphite for Improved Potassium Ion Storage." **Chinese Chemical Letters,** 34 (2023): 107312.
6. Chang, Xiaqing, Qizhen Zhu, Qian Zhao, Peng Zhang, Ning Sun, **Razium Ali Soomro,** Xiaoxue Wang, and Bin Xu. "3d Porous Co_3O4/Mxene Foam Fabricated Via a Sulfur Template Strategy for Enhanced Li/KIon Storage." **ACS Applied Materials & Interfaces,** 15 (2023): 7999-8009.
7. Chen, He, Ning Sun, Yingxian Wang, **Razium Ali Soomro,** and Bin Xu. "One Stone Two Birds: Pitch Assisted Microcrystalline Regulation and Defect Engineering in Coal-Based Carbon Anodes for SodiumIon Batteries." **Energy Storage Materials**, 56 (2023): 532-41.
8. Fan, Baomin, Xiaoqi Zhao, Peng Zhang, Yi Wei, Ning Qiao, Biao Yang, **Razium Ali Soomro,** Ran Zhang, and Bin Xu. "Effect of Sodium Dodecyl Sulfate on Stability of Mxene Aqueous Dispersion." **Advanced Science** (2023): 2300273.
9. Kumar, Jai, Rana R. Neiber, Zaheer Abbas, **Razium Ali Soomro,** Amal BaQais, Mohammed A. Amin, and Zeinhom M. El-Bahy. "Hierarchical Nimn-Ldh Hollow Spheres as a Promising Pseudocapacitive Electrode for Supercapacitor Application." **Micromachines,** 14 (2023): 487.
10. Liu, Huan, Longfeng Hu, **Razium Ali Soomro,** and Bin Xu. "Organic Salt-Derived Phosphorus-Doped Mesoporous Carbon for High-Performance Supercapacitors." **Chinese Chemical Letters,** 34 (2023): 108004.

11. Ma, Taoxia, Chunming Yang, Li Guo, **Razium Ali Soomro,** Danjun Wang, Bin Xu, and Feng Fu. "Refining Electronic Properties of Bi2moo6 by in-Doping for Boosting Overall Nitrogen Fixation Via Relay Catalysis." **Applied Catalysis B: Environmental,** 330 (2023): 122643.
12. Naz, Gul, Rehan Imad, **Razium Ali Soomro,** Taghrid S. Alomar, Najla AlMasoud, Selcan Karakuş, and Zeinhom M. El-Bahy. "Au-Decorated Co3o4 Nanostructures for Plasmonic Enhanced Pec Sensing of Cancer Biomarkers." **Applied Physics A,** 129 (2023): 484.
13. Naz, Gul, Mohamed A. Salem, Bharat Prasad Sharma, Saleh D. Mekkey, **Razium Ali Soomro,** Selcan Karakuş, and Zeinhom M. El-Bahy. "Ti3c2tx-Au Hybrid Composites-Based Electrochemical Biosensors for Calreticulin Biomarker Detection." **Microchemical Journal,** 194 (2023): 109307.
14. Sun, Ning, Rui Zhao, Mengyao Xu, Shaohong Zhang, **Razium Ali Soomro,** and Bin Xu. "Design Advanced Nitrogen/Oxygen Co-Doped Hard Carbon Microspheres from Phenolic Resin with Boosted Na-Storage Performance." **Journal of Power Sources,** 564 (2023): 232879.
15. Tian, Xue, Peng Zhang, Yizhi Liao, **Razium Ali Soomro,** and Bin Xu. "Achieving Stable and Ultrafast Potassium Storage of Antimony Anode Via Dual Confinement of Mxene@ Carbon Framework." **Small Methods**, (2023): 2201525.
16. Tumrani, Sadam Hussain, Rana R. Neiber, Zartasha Pitafi, Inas A. Ahmed, **Razium Ali Soomro,** Mohamed M. Ibrahim, Selcan Karakuş, and Zeinhom M. El-Bahy. "Synergistic Integration of Few-Layer Thick Mxenes and Small Pd Nanocubes for Enhanced Electrochemical Nitrofurantoin Detection: Implications in Pharmaceutical Pollutant Monitoring." **Journal of Environmental Chemical Engineering,** 11, (2023): 111152.
17. Xin, Yue, Zhaoxin Yu, **Razium Ali Soomro,** and Ning Sun. "Facile Synthesis of Polyacrylic Acid/Graphene Oxide Composite Hydrogel Electrolyte for High-Performance Flexible Supercapacitors." **Coatings**, 13 (2023): 382.
18. Xu, Ran, Ning Sun, Huanyu Zhou, Xiaqing Chang, **Razium A. Soomro,** and Bin Xu. "Hard Carbon Anodes Derived from Phenolic Resin/Sucrose Cross-Linking Network for High-Performance Sodium-Ion Batteries." **Battery Energy**, 2 (2023): 20220054.
19. Yu, Jiaxu, Mingchi Jiang, Wei Zhang, Guang Li, **Razium Ali Soomro,** Ning Sun, and Bin Xu. "Advancements and Prospects of Graphite Anode for Potassium-Ion Batteries." **Small Methods** (2023): 2300708.
20. Zhang, Peng, Jiapeng Li, Deyu Yang, **Razium Ali Soomro,** and Bin Xu. "Flexible Carbon Dots-Intercalated Mxene Film Electrode with Outstanding Volumetric Performance for Supercapacitors." **Advanced Functional Materials**, 33 (2023): 2209918.
21. Zhang, Peng, Yi Wei, Shujie Zhou, **Razium Ali Soomro**, Mingchi Jiang, and Bin Xu. "A Metal-Organic Framework Derived Approach to Fabricate in-Situ Carbon Encapsulated Bi/Bi2o3 Heterostructures as High-Performance Anodes for Potassium Ion Batteries." **Journal of Colloid and Interface Science,** 630 (2023): 365-74.
22. Zhang, Shaohong, Ning Sun, Mingchi Jiang, **Razium Ali Soomro,** and Bin Xu. "Trash to Treasure: Sulfonation-Assisted Transformation of Waste Masks into High-Performance Carbon Anode for Sodium-Ion Batteries." **Carbon**, 209 (2023): 118034.
23. Zhou, Huanyu, Ning Sun, Jiaxu Yu, **Razium Ali Soomro,** Shaohong Zhang, and Bin Xu. "Microstructure Regulation of Resin-Based Hard Carbons Via Esterification Cross-Linking for High-Performance Sodium-Ion Batteries." **Inorganic Chemistry Frontiers**, 10 (2023): 2404-13.

24. Zhou, Sifan, Chunming Yang, Li Guo, **Razium Ali Soomro,** Maomao Niu, Zhixiong Yang, Rui Du, Danjun Wang, Feng Fu, and Bin Xu. "Synergism of Electronic Structure Regulation and Interface Engineering for Boosting Hydrogen Evolution Reaction on S-Scheme Fes2/S-Znsno3 Heterostructure." **Applied Surface Science**, 625 (2023): 157192.
25. Zhang, Wei, Ning Sun, He Chen, **Razium Ali Soomro,** and Bin Xu. "Molten Salt Assisted Fabrication of Coal-Based Carbon Anode Materials for Efficient Na Ion Storage." **Inorganic Chemistry Frontiers**, 10 (2023): 5117-26.
26. Nishat, Sumaira, Malik Wasim Abbas, Fazli Rabbi Awan, and **Razium Ali Soomro**. "Carbon NanodotsBased C-Dips for Rapid Colorimetric Detection of Clinically Important Metal Ions." **Kuwait Journal of Science**, 50 (2023): 1-12.
27. Du, Rui, Chuantao Wang, Li Guo, **Razium Ali Soomro,** Bin Xu, Chunming Yang, Feng Fu, and Danjun Wang. "Nis/Cd0. 6zn0. 4s Schottky Junction Bifunctional Photocatalyst for Sunlight-Driven Highly Selective Catalytic Oxidation of Vanillyl Alcohol Towards Vanillin Coupled with Hydrogen Evolution Reaction." **Small**, (2023): 2302330.
28. Chen, Anwen, Wei Liu, **Razium Ali Soomro,** Yi Wei, Xun Zhu, Ning Qiao, Yueqi Kang, and Bin Xu. "PvaIntegrated Graphene Oxide-Attapulgite Composite Membrane for Efficient Removal of Heavy Metal Contaminants." **Environmental Science and Pollution Research**, 29 (2022): 84410-20.
29. Chen, He, Ning Sun, Qizhen Zhu, **Razium Ali Soomro,** and Bin Xu. "Microcrystalline Hybridization Enhanced Coal-Based Carbon Anode for Advanced Sodium-Ion Batteries." **Advanced Science,** 9 (2022): 2200023.
30. Kumar, Jai, Ho Jin Jung, Rana R. Neiber, **Razium Ali Soomro,** Young Je Kwon, Naveed Ul Hassan, Minyoung Shon, Jin Hong Lee, Kyung-Youl Baek, and Kie Yong Cho. "Recent Advances in Oxygen Deficient Metal Oxides: Opportunities as Supercapacitor Electrodes." **International Journal of Energy Research**, 46 (2022): 7055-81.
31. Kumar, Jai, Rana R. Neiber, Ayman Nafady, Munirah D. Albaqami, **Razium Ali Soomro,** Marwa Baraka, Nazeer Ahmed, and Selcan Karakuş. "Robust Electrochemical Sensors for Detection of Isoprenaline Using Hexagonal Co3o4 Nanoplates Embedded in Few-Layer Ti3c2tx Nanosheets." **ACS Applied Nano Materials,** 5 (2022): 11352-60.
32. Kumar, Jai, **Razium Ali Soomro,** Rana R. Neiber, Nazeer Ahmed, Shymaa S. Medany, Munirah D. Albaqami, and Ayman Nafady. "Ni Nanoparticles Embedded Ti3c2tx-Mxene Nanoarchitectures for Electrochemical Sensing of Methylmalonic Acid." **Biosensors**, 12 (2022).
33. Li, Kangle, Peng Zhang, **Razium Ali Soomro,** and Bin Xu. "Alkali-Induced Porous Mxene/Carbon Nanotube-Based Film Electrodes for Supercapacitors." **ACS Applied Nano Materials**, 5 (2022): 4180-86.
34. Neiber, Rana R., Jai Kumar, **Razium Ali Soomro,** Selcan Karkus, Hala M. Abo-Dief, Abdullah K. Alanazi, Amal A. Altalhia, and Zeinhom M. El-Bahy. "Niznco04/Cowo4 Hybrid Composite with Improved Electrochemical Performance for Supercapacitor Application." **Journal of Energy Storage,** 52 (2022): 104900.
35. Wei, Yi, Wenhui Hou, Peng Zhang, **Razium Ali Soomro,** and Bin Xu. "Bi2s3 Nanorods Encapsulated in Iodine-Doped Graphene Frameworks with Enhanced Potassium Storage Properties." **Chinese Chemical Letters**, 33 (2022): 3212-16.

36. Solangi, Nizamuddin, Jai Kumar, Gul Naz, and **Razium Ali Soomro.** "The Preparation of Nico2o4 Nanoboulders and Their Application in the Electrochemical Detection of Ofloxacin Drug." **JCIS Open,** 6 (2022): 100054.
37. Zhang, Peng, Yanmeng Peng, Qizhen Zhu, **Razium Ali Soomro,** Ning Sun, and Bin Xu. "3d Foam-Based Mxene Architectures: Structural and Electrolytic Engineering for Advanced Potassium-Ion Storage." **Energy & Environmental Materials**, (2022).
38. Bashir, Shahid, Khadija Hasan, Maryam Hina, **Razium Ali Soomro,** M. A. Mujtaba, S. Ramesh, Kasi Ramesh, Navaneethan Duraisamy, and Rishya Manikam. "Conducting Polymer/Graphene Hydrogel Electrodes Based Aqueous Smart Supercapacitors: A Review and Future Prospects." **Journal of Electroanalytical Chemistry,** 898 (2021): 115626.
39. Tumrani, Sadam Hussain, **Razium Ali Soomro,** Xiao Zhang, Danish Ali Bhutto, Nabi Bux, and Xiaodong Ji. "Coal Fly Ash Driven Zeolites for the Adsorptive Removal of the Ceftazidime Drug." **RSC Advances**, 11 (2021): 26110-19.
40. Zhang, Peng, Bin Cao, **Razium Ali Soomro,** Ning Sun, and Bin Xu. "Se-Decorated Sno2/Rgo Composite Spheres and Their Sodium Storage Performances." **Chinese Chemical Letters,** 32 (2021): 282-85.
41. Zhang, Peng, Ning Sun, **Razium Ali Soomro,** Shufang Yue, Qizhen Zhu, and Bin Xu. "InterfaceEngineered Fe3o4/Mxene Heterostructures for Enhanced Lithium-Ion Storage." **ACS Applied Energy Materials**, 4 (2021): 11844-53.
42. Karakus, Selcan, Ezgi Tan, Merve Ilgar, Yeşim Müge Sahin, Demet Sezgin Mansuroglu, Deniz İsmik, **Razium Ali Somroo**, and Ayben Kilislioglu. "Swelling Behaviour, Rheological Property and Drug Release Profile of the Anti-Inflammatory Drug Metamizole Sodium from Xanthan Gum–Zno Nanoparticles." **Polymer Bulletin,** (2021): 1-24.
43. **Razium Ali Soomro,** Sana Jawaid, Peng Zhang, Xi Han, Keith Richard Hallam, Selcan Karakuş, Ayben Kilislioğlu, Bin Xu, and Magnus Willander. "Niwo4-Induced Partial Oxidation of Mxene for PhotoElectrochemical Detection of Prostate-Specific Antigen." **Sensors and Actuators B: Chemical**, 328 (2021): 129074.
44. He, Shiyu, Qizhen Zhu, **Razium Ali Soomro,** and Bin Xu. "Mxene Derivatives for Energy Storage Applications." **Sustainable Energy & Fuels**, 4 (2020): 4988-5004.
45. **Razium Ali Soomro,** Sana Jawaid, Nazar Hussain Kalawar, Mawada Tunesi, Selcan Karakuş, Ayben Kilislioğlu, and Magnus Willander. "In-Situ Engineered Mxene-Tio2/Bivo4 Hybrid as an Efficient Photoelectrochemical Platform for Sensitive Detection of Soluble Cd44 Proteins." **Biosensors and Bioelectronics**, 166 (2020): 112439.
46. **Razium Ali Soomro**, Nazar Hussain Kalwar, Sana Jawaid, and Mawada Mohamed Tunesi. "Advance Nanostructure-Based Electrochemical Sensors for Pharmaceutical Drugs Detection." **Nanosensor Technologies for Environmental Monitoring**, (2020): 471-89.
47. Abbas, Malik Waseem, **Razium Ali Soomro,** Nazar Hussain Kalwar, Mehvish Zahoor, Ahmet Avci, Erol Pehlivan, Keith Richard Hallam, and Magnus Willander. "Carbon Quantum Dot Coated Fe3o4 Hybrid Composites for Sensitive Electrochemical Detection of Uric Acid." **Microchemical Journal,** 146 (2019): 517-24.
48. Abbas, Zaheer, **Razium Ali Soomro,** Nazar Hussain Kalwar, Mawada Tunesi, Magnus Willander, Selcan Karakuş, and Ayben Kilislioğlu. "In Situ Growth of Cuwo4 Nanospheres over Graphene Oxide for Photoelectrochemical (Pec) Immunosensing of Clinical Biomarker." **Sensors,** 20 (2019): 148.

49. Adnan, Sumaira, Nazar Hussain Kalwar, Malik Waseem Abbas, **Razium Ali Soomro,** Mumtaz Ali Saand, Fazli Rabbi Awan, Ahmet Avci, Erol Pehlivan, and Sadia Bajwa. "Enzyme-Free Colorimetric Sensing of Glucose Using L-Cysteine Functionalized Silver Nanoparticles." **SN Applied Sciences,** 1 (2019): 1-9.
50. **Razium Ali Soomro**, Nazar Hussain Kalwar, Ahmet Avci, Erol Pehlivan, Keith Richard Hallam, and Magnus Willander. "In-Situ Growth of Niwo4 Saw-Blade-Like Nanostructures and Their Application in Photo-Electrochemical (Pec) Immunosensor System Designed for the Detection of Neuron-Specific Enolase." **Biosensors and Bioelectronics**, 141 (2019): 111331.
51. Mahesar, Sarfaraz A., Saeed Ahmed Lakho, Syed Tufail Hussain Sherazi, Hamid Ali Kazi, Kamran Ahmed Abro, **Razium Ali Soomro,** and Andrei A. Bunaciu. "Recent Progress in the Analysis of Captopril Using Electrochemical Methods: A Review." **Current Analytical Chemistry**, 15 (2019): 198-206.
52. Tunesi, Mawada Mohamed, Nazar Hussain Kalwar, **Razium Ali Soomro,** Selcan Karakus, Sana Jawaid, and Muhammad Ishaq Abro. "Tartaric Acid Assisted in-Situ Growth of Cuo Nanostructures over Ito Substrate for the Electrocatalytic Detection of Sudan I." **Materials Science in Semiconductor Processing**, 75 (2018): 296-300.
53. Zahoor, Mehvish, Amara Arshad, Yaqoob Khan, Mazhar Iqbal, Sadia Zafar Bajwa, **Razium Ali Soomro,** Ishaq Ahmad, Faheem K. Butt, M. Zubair Iqbal, and Aiguo Wu. "Enhanced Photocatalytic Performance of Ceo 2–Tio 2 Nanocomposite for Degradation of Crystal Violet Dye and Industrial Waste Effluent." **Applied Nanoscience,** 8 (2018): 1091-99.
54. Jagirani, Muhammad Saqaf, Sarfaraz Ahmed Mahesar, Syed Tufail Hussain Sherazi, Munawar Saeed Qureshi, **Razium Ali Soomro,** Saeed Ahmed Lakho, Safia Sanam Memon, and Abdul Hameed Kori. "Electrochemical Oxidation of Methotrexate Using Pheniramine Maleate Functionalized Gold Nanoparticles Modified Electrode." **Sensor Letters**, 16 (2018): 8-12.
55. Abro, Muhammad Ishaq, Selcan Karakus, **Razium Ali Soomro,** Keith Richard Hallam, Ayben Kilislioglu, Mawada Mohamed Tunesi, Nazar Kalwar, and Malik Waseem Abbas. "Functionalised Cuo Nanostructures for the Detection of Organophosphorus Pesticides: A Non-Enzymatic Inhibition Approach Coupled with Nano-Scale Electrode Engineering to Improve Electrode Sensitivity." **Sensors and Actuators B,** 260 (2018): 480-89.
56. Kalwar, Nazar Hussain, Mawada Mohamed Tunesi, **Razium Ali Soomro,** Md Amir, Ahmet Avci, Keith Richard Hallam, Ayben Kilislioglu, and Selcan Karakus. "Acetylsalicylic Acid Assisted Hydrothermal Growth of Nio, Cuo and Co3o4 Nanostructures and Their Application in the Electro-Catalytic Determination of Nalbuphine Hydrochloride." **Journal of Electroanalytical Chemistry,** 807 (2017): 137-44.
57. Lakho, Saeed Ahmed, Sarfaraz Ahmed Mahesar, Abdul Rauf Khaskheli, Syed Tufail Hussain Sherazi, Muhammad Saqaf Jagirani, and **Razium Ali Soomro**. "Kaolinite Modified Carbon Paste Electrode for the Sensitive Determination of Captopril." **Sensor Letters,** 15 (2017): 371-74.
58. Mohamed Tunesi, Mawada, **Razium Ali Soomro,** and Ramazan Ozturk. "The in Situ Growth of Cuo Nanostructures on an Ito Substrate and Its Application as a Highly Sensitive Electrode for the Electrochemical Determination of N-Acetyl-L-Cysteine." **Journal of Materials Chemistry C**, 5 (2017): 2708-16.
59. Rajar, Kausar, **Razium Ali Soomro,** Zaffar Hussain Ibupoto, Sirajuddin, and Aamna Balouch. "Tannic Acid Assisted Copper Oxide Nanoglobules for Sensitive Electrochemical Detection of Bisphenol A." **International Journal of Food Properties**, 20 (2017): 1359-67.

60. Shad, Naveed A., Mehvish Zahoor, Khizra Bano, Sadia Z. Bajwa, Nasir Amin, Ayesha Ihsan, **Razium Ali Soomro,** Adnan Ali, M. Imran Arshad, and Aiguo Wu. "Synthesis of Flake-Like Bismuth Tungstate (Bi2wo6) for Photocatalytic Degradation of Coomassie Brilliant Blue (Cbb)." **Inorganic Chemistry Communications**, 86 (2017): 213-17.
61. **Razium Ali Soomro,** Qurratlein Baloach, Aneela Tahira, Zafar Hussain Ibupoto, Ghulam Qadir Khaskheli, Sirajuddin, Vinod Kumar Deewani, Keith Richard Hallam, Kausar Rajar, and Magnus Willander. "Rice-Like Cuo Nanostructures for Sensitive Electrochemical Sensing of Hydrazine." **Microsystem Technologies**, 23 (2017): 731-38.
62. **Razium Ali Soomro,** Mawada Mohamed Tunesi, Selcan Karakus, and Nazar Kalwar. "Highly Sensitive Electrochemical Determination of Captopril Using Cuo Modified Ito Electrode: The Effect of in Situ Grown Nanostructures over Signal Sensitivity." **RSC Advances**, 7 (2017): 19353-62.
63. **Razium Ali Soomro,** Ayman Nafady, Keith Richard Hallam, Sana Jawaid, Abdullah Al Enizi, Syed Tufail Hussain Sherazi, Zafar Hussain Ibupoto, and Magnus Willander. "Highly Sensitive Determination of Atropine Using Cobalt Oxide Nanostructures: Influence of Functional Groups on the Signal Sensitivity." **Analytica Chimica Acta,** 948 (2016): 30-39.
64. Tunesi, Mawada Mohamed, **Razium Ali Soomro,** and Ramazan Ozturk. "Cuo Nanostructures for Highly Sensitive Shape Dependent Electrocatalytic Oxidation of N-Acetyl-L-Cysteine." **Journal of Electroanalytical Chemistry,** 777 (2016): 40-47.
65. **Razium Ali Soomro,** Ozlem Polat Akyuz, Ramazan Ozturk, and Zafar Hussain Ibupoto. "Highly Sensitive Non-Enzymatic Glucose Sensing Using Gold Nanocages as Efficient Electrode Material." Sensors and Actuators B: Chemical 233 (2016): 230-36.
66. **Razium Ali Soomro,** Zafar Hussain Ibupoto, Sirajuddin, Syed Tufail Hussain Sherazi, Muhammad Ishaq Abro, and Magnus Willander. "Practice of Diclofenac Sodium for the Hydrothermal Growth of Nio Nanostructures and Their Application for Enzyme Free Glucose Biosensor." **Microsystem Technologies**, 22 (2016): 2549-57.
67. **Razium Ali Soomro,** Keith Richard Hallam, Zafar Hussain Ibupoto, Aneela Tahira, Syed Tufail Hussain Sherazi, Siraj Juddin, Sana Jawaid, and Magnus Willander. "Glutaric Acid Assisted Fabrication of Cuo Nanostructures and Their Application in Development of Highly Sensitive Electrochemical Sensor System for Carbamates." **Electroanalysis**, 28 (2016): 1634-40.
68. **Razium Ali Soomro,** Keith Richard Hallam, Zafar Hussain Ibupoto, Aneela Tahira, Syed Tufail Hussain Sherazi, Sirajjuddin, Safia Sanam Memon, and Magnus Willander. "Amino Acid Assisted Growth of Cuo Nanostructures and Their Potential Application in Electrochemical Sensing of Organophosphate Pesticide." **Electrochimica Acta**, 190 (2016): 972-79.
69. Rauf Khaskheli, Abdul, Saba Naz, **Razium Ali Soomro,** Faruk Ozul, Abdalaziz Aljabour, Nazar Hussain Kalwar, Abdul Waheed Mahesar, Imren Hatay Patir, and Mustafa Ersoz. "L-Lysine Derived Nickel Nanoparticles for Reductive Degradation of Organic Dyes." **Advanced Materials Letters,** 7 (2016): 616-21.
70. Shaikh, Tayyaba, Ayman Nafady, Farah N. Talpur, Muhammad H. Agheem, Muhammad R. Shah, Syed Tufail H. Sherazi, **Razium Ali Soomro,** and Samia Siddiqui. "Tranexamic Acid Derived Gold Nanoparticles Modified Glassy Carbon Electrode as Sensitive Sensor for Determination of Nalbuphine." **Sensors and Actuators B: Chemical**, 211 (2015): 359-69.

71. Balouch, Quratulain, Zafar Hussain Ibupoto, Ghulam Qadir Khaskheli, **Razium Ali Soomro,** Sirajuddin, Muhammad Kashif Samoon, and Vinod Kumar Deewani. "Cobalt Oxide Nanoflowers for Electrochemical Determination of Glucose." **Journal of Electronic Materials,** 44 (2015): 3724-32.
72. Ibupoto, Zafar Hussain, Aynam Nafady, **Razium Ali Soomro,** Syed Tufail Hussain Sherazi, Muhammad Ishaq Abro, and Magnus Willander. "Glycine-Assisted Synthesis of Nio Hollow Cage-Like Nanostructures for Sensitive Non-Enzymatic Glucose Sensing." **RSC Advances**, 5 (2015): 18773-81.
73. Kalwar, Nazar H., Ayman Nafady, Syed Tufail H. Sherazi, **Razium Ali Soomro,** Keith R. Hallam, Abdul R. Khaskheli, and Asif A. Jamali. "Catalytic Degradation of Imidacloprid Using L-Serine Capped Nickel Nanoparticles." **Materials Express**, 5 (2015): 121-28.
74. Kalwar, Nazar Hussain, Ayman Nafady, **Razium Ali Soomro,** Sirajuddin, Syed Tufail Hussain Sherazi, Abdul Rauf Khaskheli, and Keith Richard Hallam. "Microwave-Assisted Synthesis of L-Cysteine-Capped Nickel Nanoparticles for Catalytic Reduction of 4-Nitrophenol." **Rare Metals**, 34 (2015): 683-91.
75. **Razium Ali Soomro,** Zafar Hussain Ibupoto, Syed Tufail Hussain Sherazi, Muhammad Ishaq Abro, Magnus Willander, Sarfaraz Ahmed Mahesar, and Nazar Hussain Kalwar. "Glycine-Assisted Preparation of Co3o4 Nanoflakes with Enhanced Performance for Non-Enzymatic Glucose Sensing." **Materials Express**, 5 (2015): 437-44.
76. **Razium Ali Soomro,** Aynam Nafady, Zafar Hussain Ibupoto, Syed Tufail Hussain Sherazi, Magnus Willander, and Muhammad Ishaq Abro. "Development of Sensitive Non-Enzymatic Glucose Sensor Using Complex Nanostructures of Cobalt Oxide." **Materials Science in Semiconductor Processing,** 34 (2015): 373-81.
77. **Razium Ali Soomro,** Zafar Hussain Ibupoto, Sirajuddin, Muhammad Ishaq Abro, and Magnus Willander. "Controlled Synthesis and Electrochemical Application of Skein-Shaped Nio Nanostructures." **Journal of Solid-State Electrochemistry**, 19 (2015): 913-22.
78. **Razium Ali Soomro,** Keith Richard Hallam, Zafar Hussain Ibupoto, Aneela Tahira, Sana Jawaid, Syed Tufail Hussain Sherazi, and Magnus Willander. "A Highly Selective and Sensitive Electrochemical Determination of Melamine Based on Succinic Acid Functionalized Copper Oxide Nanostructures." **RSC Advances,** 5 (2015): 105090-97.
79. **Razium Ali Soomro,** and Ayman Nafady. "Catalytic Reductive Degradation of Methyl Orange Using Air Resilient Copper Nanostructures." **Journal of Nanomaterials**, 16 (2015): 120-20.
80. Kalwar, Nazar Hussain, **Razium Ali Soomro,** Syed Tufail Hussain Sherazi, Keith Richard Hallam, and Abdul Rauf Khaskheli. "Synthesis and Characterization of Highly Efficient Nickel Nanocatalysts and Their Use in Degradation of Organic Dyes." **International Journal of Metals**, 2014 (2014): 126103.
81. Kalwar, Nazar Hussain, Syed Tufail Hussain Sherazi, Abdul Rauf Khaskheli, Keith Richard Hallam, Thomas Bligh Scott, Zulfiqar Ali Tagar, Syeda Sara Hassan, and **Razium Ali Soomro**. "Fabrication of Small L-Threonine Capped Nickel Nanoparticles and Their Catalytic Application." **Applied Catalysis A: General,** 453 (2013): 54-59.

BOOK CHAPTER

1. **Soomro, Razium Ali,** Kalwar, N. H., Jawaid, S., & Tunesi, M. M. **(2020).** Advance Nanostructure-Based Electrochemical Sensors for Pharmaceutical Drugs Detection Nanosensor, Technologies for Environmental Monitoring (pp. 471-489): Springer, Cham.

2. **Soomro, Razium Ali (2020).** Development of Biosensors for Drug Detection Applications. Nanobiosensors: From Design to Applications, 203-222.

Special Issue on Nanoimmunosensor

MICROMACHINES MDPI (I.F 2.8)

Special Issue on Advances in Electrochemical Supercapacitors and Their Application in Energy Storage

FRONTIERS IN CHEMISTRY (I.F 5.545)

Advancements in Sustainable Energy Technologies