

CURRICULUM VITAE

Dr. Ghulam Mustafa Kamal

Associate Professor of Analytical Chemistry

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Languages Spoken: English (Fluent); Chinese (Basic); Urdu (Native); Arabic (Basic)

Dr. Kamal serves in the Institute of Chemistry, Khwaja Fareed University of Engineering & Information Technology Rahim Yar Khan, Pakistan. He is an experienced teacher and researcher of analytical chemistry with around 8 years of experience. He obtained PhD degree from University of Chinese Academy of Sciences Beijing China by availing the prestigious CAS-TWAS President's Fellowship. After his PhD, he also worked at Government College University Faisalabad Pakistan. Research area of Dr. Kamal is mainly focused on Analytical & Bioanalytical Chemistry covering the fields of food, nutrition and disease/drug metabolomics, food chemistry, environmental chemistry. To date Dr. Kamal has published 53 journal papers with several in high impact factor journals. Dr. Kamal has also published 08 book chapters and participated in several national and international conferences/seminars/trainings. He has also focussed his research on the valorisation of bio wastes into value added products and 03 of such ideas have been filed as patents. Till date Dr. Kamal has supervised 43 MS and 02 PhD Chemistry students. He has completed 02 Start-up Research Grants from Higher Education Commission of Pakistan in the capacity of PI and Co-PI. He also won a big research grant (on-going) from Higher Education Commission of Pakistan as PI.

ACADEMIC EXPERIENCE:

Aug, 2023-Current	Associate Professor , Institute of Chemistry, Khwaja Fareed-UEIT Rahim Yar Khan, Pakistan
Oct, 2018 –Aug, 2023	Assistant Professor , Institute of Chemistry, Khwaja Fareed-UEIT Rahim Yar Khan, Pakistan
Apr, 2017 to Apr, 2018	Assistant Professor , Department of Chemistry GC University Faisalabad, Pakistan
Apr 15 to May 14, 2025	Visiting Research Scientist at Tongji Hospital affiliated with Huazhong University of Science & Technology Wuhan China

EDUCATION:

Ph.D. (Analytical Chemistry), 2017: University of Chinese Academy of Sciences (UCAS), Beijing, China.

Supervisor: Academician Prof. Maili Liu, National Centre of Magnetic Resonance in Wuhan, Wuhan Institute of Physics & Mathematics Wuhan China

PhD Thesis Title: *NMR Spectroscopy Combined with Multivariate Statistical Analysis for the Differentiation of Types and Origin of Soy sauce (04 research articles)*

MSc. Chemistry, 2008: University of Agriculture Faisalabad, Faisalabad Punjab Pakistan; **1st class**

Supervisor: Prof. Dr. Farooq Anwar, Dean Faculty of Sciences, University of Sargodha, Sargodha Pakistan

Master Thesis Title: *Chemical Composition of Peel Essential Oil of Three Different Citrus Species; Kinnow (Citrus reticulata), Mussammi (Citrus sinensis) and Grape fruit (Citrus paradisi) (02 research articles)*

BSc, 2001: The Islamia University of Bahawalpur Punjab Pakistan; **1st class**

RESEARCH EXPERTISE/INTERESTS:

- NMR, LC-MS and GC-MS –omics studies specially for food and environmental sciences
- HPLC and GC analysis for volatiles, bioactives and environmental contaminants
- Interpretation of NMR and MS spectral data for -omics studies
- Multivariate data analysis for –omics
- Biological activities of foods as an index of their quality and pharmacological potential
- Metabolomics/metabonomics for drug studies, disease metabolisms etc.
- Sustainable valorisation of biowastes into value added products
- Health risk assessment of potentially toxic elements & other pollutants in foods
- Assessment of endocrine disrupting agents in packed foods and their risk assessment

SOFTWARE SKILLS:

- Expertise in using advanced software like SIMCA, MATLAB, ChemBio Draw, Adobe Photoshop, NMRSpec and Origin Pro etc.

RESEARCH FUNDINGS AWARDED:

- **HEC Start-up Research Grant (PKR 0.48 million)**, 2017 by Higher Education Commission of Pakistan Islamabad. “Metabolite profiling of fresh juice and peel essential oils of selected Rutaceae species and evaluation of their antimalarial potential”. (PI; Completed).
- **HEC Start-up Research Grant (PKR 1.0 million)**, 2021 by Higher Education Commission of Pakistan. “Liquid crystal/aqueous interface for real time detection of analytes in bio-fluids for clinical applications”. (PI; Completed).

- **HEC NRP Grant (PKR 13.93 million)** 2022, Higher Education Commission of Pakistan. “Assessment of Bisphenol Endocrine Disrupting Agents in Milk, Water and Soft Drinks Sold in Pakistan”. (PI; Continue).

PATENTS FILED:

1. **“Method for date fruit syrup preparation”** filed in “Intellectual Property Organization (IPO) Pakistan”.
2. **“Method for separation of cellulose nanocrystals from date spathe sheath”** filed in “Intellectual Property Organization (IPO) Pakistan”.

JOURNAL RESEARCH ARTICLES: (*Total citations: 1406; h-index: 20*)

1. Muhamad Shahbaz Gul, Asma Sabir, **Ghulam Mustafa Kamal***, Muhammad Saqib, Jalal Uddin, Muhammad Sarfraz, Syed Ghulam Musharraf. **2025**. The concentration and health risk assessment of potentially toxic elements (PTEs) in mustard greens. *Arabian J. Chemistry*. DOI: 10.25259/AJC_135_2024. (IF 5.3)
2. **Ghulam Mustafa Kamal**, Jalal Uddin, Mufarreh Asmari, Ayesha Noreen, Atif Liaqat, Asma Sabir, Jallat Khan, Rabia Iqbal, Aanchal Sharma, Gulzar Ahmad Nayik, Robert Mugabi, Syed Ghulam Musharraf. **2025**. Natural polyphenols as a promising aquatic food preservative: A concurrent review. *Journal of Agriculture and Food Research*. 22(2025):102046. DOI: <https://doi.org/10.1016/j.jafr.2025.102046>. (IF 4.8).
3. **Ghulam Mustafa Kamal**, Iqra Anwar, Kainat Saadullah, Attila Gere, Samra Yasmin, Jalal Uddin, Abdullah Ijaz Hussain, Gulzar Ahmad Nayik. **2025**. Extraction, quantification and health risk assessment of bisphenol A from various kinds of packaged milk and baby bottles. *Food Chemistry X*. 27(2025): 102387. DOI: <https://doi.org/10.1016/j.fochx.2025.102387>. (IF 6.5)
4. Ashraf, I., Bestman, P. L., Assiri, A. A., **Kamal, G. M.**, Uddin, J., Luo, J., Orayj, K. M., & Ishaqui, A. A. **2024**. Status of Inappropriate Complementary Feeding and Its Associated Factors Among Infants of 9–23 Months. *Nutrients*, 16(24), 4379. <https://doi.org/10.3390/nu16244379> (IF 4.8)
5. Nadeem Muhammad, Amjad Ali, Hairong Cui, Abdullatif Bin Muhsinah, Muhammad Abdul Qadir, **Ghulam Mustafa Kamal***, Jalal Uddin, Shoaib Munir. **2024**. An investigation of the potential of rhodamine B hydrazide as a fluorescent probe for enhancing latent fingerprints. *Results in Chemistry*, 13, 2025, 101946. DOI: <https://doi.org/10.1016/j.rechem.2024.101946>. (IF 2.5)
6. Sabir, A.; Ali Shahid Chatha, S.; **Mustafa Kamal, G***; Bibi, S.; Sohail, N.; Alshammari, A.; Albekairi, N.A.; Chopra, H. **2024**. Extraction, Chemical Modification, and Assessment of Antioxidant Potential of Pectin from Pakistani *Punica granatum* Peels. *Sustainability* 16(24), 10454. <https://doi.org/10.3390/su162310454>. (IF 3.3)

7. Jalal Uddin, Samra Yasmin, **Ghulam Mustafa Kamal***, Mufarreh Asmari, Muhammad Saqib, Heyu Chen. 2024. Changes in Metabolite Profiles of Chinese Soy Sauce at Different Time Durations of Fermentation Studied by ¹H-NMR-Based Metabolomics. *Metabolites* 2024, 14, 285. <https://doi.org/10.3390/metabo14050285>. (IF 4.1).
8. Noor Ul Ain Khakwani, Muhammad Aadil, Imad Barsoum, Zubair Ahmad, **Ghulam Mustafa Kamal***, Md Rezaul Karim, Asma A. Alothman, Muhammad Farooq Warsi*. 2024. Tailoring the physical, optical, and structural properties of bismuth oxide to enhance its anionic, cationic, and phenol dye degradation activities. *Ceramics International*. 50(18): 33333-33344. <https://doi.org/10.1016/j.ceramint.2024.06.143>. (IF 5.2).
9. Jalal Uddin, Mehwish Fatima, Ammara Riaz, **Ghulam Mustafa Kamal***, Abdullatif Bin Muhsinah, Abdul Razzaq Ahmed, Ramsha Iftikhar. 2024. Pharmacological Potential of Micheliolide: A Focus on anti-inflammatory and anticancer activities. *Heliyon*. 5;10(6):e27299. doi: 10.1016/j.heliyon.2024.e27299. (IF 4.0).
10. Muhammad Saqib*, Muhammad Sagir, Munawar Lal Joshi, Shahida Bashir, Mohamed Ibrahim Halawa, Saman Ali, Hosam O Elansary*, **Ghulam Mustafa Kamal**. 2024. Screening and designing of a large chemical space of organic semiconductors for photodetectors. *Materials Today Communications*. <https://doi.org/10.1016/j.mtcomm.2024.108062>. (IF 3.8).
11. Ramsha Iftikhar, Iqra Parveen, Aqsa Mazhar, Muhammad Saqlain Iqbal, **Ghulam Mustafa Kamal**, Freeha Hafeez, Pang Ai Ling, Mohsen Ahmadipour*. 2023. Small Organic Molecules as Fluorescent sensors for the Detection of Highly Toxic Heavy Metal Cations in Portable Water. *Journal of Environmental Chemical Engineering*. 11(1): 109030. <https://doi.org/10.1016/j.jece.2022.109030>. (IF 7.968).
12. **Ghulam Mustafa Kamal**, Nafia Nazi, Asma Sabir, Muhammad Saqib, Xu Zhang*, Bin Jiang*, Jallat Khan, Ayesha Noreen, Jalal Uddin and Shahzad Murtaza. 2023. Yield and chemical composition of ginger essential oils as affected by inter-varietal variation and drying treatments of rhizome. *Separations*. 10, 186. <https://doi.org/10.3390/separations10030186>. (IF 3.3).
13. Jehad Saleh, Sajjad Haider, Muhammad Saeed Akhtar, Muhammad Saqib*, Muqadas Javed, Sayed Elshahat and **Ghulam Mustafa Kamal**. 2023. Prediction of Organic Semiconductors for Photodetectors and Mining of a Photovoltaic Database to Search for New Building Units. *Molecules*. 28, 1240. <https://doi.org/10.3390/molecules28031240>. (IF 4.9).
14. Nazir, A.*; Tahir, M.S.; **Kamal, G.M.**; Zhang, X*.; Tahir, M.B.; Jiang, B.; Safdar, M. 2023. Fabrication of Ternary MoS₂/CdS/Bi₂S₃-Based Nano Composites for Photocatalytic Dye Degradation. *Molecules*. 28, 3167. <https://doi.org/10.3390/molecules28073167>. (IF 4.9).

15. Ahmad, S.*; Tahir, M.S.; **Kamal, G.M.**; Zhang, X.*; Nazir, S.; Tahir, M.B.; Jiang, B.; Safdar, M. **2023**. TiO₂/Activated Carbon/2D Selenides Composite Photocatalysts for Industrial Wastewater Treatment. *Water*, 15, 1788. <https://doi.org/10.3390/w15091788>. (IF 3.5).
16. Murtaza M, Hussain AI, **Kamal GM***, Nazir S, Chatha SAS, Asmari M, Uddin J*, Murtaza S. **2023** Potential Applications of Microencapsulated Essential Oil Components in Mosquito Repellent Textile Finishes. *Coatings*. 13(8):1467. <https://doi.org/10.3390/coatings13081467>. (IF 3.4).
17. Muhammad Imran Tousif, Muhammad Saleem, Saba Tauseef, Mamona Nazir, Tahira Ruby, Reaz Uddin, Sharon Elaine D'souza, Muhammad Aleem Ashraf, **Ghulam Mustafa Kamal**, Jallat Khan, Gokhan Zengin*. **2023**. Unrivalled insight into potential biopharmaceutical application of *Saussurea albescens* (DC.) Sch. Bip.: Chemical profiling, antioxidant and enzyme inhibition activities and in silico studies. *Biocatalysis and Agricultural Biotechnology*. 54: 102964. <https://doi.org/10.1016/j.bcab.2023.102964>. (IF 4).
18. Muhammad Saqib*, Mariam Zafar, Mohamed Ibrahim Halawa, Shahzad Murtaza, **Ghulam Mustafa Kamal**, Guobao Xu. **2023**. Nanoscale Luminescence Imaging/Detection of Single Particles: State-of-the-Art and Future Prospects. *ACS Measurement Science & Technology*. <https://doi.org/10.1021/acsmeasuresciau.3c00052>. (IF 4.6).
19. **Ghulam Mustafa Kamal***, Jalal Uddin, Xiaohua Wang, Ayesha Noreen, Asma Sabir, Syed Ghulam Musharraf. **2022**. ¹H NMR-based metabolomics and ¹³C isotopic ratio analysis to differentiate conventional and organic soy sauce. *Arab. J. of Chemistry*. 15(1): 103516. (IF 5.162).
20. **Ghulam Mustafa Kamal**; Maham Nadia Rehmani; Shahzad Zafar Iqbal; Jalal Uddin; Saima Nazir; Jalil Ur Rehman; Abdullah Ijaz Hussain; Amin Mousavi Khaneghah*. **2022**. The concentration of potentially toxic elements (PTEs) in milk from the Southern Cities of Punjab, Pakistan: A health risk assessment study. *Journal of Food Composition & Analysis*. 108(2022): 104446 (IF 4.556).
21. Neelam Iftikhar, Abdullah Ijaz Hussain*, **Ghulam Mustafa Kamal**, Sidra Manzoor, Tabinda Fatima, Farhan Khashim Alswailmi, Ashfaq Ahmad, Bader Alsuwayt and Sulaiman Mohammed Abdullah Alnasser*. **2022**. Antioxidant, Anti-Obesity, and Hypolipidemic Effects of Polyphenol Rich Star Anise (*Illicium verum*) Tea in High-Fat-Sugar Diet-Induced Obesity Rat Model. *Antioxidants*. <https://doi.org/10.3390/antiox11112240>. (IF 7.675).
22. Danhao Zheng, Zhao Li, Shuang Li, Xihai Li, **Ghulam Mustafa Kamal**, Chaoyang Liu, Fuqiang Xu, Qingjia Bao, Jie Wang*. **2021**. Identification of metabolic kinetic patterns of different brain regions using metabolomic methods coupled with various discriminant approaches. *Journal of Pharmaceutical & Biomedical Analysis*. 198:114027. (IF 3.935).

23. Bin Yuan, Zhiming Zhou, Bin Jiang, **Ghulam Mustafa Kamal**, Xu Zhang*, Conggang Li, Xin Zhou and Maili Liu*. **2021**. NMR for Mixture Analysis: Concentration-Ordered Spectroscopy. *Anal. Chem.* 93, 9697–9703. (IF 6.986).
24. Odette Concepcion, Akbar Ali, Muhammad Khalid*, Alexander F. de la Torre, Muhammad Usman Khan, Abdul Rauf Raza, **Ghulam Mustafa Kamal**, Muhammad Fayyaz ur Rehman Mohammed Mujahid Alam, Muhammad Imran, Ataulpa Albert Carmo Braga, and Mariano W. Pertino. **2021**. Facile Synthesis of Diversely Functionalized Peptoids, Spectroscopic Characterization, and DFT-Based Nonlinear Optical Exploration. *ACS Omega*. 6(40): 2601626025. (IF 3.512).
25. Zhiwei Miao, Qianqian Wang, Xiongjie Xiao, **Ghulam Mustafa Kamal**, Linhong Song, Xu Zhang, Conggang Li, Xin Zhou, Bin Jiang* & Maili Liu*. **2021**. CSI-LSTM: a web server to predict protein secondary structure using bidirectional long short-term memory and NMR chemical shifts. *J. Biomol. NMR*. 75(2021): 393-400. <https://doi.org/10.1007/s10858-02100383-9> (IF 2.835).
26. Akbar Ali, Muhammad Khalid*, Kelly P. Marrugo, **Ghulam Mustafa Kamal**, Muhammad Saleem, Muhammad Usman Khan, Odette Concepción, Alexander F.de la Torre*. **2020**. Spectroscopic and DFT/TDDFT insights of the novel phosphonate imine compounds. *Journal of Molecular Structure*. 1207:127838. (IF 3.196)
27. Muhammad Khalid*, Akbar Ali, Alexander F. De la Torre*, Kelly P. Marrugo, Odette Concepcion, **Ghulam Mustafa Kamal**, Shabbir Muhammad, Abdullah G. Al-Sehemi. **2020**. Facile Synthesis, Spectral (IR, Mass, UV–Vis, NMR), Linear and Nonlinear Investigation of the Novel Phosphonate Compounds: A Combined Experimental and Simulation Study. *Chemistry Select*. 5(10):2994-3006. (IF 2.109).
28. Mudasir Majeed, Abdullah Ijaz Hussain*, Shahzad Ali Shahid Chatha, **Ghulam Mustafa Kamal**, Qasim Ali. **2020**. Discrimination of Mungbean Cultivars/Varieties Based on Minor Saccharides Composition by HPLC Coupled with Multivariate Statistical Analysis. *J. Chem. Soc. Pak*. 42(3):418-428. (IF 0.536).
29. Hanif M. U., Hussain A. I.*, **Kamal G. M.***, Chatha S. A. S., Shabnam S., Hussain R. Khalid M. **2020**. Chemical composition and bioactivity of essential oil from leaves of *Syzigium cumini* (L.) skeels native to Punjab Pakistan. *Chemistry and Biodiversity*: <https://doi.org/10.1002/cbdv.201900733> (IF 2.408).
30. Bin Yuan, Xu Zhang*, **Ghulam Mustafa Kamal**, Bin Jiang, Maili Liu*. **2020**. Accurate estimation of diffusion coefficient for molecular identification in a complex background. *Analytical & Bioanalytical Chemistry*. 412(19):4519-4525 (IF 4.142).
31. Yuan Huang, Hongying Du*, **Ghulam Mustafa Kamal**, Qiongju Cao, Chen Liu, Shanbai Xiong, Qilin Huang. **2020**. Studies on the binding interactions of grass carp (*Ctenopharyngodon idella*) myosin with chlorogenic acid and rosmarinic acid. *Food & Bioprocess Technology*: 13:1421-1434. doi: <https://doi.org/10.1007/s11947-020-02483-0> (IF 4.465).

32. Ting Hu, Quanfei Zhu, Yuning Hu, **Ghulam Mustafa Kamal**, Yuqi Feng, Anne Manyande, Jie Wang*, Fuqiang Xu*. **2020**. Qualitative and quantitative analysis of regional cerebral free fatty acids in rats with stable isotope labelling assisted liquid chromatography-mass spectrometry method. *Molecules*. 25(21), 5163; <https://doi.org/10.3390/molecules25215163> (IF 4.411).
33. Xiaohua Wang, Wei Zou, **G. M. Kamal***, Jie Wang, Mi Zhou, Li Chen, Bin Jiang, Muhammad Khalid, Xu Zhang and Maili Liu. **2020**. An untargeted ¹³C isotopic evaluation approach for the discrimination of fermented food matrices at natural abundance: application to vinegar. *Talanta* 2020(1):120679 (IF 6.057).
34. Mudasir Majeed, Qasim Ali, Shahzad Ali Shahid Chatha, Abdullah Ijaz Hussain*, **G. M. Kamal**, Nadeem Abbas Faisal. **2019**. Growth stage effect on proximate composition, minerals and sugar profile of the aerial parts of some candidate varieties of mung bean (*Vigna radiata* L.). *International Journal of Biology* 14(4):444-456.
35. Khalid, Muhammad*; Bullo, Saifullah; **Kamal, Ghulam Mustafa**; Tahir, Muhammad; Shafiq, Zahid; Naseer, Muhammad; Ashraf, Abida; Yaqub, Muhammad; Braga, Ataulpa*; Rauf, Waqar. **2019**. A Facile and Concise Route to Hydroxy Benzoyl Pyrido [2,3-d] Pyrimidine Heterocycles Derivatives: Synthesis, Structural, Spectral and Computational Exploration. *RSC Advances*. 2019(9):34567-34580 (IF 3.361).
36. Jie Wang, Hao-Long Zeng, Hongying Du, Zeyuan Liu, Ji Cheng, Taotao Liu, Ting Hu, **G. M. Kamal**, Xihai Li, Huili Liu, Fuqiang Xu*. **2018**. Evaluation of metabolites extraction strategies for identifying different brain regions and their relationship with alcohol preference and gender difference using NMR metabolomics. *Talanta*. 179(2018):369-376 (IF 6.057).
37. M. U. Hanif, A. I. Hussain, S. A. S. Chatha, **G. M. Kamal***, Tanveer Ahmad. **2018**. Variation in composition and bioactivities of essential oil from leaves of two different cultivars of *Psidium guajava* L. *Journal of essential Oil Bearing Plants*. 21(1):65-76. (IF 1.699) (Corresponding author).
38. Hongying Du*, Yinqiang Huo, Liu Huili, **G. M. Kamal**, Jiaren Yang, Yongchao Zeng, Siming Zhao and Youming Liu. **2018**. Fast nutritional characterization of different pigmented rice grains using a combination of NMR and decision tree analysis. *CyTA-Journal of Food*. 17(1): 128-136. (IF 2.255).
39. Taotao Liu, Zhigang He, Xuebi Tian, **G. M. Kamal**, Zeyuan Liu, Huili Liu, Fuqiang Xu*, Jie Wang*, Hongbing Xiang. **2017**. Spinal metabolites underlying alpha-Me-5-HT-evoked pruritus compared with histamine and capsaicin assessed by proton nuclear magnetic resonance spectroscopy. *BBA-Molecular Basis of Disease*. 1863(2017):1222-1230. (IF 5.187).
40. Bin Yuan, Yiming Ding, **G. M. Kamal**, Limin Shao, Zhiming Zhou, Bin Jiang, Peng Sun, Xu Zhang*, Maili Liu*. **2017**. Effective identification of compounds in mixtures by simultaneous inversion of Laplace transform based diffusion ordered NMR spectroscopy. *J Magnetic Resonance*. 278(2017):1-7. (IF 2.229).
41. Hao-Long Zeng, Qing Yang, Hongying Du, Huijun Li, Taotao Liu, Chen Xi, **G. M. Kamal**, Jie Wang*, Fuqiang Xu*. **2017**. Proteomics and metabolomics analysis of hepatic mitochondrial metabolism in

- alcohol-preferring and non-preferring rats. *Oncotarget*. <https://doi.org/10.18632/oncotarget.22040>. (IF 5.168).
42. Muhammad Adnan Ayub, Abdullah Ijaz Hussain*, Muhammad Asif Hanif, Shahzad Ali Shahid Chatha, **G. M. Kamal***, Muhammad Shahid, Omar Janneh. **2017**. Variation in phenolic profile, β -carotene and flavonoid contents, biological activities of two Tagetes species from Pakistani flora. *Chemistry & Biodiversity*. doi: 10.1002/cbdv.201600463. (Corresponding author) (IF 2.408).
 43. **G. M. Kamal**, Xiaohua Wang, Bin Yuan, Jie Wang, Peng Sun, Xu Zhang* and Maili Liu*. **2016**. Compositional differences among Chinese soy sauce types studied by ^{13}C NMR spectroscopy coupled with multivariate statistical analysis, *Talanta*, 158:89-99. (IF 6.057).
 44. **G. M. Kamal**, Bin Yuan, Abdullah Ijaz Hussain, Jie Wang, Bin Jiang, Xu Zhang*, Maili Liu*. **2016**. ^{13}C NMR-based metabolomic profiling of typical Asian soy sauces. *Molecules* 21(9): DOI: 10.3390/molecules21091168. (IF 4.411).
 45. Yinqiang Huo, **G. M. Kamal**, Gaonan Zhang, Zhengyi Hu, Jie Wang*. **2016**. ^1H NMR based metabolomics for the discrimination of rice from different geographical origins of China. *Journal of Cereal Science*. 76(2017):243-252. (IF 3.616)
 46. Xiaohua Wang, Jie Wang, **G. M. Kamal**, Bin Jiang, Xu Zhang*, Maili Liu*. Metabolic characterization and comparison of Chinese cereal and European grape vinegars by NMR spectroscopy. *Chinese J Chemistry*. **2016**. [dx.doi.org/10.1002/cjoc.201600365](https://doi.org/10.1002/cjoc.201600365). (IF 6.00).
 47. Abdullah Ijaz Hussain, Shahzad Ali Shahid Chatha, **G. M. Kamal***, Muhammad Adnan Ali, Muhammad Asif Hanif, Muhammad Ibrahim Lazhari. **2016**. Chemical composition and biological activities of *Ocimum sanctum* essential oil and different extracts. *Int. J Food properties*, 20(7): 1569-1581. (Corresponding author). (IF 2.727).
 48. Farooq Anwar, G. M. Kamal*, Farooq Nadeem, Ghulam Shabir. 2016. Variations of quality characteristics among oils of different soybean varieties. *J King Saud University-Science*. 28: 332-338. (IF 4.011) (Corresponding author).
 49. Mudasir Majeed, Abdullah I Hussain, Shahzad A.S. Chatha, Muhammad K.K. Khosa, **G. M. Kamal***, Mohammad A. Kamal, Xu Zhang, Maili Liu*. **2015**. Optimization protocol for the extraction of antioxidant components from *Origanum vulgare* leaves using response surface methodology. *Saudi J Biological Sciences*. 23:389-396. (Corresponding author) (IF 4.219).
 50. Rongxiang Chen, Yinghua Deng, Jiao Yao, **G. M. Kamal**, Jie Wang*, Fuqiang Xu*. **2015**. Assessment of amino acid neurotransmitters in rat brain microdialysis samples by high performance liquid chromatography with coulometric detection. *Journal of Liquid Chromatography & Related Technologies*, 38(15):1439-1447. (IF 1.312).

51. **G. M. Kamal**, M. Y. Ashraf*, A. I. Hussain, A. Shahzadi and M. I. Chughtai. **2013**. Antioxidant potential of peel essential oils of three Pakistani citrus species: *Citrus reticulata*, *Citrus sinensis* and *Citrus paradisi*. *Pakistan Journal of Botany*, 45(4):1449-54. (IF 0.972).
52. S. Hayat*, M. I. Chughtai, T. M. Ansari and **G. M. Kamal**. **2012**. Comparative evaluation of some commercially available pharmaceutical preparations for Na, K and Mg concentrations. *Pakistan Journal of Pharmaceutical Sciences*. 25(2): 377-80. (IF 0.684).
53. **G. M. Kamal**, Anwar, F*, Hussain, A. I., Sarri, N. and Ashraf, M. Y. **2011**. Yield and chemical composition of Citrus essential oils as affected by drying pre-treatment of peels. *International Food Research Journal*. 18(4): 1275-82. (IF 1.014).

BOOK CHAPTERS:

1. Sarfraz Ahmed*, Muhammad Ibrahim, Hafsa Anwar Rana, Tazeen Rao, Wajiha Anwar, **Ghulam Mustafa Kamal**, Muhammad Khalid, Munawar Hussain. **2020**. Microbial Risk Assessment and Antimicrobial Resistance; ***Published in: Antibiotics and Antimicrobial Resistance Genes in the Environment***. Eds: Muhammad Zaffar Hashmi. Published by Elsevier: Pp: 313-330.
2. **Ghulam Mustafa Kamal***, Jalal Uddin, MS Tahir, S. Ahmad, M. Khalid, AI Hussain. **2020**. Nuclear Magnetic Resonance Spectroscopy in Food Analysis ***Published in; Techniques to Measure Food Safety and Quality: Microbial, Chemical, and Sensory*** Eds; Mohidu Samad Khan & Md. Shafiu Rehman. ***Published by;*** Springer New York, USA.
3. **Ghulam Mustafa Kamal**, Waliya Zubairi, Jalal Uddin, Makhdoom Ibad Ullah Hashmi, Muhammad Khalid, Asma Sabir. **2021**. Biogenic Amines ***Published in; Handbook of Plant and Animal Toxins in Food: Occurrence, Toxicity and Prevention***. Eds: Gulzar A. Nayik & Jassi Kour. ***Published by;*** CRC Press, Taylor & Francis Group.
4. **Ghulam Mustafa Kamal**, Ayesha Noreen, Syeda Mahvish Zahra, Jalal Uddin, Arfa Liaquat, Muhammad Khalid, Asma Sabir. **2021**. Isolation of gluten from wheat flour and structural analysis ***Published in; Handbook of Natural Polymers*** Vol. 1. Eds: Srikala M. & Ravindran L. ***Published by;*** Elsevier.
5. **Ghulam Mustafa Kamal**, Arfa Liaquat, Ayesha Noreen, Muhammad Saqib, Muhammad Sagir, Rukhsana Iqbal. **2023**. Phytochemical Profile of Cereal Grains. ***Published in; Cereal Grains: Composition, Nutritional Attributes and Potential Applications***. Eds. Gulzar Ahmad Nayik, Faqir Hussain Anjum and Tabussam Tufail. ***Published by:*** CRC Press, Taylor & Francis Group.
6. Jalal Uddin, Humam Ahmed, Yahya Ibrahim Asiri, **Ghulam Mustafa Kamal**, Syed Ghulam Musharraf. **2023**. Ginger essential oil: Chemical composition, extraction, characterization, pharmacological activities, and applications. ***Published in; Essential Oils Extraction, Characterization and Applications***. Eds. Jalal Uddin, Gulzar Ahmad Nayik & Muhammad Javed Ansari. ***Published by:*** Elsevier Publishers

7. Muhammad Saqib, Saman Ali, Shahida Bashir, Umair Azhar, Muhammad Arif, Muhammad Khalid, **Ghulam Mustafa Kamal**, Shahzad Murtaza, **2024**. Chapter 12 - Applications of ozone in marine and freshwater systems, *Editor(s)*: Mohammad Reza Rahimpour, Mohammad Amin Makarem, Maryam Meshksar. *In*: Advances and Technology Development in Greenhouse Gases: Emission, Capture and Conversion **Published In**: Elsevier, Pages 299-335, ISBN 9780443190698, <https://doi.org/10.1016/B978-0-443-19069-8.00006-8>.

CONFERENCES PARTICIPATED:

1. **Ghulam Mustafa Kamal** and Abdullah Ijaz Hussain. ¹H NMR based Metabolomics and ¹³C Isotopic Ratio Evaluation for the Differentiation of Conventional and Organic Soy sauce. 3rd International Conference on Food Properties (iCFP-2018) held during 22-24 January, 2018 at Sharjah, UAE. (Oral)
2. **Ghulam Mustafa Kamal**, Xiaohua Wang, Bin Yuan, Xu Zhang and Maili Liu. ¹³C NMR based Metabolomic Characterization of Different Types of Soy Sauce. International Society for magnetic Resonance Conference (ISMAR-2015), Shanghai. 16-21 August **2015**. (Poster)
3. **Ghulam Mustafa Kamal**, Bin Yuan, Xiaohua Wang, Xin Chai, Xu Zhang, Maili Liu. Differentiation of Asian Soy Sauces by Multivariate Analysis of ¹³C NMR Profiles. Beijing Conference and Exhibition in Instrumental Analysis BCEIA-2015, Beijing 27-30 October, 2015. (Oral)
4. B. Yuan, G. M. Kamal, X. Chai, L. Zhang, X. Wang, P. Sun, X. Zhang, M. Liu. Using DOSY to Determine Chemical Exchange Rate Constants. 16th Beijing International Conference and Exhibition on Instrumental Analysis, 27-30 August, 2015. (Oral)
5. B. Yuan, **G. M. Kamal**, X. Zhang, M. Liu. Methods for Determining the Rank of DOSY Dataset. 19th Chinese National Magnetic Resonance Conference, Lanzhou, China, 17-20 August, 2016 (Poster).
6. X. Chai, P. Sun, B. Yuan, **G. M. Kamal**, B. Jiang, X. Zhang*, M. Liu*. Analysis of Choline Containing compounds in yeast cell by NMR Spectroscopy. 19th Chinese National Magnetic Resonance Conference, Lanzhou, China, 17-20 August, 2016. (Poster)
7. **Ghulam Mustafa Kamal***, Sadia Bukhtawer, Hafiza Sumera Fraz, Saba Munir. ¹H NMR-Based Metabolomics and ¹³C Isotopic Ratio Evaluation to Differentiate Conventional and Organic Soy sauce. Presented as poster at “International Symposium for Technologies and materials for Renewable Energy, Environment and Sustainability” held during 6-7 February 2019 at University of Agriculture Faisalabad Pakistan
8. **Keynote Speaker** at “2nd International Conference on Chemistry & Energy research” held at Shenzhen China during 23-25 October, 2020. Speech title: NMR Spectroscopy in Food Analysis.
9. Delivered a Guest Lecture on “NMR-Based Metabolomics for Food Analysis” at MNS University of Agriculture Multan Pakistan on 17-06-2022.

10. Participated as Organizing Team Member in “1st International Conference on Physical Sciences & Engineering” held at KFUEIT Rahim Yar Khan Pakistan during December 14-16, 2021.
11. The 7th International Conference on Energy Science & Chemical Engineering ICESCE-2021.
Held on May 20, 2022. Virtual Mode
12. Participated and Organized as **Organizing Secretary** the “20th International and 32nd National Chemistry Conference” on Chemical Sciences & Sustainable Development Goals at KFUEIT Rahim Yar Khan Pakistan during November 02-04, 2022.
13. Participated as Organizing Team Member in “2nd International Conference on Physical Sciences & Engineering” held at KFUEIT Rahim Yar Khan Pakistan during December 14-16, 2022.
14. Attended “TWAS Sixteenth General Conference”, organized online by Zhejiang University Hangzhou China in collaboration with CAS and China Association for Science & Technology (CAST) on 21-24 November 2022.

PROFESSIONAL TRAININGS/WORKSHOPS ATTENDED:

1. Attended “2014 Summer school on frontier and interdisciplinary sciences” held during 22-28th June, 2014 at UCAS Beijing China.
2. Attended “2016 Summer School on Frontier and Interdisciplinary Sciences” held during 25-31st August, 2016 at UCAS Beijing, China.
3. Attended “2002 Training Workshop on Safety Measures in the Use of Radiations in Agriculture & Biology” held on 16-20 December, 2002 at Nuclear Institute for Agriculture & Biology (NIAB) Faisalabad Pakistan.
4. Participated in “National Training Workshop on Research Project Management” organized by ORIC KFUEIT Rahim Yar Khan during March 14-15, 2019.
5. Attended Training on “Andragogical and Communication Skills” and a Webinar on “How Do I become a Can-Do Person” organized by Punjab Higher Education Commission on May 20, 2020.
6. “2023 International Biodegradable Plastic Quality Development Forum and International Biodegradable Materials Testing Technology Training Course” held on 17-29 July, 2023 at Hangzhou China.

GRADUATE & POSTGRADUATE RESEARCH SUPERVISED:

Students Supervised/Co-supervised: 65 (PhD=02; MS = 44; BS/MSc = 25)

Under supervision: 10 (MS = 05; PhD = 05)

ADMINISTRATIVE EXPERIENCE:

23-04-2020 to 15-04-2022	Head , Department of Chemistry, KFUEIT Rahim Yar Khan, Pakistan
01-07-2020 to 15-04-2022	Coordinator , Board of Advanced Studies & Research of KFUEIT Rahim Yar Khan Pakistan

30-06-2021 to 29-03-2022	Additional Treasurer , KFUEIT Rahim Yar Khan, Pakistan
30-03-2022 to 29-09-2022	Treasurer , KFUEIT Rahim Yar Khan, Pakistan
17-12-2021 to 16-06-2022	Chairperson , Affiliation Committee, KFUEIT Rahim Yar Khan Pakistan
20-05-2022 to 01-04-2023	Director , Institute of Health Sciences, KFUEIT Rahim Yar Khan Pakistan
30-09-2022-Current	Additional Treasurer , KFUEIT Rahim Yar Khan, Pakistan
12-09-2020-Current	Member , Central Purchase Committee, KFUEIT Rahim Yar Khan Pakistan
03-11-2023-Current	Additional Controller of Exams , KFUEIT Rahim Yar Khan Pakistan
10-11-2023-Current Pakistan	Director, Institute of Chemistry , KFUEIT Rahim Yar Khan Pakistan

AFFILIATION/MEMBERSHIP OF LEARNED SOCIETIES:

- Senior member of Hong Kong Chemical, Biological and Environmental Engineering Society (HKCBEEES).
- Member of “International Society for Magnetic Resonance (ISMAR)”
- Member of the Chemical Society of Pakistan

HONORS & AWARDS:

- Gold medal & certificate of appreciation awarded by the Chancellor/Governor Punjab Pakistan for best performance during the year 2022-23
- Certificate of Appreciation Awarded on July 24, 2020 by the Worthy Vice Chancellor, KFUEIT for excellent performance for the session 2019-20
- 2013 CAS-TWAS President’s Fellowship Award for PhD studies at UCAS, Beijing China
- Merit scholarships from Government of Punjab, Pakistan during SSC, F. Sc. And B. Sc.

REFERENCES:

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