



Curriculum Vitae
Prof. Mohammad Amjad KAMAL (PhD; MRACI C Chem)

PERSONAL DATA:

Nationality: Australian

Current Address:

King Fahd Medical Research Center

King Abdulaziz University

P.O.Box 80216, Jeddah 21589

Kingdom of Saudi Arabia

http://kfmrc.kau.edu.sa/Content.aspx?Site_ID=141&lng=EN&cid=106035

Collaboration:

- Department of Medical and Molecular BioSciences, Faculty of Science, University of Technology, Sydney, Australia
- Department Oncology and Neurosciences, Univ. “G.d’Annunzio”, University Foundation, Chieti-Pescara, Italy via Dr Marcella Reale
- National Institutes of Health through Dr. Nigel H. Greig (Chief, Drug Design & Development Section, National Institute on Aging, Biomedical Research Center, Baltimore, USA).
- Department of Biochemistry, College of Science, King Saud University, Riyadh, Saud Arabia

EDUCATION:

1986 Master of Science (specialization in Biochemistry), Chemistry Department, Gomal University, Pakistan

1999 Doctoral of Philosophy, Chemistry Department, Islamia University, Bahawalpur, Pakistan.

Research Goals:

To discover new medicines for the treatment of neurodegenerative disorders (Alzheimer’s, Parkinson’s), diabetes, cancer, lymphedema and research in applied health sciences

OFFICIAL POSTS:

1. **Professor** at King Fahd Medical Research Center, King Abdulaziz University, Jeddah, Saudi Arabia (from 16th March 2011).

2. **Adjunct (equal to Full Professor)** in Dr Nigel H. Greig, Chief scientific research group: the Drug Design & Development Section within the Intramural Research Program, National Institute on Aging (NIA), National Institutes of Health (NIH), USA (from 4th Jan 2010 to 4th Jan 2012).
3. **Lead Scientist**, Enzymoic (since Jan 2010).
4. **Visiting Scholar**, Department of Medical & Molecular BioSciences, University of Technology, Sydney, NSW, Australia (10th July 2007 – 31st Dec 2009).
5. **Contractor**, Review Section, Office of Chemical Safety, Department of Health and Aging, Canberra (11th March 2008 – 9th May 2008).
6. **Honorary Associate** in School of Molecular and Microbial Biosciences, The University of Sydney from 1st October 2003 to 31st March 2004.
7. **U2000 Postdoctoral Fellowship** awarded in 2000 by The University of Sydney, School of Molecular and Microbial Biosciences, G08, Sydney, NSW 2006 Australia (from 5th July 2000 - 4th July 2003) for working on "Inhibition of Amido phosphoribosyltransferase by New Antifolates: Design And Mechanism of Action of Purine Antagonists".
8. **Research Assistant**, Department of Biochemistry, College of Science, King Saud University, P.O. Box 2455, Riyadh, 11451, Saudi Arabia for working on the effect of various chemicals and drugs (anti-cancer & anti-Alzheimer's drugs) on acetylcholinesterase (Dec. 1990 to June 2000).
9. Lecturer at Department of Chemistry, Gomal University, D. I. Khan, N.W.F.P, Pakistan (Jan 1987 to Dec 1990).

List of Publications

<http://www.ncbi.nlm.nih.gov/pubmed?term=kamal-ma>

1. Shakil S, R. Khan, S. Tabrez, Q. Alam, J. Naseemuddin, M.I. Suleman, N.H. Greig, **M.A. Kamal** (2011) Interaction of acetylcholinesterase with cyclophosphamide: a molecular modelling and docking study (in press).
2. Shakil S, E.I. Azhar, S. Tabrez, **M.A. Kamal**, N.R. Jabir, G.A. Damanhour, Q. Alam (2011) New Delhi metallo-beta-lactamase (NDM-1): An update. J. Chemotherapy (in press).
3. Y. Tan, **M.A. Kamal**, Z-Z Wang, W. Xiao, J.P. Seale, X Qu (2011) Chinese herbal extracts (SK0506) as a potential candidate for the therapy of metabolic syndrome. Clin. Sci. 120 (7): 297-305 (IF in 2009: 3.982).
4. **M.A. Kamal**, P. Klein (2011) Determination of sugars in Honey by Liquid Chromatography. SJBS 18(1): 17-21.

5. M.A. Kamal, M. Reale & A.A. Al-Jafari (2010) Multiple approaches to analyze the data for rat brain acetylcholinesterase inhibition by cyclophosphamide. *Neurochem. Res.* 35(10):1501-1509.
6. **M.A. Kamal**, P. Klein (2010) Estimation of BTEX in Groundwater by Using Gas Chromatography-Mass Spectrometry. *SJBS*. 17(3): 205-208.
7. M. Reale, N.H. Greig & M.A., Kamal (2009) Peripheral chemo-cytokine profiles in Alzheimer's and Parkinson's disease. *Mini Rev. Med. Chem.* (IF 3.132), 9(10): 1229-1241.
8. **M.A. Kamal**, Y. Tan, J.P. Seale & X Qu (2009) Targeting BuChE-Inflammatory Pathway by SK0506 to Manage Type 2 Diabetes and Alzheimer Disease. *Neurochem. Res.* 34(12), 2163-2169.
9. **M.A. Kamal**, N.H. Greig and M. Reale (2009) Anti-Inflammatory Properties of Acetylcholinesterase Inhibitors Administered in Alzheimer's disease. *Anti-Inflamm. Anti-Allergy Agents in Med Chem.* 8(1): (Mini-review), 85-100 (<http://www.bentham.org/cmcaiaa/CurrentIssue.htm#9>).
10. **M.A. Kamal**, X. Qu, Q-s Yu, D. Tweedie, H.W. Holloway, Y. Li, Y. Tan, N.H. Greig (2008) Tetrahydrofurobenzofuran cymserine, a potent butyrylcholinesterase inhibitor and experimental Alzheimer drug candidate, enzyme kinetic analysis. *J. Neural Trans.* 115(6): 889-898.
11. **M.A. Kamal**, P. Klein, W. Luo, Y. Li, H.W. Holloway, D. Tweedie, N.H. Greig (2008) Kinetics of human serum butyrylcholinesterase inhibition by a novel experimental Alzheimer therapeutic, dihydrobenzodioxepine cymserine. *Neurochem. Res.* 33(5): 745-753.
12. Greig NH, Utsuki T, Yu QS, **Kamal MA**, Holloway HW, Perry T, Tweedie D, Li Y, Giordano T, Alley GM, Chen DM, Rogers JT, Sambamurti K, and Lahiri DK (2008) Dissociation between the potent b-amyloid protein pathway inhibition and cholinergic actions of the Alzheimer drug candidates phenserine and cymserine. "In: *Advances in Alzheimer's and Parkinson's Disease: Insights, Progress, and Perspectives*, (Eds. A. Fisher, M. Memo, F. Stocchi, and I.Hanin), Springer Science + Business Media, USA, 445-462.
13. **M.A. Kamal** & P Klein (2007) Estimation of Fatty Acids in Oils by Gas Capillary Chromatography. *SJBS*. 14 (1), 17-20.
14. **M.A. Kamal**, Q-S. Yu, H.W. Holloway, D. Tweedie, P. Klein, N.H. Greig (2006) Kinetics of human serum butyrylcholinesterase and its inhibition by a novel experimental Alzheimer therapeutic, bisnorcymserine. *J. Alz. Disease*, 10(1), 43-51.
15. D. Tweedie, A. Brossi, DeM. Chen, Y-W. Ge, J. Bailey, Q-S. Yu, **M.A. Kamal**, K. Sambamurti, D.K. Lahiri, N.H. Greig (2006) Neurine, an acetylcholine autolysis product, elevates secreted amyloid β -precursor protein and amyloid β peptide levels, and lowers neuronal cell viability in culture: a role in Alzheimer's disease? *J. Alz. Disease*, 10(1), 9-16.
16. **M.A. Kamal**, A.A. Al-Jafari, Qian-sheng, Yu & N.H. Greig (2006) Kinetic analysis of the inhibition of human butyrylcholinesterase with cymserine. *Biochem. Biophys. Acta* 1760, 200-206.
17. **M.A. Kamal** (2005) Interaction of antifolates with enzymes of the de novo purine pathway in human CCRF-CEM leukaemia cells: Monitored using HPLC linked with UV and radioactive detectors. *Em. Med. J.* 23(2), 155-164.

18. **M.A. Kamal**, A.A. Al-Jafari & N.H. Greig (2005) Interaction of new anti-Alzheimer's disease agents with cholinesterase. *J. Neurochem.* 94(s2), 168.
19. **M.A. Kamal** & R.I. Christopherson (2004) Accumulation of 5-phosphoribosyl-1-pyrophosphate in human CCRF-CEM leukaemia cells treated with antifolates. *Int. J. Biochem. Cell Biol.*, 36, 545-551.
20. **M.A. Kamal**, N.H. Greig & A.A. Al-Jafari (2002) A new, simple and economical approach to analyse the inhibition kinetics of acetylcholinesterase using tolserine. *Em. Med. J.*, 20(3), 333-337.
21. **M.A. Kamal** & A.A. Al-Jafari (2001) A graphical kinetic analysis model for the inhibition of acetylcholinesterase by anti-Alzheimer's drug, tacrine. *S. J. Biol. Sci.*; 8(2), 113-122.
22. **M.A. Kamal**, N.H. Greig, A.S. Alhomida & A.A. Al-Jafari. Kinetics of human acetylcholinesterase inhibition by novel experimental Alzheimer therapeutic agent, tolserine. *Biochem. Pharmacol.*, 60 (4), 561-570, 2000.
23. S. Alhomida, A.S. Al-Rajhi, M.A. Kamal & A.A. Al-Jafari. Kinetic analysis of the effect of Cognex (tacrine) on human retinal acetylcholinesterase activity. *Toxicology*, 147, 33-39, 2000.
24. **M.A. Kamal**, A.S. Alhomida, A.A. Al-Rajhi & A.A. Al-Jafari. Thermodynamic analysis of human retinal acetylcholinesterase inhibition using an anti-Alzheimer's drug, tacrine, through the development of a dual substrate and temperature model. *Proc. Natl. Sci. Coun., Life Sci. (B)*, 24 (3), 108-115, 2000.
25. **M.A. Kamal**, F.H. Nasim & A.A. Al-Jafari. Graphical kinetic approach for estimation of various new constants for inhibition of acetylcholinesterase by cisplatin. *Pak. J. Biol. Sci.*, 3 (6), 920-923, 2000.
26. **M.A. Kamal** & A.A. Al-Jafari. Dual substrate model for novel approach toward kinetic study of acetylcholinesterase inhibition by diazinon. *J. Enz. Inhib.*, 15/2, 201-213, 2000.
27. **M.A. Kamal** & A.A. Al-Jafari. Mode of inhibition of bovine retinal acetylcholinesterase by gallamine triethiodide in vitro. *Pak. J. Biol. Sci.*, 3 (5), 767-771, 2000.
28. A.A. Al-Jafari, **M.A. Kamal**, A.S. Alhomida and N.H. Greig. Kinetics of rat brain acetylcholinesterase inhibition by two experimental Alzheimer's disease drugs, phenserine and tolserine. *J. Biochem. Mol. Biol. Biophys.*, 4, 323-335, 2000.
29. **M.A. Kamal**. Effect of some anti-cancer drugs on human erythrocyte acetylcholinesterase (topic of Ph.D. thesis), Department of Chemistry, Islamia University, Bahawalpur, Pakistan, 1999.
30. **M.A. Kamal**, F.H. Nasim & A.A. Al-Jafari. Human erythrocyte acetylcholinesterase inhibition by cis-diamminediaquaplatinum (II): a novel kinetic approach. *Cancer Lett.*, 138, 115-119, 1999.
31. **M.A. Kamal** & A.A. Al-Jafari. Kinetic constants for the inhibition of camel retinal acetylcholinesterase by the carbamate insecticide lannate. *J. Biochem. Mol. Toxicol.*, 13 (1), 41-46, 1999.
32. **M.A. Kamal** & A.A. Al-Jafari. Comparative kinetics of the inhibition of human plasma butyrylcholinesterase by tacrine, estimated by new and classical methods. *J. Neurochem.*, 73, S50-S50, 1999.

33. A.A. Al-Jafari, **M.A. Kamal**, N.H. Greig, A.S. Alhomida & E. Perry. Kinetics of human erythrocyte acetylcholinesterase inhibition by a novel derivative of physostigmine: Phenserine. *Biochem. Biophys. Res. Comm.*, 248 (1), 180-185, 1998.
34. A.A. Al-Jafari, **M.A. Kamal** & A.S. Alhomida. On the inhibition of camel retina acetylcholinesterase activity by cycloheximide in vitro. *Cell. Biol. Toxicol.*, 14(3), 167-174, 1998.
35. A.A. Al-Jafari, F. Al-Khwyter & **M.A. Kamal**. Kinetics of the inhibition of acetylcholinesterase in camel retina by cisplatin. *Cancer. Lett.*, 128, 79-86, 1998.
36. A.A. Al-Jafari, **M.A. Kamal** & A.S. Alhomida. Sensitivity of bovine retinal acetylcholinesterase (EC 3.1.1.7) toward tacrine: Kinetic characterization. *J. Biochem. Mol. Toxicol.*, 12(4), 245-251, 1998.
37. **M.A. Kamal**. Dual temperature model for the estimation of energetic parameters for acetylcholinesterase inhibition by cyclophosphamide. *Biochem. Mol. Biol. Int.*, 43 (3), 571-581, 1997.
38. A.A. Al-Jafari, **M.A. Kamal**, and A.S. Alhomida. Thermodynamic investigation of camel retina acetylcholinesterase inhibition by cyclophosphamide. *J. Enzyme Inhibition*, 11, 275-283, 1997.
39. **M.A. Kamal**. Effect of sevin on kinetic parameters of camel retina acetylcholinesterase. *Biochem. Mol. Biol. Int.*, 42 (2), 235-246, 1997.
40. A.S. Alhomida, **M.A. Kamal** & A.A. Al-Jafari. Evaluation of the nature of camel retinal acetylcholinesterase inhibition by hexamethonium. *J. Enz. Inhib.*, 12, 303-311, 1997.
41. **M.A. Kamal**. Effect of malathion on kinetic parameters of acetylcholinesterase (EC 3.1.1.7) in vitro. *Biochem. Mol. Biol. Int.*, 43 (1), 89-97, 1997.
42. **M.A. Kamal**. Investigation of the effect of lannate on kinetic parameters of retinal acetylcholinesterase: Slightly concave mixed type of inhibition system. *Biochem. Mol. Biol. Int.*, 43 (5), 1183-1193, 1997.
43. **M.A. Kamal**, M.S. Bakkar & A.A. Al-Jafari. Estimation and correlation of IC₅₀ for the inhibition of human erythrocyte acetylcholinesterase by cis-Diamminediaquaplatinum (II). *Anticancer Res.*, 17(6), 4483-4486, 1997.
44. **M.A. Kamal**. Kinetics of human erythrocyte acetylcholinesterase inhibition by cis-Diamminediaquaplatinum (II). *Anticancer Res.*, 17,4487-4492, 1997.
45. A.A. Al-Jafari & **M.A. Kamal**. Optimization and kinetic studies of human erythrocyte membrane-bound acetylcholinesterase. *Biochem. Mol. Biol. Int.*, 38, 577-586, 1996.
46. **M.A. Kamal** & A.A. Al-Jafari. The preparation and kinetic analysis of multiple forms of human erythrocyte acetylcholinesterase. *Prep. Biochem. & Biotech.*, 26, 105-119, 1996.
47. **M.A. Kamal** & A.A. Al-Jafari. Estimation and correlation of IC₅₀ with time for the inhibition of human erythrocyte acetylcholinesterase by cisplatin. *Cell. Pharmacol.*, 3, 45-48, 1996.
48. A.S. Duhaiman, A.S. Alhomida, N. Rabbani, **M.A. Kamal** & A.A. Al-Jafari. Purification and characterization of acetylcholinesterase from desert cobra (*Walterinnesia aegyptia*) venom. *Biochimie*, 77, 46-50, 1996.
49. **M.A. Kamal**, F.H. Nasim & A.A. Al-Jafari. Investigation of the effect of anti-neoplastic drugs: cyclophosphamide, cisplatin and methotrexate on the turnover

- kinetics of human erythrocyte acetylcholinesterase. *Biochem. Mol. Biol. Int.*, 39, 293-302, 1996.
50. **M.A. Kamal**, F.H. Nasim, & A.A. Al-Jafari. In vitro inhibition of human erythrocyte acetylcholinesterase (EC 3.1.1.7) by an antineoplastic drug methotrexate. *Mol. Cell. Biochem.*, 159, 47-53, 1996.
 51. A.A. Al-Jafari & **M.A. Kamal**. Investigation of the effect of tetrahydroaminoacridine on turnover kinetics of camel (*Camelus dromedarius*) retina acetylcholinesterase. *Biochem. Mol. Biol. Int.*, 39, 917-922, 1996.
 52. Al-Jafari, F. Al-Khwyter, **M.A. Kamal** & A.S. Alhomida. Kinetics for camel (*Camelus dromedarius*) retina acetylcholinesterase inhibition by methotrexate in vitro. *Jpn. J. Pharmacol.*, 72, 49-55, 1996.
 53. F. Al-Khwyter, **M.A. Kamal** & A.A. Al-Jafari. The inhibitory effect of cyclophosphamide on camel retina acetylcholinesterase activity. *Toxicol. Lett.*, 87, 69-76, 1996.
 54. A.A. Al-Jafari, **M.A. Kamal**, A.S. Duhaiman & A.S. Alhomida. Kinetics of the inhibition of acetylcholinesterase from desert cobra (*Walterinnesia aegyptia*) venom by local anesthetics: procaine & tetracaine. *J. Enz. Inhib.*, 11, 123-134, 1996.
 55. **M.A. Kamal**. Characterization of human erythrocyte membrane-bound acetylcholinesterase inhibition by cisplatin at reversible phase. *Anticancer Res.*, 16 (6B), 3725-3730, 1996.
 56. A.A. Al-Jafari, **M.A. Kamal**, A.S. Duhaiman & A.S. Alhomida. Acetylcholinesterase from desert cobra (*Walterinnesia aegyptia*) venom: Optimization and Kinetics study. *Mol. Cell. Biochem.*, 151, 21-26, 1995.
 57. A.A. Al-Jafari, A.S. Duhaiman & **M.A. Kamal**. Inhibition of human acetylcholinesterase by cyclophosphamide. *Toxicology*, 96, 1-6, 1995.
 58. A.A. Al-Jafari, **M.A. Kamal** & A.S. Duhaiman. The mode of inhibition of human erythrocyte membrane-bound acetylcholinesterase by cisplatin in vitro. *J. Enz. Inhib.*, 8, 281-289, 1995.
 59. Matin, **M.A. Kamal** & F.H. Nasim. Energetic studies of acetylcholinesterase inhibition by 2-(diethylamino)-N-(2, 6-dimethylphenyl) acetamide. *Pak. J. Pharm.*, 6, 73-83, 1994.
 60. A.A. Al-Jafari & **M.A. Kamal**. The preparation and Kinetic properties of multiple forms of chicken brain acetylcholinesterase. *Cell. Biochem. Funct.*, 12, 209-216, 1994.
 61. A.A. Al-Jafari, Shakil S, M. Reale and **M.A. Kamal** (2011) Human Platelet Acetylcholinesterase Inhibition by Cyclophosphamide: a combined experimental and computational approach (under revision).
 62. Y. Tan, L-Q. Sun, **M.A. Kamal**, J.P. Seale, X. Qu (2011) Suppression of RBP4 by RNA oligonucleotide in 3T3-L1 cells and mice (revised submitted).

TRAINING:

- Third Regional Training Award for the participation of workshop on Plant Biotechnology at Centre of Advanced Molecular Biology, University of the Punjab, Lahore, Pakistan (Dec.10-31, 1988).

- Call Centre Training (Certificate II in customer Contact ICT20102) completed on 08.08.2008.
- Therapy 1 course of Professional training in Dr Vodder's Manual Lymph Drainage at Adelaide on 18th Feb 2011
- Touch for Health 1 by International Kinesiology College, Sydney on 27th Feb 2011

PROFESSIONAL ACTIVITIES:

Symposium and Workshops:

1. From Cell Cycle to Biotechnology, 25th Oct, 2000 at The University of Sydney.
2. Agilent Technologies HPLC Workshop, 3rd Aug, 2001, Macquarie University.
3. Research and Development Workshops in relation to the Pharmaceuticals Industry Action Agenda on 15th Nov, 2001 at The University of Sydney, Australia.
4. Influencing without apparent power on 24th Oct 2008 at University of Technology Sydney
5. SleepEasy Workshop by Brenda Doherty on 29th Oct 2008 at University of Technology Sydney
6. Kinesiology workshop by Sarah Gilmour-Mayne at Australasian College of Kinesiology Mastery on 10th Jan 2011.
7. Project Management for Senior Researchers by Prof. Alan Johnson at King Abdulaziz University on 4th May 2011.

Post Conference attended:

International Workshop on Medical Research Grant & Manuscript Preparation, 17th Dec. 2004, Dubai, UAE

Seminars attended at University of Sydney:

- The Strategic Direction of Molecular Biology by Dr Merlin Crossley and Prof. Sharad Kumar on 11th Dec 2001
- Metals, Motions, and macromolecular assemblies in the transcription of genes by Dr. Peter E Wright on 27th March 2002
- Association of BAFF/BLyS overexpression and altered B cell differentiation with Sjogren's syndrome by Dr. Fabienne Mackay on 12th April 2002
- Comparative genomics in the post-genomic era: A new set of challenges by Dr Lars Jermiin on 7th June 2002
- The amazing antibacterial and wound-healing properties of honey by Shona Blair on 14th June 2002
- Structure-function relationship in metallo-beta-lactamases by Alejandro Vila on 3rd July 2002
- Genomics & Proteomics: Research Showcase on 13th Sep.2002

- Novel designs of recombinant antibodies for clinical diagnosis and therapy by Prof. Peter Hudson on 11th Oct 2002
- Nuclear trafficking by Professor Murray Stewart MRC Laboratory of Molecular Biology, Cambridge on 21 Mar 2003
- Protein and enzyme bioelectrochemistry - towards the single molecule limit by Professor Jens Ulstrup, Chemistry Technical University of Denmark on 28 March 2003
- Discovery of protein tyrosine kinase inhibitors by Dr. Chris Burns on 2nd April 2003
- Recent development in the use of microcalorimetry in the life sciences by Bill Gelb on 29th Jan. 2004
- Building an academic research career in the Chemical Sciences at UNSW: The First 12 Years by Prof. Tom Davis on 13th April, 2005.
- Living in a Greenhouse – Global Warming & what's the problem? by Prof. Peter Nelson on 12th Sep 2005.
- Overview of Research in Pharmaceuticals, Pharmacy Practice and Pharmaceutical Chemistry by Prof. M. Murray, A/Prof. I. Krass and Prof. B. Roufogalis respectively on 26th Sep 2005.
- Green Chemistry and sustainability – some issues and some solutions by Prof. Thomas Maschmeyer on 22nd May 2006.
- NSW 2006 Solomon Lecture by Prof. David Tirrell on 13th June 2006.
- Chemical Education for Application of Microchemistry by Prof. John Bradley on 31st Oct 2006.
- Chemicals are good for you by Dr Peter Rutledge on 30th April 2007.
- Yes, We Can: Catalysing Hope for a Sustainable Future by Prof. Sir JM Thomas, Dr FM Dautzenberg and Dr IE Maxwell on 14th April 2009.
- Itchies and Scratchies" Parasite Quiz Show on 12th July 2009.
- Climate change through the lens of the geological record: The example of sea level by Prof. K Lambeck on 30th Oct 2009.

Conferences/Seminars/Talk attended at other places in Sydney:

- Chemical Frauds in the 20th and 21st Centuries delivered by Prof. Brynn Hibbert from UNSW on 15th March 2005 at the University of Western Sydney.
- Confessions of an Environmental Chemist by Dr. Simon Apte from CSIRO on 19th March 2005 at the University of Western Sydney.
- Einstein and the Big Bang by Dr. Simon Singh, Dr Matthew Colles and Dr Zdenka Kuncic on 26th May 2005 at ATYP studios, Wharf 4/5 Hickson Road, Walsh Bay.
- Microwave assisted synthesis by MEP Instruments and Anton Paar on 6th Sep 05 at Boronia Grove, Epping, NSW.
- The Advanced Analytical Australia Experience by Dr Attila Tottszer at CSIRO Building, Riverside Corporate Park, North Ryde on 17th Nov 2005.
- Capillary GC and Sample Preparation Seminar Series by Dr Nigel Simpson and Dr Jaap de Zeeuw at Conventions Centre, Taronga Centre, Mosman, NSW on 22nd Nov 2005.

- Journal Impact Factor by Dr Mabel Chew at Complementary Medicines Centre, University of Western Sydney on 18th May 2006.
- Evidence based herbal medicine: From drug discovery to botanical dietary supplements by Prof. Harry HS Fong at Complementary Medicines Centre, University of Western Sydney on 8th June 2006.
- Sports drug testing and the Commonwealth games by Prof. R. Kazlauskas at the University of Western Sydney on 20th June 2006.
- Bionic Eyes, Artificial Knee Caps and Science-Fact or Fiction? by Prof. Bessim Ben-Nissan at UTS on 19th August 2006.
- Insights from cellular and molecular investigations of traditional Chinese herbal stroke medicines by Dr Sucher NJ at the University of Western Sydney on 29th August 2006.
- WHAT IS FERTILITY TREATMENT? ALL YOU NEED TO KNOW TO GET STARTED. IVFAustralia on 14th Feb 2007.
- Work Choices, Productivity Commission, and Professional Registration:
- Implications of political and industrial changes for scientists by Mark Hanlon at Pathology Week 2007 on Thursday 1st of March 07 in Parramatta, NSW.
- Overview of Parkinson's disease by Laraine McAnally on April 20, 2007 at Lower Hall, 13 Springwood, NSW.
- Record keeping workshop at Penrith, NSW on 11th April, 2007.
- Advanced internet course by Vesna Cosic at Custom House Library, NSW on 24th April 2007.
- Government Assistance for Innovative Manufacturers by David Collins etc. at Western Sydney Business Centre, Parramatta, NSW on 29th May 2007.
- Site Visit at ACO Polycrete under DSRD program, EMU PLAINS on 30th May 2007.
- Profitable Innovation through Lean Manufacturing at Western Sydney Business Centre, Parramatta, NSW on 1st June 2007.
- A brief history of lupus anticoagulant and the antiphospholipid syndrome by Thomas Exner at Royal North Shore Hospital , NSW on 4th June 2007.
- To mix with pooled normal or not to mix: Laboratory demonstration of Lupus Anticoagulant by Margaret Aboud at Royal North Shore Hospital , NSW on 4th June 2007.
- Basic First Aid (DRABC) by Rod at Rooty Hill, NSW on 31st May 2007.
- Basic First Aid (Epilepsy, Febrile Convulsions & Diabetes) by Rod at Rooty Hill, NSW on 7th June 2007.
- Basic First Aid (Shock and injuries) by Rod at Rooty Hill, NSW on 15th June 2007.
- AN ANZAC PERSPECTIVE ON MANUFACTURING AND TECHNOLOGY WITH THE RT. HON. HELEN CLARK, PRIME MINISTER OF NEW ZEALAND at the Australian Technology Park, Sydney on 14th June 2007.
- Basic First Aid (Choking, E.A.R; E.C.C. & C.P.R.) by Rod at Rooty Hill, NSW on 21st June 2007.
- Various sessions during 3 days Hospital week at Westmead Hospital 15-17th Aug 2007.

- Weird animal genomes and the evolution of ... by Prof. JAM Graves at Powerhouse Museum on 24th Aug 07.
- Exciting New Products of Edsoft (Adobe) at UTS on August 2, 2007.
- Group teaching by P Kandlbinder at UTS on August 22, 2007.
- Characteristics of a good lecture by P Kandlbinder at UTS on Sep 05, 2007.
- CANCER MINI-SYMPOSIUM - Cancer Therapeutics: Drug design, resistance and treatment at Kerry Packer Education Centre, Royal Prince Alfred Hospital on 6th Sep 2007.
- Questioned Documents: Forensic Technical Aspects by Williams Mazzella on 2nd Oct 2007 at UTS.
- 24th Annual Scientific Research Meeting at Royal North Shore Hospital, 13-14th Nov 2007.
- Structure / Function Studies of Atracotoxins by Simon Gunning at UTS on 16th Nov 2007.
- Training at APVMA, Canberra on 28th March 2008.
- Intellectual Property Seminar at UTS on 21 Aug 2008.
- Micro 'be': Fermented Fashion Exhibition; Grapeskin glamour and tissue engineering. The Muse, Ultimo TAFE Building C, Sydney on 25th August 2008.
- Acupuncture: A prick for all occasions at UTS on 27 Aug 2008.
- Revenge of the body snatchers at Ultimo TAFE Building C, Sydney on 28 Aug 2008.
- A proteomics approach for the discovery of uncharacterised proteins from Ixodes holocyclus by Matt Padula on 30th Oct 2008 at University of Technology Sydney.
- The forgotten cousins of structural biology: how do we study the structure and function of membrane proteins and fibrous proteins by Prof. Alison Rodger at University of Western Sydney on 7th April 2009.
- New Olympus microscopes: the Automated FSX 100 and the FV10i confocal microscopes at University of Technology Sydney on 9th April 2009.
- Familial dementia: it's on for young and old by Bill Brooks at University of Western Sydney on 17 April 2009.
 - Men's Health by Greg Millan at UTS on 18th June 2009.

ADMINISTRATION:

Sole Scientist, Enzymoics (from 1st October 2004 to 12th February 2009).

Acting as a referee:

For several Journals and funding organizations for evaluation of submitted manuscripts and grant applications by various scientists through the world

Conferences/Seminars/Talk attended at King Fahd Medical Research Center

King Abdulaziz University, Jeddah Kingdom of Saudi Arabia:

1. A lecture on Springerlink database presented by Dr. Hind Abdulmajed, on 30/3/2011
2. "Latest trends in cell culture, serum free media and related Technology" by Prof. Michael Wiechmann on 4th April 2011.

3. Fat injection techniques in cosmetic, congenital abnormalities and reconstructive burn surgeries by Sabah Musharraf on 3rd May 2011
4. Closing the gap: Increasing access and equity - International Nurses Day by 15 speakers on 11th May 2011
5. Lab Water Purification Systems by Gulf Scientific Corporation & Merck-Millipore at Sheraton Ballroom in Jeddah on May 21, 2011.
6. The ImageStream^X Instrument (Combination of Flow Cytometry and Fluorescence microscopy); Robosep; Stem Cell Technology by Alliance Global on May 31, 2011
7. Anatomy 360° Day on 1st June 2011.

TEACHING:

1987-1990 Lecturer at Department of Chemistry, Gomal University, D. I. Khan, N.W.F.P, Pakistan

During my lecturer-ship, I taught Biochemistry to Master classes along with the practical demonstration of routine experiments as well as co-supervised research project of Master of Philosophy student in the Faculty of Pharmacy, and two M.Sc. students in the Chemistry Department. Teaching material was based on books at that time. In addition, I also supervised research project of M.Sc. and several B.Sc. students during my stay in Saudi Arabia. At Gomal University, during my lecturer-ship, introduced for the first time a new course called “Recombinant DNA Technology” and “Immunology” for final classes of Master in Chemistry with specialization in Biochemistry.

RESEARCH:

To discover new drugs particularly for the treatment of Alzheimer's, diabetes and cancer diseases. Type 2 diabetes mellitus (T2DM) and Alzheimer disease (AD) affect a large percent of the population throughout industrialized countries. Both diseases increase in incidence with advancing age. Epidemiological studies have shown an association between T2DM and AD, which frequently occur together. Experimental studies have revealed that T2DM and AD share several molecular processes that underlie the respective degenerative pathology in brain and in pancreatic β -cells. Therefore, based on the scientific literature, we target our research on the inhibition of butyrylcholinesterase and cytokine markers such as TNF- α and IL 6.

HONOURS AND AWARDS:

- Australian Professional Acknowledgment Continuing Education (APACE) awarded by Australian Institute of Medical Scientists on 23rd Jan 2008 (total credits gained 130 while minimum requirement was 100).

- Australian Professional Acknowledgment Continuing Education (APACE) awarded by Australian Institute of Medical Scientists on 12th April 2007 (total credits gained 117 while minimum requirement was 100).
- 21st Century Award for Achievement in recognition of outstanding contribution (offered by the Director General on the approval of editorial review board of International Biographical Centre, Cambridge, England, 5th May 2006).
- Travel Fellowship Award for the presentation of "Interaction of New anti-Alzheimer's Disease Agents with Cholinesterase" in ISN – ESN- 20th Biennial meeting in Innsbruck Austria on 21st - 26th August 2005 (offered).
- Sheikh Hamdan Bin Rashid Al Maktoum Award in 2004 for Medical Sciences for an original research paper published in the Emirates Medical Journal in Dec. 2002
- Young Researchers Award for attending the first Forum for European-Australian Science and Technology Cooperation event (FEAST 1) on 30-31 May 2001 in Canberra as announced in FEAST Newsletter #3
- Three years U2000 Postdoctoral Fellowship was awarded in 2000 by The University of Sydney, Australia
- Travel Fellowship Award from International Society for Neurochemistry granted for participation in the Xth Int. Sym. on Cholinergic Mechanisms at Arcachon, France, Sep. 1-5, 1998.
- Third Regional Training Award for the participation of workshop on Plant Biotechnology at CAMB, University of the Punjab, Lahore, Pakistan (Dec.10-31, 1988).

TECHNICAL AND SCIENTIFIC ROLES:

- "International Scientific Advisory Board" of "The International Institute of Anticancer Research" (IIAR - Advisory Board, Scientific Committee... <http://www.iiar-anticancer.org/iiar/committee.htm>)
- "Forum for European-Australian Science and Technology Cooperation"

INVITATION FOR THE MEDICAL CONFERENCE:

3rd Dubai International Conference for Medical Sciences from 14th to 16th Dec. 2004.

PROFESSIONAL SOCIETIES / LinkedIn Groups / newsletter mailing list:

1999:

1. European Society for Toxicology *In Vitro*

2. International Society for Neurochemistry

3. Society for Experimental Biology and Medicine

4. Canadian Society of Pharmaceutical Sciences

2002:

Australian Society for Biochemistry and Molecular Biology

2004-09:

International Society for Neurochemistry (ISN)

2006:

International Stroke Society

National Lymphedema Network
Lymphatic Research Foundation

2006-2008:

Australian Institute of Medical Scientists
(Intermediate Member)

The Michael J. Fox Foundation for

Parkinson's Research
Society to End Parkinson Disease

From 2005:

The Royal Australian Chemical Institute
Inc. (Member Chartered Chemist)

Parkinson Foundation of the Heartland

HAPS (Human Anatomy & Physiology
Society)

From 2010:

The American Society for Biochemistry
and Molecular Biology (ASBMB)

Parkinson Society Canada

Society for Enzymology

Natural Health

Health Care subgroup of White House
group

Self Improvement
Cell and Molecular Biology

Association of Massage Therapist Ltd

Lymph Therapy

National Postdoctoral Association
(NPA)

Global anti-Alzheimer's Group (Ga-AG;
me owner)

p53 community

Global anti-Lymphedema Group (Ga-
LG; me owner)

From 2011:

Global anti-Alzheimer's Group (Ga-AG;
me owner)

Dr. Vodder School

Chromatography and Spectroscopy

PUBLICATIONS in journals and at conferences of international repute:

62 papers (can be viewed on pubmed website, <http://www.ncbi.nlm.nih.gov> by writing Kamal-MA; <http://www.ncbi.nlm.nih.gov/sites/entrez>)

Abstracts:

52 abstracts submitted in different international and national conferences.

BIOGRAPHIES:

1. "WHO'S WHO IN THE WORLD", 1999, 16th Edi. p # 797 and in 26th edi. 2009.
2. "Outstanding people of 2000"
3. "WHO'S WHO IN THE SCIENCE AND ENGINEERING", 2002 (6th Edition); 2011-2012 (11th Edition)
4. Proceedings of Sheikh Hamdan Bin Rashid Al Maktoum Award for Med. Sci, 2004.
5. Outstanding Scientists of the 21st Century – Inaugural Ed, 2007.

MAJOR ACHIEVEMENTS:

- Significant contribution in discovery of new potential agents for the treatment of Alzheimer's and related neurodegenerative diseases via collaboration with Dr Nigel H. Greig, Chief, Drug Design & Development Section, Laboratory of Neurosciences, Intramural Research Program, National Institute on Aging, National Institutes of Health, Biomedical Research Center, Baltimore, MD, USA
- Developed new techniques to define and quantify enzyme-substrate interactions
- In addition, a thin layer chromatographic assay was developed for the measurement of phosphoribosyl pyrophosphate extracted from human CCRF-CEM leukaemia cells growing in cell culture for the development of new anti-cancer drugs

Membership in Editorial Board of Scientific Journals:

1. Open Biochemistry Journal (<http://www.bentham.org/open/tobiocj/EBM.htm>)
2. CNS & Neurological Disorders-Drug Targets (<http://www.bentham.org/cdtcnsnd/index.htm> ; IF 3.57)
3. Diabetes, Metabolic Syndrome and Obesity: Targets and Therapy journal (http://www.dovepress.com/articles.php?pa=editorial_board&journal_id=32&l=p9c510BYmtN4q6IRD0eS4h2j150125)

Guest Editor

For a special full-hot topic issue of The journal 'CNS & Neurological Disorders-Drug Targets' (CNSND-DT) dedicated to "**Status of tyrosine hydroxylase in the healthy and Parkinson's brain**" (<http://www.benthamscience.com/cdtcnsnd/Special-Issues.htm>).

COMPUTER SKILLS:

Word processing, Microsoft Power Point, Excel, internet, e-business, GOSA, prism (3 as well 4 versions) and GraFit programs

ABSTRACTS IN CONFERENCES:

1. M. Ihtisham-ul-Haq, M.A. Kamal & A. Saeed. Extraction of acetylcholinesterase from chicken brain. 3rd Nat. Chem. Conf., Dec. 20-23, 1991, p. 35.
2. Al-Jafari & M.A. Kamal. Estimation of the analysis of cholinesterase activity in camel blood. 19th IUPAC Symp. on the Chem. of Nat. Prod., Jan. 16-20, 1994. p.141.
3. M.A. Kamal & A. Saeed. An investigation of the inhibitory effect of cyclophosphamide on rat AChE activity. 6th Natl. Chem. Conf., Shah Abdul Latif Univ. Khairpur, Sindh, Pakistan, 1994.

4. M.A. Kamal, A. Matin & F.H. Nasim. Investigation of reversible inhibition of camel (*Camel dromedarius*) cholinesterase by tetracaine. 6th Natl. Chem. Conf., Dept. Chem. Shah Abdul Latif Univ., Khairpur, Pakistan, 1994.
5. M.A. Kamal, N. Al-Ali & A.A. Al-Jafari. Acetylcholinesterase activity in rat liver plasma membranes. 20th IUPAC Symp. on the Chem. of Nat. Prod., at Illinois in Sep. 15-20, 1996.
6. Al-Jafari & M.A. Kamal. Acetylcholinesterase in synaptosomal fractions of camel brain. 20th IUPAC Symp. on the Chem. of Nat. Prod., at Illinois in Sep. 15-20, 1996.
7. M.A. Kamal. Effects of sodium azide on kinetic parameters of camel (*Camel dromedarius*) kidney catalase. 5th Int. Symp. on Prot. Struc. Func. Relation., at Karachi in Jan, 1997, p. 27.
8. M.A. Kamal, A.A. Al-Jafari & F.H. Nasim. The inhibitory effect of mechlorethamine on acetylcholinesterase activity. 5th Int. Symp. on Prot. Struc. Func. Relation., at Karachi in Jan, 1997, p. 67.
9. M.A. Kamal, A.A. Al-Jafari & F.H. Nasim. The nature of inhibition of acetylcholinesterase by triethylenethiophosphoramidate. 5th Int. Symp. on Prot. Struc. Func. Relation., at Karachi in Jan, 1997, p. 66.
10. M.A. Kamal. Kinetics of inhibition of Camel erythrocyte acetylcholinesterase by puromycin and anisomycin. 5th Int. Symp. on Prot. Struc. Func. Rel., at Karachi in Jan, 1997, p. 65.
11. A.A. Al-Jafari & M.A. Kamal. Investigation of the effect of the hexamethonium on the turnover kinetics of camel retina acetylcholinesterase. 5th Int. Symp. on Prot. Struc. Func. Relation., at Karachi in Jan, 1997, p. 52.
12. M.A. Kamal. Analysis for the estimation of IC_{50} and its correlation with substrate concentration. 17th Int. Cong. of Biochem. Mol. Biol., at San Francisco in Aug. 24-29, 1997, Ref # 988.
13. M.A. Kamal. Investigation of the effect of Cis-Platinum Diaminediaquatrifluoromethanesulfite on acetylcholinesterase. 17th Int. Cong. of Biochem. Mol. Biol., at San Francisco in Aug. 24-29, 1997, Ref # M26.
14. M.A. Kamal, A.A. Al-Jafari & F.H. Nasim. In vitro testing of some anticancer drugs on human erythrocyte acetylcholinesterase. New Anticancer Agents at Greece in 12-15 October 1997.
15. M.A. Kamal & A.A. Al-Jafari. Investigation of the effect of cycloheximide on the turnover kinetics of camel retina acetylcholinesterase. 7th Int. Symp. on Nat. Prod. Chem. at Karachi in Dec. 28, 1997 to Jan. 1, 1998.

16. M.A. Kamal. Novel inhibitory constant for the inhibition of acetylcholinesterase by carbofuran. 7th Int. Symp. on Nat. Prod. Chem. at Karachi in Dec. 28, 1997 to Jan. 1, 1998.
17. M.A. Kamal. Mode of interaction of lannate with retinal acetylcholinesterase. 7th Int. Symp. on Nat. Prod. Chem. at Karachi in Dec. 28, 1997 to Jan. 1, 1998.
18. M.A. Kamal. Inhibition of acetylcholinesterase by sevin: Kinetics characterization. 7th Int. Symp. on Nat. Prod. Chem. at Karachi in Dec. 28, 1997 to Jan. 1, 1998.
19. M.A. Kamal. Three novel kinetic parameters for the inhibition of acetylcholinesterase by HgCl₂. 7th Int. Symp. on Nat. Prod. Chem. at Karachi in Dec. 28, 1997 to Jan. 1, 1998.
20. M.A. Kamal. Kinetics for the inhibition of acetylcholinesterase by an organophosphate: Dimecron in vitro. Org. Chem. Conf., Sydney, Australia, July 12-17 1998.
21. M.A. Kamal. Novel relationship between inhibition constant (K_i) and the reaction time. 9th Int. Cong. on Pest. Chem. at London, 2-7 Aug. 1998.
22. M.A. Kamal & A.A. Al-Jafari. Characterization of inhibition of camel retina acetylcholinesterase by lannate. 9th Int. Cong. on Pest. Chem. at London, 2-7 Aug. 1998.
23. M.A. Kamal. Estimation of IC₅₀ and its correlation with substrate concentration for the model of camel retina acetylcholinesterase inhibition by sevine. 9th Int. Cong. on Pest. Chem. at London, 2-7 Aug. 1998.
24. A.A. Al-Jafari, M.A. Kamal & N.H. Greig. Sensitivity of bovine retinal acetylcholinesterase to phenserine: A derivative of physostigmine. Xth Int. Symp. on Cholinergic Mechanism. J. Physiol. (Paris), 402, Sep. 1-5, 1998, at France.
25. M.A. Kamal & A.A. Al-Jafari. Irreversible inhibition kinetics for acetylcholinesterase interaction with cekufon. 9th World Cong. of Psychophysiol. Sep. 14-19, 1998, at Italy.
26. Al-Jafari & M. A. Kamal. Effect of diazinon on reversible kinetic parameters of bovine retinal acetylcholinesterase. 9th World Cong. of Psychophysiol. Sep. 14-19, 1998, at Italy.
27. M.A. Kamal. Toxicological effect of methyl parathion on kinetics of acetylcholinesterase in vitro. 10th Int. Workshop on In Vitro Toxicol., Winchester, U.K., Sep. 14-18, 1998.
28. M.A. Kamal. Novel approach for the inhibition study of acetylcholinesterase by physostigmine. 21 IUPAC Int. Symp. on the Chem. Nat. Prod., Oct. 11-16, 1998 at

China.

29. M.A. Kamal. Effect of cekufon on some kinetic parameters of bovine retina acetylcholinesterase. 21 IUPAC Int. Symp. on the Chem. Nat. Prod., Oct. 11-16, 1998 at China.
30. M.A. Kamal, A.A. Al-Jafari & N.H. Greig. Actions of the experimental Alzheimer's disease drug, tolserine, on the turnover kinetics of acetylcholinesterase: Computation of novel constants. 2nd Symp. Can. Pharmaceut. Sci., Montreal, Quebec, Canada, Aug. 27-29, 1999.
31. M.A. Kamal, N.H. Greig & A.A. Al-Jafari. Kinetic analysis of acetylcholinesterase inhibition by the novel experimental Alzheimer therapeutic agent, tolserine, using a recently introduced new methodology: The dual substrates and multiple inhibitor concentration technique. 6th IUBMB Seoul Conf. "Mol. Cell. Network", Seoul, Korea, Oct. 10-13, 1999.
32. M.A. Kamal & F.H. Nasim. Testing of interferon alfa-2b (Intron-A R) on human erythrocyte acetylcholinesterase. 8th Int. Symp. on Nat. Prod. Chem. at Karachi, Jan. 18-22, 2000.
33. M.A. Kamal, N.H. Greig & A.A. Al-Jafari. Evaluation of two kinetic methods (dual and multiple substrates) for acetylcholinesterase inhibition, using the novel experimental Alzheimer therapeutic agent, tolserine. 8th Int. Symp. on Nat. Prod. Chem. at Karachi, Jan. 18-22, 2000.
34. M.A. Kamal, N.H. Greig & A.A. Al-Jafari. New approach to analyse the mechanism of inhibition of the enzyme, acetylcholinesterase, using the experimental Alzheimer therapeutic tolserine. 18th Int. Cong. Biochem. Mol. Biol., Birmingham, U.K., July 16-20, 2000.
35. M.A. Kamal & A.A. Al-Jafari. Kinetic study of butyrylcholinesterase inhibition by cyclophosphamide using dual substrate model. 3rd Ann. Symp. Canadian Soc. Pharmac. Sc. (CSPS), Canada, June 8-10; 2000.
36. M.A. Kamal & R.I. Christopherson. Accumulation of 5-phosphoribosyl-1-pyrophosphate in leukaemia cells treated with antifolates. Proc. Aust. Soc. Biochem. & Mol. Biol., 2002, 34: P-105.
37. M.A. Kamal, A.A. Al-Jafari & N.H. Greig. A Kinetic analysis of the inhibition of butyrylcholinesterase by cymserine. Connect, 2005, Sydney, Australia.
38. M.A. Kamal, Q-S. Yu, H.W. Holloway, T. Utsuki, A. Brossi, P. Klein, N.H. Greig. Kinetics of human serum butyrylcholinesterase (BuChE) and its interaction with a novel experimental Alzheimer therapeutic, bisnorcymserine (BNC), in vitro. 7th Biennial meeting of the Asian-Pacific Society for Neurochemistry in Singapore on

July 2-5, 2006.

39. A-R. Al-Ajlan, M.A. Kamal, A.S. Al-Duhaiman and A.A. Al-Jafari. Investigation of glutathion reductase in camel liver. 4th Ann. Cong. Int. Drug Dis. Sci. & Tech. at Dalian & Xian, China on May 25-June 1, 2006.
40. M.A. Kamal and A.A. Al-Jafari. Investigation of acetylcholinesterase activity in camel liver plasma membranes. 4th Ann. Cong. Int. Drug Dis. Sci. & Tech. at Dalian & Xian, China on May 25-June 1, 2006.
41. M.A. Kamal, NH Greig & P Klein. Estimation of BTEX in Groundwater by Using Gas Chromatography-Mass Spectrometry. 14th Annual RACI Analytical and Environmental Divisions R&D Topics in Wollongong, NSW on 5th-8th Dec 2006, p 89.
42. M.A. Kamal, P. Klein, Q-s. Yu, D. Tweedie, H.W. Holloway, N.H. Greig. Travels to translate science to global utility: cholinesterase - Alzheimer and anticancer drugs, enzymes of the purine de novo biosynthesis pathway and GC/LC The IXth International Meeting on Cholinesterases in Suzhou, China on 6-10 May 2007.
43. M.A. Kamal, P. Klein, Q-s. Yu, D. Tweedie, H.W. Holloway, N.H. Greig. Kinetics of human serum butyrylcholinesterase inhibition by a novel experimental Alzheimer therapeutic, dihydrobenzodioxepine cymserine. Fifth International Congress on Vascular Dementia at Budapest, Hungary on Nov 8-11 2007.
44. M.A. Kamal, X. Qu, Q-s. Yu, D. Tweedie, H.W. Holloway, N.H. Greig. Time dependent-kinetics of human serum butyrylcholinesterase inhibition by a novel experimental Alzheimer therapeutic, tetrahydrofurobenzofuran cymserine. 24th Annual Scientific Research Meeting at Royal North Shore Hospital, 13-14th Nov 2007.
45. MA Kamal, X Qu, Q.S. Yu, NH Greig. Development of unique agent possessing dual therapeutic potential in Alzheimer's disease and type 2 diabetes. BIT's 6th Annual Congress of IDDST, Beijing, China, 2008 (<http://www.iddst.com/iddst2008/ScientificProgram.htm#Track4>).
46. Y Tan, R Dale, LQ Sun, MA Kamal, X Qu. RNA oligonucleotides improve metabolic syndrome by targeting retinol binding protein4 gene in high fat fed mice. 44th Annual Meeting Rome, 202; 2008 (<http://www.easd.org>).
47. Y Tan, MA Kamal, Xianqin Qu and NH Greig. BuChE type activity in the samples of control, diabetes type-2 and treated rat liver. First international conference on biotechnology (ICOB) at Riyadh, Feb 2009 (<http://www.cebr.ksu.edu.sa/biconf1>).
48. M.A. Kamal, N.H. Greig, M. Reale and A.A. Al-Jafari (2010) Human platelets acetylcholinesterase inhibition by cyclophosphamide. ReS 2010 conference, 14 June

2010 (ReS@emuni.si).

49. M.A. Kamal, N.H. Greig, Xianqin Qu and M. Reale (2011) Scientific Isomerism in between Alzheimer Disease and type 2 Diabetes. World Congress of NeuroTalk-2011 at Dalian, China.
50. M. Reale, M.A. Kamal, Veronica Bellante and N.H. Greig (2011) Butyrylcholinesterase inhibitors modulate cytokines production in peripheral blood mononuclear cells. ICAD congress in Paris, France (July 16-21).
51. Shakil S, Abdulaziz A. Al-Jafari and M.A. Kamal. Acetylcholinesterase inhibition by cisplatin: a combined experimental and computational approach. International Conference on Computational Biology and Bioinformatics (www.engii.org/cet2011/cbb2011.aspx), Shanghai China, 28-30 Oct. 2011China.
52. M.A. Kamal. 25 years research journey in the field of drug discovery. "4th International Conference on Drug Discovery and Therapy" 2012.

Research Experience and Techniques:

- HPLC for analysis of separation of metabolites, nucleotides and deoxynucleotides from human and mouse leukemia cells treated with antifolates to estimate the effects on primary inhibition of the early *de novo* purine pathway
- Isolation and characterization of AChE from various sources such as chicken brain, pigeon brain, human brain, human & camel erythrocytes, camel & human retina, liver, lymphocytes and snake venom
- Assay of amido phosphoribosyltransferase, GAR synthetase, orotate phosphoribosyltransferase by using labelled [¹⁴C]orotate as a substrate, acid phosphatase, Glucose-6-phosphatase, Na⁺-K⁺ ATPase, Mg⁺⁺-ATPase, Glutathione reductase in whole liver and hepatocyte
- Kinetic study of AChE, ChE and AmPRTase
- Isolation of DNA & RNA from different species of medicinal plants
- Preparation of microsome from liver and preparation of hepatocyte
- Quantitative study of carotenes in various local vegetables and fruits
- Energetic studies of AChE inhibition by reversible inhibitors
- Extraction of soluble proteins from plant tissues after grinding in liquid nitrogen
- Leukaemia cell culture (human CCRF-CEM & mouse L1210)

- Culture of E. Coli
- Assay of cellular level of PRPP (5-phosphoribosyl-1-pyrophosphate)
- Determination of trihalomethanes in Sydney Water
- The analysis of simple alcohols in fermentation mixtures by headspace Gas Chromatography
- BTEX screening in groundwater by solid phase microextraction
- Effect of concentration on Beers Law and interferences in Atomic Absorption Spectrophotometry
- Estimation of sugars in beverages by HPLC linked with differential refractometer
- Determination of anion in mineral water by Dionex DX-100 ion Chromatograph
- Estimation of vitamins in the tablets by ion pairing LC

Familiar with Bio-techniques:

- ❑ Molecular Dynamics by using Typhoon 8600 (variable Mode Imager) and Phosphorimager
- ❑ HPLC linked with LKB model 2140 diode array UV detector and LKB model 1208 radioactivity monitor
- ❑ GC for separation and quantification of volatile components
- ❑ BioCAD for purification of proteins and metabolites etc.
- ❑ Scintillation Counter (Wallac 1400 DSA) for counting of [¹⁴C] & [³H] counts in DPM
- ❑ Bio-Rad (Gel.doc), Polyacrylamide slab-Gel, Agarose Gel and Paper Electrophoresis
- ❑ Ion-Exchange chromatographic & Gel Chromatographic Tech.
- ❑ Flame photometric & Spectrophotometric Techniques
- ❑ Plant Tissue Cultural & Sourthern Blotting Techniques
- ❑ Ultra-centrifugation and ultrafiltration
- ❑ Microscopic Techniques
- ❑ Sonication (Branson Sonifer Cell Disrupter)
- ❑ Assay of various enzymes by autoradiography

Computer Skills:

MSWord, MS Excel, MS Power point, MS Publisher, GraFit, Prism and Web browsers