Curriculum Vitae

Asma Zaidi, Ph.D.,

Professor
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Academic Appointments:

2012- present	**Professor of Biochemistry**, Kansas City University of Medicine and Biosciences, Kansas City, Missouri, **USA**
2007 - 2012	**Associate Professor of Biochemistry**, Kansas City University of Medicine and Biosciences, Kansas City, Missouri, **USA**
2007- present	**Adjunct Associate Professor of Pharmacology and Toxicology**, University of Kansas, Lawrence, Kansas, **USA**
1999 - 2007	**Research Assistant Professor**, Higuchi Biosciences Center, University of Kansas, Lawrence, Kansas, **USA**
1996 - 1999	**Research Associate**, Department of Pharmacology and Toxicology, University of Kansas, Lawrence, Kansas, **USA**
1995 - 1995	**Postdoctoral Fellow**, Department of Medical Biochemistry, Federal University of Rio de Janeiro, Rio de Janeiro, **BRAZIL**
1993 - 1994	**Visiting Scientist**, INSERM Unit 299, Hôpital de Bicètre, Paris, **FRANCE**
1988 - 1991	**Senior Research Fellow**, Department of Biochemistry, Aligarh University, Aligarh, **INDIA**
1986 - 1988	**Junior Research Fellow**, Department of Biochemistry, Aligarh University, Aligarh, **INDIA**

Academic Degrees:

1991	**Doctor of Philosophy, Biochemistry** Aligarh University, Aligarh, India
1988	**Master of Philosophy, Biochemistry** Aligarh University, Aligarh, India
1985	**Master of Science, Biochemistry**

Lucknow University, Lucknow, India

1983 **Bachelor of Science, Chemistry and Biology**
Isabella Thoburn College, Lucknow, India

Professional Award, Honors and Service: International, National and Regional

2014	Member of the National Faculty of Biochemistry, National Board of Osteopathic Medical Education (NBOME)
2013-2014	Item Writer, NBOME
2010-2013	Judge, Research Conference, American Osteopathic Association
2011-present	Grant Reviewer, Alzheimer's Association
2010-present	Editorial Board member, Neural Regeneration Research
2010	Co-organizer, Professional Development Workshop "Celebrating Cultural Diversity in Science" Annual Meeting of the Society for Free Radical Biology and Medicine, Orlando, Florida
2008-present	Grant Reviewer, American Federation for Aging Research (AFAR)
2008-present	National Scientific Advisory Council Member, AFAR
2009	Judge for the Young Investigator Award, Annual Meeting of the Society for Free Radical Biology and Medicine, San Francisco, California
2009	Reviewer for abstracts, Annual Meeting of the Society for Free Radical Biology and Medicine, San Francisco, California
2009	Organizer and co-chair, Professional Development Workshop "Negotiating for Success" at the Annual Meeting of the Society for Free Radical Biology and Medicine, San Francisco, California
2007	Organizer and co-chair, Professional Development Workshop "Media Training 101" at the Annual Meeting of the Society for Free Radical Biology and Medicine held in Washington DC
2006	Organizer and co-chair, Professional Development Workshop "Your Array of Possibilities: A Full Spectrum of Careers in Science" at the Annual Meeting of the Society for Free Radical Biology and Medicine, Denver, Colorado
2006	Member, Review Committee for 5 year review for Director of Mass Spectrometry, University of Kansas

2003 - 2006	Member, Faculty Senate, University of Kansas
2002	Member, Selection Committee for hiring Grant Preparation Specialist, Higuchi Biosciences Center, University of Kansas
2001	Travel Award, American Federation for Aging Research
2000	Council member, American Stroke Association
2000	Travel Award by the Geriatrics Society
1999	Member, Selection Committee for hiring a Research Assistant, Department of Pharmacology and Toxicology, University of Kansas
1998-1999	Elected Representative of the Postdoctoral Research Fellows Association, Department of Pharmacology and Toxicology, University of Kansas
1996-1999	Research Associate Fellowship, National Institutes of Health
1995	Postdoctoral Fellowship, Brazilian Research Council, Brazil.
1993-1994	Poste Vert Fellowship, Institute National de la Sante et Recherche Medicale (French Medical Council), Paris, France
1993	Council of Scientific and Industrial Research Postdoctoral Fellowship, India.
1986	National Education Testing Award, University Grants Commission, India (Awarded 5 year scholarship for graduate school)
1985	Ranked first in class in MS Biochemistry program, Lucknow University, India
1983	Awarded the Kamala Jha Scholarship for academic excellence, BS, Isabella Thoburn College, Lucknow, India

KCUMB Honors, Awards and Service

2014	Member, Search committee for the Dean of College of Biosciences
2014	Team Leader, Diversity Strategic Leadership Team
2013	Co-chair, Research Day

2011-2013	Elected Representative of the Faculty Senate
2012-2014	Chair, Research Committee x 2 terms
2012, 2013	Member, Research Day Planning Committee
2013	Member, Research Strategic Planning Committee
2013	Animal Care Facility Planning Committee
2010, 2013	Intramural Grant Policy Revision Committee
2013, 2014	Member, Capital Equipment
2012-2014	Member, University Lecture Series Committee
2011	Project Captain for "Operation Breakthrough" community service project
2009-present	Founder and Chair, Science Friday Talks
2008-2012	Member, Research Committee
2009 -2011	Rank and Promotion Guidelines Revision Sub-Committee
2008-present	Member, Rank and Promotion Committee
2008	Best faculty poster award, KCUMB Research Day
2007-2012	Vice chair, Institutional Animal Care and Use Committee
2007-present	Interviewer for College of Medicine and College of Biosciences
2007-present	Faculty Advisor for College of Medicine Students

Professional Affiliations / Membership in Societies:

- American Osteopathic Association (2009-present)
- Jackson County Osteopathic Medical Association (2009-present)
- American Association for the Advancement of Science (1995-2013)
- Society for Neuroscience (1996- present)
- Society for Free Radical Biology and Medicine (2002-present)
- American Society for Neurochemistry (1997-present)
- New York Academy of Sciences (1997-2001)

- Brazilian Society of Biochemistry and Molecular Biology (1995-1996)
- French Physiological Society (1993-1994)
- French Society of Biochemistry and Molecular Biology (1993-1994)
- Society of Biological Chemists, India (1988-1992)

Reviewer for Scientific Journals:

- Biochimica et Biophysica Acta
- Biochemical Pharmacology
- Antioxidants and Redox Signaling
- Research Letters in Biochemistry
- Neurotoxicology
- Free Radical Biology and Medicine
- Journal of Neurochemistry
- Neurobiology of Aging
- Neuropharmacology
- Life Sciences
- Current Proteomics
- Research Letters in Biochemistry
- Medical Science Monitor
- Neuronal Regeneration Research
- Journal of Alzheimer's Disease
- Toxicology In Vitro

Peer Reviewed Research Publications and Book Chapters:

1. L. Jiang, M.D. Bechtel, J.L. Bean, R. Winefield, T.D. Williams, **A. Zaidi**, E. K. Michaelis, and M. L. Michaelis **(2014)** Effects of Gangliosides on the Activity of the Plasma Membrane Ca^{2+}-ATPase, **Biochimica et Biophysica Acta**, 1838, 1255-65.

2. Wieschhaus, A. Khan, **A. Zaidi**, H. Rogalin, T. Hanada, F. Liu, L. De Franceschi, C. Brugnara A. Rivera, and Athar H. Chishti **(2012)** Calpain-knockout reveals broad effects on erythrocyte deformability and physiology, **Biochemical Journal**, 448, 141-152.

3. C.K. Johnson, M.R. Liyanage, K.D. Osborn, and **A. Zaidi (2011)** Single-protein dynamics and the regulation of the plasma membrane calcium pump (invited book chapter), **"Cell Signaling Reactions: Single-Molecular Kinetic Analysis." Springer Publications,** editors Yasushi Sako and Masahiro Ueda**, Chapter 6, 121-151.**

4. A. Zaidi **(2010)** The plasma membrane calcium pumps: Targets of oxidative stress in brain aging and neurodegeneration, **World Journal of Biochemistry, 1(9), 271-280.**

5. L. Jiang, J. Fang, D. Moore-Nichols, N. Gogichaeva, N. Galeva, M.L. Michaelis, and

A. Zaidi (2010) Age-associated changes in synaptic lipid raft proteins revealed by two- dimensional fluorescence difference gel electrophoresis, **Neurobiology of Aging,** 31, 2146-2159.

6. **A. Zaidi**, D. Fernandes, J.L. Bean and M.L. Michaelis (2009) Effects of paraquat-induced oxidative stress on the neuronal plasma membrane Ca^{2+}-ATPase, **Free Radical Biology and Medicine,** 47: 1507-1514.

7. X. Wang, **A. Zaidi**, R. Pal, A.S. Garrett, R. Braceras, Xue-wen Chen, M.L. Michaelis, and E.K. Michaelis (2009) Genomic and biochemical approaches in the discovery of mechanisms for selective neuronal vulnerability to oxidative stress, **BMC Neuroscience**, 10:12.

8. A. Mandal, M. R. Liyanage, **A. Zaidi**, and C.K. Johnson (2009) Fluorescence polarization assay for calmodulin binding to plasma membrane Ca^{2+}-ATPase, **Analytical Biochemistry,** 385, 1-6.

9. A. Mandal, M. R. Liyanage, **A. Zaidi**, and C.K. Johnson (2008) Interchange of autoinhibitory domain conformations in plasma-membrane Ca^{2+}-ATPase - calmodulin complexes, **Protein Science,** 17, 555-562.

10. L. Jiang, D. Fernandes, N. Mehta, J.L. Bean, M.L. Michaelis, and **A. Zaidi** (2007) Partitioning of the plasma membrane Ca^{2+}-ATPase into lipid rafts in primary neurons: Effects of cholesterol depletion, **Journal of Neurochemistry**, 102, 378-388.

11. G. Giridharan, **A. Zaidi**, M.L. Michaelis, and C. Schoneich (2007) Proteomic analysis of the aged cerebellum, **Journal of Neurochemistry,** 100, 1494-1504.

12. D. Fernandes, **A. Zaidi**, J.L. Bean, D. Hui, and M.L. Michaelis (2007) RNAi-induced silencing of the plasma membrane Ca^{2+}-ATPase 2 increase the vulnerability of neurons to stimuli that alter intracellular calcium, **Journal of Neurochemistry**, 102, 454-465.

13. A. Agbas, D. Hui, X. Wang, V. Tek, **A. Zaidi**, and E.K. Michaelis (2007) Activation of brain calcineurin (Cn) by Cu-Zn superoxide dismutase (SOD1) depends on direct SOD1-Cn protein interactions occurring in vitro and in vivo, **Biochemical Journal**, 405, 51-59.

14. A. Agbas, **A. Zaidi**, and E.K. Michaelis (2005) Decreased activity and increased aggregation of brain calcineurin during aging, **Brain Research,** 1059, 59-71.

15. G.H. Lushington, **A. Zaidi**, and M.L. Michaelis (2005) Theoretically predicted structures of plasma membrane Ca^{2+}-ATPase and their susceptibilities to oxidation, **Journal of Molecular Graphics and Modeling,** 24, 175-185.

16. K.D. Osborn, **A. Zaidi**, R.J.B. Urbauer, M.L. Michaelis, and C.K. Johnson (2005) Single-molecule characterization of the dynamics of calmodulin bound to oxidatively modified plasma membrane Ca^{2+}-ATPase, **Biochemistry,** 44, 11074-11081.

17. K.D. Osborn, R.K. Bartlett, A. Mandal, **A. Zaidi**, R.J.B. Urbauer, J.L. Urbauer, N. Galeva, T.D. Williams, and C.K. Johnson (2004) Single-molecule dynamics reveal an altered conformation for the autoinhibitory domain of plasma membrane Ca^{2+}-ATPase bound to oxidatively modified calmodulin, **Biochemistry,** 43, 12937-12944.

18. E.S. Dremina V. Sharov, K. Kumar, **A. Zaidi**, E.K. Michaelis, and C. Schoneich (2004) Antiapoptotic protein Bcl-2 interacts with and destabilizes the sarco/endoplasmic reticulum Ca-ATPase (SERCA), **Biochemical Journal** 383, 361-370.

19. K. D. Osborn, **A. Zaidi**, A. Mandal, R.J.B. Urbauer, and C.K. Johnson (2004) Single-molecule dynamics of the calcium-dependent activation plasma membrane Ca^{2+}-ATPase by calmodulin, **Biophysical Journal**, 87, 1892-1899.

20. M.A. Allen, R.J. B. Urbauer, **A. Zaidi**, T. D. Williams, J.L. Urbauer, and C.K. Johnson (2004) Fluorescence labeling, purification, and immobilization of a double cysteine mutant calmodulin fusion protein for single-molecule experiments, **Analytical Biochemistry,** 325, 273 - 284.

21. **A. Zaidi,** L. Barron, V. Sharov, C. Schoneich, E.K. Michaelis, and M.L. Michaelis (2003) Oxidative inactivation of purified plasma membrane Ca^{2+}-ATPase by hydrogen peroxide and protection by calmodulin, **Biochemistry,** 42, 12001-12010.

22. N.S. Ranciat-McComb, K.S. Bland, J.L. Walsh, J. Huscenbett, L. Ramonda, M. Bechtel, **A. Zaidi,** and M.L. Michaelis (2000) Antisense oligonucleotide suppression of Na^{+}/Ca^{2+} exchange activity in primary neurons from rat brain, **Neuroscience Letters**, 294, 13-16.

23. **A. Zaidi** and M.L. Michaelis (1999) Effects of reactive oxygen species on brain synaptic plasma membrane Ca^{2+}-ATPase, **Free Radical Biology and Medicine**, 27, 810-821.

24. **A. Zaidi**, J. Gao, T.C. Squier, and M.L. Michaelis (1998) Age-related alterations in brain synaptic membrane Ca^{2+}-ATPase in F344/BNF1 rats, **Neurobiology of Aging**, 19, 487-495.

25. J. Huscenbett, **A. Zaidi,** and M.L. Michaelis (1998) Sensitivity of the synaptic membrane Na^{+}/ Ca^{2+} exchanger and the expressed NCX1 isoform to reactive oxygen species, **Biochimica et Biophysica Acta**, 1374, 34 - 46.

26. Z. Qin, **A. Zaidi,** J. Gao, A.G. Krainev, M.L. Michaelis, T.C. Squier, and D.J. Bigelow (1998) Decrease in Ca^{2+}-ATPase activity in aged synaptosomal membranes is not associated with changes in fatty acyl chain dynamics, **Mechanisms of Ageing and Development**,

105, 291 - 300.

27. **A. Zaidi**, M. Marden, C. Poyart, and Liliane Leclerc (1995) Protection of the erythrocyte membrane Ca^{2+}-ATPase against iron induced inactivation by U83836E (a vitamin E analog) in "**Sickle Cell Disease and Thalassaemias: New Trends in Therapy**" eds. Y. Beuzard, B. Lubin and J. Rosa, vol. 234, pp 517-518, John Libbey Eurotext Ltd., Montrouge, France.

28. **A. Zaidi**, E. Leclerc L´ Hostis, M. Marden, C. Poyart, and L. Leclerc (1995) Heme as an optical probe for studying the interactions between calmodulin and the Ca^{2+}-ATPase of the human erythrocyte membrane, **Biochimica et Biophysica Acta**, 1236, 114-118.

29. **A. Zaidi**, M. Marden, C. Poyart, and L. Leclerc (1995) Protection by lazaroids of the erythrocyte (Ca^{2+}, Mg^{2+}) - ATPase against iron induced inhibition, **European Journal of Pharmacology / Molecular Section**, 290, 133-139.

30. **A. Zaidi**, M. Tariq Khan, I. Ahmad, and M. Saleemuddin (1995) Studies on the differential morphological alterations in human and goat erythrocytes against ATP depletion and Ca^{2+}-induced stresses, **Biochemistry and Molecular Biology International**, 37, 517-526.

31. **A. Zaidi** and M. Saleemuddin (1993) Ca^{2+} induced alterations in the activity of membrane Ca^{2+}-ATPase of human and rat erythrocytes, **Indian Journal of Biochemistry and Biophysics**, 30, 98-102.

32. **A. Zaidi** and M. Saleemuddin (1991) Goat erythrocyte calmodulin is not abnormal, **Indian Journal of Experimental Biology**, 29, 528-531.

33. M. Tariq Khan, **A. Zaidi**, and M. Saleemuddin (1990) Unusual organisation of band 3 protein in the goat red blood cells, in "**Biomembranes in Health and Disease**" eds. A.M. Kidwai, P.K. Upreti and P.K. Ray pp 7-14, Today and Tomorrow Printers and Publishers, New Delhi, India.

Peer Reviewed Abstracts Published:

1. Jay Sheth, Paul Ramlow, and **Asma Zaidi** (2014) Neuroprotective Strategies for Parkinson's Disease: A Novel Approach, **Proceedings of the American Society for Neurochemistry**, Abstract # PS07-24

2. Paul Ramlow, and **Asma Zaidi** (2014) Decrease in the plasma membrane Ca^{2+}-ATPase in lipid rafts in Parkinson's disease, **Proceedings of the American Society for Neurochemistry**, Abstract # PS07-21

3. Shruti Sharma, Shivani Patel, Paul Ramlow, and **Asma Zaidi** (2014) The Effects of Lipopolysaccharide on the Calcium Pump in BV-2 Microglial Cells, **Journal of the American Osteopathic Association**, 114 (1), S50.

4. **Asma Zaidi,** Paul Ramlow, Hsuan Lu and Stephen Clark (2013) Loss of Olfactory function in Parkinson's Disease: Is calcium the culprit, **Proceedings of the American Society for Neurochemistry**, Abstract # PSM04-05

5. **Asma Zaidi**, Anand Ramadorai, Stephen Clark, Korth Elliot and Paul Ramlow (2012) The Plasma Membrane Ca^{2+}-ATPase: A Novel target of Parkinson's Disease, **Free Radical Biology and Medicine, 53, supplement 2, S72, # 162.**

6. Jennifer Callison, Paul Ramlow and **Asma Zaidi** (2011) Effects of flavonoids on the plasma membrane Ca^{2+}-ATPase, **Journal of the American Osteopathic Association**, 111 (1) S9.

7. **Asma Zaidi**, Jennifer Callison, and Paul Ramlow (2010) Effects of 6-hydroxydopamine on the plasma membrane Ca^{2+}-ATPase: Protection by Flavonoids, **Free Radical Biology and Medicine, 49, S159, # 439.**

8. Todd Williams, Lawrence Seib, Mary L. Michaelis and **Asma Zaidi** (2010) Spectral processing of QQQ scans for lipidomics preserving all features in a spectrum, **Proceedings of the American Society for Mass Spectrometry**, Abstract # 2807.

9. Lei Jiang, **Asma Zaidi**, Jennifer L. Bean and Mary L. Michaelis (2010) Partitioning of the Plasma Membrane Ca^{2+}-ATPase into Lipid Rafts in Primary Neurons, **Proceedings of the American Society for Neurochemistry**, Abstract # PSM 02-01.

10. **Asma Zaidi**, Sundeep Alapati, and Paul Ramlow (2009) The Plasma Membrane Ca^{2+}-ATPase and Parkinson's Disease, **Free Radical Biology and Medicine, 47, S115, # 301.**

11. **Asma Zaidi** and Michelle Owens (2009) Alpha Synuclein, Lipid Rafts, and Parkinson's Disease, Proceedings of the meeting on "Aging and Age-Related Diseases", held in Puerto Vallarta, Mexico, March 3-6, Abstract Number 21.

12. Michelle C.M. Owens and **A. Zaidi** (2009) Role of lipid rafts in the aggregation of alpha synuclein in Parkinson's disease, **Journal of the American Osteopathic Association**, 109 (1), S23.

13. **Asma Zaidi** and Michelle C.M. Owens (2008) The composition of neuronal lipid rafts is altered in Parkinson's Disease, **Free Radical Biology and Medicine**, 287, S108.

14. Lei Jiang, **Asma Zaidi**, Jennifer L. Bean, and Mary L. Michaelis (2008) Partitioning of the plasma membrane Ca^{2+}-ATPase into lipid rafts in primary neurons: Effects of ganglioside depletion, **Proceedings of the Society for Neuroscience**, # 144.3

15. **Asma Zaidi**, Lei Jiang, Jinwang Fang, David M. Nichols, Nadiya V. Gogichaeva, and Mary L. Michaelis (2007) Proteomics analysis of age-dependent alterations in synaptic membrane lipid rafts, **Free Radical Biology and Medicine**, 43, S190.

16. Denzyl Fernandes, **Asma Zaidi**, Jennifer L. Bean, Dongwei Hui, and Mary L. Michaelis (2006) RNAi-induced silencing of the plasma membrane Ca^{2+}-ATPase 2 increase the

vulnerability of neurons to stimuli that alter intracellular calcium, **Free Radical Biology and Medicine**, 41, S169.

17. Asma Zaidi**,** Lei Jiang, Jennifer L. Bean, and Mary L. Michaelis (2006) Age-dependent decrease in synaptic membrane Ca^{2+}-ATPase occurs selectively in cholesterol rich microdomains, **Proceedings of the National IDeA Symposium of Biomedical Research Excellence**, # PP 419.

18. Nadiya A. Galeva, Lei Jiang, **Asma Zaidi**, Mary L. Michaelis, Rick T. Dobrowsky, and Todd D. Williams. (2006) Processing ESI-MSI data obtained on a Q-TOF mass spectrometer to improve the results of protein analysis, **Proceedings of the American Society for Mass Spectrometry,** Program # TP 495.

19. Asma Z**aidi**, Lei Jiang, and Mary L. Michaelis (2005) Age-related alterations in Ca^{2+} regulatory proteins localized in neuronal raft microdomains, **Free Radical Biology and Medicine**, 39, S135.

20. Xinkun Wang, Alex S. Garrett, **Asma Zaidi**, X.W. Chen, Mary L. Michaelis, and Elias K. Michaelis (2005) Comparative microarray study of selective neuronal vulnerability in the brain, **Free Radical Biology and Medicine**, 39, S65.

21. Giridharan Gokulrangan, J. Kanski, **Asma Zaidi**, and Christian Schoneich (2005) Proteomic analysis of age- related protein nitration in rat cerebellum, **American Association for Pharmaceutical Sciences Journal,** 1102,7,52.

22. Steven W. Esch, **Asma Zaidi**, and Todd Williams (2005) Age-related changes in rat brain sphingolipid profile by ESI-MS/MS, **Proceedings of the American Society for Mass Spectrometry,** Program # AO52889.

23. Asma **Zaidi**, Giridharan Gokulrangan, J. Kanski, Mary L. Michaelis, and Christian Schoneich (2004) Proteomic strategies in analysis of age-dependent oxidative modifications in brain proteins. **FASEB J**., 18, 28.21.

24. **Asma Zaidi**, Kenneth D. Osborn, Ramona J.B. Urbauer, Mary L. Michaelis, and Carey K. Johnson (2004) Single molecule dynamics of the calmodulin binding domain of oxidatively modified plasma membrane Ca^{2+}-ATPase, **Free Radical Biology and Medicine**, 37, S112.

25. Mary L. Michaelis, **Asma Zaidi**, Sabah Ansar, and Rick T. Dobrowsky. (2004) Age-dependent up- regulation of brain acid-sphingomyelinase in F344/BNF1 rats. **Proceedings of the Society for Neuroscience,** 2004 Program # 1017.11.

26. **Asma Zaidi**, Denzyl Fernandes, Jennifer L. Bean, and Mary L. Michaelis (2003) Calpain, but not caspase, mediates proteolysis of neuronal plasma membrane Ca^{2+}-ATPase in superoxide-induced oxidative stress, **Free Radical Biology and Medicine**, 35, S114.

27. Abdulbaki Agbas, **Asma Zaidi**, Mary L. Michaelis, Elias K. Michaelis (2003)

Calcineurin in aging brain: Differential expression and activity in homogenates and synaptic membranes, **Proceedings of the Society for Neuroscience,** Program # 472.10.

28. Kenneth D. Osborn, M.K. Singh, **Asma Zaidi**, and Carey K. Johnson (2003) Single-molecule studies of calmodulin activation of the plasma membrane Ca^{2+}-ATPase. **Biophysical Journal,** Abstract # 590.

29. Carey K. Johnson, M.K. Singh, Kenneth D. Osborn, Mike W. Allen, Ramona J.B. Urbauer, and **Asma Zaidi** (2003) Single-molecule dynamics of target binding by calmodulin. **Biophysical Journal,** Abstract # 587.

30. **Asma Zaidi**, L. Barron, Christian Schoneich, and Mary L. Michaelis (2002) Oxidative Modification of the plasma membrane Ca^{2+}-ATPase by H_2O_2. **Free Radical Biology and Medicine**, 33, S393.

31. **Asma Zaidi**, Kathleen Seyb, and Mary L. Michaelis (2002) Effects of superoxide-induced oxidative stress on calcium transporters in primary cortical neurons. **Proceedings of the Society for Neuroscience,** Program # 343.13.

32. Kenneth Osborn, M.K. Singh, **Asma Zaidi**, Ramona J.B. Urbauer, Carey K. Johnson (2002) Time-resolved single molecule studies on the binding dynamics of calmodulin to the plasma membrane Ca^{2+}- ATPase. **Proceedings of the American Chemistry Society -** Midwest Regional Meeting, Abstract # 180.

33. **Zaidi**, A.M. Cross, J.L. Bean; M.L. Michaelis (2001) Modification of synaptic plasma membrane Ca^{2+}-ATPase in ischemic injury in an animal model of global ischemia. **Stroke: A Journal of the American Heart Association**, Abstract P83.

34. M.L. Michaelis, **A. Zaidi**, R. Braceras, M. Bechtel, and E.K. Michaelis (2001) Cerebellar granule neurons and responses to oxidative stress. **Proceedings of the Society for Neuroscience**.

35. **Zaidi**, E. Dremina, R.T. Dobrowsky, and M.L. Michaelis (2001) Alterations in the caveolae-related domains in aging brain. **Successful Aging, Proceedings of the Annual Meeting of the American Federation for Aging Research**, #144S.
36. **Zaidi**, E. Dremina, J. Hansen, T. Williams, R.T. Dobrowsky, and M.L. Michaelis (2001) Alterations in the caveolae-related domains in aging brain. Second Annual Neurobiology of Aging Conference, San Diego, CA, November 8-9, p.106.

37. **Zaidi**, R. Seidle, A. Cross and M.L. Michaelis (2000) Primary neurons in culture as a model for aging studies: age-related alterations in the plasma membrane Ca^{2+}-ATPase. **Journal of Neurochemistry**, 73, S34B.

38. M.L. Michaelis, M. Pearson, N. McComb, D. Moore-Nichols, M. Bechtel, **A. Zaidi,** T. Robertson and E.K.Michaelis (1999) Differential sensitivity to superoxide in primary neurons. **Proceedings of the Society for Neuroscience**, 25, Abstract 736.18

39. **Zaidi** and M.L. Michaelis (1999) Susceptibility of synaptic membrane Ca^{2+}-ATPase to oxidative modification in stroke, **Journal of Neurochemistry**, 72, S34B.

40. **Zaidi** and M.L. Michaelis (1998) Sensitivity of synaptic membrane Ca^{2+}-ATPase to oxidative stress. **Journal of Neurochemistry**, 70, S26A.

41. M.L. Michaelis, L. Chung and **A. Zaidi** (1997) Age-related decreases in the activity and expression of the synaptic membrane Ca^{2+}-ATPase. **Proceedings of the Society for Neuroscience**, 23, Abstract 463.5, 1162.

42. M.L. Michaelis, J. Huschenbett and **A. Zaidi** (1996) Effects of oxidative stress on synaptic membrane Ca^{2+}-transporters: Implications for brain aging. **Proceedings of the Society for Neuroscience**, volume 22, Abstract 593.4, 1494.

43. L. Leclerc**, A. Zaidi**, C. Poyart and M.C. Marden (1996) Protection by lazaroids of the erythrocyte (Ca^{2+}- Mg^{2+}) ATPase against iron-induced inhibition. **Proceedings of the International Society for Free Radical Research**, vol 83**.**

44. L. Leclerc, **A. Zaidi**, E. Leclerc L´Hostis, M. Marden and C. Poyart (1994) Hemin-CN: The revealing probe of the binding of calmodulin- Ca^{2+}-ATPase studied by spectrofluorescence. **Archives Internationales de Physiologie, de Biochimie et de Biophysique**, vol 102, A94.

45. **Zaidi**, E. Leclerc L´Hostis, M. Marden, L. Leclerc and C. Poyart (1994) Hemin-CN: probe of the interaction of calmodulin-Ca^{++}-ATPase. **Journal of Experimental and Clinical Hematology**, 36(1) Abstract 56, page 23.

46. **Zaidi**, M. Marden, E. Leclerc L´Hostis, C. Poyart and L. Leclerc (1993) Study of the binding of $Ca^{2+}Mg^{2+}$ -ATPase and calmodulin by spectrofluorimetric methods. **Proceedings of the French Society of Biochemistry and Molecular Biology**, VIII 9, 156.

47. **Zaidi** and M. Saleemuddin (1990) Effect of calcium on the Ca^{2+}-ATPase of rat and human erythrocytes. **Proceedings of the Society of Biological Chemists,** Abstract No. BIM 18.

48. **Zaidi** and M. Saleemuddin (1989) Goat erythrocyte calmodulin is not abnormal, **Proceedings of the Society of Biological Chemists,** Abstract No. PSF 9.

49.Zaidi and M. Saleemuddin (1988) Purification and studies on goat erythrocyte calmodulin, P**roceedings of the Society of Biological Chemists,** Abstract No. 205.

<u>Scientific Presentations at Regional, National and International Meetings:</u>

1. Jay Sheth, Paul Ramlow, and **Asma Zaidi** (2014) Neuroprotective Strategies for Parkinson's Disease: A Novel Approach, Presented at the Missouri Osteopathic Student and Post-graduate Research Symposium, Branson, Missouri.

2. Jay Sheth, Paul Ramlow, and **Asma Zaidi** (2014) Neuroprotective Strategies for Parkinson's Disease: A Novel Approach, Presented at the 45th Annual Meeting of the American Society for Neurochemistry, Long Beach, California.

3. Paul Ramlow, and **Asma Zaidi** (2014) Decrease in the plasma membrane Ca2+-ATPase in lipid rafts in Parkinson's disease, Presented at the 45th Annual Meeting of the American Society for Neurochemistry, Long Beach, California.

4. Shruti Sharma, Shivani Patel, Paul Ramlow, and **Asma Zaidi** (2013) The Effects of Lipopolysaccharide on the Calcium Pump in BV-2 Microglial Cells, Presented at the Research Conference, 118th Annual Meeting of the American Osteopathic Association, Las Vegas, Nevada.

5. **Asma Zaidi,** Paul Ramlow, Hsuan Lu and Stephen Clark (2013) Loss of Olfactory function in Parkinson's Disease: Is calcium the culprit, Presented at the 24th Annual Meeting of the International Society for Neurochemistry and the American Society for Neurochemistry, Cancun, Mexico.

6. Jay Sheth, Paul Ramlow, and **Asma Zaidi** (2013) Neuroprotective Strategies for Parkinson's Disease: A Novel Approach, Presented at KCUMB Research Day.

7. Shruti Sharma, Shivani Patel, Paul Ramlow, and **Asma Zaidi** (2013) The Effects of Lipopolysaccharide on the Calcium Pump in BV-2 Microglial Cells, Presented at KCUMB Research Day.

8. Anand Ramadorai, Paul Ramlow, and **Asma Zaidi** (2012) Calcium dyshomeostasis and neuronal injury in Parkinson's Disease, Presented at **KCUMB Research Day.**

9. Jennifer Callison, Paul Ramlow and **Asma Zaidi** (2011) Effects of flavonoids on the plasma membrane Ca2+-ATPase, Presented at the Research Conference, 116th Annual Meeting of the American Osteopathic Association, Orlando, Florida.

10. Jennifer Callison, Paul Ramlow and **Asma Zaidi** (2011) Neuroprotective effects of flavonoids on the plasma membrane Calcium ATPase, Presented at **KCUMB Research Day.**

11. **Asma Zaidi**, Jennifer Callison, and Paul Ramlow (2010) Effects of 6-hydroxydopamine on the plasma membrane Ca2+-ATPase: Protection by Flavonoids, Presented at the 17th Annual Meeting of the Society for Free Radical Biology and Medicine, Orlando, Florida.

12. Sundeep Alapati, Paul T. Ramlow, and **Asma Zaidi** (2010) Neuronal Calcium Regulation and Parkinson's Disease, Presented at **KCUMB Research Day.**

13. Paul T. Ramlow, Edith Chang, Rolf Jakobi, and **Asma Zaidi** (2010) Identification of Signaling Molecules that Contribute to the Invasive Phenotype of Malignant Glioma

Cells, Presented at **KCUMB Research Day.**

14. **Asma Zaidi**, Sundeep Alapati, and Paul Ramlow (2009) The Plasma Membrane Ca2+-ATPase and Parkinson's Disease, Presented at the 16th Annual Meeting of the Society for Free Radical Biology and Medicine, San Francisco, California.

15. **Asma Zaidi** and Michelle Owens (2009) Alpha Synuclein, Lipid Rafts, and Parkinson's Disease, Presented at the meeting on "Aging and Age-Related Diseases", held in Puerto Vallarta, Mexico.

16. Michelle C.M. Owens and **A. Zaidi** (2009) Role of lipid rafts in the aggregation of alpha synuclein in Parkinson's disease, Presented at the Research Conference, 114th Annual Meeting of the American Osteopathic Association, New Orleans, Louisiana.

17. Michelle CM Owens and **Asma Zaidi** (2008) Alpha Synuclein, Lipid Rafts and Parkinson's Disease**,** Presented at **KCUMB Research Day (podium presentation).**

18. Michelle Owens and **Asma Zaidi** (2008) Role of lipid rafts in the aggregation of alpha synuclein in Parkinson's disease, Presented at the Research Conference, 113th Annual Meeting of the American Osteopathic Association, Las Vegas, Nevada.

19. **Asma Zaidi**, L. Jiang, J. Fang, D.M. Nichols, N. V. Gogichaeva, and M.L. Michaelis (2007) Proteomics analysis of age-dependent alterations in synaptic membrane lipid rafts, Presented at the 14th Annual Meeting of the Society for Free Radical Biology and Medicine, Washington DC.

20. D. Fernandes, **A. Zaidi**, J.L. Bean, D. Hui, and M.L. Michaelis (2006) RNAi-induced silencing of the plasma membrane Ca^{2+}-ATPase 2 increase the vulnerability of neurons to stimuli that alter intracellular calcium, Presented at the 13th Annual Meeting of the Society for Free Radical Biology and Medicine, Denver, Colorado.

21. Asma Zaidi**,** L. Jiang, J.L. Bean, and M.L. Michaelis (2006) Age-dependent decrease in synaptic membrane Ca^{2+}-ATPase occurs selectively in cholesterol rich microdomains, Presented at the **National IDeA Symposium of Biomedical Research Excellence**, Kansas City, Missouri.

22. Asma Z**aidi**, L. Jiang, and M.L. Michaelis (2005) Age-related alterations in Ca^{2+} regulatory proteins localized in neuronal raft microdomains, Presented at the 12th Annual Meeting of the Society for Free Radical Biology and Medicine, Austin, Texas.

23. X. Wang, A.S. Garrett, **A. Zaidi**, X.W. Chen, M.L. Michaelis, and E.K. Michaelis (2005) Comparative microarray study of selective neuronal vulnerability in the brain, Presented at the 12th Annual Meeting of the Society for Free Radical Biology and Medicine, Austin, Texas.

24. Asma **Zaidi**, G. Gokulrangan, J. Kanski, M.L. Michaelis, and C. Schoneich (2004) Proteomic strategies in analysis of age-dependent oxidative modifications in brain

proteins. Presented at the Annual Meeting of the American Society for Biochemistry and Molecular Biology and the 8th Congress of the International Union for Biochemistry and Molecular Biology, Boston, Massachussetts.

25. **Asma Zaidi**, Kenneth D. Osborn, Ramona J.B. Urbauer, Mary L. Michaelis, and Carey K. Johnson (2004) Single molecule dynamics of the calmodulin binding domain of oxidatively modified plasma membrane Ca^{2+}-ATPase. Presented at the 11th Annual Meeting of the Society for Free Radical Biology and Medicine, St. Thomas, US Virgin Islands.

26. **Zaidi**, D. Fernandes, J.L. Bean, and M.L. Michaelis (2003) Calpain, but not caspase, mediates proteolysis of neuronal plasma membrane Ca^{2+}-ATPase in superoxide-induced oxidative stress. Presented at the 10th Annual Meeting of the Society for Free Radical Biology and Medicine, Seattle, Washington.

27. **Zaidi**, L. Barron, C. Schoneich, and M.L. Michaelis (2002) Oxidative Modification of the plasma membrane Ca^{2+}- ATPase by H_2O_2. Presented at the 9th Annual Meeting of the Society for Free Radical Biology and Medicine, San Antonio, Texas.

28. **Zaidi**, A.M. Cross, J.L. Bean; M.L. Michaelis (2001) Modification of synaptic plasma membrane Ca^{2+}-ATPase in ischemic injury in an animal model of global ischemia. Presented at the 26th International Stroke Conference, Fort Lauderdale, Florida.

29. M.L. Michaelis, **A. Zaidi**, R. Braceras, M. Bechtel, and E.K. Michaelis (2001) Cerebellar granule neurons and responses to oxidative stress. Presented at the Annual Meeting of the Society for Neuroscience, San Diego, California.

30. **Zaidi**, E. Dremina, R.T. Dobrowsky, and M.L. Michaelis (2001) Alterations in the caveolae-related domains in aging brain. Presented at the Annual Meeting of the American Federation for Aging Research, Madison, Wisconsin.

31. **Zaidi**, E. Dremina, J. Hansen, T. Williams, R.T. Dobrowsky, and M.L. Michaelis (2001) Alterations in the caveolae-related domains in aging brain. Presented at the 2nd Annual Neurobiology of Aging Conference, San Diego, California.

32. **Zaidi** and M.L. Michaelis (1999) Susceptibility of synaptic membrane Ca^{2+}- ATPase to oxidative modification in stroke, Presented at the 30th Annual Meeting of the American Society for Neurochemistry, New Orleans, Louisiana.

33. **Zaidi** and M.L. Michaelis (1998) Sensitivity of synaptic membrane Ca^{2+}- ATPase to oxidative stress. Presented at the 29th Annual Meeting of the American Society for Neurochemistry, Denver, Colorado.

34. M.L. Michaelis, L. Chung and **A. Zaidi** (1997) Age-related decreases in the activity and expression of the synaptic membrane Ca^{2+}-ATPase. Presented at the Annual Meeting of the Society for Neuroscience, New Orleans, Louisiana.

35. M.L. Michaelis, J. Huschenbett and **A. Zaidi** (1996) Effects of oxidative stress on synaptic membrane Ca^{2+} transporters: Implications for brain aging. Presented at the Annual Meeting of the Society for Neuroscience, Washington DC.

36. **A. Zaidi**, L. Leclerc, E. Leclerc L´Hostis, M. Marden and C. Poyart (1994) Hemin-CN: The revealing probe of the binding of calmodulin-Ca^{++}-ATPase studied by spectrofluorescence. Presented at the Annual Meeting of the Brazilian Society for Biochemistry, Minas Gerais, Brazil.

37. Presented at the Annual Meeting of the L. Leclerc, **A. Zaidi**, E. Leclerc L´Hostis, M. Marden and C. Poyart (1994) Hemin-CN: The revealing probe of the binding of calmodulin-Ca^{++}-ATPase studied by spectrofluorescence. Presented at the Annual Meeting of the Societe **Internationales de Physiologie, de Biochimie et de Biophysique**, Angers, France.

38. **Zaidi**, M. Marden, E. Leclerc L´Hostis, C. Poyart and L. Leclerc (1993) Study of the binding of $Ca^{2+}Mg^{2+}$ -ATPase and calmodulin by spectrofluorimetric methods. Presented at the Annual Meeting of the **French Society of Biochemistry and Molecular Biology**, Paris, France.

39. **Zaidi** and M. Saleemuddin (1990) Effect of calcium on the Ca^{2+}-ATPase of rat and human erythrocytes. Presented at the Annual Meeting of the **Society of Biological Chemists,** Udaipur, India.

40. **Zaidi** and M. Saleemuddin (1989) Goat erythrocyte calmodulin is not abnormal. Presented at the Annual Meeting of the **Society of Biological Chemists,** Izzatnagar, India.

41. **Zaidi** and M. Saleemuddin (1988) Purification and studies on goat erythrocyte calmodulin. Presented at the Annual Meeting of the **Society of Biological Chemists,** New Delhi, India.

Invited Podium Presentations:

- "The CRAN Story" Cluster for Research on Aging and Neurodegeneration, KCUMB Research Day (2013)

- "Healthcare Needs of Muslim Women", Diversity Panel, KCUMB (2013)

- "My research experiences in America", Amity University, New Delhi, India (2012)

- "Mentoring and Fundraising in Academia" Gordon Research Seminar, Ventura, California, (2011)

- "Calcium and Neurodegeneration: Is the Killer in the House?" University of Kansas, Department of Pharmacology and Toxicology Seminar Series, Lawrence, KS (2011)

- "The Plasma Membrane Ca2+-ATPase: A Novel Target of Neurodegeneration" Science Friday Talks, KCUMB, (2010)

- "Alpha synuclein, lipid rafts and Parkinson's disease" Molecular Mechanisms of Aging and Age-related Diseases, Puerto Vallarta, Mexico, (2009)

- "Questions on Brain Aging: Are the Answers Located on Lipid Rafts?" Kansas City University of Medicine and Biosciences Research Day, Kansas City, Missouri, (2009)

- "Visiting the aging brain: A journey on lipid rafts" Landon Center on Aging, University of Kansas Medical Center, (2008)

- "Disruption of calcium homeostasis in the aging brain: role of the plasma membrane Ca^{2+}-ATPase" Mayo Clinic, Rochester, Minnesota, (2007)

- "Disruption of neuronal calcium regulation: A link between brain aging and neurodegeneration" Kansas City University of Medicine and Biosciences, Kansas City, Kansas, (2007)

- "Disruption of neuronal calcium regulation: A link between brain aging and neurodegeneration" Videoconference Meeting of the NIH Center of Biomedical Research Excellence, at Lawrence, Kansas with Kansas State University, Manhattan, University of Kansas Medical Center, Kansas City, and Wichita State University, Wichita (2007)

- "Association of the Plasma Membrane Ca^{2+}-ATPase with Lipid Rafts: Implications for Brain Aging" Annual Meeting of the NIH Center of Biomedical Research Excellence, at Lawrence, Kansas, (2006)

- "Unraveling the Mechanisms of Brain Aging - from Neurobiology to Lipidomics" External Advisory Board Meeting of the Lipidomics Core, Kansas State University, Manhattan, Kansas, (2005)

- "Sensitivity of the Plasma Membrane Ca^{2+}-ATPase to Oxidative Stress - Role in Brain Aging" Wichita State University, Wichita, Kansas, (2005)

- "Compartmentalization of Plasma Membrane Ca^{2+}-ATPase into Neuronal Lipid Rafts" Annual External Advisory Board Meeting of the NIH Center of Biomedical Research Excellence, University of Kansas, (2005)

- "Oxidative Modification of the Erythrocyte Plasma Membrane Ca^{2+}-ATPase by Hydrogen Peroxide" Annual Meeting of the Red Cell Club, Columbia, Missouri, (2004)

- "Compartmentalization of Neuronal Calcium Signaling in Lipid Rafts" Annual External Advisory Board Meeting of the NIH Center of Biomedical Research Excellence,

University of Kansas, (2004)

- "Identification of Potential Mechanisms Underlying the Age-dependent Decrease in PMCA Activity and Levels in SPMs from Rat (F344/BNF1) Brain" Program Project on Aging, Higuchi Biosciences Center, KU, (2002)

- "Ceramide Signaling Pathway in Aging Brain: Cross-talk with Intraneuronal Calcium" Meeting of the Program Project on Aging, Higuchi Biosciences Center, University of Kansas, (2001)

- "Calcium Regulation in Aging Neurons" University of Kansas Medical Center, University of Kansas, Seminar, (2000)

- "Disruption of Calcium Homeostasis in the Aging Brain" Department of Chemistry, Indian Institute of Technology, Kanpur, India, (2000)

- "Calcium Regulation in Aging Brain" Department of Pharmacology and Toxicology, University of Kansas (1999)

- "The Phenomenon of Brain Aging: is Calcium the Culprit"? Department of Pharmacology and Toxicology, University of Kansas (1997)

- "Study of the Binding of $Ca^{2+}Mg^{2+}$ -ATPase and Calmodulin by Spectrofluorimetric methods" Annual Meeting of the French Society for Biochemistry and Molecular Biology, Paris, France, (1993)

- "Purification and studies on goat erythrocyte calmodulin" Annual Meeting of the Society for Biological Chemists, New Delhi, India, (1988)

<u>Supervision/Training in Research:</u>

Doctor of Osteopathic Medicine Students, KCUMB

2013 – present	Jay Sheth, Shruti Sharma, Shivani Patel, Aimee Lambeth, Patricia Riggs, Brandon Overholt
2012-2013	Stephanie Burkhardt, Anand Ramadurai, Hsuan Lu, Jim Fowler, Jordan Larsen
2010 -2012	Stephen Clark, Korth Elliot, Dustin Wasylik
2010 - 2011	Jennifer Callison
2010 - 2010	Christopher Sutten, Phu Cao
2009 - 2010	Sundeep Alapati

2007- 2009 Michelle Owens

2007- 2008 Ilijas Gusmirovic

College of Biosciences Students, KCUMB

2010 - 2012 Paul Ramlow, Research Track student

Visiting Scientists

2004 - 2005 Dr. Cheryl Miller, Research Assistant Professor, University of Kansas Medical Center, University of Kansas.

2000 - 2001 Dr. Karen SantaCruz, Neuropathologist, Department of Pathology, University of Kansas Medical Center, University of Kansas.

Post-doctoral Research Associates

2004 - 2007 Dr. Lei Jiang, Postdoctoral Fellow, Department of Pharmacology and Toxicology, University of Kansas.

2002 - 2007 and Dr. Sabah Ansar, Postdoctoral Fellow, Department of Pharmacology Toxicology, University of Kansas.

2004 - 2005 Dr. Abhijeet Mandal, Postdoctoral Fellow, Department of Chemistry, University of Kansas.

Ph.D./M.S. Students

2005 - 2009 Roshan M.W. Liyanage, Graduate Student, Department of Chemistry, University of Kansas.

2002 - 2005 Denzyl Fernandes, Graduate Student, Department of Pharmacology and Toxicology, University of Kansas.

2002 - 2004 Ken Osborn, Graduate Student, Department of Chemistry, University of Kansas.

2003 - 2004 Alexander Garrett, Graduate Student, Department of Computer Science, University of Kansas.

2002 - 2003 Kathleen Seyb, Graduate Student, Department of Pharmacology and Toxicology, University of Kansas.

2002 - 2002 Brian Slaughter, Graduate Student, Department of Chemistry, University of Kansas.

Technical Personnel

2009- 2014 Paul Ramlow, Research Assistant, Department of Biochemistry, Kansas City University of Medicine and Biosciences.

1999 - 2007 Jennifer L. Bean, Research Assistant, Department of Pharmacology and Toxicology, University of Kansas.

2001 - 2002 David Brooks, Technical Director, Tissue Culture and Hybridoma Laboratory, University of Kansas.

2001 - 2002 Kristy Davidson, Research Assistant, Department of Pharmacology and Toxicology, University of Kansas.

2000 - 2001 Jeremy Johnson, Research Assistant, Department of Pharmacology and Toxicology, University of Kansas.

Undergraduate Students

2013-2014 Olivia Dykes, William Jewell College

2013-2014 Parwaiz Nawabi, William Jewell College

2011 Sidhrah Sheikh, Undergraduate Student, University of Kansas

2004 – 2007 Nandini Mehta, Undergraduate Student, University of Kansas.

2002 - 2002 Sarah Andrews, Visiting Summer Student, Clemson University, Clemson, South Carolina.

2000 - 2001 Adil Mir, Undergraduate Student, University of Kansas.

2000 - 2001 Claire Binci, Undergraduate Student, University of Kansas

1999 - 2001 Angela Cross, Undergraduate Student, University of Kansas.

1999 - 2001 Denise Birkholz, Undergraduate Student, University of Kansas.

1999 - 2000 Rachel Seidle, Undergraduate Student, University of Kansas.

2000 - 2000 Karyn Foster, Visiting Summer Student, Reed College, Portland, Oregon.

1997 - 1999 Marcus Asplund, Undergraduate Student, University of Kansas.

1997 - 1998 Martin Carpenter, Undergraduate Student, University of Kansas.

1997 - 1997	Roberto Iglesias, Undergraduate Student, University of Kansas.
1997 - 1997	Amethyst L. Hamlin, Visiting Summer Student, Bates College, Lewiston, Maine.
1996 - 1999	Liszu Chung, Pharm. D. Student, School of Pharmacy, University of Kansas.

Administrative Responsibilities:

Course Director, Molecular Biology, College of Biosciences (2009, 2010, 2011, 2012, 2013, 2014)

Section Director, Endocrine Section, College of Medicine (2010)

Teaching: College of Biosciences (2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014)

Course - Molecular Biology

Lectures:

- From DNA to Protein: Transcription and Translation 1
- From DNA to Protein: Transcription and Translation 2
- Intracellular Compartments and Protein Sorting 1 and 2
- Intracellular Compartments and Protein Sorting 1 and 2
- Intracellular Vesicular Traffic 1
- Intracellular Vesicular Traffic 2
- Development of Multicellular Organisms 1
- Development of Multicellular Organisms 2
- Specialized Tissues, Stem Cells, and Tissue Renewal 1
- Specialized Tissues, Stem Cells, and Tissue Renewal 2

Course - Introduction to Research Design and Methods

Lectures:

- Neurobiological Research I
- Neurobiological Research II
- Animal Models in Neurobiological Research

Course - Biochemistry

Lectures:

- Membrane Transport I
- Membrane transport II

Course – Summer Learning Enhancement Program (2009, 2010, 2011, 2012, 2013)

- Liver Pathways 1
- Liver Pathways 2

Teaching: College of Medicine (2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014)

Cardiopulmonary Section

- Genetics of Heart Disease

Musculoskeletal Section

- Gout

Gastrointestinal Section

- Functions of the Liver 1
- Functions of the Liver 2
- Bilirubin Metabolism

Foundations of Medicine Section

- Lipid metabolism

Neuroscience Section

- Membrane Lipids
- Biochemistry of Neurotransmitters

Advanced Neurochemistry: BCHE 215 (2011, 2012, 2013, 2014) – Elective Course

- Metabolism:

Topics include: [1] Energy Metabolism of the Brain; [2] Hypoxic-Ischemic Brand Injury and Oxidative Stress; [3] Eicosanoids, Docosanoids, Platelet-Activating Factor and Inflammation; [4] Metabolic Encephalopathies; [5] Apoptosis and Necrosis.

- Sensory Transduction

Topics include: [1] Molecular Biology of Vision; [2] Molecular Biology of Olfaction and Taste; [3] Molecular Biology of Hearing and Balance.

Teaching Laboratories: College of Medicine (2007, 2008, 2009)

Cardiopulmonary I

- Venipuncture, Determination of Hematocrit and Hemoglobin Concentration

Skin, Blood and Lymph

- Blood Typing, Osmotic fragility Test, and Hemoglobinopathies

New Elective Courses developed:

Research in Chemical Neurobiology (BCHE 199, BCHE 299)

Advanced Neurochemistry (BCHE 215)

Invited Lectures at External Institutions:

Spring 2011 **Experimental Pharmacology**, Graduate Course

Department of Pharmacology and Toxicology, University of Kansas – 5 lectures (1.5 h each)

- Calcium Regulation and Dysregulation in the Central Nervous System - 1
- Calcium Regulation and Dysregulation in the Central Nervous System - 2
- Calcium Regulation and Dysregulation in the Central Nervous System - 3
- Calcium Regulation and Dysregulation in the Central Nervous System - 4
- Calcium Regulation and Dysregulation in the Central Nervous System - 5

Spring 2008 **Chemistry of the Nervous System**, Graduate Course

Department of Pharmacology and Toxicology, University of Kansas – 2 lectures (1.5 h each)

- Calcium Regulation and Dysregulation – Part I
- Calcium Regulation and Dysregulation – Part II

Spring 2007 **Experimental Pharmacology**, Graduate Course

Spring 2006 Department of Pharmacology and Toxicology, University of Kansas – 2 lectures (1.5 h each)

- Calcium Regulation and Dysregulation in the Central Nervous System - 1
- Calcium Regulation and Dysregulation in the Central Nervous System - 2

Thesis Committees:

Paul Ramlow, M.S. in Biomedical Sciences, KCUMB (Committee Chair)

Elizabeth Furnish, M.S. in Biomedical Sciences, KCUMB (Committee

Chair)

Eric Eric Daharsh, M.S. in Biomedical Sciences, KCUMB (Committee Co-

Chair)

Extramural Funding:

- **R15 – National Institute on Neurological Disorders and Stroke**
  "PMCA: A Novel Target of Parkinson's Disease" – to be submitted June 25, 2014

- **RO1 – National Institute on Aging**
  "Bioenergetics and Synaptic Vulnerability in Alzheimer's Disease" – 2011, not funded

- National Institute on Aging (Program
Project) Reactive Oxygen Species and Aging

$6,312,318 12/07 - 11/12

Principal Investigator - Dr. E.K. Michaelis, Department of Pharmacology and Toxicology, University of Kansas

Project 2: Age-dependent Changes in Synaptic Raft Domains and Plasma Membrane Ca^{2+} - ATPase

Project Leader - M.L. Michaelis, Department of Pharmacology and Toxicology, University of Kansas

$ 1,125,011

Role: Co-leader Project 2

- National Institute on Aging (RO1)
Proteomic Characterization of Aging Cerebellum

$ 1,250,000 9/04-8/09

Principal Investigator - Dr. C. Schoneich, Department of Pharmaceutical Chemistry, University of Kansas

Role: Co-Investigator

- Kansas City Area Life Sciences Research Development Funds
Age-dependent Changes in the Cardiac Plasma Membrane Ca^{2+}-ATPAse

$25,000 01/07 - 12/07

Role: Principal Investigator

- American Heart Association

Single-Molecule Protein Dynamics of Calcium Signaling

$ 143,500 07/04 - 06/07

Principal Investigator – Dr. C.K. Johnson, Department of Chemistry, University of Kansas
Role: Co-Investigator

- National Institute on Aging (Program

Project) Role of Reactive Oxygen in Aging

$4,200,000 05/01 - 03/06

04/06 – 03/07 (No cost extension)

Principal Investigator - Dr. E.K. Michaelis, Department of Pharmacology and Toxicology, University of Kansas

Project 4: Oxidative Stress, Aging, and Brain Ca^{2+} Transport Systems

Project Leader - M.L. Michaelis, Department of Pharmacology and Toxicology, University of Kansas

$ 573,000 05/01 - 04/07

Role: Senior Investigator

- NIH Center of Biomedical Research Excellence

Protein Structure and Function

Principal Investigator - Dr. R. Hanzlik, Department of Medicinal Chemistry, University of Kansas

Pilot Project: Trafficking of the Plasma Membrane Ca^{2+}- ATPase to Rafts

$120,000 1/04 - 6/06

$7,500 7/06-12/06 Extension

Role: Pilot Project Leader

- American Federation for Aging Research

Age-Related Alterations in the Plasma Membrane Ca^{2+}-ATPase: Role of Oxidative Stress and Ceramide Signaling
$ 50,000 7/2000-6/2001
Role: Principal Investigator

- American Heart Association

Effects of Ischemia-Reperfusion Injury on the Neuronal Plasma Membrane Ca^{2+}-ATPase

$70,000 07/99 - 06/01

Role: Principal Investigator

Intramural Funding:

- KCUMB Summer Research Fellowship

Inactivation of Neuronal PMCA: Are Microglia the Culprit?

$ 3000 (stipend for mentee, Patricia Riggs) plus $1000 (for supplies) June/July 2014

Role: Principal Investigator

- KCUMB Summer Research Fellowship

Neuroprotective Strategies for Parkinson's Disease: A Novel Approach

$ 3000 (stipend for mentee, Jay Sheth) plus $1000 (for supplies) June/July 2013

Role: Principal Investigator

- Betty Jo White Award for Research (KCUMB)

Disruption of Calcium Homeostasis in Parkinson's Disease

$ 1300 2012-2013

Role: Principal Investigator

- KCUMB Summer Research Fellowship

Calcium dyshomeostasis and neuronal injury in Parkinson's Disease

$ 3000 (stipend for mentee, Anand Ramadorai) plus $1000 (for supplies) June/July 2012

Role: Principal Investigator

- KCUMB Intramural Grant

Impairment of Neuronal Calcium Handling in Parkinson's Disease: Effects of 6-Hydroxydopamine on the Calcium Pump

$ 15,000 Mar 2010- Aug 2011

Role: Principal Investigator

- KCUMB Summer Research Fellowship

Neuroprotective Effects of Dietary Flavonoids

$ 3000 (stipend for mentee, Jennifer Callison) plus $1000 (for supplies) June/July 2010

Role: Principal Investigator

- KCUMB Summer Research Fellowship

Neuronal Calcium and Parkinson's Disease

$ 3000 (stipend for mentee, Sundeep Alapati) plus $1000 (for supplies) June/July 2009

Role: Principal Investigator

- KCUMB Summer Research Fellowship

Role of Lipid Rafts in the Aggregation of Alpha Synuclein in Parkinson's Disease

$ 3000 (stipend for mentee, Michelle Owens) plus $1000 (for supplies) June/July 2008

Role: Principal Investigator

- Betty Jo White Award for Research (KCUMB)

Lipid Rafts, Alpha Synuclein, and Parkinson's
Disease

$ 1500 10/07-09/08

Role: Principal Investigator

- General Research Fund (KU)

Trafficking of the Neuronal Plasma Membrane Ca^{2+}-ATPase

$10,000 07/06-06/07

Role: Principal Investigator

- J.R. and Inez Jay Funds (KU)

Proteomic Analysis of Rafts in Neuronal Plasma Membrane: Novel Approach to Study the Aging
Brain

$ 45,000 07/03-06/04

Role: Principal Investigator

- Higuchi Biosciences Center

(KU) Shared Equipment
Assistance Award

Principal Investigator Dr. C.K. Johnson, Dept. of Chemistry, KU

Role: Co-Investigator

- Higuchi Biosciences Center (KU)

Shared Equipment Assistance Award

$ 7,000 03/00

Role: Principal Investigator

- Higuchi Biosciences Center (KU)

Research Assistance Award

$ 1,500 04/00

Role: Principal Investigator

- Higuchi Biosciences Center (KU)

Research Assistance Award

$ 1,500 12/99

Role: Principal Investigator

- Higuchi Biosciences Center (KU)

Research Assistance Award

$ 1,500 03/99

Role: Principal Investigator