

## CURRICULUM VITAE

**NAME:** Diana Lee Kunze, Ph.D.

**DATE:** August 2001

### **PRESENT POSITION AND ADDRESS:**

Rammelkamp Center for Education and Research  
MetroHealth Medical Center  
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### **EDUCATION:**

1961	Biology	B.S.	Stetson University, Deland, Florida
1966	Physiology	M.S.	Emory University, Atlanta, Georgia
1970	Physiology	Ph.D.	University of Utah Salt Lake City, Utah

### **PROFESSIONAL AND TEACHING EXPERIENCE:**

1996- Present	Professor, Department of Neuroscience, Case Western Reserve University, Cleveland, Ohio
1995 - Present	Senior Research Scientist, Rammelkamp Center for Education and Research, MetroHealth Systems, Cleveland, Ohio
1995 - Present	Adjunct Staff, Department of Cell Biology, The Cleveland Clinic Foundation, Cleveland, Ohio
1992 - 1995	Professor, Department of Molecular Physiology and of Biophysics, Baylor College of Medicine, Houston, Texas
1985 - 1992	Associate Professor, Department of Molecular Physiology and Biophysics, Baylor College of Medicine, Houston, Texas
1978 - 1985	Associate Professor, Department of Physiology and Biophysics, University of Texas Medical Branch, Galveston, Texas
1973 - 1978	Assistant Professor, Department of Physiology and Biophysics, University of Texas Medical Branch, Galveston, Texas
1974 - 1975	Faculty, Summer Course in Neurobiology, Cold Spring Harbor Laboratory
1972 - 1973	Research Associate, Division of Cardiology, Department of Medicine, University of Utah, Salt Lake City, Utah
1971 - 1972	Research Associate, C.N.R.S., Paris, France
1970 - 1971	USPHS Postdoctoral Fellow in Neurophysiology, Department of Physiology, University of Utah, Salt Lake City, Utah

1961 - 1963

Instructor, Dade County, Florida, Public Schools

## **RESEARCH ACTIVITIES:**

### **A. AREA OF RESEARCH:**

Neuroscience of autonomic reflexes, properties of ion channels, endothelial cell biology.

### **B. RESEARCH SUPPORT:**

National Institutes of Health- HL61436, Ion channels in Mechanosensitive Neurons. P.I.- D.L. Kunze 12/1/98 – 11/31/03.

National Institutes of Health- HL25830-01/05, Program Project: Control of Respiratory Skeletal and Smooth Muscle -P.I. Nanduri Prabhakar. Project 4: "Electrophysiology of Central Respiratory Neurons". P.I.- D.L. Kunze 9/30/96 -9/29/01 Total funds for project 4

National Institutes of Health - RR-14619 Confocal Microscope P.I-D.L. Kunze 5/1/00- 4/3/01

## **SERVICE: Selected**

### **National**

NIH-Behavioral and Neurosciences Study Section, 1987-1991

SCOR grants review, NHLBI 1999

Central Research Review Committee, American Heart Association, Vascular Biology, 1996-1998

Central Research Review Committee, American Heart Association, Texas Affiliate 1978-1982, 1985-1990

Central Research Review Committee, American Heart Association, 1985-1987, Co-chairman CVAI, 1986-1987

Editorial Board, American Journal of Physiology: Heart and Circulatory Physiology

American Heart Association Executive Committee of Council on Basic Science 1990-1992

Publications Committee, American Physiological Society, 1992-1994

Program Committee, American Physiological Society, 1991-1994

Associate Editor, American Journal of Physiology: Heart and Circulation 1999-

FASEB Summer Conference in Neural Control of Circulation, Vice-chair 1994, Chair 1996 (elected)

American Physiological Society, Councilor 1994-1997 (elected position)

News in Physiological Sciences 1994-7, Assistant Editor

Native American Science Teacher Training, Billings, Mt, September, 1997

Sponsor, K-12 Science Teacher Program, American Physiological Society, Summer 1996, 1998.

Sponsor, Hathaway brown/Lincoln West/MetroHealth Science Training Program for High School Students 2001-

### **Local**

American Heart Association, Ohio Valley Affiliate, Research Committee 2000-

American Heart Association, Northeast Ohio Affiliate, Allocations Committee 1996-98

Biomedical Research Cleveland Working Group 1995-

### **MetroHealth and Case Western Reserve University**

Committee on Pre and Postdoctoral Training at MetroHealth: Co-chair 1995-

Committee on Appointments, Promotions and Tenure, Case Western Reserve University School of Medicine, 1996- 99, Chair 1997-99

MetroHealth Mentoring Program with Lincoln-West High School 1996-98

Search Committee for Chair of Neuroscience, CWRU School of Medicine 1996-98

Search Committee for Chair of Medicine, MetroHealth Medical Center 2000-

Search Committee, Faculty Department of Biology 2000-2001

Search Committee, Vice Dean of Research, School of Medicine, 2001-

Co-editor of Research News for Rammelkamp/MetroHealth Medical Center 1999-

The Committee to Review Qualifications and Standards for Appointments, Promotions, and Tenure 1999

Faculty Senate Committee on the Status of Women Faculty, Case Western Reserve University, 1998-

Dean's Committee, Women's Equity and Advancement 2000-

## **MEMBERSHIP IN SCIENTIFIC SOCIETIES:**

American Physiological Society  
American Association for Advancement of Science  
American Heart Association: Basic Science Council  
Biophysical Society  
Society for Neuroscience

## **BIBLIOGRAPHY:**

### **ARTICLES IN JOURNALS:**

1. Kunze, D.L.; Putnam, S.; Manning, JW. Transcortical striate connection in opossum. J. Comp. Neurol. 132:463-468, 1968.
2. Beacham, W.S.; Kunze, D.L. Renal receptors evoking a spinal vasomotor reflex. J. Physiol. 201:73-85, 1969.
3. Chow, S.Y.; Kunze, D.L.; Brown, A.M.; Woodbury, D.M. Chloride and potassium activities in luminal fluid of turtle thyroid follicles as determined by selective ion-exchanger microelectrodes. Proc. Natl. Acad. Sci. 67:998-1004, 1970.
4. Cornwall, M.C.; Peterson, Kunze, D.L.; Walker, J.L.; Brown, A.M. Intracellular potassium and chloride activities measured with lipid ion exchanger microelectrodes. Brain Res. 23:443-436, 1970.
5. Kunze, D.L.; Brown, A.M. Internal potassium and chloride activities and the effects of acetylcholine on identifiable Aplysia neurones. Nature New Biol. 229:229-231, 1971.
6. Kunze, D.L. Reflex discharge patterns of cardiac vagal efferent fibres. J. Physiol. 222:1-15, 1972.
7. Ascher, P.; Kunze, D.L.; Neild, T.O. Chloride distribution in Aplysia neurons. J. Physiol. 256:441-464, 1976.
8. Skinner, R.B.; Kunze, D.L. Changes in extracellular potassium activity in response to decreased pH in rabbit atrial muscle. Circ. Res. 39:678-683, 1976.
9. Kunze, D.L. Rate dependent changes in extracellular potassium in rabbit atrium. Circ. Res. 41:122-127, 1977.
10. Kunze, D.L.; Saum, W.R.; Brown, A.M. Sodium sensitivity of baroreceptors mediates reflex changes of blood pressure and urine flow. Nature 267:75-78, 1977.
11. Kunze, D.L.; Brown, A.M. Sodium sensitivity of baroreceptors: Reflex effects on blood pressure and fluid volume in the cat. Circ. Res. 42:714-720, 1978.
12. Kunze, D.L. Calcium and Magnesium sensitivity of the carotid baroreceptor reflex in cats. Circ. Res. 45:821-828, 1979.
13. Niemtzow, R.C.; Eaton, D.C.; Kunze, D. L.; Becker, S. N.; Wong, J. Y.; Olson, M. H.; McBee, J.; Moulton, R. G.; Gauci, L.; Viallet, P.; Serrou, B.; Daniels, J. C. Correlation between macrophage intracellular electrical potentials and malignant melanoma growth in a murine model. Biomedicine 31:257-260, 1979.
14. Kunze, D.L. Regulation of activity of cardiac vagal motoneurons. Fed. Proc. 39:2513-2518, 1980.
15. Kunze, D.L. Rapid resetting of baroreflexes in cat. Am. J. Physiol. 241:H802-H806, 1981.
16. Mifflin, S.; Kunze, D.L. Rapid resetting of low pressure vagal receptors in the superior vena cava of the rat. Circ. Res. 51:241-249, 1982.
17. Brown, A.M.; Camerer, H.; Kunze, D.L.; Lux, N.D. Similarity of unitary Ca<sup>2+</sup> currents in three different species. Nature 299:156-158, 1982.

18. Kunze, D.L.; Krauhs, J.M.; Orlea, C.J. Direct action of norepinephrine on aortic baroreceptors on the rat adventitia. Am. J. Physiol. 247:H811-H816, 1984.
19. Mifflin, S.W.; Kunze, D.L. Dynamic discharge characteristics of low pressure receptors with afferent fibers in the vagi. Circ. Res. 55:660-668, 1984.
20. Brown, A.M.; Kunze, D.L.; Yatani, A. The agonist effect of dihydropyridines on Ca channels. Nature 311:570-572, 1984.
21. Kunze, D.L. Role of baroreceptor resetting in cardiovascular regulation: Acute resetting. Fed. Proc. 44:2408-2411, 1985.
22. Kunze, D.L.; Lacerda, A.E.; Wilson, D.L.; Brown, A.M. Reopening, waiting and inactivating properties of single cardiac Na channels. J. Gen. Physiol. 86:691-719, 1985.
23. Kunze, D.L. A central component to rapid resetting of the baroreceptor reflex. Am. J. Physiol. 250:H866-H870, 1986.
24. Brown, A.M.; Kunze, D.L.; Lux, H.D. Single calcium channels and their inactivation. Memb. Biochem. 6:73-81, 1986.
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28. Kunze, D.L. Calcium currents in cardiovascular neurons isolated from adult guinea pig. Am. J. Physiol. 252:H867-H871, 1987.
29. Kunze, D.L.; Hawkes, M.J.; Brown, A.M.; Hamilton, S.L. Dihydropyridine binding and voltage dependent calcium channels in PC12 cells. J. Mol. Pharm. 31:401-409, 1987.
30. Andresen, M.C.; Kunze, D.L. Ionic sensitivity of baroreceptors. Circ. Res. 61:166-171, 1987.
31. Colden-Stanfield, M.; Schilling W.P., Ritchie, A.K.; Eskin, S.G.; Navarro, L.T.; Kunze, D.L. Bradykinin-induced increases with cytosolic calcium and ionic currents in cultured bovine aortic endothelial cells. Circ. Res. 61:632-640, 1987.
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33. Drewe, J.A.; Childs, G.V.; Kunze, D.L. Synaptic innervation of isolated neurons from mNTS. Science 241:1810-1813, 1988.
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42. Mendelowitz, D.S.; Bacal, K.; Kunze, D.L. Bradykinin activated calcium current in aortic endothelium. Am. J. Physiol. 262:H942-H948, 1992.
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66. Dong, Y.; Kunze, D.L.; Vaca, L.; Schilling, W.P. Inositol-1,4,5-Trisphosphate activates the *Drosophila* cation channel Trp1 recombinant baculovirus-infected Sf9 insect cells. Am. J. Physiol (Cell), 269:C1332-1339, 1995.
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72. Schild, J.H.; Kunze, D.L. Experimental and Modeling Study of Na Current Heterogeneity in rat nodose neurons and its impact on neuronal discharge. J. Neurophys. 78:3198-3209, 1997

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74. Sullivan, R.; Koliwad, S. K.; Kunze, D. L. Analysis of a Ca<sup>2+</sup>-activated K<sup>+</sup> channel that mediates hyperpolarization via the G protein-coupled thrombin receptor pathway. Am. J. Physiol (Cell) 275:C1342-1348, 1998
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