ANNUAL REPORT
July 1, 1990 - June 30, 1991
DEPARTMENT OF PHYSIOLOGY
UNIVERSITY OF KANSAS MEDICAL CENTER
COLLEGE OF HEALTH SCIENCES AND HOSPITAL
DEPARTMENT ROSTER

a. **Academic Staff**

Gilbert S. Greenwald, Ph.D., *Distinguished Professor and Chairman*

Paul D. Cheney, Ph.D., *Professor (Director of Ralph L. Smith Center for Mental Retardation)*

Richard L. Clancy, Ph.D., *Professor*

Sudhansu K. Dey, Ph.D., *Professor (Joint appt. Ob-Gyn)*

Hugo L. Fernandez, Ph.D., *Professor (Director, Neurosciences Research Lab., Kansas City VA Hosp.)*

Kenneth L. Goetz, M.D., Ph.D., *Adjunct Professor (Director of Research and Head, Div. of Experimental Med., St. Luke's Hosp.)*

Norberto C. Gonzalez, M.D., *Professor*

Thomas J. Imig, Ph.D., *Professor*

Donald C. Johnson, Ph.D., *Professor (Joint appt., Ob-Gyn)*

Theodore Lawwill, M.D., *Adjunct Professor (Chairman, Dept. of Ophthalmology)*

Fred E. Samson, Ph.D., *Professor Emeritus*

Travis Solomon, M.D., Ph.D., *Professor of Physiology and Medicine (Associate Chief of Staff, Kansas City VA Hospital)*

Lawrence P. Sullivan, Ph.D., *Professor*

Merrill Tarr, Ph.D., *Professor*

Paul F. Terranova, Ph.D., *Professor*

John W. Trank, Ph.D., *Professor*

James L. Voogt, Ph.D., *Professor*

Daniel J. Welling, Ph.D., *Research Professor (Kansas City VA Hospital)*

Larry Welling, M.D., Ph.D., *Professor of Physiology and Pathology (Kansas City VA Hospital)*

Peter G. Smith, Ph.D., *Associate Professor*

Michael J. Soares, Ph.D., *Associate Professor*

Joseph S. Tash, Ph.D., *Associate Professor*

Dennis P. Valenzeno, Ph.D., *Associate Professor*

Steven M. LeVine, Ph.D., *Assistant Professor*

Cheryl Cahill, Ph.D., *Adjunct Assistant Professor (Joint appt. School of Nursing)*

Ming Chen, Ph.D., *Research Assistant Professor (Kansas City VA Hospital)*

Santanu Deb, Ph.D., *Research Assistant Professor*
DEPARTMENT ROSTER (continued)

Deborah Kipp, Ph.D., *Adjunct Assistant Professor (Joint appt. Dietetics & Nutrition)*

Klaus Mewes, Ph.D., *Research Assistant Professor*

Michael J. Rutten, Ph.D., *Research Asst. Professor (Kansas City VA Hosp.)*

Girish Shah, Ph.D. *Adjunct Associate Professor (Joint appt., Urology)*

Charles M. Turkelson, Ph.D., *Research Asst. Professor (Kansas City VA Hosp.)*

John G. Wood, Ph.D., *Research Assistant Professor (Joint Appt., Surgery)*

b. *Postdoctoral Fellows*

Lydia Arbogast, Ph.D.
Edgar Arriaga, Ph.D.
Pascal Barone, Ph.D.
Geracimo Bracho, Ph.D.
Janine Clarey, Ph.D.
Linda Crane, Ph.D.
S. K. Das, Ph.D.
S. Kapur, Ph.D.
Mitsuo Kawashima, Ph.D.
Alok Ranjan Kole, Ph.D.
Anahita Mistry, Ph.D.
B. C. Paria, Ph.D.
Katherine Roby, Ph.D.
Maria Sancho-Tello, M.D., Ph.D.
Abiotoma Sokari, M.D., Ph.D.
Hiromichi Tamada, Ph.D.
Hirosi Tomogane, Ph.D.
H. Tsukamura, Ph.D.
Yan Zong Zhe, M.D.

c. *Graduate Students*

<table>
<thead>
<tr>
<th>Name</th>
<th>Prelims</th>
<th>Candidate for</th>
<th>Degree Requirements Fulfilled</th>
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<tbody>
<tr>
<td>Toni Clinton</td>
<td>9/89</td>
<td>Ph.D.</td>
<td>2/91</td>
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<tr>
<td>Sandy Elliott</td>
<td>12/89</td>
<td>Ph.D.</td>
<td></td>
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<tr>
<td>Teresa Faria</td>
<td>12/89</td>
<td>Ph.D.</td>
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<tr>
<td>Jean Heibert</td>
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<td>Ph.D.</td>
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<td>Karen Kover</td>
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<td>Ph.D.</td>
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<tr>
<td>Robert Leadley</td>
<td>8/89</td>
<td>Ph.D.</td>
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<tr>
<td>Xing-Jian Lu</td>
<td>7/90</td>
<td>Ph.D.</td>
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<tr>
<td>Joanne Mathiasen</td>
<td>7/90</td>
<td>Ph.D.</td>
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<tr>
<td>Brian McKiernan</td>
<td></td>
<td>Ph.D.</td>
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<tr>
<td>Cathleen Sagrillo</td>
<td>1/89</td>
<td>Ph.D.</td>
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<tr>
<td>Frank Samson</td>
<td>7/88</td>
<td>Ph.D.</td>
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<tr>
<td>Mark Saville</td>
<td>7/86</td>
<td>M.S.</td>
<td>2/91</td>
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<tr>
<td>Xiao-ning Wang</td>
<td>11/90</td>
<td>Ph.D.</td>
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<td>Robert Whitman</td>
<td>3/88</td>
<td>Ph.D.</td>
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<tr>
<td>Rob Zachow</td>
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<td>Ph.D.</td>
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NOTES CONCERNING GRADUATE STUDENTS:

**Toni Clinton** attended the VIII Ovarian Workshop in Knoxville, Tennessee in July of 1990 and presented a poster entitled "Tumor Necrosis Factor Alpha and Prolactin Increase hCG Binding in Granulosa Cells of the Human: Differential Interaction with hCG Stimulated Progesterone Secretion". This data will be published in a paper of the same title in 1991. Toni also attended the Society for the Study of Reproduction meeting in Knoxville. At the 1991 Student Research Forum she presented an abstract titled, "Human Granulosa-Lutein Cells Exhibit Lipopolysaccharide Receptors and Secret Tumor Necrosis Factor Alpha". Toni co-authored a manuscript which has been submitted for publication entitled "Evidence for Lipopolysaccharide Binding in Human Granulosa-Luteal Cells: Stimulation of Tumor Necrosis Factor-α Secretion. She also lectured on Reflexes in the 398 Neurophysiology course Fall semester 1990.


**Jean Hiebert** lectured on voluntary movement in the 398 Neurophysiology course Fall semester 1990.

**Joanne Mathiasen** attended the Neuroscience meeting held in St. Louis in November, 1990 and presented a poster entitled "Differential Prolactin Response to Domperidone During the Nocturnal Prolactin Surge in Pregnant Rats". In the 1990 Fall semester she lectured on Hypothalamus, Development and Aging in the Neurophysiology 398 course. Joanne also gave a slide presentation at the Student Research Forum in March, 1991, entitled "Intraventricular Serotonin Decreases Tyrosine Hydroxylase Activity and mRNA in Female
Rats, and a presentation in May, 1991 to the Reproductive and Developmental Biology Group entitled "Does Central Serotonin Influence Hypothalamic Dopamine?" Joanne received a travel award from the Endocrine Society to attend the 73rd annual meeting held in Washington, D.C. in June 1991 where she presented a poster elaborating on the Student Research Forum topic.

Cathy Sagrillo presented a seminar entitled "Opiate control of prolactin surges during pregnancy in the rat" to the Reproductive and Developmental Biology group in September. During that month she also lectured on synaptic transmission to the students in the Neurophysiology 398 course. She attended the meeting of the Society for Neuroscience held in St. Louis in November, 1990 and presented a poster entitled "Mechanism for decreased responsiveness to β-endorphin during the nocturnal prolactin surge in pregnant rats". In March 1991 she gave a presentation of the same title at the Student Research Forum. She attended the 73rd Annual Endocrine Society meeting held in Washington, D.C., in June, 1991. She also coauthored a paper with Dr. V.oogt entitled "Endogenous opioids mediate the nocturnal prolactin surge in the pregnant rat", Endocrinology 129:925-930, 1991.

Frank Samson attended the 20th Annual Meeting of the Society for Neuroscience held in St. Louis, MO, October 28-November 2, 1990 and presented a poster entitled "Physiological Mechanisms of Directional Selectivity in the Cat’s Primary Auditory Cortex (AI) Revealed by Ear Occlusion". He also lectured on Resting Membrane Potential and Action Potentials in the 398 Neurophysiology course Fall semester 1990. Frank was first author on an abstract submitted for the 21st annual meeting of the Society for Neuroscience to be held in New Orleans, LA in November of 1991 entitled "Elevation Sensitivity of Azimuth Sensitive Neurons in Cat Primary Auditory Cortex (AI)" and co-author of an abstract entitled "Effect of Bandwidth on Neurons’ Azimuth Tuning in Cat Medial Geniculate Body (MGB) and Primary Auditory Cortex (AI)".

Xiaoning Wang gave a presentation to the Reproductive and Developmental Group entitled "Effects of Gonadotropins on Mouse Follicular Development" in February, 1991 and also presented the same material at the KU Student Research Forum in March, 1991. She received a travel award from the KU Graduate School in May, 1991 to use to attend the SSR meeting to be held in Vancouver, Canada in July 1991. She was recently co-author of a publication entitled: "In Vitro DNA Synthesis by Isolated Preantral to Preovulatory Follicles from the Cyclic Mouse".
COURSES TAUGHT

398 - Neurophysiology. 3 credits. Fall 1990. Taught by physiology graduate students. Enrollment 62. Dr. Imig organizer.


827 - Physiological Instrumentation Course. 2 credits. Fall 1990. Taught by Dr. Trank. Enrollment 3.


DEPARTMENT SEMINARS

8/28/90  Dr. C. S. Ramarao  
Howard Hughes Med. Institute 
Vanderbilt Univ. School Med. 
Nashville, Tennessee
Signal Transduction Mechanisms 
during Sea Urchin Sperm 
Fertilization

9/10/90  Dr. Linda Davies  
Dykes Library, KUMC
Educational Technology: Supporting 
Your Innovation

9/17/90  Dr. Michael Gordon  
Dept. of Pharmacology, KUMC
3-D Computer Graphics: Clinical 
and Teaching Applications

9/24/90  Dr. Gilbert S. Greenwald  
Department of Physiology, KUMC
Analysis of Follicular Development 
in the Cyclic Hamster

10/1/90  Dr. Norberto C. Gonzalez  
Department of Physiology, KUMC
Oxygen Transport in Hypoxia: Is 
the Rat Better Suited than Man for 
Life on the Hypoxic High Hill?

10/8/90  Dr. James L. Voogt  
Department of Physiology, KUMC
Serotonergic Regulation of Prolactin 
During Pregnancy

10/15/90  Dr. Michael Insana  
Diagnostic Radiology, KUMC
Kidney Structure Revealed Using 
Ultrasound

10/22/90  Dr. Kenneth Goetz  
St. Luke's Hospital, KCMO
Urodilatin: The Real Natriuretic 
Peptide?

11/5/90  Dr. Roger Lemon  
Dept. of Anatomy 
University of Cambridge
Cortico-motoneuronal Control of 
the Monkey's Hand

11/12/90  Dr. David Osterbur  
Dept. of Biochemistry, KUMC
Molecular Analysis of Mutants in 
Drosophila

11/19/90  Dr. Angel de Blas  
Div. of Mol. Biology & Biochem. 
Univ. of Missouri, Kansas City
Study of GABA-benzodiazapine 
Receptor with Monoclonal 
Antibodies

11/26/90  Dr. Bibie Chronwall  
Div. of Cell Biol. & Biophysics 
Univ. of Missouri, Kansas City
Co-transmitter Regulation of 
Melanotrope Biosynthesis

12/3/90  Dr. Irwin Fridovich  
Department of Biochemistry 
Duke University Medical Center
Oxygen Radicals: Threats and 
Defenses
<table>
<thead>
<tr>
<th>Date</th>
<th>Presenter</th>
<th>Title</th>
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<tr>
<td>12/10/90</td>
<td>Dr. Cindy Nyquist-Battie</td>
<td>Expression of AchE in Mammalian Heart</td>
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<tr>
<td></td>
<td>Dept. of Cell Biology &amp; Biophysics University of Missouri, Kansas City</td>
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<tr>
<td>12/17/90</td>
<td>Dr. Benjamin D. Cowley</td>
<td>Regulation of Renal Medullary Aldose Reductase and Organic Osmolyte Content in a Model of Diabetes Mellitus</td>
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<td></td>
<td>Depts. of Medicine and Biochemistry &amp; Molecular Biology, KUMC</td>
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<tr>
<td>1/7/91</td>
<td>Dr. Lawrence P. Sullivan</td>
<td>Mechanism of Organic Ion Transport in Renal Proximal Tubules</td>
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<td>Department of Physiology, KUMC</td>
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<td>1/14/91</td>
<td>Dr. Michael P. Sarras, Jr.</td>
<td>Basement Membrane/Epithelial Cell Interactions During Development: Use of the Cnidarian, Hydra Vulgaris as a Model System</td>
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<td></td>
<td>Departments of Anatomy and Cell Biology, KUMC</td>
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<tr>
<td>1/28/91</td>
<td>Dr. Larry Welling</td>
<td>Absorbate Flow in Epithelial Interacellular Channels</td>
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<td>Departments of Pathology and Physiology, KUMC</td>
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<td>2/4/91</td>
<td>Dr. Chi-ming Huang</td>
<td>Cerebellar Function in Audition and Speech: Effect of Ethanol</td>
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<td>Division of Molecular Biology and Biochemistry, UMKC</td>
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<tr>
<td>2/11/91</td>
<td>Robert Leadley, Jr.</td>
<td>Hemodynamic Renal and Hormonal Effects of the Peptide Hormones Atriopeptin and Endothelin</td>
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<tr>
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<td>Department of Physiology, KUMC</td>
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<td>2/18/91</td>
<td>Dr. John G. Wood</td>
<td>Effects of Platelet-Activating Factor on the Gastric Microcirculation</td>
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<td>Department of Surgery, KUMC</td>
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<td>2/25/91</td>
<td>Dr. Paul Burton</td>
<td>Cytoskeleton of Olfactory Neurons with Emphasis on Microtubules</td>
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<td>Dept. of Physiology &amp; Cell Biol. Univ. of Kansas, Lawrence</td>
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<tr>
<td>2/21/91</td>
<td>Mark A. Saville</td>
<td>The Physiology of Atrial Peptides</td>
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<td>Department of Physiology, KUMC</td>
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<tr>
<td>3/18/91</td>
<td>Dr. Jared Grantham</td>
<td>Fluid Secretion Cysts and Hormones</td>
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<td>Department of Medicine, KUMC</td>
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<td>4/1/91</td>
<td>Dr. Thomas Pazdernik</td>
<td>Neurochemical Basis of Abnormal Brain Metabolism and Damage</td>
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<td>Dept. of Pharmacology, Toxicology and Therapeutics, KUMC</td>
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<td>4/8/91</td>
<td>Dr. Susan Norton</td>
<td>Development and Death of Cochlear Nonlinearities</td>
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<td></td>
<td>Dept. of Hearing &amp; Speech, KUMC</td>
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</table>
4/15/91  Dr. Richard Maurer  
Dept. of Physiology & Biophysics  
University of Iowa  
Multihormonal Regulation of  
Prolactin Gene Expression

4/22/91  Dr. Merrill Tarr  
Department of Physiology, KUMC  
Reactive Oxygen Effects on Cardiac  
Ionic Currents

4/24/91  Dr. Susan Fisher  
Dept. of Oral Biology, Anatomy  
and Pharmacological Chemistry  
Univ. of California, San Fran.  
Mechanisms of Human Trophoblast  
Invasion

4/29/91  Dr. Peter Smith  
Department of Physiology, KUMC  
Developmental Determinants of  
Autonomic Innervation

5/8/91  Dr. Caleb E. Finch  
Andrus Gerontology Center  
Univ. of Southern California  
Evolutionary Perspectives on  
Reproductive Senescence

5/13/91  Dr. James L. Maller  
Department of Pharmacology  
University of Colorado  
Control of the Eukaryotic Cell  
Cycle by Protein Phosphorylation

5/20/91  Dr. Bill Millington  
Division of Molecular Biology  
and Biochemistry, UMKC  
Post-translational Processing of  
β Endorphin

6/6/91  Dr. U. C. Hegde  
Institute for Research in Reprod.  
Bombay, India  
Effects of a Monoclonal Progesterone  
Antibody on Pregnancy in the Mouse

6/14/91  Dr. Antonin Bukovsky  
Dept. of Medical Research  
Methodist Hospital of Indiana  
Indianapolis, Indiana  
Immunohistochemistry of Follicular  
Atresia in the Human Ovary

6/28/91  Dr. Richard Reale  
Dept. of Neurophysiology  
Univ. of Wisconsin, Madison  
Virtual Space Receptive Fields of  
Neurons in Cat Primary Auditory Cortex
PUBLICATIONS

a. Published during year - July 1, 1990 - June 30, 1991


b. In press


Cheney, P.D., Mewes, K. and Widener, G. Facilitation and suppression of muscle activity by individual microstimuli applied to the sites of rubromotoneuronal (RM) cells in primates. J. Neurophysiol.


Greenwald, G.S. and Wang, M.W. A monoclonal antibody to progesterone interrupts pregnancy in the hamster by curtailing secretion of the luteotropic complex of prolactin and FSH. Endocrinology.


Mewes, K. and Cheney, P.D. Facilitation and suppression of wrist and digit muscles from single rubromotoneuronal cells in the awake monkey. Neurophysiol.


Samson, Fred and George Adelman, eds. The Neurosciences: Paths to Discovery, II. Birkhauser-Boston-Springer Verlag.


c. Abstracts


RESEARCH SUPPORT


NIH - HL39443: Acid-Base Effects of Exercise in Prolonged Hypoxia. April 1, 1988 - March 31, 1992. (Co-Investigator; N. C. Gonzalez Principal Investigator) Direct and indirect costs $74,323/yr.


Wesley Foundation, Wichita, KS - Growth Factors in Pregnancy Establishment: May 01, 1990 - April 30, 1992. Principal Investigator. $61,000 Direct costs; $10,000 Indirect costs.

Lalor Foundation - Role of IGF-I in Implantation. (Postdoctoral Fellowship) September 1, 1990 - August 31, 1991. $20,000 Direct costs.

Endocrine Society - Role of Growth Factors on Preimplantation Embryo Development. Summer Medical Student Fellowship (Archana Gupta). Total award: $1,500.


F. E. Samson: U.S. Army Medical Research and Development Command. "Basic Research on Neurotoxins". Program project October 1986 - September, 1990. Direct and indirect costs $1,000,000. (This program has 12 investigators at KUMC. Dr. Samson is P.I. Coordinator for KUMC site.)


Upjohn Company and Marion Merrell Dow, Inc. Support of work session on "Oxygen Free Radicals in Tissue Damage" held December 2-4, 1990. Upjohn contributed $11,000; Marion Merrell Dow $1,000.


C. M. Tarr: American Heart Association - Reactive Oxygen Species and Single Cardiac Cell Function. Principal Investigator. Total grant period 7/01/89 thru 6/30/92. $28,500, $29,600, $29,995 direct costs each year.


Flossie E. West Memorial Trust Fund - Ovarian Tumor Necrosis Factor. June 1, 1990 to December 1, 1990, $14,175.


American Heart Association - Reactive Oxygen Species and Single Cardiac Cell Function. Co-Principal Investigator with C.M. Tarr. Total grant period 7/01/89 thru 6/30/92. Direct cost this year of $29,600; indirect costs of $2850.


NICHD - National Research Service Award to Dr. Lydia Arbogast. April 1, 1990 to March 31, 1993. Direct costs second year $28,600.

D.J. Welling: Veteran's Administration Merit Grant - Volume Regulation and Morphology in Renal Tubule. $70,557 direct costs this year.
ACTIVITIES OF STAFF

Paul D. Cheney, Ph.D., Professor (Director, MRRC)

Meetings Attended:
April 6-11, 1991 - attended the first Neural Control of Movement meeting held at Marco Island, Florida as discussant for workshop on "The Role of the Red Nucleus in Sensorimotor Integration and Motor Control".
October 22-24, 1990 - attended the MRRC Center Director's meeting held in Madison, Wisconsin.
October 29-31, 1990 - attended the annual meeting of the Society for Neuroscience in St. Louis, Missouri and presented a poster.
May 15-17, 1991 - attended NIH-NINDS Program Project review for project on "Adaptation and dysfunction of motor coordination held in Phoenix, AZ.
May 19-20, 1991 - attended the MRRC Center Director's meeting held in Washington, D.C.

Committees:
Department:
Member, KUMC Dissertation Committee, Frank Samson
Member, KUMC Dissertation Committee, Joanne Mathiasen

Medical Center:
Chairman, MRRC Advisory Committee
Chairman, MRRC Space Committee
Chairman, Biological Science Lecture Series Committee
President, Kansas City Chapter, Society for Neuroscience
Member, Pharmacology Department Search Committee
Member, Physical Therapy Education Dept. Chair Search Committee
Member, Dean's Advisory Committee on Education (DACOE)
Member, Medical School Curriculum Committee
Member, Medical Faculty Steering Committee
Member, Neuroscience Course Committee
Member, Kansas MRRC Internal Advisory Committee

Editorial and Grant Reviews:
Journal of Neurophysiology
Behavioral and Brain Science
Experimental Brain Research
MIN-NINDS

Honors:
Received "Outstanding Instructor 1990-1991" award at Student Voice Forum.

Teaching activities:
Neuroscience
12 hours lecture
32 hours laboratories and conferences
Trainees:
Klaus Mewes - Postdoctoral Fellow
Brian McKiernan - Graduate Student

Richard L. Clancy, Ph.D., Professor

Meetings attended:
April 22-25, 1991 - Attended meeting of the Federation of American Societies for Experimental Biology held in Atlanta, GA.

Committees:
Departmental:
Chairman, Physiology Department Graduate Student Affairs Committee
Local:
Member, KUMC Graduate Student Council
Member, Student Promotions Committee - School of Medicine
Member, Faculty Assembly Steering Committee
University:
Graduate Fellowships Committee

Editorial and Grant Reviews:
ad hoc reviewer for Circulation Research
ad hoc reviewer for Kansas Heart Association - Grant Review Committee

Teaching Activities:
Medical Physiology 770-771
11 hours lecture - Cardiovascular
15 hours laboratory
10 hours conferences
Physiology 800 - Cell Physiology
2 hours lecture
Prematriculation Course (Minority Students)
10 hours lecture
Developed Cardiovascular Computer Simulation Problem Exercise

Trainees:
Robert Whitman - Graduate Student

Sudhansu K. Dey, Ph.D., Professor

Meetings attended:
July 15-18, 1990 - Attended annual meeting of the Society for the Study of Reproduction at Knoxville, TN.
October 1-2, 1990 - Invited to NICHD Task-Force Meeting held in Washington, D.C. to advise on the future direction for research in preimplantation and implantation physiology.
April 22-25, 1991 - Attended meeting of the Federation of American Societies for Experimental Biology held in Atlanta, GA and presented two posters.
Committees:

Departmental:
Member, Ph.D. Committee, Xing Lu, Physiology Graduate Student

KUMC:
Member, Advisory Committee for MRRC
Member, Ph.D. Committee, Mike McMasters, Biochemistry graduate student
Member, Ph.D. Committee, Kyle Hooper, Biochemistry graduate student
Member, Ph.D. Committee, Laurie Pan, Pharmacology graduate student

Local:
Member, Mentorship Program, Shawnee Mission School District

National:
Member, Editorial Board, Biology of Reproduction

Editorial and Grant Reviews:
Biology of Reproduction
Journal Reproduction and Fertility
J. Clinical Endocrinology
J. Histochemistry and Cytochemistry
Endocrinology
Prostaglandins
Development Biology
Proc. Nat'l. Acad. Sci. USA
NSF
USDA
Medical Research Council, Canada
Israel Academy of Science
Joint Israel-U.S. Science Foundation

Seminars Presented:
October 8-12, 1990 - Invited speaker, Uterine and Embryonic Factors in Early Pregnancy, Rockefeller Foundation's Bellagio Study and Conference Center, Lake Como, Italy
October 13-14, 1990 - Invited speaker, Reproductive Endocrinology Postgraduate Course (Sponsors: American Fertility Society and NICHD), Periconceptional Molecular Biology and Growth Factors Washington, D.C.
November 20, 1990 - Invited speaker at the University of East Virginia, Norfolk, VA

Honors:
Invited speaker, Serono Symposium on Preimplantation Embryo Development to be held August 15-18, 1991 in Newton, MA

Teaching Activities:
Medical Physiology
16 hours laboratory
28 hours conference
Physiology 809 (Pregnancy, Growth and Development and Aging
7 lecture hours
Developmental Biology Graduate Course
2 lecture hours
Trainees:
Karen Kover, Physiology Graduate Student
B.C. Paria, Ph.D. - Postdoctoral Fellow
S.K. Das, Ph.D. - Postdoctoral Fellow
S. KaPur, Ph.D. - Postdoctoral Fellow
H. Tsukamura, Ph.D. - Postdoctoral Fellow
Archana Gupta - Medical Student
Maruti Dey - Summer Student
Ansley Spencer - Summer Student
Sharon McCray - Summer Student

Hugo L. Fernandez, Ph.D., Professor

Meetings Attended:
October 26-28, 1990 - Attended (Invited Speaker) The Frederick E. Samson Symposium on Neurochemistry "Toxic and Trophic Effects of Neuronal Stimulation", The University of Kansas, Lawrence, KS

Committees:
Local:
Chairman, Animal Studies Committee, VA Medical Center
Member, Space Committee, VA Medical Center
Member, Sarah Morrison Bequest Review Committee, Univ. of Missouri-K.C.
Member, Advisory Committee, Center on Aging, KUMC

Regional:
Member, Advisory Committee, US Department of Veterans Affairs, KLTW-Cluster Geriatric Research, Education and Clinical Center (GRECC).

National:
Chairman, NIH Behavioral and Neurosciences Study Section I
Member, NIH-NRR (1991-1995)

Editorial and Grant Reviews:
reviewer - NIH, Behavioral and Neurosciences Study Section
UMKC, Sarah Morrison Bequest Committee
KUMC, Center on Aging
ad hoc reviewer - NIH, Physiological Sciences Ad Hoc Study Section (Chairman)
- Dept. of Veterans Affairs Merit Review System.
- J. Neurochemistry
- J. Applied Physiology
- Proceedings National Acad. Sci.
- Neurochemistry International.
- J. Neurobiology
- J. Bioelectromagnetics

Seminars Presented:
February 12, 1991 - Presented a seminar entitled "Nerve-Muscle Cell Trophic Interactions" to the Department of Neurobiology, Catholic University, Santiago, Chile.
Academic Honors:
Chairman, NIH Behavioral & Neurosciences Study Section

Teaching Activities:
Medical Neuroscience Course
6 hours lecture

Trainees:
Joel R. Stiles, M.D./Ph.D. Student, Physiology
Seyed A. Sajadi, Medical Student, Summer Trainee

Norberto C. Gonzalez, M.D., Professor

Meetings Attended:
October, 1990 - Attended the meeting of the American Physiological Society in Orlando, Florida.
February, 1991 - Attended the Sixth International Hypoxia Symposium held in Lake Louise, Alberta, Canada.

Committees:
KUMC
Member, Curriculum Development Committee
Member, Dean’s Advisory Committee on Education

Extramural
Chairman, Peer Review Research Committee, AHA-Kansas Affiliate
Member, Research Committee, AHA-Kansas Affiliate

Seminars presented:
October 1, 1990 - Presented a departmental seminar entitled "Oxygen Transport in Hypoxia: Is the Rat Better Suited than Man for Life on the Hypoxic High Hill?"

Honors:
Fellowship from the Alexander von Humboldt Foundation, Bonn, Germany, May- November 1991 in support of sabbatical leave at the Max-Planck Institute for Experimental Medicine, Gottingen, Germany.
Received "Excellence in Education" award at the Student Voice Forum

Teaching activities:
Medical Physiology
12 hours lecture - Respiratory Physiology
2 two-hour review sessions
2 two-hour respiratory physiology demonstrations
4 laboratory sessions

Physiology 705
10 hours lecture - Physiology of Respiration

Trainees:
A. Sokari, M.D., Ph.D. - Post-doctoral fellow
Marcelo Zamagni, Summer Student, 1990
Kent Perry, Summer Student, 1990
Gilbert S. Greenwald, Ph.D., Distinguished Professor and Chairman

Meetings Attended:
August 6-9, 1990 - Attended meeting of the Society for the Study of Reproduction held in Knoxville, TN.

Committees:
Departmental:
Co-coordinator, Mo-Kan Reproductive Workshop
Member, Thesis Committee for Sandy Elliott, Physiology Ph.D. Candidate

University:
Member, Editorial Board, Explore Magazine
Chairman of the Board, Midwest Biomedical Research Foundation, V.A. Hospital, Kansas City.

National:

Editorial and Grant Reviews:
ad hoc reviewer - American J. Anatomy
- Biology of Reproduction
- Canadian J. Zoology
- Endocrinology
- J. Experimental Zoology
- J. Reproduction and Fertility
- J. Endocrinology
- Therengiology
- National Science Foundation
- Health Research Council of New Zealand

Seminars presented:
September 24, 1990 - Presented a departmental seminar entitled "Analysis of Follicular Development in the Cyclic Hamster."
November 19, 1990 - Presented a seminar to the Department of Anatomy & Cell Biology at the University of North Dakota, Grand Forks.
December 8, 1990 - Presented a seminar entitled "How Does a Monoclonal Antibody to Progesterone Interrupt Pregnancy in the Hamster" at the Mo-Kan Reproductive Workshop, KUMC.

Academic Honors:
Received 'Honors in Education' Award at Student Voice Forum

Teaching activities:
Physiology 800 - Medical Physiology (Co-coordinator)
  8 hours lecture - G.I. Physiology
  20 hours conference
Physiology 705 - Advanced Human Physiology
  8 hours lecture
Physiology 808 - Reproductive Physiology
  7 hours lecture
Physiology 809 - Pregnancy, Growth Development and Aging
  5 hours lecture
Trainees:
Xiao-ning Wang, M.D. - Graduate Student
Alok Ranjan Kole, Ph.D. - Postdoctoral Fellow
Mitsuo Kawashima, Ph.D. - Postdoctoral Fellow

Thomas J. Imig, Ph.D., Professor

Meetings Attended:
October 29-31, 1990 - Attended the annual Neuroscience meeting held in St. Louis, Missouri
November 7, 1990 - Presented a seminar entitled "Effects of Pinna Mobility on Sound Direction Coding in the Cat's Auditory Thalamus" to the Laboratory of Physiology at the University of Oxford, Oxford, England
November 8, 1990 - Attended the joint meeting between the Physiological Society and the Physiological and Neural Systems Group, NIMR, a symposium entitled "Binaural Processing in Auditory Function" held at the National Institute for Medical Research in London and gave a presentation entitled "Monaural and Binaural Mechanisms of Directional Hearing in the Cat's Forebrain"

Committees:
Departmental:
Librarian
Member, Graduate Student Affairs Committee
Organizer, Physiology Seminar Series

KUMC:
Interviewer, Medical School Applicants
Member, Thesis Committee for Dale Hogan, Anatomy Ph.D. candidate
Member, Thesis Committee for Peggy Nelson, Hearing and Speech Ph.D. candidate

University:
Member, Faculty Assembly Library Committee
Alternate Member, Student Union Board of Directors

National:
Member, NIDCD site visit team, University of California, Irvine (Sept. 12-14, 1990)

Editorial and Grant Reviews:
Journal of Neurophysiology
Journal of Neuroscience
Journal of Comparative Neurology
Hearing Research

Seminars presented:
June 20, 1991 - Presented a seminar entitled "Directional Hearing" to the Department of Otolaryngology, KUMC
Academic Honors:
Received 'Honors in Education' award, Student Voice Forum
'Special Distinction in Education, 1990-1' Student Voice Forum, awarded to
Neuroscience course of which I was director

Teaching Activities:
PHYS/ANAT 840 - Medical Neuroscience (Course Director)
6 hours lecture
10 laboratory sessions, each of 4 hour duration
(As director of course spent ~100 hours organizing ~17 meetings dedicated to
reorganizing course content and developing course syllabus)
Physiology 398 - Neurophysiology for O.T. Students
Course Director (taught by Graduate Students)
1 lecture
Independent Study - Cortical Representation of Vocalization
Geetha Krishnan, Speech & Hearing Graduate Student
10 contact hours

Trainees:
Frank Samson - Graduate Student
Janine Clarey, Ph.D. - Postdoctoral Fellow
Pascal Barone, Ph.D. - Postdoctoral Fellow

Donald C. Johnson, Ph.D., Professor

Committees:
University:
Member, Graduate Travel Committee
Member, Thesis Committee for Brian Gemzik, Pharmacology/Toxicology Ph.D. candidate
Member, Thesis Committee for Dan Riley, Pharmacology/Toxicology Ph.D. candidate
Member, Thesis Committee for Monty Eberhart, Pharmacology/Toxicology Ph.D. candidate
Member, Thesis Committee for Joanne Mathiasen, Physiology Ph.D. candidate

National:
National Science Foundation Physiological Processes

Editorial and Grant Reviews:
Biology of Reproduction
Endocrinology
Journal of Reproduction and Fertility

Seminars presented:
February, 1991 - Presented a seminar entitled "Estrogen Control of Androgen Production" to the Department of Anatomy and Physiology at Kansas State University in Manhattan
Teaching Activities:
Medical Physiology
  12 lectures
  10 conferences
  4 laboratory sessions
Physiology 808 (Reproductive Physiology)
  6 hours lecture

Trainees:
  Linda Crane - Postdoctoral Fellow
  Brian Chaffee - Summer Student

Steven M. LeVine, Ph.D., Assistant Professor

Committees:
  Departmental:
    Graduate Student Affairs Committee
  University:
    Mental Retardation Research Center Advisory Committee
    Neuroscience Brochure Committee
    Organizer of Neuroscience Journal Club
    Member, Thesis Committee for Dale Hogan, Anatomy Ph.D. candidate

Seminars presented:
  January 28, 1991 - Presented a seminar entitled "Iron-induced peroxidation of myelin lipids: A mechanism of demyelination?" to CIBA/Geigy
  May 15, 1991 - Presented a seminar entitled "Oligodendrocyte iron: Dr. Jekyll and Mr. Hyde?" to the Department of Anatomy, KUMC

Teaching Activities:
  Phsl 840 (Neuroscience Course)
    8 hours
  Anatomy 854 (Developmental Biology)
    1.5 hours

Trainees:
  Maria Torres - Medical Student Summer Trainee

Fred E. Samson, Ph.D., Professor Emeritus

Meetings Attended:
  September 17-27, 1990 - Invited to participate in discussions/debates on "Theology, Religion in the Age of Science" held at M.I.T., Cambridge, MA.
  October 31-November 2, 1990 - Attended the annual meeting of the Society for Neuroscience held in St. Louis, MO.
  December 2-4, 1990 - Attended discussion group on "Oxygen Free Radicals in Tissue Damage" held at KUMC.
  May 31 - June 14, 1991 - Invited to participate in discussions/debates on "Theology, Religion in the Age of Science" held at M.I.T., Cambridge, MA.
Committees:

Departmental:
Scrivener-Scribe, Department of Physiology

KUMC:
Organizer of work session, "Free Radicals in Tissue Damage" held at KUMC December 2-4, 1990.
Coordinator, Neurotoxin Research Program

University:
Coordinator, Free Radical Research Group (KUMC-KU-UMKC-Marion Merrell Dow, inter-campus)

Editorial and Grant Reviews:
Member, Scientific Advisory Boards of the Encyclopedia of Neuroscience and the Encyclopedia of Neuroscience Year Book, published by Birkhauser Verlag.

Neuroscience Year
Encyclopedia of Neuroscience

Seminars Presented:
August 29, 1990 - Lecture on "How to get your message across in a seminar" at the University of Kansas Lawrence campus to students in Biochemistry, Physiology and Pharmacology/Toxicology Departments.
October 19, 1990 - Neurology Grand Rounds presentation entitled "Principles of Brain Regional Functional Mapping (PET)".
January 31, 1991 - Presentation at site visit of NICHD for Core grant renewal for Ralph L. Smith Research Center (MRRC) entitled "New Program Development: Oxygen Free Radicals in Brain Damage".

Academic Honors:
The Frederick E. Samson Symposium on Neurochemistry was held at KUMC on October 26, 1990 and at K.U. Lawrence on October 27, 1990. This symposium with 17 major lectures and a poster session was organized in honor of Dr. Fred Samson by his former students. The presentations are in press in Neurochemical Research.

Trainees:
Matt Layton - M.D. (Ph.D. candidate with T.L. Pazdernik)
Hong Zuo, M.D. (Beijing, China)
Margaret Beatty, D.V.M., (Marion Merrell Dow Scientist, part-time postdoctoral)
Yumi Kamijo (Ph.D. candidate st Showa University, Tokyo)

Peter G. Smith, Ph.D., Associate Professor

Meetings Attended:
October 29-November 2, 1990 - Attended the Society for Neuroscience meetings held in St. Louis, MO.

Committees:
Departmental:
Member, Graduate Student Affairs Committee
Member, Neuroscience course (PHSL 841) reorganization committee
Chairman, Alan Thompson Award Committee
Member, Dissertation Committee, Rob Leadley, Physiology Ph.D. candidate
Member, Dissertation Committee, Cathy Sagrillo, Physiology Ph.D. candidate

KUMC:
Member, Dissertation Committee, Dale Hogan, Anatomy Ph.D. candidate
Member, Dissertation Committee, Ed Purcell, Anatomy Ph.D. candidate
Member, Dissertation Committee, Pablo Pergola, Pharmacology Ph.D. candidate
Member, Dissertation Committee, Tony Zink, Pharmacology Ph.D. candidate

University:
Member, Institutional Animal Care and Use Committee, Vice-Chairman for Education and Training
Academic Committee, Promotions Subcommittee

National:
Ad hoc member, NIH Neurology B2 Study Sections (October 16-18, 1990 & June 17-19, 1991)

Editorial and Grant Reviews:
Center on Aging Research Review Committee

Seminars presented:
April 29, 1991 - Presented a departmental seminar entitled "Developmental Determinants of Autonomic Innervation".
June 26, 1991 - Presented a talk entitled "Sympathetic Neuroplasticity" at the Faculty Mentor's Research Seminar, KUMC.

Honors:
Received 'Honors in Education' award from the Student Voice Class of 1993
Received 'Excellence in Education' award from the Student Voice Class of 1994

Teaching activities:
Medical Physiology
2 hours lecture
10 conference sessions
6 laboratory sessions
1 review session

Medical Neuroscience
2 hours lecture
2 laboratory sessions

Physiology 705 (Advanced Human Physiology)
10 hours lecture

Cardiovascular Physiology 830
6 hours lecture

Trainees:
Qin Fan, Visiting Scientist from Pharmacology Branch, Drug Research Center, Guangzhou Pharmaceutical Corp.
Edgar A. Fike IV, Medical Student, Summer research training
Craig Boswell, Summer research student, Drury College
Meetings Attended:
June 18-21, 1991 - Attended the 73rd Annual Meeting of the Endocrine Society held in Washington, D.C.

Committees:
Departmental:
- Member, Graduate Student Advisory Committee
- Involved in revising the Physiology Graduate program
- Involved in organizing and developing the Cell Physiology Course
- Member, Dissertation Committee for Sandy Elliott (Physiology)
- Member, Dissertation Committee for Cathy Sagrillo (Physiology)

KUMC:
- Member, Medical School Research Committee
- Institutional Animal Care and Use Committee
- Biological Lecture Series Committee
- Coordinator, Reproductive and Developmental Biology Seminar Program (Fall & Spring Semesters)
- Member, Dissertation Committee for Carla Green (Biochemistry)
- Member, Dissertation Committee for Sen Xiao (Biochemistry)
- Member, Dissertation Committee for Shi Xin Yang (Biochemistry)
- Member, Dissertation Committee for Xiaoming Zhang (Anatomy)
- Member, Dissertation Committee for Gang Lian (Anatomy)

National:
- Organizer of the USA sponsored Serono Symposium entitled "Trophoblast cells: Pathways for Maternal-embryonic communication, to be held August 6-9th, 1992 in Park City, Utah

Editorial and Grant Reviews:
ad hoc reviewer for - Endocrinology
- Biology of Reproduction (Member, Editorial Board)
- Journal of Reproduction and Fertility
- Molecular Endocrinology
- Placenta
- USDA Competitive Grants Program

Seminars presented:
January, 1991 - Presented a seminar entitled "Trophoblast cell differentiation: expression of the placental prolactin family" at the Perinatal Research Institute, Children's Hospital, University of Cincinnati, Cincinnati, OH.
February, 1991 - Presented a seminar entitled "Rat placental prolactin family: Cell- and temporal specific expression" to the Department of Animal Science, University of Tennessee, Knoxville, TN.
March, 1991 - Presented a seminar entitled "Expression of the placental prolactin family during trophoblast cell differentiation" to the Department of Obstetrics & Gynecology, University of Utah School of Medicine, Salt Lake City, Utah.
Teaching activities:

Medical Physiology
- 8 hours lecture
- 10 conferences
- 5 laboratory sessions

Physiology 705 - Course Coordinator
- 10 hours lecture - Endocrinology

Physiology 800 - Cell Physiology
- 4.5 hours lecture

Physiology 808 - Reproductive Physiology
- 2 hours lecture

Physiology 809 - Pregnancy, Growth & Development and Aging
- 5 hours lecture

Trainees:

Dr. Katherine F. Roby - Postdoctoral Fellow
Teresa Faria - Ph.D. Candidate (Special Studies)
Xing-Jian Lu - Ph.D. Candidate
Adam Newman - Summer Student from Drury College

Lawrence P. Sullivan, Ph.D., Professor

Meetings Attended:
- December, 1990 - Attended American Society of Nephrology meeting held in Washington, D.C. and presented a paper.
- April 22-25, 1991 - Attended meetings of the Federation of American Societies for Experimental Biology held in Atlanta, GA.

Committees:

Departmental:
- Member, Graduate Committee
- Member, Dissertation Committee, Robert Leadley
- Member, Dissertation Committee, Mark Saville

Local:
- Member, Faculty Assembly Resources & Planning Committee
- Coordinator, Renal Journal Club

National:
- Member, Nominating Committee, Renal Section, American Physiological Society
- State Network Chair, American Society of Nephrology
- Deputy Editor, Journal American Society of Nephrology

Editorial and Grant Reviews:
- Journal American Society of Nephrology
- American Journal Physiology

Seminars Presented:
- September 21, 1990 - Presented a seminar to the Renal Journal Club
December 21, 1990 - Presented a seminar to the Renal Journal Club
January 7, 1991 - Presented a departmental seminar entitled "Mechanism of Organic Ion Transport in Renal Proximal Tubules"
February 15, 1991 - Presented a seminar to the Renal Journal Club

Teaching Activities:
- Medical Physiology
  - 10 hours lecture - Renal Physiology
  - 12 hours problem sessions
  - 8 conferences
  - 4 laboratory sessions
- Physiology 705 (Advanced Human Physiology)
  - 10 hours lecture
- Physiology 800 (Cell Physiology)
  - 4 hours lecture

Trainees:
- Michael Feldt, Summer Student, Drury College
- Brent Davis, Summer Student, Drury College

Merrill Tarr, Ph.D., Professor

Committees:
- KUMC:
  - Member, Organizing Committee for work Session "The Role of Reactive Oxygen Species in Tissue Damage", December 3-4, 1990
- State:
  - Member of Research Peer Review Committee, AHA, Kansas Affiliate

Editorial and Grant Reviews:
- Ad hoc member of National Institute of Health Cardiovascular A Study Section (Feb. 1991)

Seminars Presented:
- April 22, 1991 - Presented a departmental seminar entitled "Reactive Oxygen Effects on Cardiac Ionic Currents"

Teaching Activities:
- Medical Physiology
  - 12 hours lecture
  - 10 conference sessions
  - 4 laboratories
- Physiology 705 (Advanced Human Physiology)
  - 12 hours lecture
- Physiology 800 (Cell Physiology)
  - 14 hours lecture
- Health Careers Pathway Program
  - 6 hours lecture
Trainees:

Edgar Arriaga, Post-Doctoral Fellow
Kurt Kauffman, 2nd year medical student, summer, 1990

Joseph S. Tash, Ph.D., Associate Professor

Meetings Attended:

July 15-18, 1990 - Attended the Society for the Study of Reproduction meeting held in Knoxville, TN
December 9-13, 1990 - Attended the American Society for Cell Biology meetings held in San Diego, CA

Committees:

Department:
Member, Graduate Affairs Committee
Course coordinator - Cellular Physiology

Editorial and Grant Reviews:

Biology of Reproduction
Journal of Cell Biology
J. Andrology

Seminars presented:

October 17, 1990 - Presented a seminar entitled "Regulation of sperm flagellar motility by protein phosphorylation" to the Department of Anatomy and Cell Biology, KUMC.
December 5, 1990 - Presented a seminar entitled "Second messenger regulation of sperm flagellar motility" to the Reproductive Biology Group, KUMC
February 8, 1991 - Presented a seminar entitled "Second messenger pathways controlling sperm flagellar motility" to the Department of Biochemistry, KUMC
February 11, 1991 - Presented a seminar entitled "Second messenger regulation of sperm flagellar motility" to the Department of Physiology, University of Kansas, Lawrence
March 5, 1991 - Presented a seminar entitled "Regulation of sperm flagellar motility by protein phosphorylation" to the Department of Pharmacology, KUMC

Teaching activities:

Reproductive Physiology
  2 hours lecture
Cell Physiology
  4 hours lecture
Developmental Biology
  2 hours lecture

Trainees:

Geracimo Bracho, Ph.D. - Post-doctoral fellow
Daniela Bravo, Summer student
Paul F. Terranova, Ph.D., Professor

Meetings Attended:

July 12-14, 1990 - Attended the VIII Ovarian Workshop held in Maryville, TN and presented a talk entitled "Tumor Necrosis Factor Alters Thecal and Granulosal Steroidogenesis".

July 15, 1990 - Attended the Society for the Study of Reproduction Board of Directors Meeting held at the Univ. of Tennessee, Knoxville.

July 16-18, 1990 - Attended the 23rd annual meeting of the Society for the Study of Reproduction held in Knoxville, TN.

October 1-3, 1990 - Attended Reproductive Biology Study Section meeting at NIH, Bethesda, MD.

February 18-21, 1991 - Attended Reproductive Biology Study Section meeting at NIH, Bethesda, MD.

June 5-8, 1991 - Attended Reproductive Biology Study Section meeting at NIH, Bethesda, MD.

Committees:

Departmental:
Promotion & Tenure Committee
Member, Block Exam coordinating committee for medical physiology course
Member, Dissertation Committee, Cathy Sagrillo

Medical Center:
Member, MRRC Internal Advisory Board
Member, Dissertation Committee, Robert Barter, Pharmacology Ph.D. candidate

University:
Director, MRRC Histology Core (5% effort, MRRC Center grant)
Member, Radiation Safety Committee

State:
Chairman, Research & Development Committee, VA Hospital, KCMO
Consultant, Mobay Corporation, Stillwell, KS

National:
Member, Reproductive Biology Study Section NICHD, 1989-93
Member, Intramural Reproductive Grant Review Board, EPA
Member, Board of Directors (1987-90), Society for the Study of Reproduction
Member, Editorial Board, Journal of Endocrinology
Consultant, CIBA-Giegy Corporation, Greensboro, NC
Member, Dissertation Committee, Pamela C. Dement-Lieberow, Ph.D. Candidate, Dept. of Biology, Northern Illinois University, DeKalb, IL

Editorial and Grant Reviews:
Endocrinology
Biology of Reproduction
Journal of Clinical Endocrinology & Metabolism
Endocrine Reviews
Reproduction, Fertility & Development
Seminars Presented:

October 16, 1990 - Presented a seminar entitled "Ovarian Tumor Necrosis Factor" to the Department of Pharmacology, Toxicology and Therapeutics, KUMC

October 31, 1990 - Presented a seminar entitled "Ovarian TNFα" to the Reproductive Group, KUMC

December 8, 1990 - Presented a seminar entitled "Ovarian Tumor Necrosis Factor α" at the MO-KAN Reproductive Workshop, KUMC

December 11, 1990 - Presented a seminar entitled "Ovarian Tumor Necrosis Factor Alpha: Effects and Localization in the Preovulatory Follicle" to the Reproductive Biology Unit, Vanderbilt University, Nashville, TN.

January 24, 1991 - Presented a seminar entitled "Ovarian TNFα" to the Department of Anatomy & Physiology, Kansas State University, Manhattan, KS.

March 12, 1991 - Presented a seminar entitled "Ovarian TNFα" to the Reproductive Biology Group, Washington State University, Pullman, WA.

April 8, 1991 - Presented a seminar entitled "Ovarian TNFα" to the Reproductive Biology Group, Texas Tech University Health Sciences Center.

Honors:

Award presented at Student Voice Forum in recognition of teaching in Medical Physiology course

Teaching Activities:

Medical Physiology - Course Coordinator
18 conferences
4 laboratories

Physiology 808 (Reproductive Physiology)
9 hours lecture

Physiology 809 (Pregnancy, Growth, Development & Aging)
3 hours lecture

Physiology 830 (Cellular Physiology)
6 hours lecture

Trainees:

Maria Sancho-Tello, M.D., Ph.D., post-doctoral fellow
Yan Zong Zhe, M.D., post-doctoral fellow
Toni Clinton, graduate student
Rob Zachow, graduate student
Rahul Singh, summer student
Duane Stillions, summer student

John W. Trank, Ph.D., Professor

Meetings Attended:

October, 1991 - Attended the American Physiological Society fall meetings held in Orlando, Florida

April 16, 1991 - Attended the "Technology in Education" conference in Kansas City, MO sponsored by the University of Kansas School of Education, Johnson County Community College and Apple Computer Company
Committees:
Departmental:
- Electronic shop supervisory committee
- Teaching laboratory review committee

KUMC:
- Chairman, Faculty Assembly Intercampus Liaison Committee
- Member, Faculty Assembly Steering Committee Council

University:
- Member, Information Resources Committee
- Ad hoc member Academic Computing Laboratory Committee

State:
- Member, Biomedical Engineering Technician Advisory Committee, Johnson County Community College
- Member, Board of Directors Greater Kansas City Div., American Heart Association
- Member, Board of Directors, American Heart Association, Kansas Affiliate
- Chairman, Bylaws Revision Committee, American Heart Association, Kansas Affiliate
- Consultant to Interex Division of Merck Industries, Lawrence, Kansas
- Consultant to Marion Merrell Dow Pharmaceuticals, Kansas City, MO

Honors:
- Received "Volunteer of the Year" award from the American Heart Association, Kansas Affiliate

Teaching Activities:
- Physiology 800 (Medical Physiology)
  - 9 hours lecture - Electrocardiography, Hemodynamics, Blood Pressure Regulation, Venous Circulation, System Dynamics
  - 20 conferences
  - 20 laboratory sessions
  - Laboratory management for all Medical Physiology Laboratories
- Physiology 842 (Medical Neuroscience)
  - 2 hours lecture - Optics
  - 6 hours laboratory sessions
- Physiology 827 - Physiological Instrumentation
  - 35 hours lecture/demonstration

Trainees:
- Kurt Kauffman, Medical student, summer 1990

Dennis P. Valenzeno, Ph.D., Associate Professor

Meetings Attended:
- July 1-14, 1990 - Attended the Photobiological Techniques meeting held at the NATO Advanced Study Institute in Kingston, Ontario, Canada
- December 3-4, 1991 - Attended the work session on "The Role of Reactive Oxygen Species in Tissue Damage" held at KUMC
June 22-26, 1991 - Attended the 19th Annual Meeting of the American Society for Photobiology held in San Antonio, TX
June 27-28, 1991 - Attended the Second International Conference on the Biologic Effects of UVA Radiation held in San Antonio, TX

Committees:
Departmental:
  Member, Graduate Committee
  Member, Medical Physiology Laboratory Review Committee
Local:
  Member, Organizing Committee: "Oxygen Free Radicals in Tissue Damage" symposium, KU Free Radical Group
National:
  Member, Education Committee American Society for Photobiology
  Member, Symposium Publication Committee, American Soc. for Photobiology
  Member, Governing Council, American Society for Photobiology
  Member, Publications Committee, American Society for Photobiology
  Member, Public Affairs Committee, American Society for Photobiology

Editorial Reviews:
  ad hoc reviewer - Photochemistry and Photobiology
  ad hoc reviewer - Journal of Photochemistry and Photobiology
  ad hoc reviewer - Biochimica et Biophysica Acta

Seminars Presented:
  February 21, 1991 - Presented a seminar entitled "Photobiology III. Fundamentals of Photobiology and Photosensitization" at the Kansas University Monthly Dermatological Meeting

Honors:
  Editor of the American Society for Photobiology Newsletter.
  Director, NATO Advanced Study Institute, "Photobiological Techniques", Kingston, Ontario, Canada
  Chaired Photosensitization session at the American Society for Photobiology meeting, June 22-26, 1991, San Antonio, TX

Teaching Activities:
  Medical Physiology
    6 hours lecture
    10 conferences
    4 laboratories
  Cell Physiology
    4 hours lecture
  Neuroscience
    1 laboratory
  Meet the Mentor Day - Johnson County Community College
    3 hours advising, Grades 4-12

Trainees:
  Edgar A. Arriaga, post-doctoral fellow
James L. Voogt, Ph.D., Professor

Meetings Attended:
- October 28 to November 1, 1990 - Attended 20th annual meeting of the Society for Neuroscience held in St. Louis, MO
- December 8, 1990 - Attended the MO-KAN workshop held at KUMC
- June 18-22, 1991 - Attended the 73rd annual meeting of the Endocrine Society held in Washington, D.C.
- June, 1991 - Attended the MO-KAN workshop held at the University of Missouri, Columbia, MO

Committees:
- Departmental:
  - Member, Graduate Affairs Committee
  - Member, Dissertation Committee, Teresa Faria
  - Member, Dissertation Committee, Frank Samson
- KUMC:
  - Chairman, Steering Committee, School of Medicine, KUMC
  - Member, Assembly Steering Committee, Institutional
  - Member, IACUC, Institutional
  - Member, Health Career Pathways Program Advisory Committee
  - Member, Dean’s Advisory Committee
  - Member, M.D./Ph.D. Advisory Committee and Curriculum Subcommittee
  - Member, MRRC Advisory Committee and Space Subcommittee
  - Member, Environmental Health Advisory Committee
  - Member, Committee on Governance
  - Member, Dissertation Committee, Mike McMaster, Biochemistry Graduate Student

Editorial and Grant Reviews:
- Editorial Board - Endocrinology
- ad hoc reviewer - PSEBM
  - Neuroendocrinology
  - Journal of Neuroendocrinology
  - Life Sciences
  - Developmental Brain Research
  - Molecular and Cellular Neuroscience
  - NSF-3

Seminars Presented:
- July 3, 1990 - Presented a seminar entitled "Role of Hypothalamic Serotonin in Regulation of Prolactin in the Female Rat" to the Department of Neurochemistry, CSIC, Barcelona, Spain
- July 5, 1990 - Presented a seminar entitled "Hypothalamic Mechanisms Involved in Controlling Prolactin Secretion from the Pituitary" at the Institute of Cell Biology, Valencia, Spain
- February 21, 1991 - Presented a seminar entitled "Serotonin is a Necessary Component of the Control of Prolactin Surges during Pregnancy" to the Department of Anatomy & Physiology, Kansas State University, Manhattan
April 23, 1991 - Presented a seminar entitled "Hypothalamic Tyrosine Hydroxylase Activity and mRNA Signal Levels: Relationship to Prolactin" to the Department of Anatomy and Neurobiology, University of Kentucky.

October 8, 1990 - Presented a departmental seminar entitled "Serotonergic Regulation of Prolactin During Pregnancy"

October 16, 1990 - Presented a KUMC Sigma Xi seminar

Honors:
Received "Honors in Education" award at the Student Voice Forum

Teaching Activities:
Physiology 800 - Medical Physiology
  10 conference
  6 lab sessions
Physiology 808 - Reproductive Biology
  5 hours lecture
Physiology 809 - Pregnancy, Growth and Development and Aging
  6 hours lecture
Prematriculation Course - Minority Students
  6 hours lecture

Trainees:
Sandy Elliott - graduate student
Cathy Sagrillo - graduate student
Joanne Mathiasen - graduate student
Lydia Arbogast, Ph.D. - Postdoctoral Fellow
Anahita Mistry, Ph.D. - Postdoctoral Fellow
Hiroshi Tomogane, Ph.D. - Postdoctoral Fellow
Rebecca Fliestra, B.S. - Summer student

Daniel J. Welling, Ph.D., Adjunct Associate Professor

Committees:
Member, Editorial board, AJP - Modeling & Methodology Forum

Journals refereed:
Journal of Membrane Biology
Bulletin of Mathematical Biology

Seminars Presented:
Invited speaker, Department of Physics, University of Missouri, Kansas City

Trainees:
Scott Rollins, Senior medical student
CHAIRMAN'S REPORT

The Department continues to flourish in all of the multifaceted aspects that make for academic excellence.

**Teaching.** Evaluations of the Medical Physiology and Neuroscience courses by "Student Voice" were especially favorable with three faculty singled out for special recognition: Dr. Paul Cheney was voted the "Outstanding Instructor of 1990-1991"; Dr. Tom Imig was cited for "Special Distinction in Education 1990-1991"; and Dr. Peter Smith received an "Excellence in Education 1990-1991" award. Moreover, almost all of the Physiology lecturers in those courses were commended for honors in education.

One of the most exciting innovations (at least to me!) in the Med Physiology course was a change in the format of conference presentations by first year students with the onus placed on the student to prepare a written summary and oral presentation on topics relevant to the lecture material - without any help from the faculty. This approach seemed to rejuvenate enthusiasm in the small group sessions by both student and faculty.

The requirements for Ph.D. degrees in Physiology were also revised after at least 25 years of a "classical" curriculum and philosophy. It is now possible for a student to elect to concentrate on one of three research areas: integrative physiology, cell and molecular physiology or neuroscience. It is too early to predict what changes will have to be made in this format but I'm confident that flexibility and open minds will resolve any problems.

**Research.** As attested by the number of published and papers in press the department continues to fulfill one of its major obligations. It is satisfying that almost all faculty have published at least one paper this past year and that all are either principal or coinvestigators on research grants. Some measure of the reputation of the department is the number of people serving as ad hoc or members of study sections and the numerous invitations to give lectures at the national and international level. In terms of total research dollars I anticipate that this will be a record year for the department.

**Faculty.** Two new faculty came on board in the past year: Dr. Joseph Tash, Associate Professor and Dr. Steven LeVine, Assistant Professor. They are already making substantial contributions to the Department and their future inputs will increase year by year. In addition to service at the national level, I am proud of the number of physiology faculty contributing at KUMC by serving on various committees. To single out one person whose efforts really merit recognition, Dr. Jim Voogt served as chair of the Faculty Steering Committee and performed yeoman service.

The faculty are the backbone of the institution and right now the Physiology Department is probably at its strongest because of their efforts in teaching, research and service.