ANNUAL REPORT
July 1, 1979 - June 30, 1980
DEPARTMENT OF PHYSIOLOGY
UNIVERSITY OF KANSAS MEDICAL CENTER
COLLEGE OF HEALTH SCIENCES AND HOSPITAL

Department Roster

a. Academic Staff
G. S. Greenwald, Ph.D., Distinguished Professor and Chairman
R. L. Clancy, Ph.D., Professor
K. L. Goetz, M.D., Ph.D., Adjunct Professor
D. C. Johnson, Ph.D., Professor (Joint appt. Ob-Gyn)
F. E. Samson, Ph.D., Professor (Director of Ralph Smith Center for Mental Retardation)
L. P. Sullivan, Ph.D., Professor
A. M. Thompson, Ph.D., Professor (and Associate Dean Graduate School)
N. C. Gonzalez, M.D., Associate Professor
C. M. Tarr, Ph.D., Associate Professor
J. W. Trank, Ph.D., Associate Professor
J. L. Voogt, Ph.D., Associate Professor
D. J. Welling, Ph.D., Adjunct Associate Professor
P. D. Cheney, Ph.D., Assistant Professor
H. J. Cooke, Ph.D., Assistant Professor
S. K. Dey, Ph.D., Adjunct Assistant Professor (Joint appt. Ob-Gyn)
H. L. Fernandez, Ph.D., Assistant Professor (Director, Neurosciences Research Laboratory, VA Hospital)
P. F. Terranova, Ph.D., Assistant Professor
H. D. Schultz, Ph.D., Adjunct Instructor

b. Postdoctoral Fellows
Pilar Gomez-Ramos, Ph.D.
R. C. Hoversland, Ph.D.
Christopher Hubbard, Ph.D.
Brett Oxberry, Ph.D.
Srinivasas S. Saidapur, Ph.D.
Harold D. Schultz, Ph.D.
Chandrima Shaha, Ph.D.
Susan Silavin, Ph.D.
Masaomi Takayama, M.D.
Kazuyoshi Taya, D.V.M., Ph.D.
Yuichi Wada, M.D.

C. Graduate Students Prelims Candidate for Degree Requirements Fulfilled
Luis Ascanio
11/78 Ph.D.
Dennis C. Fater
Ph.D.
Richard D. McCabe
Ph.D.
Robert O' Neill
Ph.D.
Daniel A. Terreros
Ph.D.
Patricia A. Tonkowicz
Ph.D.
Chon Hwa Tsai
11/78 Ph.D.
Dianne L. Vermillion
5/79 Ph.D.
Mary S. Vomacka
1/79 Ph.D.
Matthew Zupka
Ph.D.
Michael Patterson
MS.
Lorraine Rome
MS.
Robert Whitman
MS.
Notes concerning graduate students:

Dennis Fater attended the American Physiological Meetings, New Orleans, Louisiana, in October and presented a paper entitled "Evidence that the adrenal medulla is only of minimal importance in certain cardiovascular reflexes". He also attended the Federation of American Society for Experimental Biology, Anaheim, California, in April and presented a paper entitled "Cardiac innervation eliminates the diuretic response elicited by increasing left atrial pressure with a balloon."

Patricia Tonkowicz attended the Society of the Study of Reproduction meeting at Laval University, Quebec, Canada, in August and the Endocrine Society meetings, Washington, D.C., in June.

Chon Hwa Tsai attended the Society of the Study of Reproduction meeting at Laval University, Quebec, Canada, in August and the Endocrine Society meetings, Washington, D.C., in June.

Daniel Terreros attended the Federation of American Society for Experimental Biology, Anaheim, California, in April and presented a paper entitled "Transmembrane Potential of Cells in Isolated Renal Tubules" with M. Tarr and J. Grantham.

Mary Vomachka attended the American Physiological Society at Michigan State University in August.

COURSES Taught

101 - Elementary Physiology (F), part of a 1,000 hour course for Emergency Care. Taught by Dr. Voogt and graduate students. Enrollment 16. Dr. Voogt - coordinator.


Department Seminars

9/10/79  Dr. Caroline S. Pace  
Diabetes Research and Training Center  
University of Alabama in Birmingham  
The Role of the Plasma Membrane  
in Stimulus-Secretion Coupling  
in Pancreatic Islet Cells

9/17/79  Dr. Ronald A. Janis  
The Medical School  
Northwestern University  
Cyclic Nucleotides and Phospho-  
proteins in the Regulation of  
Smooth Muscle Tone

9/24/79  Dr. Lawrence P. Sullivan  
Physiology Department, KUMC  
Studies of Renal Potassium  
Transport

10/2/79  Dr. Frederick Sachs  
Department of Pharmacology  
State University of N.Y. at Buffalo  
Properties of Single Ionic  
Channels in Tissue Cultured  
Muscle Cells

10/8/79  Dr. Timothy Rink  
Physiology Dept., Cambridge University  
Autonomic Nerve Control of  
Cardiac Output

10/15/79  Dr. Paul F. Terranova  
Physiology Department, KUMC  
Delayed Ovulation

10/22/79  Dr. Hugo L. Fernandez  
Physiology Department, KUMC and  
Director, Neuroscience Research  
VA Hospital  
Nerve-Target Cell Interactions:  
Regulation of acetylcholinesterase  
molecular forms in skeletal muscle

10/29/79  Dr. Michael D. Bailie  
Chairman, Pediatric Dept., KUMC  
The Renin-Angiotensin System in  
the Newborn

11/5/79  Dr. Alan M. Thompson  
Physiology Department, KUMC  
A New Method of Quantifying Regional  
Brain Permeability by Autoradiography

11/12/79  Dr. Charles Abzug  
Department of Physiology  
University of Maryland  
School of Medicine  
Detection of Neuronal Membrane  
Conductance Changes in the Hippo-  
campal Formation Using Extracellular  
Recording Techniques

11/19/79  Dr. Thomas J. Imig  
Department of Neurophysiology  
University of Wisconsin Medical School  
Cortico-Cortical Connections Related  
to Physiological Maps in Cat Auditory  
Cortex

11/26/79  Dr. Norberto C. Gonzalez  
Physiology Department, KUMC  
pH Regulation in Cardiac Cells

12/3/79  Dr. C. Merrill Tarr  
Physiology Department, KUMC  
Sarcomere Dynamics in Isolated Single  
Cardiac Cells

12/10/80  Dr. Gilbert Greenwald  
Physiology Department, KUMC  
Superovulation Induced by Anti-LH  
Serum

12/17/80  Dr. Larry Welling  
Pathology Department, KUMC, and  
Research Service, VA Hospital  
Evidence for Two Systems of Transport  
Channels in Cortical Collecting  
Tubules
<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Department</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/14/80</td>
<td>Dr. Michael Linshaw</td>
<td>Pediatrics Department, KUMC</td>
<td>Regulation of Tubular Cell Volume</td>
</tr>
<tr>
<td>1/21/80</td>
<td>Dr. Daniel Welling</td>
<td>Pathology Department, KUMC and Physiology Department, KUMC</td>
<td>A Model for Regulation of Tubular Cell Volume</td>
</tr>
<tr>
<td>1/28/80</td>
<td>Dr. Wilf Arnold</td>
<td>Biochemistry Department, KUMC</td>
<td>Biochemistry &amp; Biophysics of the Yeast Cell Envelope</td>
</tr>
<tr>
<td>2/4/80</td>
<td>Dr. Helen Cooke</td>
<td>Physiology Department, KUMC</td>
<td>Intestinal Transport Properties in the Mouse Model for Hirschsprung's Disease</td>
</tr>
<tr>
<td>2/25/80</td>
<td>Dr. Dennis Valenzeno</td>
<td>Department of Physiology Emory University</td>
<td>Light, Dye and Membrane Permeability</td>
</tr>
<tr>
<td>3/3/80</td>
<td>Dr. Ronald Borchardt</td>
<td>Department of Biochemistry KU Lawrence Campus</td>
<td>Recent Advances in Biological Transmethylation</td>
</tr>
<tr>
<td>3/10/80</td>
<td>Dr. H. W. Reinhardt</td>
<td>Department of Physiology Free University of Berlin</td>
<td>Possible Mechanism of Atrial Natriuresis</td>
</tr>
<tr>
<td>3/17/80</td>
<td>Chon-Hwa Tsai</td>
<td>Graduate Student Physiology Department, KUMC</td>
<td>Control of Steroidogenesis</td>
</tr>
<tr>
<td>3/24/80</td>
<td>Dr. Pierre Soupart</td>
<td>Dept. of Obstetrics &amp; Gynecology Vanderbilt University</td>
<td>Fertilization Mechanisms in the Human</td>
</tr>
<tr>
<td>3/31/80</td>
<td>Dennis Fater</td>
<td>Graduate Student Physiology Department, KUMC</td>
<td>The Influence of Cardiac Receptors on Renal Function</td>
</tr>
<tr>
<td>4/21/80</td>
<td>Dr. Francis E. Cuppage</td>
<td>Pathology Department, KUMC</td>
<td>Biological Applications of Electron Probe Microanalysis</td>
</tr>
<tr>
<td>4/28/80</td>
<td>Dr. James L. Voogt</td>
<td>Physiology Department, KUMC</td>
<td>What is so Interesting about Nocturnal (S)Urges?</td>
</tr>
<tr>
<td>5/5/80</td>
<td>Robert O'Neill</td>
<td>Graduate Student Physiology Department, KUMC</td>
<td>Fast Axoplasmic Transport</td>
</tr>
<tr>
<td>5/12/80</td>
<td>Paul D. Cheney</td>
<td>Physiology Department, KUMC</td>
<td>Transcortical Stretch Reflex: Does it Exist?</td>
</tr>
<tr>
<td>5/19/80</td>
<td>Mary Vomachka</td>
<td>Graduate Student Physiology Department, KUMC</td>
<td>Reproduction in the Female Diabetic Rat</td>
</tr>
</tbody>
</table>
Publications

a. Published during year - July 1, 1979 - June 30, 1980


b. In Press


Dunn, J. D., D. C. Johnson, A. J. Castro and R. Swenson, Twenty-four hour pattern of prolactin levels in female rats subjected to transection of the mesencephalic raphe or ablation of the suprachiasmatic nuclei. Neuroendocrinology.


Terranova, Paul F. Relationship between the decidual response and ovarian steroidogenesis in the unilaterally ovariectomized pseudopregnant rat. *Journal of Endocrinology*

Terranova, Paul F. Effects of phenobarbital-induced ovulatory delay on the follicular population and serum levels of steroids and gonadotropins in the hamster: a model for atresia. *Biology of Reproduction*

Terranova, Paul F. Atresia induced shift of LH-stimulated steroidogenesis in antral follicles of the cyclic hamster. In *Physiologic Cessation of Ovarian Function*, eds., N. B. Schwartz and M. Hunzicker-Dunn, N.Y.

Terranova, Paul F. and Greenwald, G. S. Increased ovulation rate in the cyclic guinea-pig after a single injection of an antiserum to LH. *Journal of Reprod. Fert.*

Thompson, Alan M., Janet L. Thompson and Robert C. Robertson. Effect of acetazolamide on rate of CO₂ uptake in the perfused rat brain" *Brain Research.*


Goetz, K. L., H. D. Schultz, W. D. Sundet, and D. C. Fater. Cardiovascular responses to partial obstruction at various points in the intrathoracic circulation of conscious dogs. Physiologist


Research Support

P.D. Cheney: Co-investigator with Dr. Fred Samson on U.S. Army Medical Research Command contract - Action of cholinergic poisons on the central nervous system and effectiveness of potential antidotes, June 1, 1979 - May 31, 1980. Total project direct costs $141,701; Indirect costs $36,816; Direct costs (P. D. Cheney) $22,000. Dr. Samson is Principal Investigator.


American Heart Association, Kansas Affiliate - Effect of Insulin on Myocardial Cell pH, July 1, 1979 to June 30, 1980. $10,000.


S. K. Dey: NIH - Role of histamine in early pregnancy. $109,000 - 3 years.

NIH - Steroid hormones and embryo development. $79,000 - 3 years.


VA Merit Review Program - Muscle Degeneration: Inhibition by Proteolytic Enzyme Blocking Agents, October 1, 1979 - September 30, 1980. Direct costs $47,100; Direct costs for total period $125,100.


Internal Grant Support, St. Luke's Hospital.


U.S.P.H.S. Post Doctoral Fellowship for Dr. Brett Oxberry - $13,000.
U.S.P.H.S. Post Doctoral Fellowship for Dr. Christopher Hubbard - $16,000.
Ford Foundation Training Grant for Research in Reproductive Biology (K.U. Endowment Association), $13,000.


Ely Lily Co. - Microtubule Involvement in Neuropathies. (carryover from 1979 with Irene Bettinger) $4,000.


VA Administration Merit Review Award - In Vitro Study of Nephron Transport Mechanism.


ACTIVITIES OF STAFF

Paul D. Cheney, Ph.D., Associate Professor

November 1-2, 1979 - Attended annual meeting of the Society for Neurological Education in Atlanta, Ga.

November 2-6, 1979 - Attended annual meeting of the Society for Neuroscience in Atlanta, Ga. and presented a poster entitled "Facilitation and Suppression of Forelimb Muscle Activity from Single Intracortical Microstimuli in Behaving Monkeys".

February 26-28, 1980 - Attended a conference on "Brain Cholinergic System" at Aberdeen Proving Grounds, Aberdeen, Maryland and presented a paper on "The Effect of DFP on Activity of Superior Colliculus Neurons". Seminars presented:

April 22, 1980 - Presented a seminar entitled "Organization and Function of Primate Motor Cortex" to the Pharmacology Department, KUMC.

May 12, 1980 - Presented a departmental seminar entitled "Transcortical Stretch Reflex: Does it exist?"

Teaching Activities:

Medical Physiology
10 hours lecture, Neurophysiology
10 conferences
7 laboratories
1 demonstration
Responsible for content of Parkinson's conference.

Physiology 388
7 hours lecture

Physiology 822, Neurophysiology
Responsible for 17 of the 22 sessions, 3 hours each, 5 registered students.

School of Allied Health, Physical Therapy Program
Gave 4 hours of lecture on the muscle spindle apparatus.
Richard L. Clancy, Ph.D., Professor

Fall, 1979 - Attended Fall Physiology meeting, New Orleans, La.
Spring, 1979 - Attended FASEB meetings, Anaheim, Calif.

Committees:
KUMC Medical Student Affairs, Graduate School Council

Seminars presented:
"Myocardial Acid Base Regulation", Physiology Department, Kansas State University, Manhattan, Kansas.

Teaching Activities:
Medical Physiology
11 hours lecture, Cardiovascular
Physiology 705, Advanced Human Physiology, Course Coordinator
10 hours lecture
Physiology 830, Cardiovascular Physiology
42 hours lecture

Responsible for Student Labs
Responsible for departmental graduate students admissions and records.

Supervised medical student Kimo Stine, summer 1979.

Helen J. Cooke, Ph.D., Assistant Professor

April 13-18 - Attended FASEB meetings, Anaheim, Calif.

Committees:
KUMC Graduate Committee
Cell Physiologist Search Committee

Honors:
American Women in Science

Seminars presented:
November 21, 1979 - Presented a seminar entitled "Pathophysiology of Hirschsprung's Disease, Department of Physiology, University of Nevada, Reno, Nevada.
February 4, 1980 - Presented a departmental seminar entitled "Intestinal Transport Properties in the Mouse Model for Hirschsprung's Disease".

Teaching Activities:
Medical Physiology
11 hours lecture
10 conferences
8 labs
Physiology 705
8 hours lecture
Physiology 818, Gastroenterology
22 lecture hours

Other activities:
November 13-21, 1979 - Visiting professor; lectures to second year medical students, University of Nevada, Reno, Nevada.
March 10-24, 1980 - Visiting professor; lectures to first year medical students, University of Nevada, Reno, Nevada.

Supervised training of graduate student, Richard McCabe
Sudhansu K. Dey, Ph.D., Adjunct Assistant Professor

August, 1979 - Attended the 12th Annual Meeting of the Society for the Study of Reproduction in Quebec City, Canada.

October, 1979 - Attended the Brook Lodge Conference in Kalamazoo, Michigan, and presented a paper entitled "Reevaluation of Histamine in Implantation".

Seminars presented:
November, 1979 - Presented seminar entitled "Embryo-uterus Interaction" to the Department of OB/GYN, KUMC.
June, 1980 - Presented Reproductive Physiology Seminar (MRRC) entitled "Aspects of Implantation".

Teaching Activities:
Medical Physiology Labs and conferences

Trained one KAW Valley Medical Student summer of 1979 - Lori Rush.
Trained one KAW Valley Medical Student summer of 1980 - Marquita Jackson
Trained one premedical student summer of 1980 - Sandeet Mukerjee.

Hugo L. Fernandez, Ph.D., Assistant Professor

November 2-6, 1979 - Attended IX Annual Meeting Society for Neurosciences, Atlanta, Georgia.

Committees:
KCVAMC, Research and Development Committee, Regular Member, FY-80.
KCVAMC, R & D Space Subcommittee Member, FY-80.

Honors:
Elected Regular Member, New York Academy of Science, 5/1/80.
Appointed to Graduate Faculty, KUMC, 1980.

Refereed:
Neurobiology Review Board Member for Research Division, Catholic University of Chile (8 proposals reviewed, 1979-1980).
Ad-Hoc Advisory Consultant NINCDS, evaluation and site visit, "Specialized Research Center for Neuromuscular Diseases", at Baylor College of Medicine, Houston, 8/2-5/79.

Other Activities:
Appointed Director of Neuroscience Research Laboratory, VAMC, 10/1/79.
Collaborated in organization of program for scientific presentations, XI Annual Meeting Amer. Soc. Neurochemistry (Program Committee Chairman, Dr. F. Samson, 1980).
Collaborated in preparation of application to establish an "Office for Regeneration Research", at the KCVAMC, June, 1980.
September 18, 1979 - VAMC Neurobiology Journal Club Seminar, "Trophic Functions of Vertebrate Neurons".

October 22, 1979 - Presented a departmental seminar entitled "Nerve-target Cell Interactions".

June, 1980 - Presented a seminar entitled "Regulation of 16S-acetylcholinesterase at the vertebrate neuromuscular junction" at the Seminar Series on Neurotrophic Effects, University of Maryland, Department of Anatomy.

Teaching Activities:
- Medical Physiology
  - 8 lectures
  - 7 laboratory sessions
  - 11 conferences
  - 2 lecture review sessions
  - 2 problem-exercise sessions
  - 1 conference pre-briefing session.

Kenneth L. Goetz, M.D., Ph.D., Adjunct Professor


October 17-21, 1979 - Attended Baroreceptors and Hypertension meeting, Oxford University, England.

April 14-18, 1980 - Attended FASAB meetings, Anaheim, Calif.

Committees:
- Chairman, Human Investigation Committee, St. Luke's Hospital.
- Member, Education and Research Committee, Medical Curriculum Committee, Ad hoc Committee on Conditioning Center.

Refereed:
- Ad hoc reviewer for American Journal of Physiology

September 25, 1979 - Presented seminar entitled "The Gauer-Henry Reflex" at the University of Dusseldorf, Germany.

November 2, 1979 - Presented seminar entitled "Balloons, pericardial pouches, and denervated hearts: another look at cardiac reflexes" at the University of Missouri, Columbia, Mo.

November 6, 1979 - Presented a seminar entitled "Hypertension" at St. Luke's Hospital, Department of Anesthesiology.

Teaching Activities:
- Medical Physiology - 4 lectures
- CV grad course - 2 lectures

Supervised predoctoral training of Dennis C. Fater
Supervised postdoctoral training of Harold D. Schultz, Ph.D.

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

April 13-18, 1980 - Attended FASEB meetings, Anaheim, California.

Committees:
- Ad hoc member of the Cardiovascular Study Section, NIH
- Guest referee for NSF grants
Guest referee of Respiration Physiology
Judge in the 1980 KUMC Student Research Day.

Seminars presented:
November 26, 1979 - Presented a departmental seminar entitled "pH Regulation in Cardiac Cells".

June 23, 1980 - Lectured on acid base regulation in mammalian tissues at the Max Planck Institute for Experimental Medicine, Gottingen, Germany.

Teaching Activities:
- Medical Physiology - Respiratory Physiology
  11 hours lecture
  20 hours (approx.) study sessions and demonstrations.
  conference and laboratory instructor in the course.
- Physiology 705 - Respiratory Physiology section
  6 hours lecture

Other Activities:
- March 6-7, 1980 - Travelled to Dodge City, Ks., to talk to civic groups on behalf of the American Heart Association.
- June 10 - August 10, 1980 - Visiting scientist at the Department of Physiology, Max Planck Institute for Experimental Medicine, Gottingen, Germany.
- June-August, 1980 - Fellowship from the Alexander von Humboldt Foundation, Bonn, W. Germany.

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

August, 1979 - Attended the meeting of the Society for the Study of Reproduction, Quebec, Canada and took part in panel on the granting situation.


Committees - KUMC:
- Interinstitutional Executive Committee (Wichita and Kansas City)
- Promotions and Tenure Committee
- Chairman, Subcommittee on Joint Appointments
- Chairman, Election Committee, Medical Faculty Senate
- Member, Search Committee for Chairman of Anatomy
- Chairman, Search Committee for Dean of Allied Health
- Member, Medical Image Committee

Committees - External:
- Organizing Committee, NIH Workshop on the Ovary, Ann Arbor, Mi., August, 1980.
- Ad hoc member, Reproductive Biology Study Section, NIH - June, 1980
- Ad hoc review of applications (4) for National Science Foundation.

Reviewed Papers for:

Seminars Presented:
- Department of Physiology, University of Kansas, Lawrence
- Department of Physiology, University of Kansas Medical Center
- Department of Anatomy, University of Oregon Medical School
- Oregon Regional Primate Center, Beaverton, Oregon
- Department of Zoology, University of California, Berkeley
Department of Hormone Research, University of California Medical School, San Francisco
Department of Biological Sciences, Northwestern University, Evanston, Il. (2 lectures).
Speaker, KUMC Workshop on Grantsmanship, Fall, 1979.

Teaching activities:
Medical Physiology - Endocrinology
  5 hours lecture
  3 conference sessions
  Class coordinator
Physiology 388 - G.I. Physiology
  4 hours lecture
Physiology 806
  6 hours lecture

Postdoctoral Fellows:
  Christopher Hubbard, Ph.D.
  Brett Oxberry, Ph.D
  Srinivas K. Saidapur, Ph.D.
  Chandrima Shaha, Ph.D.
  Susan Silavin, Ph.D.
  Kazuyoshi Taya, D.V.M., Ph.D.
  Yuichi Wada, M.D.

College Student (summer):
  Scott Eveloff

Donald C. Johnson, Ph.D., Professor of Obstetrics and Gynecology and Physiology
August, 1979 - Attended Society for Study of Reproduction meetings in Quebec, Canada,

Refereed:
Biology of Reproduction
Endocrinology
Neuroendocrinology
Andrology

Seminars presented:
May 12, 1980 - "Role of Histamine in Implantation", Department of Anatomy, University of Oregon, Portland, Oregon.
May 13, 1980 - "Regulation of Ovarian Steroidogenesis", Department of Ob/Gyn, University of Oregon, Portland, Oregon.

Teaching activities:
Medical Physiology - Endocrinology
  5 hours lecture
  11 conferences
  5 lab sessions
Physiology 806
  Course Coordinator
  8 lectures
Physiology 705 - Advanced Human Physiology
  8 lectures
Physiology 825 - Biology of Sex
16 conferences and seminars

Pre and post-doctoral students trained:
- C. A. Powers, Ph.D. candidate in Pharmacology
- C. H. Tsai, Ph.D. candidate in Physiology
- M. Vomachka, Ph.D. candidate in Physiology
- R. C. Hoversland, Ph.D., postdoctorate fellow (NIH) joined June 1, 1980.

Fred E. Samson, Ph.D., Professor

July 1-31, 1979 - Neurosciences Research Program (MIT), Boston, Ma.


November 3-5, 1979 - Mental Retardation Research Center Directors Meeting, Cincinnati, Ohio. Presentation on brain regional functional mapping and Inter-Center research collaboration, University of Cincinnati.

January 28-29, 1980 - Consultation with U.S. Army Medical Research and Development Command, Aberdeen, Md.

Feb. 27-28, 1980 - Conference on Research at University of Kansas on anticholinesterase toxins. Aberdeen, Md.

March 2-6, 1980 - Annual Meeting of American Society Neurochemistry, Houston, Tx. Program Chairman; also responsible for organizing and publishing the program/abstract volume for the meeting. Co-author with K. Johnson and S. Nelson on paper "Amphetamine and haloperidol after glucose use in rat habenular nuclei".


June 29-30, 1980 - Neurosciences Research Program, MIT, Boston, Ma. Work session on "Excitatory neurotoxins: selectivity, specificity, and mechanisms of action".

Committees - Internal:
- Director, Ralph L. Smith Research Center
- Past-President, Sigma Xi, Kansas City Club (on Sigma Xi Council) 1978-79
- Chapter Status Committee

Ph.D. Thesis Committee:
- Bernard Schneider, Department of Pharmacology
- Robert O'Neill, Department of Physiology
- Wayne Daughtry, Department of Pharmacology
- KUMC Chairman of Committee, Institute for Cell Research (Valencia, Spain)
- Scrivener-Scribe, Department of Physiology
- Tenure and Promotions Statement for Department of Physiology. Chairman, pro tem.

Committees - External:
- Chairman, University of Chicago Alumni Fund, Greater Kansas City Area
- Chairman, Program Committee, American Society Neurochemistry (1980 Meeting, Houston, Texas).
- Chairman, Planning Committee for encouraging research collaboration between Mental Retardation Research Centers.

Honors:
- Appointed to University of Chicago National Alumni Fund Board
- Standing ovation at the 11th Annual Meeting of the American Society for Neurochemistry in Houston; designed the scientific program and the program/abstract (volume).
Seminars presented:

October 15-27, 1979 - Lectures given at Universidad Autonoma, Madrid, on axoplasmic transport, microtubules, brain regional function mapping.

January 24, 1980 - Kiwanis Club, Lawrence, Ks on "Health and Disease in the 1980's".

February 27, 1980 - Lecture on brain regional functional mapping to U. S. Army Medical Research and Development Command, Aberdeen, MD.

Reviewed:

- Neurosciences Research Program Bulletin (ad hoc)
- Proc. National Academy of Sciences
- Occasionally from journals in neurobiology
- National Science Foundation - Neurobiology Division - grant reviews

Teaching Activities:

- Medical Physiology
  - 4 lecture hours
- Physiology 388
  - 4 lectures
- Physiology 800
  - 12 two hour conferences
- Physiology 850 (Research)
  - 15 hours
- Physiology 782
  - Participated in every session of this class.

Sponsor:

Scientific sponsor for the Career Development Awards of Wayne Moore, M.D., Ph.D., Pediatrics and MRRC, and Vernon Rowe, M.D., Neurology and MRRC.

Trainees:

- Robert O'Neill - Graduate student, Department of Physiology
- Pilar Gomez-Ramos, Ph.D. - NIH International Post-Doctoral Fellowship; September, 1979 - September, 1980 (Autonoma University, Madrid)
- Masaomi Takayama, M.D. - Post-doctoral, February - May, 1980 (Tokyo Medical College)

Lawrence P. Sullivan, Ph.D., Professor


February 20-22, 1980 - Attended meeting of Great Plains Regional Research Committee, American Heart Association, St. Louis, Mo.

April 16-18, 1980 - Attended FASEB meeting, Anaheim, California and presented a paper and chaired session on Renal Transport.

Seminars presented:

- September 24, 1979 - Presented a departmental seminar entitled "Studies of Renal Potassium Transport".
- December 11, 1979 - Presented a seminar to Department of Pharmacology entitled "Studies of Potassium Transport by the Kidney".

January 8, 1980 - Gave talk for local divisions of the American Heart Association, Coffeyville, Kansas.

February 7, 1980 - Gave talk for local divisions of the American Heart Association, Marion, Kansas.
Committees:
- Member, Faculty Promotion and Tenure Committee, KUMC
- Member, Renal Dialysis & Transplantation Committee
- Consultant on physiology curriculum, University of Illinois at Urbana-Champaign
- Member, Research Committee for Great Plains Region, American Heart Association
- Research Publicity Director, member of Board of Directors and member Research Committee, Kansas Affiliate, American Heart Association.
- Member Board of Directors, Kaw Valley Division, American Heart Association.

Reviewed:
- Reviewed manuscripts on ad hoc basis for American Journal of Physiology and Toxicology and Applied Physiology
- Reviewed grant applications on ad hoc basis for National Institutes of Health.

Teaching activities:
- Medical Physiology
  - 10 hours lecture
  - 8 - 2 hour problem sessions
  - In charge of lab and conference groups
- Physiology 705
  - 8 hours lecture
- Physiology 806
  - 2 lectures
- Medical Pharmacology
  - 2 hours lecture on Diuretic Agents
- Review for National Board Exams
  - 2 hours lecture

Trainees:
- Dr. Harold Wilkinson, Assistant Professor, Millikin University. June 1 - August 15, 1979, National Science Foundation Program for research training of small college faculty.
- Ravi Bajaj - 2nd year medical student, Summer Research training, June 1 - August 15, 1980.

Merrill Tarr, Ph.D., Associate Professor

April 13-18, 1980 - Attended FASEB Meeting, Anaheim, California, and presented a paper.

December 3, 1979 - Presented departmental seminar entitled "Sarcomere Dynamics in Isolated Single Cardiac Cells".

Committees:
- Special program subcommittee of the Academic Committee

Refereed:
- Refereed papers for Circulation Research (Member of Editorial Board)

Teaching Activities:
- Medical Physiology
  - 12 hours lecture
  - 3 hours review sessions
  - conference and laboratory
- Physiology 705
  - 8 hours lecture

Other activities:
- October, 1979 - Member of site visit team from National Institutes of Health to UCLA.
Students in training:

Daniel A. Terreros, Graduate student, Physiology Department.
Paul F. Terranova, Ph.D., Assistant Professor

October 15, 1979 – Presented a departmental seminar entitled "Delayed Ovulation".
Fall, 1979 – Presented a seminar entitled "Delayed Ovulation" to the Department of Anatomy/Physiology, Kansas State University Veterinary School.

Refereed:

1-2 manuscripts/month - Biology of Reproduction
NSF grants

Teaching activities:

Medical Physiology
8 hours lecture
conference and lab

Physiology 388
5 hours lecture
Course Coordinator

Physiology 782
1 hour Advanced Topics

Students trained:

William Carlile, Medical Student
Scott Sherwood, Medical Student
Luis Ascanio, Graduate Student, Physiology Department
Barb Krumme, Senior nursing student-KUMC
Charles Lunn, Junior undergraduate Pittsburg State University – Kaw Valley Medical Student Fellowship

Alan M. Thompson, Ph.D., Professor and Associate Dean for Graduate Studies

August, 1979 – Attended Symposium on Blood-brain barrier in Galveston, Texas.
November, 1979 – Attended the Council of Graduate Schools in Chicago, Illinois.
November 5, 1979 – Presented a departmental seminar entitled "A New Method of Quantifying Regional Brain Permeability by Autoradiography".

Committees:

Vice-Chancellors' Committee of Deans
KUMC Graduate Council
KUMC Graduate Committee
Other committees connected with Graduate School responsibilities

Refereed:

Journal of Neurochemistry (occasionally)

Teaching activities:

Medical Physiology
6 hours lecture
lab and conference

Physiology 388
6 hours lecture
One hour lecture - Graduate course on Autoradiographic Methods and Results.
Three hours lecture on Physiology of Aging in Graduate Nursing course.

John W. Trank, Ph.D., Associate Professor
April 13-18, 1979 - Attended FASEB meetings, Anaheim, California.

Committees:

KUMC:
Curriculum, Development and Education Committee
Electronics Shop Supervisory Committee
Biomedical Engineering Search Committee

University:
Biomedical Engineering Curriculum, joint committee KUMC-Lawrence Engineering school

Regional Committees:
American Heart Association - Kansas Affiliate, Board of Directors
Kaw Valley Tricounty Division - Kansas Affiliate, American Heart Association, Board of Directors
Community Programs Committee - Kansas Affiliate, American Heart Association
Biomedical Engineering Technician Advisory Committee, Johnson County Junior College

Teaching Activities:
Medical Physiology
  9 hours lecture - Hemodynamics and Optics & Vision
  50 hours conference and laboratory

Physiology 388
  7 hours lecture

Physiology 827
  30 hours lecture

Physiology 830
  36 hours lecture and conference

Critical Care Nursing (School of Nursing)
  10 hours lecture

Electrical Engineering 230
  3 hours lecture

Students trained:
  Frank Faraci, Graduate Student, KU Lawrence campus

James L. Voogt, Ph.D., Associate Professor
August 22-24, 1979 - Attended American Physiological Society Specialty Meeting, Michigan State University
February 10-16, 1980 - Attended Sixth International Congress of Endocrinology, Melbourne, Australia.
February 18 & 19, 1980 - Attended Satellite Symposium Prolactin 1980 and Beyond, Adelaide, Australia, and presented paper entitled "Catecholamine Synthesizing Enzymes During Lactation".


April 28, 1980 - Presented department seminar entitled "What is so interesting about nocturnal (s)urges?".

Reproductive Physiology Seminar: Neuroendocrine control of ovulation.

Committee:
- Departmental Library Committee
- KUMC Recreation Opportunities Committee

Refereed:
- Numerous articles for Endocrinology, Neuroendocrinology, and Science
- NSF grants

Teaching activities:
- Medical Physiology
  - 6 hours lecture
  - 7 labs
  - 11 conferences
  - Responsible for Endocrinology Section
- Physiology 101
  - 6 hours lecture
  - 3 labs
  - Course Director
- Physiology 806
  - 5 hours lecture

Students trained:
- Martin Bartolac - medical student (summer, 1979)
- Scott Teeter - medical student (summer, 1980)
- Patricia Tonkowicz - Graduate student, Physiology Department (Sept. 1, 1979-present).

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

November, 1979 - Attended American Society of Nephrology meetings, Boston, Massachusetts.

April, 1980 - Attended FASEB meetings, Anaheim, California.

January 21, 1980 - Presented a departmental seminar entitled "A Model for Regulation of Tubular Cell Volume".

May, 1980 - Presented a seminar entitled "Cell Volume Regulation in Renal Tubules", Physiology Department, Yale University, New Haven, Connecticut.

Refereed:
- American Journal of Physiology
- Kidney Internation
- NIH Grants

Students trained:
- J. Morgenegg - Predoctoral student, Physics Department, Virginia Polytechnic Institute and State University, Blacksburg, Virginia.
Chairman's Report

I'm sure it comes as no surprise that the national reputation of any university affiliated department or school is based on its research accomplishments. Based on this criterion, our department and KUMC, in general, are improving but obviously have a long way to go before their academic stature is recognized. This is not to detract from the importance of teaching; in that category our department is extremely conscientious and compares favorably with any physiology department in the country. It just recognizes the facts of academic life: that research is the key element in university reputations.

From research accomplishments flows the associated benefits of service on the national level: study section assignments, offices in scientific societies, editorial boards of prestigious journals, guest seminars, invitations to meetings, etc. I believe we have this potential; otherwise I never would have been interested in the chairmanship. In fact, I view this as my main responsibility: to provide as much encouragement and nagging, if necessary, to have the Physiology Department at KUMC recognized as one of the top departments in the country.

This can only be accomplished by sustained hard work on the part of every faculty member. Our objectives should include:

1. A minimum of two papers - published or in press - each year.
2. Grant support on the national level for every faculty member. The size of the grant is of limited concern. It is important to be continually productive - which pays off in continued grant support.
3. An increase in the number of post-doctoral fellows which will result especially from the academic reputation of the staff and will feedback on items 1 and 2.
4. Greater representation of the department in service functions on the national level: study sections, editorial boards, etc.

This isn't a pipe dream. These are tangible goals, within our grasp. I believe we're on the move but the principal goal of academic excellence via research must constantly be kept in mind.

To get off the soap box and back to the present: The two positions vacant the past year have been filled with the arrival on August 1, 1980, of Dr. Thomas Imig and Dr. Dennis Valenzeno on September 1, 1980. Welcome to the family! Dr. Helen Cooke resigned on June 1, 1980, and a search is on for her replacement. I am confident this position will be filled by the next annual report.

All in all, this has been a good year for the department but we must strive to make each year better than the one before.