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
N. C. Gonzalez, M.D., 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
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
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)
T. J. Imig, Ph.D., Assistant Professor
P. F. Terranova, Ph.D., Assistant Professor
D. P. Valenzeno, 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.
Anne Morel, Ph.D.
James R. Nichols, Ph.D.
Katsuji Oguchi, M.D., Ph.D.
Brett Oxberry, Ph.D.
Pranab Pakrasi, Ph.D.
Karl F. Rothe, M.D.
Srinivas K. Saidapur, Ph.D.
Harold D. Schultz, Ph.D.
Chandrima Shaha, Ph.D.
Susan Silavin, Ph.D.
Yuichi Wada, M.D.

b. Graduate Students

<table>
<thead>
<tr>
<th>Name</th>
<th>Prelims</th>
<th>Candidate for</th>
<th>Degree Requirements Fulfilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dennis C. Fater</td>
<td>11/78</td>
<td>Ph.D.</td>
<td>2/20/81</td>
</tr>
<tr>
<td>Richard D. McCabe</td>
<td>7/81</td>
<td>Ph.D.</td>
<td></td>
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<tr>
<td>Robert O'Neil</td>
<td>12/79</td>
<td>Ph.D.</td>
<td></td>
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<tr>
<td>Daniel A. Terreros</td>
<td>11/80</td>
<td>Ph.D.</td>
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<tr>
<td>Patricia A. Tonkowicz</td>
<td>12/80</td>
<td>Ph.D.</td>
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<tr>
<td>Chon Hwa Tsai</td>
<td>11/78</td>
<td>Ph.D.</td>
<td>8/8/80</td>
</tr>
<tr>
<td>DiAnne L. Vermillion</td>
<td>5/79</td>
<td>Ph.D.</td>
<td>4/1/81</td>
</tr>
<tr>
<td>Mary S. Vomachka</td>
<td>1/79</td>
<td>Ph.D.</td>
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<tr>
<td>Matthew Zupka</td>
<td></td>
<td>Ph.D.</td>
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<tr>
<td>Michael Patterson</td>
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<td>MS.</td>
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<tr>
<td>Lorraine Rome</td>
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<td>MS.</td>
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<tr>
<td>Robert Whitman</td>
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<td>MS.</td>
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</tbody>
</table>
Notes concerning graduate students:

Richard McCabe participated in the graduate division of KUMC's Student Research Forum in February, 1981. In April, 1981, he attended the FASEB meetings in Atlanta, Georgia and presented a paper entitled "Potassium Transport in Rabbit Descending Colon".

Daniel Terreros attended the NATO Institute of Advanced Studies on Intracellular Control of Cell Function in Belgium in July, 1980. He also attended the annual meeting of the Society of General Physiology at Marine Biological Laboratory in Woods Hole, Massachusetts, September 4-7, 1980. He presented a seminar entitled "Electrophysiology of Isolated Nephron" at the Department of Physiology, Yale University in November, 1980. Also in November, 1980, he presented a paper entitled "Axial Heterogeniety of Transmembrane Potential on Isolated Proximal Tubule at the 13th Annual Meeting of the American Nephrological Society in Washington, D.C. In February, 1981, he gave a seminar for the Department of Medicine at the University of Iowa in Iowa City, Iowa, entitled "Renal Cell Electrophysiology".

Patricia Tonkowicz participated in the graduate division of KUMC's Student Research Forum in February, 1981 and won second prize. As a result, she attended the Midwest Student Medical Research Forum at the University of Missouri, Columbia, Missouri in April, 1981 and presented her paper entitled "Prolactin Surges in the Pregnant Rat". She was also elected President of the Graduate Student Council in March, 1981.

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.


782 - Advanced Topics. Two-credit graduate courses taught by Dr. Thompson (Spring & Summer, 1981 - 1 student each period), Johnson (Summer, 1981 - 1 student), and Cheney (Spring, 1981 - 1 student).

808 - Reproductive Physiology Elective, Spring, 1981, taught by Dr. Greenwald. 20 contact hours. Enrollment: one student

810 - Transport & Membranes, Fall, 1980. Graduate course taught by Dr. Thompson. Enrollment: 5 students.

820 - Renal Electrolyte Excretion, 2 credit graduate course taught by Dr. Sullivan. Enrollment: 2 students.

851 - Graduate Course - Spring Semester, taught by Dr. Welling. Enrollment: 3 students.

940 - "Pulmonary gas exchange, blood gas transport and acid base balance". A 3 credit graduate course taught by Dr. Gonzalez, Fall, 1980. Enrollment: 3 students.
<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Affiliation</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/7/80</td>
<td>Dr. Werner Noell</td>
<td>Division of Neurosciences</td>
<td>Pathobiology of the Mammalian Retina</td>
</tr>
<tr>
<td>9/8/80</td>
<td>Dr. Richard L. Clancy</td>
<td>Department of Physiology, KUMC</td>
<td>Effect of Hypoxia on Cell pH</td>
</tr>
<tr>
<td>9/15/79</td>
<td>Dr. Harold D. Schultz</td>
<td>Instructor of Physiology, KUMC,</td>
<td>Left Atrial Receptors and Renal Function: A Re-Examination of the Gauer-Henry Hypothesis of Blood Volume Regulation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and Postdoctoral Fellow, St. Luke's Hosp.</td>
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<tr>
<td>9/18/80</td>
<td>Dr. Celia Sladek</td>
<td>Departments of Neurology &amp; Anatomy</td>
<td>Osmotic Control of Vasopressin Release; Role of Acetylcholine and Angiotensin</td>
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<td></td>
<td>Univ. of Rochester School of Med.</td>
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<tr>
<td>9/22/80</td>
<td>Dr. Roger Hoversland</td>
<td>Postdoctoral Fellow</td>
<td>Implantation-Associated Protease in Mouse Uterine Fluid</td>
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<td></td>
<td></td>
<td>Department of Physiology, KUMC</td>
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<tr>
<td>9/29/80</td>
<td>Dr. Charles Rutledge</td>
<td>Dept. of Pharmacology &amp; Toxicology</td>
<td>Dietary Lipid Induced Changes in Neuronal Uptake of Catecholamines</td>
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<tr>
<td></td>
<td></td>
<td>School of Pharmacy, Univ. of Kansas</td>
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<tr>
<td>10/8/80</td>
<td>Dr. Norbert Heisler</td>
<td>Department of Physiology</td>
<td>Mechanisms of Acid Base Regulation in Fish</td>
</tr>
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<td></td>
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<td>Max Planck Institute for Exp. Med.</td>
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<td>Gottingen, West Germany</td>
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<tr>
<td>10/13/80</td>
<td>Dr. Thomas J. Imig</td>
<td>Department of Physiology, KUMC</td>
<td>Analysis of Auditory Pathways in the Forebrain of the Cat</td>
</tr>
<tr>
<td>10/20/80</td>
<td>Dr. Russell T. Dowell</td>
<td>Department of Physiology</td>
<td>Adaptive Heart Growth in Neonate and Adult</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Univ. of Oklahoma Medical School</td>
<td></td>
</tr>
<tr>
<td>10/27/80</td>
<td>Dr. S. K. Dey</td>
<td>Depts of Ob-Gyn &amp; Physiology, KUMC</td>
<td>Embryo-Uterine Interaction in Implantation</td>
</tr>
<tr>
<td>11/3/80</td>
<td>Dr. Richard J. Miller</td>
<td>Department of Pharmacological and</td>
<td>Neuropeptide Receptors in the Gut</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physiological Sciences, Univ. of Chicago</td>
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<tr>
<td>11/10/80</td>
<td>Dr. Norberto C. Gonzalez</td>
<td>Department of Physiology, KUMC</td>
<td>Cell pH Regulation: A Comparison Between Cardiac &amp; Skeletal Muscle</td>
</tr>
<tr>
<td>11/17/80</td>
<td>Dr. C. Merrill Tarr</td>
<td>Department of Physiology, KUMC</td>
<td>Starling's Law of the Heart and Length Dependent Activation</td>
</tr>
<tr>
<td>11/24/80</td>
<td>Dr. Marie Dziadek</td>
<td>Division of Biology</td>
<td>Gene Expression During Mouse Embryogenesis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kansas State University</td>
<td></td>
</tr>
</tbody>
</table>
12/1/80 Dr. Carl Maresch
Director of Health Institute
St. Luke's Hospital, Kansas City, MO.
Influence of Residence Altitude
on Exercise Response at 4270
Meters

12/8/80 Dr. Paul F. Terranova
Department of Physiology, KUMC
Delayed Ovulation

12/15/80 Dr. Gilbert S. Greenwald
Department of Physiology, KUMC
Ovarian Steroidogenesis During
Pregnancy: Pre and Post RIA Studies

1/5/81 Dr. Jeffrey L. Osborn
Department of Internal Medicine
University of Iowa
Neurogenic Control of Renin
Secretion

1/12/81 Dr. Lawrence P. Sullivan
Department of Physiology, KUMC
The Effects of Sodium and Chloride
on Renal Potassium Transport

1/19/81 Dr. Philip L. Smith
Department of Physiology
University of Texas at Houston
Electrophysiology of the Canine
Tracheal Epithelium

1/26/81 Dr. William H. Dantzler
Department of Physiology
University of Arizona
Comparison of Urate and PAH
Transport in Isolated Perfused
Reptilian Renal Tubules

2/2/81 Dr. Paul Yarowsky
Department of Pharmacology
University of Maryland School of Med.
Relationship Between Neuronal
Activity and Glucose Utilization
in the Superior Cervical Ganglion

2/9/81 Dr. Joseph R. Kimmel
Department of Biochemistry, KUMC
Target Organs for a New Hormone

2/16/81 Dr. Dennis P. Valenzeno
Department of Physiology, KUMC
Photohemolysis

2/23/81 Dr. Karl Friedrich Rothe
Department of Anesthesiology
Univ of Tubingen, Tubingen, W. Germany
The Effect of Alkaline Buffers
on Intracellular pH

3/2/81 Dr. Hugo L. Fernandez
Department of Physiology, KUMC and
Director, Neurosciences Research Lab,
VA Medical Center, Kansas City, MO.
Neurotrophic Proteins Affecting
Skeletal Muscle 16S
Acetylcholinesterase

3/9/81 Dr. Donald C. Johnson
Depts of Physiology & Ob-Gyn, KUMC
Perennial Problems in
Steroidogenesis

3/23/81 Professor Dean Franklin
Dalton Research Center
University of Missouri, Columbia
Experimentally Induced Coronary
Collaterals in Dogs: Functional
Development, Reserve and Regression

3/27/81 Prof. Dr. K. Kirsch
Physiology Institute
University of Berlin, West Berlin
Active & Passive Components in
the Behavior of the Low Pressure
Cardiovascular System
3/30/81 Dr. Alan M. Thompson
Department of Physiology, KUMC
Effect of Hypercapnia on Blood-Brain Barrier Permeability

4/9/81 Dr. James H. Clark
Department of Cell Biology
Baylor College of Medicine
Female Sex Steroid Hormones: Receptors and Functions

4/20/81 Dr. Mel Goldfinger
Department of Biology
University of Missouri - Kansas City
Interaction of Neural Activity in Cutaneous Afferent Units

4/27/81 Richard McCabe
Graduate Student
Department of Physiology, KUMC
Potassium Transport in the Colon

5/4/81 Dr. John Trank
Department of Physiology, KUMC
Simulation: Another Approach to Computer-Aided Instruction

5/11/81 Patricia A. Tonkowicz
Graduate Student
Department of Physiology, KUMC
Prolactin Surges in the Pseudopregnant and Pregnant Rat

5/18/81 Dr. Irving Zucker
Department of Physiology
University of Nebraska Medical Center
Left Atrial Receptor Modulation of Renal Function in Heart Failure

PUBLICATIONS
a. Published during year - July 1, 1980 - June 30, 1981


Hubbard, C. J. and G. S. Greenwald: Changes in DNA, cyclic nucleotides and steroids during induced follicular atresia in the hamster. J. Reprod. Fert.


Terranova, P. F. and G. S. Greenwald. Effects of anti-luteinizing hormone and steroid replacement therapy on maintenance of pregnancy in the rat; serum and luteal levels of progesterone, testosterone and oestradiol. J. Endocrin.


c. Abstracts


RESEARCH SUPPORT


S. K. Dey: NIH - Role of histamine in early pregnancy. 12/01/78-11/30/81. Direct costs $109,790; Indirect costs $34,388

NIH - Steroid hormones and embryo development. 07/01/80-06/30/83. Direct costs $77,238; Indirect costs $27,582.

NIH, Co-Investigator. Aged antral follicles and atresia. 09/01/79-08/31/82. Direct costs $82,926.

NIH - Role of histamine in early pregnancy. 12/01/81-11/30/84. Direct costs $157,613; Indirect costs $51,974.


Internal Grant Support from St. Luke's Hospital Foundation for Medical Education and Research.


American Heart Association, Kansas Affiliate - Mechanisms of regulation of myocardial cell pH. Direct costs $10,000; Indirect costs $1,000.


U.S.P.H.S. Post Doctoral Fellowship "Pregnancy and Infancy" for Dr. Brett Oxberry - $16,979.

U.S.P.H.S. Post Doctoral Fellowship "Training in Fertilization and Reproductive Biology" for Dr. Christopher Hubbard - $16,098.

Ford Foundation grant for training in reproductive biology - $13,000 - K.U. Endowment Assoc.


D. P. Valenzeno: KUMC Biomedical Research Support Grant "Tumor Photosensitizers: Physicochemical basis of action". Direct costs $14,326.

Georgia Heart Association - Physiological Basis of Photohemolysis. July 1, 1980 thru June 30, 1981. Direct costs $10,045; Indirect costs $1,005.


NIH - Studies of Factors Affecting Renal Potassium Transport (Coinvestigator - Dr. Sullivan principal investigator.) May 1, 1980 - April 30, 1983. Direct costs $34,750; Indirect costs $14,160.
ACTIVITIES OF STAFF

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

Meetings Attended
October, 1980 - Participated in Kansas City Science Pioneers program. Presented a lecture on experimental approaches in brain research to local high school teachers and students.
November 9-14, 1980 - Invited speaker at symposium on input-output properties of motor cortex held at the 10th annual meeting of the Society for Neuroscience in Cincinnati, Ohio. Presentation was entitled "Input-output properties of private corticomotoneuronal cells".

Seminars presented:
April, 1981 - Presented a seminar entitled "Organization and Function of Primate Corticomotoneuronal Cells" to the School of Veterinary Medicine, Kansas State University, Manhattan, Kansas.

Teaching Activities:
Medical Physiology
10 hours lecture, Neurophysiology
10 conferences
7 laboratories
1 demonstration

Responsible for content of Parkinson's conference.

Physiology 388
8 hours lecture

Trainees:
Matt Zupka - Graduate student, Physiology. Summer, 1980.

Richard L. Clancy, Ph.D., Professor

Meetings Attended:
Spring, 1980 - Attended FASEB meetings, Atlanta, Ga.

Committees:
Chairman, Graduate Student Committee, Physiology Department
KUMC Academic Committee (Student Admissions Subcommittee)
KUMC Graduate Council
KUMC Graduate School Periodic Program Reviews Committee

Seminars presented:
9/8/80 - Departmental seminar "Effect of Hypoxia on Cellular Acid Base Regulation"

Teaching Activities:
Medical Physiology
13 hours lecture, Cardiovascular
Physiology 705, Advanced Human Physiology, Course Coordinator
10 hours lecture

Responsible for Student Labs

Trainees:
Supervised graduate student Nancy Percy, summer, 1980.
Sudhansu K. Dey, Ph.D., Adjunct Assistant Professor

Meetings attended:
June, 1981 - Annual meeting of the American Society of Biological Chemistry in St. Louis, Missouri.

Seminars presented:
October 16, 1980 - "Control of Implantation". Department of Anatomy and Physiology, Kansas State University, Manhattan, Kansas.
October 27, 1980 - "Embryo-uterine interaction in implantation". Department of Physiology, KUMC.

Teaching Activities:
Medical Physiology
Labs and conferences

Editorial and Grant Reviews:
Ten manuscripts for Biology of Reproduction
Two grants for NSF

Trainees:
Trained one Rockefeller Foundation postdoctoral fellow - Pranab Pakrasi, Ph.D.
Trained one KAW Valley Medical Student summer of 1980 - Marquita Jackson
Trained one premedical student summer of 1980 - Sandeet Nukerjee

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

Meetings Attended:
November 9-14, 1980 - Attended 10th Annual Meeting Society for Neurosciences, Cincinnati, Ohio.

Committees:
KUMC, Physiology Department, Search Committee for Cell Physiologist.
KUMC, Research Office, ALS Center Peer Review Committee
VAMC, Research and Development Committee
Catholic University of Chile, Research Division, Neurobiology Review Study Section

Honors:
Nominated for appointment as Research Career Scientist by the R&D Committee, VAMC, March, 1981.

Reviewed Papers for:
J. Biochemistry (2); Experimental Neurology (4); Acta Physiol. Lat-Amer. (2); Brain Research (1); J. Neurobiology (1).

Other Activities:
Served as Acting Associate Chief of Staff for Research, VAMC, October 18-November 2, 1980; June 15-July 13, 1981.

Seminars presented:
March 2, 1981 - Presented a departmental seminar entitled "Neurotrophic Proteins Affecting Skeletal Muscle 16S Acetylcholinesterase".
October 14, 1980 - "Mammalian Skeletal Muscle 16S Acetylcholinesterase: Its Regulation by the Motor Nerve", Pharmacology Department, KUMC.
Teaching Activities:
Medical Physiology
8 lectures
7 laboratory sessions
10 conferences
1 lecture review session
Responsible for Myasthenia Gravis Conference

Physiology 822, Neurophysiology
6 sessions, 3 hours each, 5 registered students

Trainees:
Joel Stiles, Medical Student, 6 months, 1981
Thomas Siter, Pre-Medical Student, summer, 1981

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

Meetings Attended:
April 28-29, 1981 - Mechanisms in Neurogenic Hypertension, San Diego, California

Committees:
Chairman, Human Investigation Committee, St. Luke's Hospital, through December 1980; Member, January 1981 to present.
Chairman, Animal Care Committee, St. Luke's Hospital
Member Executive Committee, St. Luke's Hospital
Member, Education and Research Committee, St. Luke's Hospital
Member, Medicine Curriculum Committee, St. Luke's Hospital
Member, Radioisotope Committee, St. Luke's Hospital

Refereed:
Ad hoc reviewer for American Journal of Physiology

Seminars given:

Teaching Activities:
None. Normal teaching duties were suspended because of sabbatical leave from January 1 through June 30, 1981.

Trainees:
Supervised the dissertation research of Dennis C. Fater and chaired his Ph.D. dissertation committee.
Supervised postdoctoral training of Harold D. Schultz, Ph.D.
Norberto C. Gonzalez, M.D., Professor

Meetings Attended:
April 12-15, 1981 - Attended FASEB meetings, Atlanta, Georgia and presented a paper entitled "Effect of cAMP on intracellular pH regulation in mammalian skeletal muscle".

Service Activities:
In charge of grading for the Medical Physiology Course
Member of the Research Committee, American Heart Association, Kansas Affiliate
Member of the Fund Raising Committee, American Heart Association, Kansas Affiliate

Seminars presented:
October 30, 1980 - "Intracellular pH regulation", Department of Anatomy and Physiology, Kansas State University, Manhattan, Kansas.

Teaching Activities:
Medical Physiology
- 14 hours lecture in Physiology of Respiration
- 2 study sessions and 1 demonstration
- In charge of one conference and laboratory group

Physiology 705
- 8 hours lecture on Physiology of Respiration

Physiology 940
"Pulmonary gas exchange, blood gas transport and acid base balance". 3 credits., Fall, 1980.

Refereed:
Reviewed grant applications for the National Science Foundation

Trainees:
Dr. James Nichols from the Department of Biology, Central Arkansas University spent his sabbatical year working on a project on the role of cyclic nucleotides in the pH regulation of hypertrophic myocardium.
Dr. Karl Friedrich Rothe from the Department of Anesthesiology, University of Tubingen, Tubingen, West Germany.

Honors:
June 10 - August 10, 1980 - Fellowship of the Alexander von Humboldt Foundation, Bonn, Federal Republic of Germany

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

Meetings Attended:
August 9-11, 1980 - Attended Workshop on Dynamics of Ovarian Function at the University of Michigan and served as chairman for one session.
April 12-15, 1981 - Attended FASEB meeting in Atlanta, Georgia and presented a paper at the American Physiol. Soc. meeting.

Committees - KUMC:
- member Promotions and Tenure Committee
- member, Search Committee for Dean of the School of Medicine, KUMC
- member, Search Committee for Executive Vice-Chancellor for Academic Affairs, KUMC
- member, Department of Physiology graduate committee
- chairman, two search committees, Department of Physiology.
Committees - External:
  member, 3rd Organizing Committee, 3rd Ovarian Workshop, August, 1980.
  Chairman, organizing committee, 4th Ovarian Workshop, July, 1982, University of Wisconsin.
  Site visit - Yerkes Regional Primate Center

Reviewed Papers for:
  Reviewed grant applications for NSF

Seminars Presented:
  July 3, 1980 - Weizmann Institute, Department of Hormone Research, Rehovot, Israel
  December 15, 1980 - Department of Physiology, KUMC
  March 20, 1981 - Public lecture and seminar at the Department of Biological Sciences, Northern Illinois University.
  May 7, 1981 - 8th Annual Lectureship in reproductive endocrinology, University of Maryland and Johns Hopkins University.

Teaching Activities:
  Medical Physiology, Spring 1981
    10 lectures, G.I. Physiology
course coordinator
  Physiology 388, Fall, 1980
    4 lectures - G.I. Physiology
  Physiology 705, Fall, 1980
    8 lectures - G.I. Physiology
  Reproductive Physiology Elective, Spring, 1981
    20 contact hours

Trainees:
  Christopher Hubbard, Ph.D.
  Brett Oxberry, Ph.D.
  Chandrima Shaha, Ph.D.
  Susan Silavin, Ph.D.
  Yuichi Wada, M.D.

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

Meetings Attended:
  November, 1980 -- Attended Society for Neuroscience

Refereed:
  Reviewer for NSF

Seminars presented:
  October 13, 1980 - Analysis of Auditory Pathways in the Forebrain of the Cat, Department of Physiology, KUMC

Teaching Activities:
  Medical Physiology
    8 lecture hours
    10 conferences
    8 labs
  Physiology 705
    8 hours lecture

Trainees:
  Dr. Anne Morel, post doctoral fellow
Donald C. Johnson, Ph.D., Professor of Obstetrics and Gynecology and Physiology

Meetings Attended:
March 18-21, 1981 - Society for Gynecologic Investigation, St. Louis, Missouri.

Service Activities:
Radiation Safety Committee, KUMC
Secretary KUMC Chapter of Sigma Xi

Refereed:

Seminars presented:
May 9, 1981 - "Perennial Problems in Steroidogenesis", Department of Physiology, KUMC

Teaching activities:
Medical Physiology - Endocrinology
5 hours lecture
18 hours conference
24 hours laboratory
Physiology 705 - Advanced Human Physiology
8 lectures

Trainees:
Graduate Students:
C.H. Tsai, Ph.D. granted June 1981; Physiology Thesis: "The relationship of Steroid 17α-hydroxylase activity to rat ovarian steroidogenesis"
M.S. Vomachka, Ph.D. work completed in May, 1981. Physiology Thesis "Reproductive Endocrinology of the female diabetic rat"

Postdoctorate Fellow:
Roger C. Hoversland, Ph.D. (Univ. Oregon). National Research Service Awardeee HD05838

Fred E. Samson, Ph.D., Professor

Meetings Attended:
July 1-30, 1980 - Neurosciences Research Program (MIT), Boston, Ma.
March 2-4, 1981 - Scientific Basis for Mental Retardation Conference, Harvard Medical School, Boston, Mass.
Committees - Internal:
Director, Ralph L. Smith Research Center
Chairman, Graduate Student Travel Scholarship Committee
Chairman, Int'l Cajal Conference Committee
Member, Convocation Committee
Member, Molecular Genetics Program Committee
Advisor, KUMC Fulbright Int'l Exchange Program
Scrivener-Scribe, Department of Physiology
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.

Ph.D. Thesis Committees:
Philip Comer, Department of Pharmacology
Robert O'Neill, Department of Physiology
Wayne Daughrty, Department of Pharmacology

M.S. Thesis Committee:
Emiko Oguchi, Department of Pathology

Committees - External:
Chairman, University of Chicago Alumni Fund, Greater Kansas City Area
President, University of Chicago Club of Kansas City
Member, Program Committee, American Society Neurochemistry
Member, Public Policy Committee, American Society Neurochemistry
Member, Standing Rules Committee, American Society Neurochemistry
Member, National Alumni Fund Board, University of Chicago
Institute for Cell Research, Valencia, Spain (KUMC)
Chairman of KUMC-ICR International Program

Honors:
Awarded a short term travel grant by the U.S. State Department to organize a scientific Conference on Centennial Celebration of Ramon y Cajal in Spain and to give some lectures at the University of Autonoma de Madrid. The details have not been worked out yet.

Seminars presented:
August 20, 1980 - Brain Research - A radio program for the blind taped for use on a national network for blind listeners, Thirty min. long, directed by Professor David Paretsky, K.U.
September 17, 1980 - Health & Disease in the 1980s, K.U. Faculty Forum, Lawrence, Kansas.
October 4, 1980 - Keynote address for Science Pioneers, KUMC
November 16, 1980 - Chairman and organizer for 3 hour program on developments in the scientific basis of mental retardation. Ann. meeting of Directors of Mental Retardation Centers, Crown Center, Kansas City, Missouri.
March 19, 1981 - "Brain Regional Functional Mapping", Kansas City Chemists Soc. in Kansas City, Missouri.

Reviewed:
Journal Reviews:
Neurosciences Research Program Bulletin (MIT)
Proceedings National Academy of Sciences (approx. 1 ms/yr)
Occasionally from journals in neurobiology

Grant Reviews:
National Science Foundation, Neurobiology Division (approx. 4 app/yr).

Teaching Activities:
Medical Physiology
12 two hour conferences, 17 Medical Students, 1 graduate student
Physiology 388
  4 lectures, Muscle Physiology
Physiology 850 (Research)
  21 hours, 4 students
Physiology 782
  Participated in every session of this class.

Trainees:
  Graduate students:
    Robert O'Neill, Department of Physiology
    Robert Dudley (part time), Department of Pharmacology
    Emiko Oguchi, Pathology
  Post-doctoral:
    Pilar Gomez-Ramos, Ph.D. - NIH International Post-Doctoral Fellowship,
    September, 1979-January, 1981 (Autonoma University, Madrid, Spain)
    Katsuji Oguchi, M.D., Ph.D., Anesthesiology, September, 1980-May, 1981 (Showa
    University, Tokyo)

Lawrence P. Sullivan, Ph.D., Professor

Meetings Attended:
  September 4-7, 1980 - Society of General Physiology, Marine Biological Laboratory, Woods
    Hole, Massachusetts.
  April 13-16, 1981 - Federation of American Societies for Experimental Biology, Atlanta,
    Georgia. Co-chaired session on Na, K, Cl Metabolism, presented a paper and was a
    co-author of another presented paper.

Seminars presented:
  September 8, 1980 - "Studies of Renal K Transport in the Bullfrog Kidney", Depart-
    ment of Physiology, Yale University.
  January 12, 1981 - Presented a departmental seminar entitled "The Effects of Na
    and Cl on Renal K Transport".
  January 29, 1981 - Presented talk to Rotary Club, Atchison, Kansas for American
    Heart Association
  March 9, 1981 - Presented talk to Business Women's Club, Atchison, Kansas, for
    American Heart Association.

Committees:
  Internal:
    Director of seminar program for Physiology Department
    Member, Renal Dialysis & Transplantation Committee
  External:
    Member, Research Committee for Great Plains Region, American Heart Associa-
    tion
    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.
    Member, Site Visit Team for reaffiliation application of Iowa Affiliate,
    American Heart Association.
    Ad hoc member, Physiology Study Section, NIH

Reviewed:
  Reviewed grant applications for Great Plains Region and for Kansas Affiliate,
    American Heart Association
  Reviewed grant applications for Physiology Study Section, National Institutes of
    Health.
  Reviewed manuscripts on ad hoc basis for American Journal of Physiology
Teaching activities:
Medical Physiology
10 hours lecture
8 - 2 hour problem sessions
In charge of lab groups
Physiology 705
8 hours lecture
Physiology 820 - Renal Electrolyte Excretion, 2 credit graduate course
Organized course and gave 90% of lectures.
Medical Pharmacology
2 hours lecture on Diuretic Agents
Review for National Board Exams
2 hours lecture

Trainees:
Graduate Students:
Richard McCabe
Matthew Zupka
Masters Students:
Lorraine Rome
Medical Students:
Ravi Bajaj - 2nd year med student, summer research training, June 1-August 15, 1980.

Merrill Tarr, Ph.D., Associate Professor
Meetings Attended:
November 17, 1980 - Presented departmental seminar entitled "Starling's Law of the Heart and Length Dependent Activation"

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:
Member of site visit team from National Institutes of Health to Emory University, January, 1981.
Member of site visit team from National Institutes of Health to UCLA, May, 1981.

Students in training:
Daniel A. Terreros, Graduate student, Physiology Department.
John Burnett, Medical Student
Paul F. Terranova, Ph.D., Assistant Professor

Meetings Attended:
April 12-17, 1981 - Federation of the American Societies for Experimental Biology, Atlanta, Georgia. Poster: Alteration in androgen and progesterone synthesis by theca from atretic follicles of the phenobarbital treated hamster.

Service Activities:
Internal
Student Evaluation: Physiology 388 and Physiology 800
G.I. Physiology Staff Search Committee
National
Ad hoc organizing committee for NIH Ovarian Workshop to be held in the summer of 1982, at University of Wisconsin.

Seminars presented:
December 8, 1980 - Presented a departmental seminar entitled "Delayed Ovulation".
February, 1981 - Presented a seminar entitled "Delayed Ovulation" at the Medical Student Summer Research Seminars

Refereed:
Editorial:
Science
Endocrinology
Journal of Endocrinology
Proceedings for the Society of Experimental Biology and Medicine
Biology of Reproduction

Grant Reviews:
NSF - Regulatory Biology

Teaching activities:
Medical Physiology
5 hours lecture
conference and lab

Physiology 388
5 hours lecture, Endocrinology
Course Coordinator

Physiology 782
1 hour Advanced Topics

Students trained:
William Carlile, summer Medical Student
Scott Sherwood, summer Medical Student
Charles Lunn, Junior undergraduate Pittsburg State University - Kaw Valley Medical Student Fellowship

Alan M. Thompson, Ph.D., Professor

Meetings attended:
August 6-9, 1980 - Consulted on research at NIH.
Seminars Presented:
March 30, 1981 - Presented a departmental seminar entitled "Effect of Hypercapnia on BBB Permeability".

Committees:
Internal:
  KUMC Education Committee
External
  Evaluative site visit to Ames Research Center for NASA, December, 1980.

Refereed:
  Reviewed papers for Life Sciences
  Reviewed papers for Amer. Physiol. Soc.

Teaching activities:
  Medical Physiology
    6 hours lecture
    lab and conference
  Physiology 388
    6 hours lecture
  Physiology 810
    Full course, Fall, 1980, 2 hrs./wk; also taught this as an Advanced Topics reading course twice, once in spring, once in summer.
  Nursing 832
    Three hours lecture on Physiology of Aging in Graduate Nursing course.

Trainees:
  Janet Pachta, 2nd year med student, summer, 1981

Honors:
  Received Certificate of Appreciation and Meritorious Service Plaque from Medical Center for service as Associate Dean of Graduate Studies

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

Meetings Attended:
  April 14-18, 1981 - Attended FASEB meetings, Atlanta, Georgia.

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:
    Member, American Heart Association, Kansas Affiliate, Community Program Committee
    Member, Board of Directors, Kaw Valley Tricounty Division, Kansas Affiliate
    Member, Kaw Valley Tricounty Division, Nutrition Committee
    Member, Biomedical Engineering Technician Advisory Committee, Johnson County Community College

Seminars Presented:
May 4, 1981 - Departmental seminar entitled "Simulation - another approach to computer aided instruction".
Teaching Activities:

Medical Physiology
12 hours lecture - Hemodynamics, Blood Pres. Reg., Electrocard., & Optics
22 contact hours - conference
45 contact hours - laboratory

Physiology 388
7 hours lecture - Critical Care Nursing (School of Nursing)
6 hours lecture - Basic electricity and Hospital Electrical Hazards

Electrical Engineering 230
3 hours lecture

Students trained:
Frank Faraci, Graduate Student, KU Lawrence campus - degree granted (MS); admitted to K State
John Burnett, completing requirements for Master of Engineering during summer internship

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

Meetings Attended:
March 16-17, 1981 - Attended Seventh F.D.A. Science Symposium: Photochemical Toxicity, Bethesda, Maryland. Co-authored presentation entitled "A method to quantify the potency of photosensitizers which modify cell membranes."

Seminars Presented:
January 8, 1981 - "Photochemical effects in cell membranes", Sigma Xi Scientific Research Society, KUMC.

Teaching Activities:

Medical Physiology
conference and lab group
Physiology 388
4 lecture hours in renal physiology

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

Meetings Attended:
February 1-7, 1981 - Attended Winter Gordon Research Conference, Ventura, California

Seminars Presented:
July 18, 1980 - KUMC Summer Research Seminar "Control of Prolactin Secretion in the Pregnant Rat".
October 21, 1980 - Presented seminar to the KUMC Pharmacology Department entitled "Catecholamine Involvement in Ovulation Control in the Rat".
March 12, 1981 - Presented seminar entitled "What is so interesting about nocturnal (s)urges?" at Kansas State University.
Reproductive Biology Seminar, KUMC entitled "Prolactin and Placental Lactogen in Pregnancy".

Committee:
Department
Chief Librarian
Graduate Committee
School:
  Search Committee, Physical Therapy Director
  Research Committee
  Recreation Opportunities Committee
  Biological Lecture Series
  KUMC Parking Committee

External:
  President, Kansas City Chapter of Neurosciences

Refereed:
  Reviewed papers for Endocrinology, Neuroendocrinology, PSEBM, American Journal of Physiology and Science
  Ad hoc reviewer for NSF grants

Teaching activities:
  Medical Physiology
    8 hours lecture; Endocrinology
    8 labs
    10 conferences
    Responsible for Endocrinology Section
  Physiology 101
    6 hours lecture
    3 labs
    Course Director
  Physiology 806
    5 hours lecture

Students trained:
  Patricia Tonkowicz - Graduate student, Physiology Department

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

Meetings Attended:
  October, 1980 - Attended First International Meeting of Pediatric Nephrology in New York.
  April, 1981 - Attended FASEB meetings in Atlanta, Georgia.

Seminars Presented:
  Summer, 1980 - Seminar entitled "Volume Regulation in Renal Tubules" presented to The Physiological Laboratory, Cambridge University, England
  Summer, 1980 - Seminar entitled "Volume Regulation in Renal Tubules" presented to the University of Manchester, England.

Refereed:
  American Journal of Physiology
  Kidney International
  NIH and NSF Grants

Students trained:
  J. Morgenegg - Predoctoral student, Physics Department, University of Virginia, Blacksburg, Virginia (Doctoral).
Chairman's Report

By any criterion, the past year has been a very good one for the department. Progress can be conveniently summarized in several areas:

Teaching of medical & paramedical students

Student evaluation of faculty teaching was uniformly favorable; in fact, the best overall comments in the past four years. The enthusiasm and dedication of the staff to quality teaching is evident and consequently rapport with students has been firmly established. For the coming academic year, some fine tuning is required in the Medical Physiology course: possible changes in sequence of lecture material and changes in lab and conference topics. However, in general Medical Physiology is in good shape. Instruction of students in the Schools of Nursing and Allied Health continues to increase in the fall semester with 230 students enrolled in 1980 in three courses. It is anticipated that the number of students involved in these courses will continue to increase as the projected size of the school of Nursing grows year by year. One of our major victories is that beginning in the fall of 1981, Physiology 388 will be taught in Rieke Auditorium rather than in Wahl Hall West.

Graduate Students and Post-Doctoral Fellows

Three students received their Ph.D. degrees in Physiology the past year and three more will complete their requirements in the coming year. Recruitment of new graduate students for the fall of '81 has yielded a bumper crop of 6 new students - the largest number in years. Recruitment and retention of students in our graduate program is a high priority item. In these days of dwindling faculty positions and a bleak (but not impossible) grant situation, inordinately large graduate programs should be a thing of the past. Our efforts should concentrate on a small but high quality cadre of students who will be well trained and capable of obtaining faculty positions in an increasingly difficult era.

One indication of the success of any research endeavor is: how many post-doctoral fellows does it attract. The fact that this year there were 14 fellows in the department is a most encouraging sign.

Scholarly Activity and Research Grants

Publications published and in press constitute an impressive record. It is gratifying that every faculty member is represented on the list. However, there is still room for improvement with continued, sustained productivity on the part of every faculty member an obligatory but not unreasonable goal in a first rate academic program.

Although the golden age of grantmanship is definitely over, quality research can still secure funding. Another encouraging sign of the growth of the department is that grants continue to increase in size and numbers. According to the FY '80 analysis of grants at KUMC, the Department of Physiology passed the half-million dollar mark, only considering the EFT members of the group. I am not impressed by dollar signs in research programs. What counts is the published work which emerges, the sustained activity of each lab and continued funding for each program. One of our top priorities is still to have every member of the department funded by outside agencies. I hope that this goal can be reached by the next annual report.
Faculty appointments

Last but not least, there have been significant advances in the growth of the faculty. On July 1, 1980 two additional faculty signed on: Dr. Thomas J. Imig was appointed Assistant Professor of Physiology (research interest: auditory cortex) and Dr. Dennis P. Valenzeno was also appointed to the same rank (research interest: membrane biophysics). On January 1, 1981, Dr. Theodore Lawwill, Professor and Chairman of Ophthalmology was appointed Adjunct Professor of Physiology. Dr. Lawwill has already begun to assemble a strong research team and I look forward to fostering relations between the two departments in undergraduate and graduate education and research in neurosciences. On July 1, 1981 two more faculty were added to the roster of the department: Dr. Russell T. Dowell was appointed Associate Professor of Physiology (research interest: cardiovascular physiology) and Dr. Philip L. Smith was appointed Assistant Professor of Physiology (research interests: transplant physiology).

Several promotions went into effect on July 1, 1981. Dr. S. K. Dey's title as "Adjunct" Assistant Professor in Physiology was changed to Assistant Professor in recognition of his constantly growing role in the department. Dr. Dey was also promoted to Associate Professor of Ob-Gyn (with tenure). Dr. Hugo Fernandez was promoted to Associate Professor of Physiology (without tenure) and Dr. Paul Terranova to Associate Professor of Physiology (with tenure). Dr. Merrill Tarr was promoted to the rank of Professor of Physiology.

Finally, the efforts of the technical and office staff should be recognized. The department has grown explosively in the past few years and the fact that the office staff has been able to keep up with the increased demands is a reflection of their dedication and diligence.

In summary, this has been a good year for the department which is a cause for satisfaction but not complacency. I look forward to next year's annual report which should surpass all of our previous accomplishments.