Introduction

The School of Allied Health (SAH) is pleased to present its first Annual Research Report. Research has been an integral part of the School since its establishment in 1974. This publication marks the inauguration of an annual summary of SAH research and scholarly activities. The primary purpose of this report is to educate fellow scientists, internal and external to the University, about the broad spectrum of SAH research endeavors and the contributions of allied health scientists to biomedical and bio-behavioral research advances at the University of Kansas Medical Center.

The School of Allied Health is the most diverse academic unit within the University of Kansas Medical Center, comprising ten different departments of health professions education. Research activities within the School reflect this wealth of diversity. Various agencies within the federal government, primarily the National Institutes of Health and the U.S. Department of Education, provide the majority of external funding to support SAH research. In addition, funding is also received from local, regional and national foundations and associations, as well as from benefactors of the School.

During the past year, the SAH published its 2000 – 2003 Strategic Plan. Goals related to research efforts are cited in this Annual Report and include strengthening of the School’s research infrastructure, creating a research intensive environment that will advance the allied health sciences and promote the health and well-being of our communities.

SAH faculty members have a strong record of collaborative research activities among departments of Allied Health and other University of Kansas schools and centers. As Associate Dean for Research, I am proud of the faculty and the work that they have done in advancing the science of their professions. We are in a new century of scientific discovery! The School of Allied Health is positioned to be a leader in interdisciplinary research, its faculty contributing to an era of unprecedented progress in life sciences research.

John Ferraro, PhD
Associate Dean for Research
DISSEMINATING SCIENCE AND SCHOLARSHIP

Strategic Plan for Research & Scholarship, 2000 – 2003

I. Recruit and sustain research faculty in the Allied Health Sciences

II. Increase research collaboration among the Departments in the SAH and other University of Kansas Schools and Centers

III. Strengthen the research infrastructure of the SAH
SAH Faculty Research and Scholarly Activities for 1999 – 2000
(Listed by Department)

Department of Biometry
3012 Hinch Hall
588-5566

Khatab M. Hassanein, Ph.D. Professor and Chair

Research Interests

- Pharmacokinetic and compartmental analysis
- Analysis of complex research models
- Statistical Modeling with Quantile Functions
- Shrinkage Estimation
- Extreme value analysis in Medicine and Engineering
- Survival analysis in Medicine and Engineering
- Order and Nonparametric statistics
- Estimation and Test of Hypothesis for Quantiles
- Reliability

Publications


Hassanein, K.M. Estimation of the Parameters of the Lorenz Distribution by the Use of Few Sample Quantiles. Accepted for publication.

Presentations


Ruth Hassanein, Ph.D., Professor

Research Interests
- Design and analysis of biomedical research studies.
- Needs assessment techniques.

Publications


Edward F. Brown, Ph.D., Assistant Professor

Research Interests
- Scientific programming of original mathematical and statistical research.
- Mathematical modeling of communication networks using LAQT.
- Long-term dependencies on the operational characteristics of networks.
- Numerical analysis as it pertains to computer implementation.
- Algorithm design and analysis.
- Bootstrap, Jackknife and Monte Carlo techniques for parameter estimation.
- Detecting shifts in process parameters from their normal operations.
- Generation of distribution-free random numbers.
- Database management of research data and clinical trial studies.
- Programming of statistical analyses to support faculty and student research

Publications
Gessert, C.E., Mosier, M.C., Brown, E.F., Frey, B., Tube Feeding in Nursing Home Residents with Severe and Irreversible Cognitive Impairment, Submitted to JAGS.


Presentations


Dept. of Biometry Submitted Grants
Urban-Rural Sedative & Anxiolytic Use in Long Term Care
- National Institute on Aging
- April 2001 and run for 5 years.
- $639,908 over 5 years.
- This project is a MDS analysis of rural-urban prescribing patterns for sedative-hypnotics and benzodiazepine medications

Pharmacological Treatment of Antisocial Alcoholics with Nortriptyline.
- Agency #1: NIH - National Institute for Alcohol and Alcoholism Abuse.(NIAAA)
- Agency #2: Veteran's Affairs Merit Review
- Spring 2001 thru Spring 2004
- $750,000
- Comparison of Nortriptyline vs. Placebo in Antisocial Personality Disorder Alcoholics. This grant is based on pilot data done by our group at the VA in 1990-1993 suggesting that this subgroup of male alcoholics, which is a prevalent and "hard to treat" subtype, may benefit from treatment with the antidepressant, nortriptyline, especially in regard to their drinking problem and if they report affective/anxiety symptoms in the month before enrolling in the alcohol treatment program.

Grants
Dr. Khatab Hassanein, Dr. Ruth Hassanein and Dr. Ed Brown serve as Statistical Consultants on several funded and proposed grants with researcher in the three schools at Kansas University Medical Center.
Venus Ward, PhD  Assistant Professor and Chair

Research Interest
Leadership styles among clinical laboratory scientists
Learning styles among clinical laboratory science students

Jocelyn Hulsebus, PhD  Assistant Professor and Assistant Chair

Research Interest
Metabolic biochemistry with emphasis on hormonal interaction

Publications

Patricia Hargrave, PhD  Assistant Professor

Research Interest
Alternative methods for delivery of clinical laboratory science education
Health promotion/disease prevention of infectious cardiovascular diseases
Cultural diversity in problem solving styles

Presentations


Publications

Abstracts


Peggy Brown, PhD  Associate Professor

Research Interest
New techniques, methods and automation in Immunohematology
Preventing/minimizing platelet alloimmunization of patients receiving long-term platelet support
Interactive educational Blood Bank computer software

Presentations (Abstracts)

Cytotechnology
1600 KUMed Hospital
588-1179

Marilee Means, Ph.D., SCT(ASCP)

Research Interests
• Using Interactive Media in Cytotechnology Education
• Relationships between Hyperkeratosis, Coccobacilli, and Lack of Endocervical Component in Cervical Cytology, ASCUS Cytology
Recent publications and presentations

Effective Visual Presentations
American Society of Cytopathology (ASC) Annual Meeting, Nov. 1999, Sacramento, CA
Program Faculty Seminar

Accuracy in Cytodiagnosis: A Cytotechnologist’s Viewpoint
2nd Annual North Florida Cytopathology Seminar
University of Florida, May 1997

The Cytopathology of ASCUS
Lecture and Workshop
American Society for Cytotechnology
April 4, 1997

Managed Care and Its Impact on the Curriculum
ASC Annual Meeting, Nov. 1998, Boston, MA
Program Faculty Seminar

Peter Beyer, MS, Associate Professor

Research Interests
Diet in Gastrointestinal Disorders, Digestion, Utilization of Foodstuffs, Enteral Nutrition, Parenteral Nutrition, Nutrition and Health

Publications

Presentations

“Let Food be Your Medicine” to the KUMC Interdisciplinary Integrative Medicine group (1999).

American Dietetic Association “Think Tank” participant Purpose was to develop a model of core measures of elements of nutrition care (1999).

Presentation/Workshop Standards of Professional Practice, ADA Dietetics Educators Practice Group, Region 7, Milwaukee, April (2000).


Susan Carlson, Ph.D., Midland Dairy Council Professor

Research Interests
Nutrition in Pregnancy and Infant Development

Laboratory
5019 WHE and G09-13 Smith Building

Publications


Presentations


Dietary Lipids and Infant Development: Consensus and Controversy, Noon Research Seminar, Children’s Mercy Hospital, Kansas City, Missouri, February 5, 1999
Nutrition for Patients with HIV, Trinity Lutheran Hospital Foundation Grant, Kansas City, Missouri, March, 24, 1999; June 16, 1999; October 13, 1999

Infant Development in Relation to LCPUFA Status, Pediatric Nutrition Symposium, Ancona, Italy, May 20-22, 1999

Consensus Meeting on Long Chain Polyunsaturated Fatty Acids and Perinatal Development, Child Health Foundation, Munich, Germany, July 18-21, 1999

LCPUFA Supplementation of Preterm Infants: Neural Influences in Three Trials, 23rd World Congress and Exhibition of the International Society for Fat Research, Brighton, England, October 3-7, 1999

Polyunsaturated Fatty Acids and Infant Development, Long Term Effects of Fetal and Early Childhood Events on Later Development and Disease Risk, Milupa Scientific Symposium, Bremen, Germany, October 15-17, 1999


Research Support

Postdoctoral Fellows
Marius Smuts, Ph.D., Biochemistry, University of Stellenbosch 1996 (Major Professor: KJ Kirsten) (1998-1999)

Minzhao Huang, Ph.D., Pharmaceutical Science, Nagoya City University (Major Professor: Harumi Okuyama, Ph.D.) 1998 - 2001

Janice Harris, Ph.D., Associate Professor

Research Interests
Development and evaluation of computer assisted nutrition education for patients/clients with hypertension.

Publications

Presentations
Poster for KUMC Faculty Research Day “Effect of aerobic exercise on apoetin alpha dosages and hematocrit values of hemodialysis patients”. (1999)

Nutrition Forum at University of Kansas Medical Center, “Dietary Supplements: Law and Disorder” with Jamie Zegers, graduate student. (2000)
Cass Ryan, Ph.D., Associate Professor

Research Interests
Nutrition in aging and in renal disease

Publications


Grants submitted

Research Support
Kansas Geriatric Education Center. Funded by NIA 1999-2002. P.I. is Linda Redford, RN, PhD, Center on Aging. To increase the number of health professional faculty committed to teaching age-related content and the number of health professionals with the knowledge and skills to care for the vulnerable elderly.

Debra Sullivan, Ph.D., Associate Professor

Research Interests
How dietary intake effects the prevention and management of chronic disease. Recent research includes the prevention and treatment of obesity by diet and exercise.

Publications


Abstracts:
Sand M, Manring K, Sullivan, DK: Risk factors occurring in adolescents which lead to the development of osteoporosis. (submitted JADA)
Treft D, Manring K, Sullivan, DK: Fruit, vegetable and fiber intakes of high school students in Kansas. (submitted JADA)


Presentations
Nutrient Intakes of Adults with Phenylketonuria. Midwest Metabolic Network Meeting. OakBrook, IL, June 12, 1999.

Funded Grants
Long-term efficacy and safety of Meridia (sibutramine hydrochloride). Co-Investigator (P.I. Joseph Donnelly). Knoll Pharmaceutical Company SB118. 8/04/99-12/30/04. No direct compensation to KUMC.


Prevention of weight gain by altering dietary fat. P.I. of subcontract to KU-Lawrence (P.I. Joseph Donnelly). NIH. Subcontract directs $195,309. Total KU-Lawrence directs $2,158,002. 01/01/01-12/31/05.

Pending Grants
Internet Counseling for Weight Loss. P.I. Debra K. Sullivan, Kansas Health Foundation. $24,953. pending

Presentations

Sheila Hammonds, MBA, RHIA
Issues related to Inpatient and Outpatient billing and coding, 2000 I H S Information Technology and Program Support Conference in Albuquerque, NM.

Hearing and Speech Department
3rd Floor, H.C. Miller Building
588-5937

Mary A. Carpenter, Ph.D., Associate Professor

Research Interests
Principal research activities address diagnosis/description of velopharyngeal function. Studies cross ages and etiologies.

Laboratory
Room 3041, 3rd Floor, H.C. Miller Building

Publications


Presentations
Nu-Voice Club: If you could have trained your speech therapist (11/6/99).


GKC Hearing & Speech Assoc.: Everyday ethical quandries (4/13/00).


Funding
Solicited and was awarded a $1000 student stipend from the GKC Parkinson Foundation (supporting J.Bak)
Mark E. Chertoff, Ph.D., Associate Professor

Research Interests
Development of clinical indices that describe physical changes in the inner ear as a result of hearing loss. Application of engineering principles to quantify the mechano-electric and electro-mechanic transduction processes in the inner ear.

Laboratory
Auditory Processing Laboratory, Room 2112, MRRC

Publications
Bian L, and Chertoff, M.E. Distinguishing cochlear pathophysiology in 4-aminopyradine and furosemide treated ears using a nonlinear systems identification technique (JASA - being revised).


Chertoff, M.E., Lerner, D., and Amani-Taleshi, D. Characterizing nonlinearity in the cochlear microphonic using the instantaneous frequency (Hearing Research -in press).

Presentations
Ator, G., Yi, Xing, and Chertoff, M.E. Mechano-electric transduction in guinea pigs with noise induced hearing loss. Presented at the 23rd meeting of the Association for Research in Otolaryngology, St. Petersburg Beach, FL, 2000.


Bian, L and Chertoff, M.E. Examining the specificity of cochlear transduction indices by blocking potassium currents with 4-aminopyridine and furosemide. Presented at the 23rd meeting of the Association for research in Otolaryngology, St. Petersburg Beach, FL, 2000.

Grants

“Physiologic Measures of Mechanoelectric Transduction in Regenerated Cochlear Sensory Hair Cells.” KU Medical Center Research Institute, PI. Douglas Girod. Collaborators: Dianne Durham, Mark Chertoff. $35,000.

John A. Ferraro, Ph.D., Doughty-Kemp Chair and Professor

Research Interests
Clinical applications of auditory evoked potentials, with special emphasis on electrocochleography and the auditory brainstem response in the diagnosis, assessment and monitoring of oto-neurologic disorders.

Laboratory
Auditory Evoked Potential Laboratory/Clinic, Room 3025, H.C. Miller Building

Publications


Presentations


Dealing with Budgets: Information for the New Chair. Annual Conference of the
Council of Academic Programs in Communication Sciences and Disorders, Jacksonville, FL, April, 1999 (with N. Bankson and R. Talbott).


Funding
Annual Request to W.C. Hartley Family for the Hartley Family Center for Deaf and Hard of Hearing Children. $40,000 (funded)

Request for new clinical/research equipment for newborn hearing assessment and intervention. Louis and Dolpha Baehr Charitable Trust of Paola, Kansas (with J. Widen and S. Trouba). $54,000 (funded, August, 2000)

Lenexa Sertoma Club Scholarship Program. $6,000.

**Marc E. Fey, Ph.D., Professor**

**Research Interests**
Studies dealing with the effects of sentence prosody and adult input and on typical and language impaired children’s development of grammar and phonology; the relationship of early impairments or oral language and phonological awareness to later problems in reading, writing, and spelling.

**Laboratory**
Language Learning Laboratory, Room 1015, MRRC.

**Publications**


Johnson, B., & Fey, M. E. The influence of telicity on children's production of verb morphology (under review).

Presentations


language impairment and children with typical language. Poster presented at the 20th Symposium on Research in Child Language Disorders. Madison, WI.

Grant

P. Lynn Hayes, Ed.D., Associate Professor

Research Interests
Developing literacy skills in children who are deaf or hard of hearing; the effect of early intervention on children who are deaf or hard of hearing; practices with children who are deaf-blind in the state of Kansas.

Laboratory
Hartley Family Center, 2nd Floor, CDU Building

Presentations


Grants


Susan Jackson, Ph.D., Associate Professor

Research Interests
Treatment studies with adults who have communication disorders as a result of neurological impairment. Recent and current studies involve persons with aphasia and persons with dementia. Group and single-subject experimental designs are used to investigate the effectiveness of sentence completion cues on word retrieval in persons with aphasia, the effectiveness of memory booklets and family training on the communication of people with dementia, and the effectiveness of spaced retrieval on the memory ability of persons with dementia.

Laboratory
Adult Neuro-Language Laboratory, Rooms 3010 and 3012, 3rd Floor, H.C. Miller Building
Publications


Presentations


Jackson, S.T. (2000, April). Enhancing communication in dementia. Presentation at the Center on Aging colloquium series, KU Medical Center, Kansas City, KS.

Jackson, S.T. (2000, May). Speech and language changes after a stroke. Presentation at the annual American Heart Association, Stroke Survivor/Caregiver Conference, KU Medical Center, Kansas City, KS.

Grant Participation
Dr. Jackson participates in the NIA Older Americans Independence Centers (Pepper) grant (S. Studenski, PI), a KUMC Research Institute Grant (C. Teel, P.I.) entitled "Testing a Home Environmental Assessment Scale," and a Communication and Aging training grant on the Lawrence campus (Susan Kemper, PI).

Judith E. Widen, Ph.D., Associate Professor

Research Interests
Pediatric audiology, especially behavioral assessment of infants and toddlers using Visual Reinforcement Audiometry. Clinical application of otoacoustic emissions (OAEs) for screening for hearing loss in newborns, infants and toddlers, estimating the audiogram when
behavioral responses are limited, changes in emissions with age; use of OAEs for ototoxic monitoring.

**Laboratory**
Otoacoustic Emissions Laboratory, Room G011, CDU Building

**Publications**
In Press:


The following articles have been accepted for Ear & Hearing, pending revision, to be published in fall:


Presentations

Other faculty members from the Hearing and Speech Department who have participated in research and scholarly activities with senior faculty during 1999 – 2000 include: Sara Dale Brandt, Ph.D., Laura Davis, M.A., Jill Georges, M.A., Kathy Johnston, M.A., Sandra Keener, M.A., and Susan Trouba, M.A.
Carol Elliott, CRNA, MPA – Professor and Chair

Research Interests

- A comparison of Remifentanil/Midazolam with Remifentanil/Propofol for monitored anesthesia care during extracorporeal shock wave lithotripsy
- Effect of Ephedrine on the onset time of neuromuscular blockade and the hemodynamic consequences.
- Thiopental and Propofol as a combined induction agent: a study of cost effectiveness and anesthetic safety
- Noise levels in the operating room during the anesthesia pre-induction period
- Comparison of intraoperative forced air and intravenous fluid warming in the prevention of hypothermia
- The effectiveness of bispectral monitoring in predicting recovery time following conscious sedation
- The pH of gastric secretions in the esophagus upon induction and the potential reflux of gastric contents and how premedications will affect this reflex

Presentations

- Round table discussion Leader at Annual Nurse Anesthesia Faculty Assembly (Phoenix, AZ) Topic “Distance Education and Nurse Anesthesiology”
- “Grief and loss of an adult child”, KUMC School of Nursing Seminar on Grief
- Advanced Airway Management, Whiteman Air Force Base, Whiteman Hospital
- Battlefield Trauma and Nurse Anesthesia, Whiteman Air Force Base, Whiteman Hospital

Hugh Mathewson, MD

Research Interests

- Comparison of esophageal and tympanic membrane temperatures measured intraoperatively and postoperatively
- Comparison of Remifentanil balanced anesthesia versus Isoflurane general anesthesia for outpatient urologic procedures
- Sensory level determination after administration of spinal anesthesia
Christita Weber, CRNA, MS

Research Interests

- Effect of Remifentanil and three different Methohexital doses on heart rate, blood pressure and seizure during electroconvulsive therapy
- Remifentanil based patient-controlled analgesia in the setting of outpatient plastic surgery
- Graduate Record Examination scores as a predictor of performance by graduate registered nurse anesthetists on the National Certification Examination
- Comparison of varying doses of oral Midazolam in pediatric patients and its effect on preoperative separation anxiety and anxiety at induction
- A comparison between 5-HT3 blockers Ondansetron and Dolasetron and the incidence of post operative nausea and vomiting
- A comparative study: incidence of postoperative sore throat and oropharyngeal airway

Mike Gordon, PhD

Research interests

- Application of MR/CT imaging to contemporary problems in clinical medicine, including Parkinson's disease and Polycystic Kidney Disease.
- Basic and Applied Pharmacology of drugs used in anesthesia.
- Technologies used in development and dissemination of distance learning, online teaching materials

2) Recent publications:


**Thomas Joslyn, CRNA, MS**

**Research Interests**

- Thermoregulation under general anesthesia: the effect of preoperative warming

**William Carlile, MD**

**Research Interests**

- Comparison of nasal cannula versus face mask for arterial oxygen saturation in the post-anesthesia recovery room
- Intravenous Lidocaine versus laryngeal tracheal Lidocaine: a comparison of the attenuation of the hypertensive response to larynoscopy and intubation in hypertensive patients
- Comparison of Sufenta versus Duramorph for intrathecal narcotics during labor

**James Cuddeford, CRNA, MA**

**Research Interests**

- Laryngeal mask airway usage in the state of Nebraska
- Effect of guided imagery on pain and anxiety related to the orthopedic patient
- Effects of a 1:1 mixture of Propofol and Thiopental on phase II recovery in the ambulatory surgical setting
- Factors affecting applicant’s choice of nurse anesthesia program
- Bacterial growth of Propofol and Thiopental mixture
- Survey of current nurse anesthesia students’ satisfaction with their anesthesia program
- Survey of the amount of student loans acquired to attain a master’s degree in nurse anesthesia
- Nurse Anesthesia manpower in Nebraska
- Comparison of IV fluid temperature in the warmer, at room temperature in the tubing, and at point of entry into the patient

**Selected Student and Faculty Publications**

Bailey, Jeffrey (student); C. Elliott; C. Williams; H Mathewson (faculty)

Henerson, Todd R. (student); T. Joslyn; V. Johnson; C. Elliott (faculty)
“Thermoregulation Under General Anesthesia: The Effect of Preoperative Warming” (publication/poster session AANA NATIONAL MEETING/JOURNAL, 1999)

Long, Paul A. (student); C. Elliott; C Weber; H. Mathewson (faculty)
“Effect of Ephedrine on the Onset Time of Neuromuscular Blockade and the Hemodynamic Consequences” (publication/poster session AANA NATIONAL MEETING/JOURNAL, 1999)

Department of Occupational Therapy Education
3033 Robinson
588-7195

Tana Brown, Ph.D., Associate Professor

Research Interests

Skills training for individuals with severe mental illness; establishment of norms and conducting additional construct validity studies on the Adult Sensory Profile; difference in sensory processing preferences for different disability groups.

Publications


**Presentations**


Brown, C. Describing sensory processing in schizophrenia with the Adult Sensory Profile, October, 1999, Society for Research in Psychopathology, Annual Conference.


**Grants**
Independent Living for People with Psychiatric Disabilities: Using Contextual Cues to Remove Environmental Barriers, National Institute of Disability Research and Rehabilitation, Funded, PI, collaboration between OT Education and School of Nursing, $433,543.


**Cheryl Deterding, M.A., Assistant Professor**

**Research Interests**
Quality indicators in assistive technology

**Presentations**
Closing the Gap conference (national, interdisciplinary conference) – Quality Indicators in Assistive Technology (co-presenter – 2 hr session, October, 1999.

AOTA Practice Conference (national conference) – The Internet & its benefit to Occupational Therapy practitioners (3 hr. workshop), November, 1999.
Other research activities and collaborations
Quality Indicators in Assistive Technology (QIAT) Consortium leadership team. This is interdisciplinary group concerned with assistive technology services in school settings. We submitted an article “Quality Indicators for Assistive Technology Services”, edited by Joy Zabala (University of Kentucky) and Gayl Bower (Oregon Technology Access Project), to the Journal of Special Education Technology.

Winnie Dunn, Ph.D., Professor and Chair

Research Interests
We conduct research about how persons process sensory information for use in their daily lives. The studies include the life span (i.e. infants, toddlers, children, adolescents, adults and elders), and persons with and without disabilities (which have included autism, ADHD, schizophrenia, tic disorders, Asperger syndrome).

Publications


Presentations
Understanding the NBCOT Test Blueprint and Realigning Curricula, AOTA SIS, Seattle, WA, July 1999.


Sensory Processing in Daily Life. Louisville, KY, September 1999.

Standard Setting: Where is that road and how do we take it? NBCOT Annual State Regulatory Workshop Phoenix, AZ, September 1999

Sensory Processing in Daily Life, New York State Occupational Therapy Conference Buffalo, NY, October 1999


Linking the NBCOT Certification Examination Blueprint to Curriculum Design, Virginia Commonwealth University, Richmond, Virginia, October 1999.


NBCOT Standard Setting Study, Louisville, Kentucky, February 2000


Sensory Processing in Daily Life, Falls Church, Virginia, June 2000.
Enhancing Sensory Integration and Self-Regulation in Young Children with Autism Spectrum Disorders, Tallahassee, Florida, June 2000.

**Grants**


**Michelle Fisher, Teaching Associate**

**Presentations**

Heartland Occupational Therapy Fieldwork Alliance Fall 1999 workshop.

Heartland Occupational Therapy Fieldwork Alliance Spring 2000 workshop.

Heartland Occupational Therapy Fieldwork Alliance New Fieldwork Educators Workshop.

**Katherine Froehlich, M.A., Teaching Associate**

**Research Interests**

Promoting the health and independence of people with disabilities. Over the past three years, I have been coordinating a research project investigating the effect of a community-based exercise program on increasing the physical activity levels of women with mobility impairments and impact of increased activity on their physical and self-reported psychological health.

**Laboratory**

Data collection is conducted at the Kirmayer Fitness Center, and at the Research and Training Center on Independent Living, University of Kansas, Lawrence.

**Publications**


**Presentations**

Effectiveness of a home-based program to increase physical activity among women with mobility impairments. April 2000. Invited presentation to the conference on Women’s Health: Putting Prevention into Practice, sponsored by the Kansas Department of Health and Environment’s Kansas Women’s Health Initiative in Topeka, KS.

Effectiveness of a home-based program to increase physical activity among women with mobility impairments. February 2000. Invited presentation to the Physical Therapy Education Department, University of Kansas Medical Center, Kansas City, KS.


Increasing physical activity for women with mobility impairments. September 1999. Presented at the 45th Annual Conference of the American Paraplegia Society, Las Vegas, NV.

**Grant Participation**

Centers for Disease Control and Prevention funded research investigating "Physical activity among women with mobility impairments" – work as project coordinator.

Collaborating with the Center on Aging with a pilot project to examine promoting exercise adoption and maintenance for individuals with stroke.

Providing technical support to Chair of the Physical Medicine and Rehabilitation Department on research proposal to investigate use of the AMA system for determining disability level.

Currently assisting the Research and Training Center on the Lawrence campus in writing a Center grant to the National Institute on Disability and Rehabilitation Research (NIDRR), Department of Education for an additional five years of funding on research in new paradigms of independent living with emerging disability populations.
Wendy Hildenbrand, Teaching Associate

Publications

Presentations

“Promoting Partnerships In Mental Health: Leadership Training Seminar” (faculty) – AOTA, October, 1999.

Joan McDowd, Ph.D., Associate Professor

Research Interests
Cognition and aging. My work in this area focuses on age-related changes in selective attention and distractibility.

Laboratory
The Grayhawk Lab is located in Building 48, 4125 Rainbow.

Publications


Presentations


Grants
Department of Defense, “Physical, Cognitive, and Psychological Effects of a Selective Estrogen Receptor Modulator in Women at Risk for Breast Cancer”. 7/1/00-3/30/02, $78,000, PI, Annette Stanton, (Department of Psychology, Lawrence), Co-investigator, J.M. McDowd
National Institute of Aging, Claude D. Pepper Older Americans Independence Center, Intervention development study, “Attention and motor learning after stroke”. 1/1/98 - 12/31/02, $350,984. Project Director, J.M. McDowd, (Collaborators: Diane Filion, Psychology, UMKC, Patricia Pohl, PT Education, KUMC, Lorie Richards, OT Education, KUMC, Bill Stiers, Rehabilitation Medicine, KUMC), PI for Pepper Older Americans Independence Center, Stephanie Studentski.


Center on Aging, Pepper Pilot Project, “Meeting dual task demands following stroke: Linguistic and motor domains”. /1/00 – 31/12/00, $25,000, Co-Investigators: J.M. McDowd, OT Education, S. Kemper, Gerontology & Psychology, Lawrence, and P.S. Pohl, PT Education.


Ellen Mellard, MS, Teaching Associate

Grant Activity
Submitted a grant proposal to KDHE to provide technical assistance to Infant Toddler Program, statewide. – still pending for up to $60,000.

Becky Nicholson, MSEd, Teaching Associate

Presentations
Integration of Assistive Technology - Sensory Motor Frame of Reference.
Leavenworth County Special Education Coop.

Best practices in service deliver models. Leavenworth County Special Education Coop.
**Kathy Parker, MS, Teaching Associate**

**Presentations**
Follow-up to Adult Education Accommodation’s Grant: Two hour round table discussion, Summer Institute, Manhattan, KS, July 9, 1999.

“Opening Doors” (training for SRS and Kansas Department of Human Resources Case Managers), November 23, 1999, Lawrence; December 16, 1999, Kansas City, KS;


Beyond Ramps, Summer Institute, Manhattan, KS, June 30, 1999.


Help Wanted, May 24, 2000, Kansas City; and June 1, 2000, Wichita.

**Grant Activity**
CHOICES, submitted to NIDRR/Field Initiated Research, $150,000. Not funded.


**Jeff Radel, Ph.D., Assistant Professor**

**Research Interests**
Neural plasticity and function via investigation of anatomic relations and functional capacities of the visual system altered following perturbations during development. Factors influencing control of eye movements in humans, particularly those made during daily life tasks.

**Laboratory**
Publications


Presentations

Grant
"Effects of Pigment Epithelium-deprived factor (PEDF) on photoreceptor differentiation and ability in retinal transplants" J. Radel (P.I.) KUMC School of Allied Health seed grant. 7/99 – 06/00 ($3,010).

Melisa Rempfer, Ph.D., Teaching Associate

Research Interests
Exploring the relationships between cognitive functioning and clinical symptoms in people with schizophrenia; cognition and independent living skills training for people with mental illness.
Publications


Presentations

Rempfer, M., Hamera, E., & Brown, C. (November, 1999). Independent living skills in people with schizophrenia. Presentation at the 1999 Faculty Research Day, University of Kansas Medical Center, Kansas City, KS.


Grants

“Evaluating independent living skills: Developing a test of meal planning.” Application to School of Allied Health Research Committee, Submitted April 1, 2000. PI: Melisa Rempfer, PhD, $7615.

Lorie Richards, Ph.D., Teaching Associate

Research Interests
Examining factors that affect stroke recovery: Attentional processing and type of therapy for physical impairments, role of self-efficacy.
Laboratory
Space in Building 48 across from the Grayhawk Lab.

Publications


Presentations
Motor sequence learning following stroke, February, 2000, American Physical Therapy Association - national audience.


Richards, L. Office ergonomics. - May 4 - Institute for Internal Audits - Kansas City business people

Grant Participation
Improving recovery after stroke NIH - funded - co-investigator - COA, PT, Preventative Medicine - $1,558,297.

Attention and Motor learning after stroke - NIH - funded - co-investigator - COA, Rehabilitation Medicine, Psychology at UMKC, PT - $350,984.

Geriatric Education Center -Bureau of Health Professions - funded - OT faculty - COA, Nursing, Dentistry at UMKC, Medicine, PT, Dietetics, Speech and Hearing, Social work, Pharmacy - $749,224.

Rural Interdisciplinary Training - -funded - OT faculty - PT, Medicine, COA, Speech, social work, respiratory care - $612,270
Functional practice with the hemiplegic upper extremity after stroke -SAH research grant - funded - consultant - PT - $6,990

Mary Jane Youngstrom, MS, Teaching Associate

Publication

Presentations


We are what we say….AOTF General Session. Main presenter Dr. Don Lollar. Discussant after his presentations included MJ Youngstrom, Jean Dietz, Cynthia Hugher-Harris, Virginia Stoffel.

Department of Physical Therapy Education
3056 Robinson
588-1587

Daofen Chen, Ph.D., Assistant Professor

Research Interests
Synaptic interactions and plasticity in the primate cortical circuitry during normal motor skill acquisition or recover after injury in a monkey model of stroke; neural mechanisms of spasticity in humans and spinal reflex physiology in vertebrate animals.

Laboratory
Room 2008, MRRC

Publications


Presentations

Grants


Chukuka Enwemeka, Ph.D., Professor and Chair

Research Interests
Biochemistry and biomechanics of the healing of connective tissue. Special interest in the use of laser photostimulation in healing.

Laboratory
Connective Tissue Research Laboratory, 5031 Wahl Hall West; Ruth Blanchard Biomechanics Lab and Patch Clamp/Imaging Facility in 5018 WHW.

Publications

Presentations
Enwemeka, C. S. Therapeutic Ultrasound: The Science Behind the Practice. Invited workshop, Universidad de Ribeirao Preto, Ribeirao Preto, Brazil, October 1999.

Enwemeka, C. S. Introduction to Laser Therapy. Invited workshop, Universidad de Ribeirao Preto, Ribeirao Preto, Brazil, October 1999.


Grants

Wen Liu, Ph.D., Assistant Professor

Research Interests
Quantification of motor recovery in balance; gait after stroke and objective measurement of ankle instability.

Laboratory
Kirmayer Fitness Center; Human Performance Laboratory in the Center on Aging

Publications

Liu, W., Siegler S, and Techner L: Using an anthrometer to determine ankle mechanical instability in acute and chronically sprained ankles. Clinical Biomechanics (conditionally accepted).


Presentations
Liu, W. Stochastic approach for the analysis of balance control during quiet standing. Invited presentation, Center on Aging, University of Kansas Medical Center, Kansas City, KS, February 2000.
Liu, W. Application of random signal processing in biological systems. Invited presentation, Mathematics Department, University of Kansas, Lawrence, KS, April, 2000.

Grants


Janice Loudon, Ph.D., Assistant Professor

Research Interests
Collaboration with St. Luke’s - Shawnee Mission Health Systems on collecting data on female runners with the Avon Training Team; development of functional lower extremity tests for individuals with patellofemoral dysfunction.

Laboratory
Kirmayer Sports Fitness Center; Georgia Holland Cardiopulmonary Therapeutics Lab, G047 Olathe Pavilion

Publications


Presentations


Loudon, J.K. “Comprehensive Assessment and Treatment of the Knee.” Bethany Medical Center, Kansas City, KS April, 2000
Submitted Grant
Exercise for Females with Patellofemoral Dysfunction, RO3, National Institute of Health for 2 years. PI: Loudon, J.K. $150,000 (submitted February, 2000).

Brian McKiernan, Ph.D., Instructor

Research Interests
Neurologic rehabilitation; brain control of movement; muscle activation patterns during activity; balance control.

Laboratory
GO47, Olathe Pavilion.

Publications


Presentations


McKiernan, B.J. TENS. Presented to residents in Department of Physical Medicine and Rehabilitation. University of Kansas Medical Center, Kansas City, KS, March 20, 2000.

McKiernan, B.J. CVA Rehab: Managing the Rehabilitation Process (3 hours). University of Kansas Medical Center, Kansas City, KS (ITV to AHECs in Hays, Dodge City, Parsons and Hill City), May 5, 1999.
Patricia S. Pohl, Ph.D., Associate Professor

Research Interests
Motor learning in older adults and individuals with stroke.

Laboratory
Human Performance Laboratory of the Center on Aging and the Motor Learning Laboratory (part of the Grayhawk Lab).

Publications


Presentations


**Grants**

Pohl, P.S. (Principal Investigator) Functional practice with the hemiplegic upper extremity after stroke. School of Allied Health, University of Kansas Medical Center $6,900; 1999-2000.

**Submitted Grants**
Motor control deficits related to macular scotomas: basis for rehabilitation to Department of Veterans Affairs for 3 years. PI’s: Maino, Timberlake; Co- PI: Pohl. $510,000 (submitted April, 2000).

Attentional demands of postural control to NICHD/NCMRR/NIH for 3 years of funding. PI: Pohl. $300,000 (submitted June, 2000)

Attentional demands of postural control after stroke to American Heart Association-Bugher Foundation Award for 4 years. PI: Pohl  $400,000 (submitted June, 2000)

**G. Kesava Reddy, Ph.D., Research Assistant**

**Research Interests**
The role of connective tissue in health and disease.

**Laboratory**
Connective Tissue Research Laboratory, 5031 Wahl Hall West; Ruth Blanchard Biomechanics Lab and Patch Clamp/Imaging Facility in 5018 WHW.

**Publications**


Presentations


Lisa Stehno-Bittel, Ph.D., Associate Professor

Research Interests
Cellular effects of physical therapy interventions.

Laboratory
Connective Tissue Research Laboratory, 5031 Wahl Hall West; Ruth Blanchard Biomechanics Lab and Patch Clamp/Imaging Facility in 5018 WHW.

Publications


Presentations


Grants


Submitted Grant

Other faculty members from the Department of Physical Therapy Education who participated in research activities with senior faculty included Heather Goist, and Perri Cagle.
Mike Czervinske BS, RRT

Research presentations FY 1999-2000 Cervinske


Publications FY 1999-2000

Czervinske, MP. Pediatric Tracheostomy, Clinical Perspectives Part 2. AARC Times 1999; 23(9): 33-36.

Czervinske, MP. Pediatric Tracheostomy, Clinical Perspectives Part I. AARC Times 1999; 23(9): 31-33.

Bethene Gregg MS, RRT

Publications

Presentations
Functional Classification of Ventilator Modes
Waveform Analysis
Barbara Ludwig MA, RRT

Appointed to US Public Health Service- BrHP Allied Health Special Projects Grant Panel held between May 22-24.

Paul Mathews PhD, RRT, FCCM, FCCP

Publications

Presentations
New Jersey Society for Respiratory Care annual meeting, October 1999
New Trends in Patient Assessment

New York Society for Respiratory Care Annual Symposium, West Point, NY. October 1999 New Trends in Patient Assessment

Hawaii Society for Respiratory Care Annual Symposium, Honolulu, HA March 2000
Developing a Pulmonary Rehabilitation Program
Preventing Nosocomial Infection
Interpreting Arterial Blood Gases
Arterial Blood Gas Case Studies: Predicting Arterial Blood Gases

8th Congress of Asian Pacific Association of Respiratory Care
Beijing, China, October, 2000
Workshop Leader on Aerosol Therapy
Plenary lecture on A Curriculum for Respiratory Care
Mini-Plenary Lecture on Respiratory Care in the Home Setting: Sleep, Rehabilitation and Oxygen Therapy
Panel Discussant for Respiratory Care in the Home

Midwest Respiratory Care Symposium, (Missouri Society of Respiratory Care, Kansas Society Respiratory Care and Respiratory Care Managers Association). Kansas City, MO. February, 2000.
Patient Assessment.

Co-developer, organizer, director of and presenter in:
Colegio Santa Paula & Institute of Clinical Investigation sponsored Continuing Education Course for Physicians: San Jose, Costa Rica 5/25 - 6/5/2000
Non-Invasive Mechanical Ventilation
Monitoring Mechanical Ventilation