Building Bridges Through Leadership in Allied Health Research
2001-2002
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Building Bridges
Through Leadership in Allied Health Research
It is a pleasure for the faculty and administration of the KU School of Allied Health to present the first issue of *Building Bridges through Leadership in Allied Health Research*. This publication represents a new landmark for the School. We have reached a point where it is time to share our growing research and scholarship accomplishments with our many friends and alumni. This first issue highlights some of our outstanding research faculty and presents an overview of the funded research and training grants currently ongoing in the School of Allied Health.

I am pleased to report that this year marks another important milestone for the School. We have received Kansas State Board of Regents’ approval for two new doctoral programs: one, a PhD in Rehabilitation Science, in the Department of Physical Therapy, and the other, an interdisciplinary PhD in Therapeutic Sciences, located in the Department of Occupational Therapy.

Paralleling that planning, the faculty and administration of the School of Allied Health have recently completed a comprehensive review of the School's Strategic Plan. This review has resulted in the strengthening of our research infrastructure to support the fine research efforts of the faculty.

The central mission of the KU School of Allied Health is to develop tomorrow’s leaders in allied health through the integration of teaching, patient care and research. The School of Allied Health has excelled since its inception in 1974 in two legs of this triangle, and it is now well on its way to developing an interdisciplinary, research-intensive environment that advances the allied health sciences and promotes the health and well being of our communities. Our research faculty continue to build bridges in health sciences research through collaboration across the disciplines at the University of Kansas Medical Center. Our faculty are leaders in allied health research in our region because of our steadily increasing grant funding from the federal government, corporations and research-supporting foundations.

We are grateful to our many alumni and friends for their generous support of the mission of research at the KU School of Allied Health.

*University of Kansas School of Allied Health*
The KU School of Allied Health is the most diverse academic unit within the University of Kansas Medical Center, comprising 10 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, provided over $1.3 million of research support for the School during the past year. This amount represents an increase of approximately 33% in comparison to FY 1999 - 2000. Funding also is received from local/national foundations and associations and private benefactors.

While this improvement is impressive, the importance of research to the future of our allied health professions demands an even greater emphasis on our part to seek additional external funding to support research within the School, and to continue to recruit and retain outstanding scientists. Increased collaboration with researchers from other units within the University is inherent to the success of these efforts.
Advancing Treatments

For the millions of Americans suffering from Parkinson's Disease (PD), living with constant body tremors and shakes becomes routine. Medication has been the primary treatment for reducing the tremors and shakes. However, for a certain number of PD patients, medication becomes less effective over time or the side effects become so great that they discontinue their medicine.

Medication increases the level of dopamine in the brain. Dopamine is a neurotransmitter that usually occurs naturally and helps control motor function. For PD patients, dopamine is not produced in the quantities needed to control body tremors.

A new treatment, deep brain stimulation, is being made available to some patients who are no longer helped by medication. This surgical procedure involves implanting an electrode deep into the brain. The electrode is attached to a device that works similarly to a heart pacemaker. The device can be turned on and off as needed by the patient. In the on position, the device sends an electronic impulse to the electrode that blocks the brain signals that cause the tremors.

The deep brain stimulation has worked for many, but to help more people, more research is needed on its effectiveness over time. Wen Liu, PhD, assistant professor, KU Department of Physical Therapy and Rehabilitation Sciences, is currently studying 20 PD patients who have undergone the deep brain stimulation surgery to see if they can manage without medication and for how long. Liu's patients are studied to compare the effects of having their stimulators on without medication, with the effects of having their stimulators off without medication. This one-year study, conducted with the KUMC Parkinson's Center, may provide the research and statistics to support long-term benefits of the surgery, giving many patients hope.

"This is an open area right now," Liu states of his research. Patients are desperate for new treatments, and doctors and researchers continue to look for ways to help them.

This project is supported by the KUMC Research Institute with Rajesh Pahwa, MD, associate professor of neurology, as the principal investigator.
More than 24 million people in the United States have a significant loss of hearing, according to the Hearing Alliance of America. For 12 million of those individuals, the main form of treatment is to use a hearing aid. However, if you have Sensori-Neural Hearing Loss, a hearing aid may have limited benefit. A team of KU School of Allied Health researchers is studying hearing loss and the science of it all.

Researchers know that hearing occurs when sound is converted from mechanical to electrical vibrations in the ear. This process happens when sound enters the outer ear and then enters the inner ear where a set of hair-like neural receptor cells convert the signals from mechanical to electrical signals. The brain then interprets the signals as meaningful sound. Without these hair cells, the process of hearing does not happen. Damage to these hair cells is permanent because the body does not regenerate them.

Mark Chertoff, PhD, professor in the KU Department of Hearing & Speech, is currently studying the way mechanical vibrations are converted to electrical vibrations. He is diligently working to learn more about this process so researchers can understand the extent of damage to the hair cells.

Many factors contribute to the damage of the cells. Among these are normal aging, drugs, exposure to loud noise and genetics. Chertoff said his research has determined that drugs and sound damage the hair cells differently.

Previous research, data and hearing loss treatments have focused on increasing the sound, or pitch, that a person hears to hopefully improve hearing. But when the hair cells are damaged, amplifying the sound by use of a hearing aid often does not help. This is because the remaining hair cells are unable to process the sound the brain needs to discriminate between sounds and complex combinations of sounds, including speech. Chertoff ultimately hopes his research can help find medical treatments to restore and protect the hair cells. Sensori-Neural Hearing Loss accounts for approximately 80 percent of all cases, according to the National Organization for Hearing Research Foundation.

"We are trying to develop techniques to come up with a mathematical formula to describe that process," Chertoff states. So far, they have found that the formula varies depending upon how the mechanical to electrical process is damaged. A long-term goal of Chertoff's research is to tell patients what is causing their hearing loss and what procedures are available to treat or repair their hearing loss.

Funding for Chertoff's research comes from the National Institutes of Health.
Many children with developmental disabilities have difficulties in the development of speech and language. For their parents, these children's use of words and sentences are not just developmental milestones, they are special dreams and answers to prayers. Consequently, the immediate goals of early communication interventions generally include word or manual sign production.

Researchers from the KU Hearing and Speech Department and from the Schiefelbusch Institute for Life Span Studies in Lawrence have a different perspective on early communication intervention. Marc Fey, PhD, professor in the KU Department of Hearing & Speech, and Steve Warren, PhD, and Nancy Brady, PhD, of the Life Span Institute, believe that a more efficient intervention strategy may be to stress the development of early communication without words. Children who learn to communicate frequently and intentionally with combinations of gestures, non-word vocalizations and gazes toward their partners may move more rapidly through the stages of word and early sentence development. Pre-linguistic milieu teaching (PMT) is designed to teach these elements of nonverbal communication as a foundation for later language learning.

Currently, Fey, Warren and Brady are working with a group of children between the ages of 2 and 2-1/2 years with developmental disabilities, such as Down's Syndrome. Half of the children receive six months of PMT. The children's parents also are taught to be highly responsive to their children's nonverbal and verbal communication efforts. The researchers then compare the verbal and nonverbal communication outcomes for these children after 6, 12 and 18 months in the program with those of another group of children who do not receive PMT. They are entering their third year of a 5-year investigation and will be enrolling children until as late as June 2003.

This project is funded by the Office of Special Education Programs at the United States Department of Education.
Exercise Essentials

Promoting health and healthy lifestyles for people with disabilities has not typically been addressed by health care professionals.

Katherine Froehlich, PhD, assistant professor, University of Kansas Department of Occupational Therapy Education, has been researching the promotion of health for people with disabilities.

There has been much interest in issues related to disease prevention and health promotion for people in the general population, according to Froehlich. She would like to see more health promotion efforts directed to people with disabilities, because they also can benefit.

Froehlich's research involves exercise studies of women with disabilities. One of her research projects involved establishing home-based exercise programs, although participants could have chosen to exercise in their community. While most engaged in activity at home, several women did join health clubs or used community recreation facilities. Individuals planned their exercise programs with the help of an exercise physiologist.

Researchers then tracked their weekly activity levels as well as other health changes over six months.

All participants had disabilities that impaired their mobility. Specific disabilities included spinal cord injury, multiple sclerosis, muscular dystrophy and arthritis. Nearly 60 percent of the participants used some form of assisted device, such as a wheelchair or a cane.

Froehlich found that the exercise intervention helped the women double the amount of time they engaged in cardiovascular activity each week over six months. After the participants completed the study, Froehlich said 75 percent of the women reported experiencing other benefits too, such as increased endurance, higher energy levels, increased strength and greater self-esteem. Froehlich also found that after six months of increased activity, participants' fitness test performance revealed they could exert themselves more and walk or wheel the fitness course more quickly. Froehlich hopes her studies can lead to the development of more function-based measures of fitness for people with disabilities.

Froehlich believes the lives of people with disabilities can be enhanced by helping them establish more healthy lifestyles and practices. She is also interested in eliminating the environmental and knowledge barriers at the community level and educating health care providers about the benefits of preventive health care for people with disabilities.

Funding for Froehlich's research comes from the Office on Disability and Health, Centers for Disease Control and Prevention.
Parents worry about many things when their children leave home for college, and at the top of that list is worrying if their children will eat well enough to stay healthy.

Debra Sullivan, PhD, assistant professor in the KU Department of Dietetics and Nutrition, is presently studying diet as it relates to chronic disease. One of her largest projects is conducted in collaboration with Joseph Donnelly, EdD, professor in the KU Department of Health, Sport and Exercise Sciences in Lawrence. They are studying the eating habits of KU freshmen who live on campus and eat dormitory food.

“Typically, we associate college life with poor dietary habits… high fat foods, no breakfast, etc.” Sullivan states. The habits college students establish will carry on for the rest of their lives. If they continue the bad eating habits, she says they increase their risk of chronic health problems, such as obesity, heart disease or diabetes. “If we can modify their diet, we may be able to improve their health and well-being,” according to Sullivan. Donnelly says the research also is important to physicians and individuals so they can learn more about critical times in people’s lives that contribute to a change in eating habits.

The project is called the Jayhawk Observed Eating (JOE) Study. Last fall, 30 students participated in the study. Ten of the first 30 freshmen consumed a “typical American diet.” Two other groups of 10 students were directed to eat from two respective lists of foods designed to vary the ratio of nutrients in their diets -- carbohydrates, protein, fat, vitamins and minerals. Foods appropriate per group were color-coded in the cafeterias as red, blue or yellow. Forty-seven students are participating in the study this semester, and Sullivan hopes to have approximately 300 students participate over the next 4 years.

Additional requirements are that study participants need to have normal body weight, be on no special diet, have no health problems/chronic diseases and not be “regular exercisers.” Baseline testing at the beginning of the semester includes a physical assessment - bone scan, resting metabolic rate and blood work. Students also respond to weekly questions to assess general health and mood. At the end of the semester, nine students each spend 23 hours in a whole room calorimeter, a 10 x 12 room designed like a mini hotel room and located in the Robinson Center on the KU/Lawrence campus. This room measures how much energy is used by the participants and measures the number of calories being burned and the percent of carbohydrates and fat being burned during exercise, homework, reading, watching television or sleeping. The room collects its occupant’s exhaled respiratory gases, from which the measurements are taken.

The JOE Study is being funded through a 4-year, $2.2 million grant from the National Institutes of Health (NIH). Sullivan has also been awarded a 3-year, $243,000 grant from the Dairy Council to study the impact of diet on the height, weight, body fat, blood pressure and “fluid intelligence” (innate intelligence, such as reasoning ability, sequential thinking) of grade school children in the Kansas City Kansas Public Schools.
Aging Gracefully

McDowd uses science to support findings of the aging process to assist the creation of intervention methods with the goal of characterizing important group differences in performance. These differences may provide important information about how best to support people of different ages in their everyday activities. Although group differences may not reflect each individual's abilities, testing people's learning tools that can help many people. “We are trying to show some general trends. Our long-term goal is to use what we learn from these people to help others with similar characteristics,” McDowd states of participants in her studies.

McDowd's studies are carried out in the Grayhawk Laboratory, where she directs a program of research on cognition and aging. In addition, some of these studies are being conducted in collaboration with the KUMC Center on Aging. McDowd's research is currently funded by the Kansas Claude D. Pepper Older Americans Independence Center and the National Institutes of Health (NIH).

Understanding the normal aging process and how this process may affect the performance of everyday tasks is the focus of KUMC researcher Joan McDowd, PhD.

McDowd, associate scientist, KU Center on Aging; and associate professor, KU Department of Occupational Therapy, has been working with older adults for many years.

Through research, McDowd is putting science behind what many people have always known -- the normal aging process, and sometimes other events such as a stroke, negatively affects a person's ability to learn, reason and pay attention. McDowd hopes to provide information that might be useful in understanding and supporting the abilities of older adults. For example, designing environments that are relatively free of distraction can maximize the ability of older adults to learn, relearn or adapt to everyday situations in which they need to function. These functions can include driving and using a computer -- activities many people take for granted.

As a person ages, the ability to block out excess noise and interference becomes more difficult and can impede a person's ability to pay attention long enough to learn new skills or complete tasks. This could be particularly problematic for stroke survivors during the rehabilitation process, which often involves the learning or relearning of physical skills. McDowd's studies have examined cognitive function in a variety of laboratory tasks with young adults, typical older adults and in stroke survivors.
Pioneer Researcher

Dr. Susan Carlson, in collaboration with Dr. John Colombo, professor in the Department of Psychology, explores a new frontier in infant nutrition

For years, mothers have been hearing the message that breast milk is best for feeding their babies. While infant formulas contain essential nutrients, they do not contain many compounds found in human milk. These compounds are the reason breast-fed infants have fewer gastrointestinal and respiratory illnesses during infancy and the possible reason they are less likely to later develop autoimmune diseases like Type 1 diabetes.

Two components in human milk, docosahexaenoic acid (DHA) and arachidonic acid (AA), have been studied to determine their influence on brain development. DHA and AA are fatty acids that account for about half of the total fatty acids in the brain. Susan Carlson, PhD, Midwest Dairy Council professor of nutrition at the KU Medical Center, is a pioneer in this area of nutrition research. She has spent 20 years studying DHA status and neural function of formula-fed infants and comparing the development of infants fed ordinary formulas with those fed experimental formulas with added DHA. She and other investigators have amassed considerable evidence that preterm infants and some term infants benefit from receiving DHA and AA. In particular, infants fed DHA have higher visual development and evidence of more rapid processing of visual information, suggesting greater effects on learning.

An FDA ruling late last year cleared the way for the addition of these compounds to full-term baby formulas in the United States. In February 2002, two major formula producers announced plans to add DHA and AA.

Ten years ago, Carlson met John Colombo, PhD, a KU professor in the Department of Psychology, whose expertise is in infant cognitive development. "We had observed differences in the way that infants looked at pictures of faces when they received DHA in their formula," Carlson states. "Every developmental specialist I talked to suggested Dr. Colombo as the expert to call for help in interpreting our data."

Through their collaboration, Carlson and Colombo have moved to the next frontier -- the role of the mother's status during pregnancy. Carlson and Colombo are following nearly 100 infants born to women where half ate food with DHA and the other half ate the same food with less DHA during the last three months of pregnancy. The study, supported by OmegaTech, Inc., was started with KUMC Research Institute funding.

In the final analysis, they should know if individual differences in maternal DHA status are related to infant development. The information gained could lead to intervention trials with DHA supplementation in pregnant women.

"One question that needs to be answered concerns the stage of development when higher DHA status most benefits infants. It is not unreasonable to hypothesize that the intrauterine period is even more important than the one that occurs after birth," Carlson continues.

Carlson's endowed professorship from the Midwest Dairy Council includes an appointment in the KU School of Allied Health Department of Dietetics and Nutrition. She also holds appointments in the Department of Pediatrics in the KU School of Medicine and the KU School of Nursing. The Roberts' Family Foundation has provided additional funding.
“Without the support of the Midwest Dairy Council, The Roberts’ Family Foundation and Omega Tech, Inc., it would be difficult, if not impossible, for me to conduct this type of research.”
The world is filled with complex environments. For instance, distracting visual information or noises can make everyday tasks like driving, shopping or visiting with friends more difficult. These complexities may pose particularly difficult for individuals with psychiatric disabilities as they go about daily routines.

A team of KU Medical Center researchers has a goal to help these individuals learn to engage in independent living activities more effectively by focusing on the daily activity of grocery shopping - a very complex task. Grocery stores are often laden with complex messages, loud noise and conflicting signals that can be overwhelming for even the experienced shopper.

Catana Brown, PhD, associate professor, and Melissa Rempfer, PhD, assistant professor in the KU Department of Occupational Therapy Department, have teamed up with Edna Hamera, RN, PhD, KU School of Nursing, to help people with psychiatric disabilities learn techniques for shopping. "It's an essential skill of independent living," Brown states. As individuals learn how to handle this complex environment, the hope is that they can apply their knowledge to other activities involving complex or stressful environments.

Brown tells how they simplify the grocery shopping process by breaking down tasks into smaller steps. Simple tasks include using a grocery list, studying aisle directories, learning how to block out distraction and learning how to read store displays to check for the best price of an item.

Many interventions for persons with psychiatric disorders involve removing them from a complex or distressing situation. But Brown and Rempfer say that doesn't always solve the person's problems and doesn't help them become more independent. By teaching individuals to be more effective within their natural environments, the project hopes to assist participants in gaining more independence and empowerment in their lives.

The study involves people with psychiatric disabilities from five Kansas City community-based sites. At the end of the project, researchers will measure skills according to the patient's knowledge, performance and application of grocery shopping skills. Basic cognitive skills also will be measured.

Brown hopes their findings will support intervention as a means to help people with psychiatric disabilities in their ability to grocery shop. If this shows positive results, they hope the research will support investigation of other interventions for people with psychiatric disabilities.

This grant is funded by the National Institute on Disability and Rehabilitation Research.
Lisa Stehno-Bittel, PhD, associate professor, KU Department of Physical Therapy and Rehabilitation Sciences, isn't just the usual medical researcher. Her dedication to science is apparent when she explains complex research projects, such as the effects of calcium on a nuclear pore complex. Stehno-Bittel makes it clear that she wants answers to the complicated questions she faces, and she intends to find those answers.

Stehno-Bittel’s research has focused on two areas: the effects of calcium on cardiovascular smooth muscle cells and how diabetes changes the properties of calcium. This understanding is important to Stehno-Bittel, physical therapists and patients because an improper balance of calcium could affect a person's physical therapy regimens.

Specifically, she is studying calcium as an integral part in regulating the contraction of vascular smooth muscle cells. These cells line blood vessels and when they contract they constrict the vessel and inhibit the blood to flow. Proper calcium levels help regulate the contraction and make everything flow correctly. Controlled contraction is acceptable, but uncontrolled contraction may result in high blood pressure, causing the heart to work harder.

Stehno-Bittel’s benchmark research also studies how molecules are transported in the nucleus of cells of the cardiovascular system. In particular, diabetes changes the signaling molecules within the cell, especially calcium. Calcium is used by heart cells and in the smooth muscle cells surrounding arteries as a way to send signals within the cell and as a means to cause the cell to contract. Understanding how diabetes affects the regulation of calcium within the nucleus of the cell will allow improvements in targeting therapy for diabetic patients with cardiovascular disease.

The goal of Stehno-Bittel’s research is to create interventions that could reverse the trends of cardiovascular disease for diabetic patients. One intervention that may prove to be beneficial is exercise. Stehno-Bittel is currently analyzing exercise effects on diabetic rats and hopes to learn about new interventions.

“This is basic science. We’re interested in the mechanisms of diabetes’ detrimental effects, and ways to correct it,” states Stehno-Bittel. Eventually, she hopes to translate her findings to help diabetes patients through physical therapy. The other hope she has for her research is to apply it to the design of new medications to help patients.

Stehno-Bittel’s research is currently funded through grants from the National Institutes of Health, the Hall Foundation and the US Department of Commerce.
Allied Health Grants
The School of Allied Health received over $1.3 M in external grant funding during the past year

**Dietetics & Nutrition**

**Susan Carlson, PhD**

| Last Trimester DHA Supplementation: Effect on Pregnancy Outcome. | 7/98 -- 8/01 | Omega Tech, Inc. |
| Birth DHA Status and Effects on Infant Attention. | 1/01 -- 12/03 | Omega Tech, Inc. |

**Mary Hise, PhD**

| Nutrition and Immune Status of Home Parenteral Nutrition Patients. | 7/01 -- 6/02 | KU School of Allied Health Dean's Research Award |

**Debra Sullivan, PhD**

| Long-term Efficacy and Safety of Meridia. | 8/99 -- 12/04 | Co-Investigator Knoll Pharmaceuticals |
| African-American Smokers in Low Income Housing. | 4/00 -- 3/04 | Co-Investigator National Institutes of Health (NCI) |

**Prevention of Obesity by Alteration of Dietary Fat.**

**Marc Fey, PhD**


**John Ferraro, PhD**

- Improved Methods of Auditory Assessment in Infants. 7/00 -- 12/02 Hall Foundation Award

**Occupational Therapy**

**Catana Brown, PhD**

- Independent Living for People with Psychiatric Disabilities: Using Contextual Cues to Remove Environmental Barriers. (Collaboration between OT Education and the School of Nursing) National Institute of Disability Research and Rehabilitation

**Katherine Froehlich, PhD**

- Understanding Health and Wellness Needs and Investigating Communication Networks of People with Disabilities from Ethnic and Racial Minorities. 2001 -- 2005 Subcontract via the Research and Training Center, University of Kansas National Institute on Disability and Rehabilitation Research

**Melisa Rempfer, PhD**

- Independent Living for People with Psychiatric Disabilities: Using Contextual Cues to Remove Environmental Barriers. 2000 -- 2003 (Co-Investigator) collaboration between OT Education and the School of Nursing National Institute of Disability and Rehabilitation

- Examining Visual Scanning in People with Schizophrenia: Implications for Daily Life. 7/01 -- 6/02 School of Allied Health Dean's Research Award

**Joan McDowd, PhD**

- Attention and Aging: Understanding Negative Priming. 5/96 -- 4/02 National Institute of Aging

- Attention and Motor Learning after Stroke. 1/98 -- 12/02 Project Director National Institute of Aging, Claude D. Pepper Older Americans Independence Centers

- Physical, Cognitive, and Psychological Effects of a Selective Estrogen Receptor Modulator in Women at Risk for Breast Cancer. 4/00 -- 3/02 Co-Investigator United States Department of Defense

**Building Bridges Through Leadership in Allied Health Research**
Lorie Richards, PhD

Post-stroke Rehabilitation Study.
1997 -- 2002 (Co-Investigator), collaboration among Center on Aging, Physical Therapy, Rehabilitation Medicine, and Occupational Therapy
National Institutes of Health (NIA)

Attention and Motor Learning Following Stroke.
1998 -- 2002 (Co-Investigator), collaboration among Center on Aging, Physical Therapy, Rehabilitation Medicine, and Occupational Therapy
National Institutes of Health (NIA)

Wen Liu, PhD

2001
National Institutes of Health - Kansas Claude D. Pepper Center Pilot Award

The Effect of Sub-thalamic Stimulation for Parkinson's Disease using Quantitative Gait Analysis.
2001 -- 2002 (Co-Investigator)
KUMC Research Institute Award

A Novel Feedback Training Program to Improve Postural Control of Chronic Stroke Patients.
2001 -- 2002
American Heart Association

G. Kesava Reddy, PhD

Photo-triggerable Collagen-crosslinking Compounds for Wound Closure in Ocular Surgery.
2000 -- 2001 (Co-Investigator)
Kansas Lions Sight Foundation Eye Research Fund

Myocardial Collagen Remodeling in Experimental Diabetes.
1999 -- 2001
American Heart Association

Daofen Chen, PhD

1999 -- 2002
American Heart Association

Electrophysiological Assessment of Functional Activities of Cortical Neurons in the Penumbral Region after Ischemic Infarct in the Primary Motor Cortex of Awake Behaving Primates.
2001
KUMC Research Institute - Lied Basic Science Award

Neural Substrates of Handedness in Primate Motor Cortical Areas.
2001
School of Allied Health Dean's Research Award

Physical Therapy

Lisa Stehno-Bittel, PhD

Calcium Regulates the Nuclear Pore Complex Structure/function.
1999 -- 2003
National Institutes of Health

Prehabilitation versus Rehabilitation.
1998 -- 2003 (Co-Investigator)
National Institutes of Health

Confocal Microscope for Cell Imaging.
2001 -- 2002
National Institutes of Health

Real Time Palpation Imaging of Breast Abnormalities.
2000 -- 2004 (Co-Investigator)
U.S. Army

Functional analysis of two mutations of KCNQ4 potassium channel causing progressive childhood hearing loss.
7/01 -- 6/03 (Co-Investigator)
Hall Foundation Grant

REU Site: Biomechanical Engineering - Research Experience for Undergraduates.
7/02 -- 1/04 (Co-Investigator)
National Science Foundation

Evaluation of Effects of Long-Acting Anesthetic on Wound Healing.
1/02 -- 6/02 (Co-Investigator)
Disseminating Science and Scholarship
Selected Faculty Publications from the KU School of Allied Health

Biometry

Khatab M. Hassanein, PhD


Dietetics & Nutrition

Susan E. Carlson, PhD


Mary E. Hise, PhD


Cass Ryan, PhD


Debra K. Sullivan, PhD


Hearing and Speech

Mary A. Carpenter, PhD


**Mark E. Chertoff, PhD**


**John Ferraro, PhD**


**Marc E. Fey, PhD**


**Judith E. Widen, PhD**


**Catana Brown, PhD**


Winifred Dunn, PhD


Katherine Froehlich, PhD


Joan M. McDowd, PhD


Jeff D. Radel, PhD


Katherine Froehlich, PhD


Joan M. McDowd, PhD


Jeff D. Radel, PhD


Katherine Froehlich, PhD


Joan M. McDowd, PhD


Melisa Rempfer, PhD


Lorie Richards, PhD


Mary Jane Youngstrom, OT, MS


Chukuka S. Enwemeka, PhD


Wen Liu, PhD


Janice K. Loudon, PhD


Patricia S. Pohl, PhD


G. Kesava Reddy, PhD


Respiratory Care

Bethene Gregg, MS, RRT


Barbara Ludwig, MA, RRT


Paul Mathews, PhD


2001-2002 School of Allied Health Highlights

- One of the largest schools of allied health professions in the country with 21 different programs
- 97.6% 1st time pass rate on national certifying exams
- *U.S. News and World Report* ranked the Audiology, Speech-Language Pathology and Occupational Therapy graduate programs in the Top 10 of like programs
- Leader in international collaboration in health sciences with several international clinical sites
- Two new doctoral programs were approved by the Kansas Board of Regents:
  - Therapeutic Science - an interdisciplinary program
  - Rehabilitation Science
- Successful outreach programs: Pittsburg, KS; Lincoln, NE; National Indian Health Service in Alaska and New Mexico
- Significantly increased the number of web-enhanced and web-based courses
- Total multiyear funding for external grants and contracts, active during all or part of 2001: $5.4 million

Building Our Future and Increasing Public Awareness

- Produced a new School website: [http://alliedhealth.kumc.edu](http://alliedhealth.kumc.edu)
- Improved the look and content of the *Connection* newsletter
- Expanded the School's recruitment and marketing activities
- Significantly increased participation in community organizations:
  - Health Professions Pipeline Initiative
  - United Way of Wyandotte County
  - Wyandotte Health Foundation
  - Youth Opportunities Unlimited

Providing a Premier Learning Environment

- Improved student services by:
  - Increasing the number of student computer labs
  - Supporting the KUMC Learning Specialist
  - Increasing the number of scholarships - thanks to our alumni and friends
  - Improved academic and research space by increasing the number of research labs and faculty offices

## Academic Programs in the School of Allied Health

### Certificate Programs:
- Cardiovascular Interv. Tech.
- Diagnostic Ultrasound Tech.
- Nuclear Medicine Technology

### Bachelor's Degrees:
- Clinical Laboratory Science
- Molecular Biotechnology
- Cytotechnology
- Health Information Mgmt.
- Respiratory Care

### Master's Degrees:
- Audiology
- Dietetics and Nutrition
- Nurse Anesthesia
- Occupational Therapy
- Physical Therapy
- Speech-Language Pathology

### Doctorate Degrees:
- Audiology
- Rehabilitation Science
- Speech-Language Pathology
- Therapeutic Science

### Post Baccalaureate Certificate:
- Dietetics and Nutrition Internship

### Faculty, Staff and Students
- 85 Faculty, 31 Staff
- 127 Undergraduate Students
- 261 Graduate Students

Over 300 Clinical Affiliation Sites in the United States and Abroad