The Life Span Institute At a Glance

Research-based solutions for the challenges of human and community development, disabilities and aging

Who
Investigators, research and administrative staff, graduate and post-doctoral students

The LSI brings together 146 scientists who are affiliated with 20 academic departments to study human development from its genetic origins through the final stages of life. These investigators are supported by 235 research and administrative staff members, including 70 graduate research assistants.

The Institute has two affiliated multidisciplinary graduate/doctoral programs, the Child Language Doctoral Program and the Gerontology Graduate and Doctoral programs, as well as several post-doctoral training programs.

What
Research, training, technical assistance, direct services and leadership

Most of the easy problems in the behavioral and the biological sciences have been solved. Today the important problems are increasingly found and solved at the intersection of many disciplines. The Life Span Institute stands at such a convergence.

At the Life Span Institute we know that our mission – to develop knowledge about human and community development, disabilities and aging – can only be achieved by problem-driven collaborations across many disciplines.

The Life Span Institute’s 13 centers currently have 140 active programs and projects that constitute basic and applied research, training, direct services, consultation and technical assistance.

Last year, 40,000 Kansans benefited from the Institute’s direct services, training and technical assistance.

When
History

The Schiefelbusch Institute for Life Span Studies was established in 1990 when the distinguished 67-year-old Kansas Bureau of Child Research was joined with the Gerontology Center and other newer research groups to form one of the premier research institutes in the world on human and community development, disabilities and aging.

The Bureau was directed for 35 years by Richard L. Schiefelbusch for whom the Institute is named.

Dr. Schiefelbusch’s appointment to lead the Bureau in 1956 was the beginning of its modern era.

The Institute has had three directors, Stephen R. Schroeder, from 1990 until his retirement in 2001, Steven F. Warren, from 2000 to March 2008, when he was appointed Vice Provost for Research and Graduate Studies at KU, and John Colombo, who became the Institute’s third director in September 2008.

Where
Administrative and Research Locations

The Institute’s central office is in the Robert Dole Human Development Center at the University of Kansas in Lawrence with components at the John T. Stewart Children’s Center and Malott Hall. The Institute also operates in Kansas City at the Juniper Gardens Children’s Project, at the University of Kansas Medical Center’s Kansas Life Sciences Innovation Center and at the University of Kansas Edwards Campus. A major center is also located at the Life Span Institute in Parsons, Kansas.

Much of the work of the Institute is accomplished in and directly benefits underserved Kansas City neighborhoods and rural Kansas counties. Several projects are collaborations with researchers in other parts of the state, region, country and world, and are regional, national or international in scope.

How
Funding

The Life Span Institute attracts more combined federal, state and private dollars than any other designated research center at the University of Kansas, drawing $22.8 million in sponsored project support in FY 2007-08. Each state dollar brought in $7.4 external dollars this fiscal year.

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The Life Span Institute is the home of 146 investigators in the biobehavioral, social and educational sciences who oversee 140 externally funded projects. These projects support nationally and internationally renowned research and training on societally relevant issues across the life span, and allow for the provision of services to the citizens of the state of Kansas, our nation and our world.

Several fundamental metrics tell us that LSI investigators had their most productive year ever in 2008. This is a remarkable accomplishment for an organization with a history as long and productive as ours, but I think it is most important to consider that this feat has been achieved at a time of unmatched competition for federal research dollars. During the 1990s (when the National Institutes of Health’s budget was doubled), one in four grant applications was awarded funding. In recent years, NIH has funded as few as one in twelve. Our investigators have persevered, in spite of reductions in federal support and major rescissions in state funding, to usher in LSI’s most successful year to date.

The research endeavor remains a remarkably fragile and risky enterprise. LSI investigators know this—they truly live on the edge. The stakes they face are high: they must continually generate and maintain resources for staff, supplies, equipment and travel to conduct their work, and they do so with virtually no safety net. If they do not succeed, important work is not done and many lives are adversely affected.

But most often, they do succeed, and their success in carrying out this mission lies with their ability to live on another edge—the cutting edge of their scientific disciplines. They continually push the boundaries of progress and knowledge. They cannot idle or rest on their laurels—they must readily adapt and change. They must be agile, strategic, efficient, self-sufficient and doggedly entrepreneurial. The benefits of living on these edges are clear and undeniable: they are bestowed upon science, society and the University of Kansas community and its students, as well as the local and state economy.

As you peruse the LSI’s 2008 annual report, I hope that you will join me in commending our investigators’ hard work, tenacity and resourcefulness in attaining this level of achievement, and keep in mind the precarious nature of both their mission and their success.

John Colombo, Director The Schiefelbusch Institute for Life Span Studies
Changing of the guard: New LSI leadership

Warm Welcome to Colombo

John Colombo became the third director of the Life Span Institute, established in 1990, on September 29, 2008, after a nationwide search. He had served as LSI interim director since March 1 when Steven F. Warren advanced to the position of vice provost for research and graduate studies at KU. Colombo is a professor of psychology and was serving as the LSI's associate director for cognitive neuroscience before assuming the interim directorship.

Colombo is also a co-investigator and director of the Participant Recruitment Core of the Center for Biobehavioral Neuroscience in Communicative Disorders and the faculty chair of the Human Subjects Committee on the Lawrence campus. He has also served as KU's associate dean of the Graduate School and acting chair of the Department of Psychology. He joined the KU faculty in 1988 preceded by six years as a postdoctoral trainee and research associate.

On July 1 Colombo also accepted the co-directorship of the Kansas Intellectual and Developmental Disabilities Research Center, a major research component of the LSI for more than 40 years. Colombo replaces Peter Smith, professor of molecular and integrative physiology at the KU Medical Center. Smith replaced Warren as KIDDRC director on the same date.

Colombo’s research interests are in the developmental cognitive neuroscience of attention and learning in infancy and early childhood. His research on infant nutrition and cognitive development with Susan Carlson, professor of dietetics and nutrition, helped convince the two major U.S. infant-formula makers to add nutritional compounds present in mother's milk to their products. He has recently explored a possible marker of autism that could help identify children earlier. He currently holds, or is a key participant in, grants from the National Institute of Deafness and Communication Disorders, the Eunice Kennedy Shriver National Institute of Child Health and Human Development and the National Science Foundation.

Fond Farewell to Warren

Some still in a state of denial, LSI faculty, staff and students and others wished LSI Director Steven Warren success on his next challenge on February 26 at the Adams Alumni Center. Warren stepped down from his LSI post March 1 after eight years.

Warren had been handling two major administrative posts when interim vice provost for research and graduate studies was added to his responsibilities in July 2007. He was appointed the permanent vice provost on January 23.

He had returned to KU, his alma mater, in 1999 from Vanderbilt University, to became the KIDDRC and later, the LSI director in 2000. At Vanderbilt, he became internationally recognized for his contributions to understanding early communication, language development and intervention and the prevention of mental retardation. His scientific leadership, rare administrative acumen, buoyant optimism and clear vision steered the LSI to a new level of well-being and influence in the most competitive climate of its 50-year history.

Warren will continue as an LSI principal investigator on three major studies all funded by the Eunice Kennedy Shriver National Institute of Child Health and Development. Warren will also continue to be closely involved with the LSI in his vice provost role.
The Life Span Institute rolled out its thirteenth affiliated center in July to address a disability that, despite its increasing diagnosis, remains baffling to scientists and overwhelming to families.

The Kansas Center for Autism Research and Training (K-CART) will support research and training on the causes, nature and management of Autism Spectrum Disorders (ASD). These disorders affect more than 500,000 children in the United States and are more common than pediatric cancer, diabetes and AIDS combined. It is the first new LSI center since 2002 and signals KU’s intent to assume a leadership role in generating new scientific discoveries about ASD.

Created through private and public funds, the multidisciplinary center is directed by Debra Kamps, a nationally recognized autism researcher at the Juniper Gardens Children’s Project. Matthew Reese, a child psychologist and director of the Center for Child Health and Development at the KU Medical Center, will co-direct.

Truly a multi-campus initiative, K-CART will be headquartered at the Edwards Campus in Overland Park in a suite of offices made possible by Edwards Campus Vice Chancellor Bob Clark. The space includes offices and a resource center for parents, teachers and support staff serving children with autism and other disabilities. Clinical services will be offered at the KU Medical Center. More than 40 affiliated scientists and research-clinicians are involved across all three KU campuses.

K-CART has already launched an ambitious new training program for Kansas providers working with children who have ASD. Directed by Linda Heitzman-Powell, a researcher at Juniper Gardens and KUMC, the Autism Training Program (ATP) is geared to autism specialists, respite providers, family support providers and others working with individuals with ASD and their families. The ATP also is working with the Kansas Department of Social and Rehabilitation Services to train skilled providers for the state’s first Autism Waiver Program.

With more trained providers, Kansas families struggling with the effects of ASD will ultimately receive services where they need them most – their own homes and communities.
Community Conversations: Sharing science in public

The Life Span Institute inaugurated its new free public forum series, KU Life Span Institute Community Conversations, at the KU Edwards Campus in Kansas City on Tuesday, September 25, 2007.

Considering Autism introduced the newly formed bi-campus Work Group on Autism Research and Training to the public (now the Kansas Center for Autism Research and Training – see page 3).

The panel of KU researchers, physicians, parent and organizational advocates spoke to the overflow crowd about the foundation of autism research, the impetus for organizing the KU endeavor, and the prospects for future study, practitioner training and family support.

LSI Director Steve Warren (now the Vice Provost for Research and Graduate Studies) introduced the group and briefly recapped the long history of autism spectrum disorder research, training and treatment at KU that underlies this new initiative. Debra Kamps and Matthew Reese, director and co-director of K-CART, followed him. Kamps is a noted autism researcher at the LSI’s Juniper Gardens Children’s Project in Kansas City, Kansas, and Reese is a child psychologist and director of the Center for Child Health and Development at the Kansas University Medical Center (KUMC).

The other panelists were Judith Carta, parent and senior scientist, Juniper Garden’s Children’s Project; Susan Corrigan, research associate, KU School of Social Welfare; Mike Wasmer, director and co-founder, Kansas Coalition for Autism Legislation; Michele Kilo, section chief, Developmental and Behavioral Science, Children’s Mercy Hospital and co-founder of the Bi-State Autism Initiative and Susan Boylan, senior regional director–Midwest, Autism Speaks.

Following the presentations, the audience of parents, researchers and educators broke into small groups to discuss their concerns and pose questions individually to panel members. The event was supported in part by the Autism Society of the Heartland, Bill Robinson, president, and a group of parents led by Kirsten Sneid and her husband, Dr. David Sneid, her father and mother, Ralph and Shirley Fearon, Nancy Huerta, Drs. Stuart and Jodi Jackson, Dr. Robert and Anna Leitch, Harry and Madelyn McLear, and Mitch and Kim Morse.

The next Community Conversation at the Edwards campus on a frosty Saturday, February 23, brought together KU and KUMC experts on the other end of the life span. The Aging Brain—Use It or Lose It? was a panel presentation by KU scientists and clinicians who are exploring if and how we can preserve our mental abilities as we age. The panelists gave an overview of this relatively new area of research and helped separate the facts from common misconceptions followed by a lively question and answer session.

The panelists were Jeffrey Burns, M.D., director of the KU Alzheimer and Memory Program, KUMC, David Johnson, assistant professor of clinical psychology and assistant scientist, Distinguished Professor of Psychology Susan Kemper and senior scientist, LSI Gerontology Center, and Joan McDowd, associate director of research, Landon Center on Aging, and professor, occupational therapy education, KUMC. David Ekerdt, director of the LSI Gerontology Center and professor of sociology, moderated the panel.
A key group of Kansas legislators toured the Life Span Institute at the University of Kansas on January 22 to see first-hand how research is tackling critical issues related to child development, disability and aging. They were impressed. In a letter to her constituents, for example, Sen. Vicki Schmidt, Topeka, said that the Life Span Institute is “truly a jewel in our state.”

Scientists in gerontology, neurology, communication disorders and psychology presented their research to 16 members of the House and Senate. The tour was organized by the Life Span Institute and the Provost’s office to show how KU research in the neurosciences and related areas directly benefits the lives of Kansans.

Mabel Rice, Distinguished Professor of Speech-Language-Hearing, demonstrated a non-invasive method of measuring the brain activity that occurs while an individual is making sense of a spoken sentence. Legislators could touch the pulsing pacifier, the NTrainer, which was explained by its inventor, Steven Barlow, professor of speech-language-hearing and director of the Communication Neuroscience Laboratory. The device trains premature infants with no or poor sucking ability to rapidly learn to suck normally. Senior Scientist Sara Sack explained the accomplishments of her group to get assistive technology (wheelchairs, speech devices, ramps) to Kansans through regional centers, loan banks and low-cost loans.

A few brave legislators volunteered to be tested on following a moving object on a computer screen with a computer mouse while being questioned. The test, developed by Roy Roberts Distinguished Professor of Psychology Susan Kemper, is part of a study to determine how aging affects the ability to “multitask” – that is, to do more than one thing at a time. Finally, Assistant Professor of Psychology David Johnson invited legislators to examine the brains of people who died from Alzheimer’s disease as a way to explain his research of early preclinical markers of the disease.

Most, but not all, late-talking toddlers catch up

Good news for parents of late-talking children. The world’s largest study to date on language emergence has shown that 80 percent of children with language delays at age 2 will catch up by age 7.

Well, mostly good news. The same study also showed that for one in five late-talking toddlers, language delays persist.

The findings are part of a 10-year multiple-study research project directed by Mabel Rice, Fred and Virginia Merrill Distinguished Professor of Advanced Studies and director of LSI’s Center for Biobehavioral Neurosciences in Communication Disorders. Funding comes from the National Institute on Deafness and Other Communication Disorders and totals nearly $6 million.

Since 2002 Rice has worked with colleagues at Curtin University in Perth to study the language development of single-born and twin children in Western Australia. Their focus is children with Specific Language Impairment (SLI) to pinpoint possible environmental, neuro-developmental and genetic risk factors.

While most late-talking toddlers in their sample of 1766 children showed considerable resiliency, more intriguing is what happened to the boys.

“We know that two-year-old boys are three times as likely as girls to have a language delay,” Rice said. “But we found no differences between girls and boys by the age of 7.”

“Some kind of mechanism kicks in for the boys,” Rice said. “They have to learn language much faster than the girls to catch up. But at around age 7, the mechanism gets turned off, the boys don’t keep learning faster. Boys and girls stay on the same trajectory.” Rice said this is a fertile field for future research to learn what turns the language “maturation mechanisms” on and off.

But what about the one in five children whose language delays persist? Intervention and enrichment activities are essential, Rice urges.

A take-home point for parents: If your two-year old isn’t talking, it’s not your fault. The latest project supported earlier studies that a mother’s education, income, parenting style or mental health have no impact on a child’s likelihood of being a late talker.

The next phase of Rice’s research will focus on a possible genetic basis of SLI. Rice said, “If one out of five children were at risk for a medical condition, we’d really want to know more about it.”
As if things weren’t tough enough for premature babies who have tubes down their throats and noses to survive, once the tubes are removed, they are often unable to take nourishment orally—that is, suck.

But at Stormont-Vail Regional Medical Center 20 tube-fed preterm infants with respiratory distress syndrome (RDS) treated with the NTrainer™, a therapeutic instrumented pacifier patented by the University of Kansas, rapidly learned to suck far better and transitioned to bottle feeding faster than a control group of babies with RDS.

RDS is the seventh leading cause of death in infants younger than one year. In some cases, infants with RDS go home with gastric feeding tubes and don’t learn to take nourishment orally for months or even years.

If babies with RDS could be stimulated to suck and then to bottle or breast feed better and earlier, they could go home sooner, potentially saving up to $30,000 a week in medical costs.

But more fundamentally, NTrainer treatment might also prevent and treat developmental problems. It is this possibility that has driven Steven Barlow, professor of speech-language-hearing neuroscience, for much of his career developing and testing the NTrainer and its companion technology, the Actifier.

Barlow hypothesizes that if the NTrainer can stimulate a brain network known as the suck central pattern generator with normal sucking patterns at the right time, development can proceed more normally for RDS infants and those with bronchopulmonary dysplasia, Down syndrome and very low birthweight preemies at risk for neurologic damage.

The NTrainer device powers a Soothie™ silicone pacifier with a computer-controlled air pump to transform the nipple into a dynamically patterned pulsing touch stimulus on the infant’s lips and tongue. Modeled on the burst-pause suck dynamics of healthy preterm infants, the NTrainer teaches babies the correct pattern of “non-nutritive suck”—what babies normally do in the womb beginning as early as the second trimester.

“Some neonatologists suggest that non-nutritive suck is a window into the development of the central nervous system,” said Barlow. “The NTrainer system is the first objective physiologically-based tool that gives the physician and nurse almost instant feedback about the infant’s oromotor system through the assessment of non-nutritive suck.”

Barlow will soon have the chance to further test his theory. A newly funded $2.6 million clinical trial funded by the National Institutes of Health will begin in the fall of 2008 and continue over the next five years at Stormont-Vail Regional Medical Center and Overland Park Regional Medical Center. This comprehensive study will examine the effects of early NTrainer intervention on the development of feeding skills, fine motor skills, brain development, and the acquisition of speech and language of 240 premature infants followed longitudinally until 3 years of age.
She wouldn’t describe it as an “ah-ha” moment as depicted in the movie, *The Miracle Worker,* when Annie Sullivan finally makes Helen Keller understand that the word she is spelling in Helen’s hand means water. But Nancy Brady, who with Susan Bashinski, developed a successful gesture-based communication strategy for children with deaf-blindness witnessed many quieter but nevertheless deeply gratifying moments.

Brady, assistant professor of speech-language-hearing, and Bashinski, Life Span Institute research assistant professor, are concluding a five-year Department of Education-funded study of nine Kansas children aged 3 to 7 with varying degrees of deafness and blindness. Deaf-blindness is a rare and severe disability affecting only about 12,000 children and youth nationwide and 134 identified in Kansas.

The strategy was adapted from Prelinguistic Milieu Teaching, an intervention that increases communication – gestures and vocalizations – in children with cognitive disabilities. PMT, and the adapted version developed for the study, are based in part on the way typically developing infants learn to communicate.

Brady, Bashinski and team targeted gestures that would be the most functional for children and easily understood by others such as reaching toward something with an open palm. Even such a seemingly natural and obvious requesting gesture had to be taught through a painstaking and individualized process of mostly hand-under-hand prompting using turn-taking with favorite toys.

By the end of the intervention, all nine children had substantially increased their rates of initiated, intentional communication. In addition, new forms of natural gestures were acquired during the course of the intervention.

One child who communicated only once in 40 minutes at the beginning of the study was communicating more than 40 times during this same time period by the end of the intervention.

“It was neat to see that glimmer when the children realized that what they did had a reliable effect on their environment. That is really the whole point of communication,” said Brady.

Brady and Bashinski believe that the gesture-based communication method has great promise and deserves more research, but a practitioner could learn to use it now.

“Speech therapists want something they can take back to the classroom now, not just a lot of theory. They are desperate for anything that works.”

Susan Bashinski  
Nancy Brady
Few things are as important in a baby's first year of life as nutrition—that's a given. But new research also shows that even small amounts of a dietary supplement spur faster cognitive development and improved cardiovascular health in infants.

Collaborative research conducted by John Colombo, director of the Life Span Institute and professor of psychology in Lawrence, and Susan Carlson, A.J. Rice Professor of Dietetics and Nutrition at the KU Medical Center, has shown that infants born to mothers with high blood levels of docosahexaenoic acid (DHA) had improved attention throughout the first two years of life. But in 2008, Colombo, Carlson and their interdisciplinary research team reported a new finding: infants who were supplemented with DHA during the first year of life also showed an improvement in attention during the first year.

DHA is an omega-3 fatty acid that accumulates during the last two trimesters of pregnancy and is transferred from mother to baby. DHA affects brain and eye development and its presence in the central nervous system is thought to be important to cognitive functioning throughout the life span.

Since the 1990s, Colombo and Carlson have studied the connection between DHA and cognitive development. They have collaborated on a major industry-funded randomized clinical trial of postnatal supplementation since 2003, and in 2006 they received a $2.1 million, five-year grant from the National Institutes of Health to support another randomized clinical trial of the effects of prenatal supplementation with DHA. Although results from the NIH study won’t be known for some time, findings from the postnatal trial are beginning to emerge. Infants with varying amounts of the DHA supplement all showed improvements in physiological and behavioral measures of attention across the first nine months of life.

Other big news coming out of the study suggests cardiovascular benefits for infants as well. With DHA, the researchers produced what Colombo called “a very powerful effect” on infants’ heart rate measured during a cognitive task.

“DHA supplementation clearly lowered infants’ overall heart rate,” Colombo said. “There have been hints in the scientific literature that fish oil—one of the main dietary sources of long-chain polyunsaturated fatty acids—can lower heart rates in adults and children. Our study was the first to establish this in an experimental clinical trial with infants and the first that allows us to conclude that the effect is due to DHA.”

Colombo and Carlson will follow the infants in the study to age six to determine if lowering an infant’s heart rate affects overall health and body characteristics and whether improving attention improves behavioral outcomes.
Welcome to the LSI brain trust: Introducing David K. Johnson

Cognitive decline is not part of healthy aging. That’s according to Assistant Professor David K. Johnson, a new faculty recruit to the KU Life Span Institute’s Gerontology Center and the Department of Psychology.

Johnson is well qualified to make assertions about aging and dementia. He is a clinical psychologist, researcher and scientist with specializations in gerontology and neuropsychology.

Johnson, who came to KU from Washington University in St. Louis in 2007, jumped at the chance to join the university faculty.

“It was the intersection of a great Gerontology Center, a world-class Psychology Department and that I would get a chance to work closely with a great colleague like Jeff Burns at KUMC who is starting a longitudinal program on intervention in Alzheimer’s and related dementias.”

At Washington University, Johnson and Burns studied and published together. Burns is now director of the Alzheimer and Memory Program and assistant professor of neurology. Burns made headlines in 2008 based on findings suggesting that cardiovascular fitness might delay the course of Alzheimer’s disease.

Johnson is eager to continue his collaboration with Burns to probe this possibility through the KU Brain Aging Project. Modeled on a Washington University long-term study of aging, the KU study will focus on cardiovascular fitness and brain health—one of the only studies in the country to do that.

Johnson has had a major role in several discoveries about aging including:

- That weight loss often precedes the first clinical signs of dementia by about a year
- That there are personality traits that distinguish dementia with Lewy bodies from Alzheimer’s disease
- That there are unique profiles of cognitive decline for Alzheimer’s disease, Parkinson’s disease with and without dementia and nondemented aging.

All dementias are marked by a preclinical phase before diagnosis—between two and six years, Johnson explained. “I’ve become convinced that elements of disease start in late midlife. Having preventative strategies for people in midlife will be critical to arresting the disease process.”

Johnson is also passionate about helping the unsung heroes—the caregivers of people with dementia. He will be collaborating with Cynthia Teel, associate professor at the School of Nursing, in assessing a telemedicine intervention for caregivers that has promise for underserved parts of Kansas.

Above all, Johnson is an implacable enemy of Alzheimer’s disease. “I want to find as many early signs of Alzheimer’s as possible whether it is cognition, personality, weight, or changes in the brain or cerebral spinal fluid. We want to grab as many handles as we can because the disease has taken us for a ride.”
After two consecutive years of reduced awards, the Life Span Institute (LSI) had its most successful year in overall funding ever in 2008. The number of awards increased from 98 to 114, and overall funding increased by $4.7 million from $18.1 million in 2007 to $22.8 million in 2008. This represents an increase of 26 percent over the prior year. This strong showing was due to continued funding of 71 previous awards and 43 new awards. This achievement occurred in spite of the decline in federal research funding for health and education that has been ongoing for several years.

Awards from the National Institutes of Health increased from $7.4 million to $9.5 million in the past year based on 39 awards, 14 of which were new to KU. Awards from the U.S. Department of Education increased from $5.5 million to $8.4 million based on 31 total awards, 11 of which were new. Another $1 million in funding came from the U.S. Department of Health and Human Services. Federal awards account for 83 percent of the Institute’s overall external funding. State of Kansas contracts totaled nearly $3 million this past year with 21 awards, 8 of which were new.

The LSI remains the largest designated research center at KU in terms of combined federal, state and private dollars. The LSI continues to leverage external funding at an impressive rate. In 1990, LSI returned $3.30 on every dollar the State of Kansas invested in the Institute. In 2008, every State of Kansas dollar invested in LSI yielded more than $7.00 in external awards.
The Life Span Institute at Parsons
For approximately 50 years, the University of Kansas has maintained research, service and training programs housed on the campus of the Parsons State Hospital, including a major component of the Kansas University Center on Developmental Disabilities. This LSI Center, located in rural southeast Kansas, currently has research addressing early literacy and reading, maladaptive/challenging behavior and program evaluation strategies. Additionally, this program has provided significant service and training across the State of Kansas addressing the assistive technology needs of Kansans, early intervention and early childhood and training for community organizations and agencies serving persons with developmental disabilities.

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Juniper Gardens Children’s Project
The Juniper Gardens Children’s Project began in 1964 when citizens from the northeast Kansas City, Kansas neighborhood joined with faculty from the University of Kansas to devise solutions to specific problems in educational achievement and parenting in that low-income community. The Project has grown over the years from a small, community-based research initiative housed in the basement of a liquor store to a unique, internationally recognized research center that includes multiple community sites, projects and investigators. The Project is particularly recognized for its contributions to the development of effective approaches for accelerating learning and reducing classroom conduct problems in both special and general education. In 1996 JGCP was given the Research Award of the International Council for Exceptional Children in recognition of its outstanding research contributions.

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Kansas Intellectual and Developmental Disabilities Research Center
The KIDDRC has been continuously funded by a core grant from the National Institute of Health and Human Development for more than 40 years. Throughout its history, the KIDDRC has played a major international role in generating highly effective behavioral interventions aimed at the causes, prevention and treatment of developmental disabilities and related secondary conditions, and in delineating basic knowledge of the underlying biology of typical and atypical development. The Center spans the KU-Lawrence and Kansas University Medical Center campuses as well as the Juniper Gardens Children’s Project and the Life Span Institute at Parsons. It serves as a model of interdisciplinary collaboration across campuses and disciplines.

Peter Smith, Ph.D., Director
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Kansas University Center on Developmental Disabilities
More than 35 years ago, as the Life Span Institute’s research on developmental disabilities took root, efforts began to translate this research into practice through what is now known as the Kansas University Center on Developmental Disabilities (KUCDD). Virtually all of the Life Span Institute’s direct service, technical assistance and post-doctoral, pre- and in-service training are associated with KUCDD. These include clinics to diagnose and treat children with disabilities, a statewide project that provides assistive technology to people with disabilities and their families, and training child care providers and social workers to support individuals with disabilities. In addition, investigators affiliated with the KUCDD conduct research that has state, national and international impact in areas like self-determination, positive behavior supports, inclusive educational practices, early childhood education, community and workplace supports, family systems and supports, and other areas critical to the lives of people with developmental disabilities and their families.

Michael L. Wehmeyer, Ph.D., FAAIDD, Executive Director, KUCDD and Director, KUCDD-Lawrence Site
Glen White, Ph.D., Associate Director, KUCDD
R. Matthew Reese, Ph.D., Director, KUCDD-Kansas City Site
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Research and Training Center on Independent Living
The Research and Training Center on Independent Living (RTC/IL) has a 25-year history of productive research, comprehensive training and innovative dissemination of knowledge. The RTC/IL was conceived as a center without walls that would do what was necessary to enhance the Independent Living field and the lives of individuals with disabilities. In this synergistic environment, persons with disabilities, researchers, trainers and policy makers have worked to produce much more than they could have as individuals or groups.

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Child Language Doctoral Program
The Child Language Doctoral Program was established in 1983 as the first specialized degree program in the emerging field of child language acquisition. The program focuses on the interdisciplinary academic preparation and research training of child language specialists. The internationally recognized faculty bring diverse approaches to the study of how children communicate and speak. The program offers students a wide choice of research tools, facilities and field sites including the Child Language Acquisition Studies Lab that has the largest known archive of transcribed spontaneous samples from preschool children diagnosed as receptive/expressive specific language impaired. Research sites and practica are provided by the Life Span Institute, the Language Acquisition Preschool, and the clinical and research facilities of the Speech-Language-Hearing Clinic.

Mabel L. Rice, Ph.D., Director
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Beach Center on Disability
Through excellence in research, training, and technical assistance and public service in Kansas, the nation and the world, the Beach Center on Disability seeks to make a significant and sustainable difference in the quality of life of families and individuals affected by disability. Research focuses on access to the general curriculum, assistive technology, deaf-blindness, disability policy, employment, family supports and services in early childhood, family quality of life, individual control of funding, positive behavior support, and self-determination. The Beach Center also engages in extensive web-based dissemination of its research. Founded in 1988 by KU Special Education Professors Ann and Rud Turnbull, the Beach Center honors Ross and Marianna Beach for their long-standing efforts on behalf of families affected by disability.

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beachcenter.org

Gerontology Center
The Gerontology Center’s affiliation with the Bureau of Child Research in 1990 paved the way for an extended research agenda of the newly formed Life Span Institute. Center researchers are interested in all areas of aging, but are distinguished by seminal research in cognition, communication and aging, family and caregiving, and decision making in later life. The Center coordinates an interdisciplinary graduate certificate program in gerontology for students enrolled in any master’s or doctoral program at the University as well as a multidisciplinary graduate program that offers both masters and doctoral degrees in gerontology.

David J. Ekerdt, Ph.D., Director
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gerontology.ku.edu

Merrill Advanced Studies Center
The Merrill Advanced Studies Center, founded in 1990 with an endowment from Virginia Urban Merrill and Fred Merrill, is a catalyst for scholarship on disabilities and policies that shape university research. Merrill conferences and publications establish new directions and build collaborative projects in both science and policy. World-class experts often meet as a group for the first time at Merrill conferences and go on to develop national projects that answer key questions in science. The Center publishes books on topics relevant to developmental disabilities and makes policy papers available online and in print. The Merrill web site at KU has fact sheets and discussions on science and policy for the general public.

Mabel L. Rice, Ph.D., Director
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Work Group for Community Health and Development
The mission of the KU Work Group is to promote community health and development through collaborative research, teaching and public service. Established in 1975 and joining LSI in 1990, it has developed widely used methods for participatory action research and for building capacity for community work, including the Community Tool Box. The KU Work Group was designated as a World Health Organization Collaborating Centre at KU in 2004.

Stephen B. Fawcett, Ph.D., Director
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Center for Physical Activity and Weight Management
The Center for Physical Activity and Weight Management joined the Institute in 2001 and supports research, training and clinics for weight loss and weight maintenance. The Center is interested in the metabolic syndrome, abnormal values for blood lipids, glucose, insulin and blood pressure that accompany overweight and obesity. The Center also has a major effort aimed at preventing overweight and obesity in children by increasing physical activity and reducing high fat, energy dense foods in elementary schools. The Center’s Energy Balance Laboratory features a whole-room indirect calorimeter that measures energy expenditure precisely under a variety of experimental conditions.

Joseph E. Donnelly, Ed.D., Director
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Biobehavioral Neurosciences in Communication Disorders Center
The Biobehavioral Neurosciences in Communication Disorders Center (BNCD) joined the Life Span Institute in 2002 when the National Institute on Deafness and Other Communication Disorders awarded a core grant to establish the center. The BNCD is a natural outgrowth of the Life Span Institute’s long-standing focus on communication and language development and intervention. The BNCD’s research spans a wide range of issues relevant to the causes and treatment of communication disorders from infancy to old age including studies on infant attention, the genetics of language impairments, language intervention and the decline of working memory in old age as reflected in speech.

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Kansas Center for Autism Research and Training
The Kansas Center for Autism Research and Training (K-CART), established in 2008 with private and public funds, is a multidisciplinary center that promotes research and training on the causes, nature and management of Autism Spectrum Disorders (ASD). Committed to the highest standards of scientific rigor, K-CART generates new scientific discoveries about ASD, disseminates research-based practices by training professionals, practitioners and families who serve children and adults with autism and provides clinical services through the Center for Child Health and Development at the University of Kansas Medical Center.

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