

MINUTES OF A JOINT MEETING OF THE HOUSE COMMITTEE ON APPROPRIATIONS AND
SENATE WAYS AND MEANS

The meeting was called to order by Chairman Kenny Wilk at 9:05 a.m. on March 5, 2001, in Room 313-S of the Capitol.

All members of the House Appropriations Committee were present.

Committee staff present: Alan Conroy, Legislative Research
Rae Anne Davis, Legislative Research
Debra Hollon, Legislative Research
Amy Kramer, Legislative Research
Mike Corrigan, Revisor of Statutes
Nikki Feuerborn, Committee Secretary

Conferees appearing before the committee: U.S. Senator Pat Roberts
K. Michael Welch, M.D., Vice Chancellor for Research,
KUMC, President of Research Institute, KUMC
William B. Neaves, Ph.D., President and CEO, Stowers
Institute for Medical Research

Others attending: ~~XXXXXXXXXX~~

Attachments of the presentations of the Joint Committee meeting are as follows:

U.S. Senator Pat Roberts (Attachment 1).

K. Michael Welch, M.D., Vice Chancellor for Research, KUMC, President of Research Institute, KUMC
(Attachment 2).

William B. Neaves, Ph.D., President and CEO, Stowers Institute for Medical Research (Attachment 3)

Kansas City Area Life Sciences Institute, Inc., (Attachment 4) is on file with Kansas Legislative Research
Department.

The meeting adjourned at 10:30 a.m. The next meeting is scheduled for Tuesday, March 6, 2001.

NEWS RELEASE
Pat Roberts

UNITED STATES SENATOR ■ KANSAS



CONTACT: Betsy Holahan (202) 224-4774

FOR IMMEDIATE RELEASE

March 5, 2001

Senator Roberts Tells Legislature: Research is Critical to the Kansas Economy

TOPEKA, KS — U.S. Senator Pat Roberts today emphasized to the Kansas State Legislature that the state's future economy will depend on the development of new technological research sectors.

"I believe strongly in the need for science and technology research as a tool to improve the quality of life for all Kansans and to ensure that Kansas is able to compete in a tough, competitive world," said Senator Roberts to a joint meeting of the House Appropriations Committee and Senate Ways and Means Committee.

"Kansas is one of several states that posted higher rates of tech job growth than California, growing 53 percent between 1993-1998," he said. "The average high-tech Kansas salary is nearly \$47,000, compared to the average private sector wage of \$27,000. The number of high tech jobs in Kansas is now greater than those of food products and aircraft."

Senator Roberts in 1996 established a blue-ribbon Advisory Committee on Science, Technology and the Future to advise him on Kansas' technology needs. "According to the Committee, Kansas' economy demands technological transformation. While agriculture, aviation, energy and manufacturing will remain industrial staples, Kansas must make a substantial research investment in biotechnology, information technology and materials so they become new and reliable economic sectors in the state."

Senator Roberts praised efforts by Kansas state research universities to win federal research dollars, but expressed concern about Kansas' ability to continue to compete for federal support for infrastructure and faculty.

"If the University of Kansas, K-State and Wichita State University were combined into a single institution, the federal research dollars they receive would rank the combination only 58th among all American universities," he said. "Kansas' research infrastructure is aging and lags behind that of other states. As a result, Kansas is being knocked out of the running for federal funds we should be getting because we don't have the facilities to do

HOUSE APPROPRIATIONS

DATE 3/5/01

ATTACHMENT #1

Senator Roberts, a long-time advocate of investment in science, technology research and education, cited examples of other states that are moving quickly to prioritize research:

- California — \$300 million in state funding for three Institutes for Science and Innovation
- Ohio — \$500 million of Ohio's tobacco settlement money for biomedical research
- Georgia — \$25-\$40 million annually as its share toward the Georgia Research Alliance
- Illinois — \$3.9 billion in technology-related infrastructure improvements

Senator Roberts applauded efforts by KU, the Stowers Institute and other research facilities in the Kansas City area that will make Kansas and Missouri a national center for health research and development.

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kslegislature.pr

Senator Pat Roberts
KS Legislature/Appropriations Cmte Joint Meeting
March 5, 2001
Topeka, KS

Mr. Chairmen, distinguished Members of the House and Senate Appropriations Committees: I appreciate the opportunity to join you to discuss the importance of research, high technology and higher education in Kansas.

My first job is to provide a strong disclaimer. I know you are in a tight budget situation and that dollars for needed state programs are scarce. Additionally, it is not the job of a U.S. Senator to tell you how to do your jobs in Topeka. I advocate neither a timetable nor specific spending. Those reside in your pasture. I seek only to highlight a critical need as we work together to make Kansas competitive in the new century.

I hope you will take my remarks in that context.

I believe strongly in the need for science and technology research as a tool to improve the quality of life for all Kansans and to ensure that Kansas is able to compete in a tough, competitive world.

Research enriches Kansas.

Research makes our economy stronger.

Research builds a better quality of life for our citizens.

Four years ago, I established an advisory committee on technology and the future. It is made up of Kansans from the business, academic and government communities who volunteered to advise me on science and technology and how we in Kansas can leverage research into economic prosperity.

This is a blue-ribbon group of respected academics and successful business men and women.

The work of these folks is incredible. Not only did they refocus and highlight the importance of research to Kansas, they created a statewide networking environment that is beneficial to business and the universities.

My advisory committee identified seven science and technology areas as strategic to Kansas' future: biotechnology, agriculture, aviation, information technology, energy, manufacturing, and materials science.

Their bottom-line recommendation is that Kansas' economy demands technological transformation.

Agriculture, aviation, energy and manufacturing will remain industrial staples.

But this is a new age. Kansas must make a substantial research investment in biotechnology, information technology, and materials so they become new and reliable economic sectors.

A thorough plan that focuses on these seven research fields over several years can benefit Kansas, not only in jobs, but quality of life.

Kansas has awakened to the importance that technology diversifies and strengthens our state's economy. Last year, the *San Jose (California) Mercury News* reported that Kansas is one of several states that posted higher rates of tech job growth than California. From 1993 to 1998, Kansas' rate of high-tech job growth was an astounding 53 percent.

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Part of that growth reflects the fact Kansas started from few high tech jobs. But it underscores how rapidly we are moving toward a new economy.

The average high-tech Kansas salary is nearly \$47,000, compared to the average private sector wage of \$27,000. In those five years, almost identical to the growth of the Internet, the number of Kansas high technology jobs surpassed mature Kansas industries of food products and aircraft.

The positive trends of Kansas high-tech job growth and investment are the domain of the private sector. Still, Kansas must also contribute.

Research programs cannot be expected to produce short term results. Look at pharmaceutical research. It often takes over 10 years and millions of dollars of research and testing before FDA approves a new drug.

Providing a top notch research environment is a partnership between the state, the federal government and the private sector.

Federal funds primarily are directed to programs, with state and private dollars providing the bricks and mortar.

Kansas has done well in attracting federal research dollars. We must do more, just to keep up with other states.

Congress last year appropriated \$21.2 billion in federal basic research funding for more than 10 agencies.

This is money that flows to research universities like K-State, KU and Wichita State mainly through competition. That is, the university with the most meritorious proposal wins the money. It is based on merit, expertise and peer review. A university cannot win the money unless it has the facilities and faculty to do the research.

We salute Kansas State University for exceeding \$100 million for the first time in research funding-- a grand total of \$112 million in research grants for 2000. External competitive funding for faculty research increased from \$58 million in 1999 to \$72 million in 2000.

The University of Kansas also deserves commendation: \$192 million in federal research grants, a 13 percent increase from 1999. One of these grants is substantial; a \$9.9 million National Institutes of Health grant to fight cancer. KU's partners include K-State, Emporia State University and the Medical Center.

Wichita State demonstrates its excellence by continuing its success in seven years' of consecutive increases in research funding with \$30.3 million in research funding in 2000.

While the federal focus is on these PhD-producing universities, other Kansas universities are competitive to a lesser degree for research dollars.

For example, the Kansas Polymer Research Center at Pittsburg State University recently won more than \$2 million in grants directed to the commercialization for a vegetable oil based poly material.

Think about this:

- * For every \$1 million in university research funding, 41 jobs are created.
- * Every dollar invested in research generates an additional \$4 for the state economy.
- * For every dollar invested in research, \$14 in benefits is created.

Leveraging more state resources can continue Kansas' positive trend of securing more competitive research funding and increasing the multiple economic benefits that Kansans will receive.

The vast majority of research dollars will continue to flow through the competitive pipeline.

Congress also occasionally directly appropriates research money. This acts as a sort of check and balance to the competitive grants, which historically have been weighted to schools on the East and West Coasts.

I have worked hard to make sure Kansas gets its share of these direct appropriations for its nationally recognized research institutions. We can point to major successes:

The Legislature last year provided \$1 million for a new brain imaging center at the KU Med Center. This is a tremendous state investment. I secured a \$1.8 million appropriation last year from Congress. This effort, combined with Forrest Hogle's generous gift of \$7 million gives Kansas a medical research resource that may well lead to cures or treatments of autism, strokes, Alzheimer's disease and Parkinson's disease.

Kansas State University is a national agricultural research leader. K-State's reputation allowed me to designate it as the leader of a \$15 million national research consortium investigating how agriculture absorbs carbon dioxide.

The National Institute of Aviation Research at Wichita State University is a critical research resource. We have been able to direct \$10 million in FAA funding for the Institute to carry out important aviation research. I also guided a \$1 million grant for an Air Force Anti-Corrosion research initiative to the Institute.

Over the past four years, we have been able to direct more than \$40 million in special research funding from Congress to Kansas to supplement competitive grants.

Supplemental federal funds that we in the congressional delegation secure are intended as a kind of bootstrap for researchers, giving them seed money on which to build competitive research projects.

But here is the looming problem Kansas faces:

Our state's science, engineering and technology research infrastructure is aging.

It lags seriously behind other states.

Kansas is being knocked out of the running for federal funds we should be getting because we don't have the facilities to do the job.

Think of it this way:

If KU, K-State and WSU were combined into a single institution, the federal research dollars they receive still would rank the combination only 58th among all American universities.

I urge you to take a look at the figures clearly showing Kansas slipping in terms of support for both bricks and mortar and resources for faculty.

The figures are alarming.

Change in our time, both good and bad, occurs rapidly. If we do not act, soon, Kansas has little hope of participating in an economy based on technological innovation.

I know that you have been briefed how other progressive states are quickly elevating research programs but they need to be repeated.

- California--\$300 million in state funding for three Institutes for Science and Innovation.
- Ohio--\$500 million of Ohio's tobacco settlement money for biomedical research.
- Georgia--\$25 million to \$40 million annually as its share toward the Georgia Research Alliance.
- Illinois-- \$3.9 billion in technology-related infrastructure improvements.

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Kansans agree on the benefits of university research. They clearly see the link between strong research programs and a high quality of life. A recent Kansas poll reveals nine out of 10 Kansans believe it is important to support research at state universities. More than 90 percent believe that such research is vital to the state's economy and that Kansas should continue to provide state funding for these efforts.

Kansans also emphasized the importance of health and medical research — 96 percent say it is important that Kansas become a leader in that research field.

We are responding to this public sentiment by building a competitive edge in life sciences. As Dr. Welch and Dr. Neaves will tell you, the combination of the KU Med Center, the Stowers Institute and Midwest Research Institute, and Children's Mercy Hospital not only is a supercharged economic development engine, it will improve health care for all Kansans.

Kansans will have access to the newest medical equipment, the latest life saving research technology, drug therapies, and better telemedicine connections.

It is not an overstatement to predict that Kansas and Missouri are on the brink of becoming a world-class center for health care research and development.

The benefits are limitless.

Mr. Chairmen and members of the Committee, research is important. Every federal and state dollar spent today will pay economic and social dividends many times over in coming years.

I, for one, am optimistic.

Kansas has a long history of progressive views of higher education and innovation and the energy to run ideas into action.

Our job ahead is not easy. It requires courage, hard work and leadership. I pledge my support for your efforts.

A renewed commitment today to our institutions of higher education and especially to science, engineering and technology research is a commitment to our state's future.

I can think of no better legacy that we can leave to Kansas new century.

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K. Michael Welch, M.D.

*Vice Chancellor for Research, KUMC
The University of Kansas Medical Center, Kansas City, Kansas.
President, Research Institute, University of Kansas Medical Center*

As of July 1, 1999, Dr. Welch has taken on the role of Vice Chancellor for Research and President, Research Institute, at the University of Kansas Medical Center. Dr. Welch joined KUMC in 1998 as Senior Associate Dean for Research and Graduate Studies in the School of Medicine. For the previous 15 years, Dr. Welch was founding Chair of Neurology at Henry Ford Health System where as Vice President for Academic Affairs he founded the Health Sciences Center. He was principal investigator and founder of two NIH funded Research Centers, Stroke and Headache, at the Health Sciences Center. Dr. Welch has served on standing and special scientific and training review committees for NINDS and other agencies. He was also the medical coordinator of the NINDS-sponsored t-PA Stroke Trial, the first study to establish effective treatment for acute stroke. Dr. Welch was a founding member and past president of the International Headache Society. Currently, Dr. Welch continues as principal investigator of a center grant from NIH for migraine research. He was the Editor-in-Chief of *Cephalalgia*, the official journal of the International Headache Society for seven years, and is currently Editor-in-Chief of the *Journal of Stroke and Cerebrovascular Disease*, the official journal of the National Stroke Association.

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DATE 3/5/01
ATTACHMENT # 2

William Barlow Neaves

Effective June 15, 2000, William B. Neaves was appointed President and Chief Executive Officer of the Stowers Institute for Medical Research in Kansas City, Mo. Prior to joining the Institute, he served in various positions at the University of Texas Southwestern Medical Center at Dallas, including most recently as Executive Vice President for Academic Affairs, Professor of Cell Biology, and holder of the Doris and Bryan Wildenthal Distinguished Chair in Biomedical Science.

He was born in Spur, Texas in 1943 and graduated from Spur High School in 1962. He received an A.B. magna cum laude with highest honors in Biology from Harvard College in 1966 and a Ph.D. in Anatomy from Harvard University in 1969. From January 1970 to December 1971, he was a Research Fellow in Anatomy at Harvard Medical School, a Lecturer in Veterinary Anatomy at The University of Nairobi, and the recipient of a Rockefeller Foundation Fellowship.

Following service as a Lecturer in Anatomy at Harvard Medical School early in 1972, he joined the faculty of Southwestern Medical School at The University of Texas Southwestern Medical Center at Dallas where he continued his work in reproductive endocrinology and taught freshman medical students and graduate students. He received outstanding teaching awards from the medical students while directing the Anatomy teaching program at Southwestern from 1975 to 1978. In 1983, he received the Young Andrologist Award of the American Society of Andrology for research contributions to the biology of reproduction. He was elected a Fellow of the American Association for the Advancement of Science in 1991 in recognition of his studies of cells that produce steroid hormones. Besides numerous book chapters and abstracts, he has published more than sixty peer-reviewed journal articles describing the results of his research funded by grants from the National Institutes of Health and the Population Council.

In 1980, he was appointed Dean of Southwestern Graduate School of Biomedical Sciences. In addition to administrative responsibility for basic science research and graduate education as Dean of Southwestern Graduate School, he became Interim Dean of Southwestern Medical School in 1986. In September, 1989, he was appointed Dean of Southwestern Medical School, the position he held until July 1998 when he was appointed Executive Vice President for Academic Affairs. In the latter position, he was responsible for the three component schools of the Medical Center and served as the institution's chief academic officer.

While at Southwestern Medical Center, he served as Associate Editor of the Anatomical Record; member of the Editorial Board of Biology of Reproduction; member of the editorial board of the Journal of Andrology; member of the Executive Council of the American Society of Andrology; member, and more recently, co-Chair of the Liaison Committee on Medical Education, the accreditation authority for U.S. medical schools; member of the Board of Directors of the Sarnoff Endowment; member of the Board of Directors and Vice President of the Damon Runyon – Walter Winchell Cancer Research Fund; member of the Advisory Committee on Research Programs of the Texas Higher Education Coordinating Board; member of the Health Professions Education Advisory Committee of the Texas Higher Education Coordinating Board; Chairman of the Dallas Mayor's Biotechnology Task Force Scientific Advisory Board; member of the City of Dallas/Dallas Chamber Business Development Delegations to Thailand, Hong Kong, China, Taiwan, Korea, Japan, Israel, South Africa, New Zealand, Australia and Spain; member of the Greater Dallas Community of Churches/Parkland Hospital Pastoral Care Committee; member of the Linz Award Committee; member of the Dallas Assembly; member of the board of directors of the Dallas Zoological Society; member of the Advisory Board of the Dallas Museum of Natural History; and advisor to the Stowers Institute for Medical Research.

In addition to his new role as President of the Stowers Institute, he serves as a member of the Kansas City Area Development Council, the Kansas City Life Sciences Institute, and the University of Kansas City Trustees.

Why Support Life Sciences Research in Kansas Universities

Supporting biomedical research will

- Generate discoveries that will be translated into new ways to diagnose and treat disease in Kansans
- Attract better students to Kansas universities
- Create biotechnology and business opportunities for Kansas

- The Commerce Department estimates that every research dollar awarded to a university generates an additional \$4 for the state economy.
- Every \$1 million in university research creates 41 jobs for Kansas.
- Investing money in Kansas universities will help leverage more of the \$21 billion National Institutes of Health funding.
- Historically, technologies developed in *academia* have been instrumental in spawning new industries, improving productivity and creating new businesses and jobs.

Research from North American universities FY99

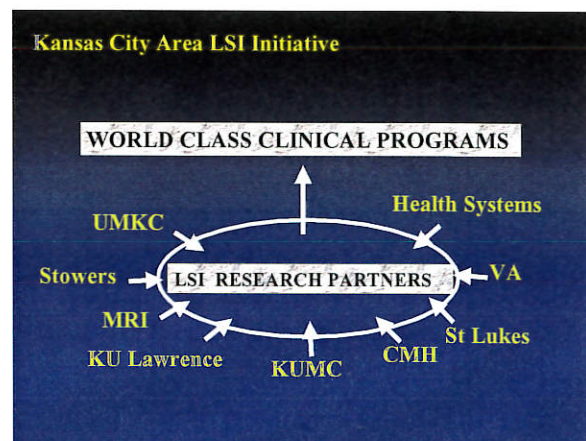
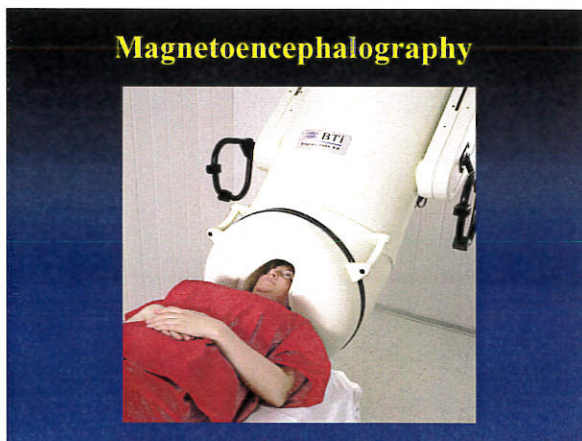
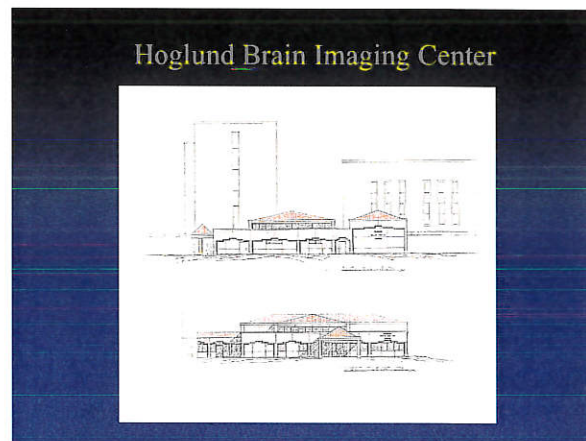
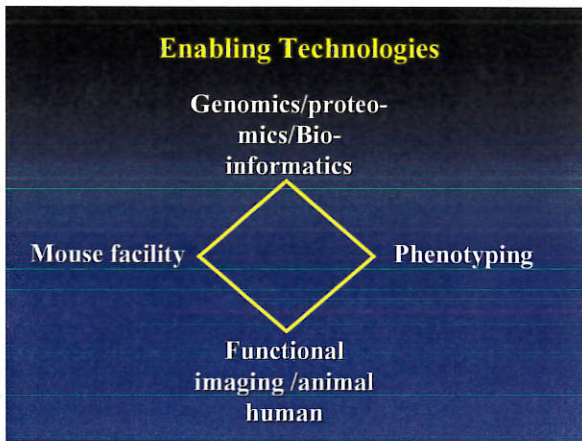
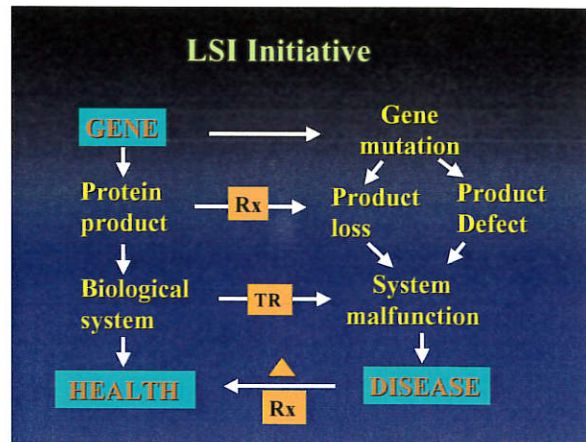
- Introduced more than 417 new products
- Produced 3,914 new licenses and options
- Represented \$40.9 billion in economic activity from licenses
- Supported 270,900 jobs from licensing activity

- Since 1980, 2,922 new companies formed based on licensing from an academic institution in North America.

- 344 new companies formed based on an academic discovery in FY99 -- 82% of them in the state of the institution that licensed the technology.

Proteomics

- The next science after the genome project
- The study of proteins in health and disease
- Holds the best potential for treating disease
- A billion dollar industry worldwide
- Revenues expected to increase several-fold in next five years



K-BRIN January 8, 2001 Grant Discussion

Left to Right: Virginia Rader, FSU; Ted Kuwana, KU; Skip Laper, WSU; Meredith Potter, KU-L; Joan Hunt, KUMC; Paul Terranova, KUMC; Paul Kelly, KU-L; William Hendry, WSU; David McDonald, WSU

Front to Back: Skip Laper, WSU; Ted Kuwana, KU-L; Joe Bast, KUMC; Mike Welch, KUMC; Robin Larsen, KUMC

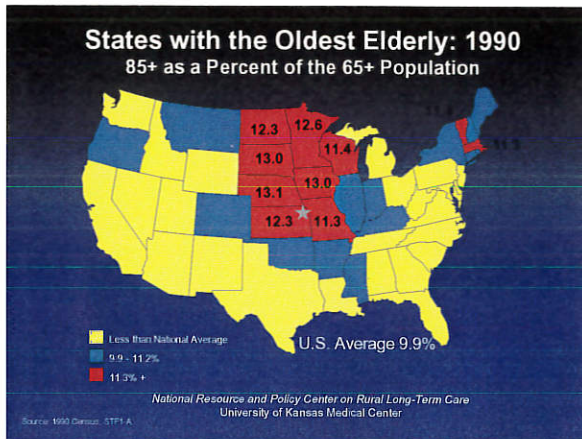
Top Left: Joan Hunt, Director & Paul Terranova, Associate Director

Top Right: Paul Kelly, KU-L; Erik Lundquist, KU-L; William Hendry, WSU; David McDonald, WSU; James Barton, WSU; Dave Saunders, ESU

Science

Two Kansas Scientists Work at Forefront of Emerging Technology

"Grains and Brains." David Wetzel and Steven LeVine



BRAIN ATTACK STROKE

t-PA Treatment for Acute Stroke

Excellent Recovery per 100 Patients

Treatment	NIH Stroke Scale Results
t-PA	31
Placebo	20

NIH Stroke Scale Results

Half way through his "Hearty Meal" Dwayne thought he heard some of arteries slamming shut!

FEDERAL \$\$\$

Centers and Labs shown:
 - KU Higuchi Drug Development
 - KUMC Stroke Models
 - UMKC Crystalline
 - Stowers Genomics Lab
 - MRI Preclin Test

Giving Back! Improving Health Care

Centers and Labs shown:
 - CMH TOPEKA Plays
 - Hoglund Center

salvageable recovering almost dead dead

KCBIC

TESTING CLINICAL OUTCOME

R infarct L

Stroke (infarct) caused speech loss; Red shows brain regions taking over speech function.

TECHNOLOGY TRANSFER

MRI
KEMC
Patents Licensing
Incubator Company (SBIR, Venture Capital)
SIMR

TECHNOLOGY TRANSFER

PHASE 1 **ACQUISITION BY PHARMACEUTICAL COMPANY**

PHASE 2 **CLINICAL TRIALS**

PHASE 3 **ACQUISITION BY PHARMACEUTICAL COMPANY**

USA Treatment for Acute Stroke
Standard Recovery per 100 Patients

IMPACT OF ACADEMIC TECHNOLOGY TRANSFER

- Over 417 new products introduced
- 3,914 new licenses and options
- \$40.9 billion in economic activity
- 270,900 jobs supported
- 344 new companies
- Since 1980, 2,922 new companies formed from academia

Association of University Technology Management FY 99 Report

Where Others are Today

- Nebraska**- \$10-14 million/year for 5 years for biomedical research
- Indiana** - 21st Century Research and Technology Fund awarded \$37.8 million since 1999
- Kentucky** - \$39 million for new biomedical research building at U. of Kentucky
- Iowa**- \$27 million towards new biomedical research building at U. of Iowa.

"The first imperative of society after morality is health."

Thomas Jefferson

Kansas City Life Sciences Institute

Joint Hearing of the House Appropriation and Senate Ways and Means Committees

Topeka, Kansas --- March 5, 2001

Biomedical Research --- What It Can Mean for Kansas

William B. Neaves, Ph.D.
President and CEO
Stowers Institute for Medical Research
1000 East 50th Street
Kansas City, Missouri 64110

Representative Wilk, Senator Morris, distinguished members of the House Appropriation Committee and the Senate Ways and Means Committee, thank you for the opportunity to testify at this joint hearing of the two committees.

My name is Bill Neaves, and I will speak about my experience at a state-funded medical school in Texas, about why I have come to the Stowers Institute in Kansas City, and about the benefits that can come from using state funds to strengthen biomedical science at public research institutions in Kansas and Missouri.

Since last June, I have served as the President and CEO of the Stowers Institute for Medical Research in Kansas City. I came to that position after more than 28 years at the University of Texas Southwestern Medical Center in Dallas, where I served for the last 14 years as the Chief Academic Officer of the institution. For 12 years of that period, I also served as dean of Southwestern Medical School, and before that for 6 years as dean of the Southwestern Graduate School. Over that 20-year period of the 1980s and 1990s, I was responsible for research administration at UT Southwestern Medical Center.

Prior to that 20-year period --- from 1970 through 1980 --- the Texas Legislature increased appropriations for UT Southwestern from less than \$7 million in 1970 to more than \$38 million in 1980. This more-than-five-fold increase in state support greatly outstripped inflation and provided the financial basis for a three-fold increase in numbers of basic biomedical scientists recruited to the faculty of UT Southwestern between 1970 and 1980. During that decade of generous state investment in research, UT Southwestern's basic science enterprise grew from a sub-critical mass of fewer than 30 grant-funded researchers in the pre-clinical departments to more than 100 leaders of independent research programs funded by the National Institutes of Health.

By providing state funds to recruit and retain a critical mass of excellent basic scientists, the Texas Legislature laid the foundation for the transformation of UT Southwestern into a premier research institution over the following two decades --- 1980 to 2000.

What have the citizens of Texas received since 1980 for the generous tax support of basic biomedical science poured into UT Southwestern during the decade of the 1970s?

- A six-fold increase in federal research grants to UT Southwestern, from less than \$20 million in 1980 to more than \$113 million in 2000
- An eight-fold increase in combined federal and private research funding at UT, from less than \$25 million in 1980 to nearly \$200 million in 2000
- A sixteen-fold increase in privately funded research at UT Southwestern, from approximately \$5 million in 1980 to more than \$82 million in 2000
- A two-thousand-fold increase in intellectual property income to UT Southwestern, from approximately \$4,000 in 1980 to nearly \$9 million in 2000
- New therapeutic and preventive measures based on research conducted at UT Southwestern that improved the health of people throughout Texas and around the world ---- drugs such as Mevacor to prevent heart attack and stroke by lowering blood cholesterol levels, drugs such as Proscar to prevent prostatic hypertrophy by blocking the ability of testosterone to stimulate unwanted prostate growth, drugs such as Citracal to strengthen bones and prevent osteoporosis, drugs such as Urocit to alter urine chemistry and prevent kidney stones, and drugs such as Propecia to prevent baldness
- The beginnings of a biotech industry in Dallas --- local companies such as GeneScreen, Inc. and BetaGene, Inc. founded on technologies developed in research labs at UT Southwestern
- Twelve members of the National Academy of Sciences elected from the research faculty of UT Southwestern --- enough to place UT Southwestern among the top two or three of the 124 US medical schools based on elections to the NAS during this period
- Four Nobel Laureates named from the research faculty of UT Southwestern -- - twice as many as any other medical school in the world during this period
- The transformation of a good regional medical school into a world-class research powerhouse --- not just a source of pride for the State of Texas but a true national treasure

So why did I leave Dallas and come to Kansas City? It was not because the best years are behind UT Southwestern. That great institution will grow even greater in coming years as the citizens of Texas benefit from their investments in it and the Legislature rewards its stewardship of state funds.

I left Dallas for Kansas City primarily because of the dream and vision of Jim and Virginia Stowers. They dreamed of creating a world-class research institute in their hometown, and they envisioned a commitment to basic biomedical research that will reveal new and effective ways of preserving health and extending life. Their vision coincided with my own firm belief that we are on the verge of a revolution that will change forever how we think about preventing and curing disease.

The sequencing of the human genome has opened the frontier of an opportunity that compares with the discovery of the New World half a millennium ago. The next two decades will open incredible possibilities for discovery science to reveal the genes and proteins responsible for susceptibility or resistance to diseases such as cancer, diabetes, and dementia. I came to Kansas City because I saw the institute created by Jim and Virginia Stowers as an optimum setting to build research programs that would be at the forefront of this revolution in biomedicine.

The Stowers Institute attracted me because Jim and Virginia set a lofty goal and backed it generously with their personal fortune --- nearly \$600 million placed in the Institute's endowment so far and more than another \$1.5 billion to come --- all for basic research focused on the genes and proteins that promote health or disease.

I was also attracted by the spirit of cooperation and collaboration manifested in the Greater Kansas City life sciences community --- including that demonstrated by the University of Kansas, both at the KU Medical School and at KU-Lawrence.

The Stowers Institute resides in a 600,000 s.f. state-of-the-art basic research complex on its ten-acre science campus less than two miles from KU Medical School. Recruitment of world-class basic scientists to occupy that facility is well underway. Four independent lab leaders began work there last November, five more have been recruited since then, and the Institute is well on its way to filling the facility with 50-60 independent research programs.

The Stowers Institute has an endowment today that is comparable to that of the Howard Hughes Institute 20 years ago. The Hughes endowment has since grown to \$12 billion, and it generously supports the independent research programs of more than 350 distinguished scientists. Unlike the Stowers Institute, the Hughes Institute spreads its scientists over more than 50 different research institutions located across the U.S.

As the endowment of the Stowers Institute grows, it will face the question of where to expand its basic research operations. Does it build and populate another research campus in the Greater Kansas City area? Or does it build and populate it in San Diego, St. Louis, Dallas, or Boston?

No matter how large it grows or where its future growth occurs, the Stowers Institute will never be a self-contained, isolated community of basic scientists. It must have colleagues and collaborators from neighboring universities and medical schools to form interdisciplinary research teams that span discovery of new proteins in labs and testing of new drugs in clinics.

The Stowers Institute has already signed an affiliation agreement with the University of Kansas. This relationship should be as mutually beneficial as the similar relationship between the Howard Hughes Medical Institute and UT Southwestern. Since that affiliation was established in 1985, 10 to 13 Howard Hughes scientists have continuously served on the faculty of UT Southwestern. These Hughes scientists have added many research distinctions to UT Southwestern's record, including a Nobel Prize in Chemistry. They in turn have benefited from research collaborations with other UT Southwestern faculty.

A critical mass of scientific colleagues and collaborators at Kansas and Missouri research institutions is essential to the success of the efforts underway at the Kansas City campus of the Stowers Institute. The Stowers Institute cannot achieve the goals set by Jim and Virginia without a strong partnership with public research institutions supported generously by their respective states.

Making research discoveries that fuel the impending biomedical revolution is not Jim and Virginia's only goal. They also want commercial development of many of the results of this research to occur in the Greater Kansas City Area. Their vision includes the transformation of the Kansas/Missouri region into Biomed Valley --- a place acknowledged twenty years from now as the best location anywhere for innovative biomedical research and profitable commercialization of the results of this research.

This goal can only be achieved if the States of Kansas and Missouri support strong growth of excellent biomedical science at their public research institutions.

The University of Kansas Medical School is crucially important in realizing the Biomed Valley dream. Kansas has no other medical school, and the KU Medical School is poised to take its rightful place among the nation's research-intensive medical schools. Excellent leadership is in place, and the faculty already includes dozens of high-quality, innovative biomedical scientists who compete successfully for federal research grants. More state funds would enable the institution to augment its ranks of excellent basic researchers. The example of UT Southwestern shows that the returns to the taxpayers of Kansas should far exceed the public funds invested in building the research enterprise.

The stronger Kansas and Missouri make their public research institutions, the greater the opportunity for synergy with the Stowers Institute and the more likely it becomes that future growth of the Stowers Institute can be confined to Kansas and Missouri. This will greatly enhance the probability that the Biomed Valley dream will come true.

Kansas stands at the threshold of a new age of discovery. Half a millennium ago, one State in the Old World reaped a disproportionate share of the glory and wealth from exploration of the New World. During the 16th century, Spain became rich and powerful because it boldly invested in discovery. At the start of this new millennium, Kansas and Missouri have the opportunity to join forces to become prominent in the biomedical revolution and to secure a prosperous and healthy future for their citizens.

The time has come for another voyage of discovery to begin at the junction of the Kansas and Missouri Rivers --- the Biomed Valley of the future.