PANEL OF VICE CHANCELLORS

Robert Barnhill	**Jack Burns**	**A. L. Chapman**
Vice Chancellor for Research	Vice Provost for Research	Vice Chancellor
University of Kansas	University of Missouri	KU Medical Center

- To compete with mega-universities, Midwestern institutions "team" with other institutions and the non-academic sector. An example of creating a productive "niche" in Missouri is the Plant Science Institute which involves the Missouri Botanical Garden, the Monsanto Company, the University of Missouri-Columbia and Washington University.

- At the University of Kansas, the Center for Research, Inc. is an example of organizational change in terms of: teamwork, competitiveness, models for mentoring and accountability.

- The national Research and Policy Committee of the Committee on Economic Development in its 1998 report stated that it is essential to maintain the role of government in supporting basic research as industry continues to focus on product-directed goals.

PANEL DISCUSSION ON FEDERAL FUNDING

AND INDUSTRY PARTNERSHIPS

Victor S. Frost	**Ted Kuwana**
Acting Director	Project Director
Information & Telecommunication Technology Center	EPSCoR Program
University of Kansas	University of Kansas

- EPSCoR is a federal-state partnership program developed with the intent of more evenly distributing research dollars among states. Kansas and Nebraska were the last to be designated in 1992, for a total of eighteen states and Puerto Rico. The primary funding agency is the Department of Defense, but others include NASA, the National Science Foundation and the National Institutes for Health.

- The NSF EPSCoR program in Kansas, K*STAR, has helped forge an unprecedented linkage among science, engineering, mathematics and computer science researchers at each of the three Ph.D. granting regents universities. Additionally, the Kansas Science and Technology Council was organized as a part of K*STAR and conversations between KTEC and the Council resulted in the Futures Fund which provides state matching dollars for EPSCoR and similar projects the meet the state's strategic technology priorities.

- Research competitiveness is an economic issue. Federal research and development funds for Kansas increased to $80.37 million in FY 1996. This pails in comparison to neighboring Colorado which garnered $279.79 million in FY 1996. The per capita outlay of federal funds for research and development averaged $31 for Kansas as compared to $75 for Colorado. The per capita average for the 50 states was $56.

- Economic growth in the United States during the 1990's has been fueled by information technology.

- The Information and Telecommunication Technology Center at the University of Kansas develops and transfers technological innovation to the private sector through an interdisciplinary research environment involving 100 students from electrical engineering, computer engineering, computer science, and mathematics. Its state-of-the-art laboratories focus on high-speed networking, lightwave technologies, and wireless and digital signal processing. More than 30% of its funding comes from the private sector, including a strong affiliation with Sprint.

- Examples of industry/university interactions include: direct sponsored research, joint research, internships, graduate fellowships, in-house short courses and consulting. Intellectual property rights and publication issues inevitably arise and must be resolved. Industry benefits by acquiring new technology and from hiring employees who have "real-world" experience in their academic portfolio.

PANEL DISCUSSION ON COLLABORATIVE HUMANITIES AND CROSS-DISCIPLINARY WORK IN CHEMISTRY

Maria Carlson
Director, Center for Russian & East European Studies
University of Kansas

Richard L. Schowen
Higuchi Biosciences Center
University of Kansas

- Grantsmanship has not typically been fostered in the humanities, but scholars are becoming more competitive as success in grant funding increasingly becomes an important hiring criterion.

- The National Endowment for the Humanities and the U.S. Department of Education allow projects that bring together humanists, social scientists and professionals. Collaborative humanities funding also comes from a variety of foundations and NGOs.

- As it concerns collaborative grants in the humanities and social sciences, the overt benefits to the institution are minimal; however, grants promote institutional visibility and prestige, and can provide valuable outreach that results in recruitment and development. Collaborative funding can also provide start-up investment for a special program that the university may not otherwise be able to fund. The four

international studies centers at the University of Kansas are examples. Collaborative funding can enhance teaching and research productivity and take pressure off the institution by providing funds for conferences, library acquisitions and travel for teaching and research.

- Disciplinary boundaries are hundreds of years old. If we had no disciplines, we'd have more flexibility in research. Interdisciplinary research is necessary because in all fields, the easy work is finished and difficult problems defy easy categorization in the traditional format.

- Elements that contribute to functional and facile interdisciplinary scientific endeavors at the University of Kansas: the presence of supreterritorial research centers; and the absence of accounting barriers. Researchers are not responsible to any dean or chair, but rather to the research and the faculty at large. Also, grant income and publications do not need to be allocated among the organizational home territories of the researchers by an accounting practice that makes it a zero-sum game.

WOMEN IN SCIENCE

Deborah Powell
Executive Dean and Vice Chancellor for Clinical Affairs
University of Kansas School of Medicine

- To maximize intellectual resources in science and develop talent for the next century, the ranks must continue to include women and minorities. Recent estimates indicate that between the mid-1980's and the year 2000 the majority of growth in the labor force will come from the entry of women, people of color and immigrants.

- Women and minorities benefit greatly from role models and mentors who are senior members in the field. Affirmative Action has diversified scientific leadership in the nation.

- Women's career decisions are influenced heavily by family responsibilities. Newly flexible promotion and tenure policies help young women and men establish academic careers without having to postpone child rearing.

- When women take time off for family matters, they lose valuable networking connections. Re-entering is also difficult because the scientist's knowledge and skill base may be outdated. Many professional societies and federal agencies have begun to offer support and training opportunities for re-entry scientists.

PANEL DISCUSSION: ENHANCING SUCCESSFUL SCIENTISTS

Stephen C. Fowler, Senior Scientist
Steve Schroeder, Director
Schiefelbusch Institute for Life Span Studies, University of Kansas

- Proposals more than ever must include innovative approaches and demonstrate interdisciplinary or interlaboratory collaborations. The new criteria for the peer evaluation of research proposals at the National Institutes of Health indicates this. Also, grant proposals have to be four times as well informed as in 1968 because information in a field doubles every 15 years.

- To increase research productivity: link salary decisions directly to the desired research outcomes; and establish internal research accounts for active principal investigators.

- We should think big. Sustainability of life on the planet is a truly big idea in which each of us could probably find a challenging niche. For those of us in the heartland, we could focus on quality of life issues.

- Consilient goals imply working to unify knowledge rather than to fragment it. Consilient goals also imply sacrificing or delaying some individual priorities to promote a common goal. This includes encouraging students and faculty to train themselves across disciplines.

- To grow in research and development in this region, we have to do it with external funding. The federal funding situation is the best it has ever been in 35 years, and will likely get better. This is the time to mount a regional initiative.

- Our growth rate must keep pace with the "mega-universities" or we will fall behind in the competition for the best students, the best faculty, and the best scholarly support networks for the whole university. We have no choice but to compete.

- The Life Span Institute at the University of Kansas has competed successfully over the past 40 years by clustering 100 grant projects around areas of excellence in order to compete for larger center grants and program projects that in turn support individual researchers. See the principles of operation in the 1987 presentation by Dick Schiefelbusch.

PANEL OF PROVOSTS

David E. Schulenburger
Provost
University of Kansas

- We should discuss how to develop institutional focus–the one or two major ideas that can captivate and energize communities so that they become effective research machines. Dr. Crow indicates that a "niche" concept is being followed by Columbia University, which provides a valuable role model for us to emulate.

- There are enormous costs to maintaining parallel departments and center structures at a university; there are benefits to combining departments so that they have the critical mass to behave both like departments and interdisciplinary centers. Departments often will not help the University achieve a niche concept.

- We must not lose sight of our purpose–education. Education is the organizing principle of our activity and were it not so, our support and funding by state legislatures would be threatened.

- We must seek to increase externally funded research for the right reasons. We should not try to compete with private and non-profit research organizations that don't need a core of humanities and social sciences undergirding their purposes. We should not adopt goals strictly to bring in more research dollars without concern about the whole enterprise.

- The movement of journals to an electronic medium is likely to have effects that are difficult to envision today.

- Costs of research literature are still increasing at more than 10% per year and the result is increased cancellation of journals and decimation of monograph collections. This threatens the success of our research and teaching missions.

- The American Research Library Association is attempting to form new electronic journals to provide researchers with publishing outlets that are affordable to their universities. Web-based distribution effects a dramatic cost reduction and these benefits can be passed on directly to libraries and society members.

- A set of AAU academic officers is forging a plan that would put the researchers in control of disseminating their work via the World Wide Web, and might have the effect of rolling back journal prices. In this plan, the review process remains intact as currently conducted by the society, but it is separated from the typical publication process. Articles selected for publication would be posted on the web by the society and made accessible to all researchers and students. Another method might involve creation of a system–perhaps at the Library of Congress–where all manuscripts accepted for publication by journals would be placed on the web within 30 days of

their appearance in print. Access could involve a minimal charge, with the proceeds split three ways–going to the journal, the author and the system maintaining the web site. This scheme would make all research literature available at a fraction of the cost we now pay and might stem the publication of works that are not really of interest to anyone.

PANEL OF CHANCELLORS

James Moeser
Chancellor
University of Nebraska-Lincoln

- Nebraska is beginning a bold initiative that will use new sources of revenue to create new levels of excellence without eroding core programs. The project requires a candid assessment of the status and quality of current programs, an assessment of special opportunities, and an analysis of major problems affecting the world or our nation that Nebraska is well positioned to solve. It also requires the vision and creativity to imagine what might be possible with enhanced resources. The intent is to move Nebraska forward in research and graduate studies in the next five years.

- Nebraska is in the second year of major reallocation of the state-aided budget. This has been debilitating. With new resources, the most significant from private philanthropy, Nebraska can now engage in a process that is not about dividing up existing resources to make short-term gains, but about new targeted investments for the future.

- Discipline and focus are key. Nebraska can be either a supermarket of average and adequate programs, or an institution with comprehensive offerings at the undergraduate level and some select areas of distinction in graduate education and research.

Robert Hemenway
Chancellor
University of Kansas

- Chancellors see the research mission in a broader political context; they carry the responsibility to communicate the values of research to legislative representatives.

- Foremost is the need to honor the state compact with public universities: to support the education of native sons and daughters. The research mission must be in synchrony with the broad educational mission.

- Our challenge is to create “premier learning communities.”