



Research Themes Committee Report:
K-State 2025 Comments Received
August 2012 – October 2012

From August 16, 2012 to October 31, 2012, the K-State community was asked to provide feedback on the report prepared by the Research Themes Committee. This report compiles the comments and suggestions received by email or through memoranda/letters during the formal comment period. The comments are presented in chronological order from August through October.

Subject: Error in 2025 Research Themes Committee report

Date: 8/16/2012 8:57 AM

In Table 2 of the 2025 Research Themes Committee report (<http://www.k-state.edu/2025/documents/2025-Research-Themes-Committee-Report.pdf>), there are errors in the faculty listings for both Particles and Optics and Standard Model/High Energy Physics. Z. Chang is no longer at the university and hasn't been for at least 2 years. Also, Uwe Thumm should be listed in the Particles and Optics section, as he is an AMOP theorist, not a High Energy theorist.

Subject: Comments to 2025 Research Theses Committee report

Date: 8/16/2012 9:49 AM

Although I am not involved with academic research I feel that I support of those who are. I want to address one of the action items and that is retaining quality researchers. I have found that it would be most helpful if there was a university wide policy on sponsoring foreign nationals for Permanent Residency. In addition, it would be a service to the foreign national as well as save money for the university if Permanent Residency was processed in-house rather than working with outside counsel. Processing Permanent Residency petitions does not require the services of an attorney so long as the person responsible is well-trained and given support for continuous training and learning opportunities.

Perhaps this could be used not only to retain outstanding researchers but also in recruiting them. Immigration processes can be stressful for a foreign national and I believe that they would appreciate having someone in-house that would be more accessible than outside counsel in assisting with the process. They could then focus more on research rather than worry about immigration matters.

I do not have access to the numbers of international researchers we have on campus. That number compared to the domestic number may be insignificant, but I do see in the report that many of the PIs are international and have needed Permanent Residency. I remember working with some of them.

Thank you for allowing comments on planning for the future.

Subject: research themes report

Date: 8/16/2012 10:42 AM

Just to note that in the genomics/lipidomics/proteomics area, 8 of the 11 "leading researchers" listed (table 2) are studying insects.

Subject: Research Themes for 2025

Date: 8/16/2012 11:27 AM

The list looks very comprehensive but I am surprised to see BioEnergy and not Energy as a theme? There is so much going on in the field of energy with wind, solar and so many other forms of energy. We have very strong group of faculty at K-State working in the field of energy and power in various departments. We are in fact hosting a statewide forum to stimulate research and education in wind energy in late September. This forum is supported by the Research Officers of the Kansas BOR universities. I would suggest broadening the theme to capture other forms of energy.

Subject: Research Theme Report

Date: Friday, August 17, 2012 10:19:37 AM

I wanted to follow-up my comment at the retreat with data to support my concern regarding the report's methodology. A team of academics based at the London School of Economics, the University of Leeds and Imperial College London produced the attached report on how to define research impact (see attached). Essentially one of their conclusions was that ISI Web of Science and Scopus don't accurately measure impact in fields whose journals are not adequately represented (only 30 to 40 percent in the social sciences). Also, another key issue for K-State is having a 2025 Plan that builds on our capacity to address large societal impact. The report address how higher education needs to address the "impact gap" where academic research fails to communicate to external audiences.

Subject: comments on 2025 Research Theme report

Date: 8/17/2012 11:46 AM

I'm writing to provide comments and my perspective on the recently released report (dated August 1, 2012) from the 2025 Research Theme Committee. I will preface my remarks by noting that my research area was among those highlighted as a strength and priority for future development (Ecology and Grassland Ecosystems). In that regard, I'm pleased that the Committee recognized the success and productivity we have enjoyed to date, and the potential for KSU to tap into additional resources tied to national funding initiatives to build on this strength in the future. I also recognize the difficulty of the task this committee was charged with, and I thank them for their service. However, I think that the report is seriously flawed for reasons I elaborate on below, and I would encourage the 2025 theme to consider the limitations of the report as they move forward.

I'm concerned that the report, as written and presented to the University community, has the potential to be very demoralizing and divisive, as many people will view an omission of their disciplines, programs, departments, names, etc. as a sign of lack of recognition and future support. I realize the difficulty of highlighting a few specific areas for growth in a comprehensive university, but I think this could have been handled better. In addition, the inclusion of individual faculty names as "leaders" was misguided, and the metrics used to include (or omit) individuals was flawed. In particular, I have serious misgivings about the way in which past research activities/accomplishments were "counted." Part of the problem stems from the narrow time period for which the committee gathered the data on grants (2012 only) and publications/citations (highly cited papers since 2009 only), and the somewhat arbitrary (and apparently uninformed) way in which grants and individual investigator publication records were lumped into various categories. The report ignored extramural funding outside of a very narrow window, which does not reflect the long-term and continuing contributions of many individuals and groups to the research enterprise at KSU. Further, only the lead PI was given credit on many grants that rely on the strength of research groups. I will note that I was named as a "leading researcher" in one of these lists, but others that are equally responsible for our success were omitted, while individuals with little connection or contribution to our research theme area were included. The placement of grants and individual researcher names into thematic areas appears to have been arbitrary in some cases, and I can only assume that the committee was not familiar with many of the programs or individuals listed. Perhaps this was a function of the committee composition, and lack of familiarity with some major research programs on campus. As one small example, one of the "leading researchers" in my area is on a temporary appointment (not a regular faculty member) and others listed in our theme area have little to do with grassland ecology. Some individuals placed in other areas (Chuck Rice, John Harrington) are more clearly aligned with grassland ecology and/or climate change studies. Perhaps more significant is the number of highly productive and influential researchers that were NOT included in this list, based on the criteria used. Some of our most productive and influential researchers were omitted, while others that have published and been cited in very narrow fields were included. In retrospect, I think it was a mistake to list individual names based on the limited and, in my opinion, flawed metrics used. As another example of oversight, I note that the committee highlighted climate change as an important area with respect to potential future support, but listed no grant or publication strengths in that area (Table 1). In fact, I have had multiple grants from USDA, DOE, and LTER that are directly related to climate change (including grants from the National Institute for Climate Change Research), and I know of other climate change grants in other units at KSU. In fact, we have one of the longest running climate change experiments in the country (funded for 15 consecutive years now) located at Konza Prairie, which has resulted in a strong, and growing, publication record. I could provide many more examples of research strengths that were overlooked, or areas that appear to be misrepresented in this report, but I'm guessing that you will hear similar comments from a number of other faculty members. In summary, comments on 2025 Research Theme report although I'm pleased that the report highlighted strengths in my home academic unit (the Division of Biology) and in my research field (grassland ecology), I'm concerned that this report missed the mark with respect to highlighting broad areas of research strength in an accurate

and meaningful way. My hope in pointing out these potential flaws is that some of these shortcomings can be addressed as the 2025 plan moves forward. One suggestion is that any subsequent committees that focus on further development of thematic research areas to meet our 2025 should include prominent researchers from appropriate disciplines and with better familiarity with our existing research programs and strengths.

Subject: Comments requested on K-State 2025 Research Themes Report & Open Forum on Report for Engineering Faculty on Sept 19

Date: Monday, August 20, 2012 11:26:19 AM

Compliments to Mary and the entire committee. Well executed and well documented. I offer a few observations, none intended to be criticisms but rather topics that perhaps should be addressed in the open forum.

1) The report has been very clear about the limitations of the methodology. In particular, it stresses the limitation of determining which faculty member goes into which group. Perhaps an even more fundamental, but related, limitation that is not addressed is the determination and definition of the research areas in the first place. In general, it is very difficult to say where one research area ends and where another begins, which is as it should be since we do not want researchers and research areas to be pigeonholed within rigid, non-interacting groups. The outcome of the quantitative analysis will depend in part, and perhaps very strongly, on how the research areas are defined. Areas that are defined broadly will tend to appear stronger in the analysis than if they had been divided into more focused topics. Similarly, one has to ask if there may be groupings, if appropriately defined, that would rise to the top, or at least to the level of consideration, but were never considered.

2) Along similar lines as the above comment, it is not clear if the individuals in the defined research areas are truly working as a group or just have research that falls within the broad topic. That is, is the definition more one of categorization or is truly identifying a cohesive research group? On one extreme you could have a group of people that never have and never will work together. On the other extreme, you could have a group that is already working together effectively in a mutually supportive manner. My guess is that most of the research areas are somewhere between these extremes. The report does not, and likely could not, address this. Re: Comments requested on K-State 2025 Research Themes Report characteristic of each research area. However, this factor will be critical to their growth and success.

3) One thing the report does not address and a topic that is perhaps outside the scope of the committee's charge, is how these mostly university-level research areas are aligned with department-level goals and priorities. It is ultimately the departments that hire the overwhelming bulk of the faculty that make up these research areas. Department-level research goals and priorities can be fragmented, individual oriented, and not necessarily supportive of, nor benefiting from, larger university-level research efforts. The extent to which

these research areas are supported and are a priority at the department level will ultimately have a major bearing on their success.

Subject: Focused Research Expansion

Date: 8/20/2012 2:39 PM

I would like to comment on the “2025 Research Themes Committee--Identifying Opportunities for Focused Research Expansion”. As a former NSF program officer, former Department Head at Arizona State University, and now Director of Konza Prairie Biological Station, I have been asked and have served on numerous committees across the country evaluating various programs, Departments and Colleges. In those evaluations, I have read and created many documents that have tried to summarize and make suggestions on how a particular unit could increase their potential. These are not easy documents to produce and all of them have limitations. However, I have never seen one as flawed as this one. There are many shortcomings but I will highlight two of them: 1) listing of faculty members in areas. Any time you make a list you will insult individuals that you leave off and the committee was asked to list research areas in which they thought the University should invest in. The selection process had many problems but the most serious methodology was to actually list individuals in the selected areas as leaders in that field. This is always a problem especially when members of the committee end up on the list as a serious Conflict of Interest comes up. In addition, it is an excellent way to make an extremely large number of faculty members upset. The listing of individuals within each group was a huge mistake; not only due to the errors in the listing but also it creates even more tension within the faculty. The names should not have been included. 2) Defining research---I was stunned to say the least that the committee recommended the following: “Extend the vision 2025 process to those research areas where external funding for research is not necessary to succeed. Driven by the 2025 metric of research expenditures, this committee has identified research areas as successful if they attract significant external funding. In doing so, we have contentiously overlooked those research topics that successfully operate with little or no external support. As the 2025 process proceeds, we recommend that a group be tasked with completing a similar analysis focused exclusively on the social sciences, arts, and humanities.” This should have clearly defined by whoever proposed this report. I am very disappointed that some very talented KSU faculty members wasted their time in evaluating research when they did not know how to handle those disciplines that are not able to tap into external funding. In summary, this report does very little in advancing research at KSU and will only create more tension at a time when morale at KSU is at a long-time low. Some serious backtracking and damage control will be needed at this time.

Subject: Concerns regarding the Research Themes report

Date: 8/22/2012 9:03 AM

First, I want to say that the report is very comprehensive and detailed, and the committee did a great job in providing the details. In the following, I am presenting additional items and data points (and not pointing out any flaw) for the report to consider:

1. The data uses journal publications only and sources such as Web of Science and Scopus databases. The attached article "Invisible Work in Standard Bibliometric Evaluation of Computer Science" discusses how evaluation based on such data can be unfair to Computer Science. This is also evidenced on page 18 of the report which shows that while Computer Science accounts for 7.3% of the publications in the outer circle, it is highly underrepresented in the inner circle.

2. One of the criteria for the ranking was "Future Funding". I would like to discuss the area of Cyber-security (there might be others also). The area of Cyber-security has received considerable attention and there have been several new regulations/initiatives recently injecting more funding in cyber-security research and development. I am attaching some of these, but you can find many of these online. While there are only a handful of people working in this area at K-State, it is growing and clearly a "grand challenge". As an example, one NSF program that we applied to this year had the budget tripled from last year. Another evidence of future funding is that in 2012, we have already received 4 new grants totaling \$4 million on cyber-security. According to our records, there were grants active on 1/1/2012 totally around \$4 million in cyber-security as well) Starting with very little funding in the area 5 years ago, we have grown significantly. I am curious whether the area of cyber-security was looked at by the committee - given that there are research areas included in the top-10 in which scored low in terms of Future Funding. The area "Software models and validation" used in the report may not reflect the focus area of the projects.

3. The following points can be viewed as a shortcoming of having such a report. One of the K-State 2025 goals is to retain and attract successful researchers. I think this report may have a negative impact in this regard in some areas. This research report is based on a specific data-set. Clearly, a different data-set could have been used to come up with a different ranking. The report also has disclaimers (at multiple points) of its limitations. However, given the lack of any other ranking, the ranking provided in this report will be the standard used in the coming years. On the first page, the report indicates that it is not measuring quality. Yet, this report is being officially viewed as identifying "areas of research excellence" at K-State. Terms such as "leading researchers", "competency", "strengths", "excellence" etc are used throughout the report. Despite what the disclaimers say, I am afraid that the analysis used in this report will become the basis for evaluating "research quality" on campus. Whenever a research area would have to be evaluated (or a faculty member has Concerns regarding the Research Themes report 1 of 3 8/24/2012 3:30 PM to be evaluated), people will either look or re-run the analysis from this report. Researchers will use this report as a reflection of how the university views their research excellence (or lack of). For instance, listing "Authors of Highly Cited Papers" in the report when the underlying databases used are not adequate for some disciplines is very damaging to the

reputation of a faculty member. It is out there for everyone to see even though faculty members may clearly know that they have publications with higher number of citations. I have already seen some faculty trying to explain why they are not on "the list", and will have to do so in the future. This list is effectively ranking the faculty members in terms of research quality. I know of some faculty members whose are highly successful and have more than 1000 citations for a single paper, and still not considered "leading researchers". I suggest that all such terms be removed from the report and the list be removed. Such lists can disturb the harmony on campus. This is clearly contrary to K-State 2025 goals.

4. I am not sure how the areas were defined and this can have a major impact. While some areas are so broad (they include all faculty from a college), others are limited to 1-3 researchers. The report must take group size into account. A small group of 2-3 highly successful researchers will never be able to get their numbers to add up (as compared to a group consisting of an entire college) and hence, cannot be a target for investment according to the premise of this report. Hence, we are discouraging them. We do not want to get into scenarios with faculty defining new themes by merging somewhat related areas just to get the numbers needed to get into the top-10.

The growth of an area is an important criteria missed by the committee. If an area has shown growth, then it should be a target for funding. Perhaps, we should wait until Feb 2013 to get a snapshot of the funding database to see how much the areas have grown before we include them in the top-10, or measure how much funding growth has there been in each of these areas over the past 3 or 5 years. Without this criteria, there is no way K-State faculty can move into "new" areas -- in fact, this report will discourage faculty from doing so. This report indicates that to be a "leading researcher", you have to fit into one of the large groups. This might impact retention as well as hiring of new faculty in areas not listed in the top-10 or top-30 as this is an open report that anyone can read. We already face challenges in retention, and this report will add new ones.

Clearly, the report is biased towards areas which are very broad. More the number of faculty in a group, higher will be the funding amount and publications. I am not against identifying such areas -- they ought to be identified, and it may be wise to invest in them. But, the purpose of the report should be changed to reflect exactly what it is doing - identifying broad areas or themes in which a lot of faculty are working.

Subject: Comments on the 2025 Research Report

Date: 8/24/2012 10:18 AM

Comments on the 2025 Research Themes Committee, Identifying Opportunities for Focused Research Expansion

Observations

The College of Engineering is involved in four of the ten areas recommended for focused research investments: BioEnergy, Water, Nanomaterials, and STEM Education. There are less than a dozen COE faculty researchers in these groups (out of 128 tenure track faculty in the college).

This document largely ignores the achievements of Computer and Information Sciences, a department with two University Distinguished Professors. CIS has strengths in cybersecurity and computing reliability, two areas that are certain to be supported by the federal government in the future.

Categorizing faculty researchers into specific groups leads to “strengths”, even if such classifications are artificial. Credit was given for publications by all “members” of the *BioEnergy* group, even though specific papers had little or nothing to do with this topic. For example, one of the most highly cited paper in the *BioEnergy* group by one of its members, Chuck Rice, was *Soil aggregation and carbon sequestration are tightly correlated with the abundance of arbuscular mycorrhizal fungi: results from long-term field experiments*, (cited approximately 49 times). This paper is focused on microbial function in ecosystems, and does not mention BioEnergy at all.

Research productive faculty are excluded from the successful groups identified by the narrow definitions employed. For example, *Bioenergy* excludes faculty interested in *Sustainable Energy* involving alternative energy sources (such as wind or solar energy) or improving energy efficiency. Similarly, defining the group as *Nanomaterials* instead of *Nanotechnology* results in the exclusion of certain faculty. Choosing *neutron sensors* instead of the more general area of *sensors* (which could be monitor health, the environment, etc) results in a small group at K-State.

This document overemphasizes the accomplishments of older faculty. In the area of *Nanomaterials*, six of the nine listed leading researchers are full professors, the other three are associate professors, and the average age of those listed as leading researchers is 50.

This document largely ignores the projected research needs of the Department of Defense. Dr. Thomas Russell, Director of the Air Force Office of Scientific Research who spoke at K-State in May 2012 identified six disruptive basic research areas: metamaterials and plamonics, quantum information science, cognitive neuroscience, nanoscience and nanoengineering,

synthetic biology, and computational models of human behavior, only one of which K-State has any presence in.

By focusing on K-State's prior successes, new disruptive technologies are ignored. If K-State invested in emerging, instead of long established fields, then by virtue of being an early entrant, it could become a world-leader.

Recommendations

1. In the College of Engineering, greater emphasis should be placed the importance of research. Research ongoing in the college should be better promoted.
2. Research active faculty in the COE should be encouraged to pursue their research vigorously. High quality research is time consuming and cannot be accomplished with high teaching loads.
3. The College of Engineering should foster greater collaboration so more focused research groups can be established. The College should make strategic hires to build focused research areas.
4. In its strategic hires, the College should also consider faculty who can contribute to or fit into several research areas. Many of the faculty researcher identified in this document could have been placed in more than one of the field. Versatility is important.
5. The university should invest in its young faculty to ensure they are successful and become highly regarded. They are the most likely to be involved in disruptive technologies that can bring recognition to K-State.

Additional Comments

How will this document be used, what is its goal? Is it to lead to new investments to (a) enhance the education of K-State students, (b) bring more research dollars to K-State, (c) establish a more prestigious position in a particular research field, (d) develop knowledge that will lead to the spin-off of companies from the university, (e) benefit the people of Kansas, or (f) develop alumni who are likely to give back to and support the university?

Investments in *Particles and Optics* and/or *Standard Model/High Energy Physics*, may address (a), (b), and (c) but are unlikely to achieve any of these other goals due to their narrow focus areas. Because there is so much research ongoing in *Cancer/Immunology* in the USA and around the world, it seems unlikely, short of a several hundred million dollar investment, that K-State will become well-known for its research in this field. Nevertheless, such research could be highly beneficial to the people of Kansas, and would have good support among the general public.

Subject: 2025 Research Themes Committee

Date: 8/24/2012 12:51 PM

This message represents the concerns of the Department of Modern Languages regarding the 2025 Research Themes Committee Report. The report is a failure because it does not represent most of the research done at K-State. It has a very narrow scope and is denigrating for those not included in the report who are by default excluded as KSU researchers. The first recommendation of the report is as follows:

"Extend the vision 2025 process to those research areas where external funding for research is not necessary to succeed. Driven by the 2025 metric of research expenditures, this committee has identified research areas as successful if they attract significant external funding. In doing so, we have contentiously overlooked those research topics that successfully operate with little or no external support. As the 2025 process proceeds, we recommend that a group be tasked with completing a similar analysis focused exclusively on the social sciences, arts, and humanities."

We in the humanities do not want to be an addendum to the research done at KSU as we already are a core part of it.

[We] agree with the concerns already expressed by Prof. Karin Westman, department head of English, who summarized ideas from a meeting of department heads of Arts and Sciences. We will add some brief remarks to hers, which we subscribe in its entirety

1. Concerns about the data used for the report.
2. Concerns about metrics to use. The Modern Language Association, the Arts and Humanities Citation Index and the Clasificación Integrada de Revistas Científicas among other databases were excluded. The Library should be used to assess and give advice in all matters regarding bibliometrics.
3. Concerns about the report as blueprint for funding allocations. All research costs money even if they do not bring external funding to the university. Without money there is no research.
4. Concerns about the loss of interdisciplinary themes. INTERNATIONAL AND AREA STUDIES could bring external funds and promote interdisciplinary research and undergraduate research but the university is neglecting International and Area Studies. The Provost's office will have to decide eventually where to locate Area Studies (OIP, Undergraduate Research...) and provide the infrastructure for Area Studies that are at the present moment languishing. Dr. Robert Clark, interim academic advisor of Area Studies, just told me that there are three students doing Latin American studies. This is three too many if we consider Latin American Studies is a non functioning entity. Since 2011 Lis Pankl from Hale Library put together a group of Latin Americanists and we meet on a regular basis to talk about our research, trips to Latin America, classes, etc but we lack a formal organization and we do not have any authority over Area Studies and we cannot make curricular suggestions. Dr. Clark is doing a superb job keeping alive area studies until someone with authority decides what to do with it.

5. "Divisive" effect. We infer that this report advocates the split of Arts and Sciences.

Please let me know if I can be of any help.

Subject: An observation on 2025-Research-Themes-Committee-Report

Date: 8/27/2012 9:52 AM

This is to notify one observation made on this report. I suspect there are many because basis of their findings appeared to be based on some incomplete database(s) or weak/shortsighted assumptions.

Although report says that to get information regarding current research funding expertise at K-State- they had used a data set that "*is static and was retrieved in February, 2012.*"

It appears that this is not true and there are omissions. While there could be many examples, one example is an EPA Award TR-83416101. According to information retrieved from the Office of Research & Sponsored Programs (please see email trail below), the total awarded amount of the referenced project is \$600,000 and the last increment of funding was received in September, 2011. This is an active project that will be ended in 2014/2015. Unless this committee had used the data base that we all can simply access through <http://www.lib.k-state.edu/awards/grant.php?grantNumber=21734> (this is showing the "coverage" goes through March, 2011), information regarding this grant (appropriate credit for PI) should appear on this report.

These kind of omissions are discouraging as of some of this committee's (seemingly very experienced group) criteria for selection. If you had carefully go through research award databases, there are quite a bit of new faculty who received highly complete research grants but their names are not listed in this report- I assume this is mainly because that the committee had decided not to list PIs with 1 to 2 awards if the total amount was less than \$499,000.

This is just one observation- although one can go on regarding many observations and implications of this report- this report in my view can be discouraging for many early to mid-career researchers at K-State.

Subject:

Date: 8/28/2012 1:16 PM

Please find attached some comments on the recent Research Themes report.

Dear President Schulz,

I write to offer some comments on the Research Themes Committee Report, apropos of K-State's RSCAD 2025 strategic action plan.

Let me begin with comments on the methods by which the conclusions of the report were reached, and then turn to some more positive suggestions. You doubtless will have heard from others that there are real, substantive concerns about both the data sample and the choice of variables used in its construction. I wish to second those concerns (for example, half of all citations in the better philosophy of science journals are to papers more than 10 years old), but also to raise different concerns about the analytic methods employed by the committee. As I understand it, the Research Themes committee was “tasked with identifying research areas that are likely to support K-State’s attainment of its 2025 goals”, here I take it developing and maintaining top-50 research groups. In the abstract, they are assessing alternative policy interventions. Assessing policy interventions requires two things: a clear view about the aim of the intervention, and an understanding of the likely causal consequences of alternative interventions. The committee appears to have provided neither thing.

Consider first the goals. Research excellence is a multidimensional construct, and may be assessed using any number of measurable variables. The committee chose, under the rubric of total research expenditures, to assess program excellence with respect to publication rate and citation rate, number of awards and total funding. Others might have been chosen, but the choices are not for that reason bad. Still, there are multiple dimensions here, and so it is necessary to decide how to trade them off, one against the other—does one maximize number of publications, and then worry about citation rate, or are they commensurable values, tradable at some rate, say one publication for ten citations? It is not that there is a right or wrong choice here, but it is important that the choice be reasoned and considered. Unfortunately, the committee employed Spotlight scores to assess publication expertise, but they do not know what algorithm Spotlight uses to trade publication rate against citation rate, and so on. Thus, the committee has imposed a tradeoff among the chosen measures, but they have not considered the merits of that tradeoff because they do not know the exact tradeoff they have imposed.

Consider second the range of alternative interventions considered. As I read the report, the committee began with the assumption that the best way to maximize future research expertise is to build on programs now having the most research expertise, as measured by the chosen, but unknown, function of publication rate, citation rate and so on. That is not, on its face, implausible, but it is surely not the only plausible alternative; it is possible that we might do better by investing in programs that currently enjoy less expertise. Just which intervention would optimize future research expertise, on the chosen measure of it, is an empirical, in fact causal, question. In particular, assuming that investment causally influences performance, the causal question concerns the functional form of the response to changes in funding, conditional on current quality. That function might be linear and upward sloping, so that one gets the biggest bang for one’s buck by investing in programs that are already very good. But quite possibly the function is non-linear, or linear and downward sloping, so that the biggest bang-for-buck ratio is achieved by investing in programs that are good but not great, or even by investing in the worst programs. Further, there is in general no reason to think these functions, or their parameter values, are constant across disciplines. But, near as I can tell, the committee did not investigate the alternatives here.

Producing data-driven recommendations is no easy task, and the committee’s recommendations would have ruffled feathers no matter how those recommendations had

been developed. Still, if what you seek is data driven guidance, I do not think you will find enough of it in the committee's report, notwithstanding their doubtless earnest efforts. I'd like to make some more positive suggestions. We cannot become a top-50 public research university without top-quality programs in the arts, in humanities, in the social sciences, in the natural sciences and in the applied sciences and engineering—if investment is not spread across these domains, we will fail of our goal. Equally importantly, if resources are redistributed from the arts, humanities and social sciences to natural and applied sciences, the resulting damage will be long term. So first, I think investment must be spread across the colleges, and within the colleges, across areas. Second, interdisciplinary work ought to be fostered. Importantly, such work aids educational goals as well as research goals, so investment in it carries a double benefit. Third, I believe that many of our departments might improve their success in securing external funding by changing their focus and internal culture. While this is not easy, and cannot happen instantaneously, I would suggest that there is much progress to be made in two ways. A grant-seeking culture can be fostered, if departments are asked to hire faculty, whether replacements or in new lines, who pursue work that is potentially fundable by outside agencies. Further, one way to learn how to secure external funding is to develop interdisciplinary projects in which those without experience work with others who already know how to win grants. This is a picture of locally driven changes in culture generating both external funding and interdisciplinary work. The central administration and the colleges might encourage such changes by offering incentives to departments and faculty, both to those without expertise who seek to gain it and to those with expertise who are willing to collaborate. Finally, though you will doubtless hear some version of this from others, insofar as specific areas are picked to receive special attention, the rubric used to describe those areas should be as broad as possible. The consequence of narrow rubrics will be alienated faculty, which in turn will have adverse consequences for retention and recruitment.

Subject: 2025 Research Theme Committee

Date: Wednesday, August 29, 2012 2:43:14 PM

I am writing to communicate my deep disappointment regarding the process leading to the recent report of the K-State 2025 Research Theme Committee and the committee's conclusions. I strongly concur with the letter sent to you by John Blair communicating our concerns about the composition and knowledge of the committee members, the serious flaws in the metrics used for data analysis, and the misguided determination of "faculty leaders" in the identified focal research areas. Regarding the latter, I note that some individuals identified as faculty leaders in the focal area of Ecology and Grassland Ecosystems a) have no significant record of publication or long-term extramural funding related to grassland ecosystems or are not in the field of ecology, b) are not participants in the key grassland programs at K-State (e.g. LTER, Institute for Grassland Studies, Konza Prairie Biological Station), c) did not participate in or even attend our recent international symposium on grasslands, and d) are unknown to the large majority of our scientists and students in ecology and grassland studies. This is clear indication that the committee was woefully uninformed and their methods were seriously flawed. My concern is only heightened by the fact that this same committee recommended

that K-State focus on support of “individuals” rather than “programs” in the future. This recommendation is also based on flawed reasoning.

Although our faculty group in grassland ecology was pleased to see our area of study and program identified as one of K-State’s strengths, we were very disappointed with the work and outcome of the Research Theme Committee and found the report to be quite demoralizing.

Subject: Research Theme Committee Report

Date: Friday, September 7, 2012 12:49:13 PM

Let me begin by saying that I and many others appreciate all that you are doing for KSU. As I have noted many times before, 2025 has had a large impact on our department.

My question yesterday at the A&S Heads forum simply concerned where a department like ours, that has been revamped toward a more research intensive model from a more service/teaching model over the last decade, might fit.

Some issues that I think need to be included in an assessment of social science research are:

1. An appreciation of the lag time to publication. After an article is accepted, it can be as much as two years before it appears in print. Most citations to your work will thus begin to accumulate 3 years or more after you publish an article -- because other scholars have to see it in print and then their own work has to make it through the review process before waiting in a queue for publication. The Research Themes Committee's use of a two year window after publication to count citations thus excludes many disciplines, as would even longer windows.

2. An appreciation of disciplinary differences with regard to citation counts. Natural sciences and other fields quite simply publish many more articles than social scientists, which is reflected in much higher citation numbers. There aren't a large number of quality quality political science journals, and for good or for bad we as a field limit access to those outlets. Acceptance rates for prominent journals can be as low as 2% and even mediocre journals have acceptance rates hovering around 15% or 20%. Thus, if an individual is publishing in leading, reputable outlets, a political scientist will establish a good career if they have -- on average -- one or perhaps two strong publications a year. That simply means an individual scholar will have fewer articles out there to be cited and there are fewer articles that cite your work in return.

So, a quality citation count for a social scientist might look very different from that accumulated by a hard scientist and perhaps scholars in other fields. The absolute values of the citation numbers don't travel all that well across all disciplinary boundaries.

3. The standard source for social science citations is the Social Science citation index, but a good number of folks in our field are now simply looking at Google Scholar as a reliable source for citation counts.

I will post this on the Research Theme Committee Report feedback website, and will also share with other Social Science Heads so that perhaps we can produce a uniform approach to the issue as you suggested.

Thanks again for the momentum and much else at KSU. Thanks also to the Research Themes Committee, who did a solid job given the data and approach they utilized.

Subject: Research Themes comments and concerns

Date: 9/10/2012 10:04 AM

Dear President Schulz and Provost Mason,

Thank you for your presentations to our Veterinary Medicine faculty last week. Needless to say, my colleagues and I are excited that your leadership will help hone the research base and competitiveness of K-State faculty for an expanded national presence as a center for research excellence.

I wanted to express some concern over the lack of accuracy of the 2012 *Research Themes* Committee report of 8/1/12. Notwithstanding the many qualifiers used in that document and with an understanding of the expressed intent I believe that such lack of accuracy (and also scope) undermines its validity and utility. This is especially true as NIH, for example, now funds problems rather than basic research *per se*. Rather than broad brush strokes and as, inarguably, I know myself better than I do other faculty, I will focus on errors that concern me specifically and/or impinge on my areas of direct expertise. Moreover, I will use my example to address a major theme for NIH funding that I believe the *Research Themes* document either does not address or does so inadequately.

1. On page 9, I am listed in the Cancer/Immunology area (as recommended for focused research investment). I do not, nor ever have, been actively involved in this area. Rather my PHS (NIH) and AHA grants would fall under the Animal Health and Models for Human Diseases as would be revealed by the most cursory appraisal of current and past grants and research publications. Specifically, in the areas of human disease I have been PI on grants to K-State totaling more than \$2,000,000 (and Co-I on grants in excess of \$10,000,000) and have published well over 100 papers (many in collaboration with Dr. Tim Musch) investigating pulmonary disease (emphysema), chronic heart failure, diabetes and also aging.
2. I would argue that to select papers published only in 2009-2012 biases towards authors publishing in journals/areas with a high "immediacy" index whilst down-playing those with a longevity of half-life and a demonstrated sustained high impact on the field. Papers published perhaps 20 years previously may have defined an entire field and be well-cited today as indicative of their current importance in defining that field. These papers have demonstrated through the test of time that they are not a "flash in the pan." This cannot be said for more recent papers.

3. To apply #2 to my specific case. The *Research Themes* document selects 4 papers with a citation total of 73. To date, I have published over 160 peer reviewed papers with a total citation count of ~5,500 and with an H-index >41. Of those papers 6 have been receiving >10 citations per year for up to 20+ years for a total of over 1,000 citations.

Please understand that my overriding concern is not about me personally, or that my work has been misconstrued or misrepresented, but, rather, that a flawed document not be used to define K-State's path forward. As a scientist and academic I know that the best decisions are made in light of accurate data – unfortunately, as identified above, the *Research Themes* document fails on this account.

Misconceptions and missed perceptions. Given the above, it is not surprising that huge public health issues, for example obesity, aging, exercise science/ medicine, food and nutrition for which we here at K-State have a significant research expertise and funding history, are largely ignored. I am frequently invited to Bethesda to serve on NIH study sections, working groups and policy meetings. On every one of these occasions the physiology of exercise and the pathophysiology of exercise intolerance has been a central theme. Indeed, from listening to NIH director Francis Collins it is evident that NIH has realized the central role for physical activity in health and disease prevention. For instance, in June at the NIH Heart Failure Working Group in Bethesda we helped design RFA's (for release in the 2013 cycle) around understanding more about how exercise improves skeletal muscle function, oxygen delivery and the microcirculation. In addition, what are the signaling mechanisms that result from muscle contractions (i.e., exercise) that decrease the inflammatory state signatory to obesity, aging and heart failure as well as Type II diabetes and how are these modified by nutritional state? These are questions/areas which K-State faculty can address and for which the State of Kansas and the health of its people has a pressing personal involvement given high rates of these diseases/conditions amongst our population.

Here at Kansas State University the Department of Kinesiology is the home of exercise science. Despite its modest size and substantial teaching commitment it ranks in the top 10 nationally amongst its peers with a substantial history of NIH, American heart Association, NASA and Sunflower grant support. The faculty (~9 FTE's) publish over 60 peer-reviewed papers per year, collaborate extensively across campus with Anatomy and Physiology (Veterinary Medicine), Nutrition (Human Ecology), and engineering and buttress the emerging K-State Public Health program. Kinesiology is a department poised to address some of the most pressing science/health concerns facing Kansas, the U.S. and the world.

We need to seriously think about how to define areas of focus that effectively encompasses research expertise here at K-State in this wider perspective: One that addresses real health problems with a far broader vision (e.g., heart failure, diabetes, obesity, inactivity, nutrition, animal models, food and health etc.). It is in that broader vision that, I believe, we can most effectively embrace our superb faculty and position ourselves for major extramural funding to better fulfill our legacy as a leading light of state and national research excellence.

Subject: 2025 Research Themes Report

Date: 9/13/2012 10:42 AM

I appreciate all the hard work that went in to compiling the Research Themes Report, but as I have already expressed in meetings, I have concerns about this report and its repercussions. I write now so you have those thoughts in writing as well.

First and foremost, I am concerned that what in other contexts is a virtue, has been a criteria for exclusion from the report: a lack of dependance on external funding for our success. I recognize that this caveat was proclaimed within the report, and that it seems to some therefore unfair to criticize the report on that basis. Fair enough: I criticize not the report's findings, but its foundational parameters, which exclude much of the research and scholarship on campus. If this is a report on which programs have in the past brought in large dollars, it should be clearly announced as such, rather than offering that data under the guise of a plan for our future.

Secondly, I share the concern of others that the report looks backward instead of forward. Looking backward is important; knowing where we have raised grant money is important. But looking forward is a different matter. One of the major trends building right now is in fact rendered invisible in this report: interdisciplinary work. By defining the reporting structure so that collaboration and research connections are collapsed into a focus on named PI's takes us backward, again, into disciplinary silos, at the moment when all the national talk is going in the opposite direction. An assessment of our campus needs to celebrate and accommodate the research that happens interdisciplinarily and collaboratively. The success of programs like the Origins project and research collaborations like the cognition-studies group should be visible and celebrated, and our measurement rubrics need to be devised to include, not exclude them.

Thirdly, research needs to be measured over a longer period of time than 2 years. And more measures of research impact than number of citations need to be factored in. Scholarship is a complex endeavor, and taking only one, relatively short-term measurement will never reveal it accurately. Especially in the Humanities, number of peer reviewed publications is the yard-stick we have traditionally used, and it has worked well. I have been present in meetings where this measure has been suggested, yet it's inclusion in the university matrix has never appeared.

Lastly, we need to attend to the morale of our faculty, and ensure that documents regarding our 2025 goals will energize everyone toward meeting our goals together, rather than further demoralizing those who feel they are working hard and effectively, but apparently without value to the university. Rather than defining research themes narrowly so that many are excluded, I would encourage the university to think broadly, with categories that would highlight our obvious high-profile, high-dollar strengths and also connect areas across campus. For example, rather than the narrow themes of "Ecology and Grassland Ecosystems" and "Water" (which already beg questions about overlap even as they narrow the field), something like "Humans and the Natural World" would not only encompass these topics, but would allow

for a wide variety of involvement, from those working in agriculture to art and creative writing to philosophy.

I appreciate the goals of K-State 2025, and I look forward to helping achieve them. But there is a lot of cynicism on campus about such plans, since there have been great vision plans before that generate lots of reports and not many results, or that create anxiety about losing resources rather than creating energy to do good work. I am reassured by Pres. Schulz' statements that feedback on this report will be taken seriously, that another committee will be convened to consider the issue. I encourage that second committee not to divide the Humanities and Social Sciences away from the Sciences (who themselves do not feel accurately represented by the existing report) but to truly address the weaknesses of this report and make a thorough revision of it, not simply an addendum. In one meeting I attended, a productive publishing scholar remarked that if this report were submitted for research publication, it would probably get a "revise and resubmit" response. I think that's fair, and I hope the university will seriously consider it in that light. I add one caveat of my own: the revisions need to be done by those who can more fully represent the concerns and priorities that were excluded by the parameters of the current report. If the Social Sciences and Humanities are not going to be seen as the service departments within the College of Arts and Sciences, and the College of Arts and Sciences are not going to be seen as the service college to the professional colleges, our representation needs not to be determined by counting colleges, but proportionate to our overall proportion of faculty, research, and teaching within the university.

Subject: Research Themes Report

Date: 9/19/2012 5:20 PM

As a member of the Research Themes committee, I would like the administration to know that the negative response to the Research Themes Report was not unanticipated (at least by some of us). While we had many fruitful and collegial discussions across multiple meetings, ultimately there was significant (still collegial) disagreement regarding the charge to the committee and the definition of what constitutes research success on campus. Perhaps the primary source of this disagreement was whether and to what degree we were bound to the Vision 2025 metrics set forth previously by the administration. Several of us interpreted the charge to be to develop a comprehensive review of all research activities on campus, including but not limited to externally (major grant) funded projects. The large majority of the committee, however, felt more strictly bound to the stated metrics:

Key University Metrics for Visionary Goal

- Total Research and Development Expenditures
- Total Endowment
- Number of National Academy Members

- Number of Faculty Awards
- Number of Doctorates Awarded
- Freshman-to-Sophomore Retention Ratio
- Six-Year Graduation Rate
- Percentage of Undergraduates Involved in Formalized Research Experience

Based on this assumption, the committee focused primarily on analyzing research and development expenditures, or patterns of grant funding. It could reasonably be argued that increased external grant funding would facilitate an increase in the number of national academy members, faculty awards, and doctorates awarded. The cost of this assumption was that any research that was not externally funded was underrepresented, if measured at all. We also included a citation analysis as indication of the output of such grants, but as clearly stated in the report, the metrics used in the citation analysis were biased toward publication patterns in the hard sciences.

Advocates of the broader interpretation of the committee's charge suggested several additional analyses at various points in the process, including:

1. Procuring data on books published and other scholarly activities (a specific database was mentioned in the report)
2. Surveying department heads as content-area experts, to get a better grasp on cross-departmental collaborations, emerging research areas, etc.
3. Rerunning the citation analyses with parameters more suitable for the social sciences (due to the longer time to publication and lower number of co-authors)
4. Attempting a social impact analysis, whether through engagement offices or media content analysis
5. Examining other types of ranking systems or metrics that are more discipline specific (e.g., editorial board membership, journal editorship)
6. Measuring applied research, whether through engagement, corporate contacts, etc.

I wanted to share these ideas with the hope of passing them on to the committee that will be constituted to analyze social science and liberal arts research themes. I also wanted to raise awareness of the danger of limited metrics that do not capture the full range of scholarship that occurs on a university campus. The measures (and rewards associated with them) will shape faculty behavior and perceptions, just as they shaped the direction of this report. While I do not

think it was intended, faculty whose predominant mode of research is not externally funded grants cannot help but feel disenfranchised by the current list of metrics, and fear that they will be left out of future dialogue and rewards. When asked at public meetings, both the President and Provost have verbally admitted that there are other valid measures and that colleges can make a case for how they fit in to Vision 2025. That sentiment is appreciated, but does not adequately quell concerns that administrative decisions are being made primarily based on the “official” list, and that alternative measures are a secondary consideration.

I would also like to share two other observations or lessons learned as a result of participating in this committee process. The first is that there are very poor data sources and consequently very limited awareness of the research productivity of our faculty. Another part of the reason we analyzed the data (grants) that we did was based on data availability and accessibility, and even the grants database required considerable manipulation to achieve the results we presented. The second is that there is not an adequate level of understanding and appreciation for the plurality of research activities across campus. There were a subset of committee members who sincerely believed that grants are what “really” count, and that our report was what the administration “really” wanted. I worked in the pharmaceutical sciences before pursuing business school, and have helped to assemble a significant NSF package, but I was one of the few with experiences on both sides of the “fence.” I was asked point blank, “How is it possible to do nonfunded research?” My colleague could not fathom that there are such things as original theory development, archival databases, qualitative data, observational/anthropological studies, access to organizations in various industries, etc. And then there was the misleading (and condescending) assumption that those who procure grants fund the rest of the university based on their overhead, and that the social sciences are therefore “rightly” dependent on the hard sciences to lead K-State in research activities (kind of a trickle-down economics approach to R&D investment). Simply put, there is much education still to be done to encourage cross-disciplinary dialogue and collaboration, and to increase the level of mutual respect for the variety of contributions we all make.

I am happy to field any questions you may have based on these comments.

Subject: addendum report

Date: 9/20/2012 1:09 PM

To Whom It May Concern:

Please find attached a copy of the addendum report describing the Sensors and Sensor Systems research effort as current with FY2012. If you have questions or observations regarding this report, please do not hesitate to contact me.

Thank you for your attention and time.

Subject: Comment on Research Themes

Date: 9/28/2012 11:28 AM

I believe this is an excellent suggestion:

We recommend a few, large investments (in people, buildings, or large-scale equipment) rather than multiple modest investments (as in the model of the previous Targeted Excellence program).

I believe it should not apply to only large scale equipment, but should be considered for all multi use or expensive units - we should not be buying multiple units of expensive equipment that are not used on a regular basis (especially since technology changes so quickly), so a single purchase that is shared would be logical. As well as the cost of the equipment, there are usually additional costs associated with upkeep that could all be spent on other projects, so we would get more value for the dollars we spend.

The idea of a designated research building would go along with above since one place to house our equipment (at least some of it) makes sense and would foster more collaboration and make it easier to attract funding support, at least I would hope it would.

Subject: Research Themes Report for KSU 2025

Date: 9/28/2012 11:49 AM

As a professor of English, whose books and other published research has earned a national and international reputation for both myself and Kansas State University, I am extremely dismayed to see that the research areas identified for emphasis and focused investment in the *2025 Research Themes* report are all in the bio-, agricultural, and medical sciences, in technology, and in physics. Where are the humanities, the arts, the social sciences, and other areas of science such as geology, botany, and geography? As usual, it seems, the committee that was commissioned to produce this report has thought of productive, meaningful, and high-profile research as something that goes on only in the hard sciences. This is very disappointing and disturbing. Moreover, it flies in the face of Kansas State's mission and profile as a comprehensive research institution. This report's recommendations need to be completely reexamined and reconsidered!

Subject: Feedback on 2025 Research Committee Report

Date: 9/28/2012 12:43 PM

Dear President Schulz, Vice President Treymn, and Research Committee,

I write to provide feedback on the 2025 Research Committee Report. As a successful professor in the Humanities, I am dismayed to find not only my discipline, English, but the entire field of the Humanities absent from the recommendations and rubrics of the report. The committee's decision to "identif[y] research areas as successful [only] if they attract significant external funding" is inherently flawed. That rubric limits the committees findings to the Sciences, which is only acceptable if there is a second 2025 Research Committee that will explicitly attend to the successes and needs of those in the Humanities. The report calls for such a parallel task force; however, the publication of these findings prior to the construction of such a committee is troubling. I'll look forward to seeing a research discussion and an approach to the K-State 2025 plans that includes my work in the future.

Subject: Social Sciences?

Date: 9/28/2012 1:06 PM

I have read the 2025 Research Committee Themes Report submitted in August 2012. I am writing to express my concern that the social sciences (and the humanities!) have been given short shrift in this report. I hope that the university leadership will commission a similar study that speaks to the College of Arts and Sciences.

"Research" is a fuzzy term to define, as the report indicated. I hope that the university does not intend to flatten the term and exclude many of us whose research is conducted outside out an external-grant-funded laboratory. As an anthropologist, my work is as far outside of the lab as one can imagine. I do fieldwork in India to help bolster the scholarship available on living religious traditions around the world. I have published in the area of religious extremism in Indian communities, and how such nationalism affects diaspora Indians (both Hindu and Sikh) in the United States. Cultural anthropologists don't bring in big grants, but our work is important. Yes, K-State ought to support the studies in nanotechnology, water ecology, and food safety. K-State should also acknowledge the importance of research about culture and society.

One more thing, there are some quick fixes that would help bolster research productivity immediately: more travel money for conferences, e.g. My department, Sociology, Anthropology and Social Work, does not guarantee conference travel monies. Unlike every other faculty member I know at other universities and colleges around the world, the faculty in my department have to beg our department head for conference money anew each time we have a paper accepted at a conference. Sometimes we are accommodated, but not always. Even peers at small non-research institutions have money set aside for annual conference travel. This lack of resources is endemic, and is not a small thing; it makes K-State appear ambivalent about research. Conference travel is crucial for faculty to stay networked,

connected and on the cutting-edge of research and innovations in their field. My peers at other institutions find this lack of resources reason enough to consider it an undesirable place to teach. I am proud of K-State, but I am bewildered by this grievous under-investment in faculty.

Subject: suggestions for strengthening research

Date: 9/28/2012 2:25 PM

This is a critical report for our land-grant university. Everyone on campus has important roles to play in making the future. Everyone needs to be included. And we all need to be brought together in new ways.

Kansas, the U.S., and the world are facing incredibly perplexing challenges in every dimension of social life. This calls for thinking holistically and in innovative and interdisciplinary ways. We need to do things differently, and we need to teach and do research in ways that will enable us to develop new visions of what could be, and new practices to go along with these visions and changes.

This will involve crossing over the boundaries of education, research, and service as we transcend disciplinary worlds. We have to help prepare students to lead and work together in new ways. We need to realize that teachers, staff and administrators can work together to construct creative, collaborative learning experiences that will enable students to build a sustainable future with others, here and around the world.

Your 2025 report leaves out many areas of inquiry and it privileges a limited number of scientific endeavors that some may assume will provide a few critical answers that will be needed. But it doesn't place emphasis on creating an open, questioning climate of interdisciplinary education, research, and service that will prepare us to deal with the hard challenges of the future. This is what a top 50 university does at this point in history.

To really prepare for what is coming, faculty, staff and administrators could be placed in cross-disciplinary work circles. Researchers could carry out projects that transcend disciplinary boundaries and that facilitate the use of mutually understood ideas, theories and evidence, and potential solutions. Faculty could teach cross-disciplinary courses and prepare students to transcend rigid boundaries that keep us from seeing the big things before us. And all faculty and researchers could work together on analysis and applied changes, which would integrate Extension into the heart of the university. This would put power into our land grant university and it would help our students face the world with the knowledge acquisition and collaborative skills they will need.

Interdisciplinary investigation and collaboration should be the norm, and not the exception, in all walks of life.

September 28, 2012

Dear President Schulz and Provost Mason:

The faculty within the Department of Human Nutrition read the *2025 Research Themes Committee: Identifying Opportunities for Focused Research Expansion* and were pleased with the intent, effort, and devotion of the committee to improve research capabilities and productivity at Kansas State University. The committee's efforts lead to the realization that several of our department's research efforts, including Food Sensory Analysis and cancer and immunology, were acknowledged as areas of expertise and the report identified areas of future research expertise that are currently developing at a significant rate, especially obesity and disease prevention.

It was noticed by our faculty that the methods used to define the final list of areas of expertise for funding omitted research excellence in sensory analysis, which was ranked third at Kansas State University using one of the assessment tools, and failed to include recent (2012) research accomplishments and our productivity from many of our Associate and Assistant Professors, and Research Assistant Professors in the areas of Obesity, Nutrition and Disease Prevention, and Quality of Life. While the report did not capture current level of faculty funding (greater than \$7,500,000 in the target areas) or our rapidly developing expertise in childhood nutrition and obesity, the report has helped our faculty recognize that we must do a better job of publishing in higher impact journals.

Here are concerns our faculty have regarding the process for determining the research themes:

Timeliness of assessments. We realize that other units experience similar surges in scholarly activity as we have recently experienced, thus to get a more complete picture we recommend these outcomes be assessed every three (3) years.

Assigning funding credit to one individual. Another grave concern is how the report assigned all funding credit to a single PI, and the associated administrative unit. With research becoming increasingly interdisciplinary, we fear that only giving credit to the PI and PI's unit might mean less interest in collaborating among units on campus.

Sources of recognized funding. In addition, faculty members from our department commonly get substantial (over \$100,000/year) funding from nonfederal sources (e.g., industry partners, commodity organizations, state organizations, etc.). We realize that it is difficult to project how funding in these areas will grow, nevertheless, nongovernmental funding should included in the final rubric.

Division of Research Areas. We think that the report tries to split out specific areas of research too much. We believe that Kansas State University is uniquely positioned to be the leader in food research, from farm to fork and from harvest to health, which encompasses food safety, agriculture, sensory analysis, physical activity, in addition to nutrition and dietetics. We believe that the public and legislature will understand and easily identify with these research areas as they impact people everyday.

All in all, we support having a procedure in place to evaluate the outcomes of research spending and how best to invest in research areas. However, there are shortcomings in the current approach that will negatively impact future research activity. We look forward to working with leadership to enhance the process for advancing our research initiatives and moving Kansas State University to 2025 goals.

Respectfully submitted,

Faculty of the Department of Human Nutrition

Subject: Comment on "Identifying Opportunities for Focused Research Expansion"

Date: Saturday, September 29, 2012 2:13:48 PM

Dear Provost and President,

As you suggested during your presentation at the College of Engineering on Friday September 21, I would like to bring to your attention the following two points:

1) An additional research area on "Computational Comparative Medicine" should be added to Group 1 of Recommended Areas for Focused Research Investments. This is the research area that Dr. Riviere will be leading.

2) Dr. Jim Riviere should be added to the list of leading researchers at Kansas State University.

Subject: Feedback on 2025 Research Themes Committee report

Date: 10/1/2012 1:03 PM

Many thanks for providing an opportunity for the campus community to review and comment on the report from the 2025 Research Themes Committee. I've shared my concerns in conversation with you both, but I wanted to offer them in writing, too, as your team gathers feedback and plans the next step.

In general, I appreciate the work of the committee and its impulse to find parameters by which to meet its difficult charge. However, the resulting report has several consequences that work against the goals of 2025. The tentative plan you have mentioned -- to convene another group of faculty and administrators to consider research, scholarship, and creative discovery across the university -- would indeed be helpful.

I'll let department heads and faculty from the sciences speak to concerns about the type of data used for the report, including attribution of research to the correct person, correct categorization of research, and exclusion of relevant research from the prescribed categories. I'll highlight instead two areas of concern to the humanities:

* Like other department heads and faculty in A&S, I have concerns about the assumptions of the report regarding the best metrics to use (databases, time frame of three years, extramural funding). These metrics would tend to exclude key research, scholarship, and creative discovery in Arts, Humanities, and many Social Sciences.

* Also, like other department heads and faculty in A&S, I have concerns about the loss of larger, interdisciplinary themes which prevent acknowledgement of interdisciplinary teams already at work (and those that could develop in the future), as well as the RSCD that is currently happening in Arts, Humanities, and Social Sciences. Broader interdisciplinary themes would allow various disciplines across the university to see themselves in the report's goals.

Looking ahead, it would be beneficial to broaden the current report's more limited, backwards-looking scope to a broader, interdisciplinary vision for future research. Doing so does not preclude recognition of RSCD activities that generate revenue. However, a broader report could mitigate the feeling of exclusion created by the current report. Ideally, there would be one integrated statement on key RSCD goals/themes for K-State 2025, much as our Research Infrastructure Task Force presented one integrated report that represented RSCD across K-State's diverse disciplines.

As always, if I can provide assistance on this issue or others as you move forward, please let me know. I am happy to help.

Subject: Research Themes Committee Report

Date: 10/1/2012 3:40 PM

Thank you for the opportunity to respond to this report. It is disheartening to see the Humanities, Arts, and Social Sciences intentionally excluded from the initial consideration, and even though this report calls for a subsequent, separate report, these disciplines have already been placed in the role of subaltern "other." In addition, the structure of this report ignores important principles articulated in the RSCAD Logic Model prepared by the Theme Committee co-chaired by Dr. Beth Montelone and Dr. Mo Hosni. That model emphasized the need for increased interdisciplinary collaboration and envisioned the establishment of research centers. This report attempts to project "areas that ... are likely to attract support from funding agencies in the future" by tracing the work of individual primary investigators, separated into distinct research categories, without adequate recognition of existing interdisciplinary work and structure to enhance that in the future. It would have been more helpful if the conceptual design of the report supported the goal of interdisciplinary collaboration.

Subject: 2025

Date: 10/1/2012 10:06 PM

I am writing in response to the invitation for consideration of the 2025 research themes. I want to thank you for your work, and thank President Schultz for the recent meeting with the Arts and Sciences faculty. I had intended to respond there, but with the time running out, the meeting seemed to take on more of the spirit of a gripe fest, and I wanted to be a little more productive than that. Hence this note with a short term and a long term suggestion for you and for the committee.

I would have concurred at the meeting with the response that found the place of the humanities woefully diminished if not omitted in the report. Positioning it only in relation to amounts of grant support, even visualizing the disparity in a pie chart, by itself does an injustice to the idea of a full-service research university, of which there are good models to emulate, my

doctoral institution Cornell as exemplary. Despite the good faith assurance from you, Provost Mason, and Dean Dorhout that further thinking remains to be done, I think that the report gets us off to a poor start in the valuable project of envisioning the best university we can become.

My two very practical recommendations are as follows, one more particularly for President Schultz to consider, the other for the committee and long-term planning. Unfortunately, both require funding support.

1. In order to avoid the sort of problem created by the misfire of the report regarding the humanities, and other instances that have unfortunately circulated as examples of a real lack of understanding of what humanities research entails, I recommend that at the earliest opportunity, someone be hired in the central administration in the humanities. Unless I am mistaken, I don't see that you have someone there to bend your ear or be a salutary and sustained nag, not to mention being an antenna for the morale, distinctiveness, and productivity of the humanities faculty.

2. While the idea is more ambitious, it has also been circulating for quite some time among faculty: the creation of a Humanities Center or institute. I speak from specific knowledge in this regard, again using the model of Cornell as a land-grant school. I was fortunate to receive one of the four year-long fellowships there at their Society for the Humanities, an experience which gave me particular awareness of how interdisciplinarity can actually work, particularly in light of the report's call, as follows:

Establish new and enhance existing major nationally and internationally recognized research programs or centers that promote interdisciplinary/multidisciplinary collaboration and innovative research and are supported by core facilities and infrastructure.

The Society was interdisciplinary in ways I have not seen here. Its current fellows include social scientists, mathematicians, and communications specialists, along with the usual suspect types in literature and the arts. I found myself meeting members of the psychology department, having dinner with the Dean of Agriculture, and others, in continually valuable intellectual exchange, with surprising, if not amazing, crossovers and overlaps of interest. Here, a center could have a nature that would distinguish it from, say, the Hall Center for the Humanities at KU. With our mission, an engagement-style center would be ideal, along the lines of burgeoning programs in the "public humanities," about which I spoke to Peter Dorhout during his interview process.

This would be in keeping as well with the Engagement theme, and go well beyond our Center for Engagement, from which I have been fortunate to receive a recent grant. Interdisciplinarity in the full intellectual sense often happens with initial impetus from the humanities, who have tended to lead the way in the concept of the "public intellectual." Moreover, this is just the sort of center that could itself garner research grants—though nowhere near the proportion of the sciences, although I attended a national Engagement conference with one session on a \$450,000 grant that Dartmouth College had received.

I realize this is just one faculty member's idea, but I think it would be important for programs in the humanities, and demonstrate a real, inclusive vision. I would be happy to speak further about this at any point. And I do appreciate your work, planning, and consideration.

MEMORANDUM

October 2, 2012

To: Dr. April Mason, Provost

From: Dr. Peter K. Dorhout, Dean

RE: Research Themes report

This memorandum summarizes, in brief, many of the comments that have come across my desk regarding the Research Themes Task Force (RTTF) Report. While there are many aspects of the RTTF report that are arguably accurate given the focus and caveats presented, it is the general perspective of the faculty in our college that this report falls short of providing the leadership of the university with recommended “areas which would advance our position with the(se) metrics of 2025.” The report begins with the statement that “we chose to identify those opportunities that (1) are likely to attract support from funding agencies in the future; and (2) have a strong base of success already established at Kansas State University. The committee employed a limited data-driven process to identify future opportunities and areas of current research success as demonstrated by publication excellence and /or extramural research support excellence” within a narrow window of time and disciplines.

As you are aware, in 2004-5, the National Research Council set upon its decadal task of evaluating graduate programs, specifically PhD programs, across the US. Several years were spent evaluating the myriad of metrics that define “excellent PhD programs”. Moreover, this process of defining the metrics also recognized that within the different disciplines, the relative value (or mathematically speaking, the weighting) of a given metric differ across disciplines – the value of a journal article in Chemistry was very different from one in English, the value of a national award was different in Classics than it was in Engineering. In total, NRC settled on 20 variables to measure PhD program quality across dozens of disciplines, each with its own set of quality weighting factors for those variables – it was an arduous task.

Nevertheless, the result is a rich dataset (albeit somewhat dated now) containing information about how nearly every discipline at the graduate level measures success. Missing in these data are programs in education, the arts, and the professions, and the data are limited to PhD programs only. Unfortunately, the RTTF did not have the level of resources nor the nearly 4 years to develop their analysis that the NRC had.

As a college, we regret that a more complex model for measuring relative success such as the one developed by the NRC was not considered. As a starting point, the NRC study evaluated and ranked

27 of our degree programs against hundreds of other programs. Many of our programs are in the top quartile (and arguably in the top 25) in their discipline. Others are in the second or third quartiles. A key question to ask while prioritizing investments in research is “what would it take to move our third or fourth quartile graduate programs into the top two quartiles while not jeopardizing our top-quartile programs?” Without an appreciation for what is valued within the discipline (papers, monographs, citations, awards, grant dollars, etc.) and performing a cost-benefit analysis, the strategy for data-driven investment is impaired. Therefore, I submit that the limited analysis performed by the RTTF, with the assumption that research funding and highly-cited papers are universally-appreciated among all disciplines that contribute to a top 50 university, is flawed and that interdisciplinary scholarship, which was minimized in the report, is completely discounted.

An important outcome of the RTTF report should have been a set of universally-held and appreciated strengths of the university. In many respects, this set of strengths is reflected in how other programs view us, which is hard to assess. I understand that not everyone is “above average,” to quote from Garrison Keillor, but when we look at the top 50 public research universities, we see that the majority of these have research programs (as reflected in the NRC study) in the top two quartiles of the analysis (i.e. above average). Although we have limited resources to invest in our research programs, it should be recognized that it becomes increasingly difficult to penetrate the top 50 in our combined metrics without a top 50 college of Arts & Sciences. What we have in the RTTF report is a rudimentary evaluation of a limited set of variables – what we need is a more careful evaluation of where we can best invest our resources to get the biggest bang for the buck.

As someone who was at the forefront of the NRC study as the model was being developed and who is intimately familiar with the data analysis tools used therein, I remain at your service to help provide a level of evaluation that, together with a new team of faculty and staff, may lead to a model that provides a cost-benefit analysis approach for future investment. However, I will submit that the cost-benefit analysis will be difficult.

The bullet points below identify some of the specific comments shared by my department heads:

- * We have concerns about the data used for the report, including attribution of research to the correct person, correct categorization of research, and exclusion of relevant research from the prescribed categories.

- * We have concerns about the assumptions of the report regarding the best metrics to use (databases, time frame of three years, extramural funding), so that the research, scholarship, and creative discovery in Arts, Humanities, and many Social Sciences are excluded from consideration (we noted the caveats in the report – databases such as Academic Analytics among others should also be considered for how they address these areas of scholarship).

- * We have concerns about how the report, in its current form, will be "operationalized": is it a blueprint for funding allocations, for instance, and how will funds affect relative rankings?

- * We have concerns about the loss of larger, interdisciplinary themes, which prevent acknowledgement of interdisciplinary teams already at work (and those that could develop in the future), as well as the RSCD that is currently happening in Arts, Humanities, and Social Sciences. Broader interdisciplinary themes would allow various disciplines across the university to see

themselves in the report's goals.

- * We expressed concerns about the "divisive" effect of such a report within a community of scholars, researchers, and artists who otherwise think collaboratively and with collegiality.
- * We shared the general view that the current report is best seen as "incomplete": it needs revision to broaden its current limited, rearwards-looking scope to a broader, interdisciplinary vision for future research
- * We hope that the new group of faculty assembled to review RSCD in Arts, Humanities, and Social Sciences will be able to meet with the report's task force, so that there can be one integrated statement on key RSCD goals/themes for K-State 2025. To request a second, essentially appendix report to address the hard programs to assess will not achieve a unified, universally-held set of strengths. We are afraid that this second report will be seen as "the other report" rather than creating coherent set of strategies for K-State.
- * Many of our departments are not as successful as they might be to secure external funding (lack of understanding the funding landscape, lack of mentoring, history of the program, etc.). We suggest that there is much progress to be made simply by changing departmental cultures, and that this may be done in two ways. A grant-seeking culture may be fostered, though not instantaneously, if departments hire faculty, whether replacements or in new lines, who pursue work that is potentially fundable by outside agencies without sacrificing the values of the program. Moreover, this culture may be fostered by rewarding interdisciplinary/team research projects that are able to attract funding because they focus on major global issues and incorporate arts/humanities /science/engineering approaches to scholarship. We are not suggesting that the only way to measure quality in arts and humanities is through interdisciplinary scholarship, but one proven way to enhance funding for such programs is through interdisciplinary work.

Subject: Late comments on the Research Themes

Date: 10/8/2012 1:48 PM

I am very glad that a report which identifies the journal citations is been used to define the strength of the research areas at K-State.

I understand that several research groups (mostly with low citations (probably due to the research area) or where citations are not recorded by ISI-Knowledge) are opposed to the methodology. It is my hope that due to this challenge in evaluating different research areas, we do not drop off using citations as an indicator of success in research. Over the last few weeks, while I have heard good comments, I have also heard arguments that Nature/Science articles and journals with high impact factor are overrated and the area has a lot to do with research citations.

It is important to identify/realize that:

(a) higher citation would mean that more and more people are reading research by K-State. Therefore, it means more visibility of K-State. If a research area has less citations or if it is not cited by ISI, that would mean "less visibility for K-State". Also, more visibility = K-State is being perceived as a top research institute.

(b) High impact journals and citations mean that the work is recognized as seminal results. This will attract attention to K-State.

(c) Working in hot areas, where citations are high is not easy due to competition. However, the rewards are more. Therefore, work in these areas should be promoted, due to the possibility of high citation, visibility, and recognition of K-State as being involved in contemporary/current/hot research.

October 10, 2012

Provost April Mason
108 Anderson Hall
President Kirk Schulz
110 Anderson Hall

Dear Provost Mason and President Schulz,

As members of the University Distinguished Professors Group (UDPG), we are writing to provide our perspective on the 2025 Research Theme Committee's report *Identifying Opportunities for Focused Research Expansion*. We recognize the importance of identifying areas of excellence in the university's current academic programs with respect to research and other scholarly and creative endeavors, and highlighting those areas with the greatest potential for advancing our 2025 goals. We also recognize the difficulties of doing so without alienating a portion of the university community, and we commend the committee for undertaking this difficult task. However, the UDPG believes that the report is flawed in several critical ways, including the limited scope of the report with respect to (1) the breadth of academic programs expected in a comprehensive top-tier university and (2) the metrics used to evaluate those research programs that were included. We elaborate on these issues below.

A major shortcoming is that the report includes, under the broad heading of research, only disciplines in the biological and/or physical sciences. This may be related to the narrow disciplinary breadth of the committee charged with creating the report. However, this raises questions about the goals of the report, decisions made concerning the composition of the committee, and the charge they were given. Earlier reports commissioned as part of the 2025 planning activities (i.e., reports from the Research Infrastructure Task Force (RITF) report and the Research, Scholarly and Creative Activities, and Discovery (RSCAD) theme committee) defined research broadly to include not only scientific research writ narrowly, but also other discipline-relevant scholarly and creative activities. This committee's decision to exclude those broader scholarly activities and disciplines leaves the impression, even if unintentional, that they are not important to our mission of becoming a top 50 university. This perception has been compounded by the fact that there has been no apparent progress to date regarding plans to follow this report with a second one focused on the social/behavioral sciences, humanities and arts. While we agree that the current report missed an opportunity to evaluate strengths and opportunities areas for growth in all disciplines, a separate committee and report for the social/behavioral sciences, humanities and arts ignores the synergies that result from trans-disciplinary research. In fact, many funding agencies support large programs and centers that foster trans-disciplinary approaches and that merge biological sciences, physical sciences, social/behavioral sciences and the humanities to address complex issues. Rather than separate, but equal, reports, a better approach might be to appoint a broad-based committee that can address both current disciplinary strengths and potential thematic areas for collaborative and synergistic growth in the future.

With respect to evaluating disciplines and research programs that were included in the scope of the report, the metrics used were too narrow and covered a frame of reference that was far too short to adequately document strengths in research funding and productivity. For example, the report counted only extramural funding in a very narrow timeframe, and ignored the long-term and continuing contributions of many individuals and groups to research activities at KSU. Similarly, a very limited

window of publication citations was used to assess research productivity and impact. Only the lead PI was given credit on grants that rely on the strength of research teams. Additionally, the grouping of individuals into different research themes seemed arbitrary, and in many cases was just plain wrong. Many individuals making important contributions to the research themes highlighted in the report were omitted, and others that contribute to multiple thematic areas were listed in one area, but not others. This categorization ignores a critical point developed by earlier 2025 research theme groups, the increased importance of interdisciplinary and trans-disciplinary collaboration in the development of research centers. In short, we believe that the attempt to identify individual faculty members as “leaders” was misguided, and that future reports should not name or attempt to rank individual investigators.

Finally, the focus on identifying past areas of strength resulted in a report that was more retrospective than prospective. We recognize that identifying areas of strengths is an important starting point. However, we recommend that future reports focus more substantially on identifying areas for future growth and expansion, particularly in terms of national research priorities and grand challenge questions, since these are areas where strategic investments are most likely to pay off.

The UDPG recognizes that this committee was charged with a difficult task, and we appreciate their efforts. However, for reasons indicated above, we believe the report could be demoralizing and divisive, as many people will view an omission of their disciplines, programs, departments, and/or names as a sign of lack of recognition and future support. We encourage the 2025 team to consider the limitations of the report as they move forward, and to strive to be more inclusive of all disciplines in future planning activities. Subsequent committees charged with building on this report might benefit from the following suggestions: (1) define research more broadly and consider the value of research themes that cut across multiple disciplines, (2) include input from a broader cross-section of top academics that are familiar with our existing research programs and strengths, and (3) consider major areas of national need and grand challenge questions that can guide development of new research and scholarly activities as we look to the future. If members of the UDPG can be of assistance in this regard, please feel free to call on our membership.

Respectfully,

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Date: October 12, 2012

To: Kirk Schulz, President
April Mason, Provost and Senior Vice President
Ron Trewyn, Vice President for Research

From: Virginia Moxley, Dean, College of Human Ecology

Re: College Response to the 2025 Research Themes Committee Report

Faculty and administrators in the College of Human Ecology have reviewed the 2025 Research Themes Committee Report entitled "Identifying Opportunities for Focused Research Expansion" and we are impressed with the effort that went into the report and the focus on moving research forward at Kansas State University. However, we are troubled by a number of aspects of the committee's approach. First, the report is almost entirely backwards focused. Emerging areas could not measure up on the indicators used. Also, because disciplines have different publishing realities, the assumption that the number of papers/citations is a measure that is defined the same way in various disciplines is simply naive. Additionally, the costs of conducting research vary considerably from discipline to discipline so there are some very likely "significant wins" that can be achieved by investing in social sciences. Finally, the report included only federal sources of support for scholarship and omitted from consideration corporate, philanthropic, crowd-sourced, or venture capital as measures of research support.

As a College, we take pride in the successes of our faculty in securing extramural funding. Moreover, this extramural funding, as a ratio of extramural funds to general funds (roughly 2:1) is extraordinarily high compared to other K-State colleges. College of Human Ecology faculty want to continue to be successful in extramural funding environments, and they are already operating at a general fund resource deficit relative to peers at Kansas State University with their current level of productivity. If the recommendations of this committee lead to focused research investments in the identified areas, it is highly unlikely that College of Human Ecology faculty whose work is not a match with these themes will have access to sufficient resources to validate and support their extraordinary efforts.

I recommend that:

1. Research investments be justified not only by past and current productivity, but also (or alternatively) by viable strategic plans for moving the research enterprise forward.
2. Research investments focus more on opportunities, broadly defined, and less on the status quo.
3. Research investments support infrastructure that promotes growth in research productivity. These things would increase the ability of College of Human Ecology faculty to be more productive scholars. I expect these needs are universal. All scholars benefit from having access to the right tools and to a supportive and accessible team.
 - a. More and better research space and equipment.
 - b. Venture capital fund to take good ideas to commercial realities
 - c. Expansion of editorial support for publications and for proposal development support.

University research investments might begin from these questions: What does the world need of us now? Which research teams are gaining momentum and could rapidly advance with some additional support? How can we best advance the impact of scholarly work institution-wide?