Mike [Dean Klag]—thank you so much for your gracious words, support, for your leadership of our School, and for your partnership in leading this great Department of Biostatistics. To you; to our distinguished guests; to the Biostatistics faculty, students, fellows, and staff; to all our friends and colleagues here: To be entrusted with the Frank Hurley and Catharine Dorrier Chairmanship is humbling and an exceptional honor. I'll direct my brief comments to conveying why I feel this honor so deeply and with such great anticipation for the Department's future. But before I do, there are a few other thanks to be given,

First and foremost, to Frank Hurley & Kit Dorrier, whose generosity we are here to celebrate. To be associated with their names on this basis alone—their generosity--would honor me tremendously. But I want for everyone to understand—[I trust you've already perceived from the foregoing remarks]—Frank and Kit are so much more than philanthropists for us in Biostatistics. They're role models: Biostatisticians who have dedicated their lives to the betterment of society through healthcare products they've helped to provide to people everywhere—and have been spectacularly successful in their goal. They're Johns Hopkins family members who have invested themselves in the life and health of the institution through their time as well as their dollars. And they're true friends to Biostatistics—who come to our retreats and parties and write personal notes of support and have given of their energy and expertise to Scott before me, and now to me. Thank you, Frank and Kit. Everyone else—please join me in thanking them once again with our applause.

To name everyone else I'd like to acknowledge would take hours, but please indulge me in adding a few very personal thanks:

> Chuck Rohde—who hired me: Thank you for making possible the luminous experience of a career at Hopkins, for your warm support, and even for the ACC rivalry;
>
> **Family who have come to support me today**: Keith (best brother); Mom and Dad Roche (dear parents in law come all the way from Central New York under the most trying of circumstances): Can't tell you how much it means to me to have you here.
>
> **There are six mentors who have been particularly important to my career here at Hopkins: thank you--**
>
> Scott Zeger: went out of way to welcome and support me since day I arrived
>
> Kung-Yee Liang: been equally an intellectual mentor and a friend

(me, Bill, Keith)

Ron Brookmeyer: generous source of advice and particular role model in prioritizing what is important

Sheila West, Ophthalmology: earliest collaborator—spectacularly gracious to me personally & high role model of grace in leadership

Linda Fried, formerly Chief of Geriatrics, and now Dean of the School of Public Health at Columbia: so happy you're here; my dear friend, *my* pivotal role model and mentor in encouraging me toward leadership

- Isn't it wonderful about Hopkins that two not even in Biostat

Most important mentor of all, late Father: atmospheric physicist whose career at NASA was exceptionally intensive, but who was never too busy to help out in a trigonometry problem, or to take us to museums or wildlife refuges or the beach, or attend band concerts or graduations or any other event that was important to us. Thank you, Dad, for being here in spirit.

Most important thanks: BILL, my husband. Any one of you who knows me even a little knows how I adore him. Beyond that, I've never known a finer or more generous human being than he is. He makes all things possible for me. He's immensely talented in both of his chosen professions. Bill—thank you with all my heart. There is no greater joy or honor for me than that we are husband and wife.

Finally: to all my dear colleagues here—in Biostatistics; in aging, my cherished second field; throughout the institution—thank you for the excellence of your collaboration, for your friendship, and your dedication to setting Hopkins apart as the exceptional place that it is. I can't adequately convey what a privilege it is to share this day with you. But I can begin to convey the excitement I feel for Johns Hopkins Biostatistics as I stand to overlook our future, and I'll try briefly to do that now.

I'm excited, first, because we have a great field. I expect I don't need to convince my fellow statisticians of this, and so I'm going to turn to the rest of you for a couple of minutes—those of you who might have been mystified upon seeing the "best jobs in America" posting on careercast.com last January: [Statistician! Third best job! I was

jumping for joy, but then read blurb defining "statistician: tabulates, analyzes and interpret the numeric results of experiments and surveys" and I thought: That doesn't "get" what we do!] Increasingly I'm convinced that statistics would have an enormously less boring rap if only people understood what statistics is: a science!—I would say, *The science of learning from data involving appreciable variability or uncertainty.* And then, there's no more exciting place for our field than Johns Hopkins Biostatistics, because "data with appreciable variability or uncertainty" encompasses *just about all the data in biology, public health and medicine,* and the best biomedical data in the world are right here. Moreover, statistical science is important, because missing the boat on variability means getting the scientific evidence wrong. 57 years ago the field's importance was argued by Sir Ronald Fisher, one of the field's patriarchs, as follows: *Statistical Science [is] the particular aspect of human progress which gives the 20th century its special character…. It is to the statistician that the present age turns for what is most essential in all its more important activities.* Well, OK--I can understand if you find that a bit overblown. But the quote gives me a nice transition into giving you a second reason why you should anticipate great things from Johns Hopkins Biostatistics in the coming years:

This era is serving up spectacular problems for statistical science, and our department is poised to lead in those problems' discovery. If Fisher thought statistical science central in 1952, I wonder what he would think in this "information age" in which we now find ourselves? With the turn of the 21st century there came out a number of opinion pieces on the future of statistics—by luminary statisticians such as David Cox[1] and Bradley Efron[2], as well as a specially-convened NSF panel[3]. At least four of the areas highlighted by those pieces dovetail closely with areas we're spearheading in the present:

i. Large data sets: both # of measurements >> # of people, genomics, and data sets that are just plain massive: eeg, fMRI, etc.

   - The Department is fortunate that Rafael Irizarry, Ingo Ruczinski, Brian Caffo, Ciprian Crainiceanu, and Hongkai Ji are pushing the frontier on such problems. With their colleagues are advancing sciences in such areas as Genetic and genomic discovery; and knowledge on biological dysregulation, for instance, as occurs from disordered sleep.

ii. The second area highlighted by the NSF panel was models for describing complex systems – applications in which models are explicitly informed by biology, chemistry, physics, medicine, or public health of the problem—as well as by insight into the sampling strategies by which data come to us:

- Long standing tradition: currently going from Chuck Rohde to Ron Brookmeyer to Kung-Yee Liang to Scott Zeger to Mei-Cheng Wang to Francesca Dominici to Roger Peng—my area too

- We're working with colleagues to advance knowledge in areas including chronic disease and aging; brain health; population surveillance for prevalent, incident and recurrent health insults, infectious disease, social determinants and environmental health and justice

iii. Causal inference: the third among NSF-highlighted areas: "thought processes evaluating whether a relation of cause to effect exists" to borrow a phrase from a 2001 article by Merwyn Susser[4], above and beyond "correlation" or "association; study designs in which inferences on such relations can be reasonably grounded; and the implementation of these designs to evaluate effect iveness of treatments and interventions.

- The Department has truly exceptional expertise in these areas: Jim Tonascia, Tom Louis, Dan Scharfstein, Constantine Frangakis who with their colleagues are working to spearhead translation of science discoveries into improvements in health.

iv. Fourth NSF highlighted area: Education—both of emerging statistical scientists and of health scientists and practitioners who must use or be conversant with statistics to succeed in their fields.

- An area of particular pride and dedication for the Department as a whole; Fortunate leadership of Marie Diener-West, the very best statistical educator anywhere, currently chair of the School MPH program, as well as John McGready

I'm positive you're going to see a spectacular yield from Frank's and Kit's investment in us in the coming years, in the form of advancements in all these areas. Our faculty have pages upon pages of citations and a procession of awards to demonstrate that they're unsurpassed at these things they do. In the above I've only named my department's primarily appointed faculty, but we're also privileged to partner with a rich network of statistical colleagues throughout the institution. We build on a long and proud tradition of excellence, right on from our beginning in 1918, through recent years, until this moment. But you didn't need for me to tell you that Johns Hopkins Biostatistics is excellent. And you could well rejoinder that lots of places have great faculty and are doing exciting things and so are similarly excellent. And so what I want to leave you with is the reason I feel the very

most excited and privileged as the Department embarks on its future, and that is what sets Hopkins Biostatistics apart from those other places that "do things well"—our extraordinary environment.

- Our department—like our School—is extraordinary in its commitment to faculty success. I stand on the shoulders of giants in this—Chuck and Scott, who gave extravagantly of their mentoring to their junior faculty. They built the soundest foundation of resources, and so our priorities can be supported. I am devoted with all my heart to continuing, and even heightening, this tradition.

- Our department is extraordinary in its breadth of interests and styles of inquiry—what I've referred to as a color spectrum ranging all the way from the "disciplinary" science of **how** we learn from **data** at, say, the infrared to the **application** of statistics in **collaboration** with other science fields at the ultraviolet. This empowers us to discoveries of unsurpassed scope, insight and impact. And it equips us to engage flexibly in a future that after all is unpredictable, whatever I, the NSF panel or anyone else may say.

- Our department has an extraordinary setting in the world's leading School of Public Health, where we have the joy of collaborating with all of you—our marvelous colleagues in the Johns Hopkins Medical Institutions. After all, the application of biostatistics in **collaboration** with other science fields is what gives our field its **life blood--the source of data itself**, as well as its means **for bettering the world**.

- And finally, our department has enjoyed an extraordinary depth of mutual respect and affection. In part this flows more broadly from the culture of Hopkins, where we have no pyramid structure, but every individual who excels may succeed. It was in place when I arrived nearly 20 years ago, and so I have to credit Chuck and my other predecessors. If you're thinking I'm lapsing into a Pollyanna mindset, overly valuing or lauding "collegiality" when after all we're here to be excellent: I don't believe so. Our culture has been huge in attracting the very best junior faculty to join us: Just this year, in the faculty search we've successfully completed, candidate after candidate named it as a factor setting us apart. Our culture spurs collaboration, and in turn, the synergy that results when great minds come together. And when that special culture is taken together with our excellence, our broad spectrum and commitment to faculty success, what you find are the elements that are essential to creativity, which after all is central to significant scientific advancement….

Bradley Efron recently wrote: *This is the information age, statistics is the prime information science, and there is every reason to believe in a greatly increased statistical presence in the academy of the future. Or maybe not. Ideas are the coin of the realm in the intellectual world. Our continued growth and influence depends on the same thing that powered the last century, the continued production of useful new ideas and techniques.*

If this is the case, then there is no group in the world that is better positioned for influence and leadership in this oncoming age than is Hopkins Biostatistics. I couldn't be more excited about the future we're going to make. Dean Klag: Thank you once again for this opportunity. Frank and Kit: Thank you for your support that is so critical to sustaining the extraordinary environment we enjoy. To all of you here: Thank you for the joy and privilege of being your colleague, and here's to the future.

[1]Cox DR (2007). Applied statistics: A review. *Ann. Appl. Stat.*, 1(1): 1-16.

[2]Efron B (2007). The Future of Statistics. *Amstat News*, 47-50.

[3]Lindsay BG, Kettenring J, Siegmund DO (2004). A Report on the Future of Statistics. *Statistical Science*, 19(3):387-407.

[4]Susser M (2001). Glossary: causality in public health science. *J Epidemiol Community Health*, 55:376-378.