Dean's Newsletter
May 7, 2007

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Continuing Our Advocacy for Biomedical Research and Healthcare

This is a time when continued and very strong advocacy to support both biomedical research and radical improvements in our nation's healthcare system is critical and essential. Indeed these issues are completely interlinked. As I have frequently noted in prior communications, because of our nation's fifty-year investment in basic biomedical research, largely through the National Institutes of Health, the USA has dominated the world in discoveries in the biosciences and in the translation of this knowledge to improving human disease. This investment in the NIH has played a critical role in permitting our nation's leading research-intensive academic medical centers to train and develop generations of outstanding physicians and scientists. It has also allowed for the development of innovations and discoveries that have fueled and fostered biotechnology and economic health of communities – in addition to the creation of new diagnostic tools and instruments for the treatment and prevention of disease.

This has special relevance to California in general and to leading centers like Stanford specifically. For example, California leads the nation in the total amount of funding it receives from the NIH ($3.6B), with the next most successful state being Massachusetts at $2.2B. The impact of this funding has been enormous both scientifically and economically. For example, California also leads the nation in having the largest number of biomedical companies (currently 2700), which collectively employ some 258,000 individuals (above and beyond those employed at our academic medical centers, universities and research institutes). These successes have leveraged $2.9B in venture capital investment in California biomedical companies and $28B of reported private investment in research and development that have resulted in significant product development. Indeed the link between academic medical centers and industry is essential to bringing translational research to fruition in a way that improves the human condition. Reductions in biomedical research support not only slow down the basic discovery

process and diminish the pipeline of future scientists and physicians, they also have a direct negative impact on industry and thus on the economic health of our communities, state and nation.

Ironically, during the past several years, this very investment and the world-class enterprise it has fostered and developed have become vulnerable to significant funding reductions by the Administration as well as the Congress. In fact, the Administration's proposal for the NIH FY08 budget is $500M lower than FY07 and if enacted would result in a 13% loss of purchasing power by the NIH since 2003, the year in which the NIH doubling was completed. Indeed this would further aggravate what is rapidly becoming a serious threat to the success of our nation's investment in biomedical research – at the very time that other nations are making significant investments and increasingly competing for the knowledge pool of trainees and scientists.

Thankfully, both the House and the Senate are now taking a more proactive stance in supporting the nation's investment in biomedical research. A letter in the House led by Representatives Ed Markey (D-MA) and David Reichert (R-WA) has garnered 186 signatures and is achieving bi-partisan support. A similar effort in the Senate, led by Senators Ted Kennedy (D-MA) and Orin Hatch (R-UT) to generate a parallel letter is achieving similar success. These letters call for a 6.7% increase in the FY08 NIH budget – which would at least hold the purchasing power commensurate with inflation. Although this would not restore the losses that have incurred in the past four years, it would prevent further deterioration. Given the lack of discretionary dollars, to a great extent due to the War in Iraq, this may be the best that can be hoped for at this point – although it is critical to make clear that flat funding will inevitably have serious consequences both now and over time.

We have been working to bring these messages to the Congress. On Wednesday, April 28th I joined Mike Bishop, Chancellor at UCSF, and several other academic leaders from California in a roundtable discussion that included industry CEOs who are members of the California Healthcare Institute along with Elias Zerhouni, Director of the NIH, and eight members of the California House of Representatives. We had a very successful interchange and were able to underscore the critical importance of basic research and of the partnerships between academia and industry that would be unraveled if support for the NIH continued to decline. Congressional Members expressed their support for research – and their recognition that the nation's investment in the biosciences helped fuel the biotechnology industry and our California economy. Following this roundtable I joined the CEOs and met with individual Members of the House and Senate to underscore this message. While at institutions like Stanford we certainly appreciate the importance of biomedical research in its own right, I think it is important to note that the Congress sees this even more clearly when the impact on industry is articulated by CEO leaders. Hence this is an approach that needs to be continued in other sectors as well.

The message about the importance of the NIH and of support for science was further underscored on May 2nd when the 2006 Nobel Laureates visited the Congress. We were fortunate and privileged to have both Andy Fire and Roger Kornberg meet with

important committees and individually with a number of Members of the House and Senate. Based on the observations of Ryan Adesnik, Stanford's Director of Federal Relations, Drs. Kornberg and Fire were terrific in delivering this important message to the Congress, and we should all be appreciative of their efforts. I am copying below their written testimony since I believe it expresses well a message we can adopt in other communications, certainly in tandem with that underscoring the importance of our nation's continued investment in innovation. Their testimony follows:

Testimony of Andrew Fire, Professor of Pathology and Genetics and 2006 Nobel Laureate in Medicine and Physiology before the US Senate Subcommittee on Science, Technology and Innovation, May 2, 2007

Before we consider the value of science, we should first consider the goals of the scientific enterprise in this country.

Although each individual scientist brings a unique set of goals to their work, certain themes run throughout the scientific community and elsewhere:

Every American and every citizen of the world should have the opportunity to live a full and complete life without the ravages of tragic disease.

Every American and every citizen of the world should have access to sufficient resources and energy to fulfill their potential as individuals and as members of society.

Every American and every citizen of the world should have the opportunity to live in a world where they are safe from threats of terrorism, war, and other violence.

Our children, our grandchildren, and generations to come should have opportunities that are comparable to the best that our current society has to offer.

Scientific progress is by no means the only component in pursuing these goals. It is nonetheless a critical part. As our world inevitably changes, we will need to understand how these changes can affect our lives. As we become capable of greater manipulation of our environment, so questions of appropriate behavior, balance and sustainability become critical. We are at a turning point where technology and science will underlie most of the major decisions made by individuals, groups, and societies. There is no turning back from this.

Before we can talk about the value of science, we need to talk about limitations.

Science can help us to learn how the world works. Science can inform our decisions by allowing us to predict, albeit imperfectly, the concrete consequences

of proposed action. Science and technology allow us to manipulate the world within us and around us using an ever-expanding array of tools.

Science can't, shouldn't, and doesn't supplant our value systems. The value we place on human life is not a scientific calculation. Likewise, the many issues we debate as a society: our allocation of resources between the young and the old, our definitions of the beginning and end of life, our ways to prioritize the individual and the society, our allocation of effort toward long term maintenance of the human race; all of these rely on fundamental value systems outside of and beyond the scientific enterprise. Although scientific data (from molecular biology to theoretical physics to economics) can in some case inform ongoing debates as to the material consequences of each choice, the eventual decisions must come from our values and value systems.

Before we can talk about the value of science, we need to talk about opportunities.

From a portfolio too large to summarize, here are a few.

A dedicated war on cancer has been a flagship of the American scientific enterprise for the last 36 years. Inroads toward improving treatment of many types of cancer have been made in this interval, often based on a pipeline model that starts from investigation of fundamental biology and continues through careful clinical trials. The pipeline is by no means swift, but the initial results have made a difference between life and death, and between hope and despair, for millions of young and old people. Despite these advances, cancer still takes a devastating toll on individuals and families alike. We know that we can do more.

Infectious disease was declared to be a "closed book" in the 1960s, leading to a shift away from the commitment of this country to our public health agencies. This turned out to be tragically misguided. We now understand that new epidemics of infectious diseases are an intrinsic aspect of the dynamically connected society we live in: Flu, AIDS, SARS, Tuberculosis, Malaria and many more that we can only speculate on. Our capabilities for rapidly identifying and tracking infectious disease have never been better. Still, I am scared for the future. We know that we can do more.

Clean, safe, and renewable, energy production may become the most pressing economic, scientific, technical, and political challenges of the 21st century. Science has provided an armful of possible contributions in the form of new sources and dramatically improved efficiencies. Despite the recent burgeoning of a new energy industry, an upcoming global crisis in energy availability and in the consequences of our current use patterns seem virtually certain. We know that we can do more.

Before we can talk about the value of science, we need to talk about some of the challenges.

We do not train enough scientists, engineers, or doctors. We do not train enough teachers. To maintain a technologically driven society and to meet the challenges ahead, we need to vastly increase the number of technically trained individuals ready to work in all areas. Our needs in the area of science education are evident at all levels: in elementary, middle, and high schools, in college, graduate, and professional schools, in continued training of our scientific workforce, and in the sophisticated scientific training that the general public will need to make rational decisions. In none of these areas are we completely lost. Education in this country has a remarkable history. Many of our institutions are unparalleled in their quality anywhere in the world. At the same time, many of our young people never get the chance to make contributions that could uniquely benefit the society because their communities lack the needed educational opportunities. This is not an area that we can afford to ignore. Investment in education is an investment in our future. A neglect of this opportunity at any level would be a colossal mistake.

The critical early discovery stages of the developmental "pipeline" for science and technology often take place, by nature and by necessity, in universities and non-profit research centers. Research of value in such open environments has only been possible with public support of federal agencies. This research has driven both innovation and discovery in American science to an extent that the scientific enterprise in the US is truly and uniquely a societal effort. In this realm we face a continuous challenge in maintaining a productive and creative scientific enterprise under the inevitably fluctuating conditions of public support. Science in the US has thrived on a competitive granting system, a sink-or-swim arrangement that does a remarkable job in funding the most important and highest quality research while driving the establishment as a whole toward excellence. But how do we handle the inevitable instability in supply and demand, in the cost of research, in the size of the academic workforce, and in policies and outlook of the institutions of higher learning that are partners with the government in making this work? In times of expansion, there is ample room in the system for all types of ideas, all points within the pipeline, and all levels of venture-risk. In times of contraction, we all fear that the next grant review might end our research careers. Clearly, the solution here cannot be an infinite and exponential growth of the public research enterprise. Private support for science can smooth out some of the rough spots, but as a small fraction of the total there is simply not enough private support for more than a token level of stabilization. To allow some stability, interactions between research institutions and federal funding agencies are crucial: many grantee institutions are finding that their role must now include a clear commitment to bridging support for their faculty, employees, and for ongoing scientific projects, even as they recognize that moving forward will only happen with federal support. More institutions will realize this over the next few years. At the same time, the great value of continuity in our public investment in science and technology needs to be communicated. We are at a crossroads in this area in

the biomedical community with many critical research programs that may not survive the next few years, many creative senior investigators shutting their labs, and many potentially brilliant young investigators afraid to choose careers in a field this unstable.

Discovery-based investigations in academia make up just one segment of the larger scientific enterprise. Even the most important of basic discoveries make their impact through a development process that involves extensive further research in academic settings combined with research and development in the commercial sector. Translation of basic discoveries toward beneficial results relies on additional groups of dedicated and highly trained scientists, physicians, engineers, and others. Fulfillment of the potential from academic discoveries also requires massive investment in the commercial sector, considerable risk-taking, and a real chance that any given project will fail. In the biomedical area, we simply do not know enough about the individual human body or about the diversity in our species to predict the outcome for a proposed new treatment. Clinical trials must be done, they must be done carefully and safely, they are extremely costly, and a fraction give a disappointing result. Given the costs of clinical trials, the vast majority must be carried out in the private sector. When there is success, we have great advances in medicine. Although we also learn from the failures, this is rarely a consolation to the affected shareholders. For commercial translation of scientific discovery to continue there needs to be a reasonable expectation of possible return on investment. Much of this relies on the US Patent system, itself a gigantic and often cumbersome endeavor that like so many of our institutions is both imperfect and the best we have. The patent system doesn't operate in an economic vacuum. For commercialization to benefit society there also needs to be a mechanism where technologies are available at prices that allow accessibility by all Americans who are in need. One of the lessons we may hope to learn over the next few years is how best to incentivize the risk-taking that is essential in commercial technology development while providing new technologies affordably to all who are in need.

As basic and applied scientists in education, academics, government, and industry we can make the greatest positive impact by supporting each others endeavors, training each other in the areas that we know best, and by listening to each other to understand the needs and potential of fields that are unfamiliar.

Before we can talk about the value of science, we need perhaps most urgently to talk about our own responsibilities as scientists.

It is our responsibility to continue a scientific enterprise directed toward improvements for all Americans and for all people everywhere.

It is our responsibility to seek out and pursue areas of inquiry where scientific progress could benefit humanity, whether it benefits a few individuals, a few communities, countries, continents, or the entire human race.

It is our responsibility at each stage of scientific inquiry to integrate our work into the larger scientific community both in the US and worldwide.

It is our responsibility carry out our research in an ethical, truthful, and open manner and to follow the rules and restrictions set down by our governments and our conscience.

It is our responsibility to maintain a pride in the creativity and uniqueness of our own thought and research, while acknowledging and fostering the ideas and contributions of others.

It is our responsibility as scientists to be leaders in teaching science at all levels.

It is our responsibility to communicate the scope of scientific opportunities and the spectrum of progress to our leadership, to the public, and to our neighbors around the world. At the same time, it is an equal responsibility to communicate the limitations of our work, the challenges that we face in improving the human condition and the risks that come from increased ability to manipulate our bodies and our environment.

The 21st century will bring new challenges, new opportunities, new risks, new technologies, and new understanding. It is our responsibility as scientists to make these work to the benefit of our society and of all humankind.

We will do our best.

Testimony of Dr. Roger Kornberg, Winzer Professor, Department of Structural Biology and 2006 Nobel Laureate in Chemistry before the US Senate Subcommittee on Science, Technology and Innovation, May 2, 2007

Chairman Kerry, Ranking Member Ensign, and Members of the Subcommittee, I am grateful for this opportunity to describe our research to those who support it. I will give a brief account of the research, its significance, and future prospects. Then I wish to explain some of the challenges we face and how they may be overcome.

The control of gene expression

Our research has to do with genes, which direct the formation and the activities of our bodies. Every cell in our bodies contains a complete set of genes. Which subset of genes is used in a particular cell determines whether it becomes nerve, muscle, blood, liver and so forth. The goal of our research and that of many others has been to understand how this controlled use of genetic information is accomplished. The practical implications are enormous. All infectious disease entails genetic control. Cancer results from a breakdown of control. Therapeutic approaches such as stem cells require intervention in genetic control.

Genetic information has been likened to a blueprint or a book. In order to use the information, the book must be opened and read. Our work has uncovered principles of both the opening and the reading of genetic information. We are now close to understanding genetic control.

The nucleosome, fundamental particle of the chromosome

Genetic information is contained in a long thin molecule of DNA. Human DNA is a meter in length and must be compressed to a micrometer in our cells. This might be accomplished in an organized way by spooling, as is done for sewing thread or garden hose. The problem is that to gain access to a gene in the middle, the entire length must be unspooled. Nature has solved this problem by the use of mini-spools. I proposed in 1974, and it has since been verified, that DNA is wrapped around a set of eight protein molecules in a particle known as the nucleosome. A million of these particles are strung together in a human chromosome. For access to a gene in the middle, only a few particles need be unspooled, while the rest are left undisturbed. Unspooling is a key control point for gene activity, and is already a promising target of anticancer drugs.

RNA polymerase, the gene-reader in our cells

Once DNA is unspooled, the genetic information can be read. The gene reader is a protein machine known as RNA polymerase, which copies the genetic message into a related form called RNA, in a process known as transcription. RNA directs the synthesis of proteins, which perform all bodily functions.

In work done over the past 25 years, we have obtained a picture of RNA polymerase in the act of transcription. RNA polymerase is composed of 30,000 carbon, oxygen, and nitrogen atoms. Our picture shows the precise location of every atom. In this picture, we see the DNA double helix entering the polymerase machine and the RNA product as it is formed and released. This picture has revealed the basis for readout of the genetic code, and how occasional mistakes are corrected. It has already been employed for the design of new antibiotic drugs.

The future: A molecular computer for the control of gene expression

RNA polymerase does not act alone in the readout of genetic information. An additional 50 protein molecules participate directly in transcription. We discovered, in particular, a giant assembly of 20 proteins called Mediator that serves as a kind of molecular computer. Mediator receives information from inside the cell and from the environment, which it processes and delivers to RNA polymerase. A major objective for the next decade of our work is to determine the atomic structure of Mediator and to understand the control of transcription. We already know that mutations in genes encoding Mediator can cause cancer. Knowledge of Mediator structure will enable us to correct many such problems and to intervene more generally in the control of gene expression.

The challenge of funding basic research

Our work has been supported almost entirely by the NIH. The cost was about $20 million over 30 years, mostly for the stipends of the more than 80 graduate and postdoctoral trainees involved. Due to current constraints on the NIH budget, virtually none of our work would be funded today. I can say with certainty that ***a grant application for the research leading to the discovery of the nucleosome, fundamental particle of the chromosome, would not be approved***. The reason is simple: I had no idea at the outset of what I might find, and no good idea of how to go about it. Our ***RNA polymerase structure work was supported by NIH only after it became clear it would succeed***. When we began, the prospects for success were virtually nil – no way of producing the RNA polymerase, no hope of forming the crystals needed for imaging, and no technology for deriving the image.

The reason for the disconnect between funding and discovery is clear: funds are awarded for compelling ideas, supported by preliminary evidence, creating a high likelihood of success. But ***discoveries are by their nature unanticipated, completely unknown***. They cannot be sought out in a deliberate manner. They cannot be proposed to granting agencies or evaluated by review groups. So how are discoveries made in the American system? The answer is by risk-taking. Scientists supported to do straightforward research may divert some of their funds for testing new ideas. If they succeed, then the results form the basis for new grant applications. If they fail, they may be in trouble and be unable to continue even with their original research.

The risky nature of truly innovative research is both the strength and the Achilles heel of our system. In the past, when NIH funded approximately 20% of new grant applications, most capable investigators could obtain support, some of them would conceive of and try new ideas, and occasionally an important discovery was made. Today, with funding levels at 10% or less, many fine investigators have lost their support, few will take risks, and the pace of discovery will fall dramatically.

In the March 23, 2007 issue of Science magazine, Senator Arlen Specter is quoted as asking the reasonable question "What's going to happen to NIH if the budget is cut by $500 million?" The answer is that the number of publications from NIH-sponsored research will decline accordingly, by about 5%, but innovation will be stifled across the board. The chilling effect of funding cuts ripples through the system, deterring bold action and creativity on the part of established investigators, and discouraging young scientists from entering the system. This has already happened. My European colleagues have noted a reverse brain drain already occurring now.

There is another way in which small budget cuts can have a disproportionate effect. Research is highly synergistic. One part depends on others. For example, my own determination of the RNA polymerase structure was critically dependent on the work of hundreds of physicists and engineers, on synchrotrons such as that at the Stanford Linear Accelerator and on cutting edge photon physics.

Of all the adverse effects of flat-funding or even cutting the NIH budget, the disillusionment of young people is the worst. The choice of a career in science already represents a great sacrifice. A passion for science must be weighed against a long period of training - 10 or more years of postgraduate study at low wages - and the possibility of no career at the end. The importance of young scientists cannot be overstated. To paraphrase an illustrious politician, it's the people, stupid! Progress in science, and discovery in particular, is the work of the best young minds. America has taken pride in the Nobel class of 2006, present here today. If we do not take action now to restore enthusiasm for the pursuit of science, there will be no American class of 2026.

Discovery as a driving force of progress

Much has been said about the value of basic research, and I am sure the arguments are well known to you. I would like to add some points not so often stated. Scientific medicine is comparatively new, just over a hundred years old. The advances already made have impacted the lives of us all. Every major advance can be traced to a discovery made in the pursuit of basic knowledge, not for a medical or economic purpose. Some examples are X-rays, antibiotics, magnetic resonance imaging, recombinant DNA, and structure-based drug design. Future advances, including the prevention or cure of cancer, AIDS, Alzheimer's, and other dread afflictions, will come from new discoveries and new information. Efforts currently targeted towards these and other worthy ends are unlikely to succeed. I recall the words of Lyndon Johnson to the effect of "life-saving discoveries locked up in the laboratory." This serious sentiment was mistaken. Application of existing knowledge is not the limiting factor. The knowledge itself is limiting.

It has been remarked that we know 1% of everything about the human body. A small fraction of a percent would probably be more accurate. But consider how enormous have been the benefits to our health and our economy from what little we know now. Imagine how great would be the benefits of knowing the remaining 99%!

There is a further overarching purpose to basic research. An urge to explore is a part of our nature. It was a major factor in the evolution of our species. It has motivated us to go to the moon and to outer space. The exploration of inner, human space is no less grand. It is also an expression of the human spirit.

In addition to the meetings we had in Washington, we were also visited at Stanford on May 2nd by a delegation from the Office of Secretary of the Department of Health & Human Services Mike Leavitt regarding Stanford's approach to "personalized medicine" and the use of new technologies to improve health care. I was joined in this discussion by Drs. Sam Ghambir (Radiology and Molecular Imaging), Henry Lowe (Clinical Informatics and Information Resources & Technology), Iris Schrijver (Molecular Genetic Pathology), Ralph Horwitz (Medicine) and Russ Altman (Bioengineering). I began the discussion by underscoring that efforts to develop personalized medicine (which is still a work in progress) would be squandered – or at least would not achieve optimal fruition – if we did not have a concerted effort to develop a more rational system of national health

care and to create a focus on wellness in addition to disease management. At the same time, our faculty leaders shared some of their research accomplishments in developing tools that will dramatically improve early detection of disease and more patient-specific approaches to diagnosis, treatment, disease management and prevention. But unless we also deal more successfully with the large number of individuals who do not have access to health care as well as the soaring costs, such research findings may further dichotomize the nation into those who have opportunities to benefit from these new discoveries and those who do not – a problem seriously challenged by the wide gulfs in health literacy.

Without question our ability to improve health care and reduce its costs depends on our nation's willingness to make a more serious commitment than it has to date to the development of a more rationale system that is more economically sustainable, better accessed and driven by quality rather than price. But the future improvement in health care costs and outcomes is also highly dependent on our nation's continued investment in biomedical research – for both discovery- based research as well as for clinical and translational research. The latter is critical in order to foster partnerships with industry to develop products and devices that create more specific and successful opportunities for diagnosis, treatment and prevention. These issues are inextricably linked and we must do all we can to advocate for their support and adoption – the health of future generations and of our nation depends on those investments and their outcomes.

LPCH Launches the "Breaking New Ground" Campaign

Wednesday, May 2nd was a magical evening for the Lucile Packard Children's Hospital and Stanford Pediatrics. LPCH President and CEO Chris Dawes, having gathered faculty, staff and numerous supporters, members of the LPCH Board of Directors and volunteers, hosted a dinner event that culminated in the announcement of the new campaign entitled *"Breaking New Ground."* During the past decade LPCH has risen to become one of the most prominent children's hospitals in the nation, and the Pediatric Programs at Stanford have grown significantly in both scope and excellence. Despite my usual reservations about US News & World Report rankings, I was pleased to note that Stanford Pediatrics was now ranked 6th in the nation (recognizing of course that this is really a reputation score rather than one based on serious metrics). But there is no question that LPCH, Stanford Pediatric Medicine and Surgical Services and their academic programs are "on the move." Indeed, they are destined to take another step forward with the recently announced recruitment of Dr. Hugh O'Brodovich as the next Chair of Pediatrics at Stanford and Chief of Staff at LPCH. One of the important reasons for the success of LPCH and Stanford Pediatrics has been the incredible financial support that has been raised by the Lucile Packard Foundation for Children's Health in tandem with the David and Lucile Packard Foundation.

Given the planned significant physical growth of LPCH to support essential clinical programs and to help relieve the serious capacity problems that sometimes now result in having to turn patients away because of the lack of beds, along with the plans to further enhance the academic and research programs in pediatrics, additional resources

are needed. Accordingly the announcement by LPCH Board of Directors members Ann Bass, Elizabeth Dunlevie and Susan Packard Orr that a new campaign for $300M was being launched was welcomed and celebrated by all – but when they further announced that $163M has already been committed, the reaction was understandably jubilant. While there is a clear recognition that much hard work remains to achieve the goal set by this new campaign, the accomplishments to date by LPCH, LPFCH, Board members, Stanford faculty and community supporters, volunteers and donors are simply extraordinary. While we can all be proud of what has been accomplished to date it is remarkable to contemplate what will be achieved in the years ahead that will surely improve the lives of children and families.

Congratulations and deep appreciation to all!

Medical School Hosts University Academic Senate

On Thursday, May 3rd the School of Medicine hosted the elected and ex officio Senators of the Stanford University Academic Council. This is the second time during my tenure at Stanford that the Senate has crossed Campus Drive to visit the medical school. We used the opportunity to provide an update on how we have been progressing with our Strategic Plan "Translating Discoveries" and its evolving impact on our missions in education, research and patient care. I also provided an update on the master facility planning efforts underway at the Medical School and Medical Center. Such a visit provides an opportunity for faculty less familiar with the medical school to learn more about our unique and special efforts and accomplishments – and also to provide a vision of where we are heading in the future. In addition, the visit provided an opportunity for Senators to visit various programs and get some hands-on experiences. Thanks to the efforts of Kristin Goldthorpe and Kathy Gillam, along with a number of our faculty and staff, we were able to host four tours, including:

I. ***The Stanford Cancer Center*** (http://cancer.stanford.edu), hosted by Beverly Mitchell, M.D., Deputy Director, and Steven Leibel, M.D. Medical Director. It should be noted that after more than 30 years, the Cancer Center has received recognition as a NIH Cancer Center.
II. ***The Goodman Simulation Center*** (http://goodmancenter.stanford.edu), hosted by Tom Krummel, M.D, Chair of Surgery
III. ***Neonatal Intensive Care Unit*** (http://neonatology.stanford.edu), hosted by William E. Benitz, M.D., Interim Chief of Neonatal and Developmental Medicine
IV. ***Imaging Center in the Clark Building*** (http://mips.stanford.edu) hosted by Christopher Contag, Ph.D. Co-director and Director of the Stanford Center for *in vivo* Imaging.

Because of the focus on the medical school and tours, the Academic Council did not conduct other business on May 2nd. However it was announced that on May 17th, the next scheduled Senate meeting, the issues surrounding tobacco use will again be discussed.

Medical School Students and Graduates - Past and Future

The sequential weekends of April 26-29th and May 4-6th brought admitted MD students who are deciding whether to matriculate at Stanford followed by returning MD and PhD alumni of Stanford University School of Medicine. Both weekends were characterized by enormous energy, excitement, pride and memories. Some 90 admitted MD students arrived on April 26th (one of the largest number of students to ever participate in admit weekend) and participated in an array of informational sessions as well as social functions that helped further acquaint them with the exciting programs taking place at Stanford. They met students, faculty and staff and learned about the opportunities here that are truly unique and exciting. They also attended dinners and the annual medical student talent show. According to Dr. Gabe Garcia, Professor of Medicine and Director of Admissions, more than 6500 applicants were received this year for our 86 places. The quality of the applicants – and of course of the admitted students – is extraordinary. They will be making their final decisions by May 15th. At the same time, the Bioscience PhD programs have also had an extraordinary group of students apply for matriculation and they too will finalize their decisions by May 15th. We are blessed by having a remarkable student body at Stanford and the class that will enter in the Fall of 2007 appears to destined to continue and even enhance that tradition.

Just as new students were thinking about the impact of Stanford on their future, this past weekend graduates from the MD and PhD programs as well as residency and fellowship programs returned for the 2007 Alumni Weekend. It was a time for nostalgia as well as opportunity to learn more about where the School is heading for the future. Various lectures, symposia, tours and social events provided exciting and variegated venues to our alumni. Among the highlights was the Annual JE Wallace Sterling "Muleshoe" Lifetime Alumni Achievement Award Ceremony and Dinner, which was held on Friday evening, May 4th, at which awards were presented to Drs. Linda Hawes Clever, MD'65 and JD Northway, MD'60. On Saturday morning, May 5th a Symposium on Infectious Disease Challenges was held in the Fairchild Auditorium, and in the afternoon a Symposium entitled "RAN: How It Is Made, What It Looks Like, and What It Is Good For" was held in the Munzer Auditorium. In addition there were tours of the Jasper Ridge Biological Preserve, the Medical Center, the Cantor Center for the Visual Arts and the Stanford Linear Accelerator. On Saturday evening, class dinners – including a very well attended 50 year class reunion – followed the "Dean's Cocktail Reception," which I hosted.

It brings indescribable joy to witness the fondness that alumni have for Stanford and the esteem that prospective students have for joining our community – clearly affirming why we should be proud to be members of the Medical School and Medical Center.

Special thanks to our students, staff and faculty leaders, along with the Office of Student Affairs and Stanford University Medical Center Alumni Center, for making these programs and events so successful.

Endurance as One Metaphor for Success

At various leadership discussions and events I have been asked about the factors in my own life and career that have enabled success. Among a number of personal experiences and factors, I often highlight the importance of physical endurance, health and well-being as important components of leadership. Many leadership positions today are viewed as "extreme jobs" and often consume workweeks not infrequently measuring 80 or more hours, with many stresses and challenges during the day and events in the evenings and weekends. Keeping up with a demanding schedule, constantly changing agendas and important issues that impact the lives of people and programs requires a wealth of energy, focus, commitment and determination. But success in achieving programmatic agendas also requires flexibility, adaptation and sharing the responsibility for the mission as a whole, for the individuals involved – and for one's own success.

Each of us has different features of our lives that help create our identity and shape who we are – or think we are. Quite naturally, our personal assessments must also be balanced by external metrics that provide reality checks on performance and tangible outcomes.

I have often commented in small group discussions that, at least for me, in addition to intellectual and programmatically driven metrics of success, I also feel strongly about personal measures that include physical and athletic activity. There are many forms for this but as some of you know, for me it is measured in long distance running and periodic competitions. It is hard to fit this into busy schedules but I view it as a priority and so engage in it in the very early morning hours – generally arising around 4 am – and doing 8-10 miles weekday mornings and twice that on Saturdays, while listening to unabridged books (I guess this is a way of fusing cognitive and emotional pleasure with physical endurance).

To me, the marathon is a metaphor for the kind of endurance activity that gives me a sense of confidence during my workday – a feeling that even though the issues may be tough and take a long time to achieve, one can get there if you pace yourself, adapt your plans and stay focused on where you need to go. I was reminded of this once again on Sunday, April 29th when I ran the Big Sur Marathon that begins at Pfeffer State Park and ends 26.3 miles later in Carmel. It is a challenging course and the official guidelines state that runners should anticipate finishing times at least 20 minutes slower than "usual" marathon times. For me there is something significant about lining up with thousands of individuals who share a common goal. In the Big Sur this was 3000 men and women – but in the NYC Marathon that I did last November it was ten times that number! Regardless, there is a sense of community at the beginning of a marathon – of a mass of humanity that slowly erupts on a forward trajectory.

But while one is part of something that may be greater than the whole of the individual parts, one is also a single engine and within minutes it is clear that all the runners have to plot and plan their individual journeys, while also paying attention to the individuals who surround and engulf them. In the case of a challenging course like the

Big Sur Marathon, you know at the beginning that there will be large and small hills, ups and some downs. But it is hard to gauge how you will feel at future time points and, more importantly, how you will preserve your energy to achieve the endpoint and to adapt to the conditions that may require changes in plans or expectations. If one gets too swept up with the enthusiasm and adrenalin of the start – and joins the group that seems ready to sprint out quickly – you might do either very well or very badly as the time and the miles present new challenges.

For me last Sunday's Big Sur Marathon was an unknown. I knew from prior experiences that I had completed this distance many times. But I also knew that I had experienced a significant respiratory illness in the months preceding the event as well as a pulled tendon. So, there was natural uncertainty about how things would turn out. But thankfully, despite those worries and concerns, all was well that ended well.

While all this may seem tangential to a "Dean's Newsletter" I would like to suggest that it is highly relevant. Each day I face – just as you do – lots of challenges, some which have immediate solutions but many of which do not. For me, the confidence that I can complete individual tasks or take on challenging issues like configuring and implement a strategic plan such as *"Translating Discoveries,"* or take a long view toward a facilities master plan, engage in the ups and downs of faculty recruitment, raise philanthropic funds and countless other tasks comes from knowing that in a totally different part of my life I have learned to take the long view: keep my eyes on the goal; set a pace but be prepared to speed up or slow down depending on the conditions; be prepared for the unexpected turns in the course or find that those which were anticipated are actually different than forecast; be aware of the rhythms of the individuals who come in and out of one's field; occasionally pause to refuel but always, despite what may seem endless, to keep moving forward – and perhaps most importantly, to be "in there for the long run." That is why, at least for me, accomplishments in personal endurance serve as at least one metaphor for success.

Thanks to Our Ombudsperson Martha McKee

After ten and a half years of service as the Ombudsperson at the School of Medicine, Martha McKee will be leaving the School in June. She will be relocating to Tucson, Arizona. Martha has been a wonderful asset to the School and has been instrumental in assisting hundreds of visitors to the Ombuds Office with academic and work related problems. She has maintained a confidential and neutral resource for our community by practicing ombuds work at the highest levels of professionalism. Those of you have interacted with Martha know her to be a kind and compassionate listener who cares deeply about the welfare of individuals in our community. I understand and applaud Martha's desire for new professional challenges and personal opportunities. Please join me in wishing her the best for the future!

Help Us to Assess "Job Satisfaction" Among Faculty at Stanford

I want to inform you of an opportunity to participate in a survey on faculty job satisfaction. This survey research is part of a national pilot study co-sponsored by the

Association of America Medical Colleges (AAMC) and the Collaborative on Academic Careers in Higher Education (COACHE).

The purpose of the survey is to learn how faculty members view specific institutional policies here at Stanford University and to gauge your current job satisfaction compared to faculty at peer institutions. To ensure confidentiality, the AAMC and COACHE will publish only aggregated results in which individuals and institutions cannot be identified. The AAMC and COACHE will not use any individual faculty member's name or email address for any purpose other than to contact you to participate in this study.

The AAMC and COACHE will provide our medical school with their summary analysis only; the surveys are completely confidential and will be handled through the COACHE project team. Your privacy will be maintained in all published and written data, and your identity will be carefully protected in any information shared with Stanford. We welcome this opportunity to learn from an independent, comparative study, and we hope the results will help us improve our faculty's career satisfaction and success.

During the week of April 23 you received a web-link in an email from Harvard, directing you to the survey. The survey is easy to complete, and should take no more than 20-25 minutes of your time. If you have any questions about this survey, please contact Claudia Morgan at cjmorgan@stanford.edu or 723-2329, or COACHE at coache@gse.harvard.edu or 617-496-9344. I encourage you to participate in this study, and thank you for your cooperation and collaboration.

Upcoming Events

Medicine and the Muse
Monday, May 7 -- tonight
5:00 – 7:00 pm
McCaw Hall, Arrillaga Alumni Center

You are invited to the annual Medicine and the Muse Event that has been organized by our students and faculty to celebrate the interface between the arts and medicine. Tonight's event features music, literature, visual and performing arts and more. Dr. Stephen Bergman, author of "The House of God" and "Mount Misery," will deliver the keynote address. A reception, which is open to the public, will follow the event. It will be held in McCaw Hall at the Arrillaga Alumni Center. I want to thank James Andrews, SMS III and Dr. Audrey Shafer, Associate Professor of Anesthesia and Co-Director of the Scholar Concentration on Bioethics and the Humanities, for their efforts in organizing this year's Medicine and the Muse event. For additional details see http://bioethics.stanford.edu/arts.

Wellness Fair
Wednesday, May 9

10:00 am – 3:00 pm
Arrillaga Center for Sports and Recreation

This year's Wellness Fair will take place on Wednesday, May 9th, and Provost John Etchemendy has written to encourage everyone to attend. In case you missed his message, I include it here:

> Dear colleague,
>
> ***Please join me at this year's Wellness Fair on Wednesday, May 9, from 10 a.m. to 3 p.m. in the Arrillaga Center for Sports and Recreation.***
>
> I've written to your supervisor, asking that you be encouraged to attend. So while you're at it, please bring your boss to this event, too! The health of each and every Stanford employee is important to us.
>
> This year's Fair is co-hosted by the Benefits Department and the Department of Athletics, Physical Education, Recreation & Wellness group.
> They plan to show all of us ways to improve our physical and mental well-being. I think it will be a fun and informative event.
>
> Here are a few of the things you can do at the Fair:
>
> -- Have your blood pressure, body fat, bone density, strength and flexibility, and cholesterol measured
>
> -- Test your fitness with a Stanford fitness trainer
>
> -- Enjoy healthy food demonstrations
>
> -- Try out stationary bikes, elliptical trainers and rowing machines
>
> -- Get a bike safety check
>
> -- Learn more about ergonomically correct workstations and healthy work postures
>
> -- Observe Pilates, fencing, rock climbing, self-defense and yoga classes
>
> I'll be there. I hope to see you, too.
>
> John Etchemendy
>
> P.S.

Save the Date - May 31, 2007 - for the all campus "Cardinal Walk" at Roble Field. Join us for refreshments and free pedometers to the first 2000 people registering at the event starting at 11:30 am. The walk, led by Provost John Etchemendy, will begin at 12:05 pm and is a 1.5 mile route through campus. We look forward to seeing you at the first annual Cardinal Walk. Questions can be directed to Jennifer Sexton at jbsexton@stanford.edu

I would like to add my enthusiastic endorsement of the Wellness Fair, as well as the subsequent Cardinal Walk. These are excellent opportunities to focus attention on crucial aspects of personal well-being, and I strongly encourage you to take advantage of them.

Awards and Honors

- ***Leiberman Fellowship Winners***: I was very pleased to learn that PhD candidate Chun-chun Chen, Neurosciences Program, and MD/PhD Candidate Ricardo Paniagua, Immunology Program, have received Lieberman Fellowships for the 2007-08 year. This is the first year in which the School has received two of these Fellowships.

  The Lieberman Fellowships are named in honor of one of Stanford's most distinguished citizens, Provost Emeritus Gerald J. Lieberman. A member of the Department of Statistics and Operations Research, Professor Lieberman achieved eminence as a scholar, teacher, and university statesman in a career that spanned 43 years as a student and faculty member at Stanford. Besides serving as Provost, he was the Vice Provost and Dean of Research and Graduate Studies from 1980 until 1985. Throughout his years as a teacher and administrator, Professor Lieberman took a strong interest in advancing the educational opportunities and well being of graduate students.

  In honoring Professor Lieberman by establishing a graduate fellowship program in his name, Stanford also honors the qualities of outstanding scholarship, teaching, and university service that his career exemplifies. The intent of the program is, in some measure, to recognize and promote the same qualities in young scholars.

  Congratulations to these outstanding students!

- ***HHMI Fellowships:***
  In my April 23, 2007 Newsletter I listed the talented students who won prestigious awards. I would like to add and congratulate **Mark Chao** for also receiving an HHMI Fellowship this year.

Appointments and Promotions

- ***Arlina Ahluwalia*** appointed promoted to Clinical Assistant Professor of Medicine, effective 6/01/07.

- ***Sadick Alsadir*** has been appointed to Clinical Assistant Professor of Medicine, effective 5/01/07.

- ***Cheryl Cho-Phan*** has been appointed to Clinical Assistant Professor of Oncology, effective 5/01/07.

- ***Mark Cohen*** has been appointed to Clinical Assistant Professor of Pediatrics, effective 5/01/07.

- ***Cornelia L. Dekker*** has been promoted to Professor (Research) of Pediatrics (Infectious Diseases), effective 5/01/07.

- ***Sonja Dieterich*** has been appointed to Clinical Associate Professor of Radiation Oncology; Physics, effective 6/04/07.

- ***Dawn C. Duane*** has been promoted to Clinical Assistant Professor of Neurology & Neurological Sciences, effective 5/01/07.

- ***Kevin Garber*** has been appointed to Clinical Assistant Professor of Neurology, effective 4/01/07.

- ***Laura Gross*** has been appointed Clinical Assistant Professor of Medicine, effective 6/01/07.

- ***Keith N. Humphreys*** has been promoted to Professor (Research) of Psychiatry and Behavioral Sciences, effective 5/01/07.

- ***Neil Schwartz*** has been appointed to Clinical Assistant Professor of Neurology, effective 5/01/07.

- ***Gavin Sherlock*** has been reappointed to Assistant Professor (Research) of Genetics, effective 4/01/07.

- ***Lawrence Siegel*** has been appointed to Clinical Associate Professor of Anesthesia, effective 10/01/06.

- ***Connie Teresi*** has been appointed to Clinical Assistant Professor of Medicine, effective 4/14/07.

- ***Laraine Zappert*** has been appointed to Clinical Professor of Psychiatry, effective 5/01/07.