

Dean's Newsletter

June 16, 2008

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Commencement 2008

On Saturday June 14th, in its Centennial year, the Stanford University School of Medicine held its commencement on the Dean's Lawn. This year 22 students received a Master of Science degree, 98 a Doctor of Philosophy and 96 a Doctor of Medicine degree. The accomplishments of this year's graduating class in science and medicine are truly outstanding and we are proud of each and every one of them. Their names are listed below along with their degree program and thesis and, for medical students, the residency program they will commence in the next days.

This year is special since it represents 100 years of Stanford Medicine. In the May 5th edition of this Newsletter I reflected on our past, present and future in my comments entitled "*Tradition or Transformation: Celebrating the Past or Creating the Future.*" Stanford has played – and will continue to play – a unique and transformative role in the worlds of science and medicine and in their integration. Past contributions by students and faculty have certainly been remarkable but now require a redoubled effort, as elegantly reflected by this year's Medical School Commencement Speaker, Dr. Roger Kornberg, Mrs. George A. Winzer Professor and recipient of the 2006 Nobel Prize in Chemistry.

I hasten to add that it took a lot of organizing, planning and hard work to have the Commencement events run so smoothly. Many thanks to Zera Murphy, Suzanne Bethard, Char Hamada and their team – Kristin Fabbro, Molly Aufdermauer, Joann Berridge, Jana Baldwin, Mira Engel, Lorie Langdon, Velissa Peairs, Erica French-Arnold, and Cass Sooter – for a job well done!

Graduate Student Speaker: Gilbert Martinez (PhD candidate in Biophysics)

I know I'm supposed to use my limited time to talk about graduate school, but I wanted to make sure I thanked some of the people who have made the Stanford school of medicine such a great place to work.

Over the course of my many, many, many years at Stanford I've had the opportunity to work with the Dean's office and can say with confidence that a big reason the School of Medicine is such a great place to be is because of Dean Pizzo and the work done by the Dean's office. I'd also like to mention Ellen Porzig's tireless advocacy for graduate students. I greatly appreciate everything you've done for us. Our department administrators have contributed so much to making sure that we succeed without ever having to know about everything that goes on behind the scenes. Zera Murphy, Suzanne Bethard and many others have done a wonderful job getting this ceremony together. Thank you all.

I have to thank all the faculty who do more for each of us than we know. They have given their time, and spent a lot of money making sure we were able to be here today. I never cease to be amazed by the commitment the faculty has for their own students as well students not in their lab. I can't tell you how many times I've been stopped in the hall by a faculty member I haven't seen in years and be asked about my research. They must gossip about us as much as we gossip about them.

Finally, I'd like to thank all our friends and family who may or may not be here today. We would not be here without their constant support and encouragement. Thank you all so much. Now you no longer have to ask when we will be finishing.

Over the course of the last week, as I was pondering what to say, I realized that I'm supposed to come up here today and condense all of graduate school and talk about our futures in five minutes.

I wrote down a bunch of hilarious anecdotes, found some awe inspiring quotes that will motivate us all, and some tear-inducing stories that will get us all to reflect on what we've accomplished and what lies ahead. After seeing the pages and pages of notes I realized that I might not finish in the five minutes they said it should take. The whole experience was so reminiscent of graduate school. I was told it would take five, five and half years to finish. They were a wee bit off. I hope I am excused if I run a minute or two (or three) over. It is theoretically possible that I finish a minute faster, and I will do my best to make that happen, but we all know that some things are beyond our control.

I have to say that it's an honor to have my classmates select me to speak for them today. You all are such a talented and knowledgeable group. When I found out you had chosen me, it was a lot like my committee coming out of the room after my defense and telling me that I had passed. How did I fool so many brilliant people? You see, there are many parallels to giving this speech and to graduate school in general.

Of course, you could have chosen me to get back at me for all the emails I sent out as BioMASS chair. I was supposed to use the week after turning in my thesis

to relax a little. Instead I was worrying about this speech. Again, just like grad school. Every time you think you're finally finished, something pulls you back in.

But it's worth it. I've enjoyed my time here at Stanford not only because the science is great and because of my colleagues. I'm always asked about advice that I have for first year students and the answer for me is always very simple: take advantage of your classmates. No, I don't mean always asking them for rides to the airport at 5 a.m., though sometimes that was necessary. Take advantage of their talents, their expertise, their quirks, their friendship, their conversations.

Looking around I can see just how right that advice is. You are smart, funny, shy, awkward, and ambitious. And you are all pretty good scientists. I know. I've been to some of your talks or talked with you about your research. I've learned so much from so many of you. And we've all learned from each other. We helped teach each other how to run the perfect Western. We shared our secrets on how to record from cultured neurons or how to program in Perl. But we've also learned how to salsa dance together, how to snowboard, how to rock climb and many other hobbies we've picked up along the way. And perhaps, most importantly, some of us have helped each other learn how to function at 2 a.m. after a night out at the Nut House or the BBC.

When I look back at our time here, it's clear that we learned a lot. We learned a lot about science and a lot about ourselves and each other. But, personally, it's the friendships and relationships that I developed that I will remember most fondly. From the BioMASS first year camping trip, to the late night study session and practicing for our quals and our defense, we created friendships that will last our lifetimes. During my second year at Stanford, I had the opportunity to follow my original adviser to San Diego. I chose to stay and because of you, I'm glad I did.

Now that we are finished we will be going our separate ways. Some of us will go on to have successful careers in academia. Some of us will run far away from bench science as fast as we can. But we are all scientists and experts in our respective fields. Few know the awesome potential that the future of science holds than us.

Unfortunately, there are many challenges facing science today. Those of you pursuing the academic route will soon learn how hard it is to receive funding. Those of you working with stem cells know the hoops you have to jump through to do some of your science. Every year tens of millions of dollars are spent trying to confuse people about the basic principles of evolution. Many of us are hoping that this will all change in January of 2009. But there is to meaningful change, we must all take a more active role in protecting the future of science. There are many little things that we all can do. A letter to the editor or to our political leaders can go a long way to inform people of our challenges. We can spend a morning or an afternoon answering questions from school children. Or even informing our friends and family about science. As we leave here today, I hope

that we all do a small part to make sure that current and future scientists will be able to fulfill the full potential of all the work we have done over the last several years.

Medical Student Speaker: Graham Walker

Good Afternoon Dean Pizzo, family and friends, colleagues, The Guy Who's Totally Uploading This To YouTube Right Now, The Undergrads Who Heard There's Free Alcohol Afterwards, and of course, my fellow classmates, the Graduating Class of 2008,

Britney Spears once famously said, "Hit me baby—." That was my ORIGINAL version of the speech. You weren't supposed to hear that. Awk! Ward! Blarg. Wow. Uhm, okay. Let's just pretend that didn't happen.

Hannah Montana once famously said, "We. Need. Single-payer national health insuran—." Okay fine, she didn't. But, I'm kind of known for ranting about health care reform, so everyone probably thinks that's what I'll talk about today. But don't worry. I won't. Today, I would like to talk about something that's been bothering me: name-calling.

During medical school (and my entire life) I've answered to just about any variation on the theme: Graham, Graham Cracker, Grahamazon, Grahambo, Grahamakin Skywalker, "Hey you," Kilo, Graham Stain, Graham Positive, Graham Negative, and even, as one attending who didn't care to learn the names of her students called me, "a medical student," with the same tone one might use to ask, "Could you hand me a pen?" Man, I'm really going to miss medical school!

But lately, most people have been calling me doctor, and I'm not sure if I like it. Sure, people have said it all throughout medical school, but I always had sufficient grounds to correct them: "No no, not yet, I've still got 6 more months to go," or "Gosh, I wish, but I still have to pass my boards!" But lately, I haven't had a leg to stand on.

It's almost as if I don't want Graduation Day to be here. But too late now. Change happens. Today, we're becoming doctors.

I remember at orientation an upper-classman saying that we probably thought *becoming a doctor* was a noble, selfless act—but any of you in the audience can easily vouch for how selfish it can be. We have demanded your patience, love, understanding, compromises, and support for all these years. So up front, I want to say to each of you, from all of us up here, I am sorry. But I promise to do better next time. Not to forget slash have to reschedule: your birthday, our anniversary, the dinner reservations we had, or that trip to Mexico.

But truly, we could not have made it this far without you. Not to get all Mr. Rogers on you, but to us, you are special. You are why we are dedicated to this: because our patients have their own families and friends like you. You are the selfless ones...not us. So from the deepest reaches of our hearts and souls, thank you so very, very much. Today, we celebrate becoming doctors as much as we celebrate you.

I guess I really worry about how the title of Doctor defines you. How it changes you. That I'm becoming a little bit more Doctor Walker, and a little bit less Graham. Sure, the title affords me some prestige and privilege—for example, complete strangers will now feel totally comfortable whipping out their strange moles at dinner parties—but at the same time, it makes people see me as primarily—or only—a doctor, not as a son, brother, partner, computer nerd, or Trader Joe's enthusiast.

Maybe this is how it's supposed to be. Maybe that's the purpose of the title. To remind us and others of the Oath we take, or that patients' needs are to come before our own.

But if becoming a doctor will change how people view me, there are several values I've learned here at Stanford that should get to represent me, too. And I have numbered these values, as I am going into Emergency Medicine, and have a short attention span. Oh, and just a sidebar: The next time you want to complain about your hospital's Emergency Department, please remember that we're probably getting distracted by... oh, I don't know, coding patients, big traumas, (mumbling) bodily fluids being flung... at... us, or... ... shiny... things.

Sorry. Back to my values:

Number one: I will continue to use objectivity, without forgetting the subjective.

Medicine is an art grounded in science. I'll do my best to know the studies, the data, and the pathophysiology, and try to apply them objectively.

But I won't forget the patient. I'll listen. I'll be compassionate. I'll try to keep social context, "chief concern," and patient perspective in mind.

And number two: I promise to ask questions, and on occasion dare to admit: "I don't know." And thank you to Stanford for encouraging this—in Gil Chu's class, where we weren't allowed to leave until we had collectively asked him 10 questions; with Dr. Wolfe, who teaches students to admit their own "Areas of Ignorance." We are a generation of physicians who are unfortunately (or fortunately) still human. We are not gods. We still make mistakes, and we still don't have all the answers. But, hopefully, we'll know where to find them.

Number three: Don't mess with the pancreas. Or, in the famous words of master

pancreatic surgeon Dr. Norton, “I’m tellin’ you, don’t mess with the pancreas! You gotta believe me!”

And number four: I promise to be involved. Whether it’s researching, teaching, advocating, or volunteering, I will remember that health and medicine are often advanced and affected more by time spent outside a hospital than within one.

While passing clerkships and boards and memorizing facts may make us doctors today, it’s our values that will drive us to become great doctors, like the many we have met here at Stanford. Because the great physician is dedicated to the truth, but also to patient. She is a scientist, but also a healer. He tempers prognosis with hope. I think Kurt Vonnegut sums up medicine’s curiosity and compassion better than I ever could: “We are here to help each other get through this thing, whatever it is.”

So, today, fellow classmates, this is it, for better or worse. When our patients call us doctor, they’ll finally be right. (How scary is that?) While our profession may change how we see the world, or even how the world sees us, we must keep a part of ourselves the same. That part—our goals and our values—is what has gotten us to this point, up on this stage. You can call me Dr. Walker now, but I promise to remain just Graham. I’m too proud of each title to be dropping either anytime soon. Thank you.

Commencement Speaker: Roger Kornberg, Mrs. George A. Winzer Professor in Medicine and 2006 Nobel Laureate

Dean Pizzo, members of the faculty, families, friends, and most of all, class of 2008.

It is a privilege to speak on this occasion and to offer some observations on our profession and our times.

Many of you will be aware, from the signs posted all around, that this is not only a special year for the graduates of Stanford Medical School, but also for the school itself, the 100th anniversary of its founding. What fewer may know is that modern medicine, or more particularly, medical science, is only about 100 years old as well. Little over a century ago, disease was attributed to an imbalance of humours, and the only treatments were bleeding and violent purgatives. Medical schools were trade shops funded by fees from the students, who gained licenses to inflict their ignorance on the general population. Change began in Europe in the latter part of the 19th century, with the germ theory of disease and the work of Pasteur, Koch, Ehrlich, and others. Charles Eliot, then president of Harvard, was aware of these developments and of the appalling state of American medical education, and proposed to introduce medical science in the curriculum at

Harvard medical school. The most powerful member of the faculty objected “Eliot actually proposes to have written examinations for the degree of doctor of medicine. I had to tell him that ... more than half of [our] students can barely write...No medical school has thought it proper to risk large existing classes and large receipts by introducing ... rigorous standards.” Dean Pizzo assures me all of our graduates today can read and write. And all our graduates are imbued with the spirit of what followed in the 20th century, the rise of medicine from roots in science, from exploration in all fields from physics to biology.

If I were to ask members of this audience what were the most important advances in medicine during the 20th century, most would make a similar list: X-rays, for both diagnosis and treatment; antibiotics, which have largely eradicated bacterial disease; cell culture, which led to the polio vaccine; noninvasive imaging, especially magnetic resonance imaging, or MRI, for early detection of cancer and other conditions; genetic engineering, which is the basis of most new medicines; the list could go on. These medical advances have one thing in common: they were all discoveries made in the pursuit of knowledge for its own sake, with no idea of any application, no purpose in the prevention or cure of disease. The lesson of the past is counterintuitive: to solve a difficult problem in medicine, don't study it directly, but rather pursue a curiosity about nature and the rest will follow. Do basic research.

The success of medical science has become, in a way, its undoing. We are dazzled by the knowledge we have acquired and rush to apply it to medical problems. This is understandable but often premature. Take the human genome, the true font of medical knowledge. It's all there, the answer to every question about human biology. The trouble is the answers are written in a language we don't understand. It is a multidimensional and dynamic language. The products of the genome, both protein and RNA molecules, interact with one another and with the genome itself in a dance of dizzying complexity. At present, we can only dimly perceive the significance. We can grasp a tiny fraction of one percent of what there is to know and understand. Just imagine, if the medicine of today flows from this tiny bit of knowledge, how much more would be possible if we knew the remaining 99 percent. What more persuasive call to the pursuit of basic research can there be?

And yet this call is often unheeded. Traveling across the US and abroad, I'm disheartened by a shift from research to application. It's ironic. Just as the lesson of the past century is learned, it is forgotten.

This is not only a scientific but also a political problem. The support of basic research has traditionally come from government rather than the private sector, and for good reason. The timeline is very long – basic problems take decades to solve. Only the public, with a lifelong interest, will support such an undertaking. Industry, with a short-term interest and eye on the bottom line, can hardly be expected to do so. What CEO could report to his or her Board that a major

investment has been made in research that may or may not become profitable in 10 to 20 years, or longer? Let me give you a specific, disquieting example. Pharmaceutical companies developing anti-cancer therapies are regularly forced to choose between a drug that cures cancer with a single dose and one that must be administered weekly and which only prolongs life by a year or two. Management invariably makes the right decision on behalf of shareholders, and pursues the less effective drug. This is not an isolated or rare occurrence. It occurs on a weekly basis. Government clearly has a special responsibility and a unique role to play.

Our government has performed this role admirably in the past. Some fifty years ago, in perhaps the most farsighted action of any legislative body in history, the US Congress began funding basic biomedical research. The investment has been repaid many times over. How many people do you think were crippled or died of polio last year in the US? The answer is virtually none, due of course to the polio vaccine. Imagine the savings in treatment and productivity, not to mention human suffering. Not only has the investment in medical research been repaid, but it was small to begin with. The annual budget for cancer research today is only \$5 billion, less than 10% of our annual expenditure on soft drinks, less than a week of the war in Iraq. And yet, despite its small size, this budget has been cut repeatedly over the past decade. At a time when medical science is poised for the ultimate payoff – the cure of cancer and other dread diseases – many promising leads are being abandoned.

Finally you may ask what does all of this have to do with Stanford and the class of 2008? The answer is leadership. Stanford Medical School has shown the way in American medicine because of a decision about fifty years ago to focus on basic science. Our medical school owes its pre-eminence in large part to achievements in this area. Today, in the face of retrenchment worldwide, Stanford must rededicate itself to basic science. What was good for Stanford and others before will be even better in the future. Stanford must continue to lead.

And you, the class of 2008, have the most important role to play. You have received the best possible education in medical science. Let it guide your professional lives. Let your practice of medicine be not only compassionate but also productive of new knowledge. Do research. Advocate for it. Yours is the legacy of 100 years of Stanford medicine and of American medical science. You will be the ones to carry it forward, to instill it in others, and to realize our hopes and dreams for the betterment of the human condition.

**2008 GRADUATES –
MASTER OF SCIENCE**

Namiko Abe
Neurosciences

Gaurav Arora
Epidemiology

Jose Gilberto Bazan
Epidemiology

Rahul Choudhury
Biomedical Informatics

Hillary Lynne Copp
Epidemiology

Lynn Bentley Davis
Health Services Research

Alicia Eugenia Gutierrez
Epidemiology

Ying Hao
Epidemiology

Katherine E. Herz
Health Services Research

Joyce J. Hsu
Epidemiology

Runa Islam
Biomedical Informatics

Alex Sogomon Keuroghlian
Neurosciences

Nayer H. Khazeni
Health Services Research

Maarten Lansberg
Epidemiology

Reija Matheson
Microbiology and Immunology

Kari - Jean Louise McKenzie
Epidemiology

Chirag Jagdish Patil
Biomedical Informatics

Nadeem Riaz
Biomedical Informatics

William Arthur Segal
Neurosciences

Mohammad Ahmad Subeh
Epidemiology

Swati Padmakar Tole
Health Services Research

Sean David Young
Health Services Research

DOCTOR OF PHILOSOPHY

Adam Shultz Adler
Cancer Biology
*Mechanisms of Large-scale Gene
Expression*
Changes in Cancer and Aging

Gal Almogy
Microbiology and Immunology
*Synthetic Biology: Design of Well
Regulated Biological Systems*

Constadina Arvanitis
Chemical and Systems Biology
*Consequences of MYC Inactivation in
Conditional Mouse Models: A Study of
Mechanisms Responsible for Sustained
Tumor Regression*

Janelle Samantha Ayers
Microbiology and Immunology
*Defense and Endurance in Drosophila
Melanogaster*

Shirin Bahmanyar
Molecular and Cellular Physiology
*Functions for Adenomatous Polyposis
Coli (APC) and Beta-catenin at the
Centrosome*

Shirin Bahmanyar
Molecular and Cellular Physiology
*Functions for Adenomatous Polyposis
Coli (APC) and Beta-catenin at the
Centrosome*

Yu Bai
Biophysics
*Electrostatic Underpinnings of Nucleic
Acid Structure and Folding*

Shelly Beer
Cancer Biology
*The Role of Context on MYC's Ability to
Induce Liver Cancer*

Alicia Beth Berger
Cancer Biology
*Development and Application of Novel
and Selective Activity-based Probes for
the Caspases*

Franz Edward Boas
Biochemistry
*Physics-based Design of Protein-ligand
Binding*

Onn Brandman
Chemical and Systems Biology
*Feedback Loops Shape Cellular Signals
in Space and Time*

Jacob Samuel Brenner
Chemical and Systems Biology
*Alternate Routes of Calcium Entry
Mediating Pathological Cardiac
Hypertrophy*

Austin Lannes Brown
Biophysics
*The Effects of Auxiliary Subunits and
Gain-of-Function Mutations on MEC-4
Sensory Mechanotransduction Channels
Analyzed with Single-Channel
Recordings*

Christopher David Brown
Genetics
*Functional Architecture and Evolution
of Cis-Regulatory Elements that Drive
Gene Coexpression*

John David Cahoy
Developmental Biology
*Genomic Analysis of Highly Purified
Astrocytes Reveals in vivo Astrocyte
Gene Expression: A New Resource for
Understanding Astrocyte Development
and Function*

Sophia Isabelle Candille
Genetics
*Genetics of Pigment-type Switching and
Pigmentation Patterning in Mice and
Dogs*

Randal Curtis Cevallos
Microbiology and Immunology
*Manipulation of Invertebrate Host Cell
Machinery by Dicistroviruses*

Steven Mancheong Chan
Immunology
*Protein Microarray Technology for
Profiling Signaling Pathways: Insights
into Pro-oncogenic Notch Signaling in T
Cell Acute Lymphoblastic Leukemia*

Chun Chun Chen

Neurosciences
*Social Control of Stress and
Reproduction*

Pei -Ling Chen

Neurosciences
*The Role of Atypical Cadherins in
Regulating Photoreceptor Synaptic
Specificity in Drosophila*

Wei -Shen Chen

Cancer Biology
*Asymmetric, Homotypic Interactions of
the Atypical Cadherin Flamingo Mediate
Intercellular Planar Polarity Signaling*

Wendy Ching

Developmental Biology
*Analysis of Post-translational
Regulation of Wnt Signaling*

Leremy Colf

Microbiology and Immunology
*Degeneracy in Protein-protein
Interactions: Examples from TCR/MHC
Alloreactivity and Measles Viral Entry*

Patrick James Collins

Genetics
*Transcriptional Regulation of Divergent
and Clustered Genes*

Richard Daneman

Developmental Biology
*How is the Blood-Brain Barrier Built?
The Cellular and Molecular Interactions
that Regulate the Formation of the
Blood-Brain Barrier*

Jason Michael Davies

Biophysics
*Conformational Dynamics in AAA
ATPases Probed by X-ray Structural
Methods*

Erik Jedediah Dean

Biochemistry
*Pervasive Redundancy and Little New
Functionality Among Duplicated Genes
in Yeast*

Eric Andrew Evans

Genetics
*Role of the DAF-2 Insulin-like Signaling
Pathway in C. Elegans Innate Immunity*

Rebecca Fenn

Biophysics
*Reassessing the Mechanical Properties
of DNA*

Fabian Jose Fernandez

Neurosciences
*Pharmacotherapy for Intellectual
Disabilities Associated with Down
Syndrome: Work in a Mouse Model*

Elena Gallo

Immunology
*Calcineurin/NFAT Signaling Regulates
T Lymphocyte Development by
Modulating the Sensitivity of the MAP
Kinase Pathway*

Nathan Carl Geething

Biochemistry
*Linking Motors to Membranes:
Biochemical and Structural
Determinants of Myosin V Cargo
Binding*

Jeffrey Curtis Giering

Genetics
*Development of a Safe and Effective
Polymerase II Promoter-based Short-
hairpin RNA Model Therapeutic*

Eric Matthew Green

Chemical and Systems Biology
The Tumor Suppressor eIF3e Regulates Calcium-dependent Endocytosis of the L-type Calcium Channel CaV1.2

Nicholas R. Guydosh

Biophysics
Putting Two Heads Together: How Processivity Arises from Mechanochemical Coupling in Kinesin

Christopher John Haines

Immunology
Human CD+4 T-Cell Recent Thymic Emigrants are Identified by Protein Tyrosine Kinase 7 and Have Reduced Immune Function

Jennifer Michelle Halbleib

Molecular and Cellular Physiology
Genomic Reprogramming During Epithelial Cell Polarization

Kimberly Anne Harnish

Developmental Biology
Identification of Swim, a Novel Wnt Binding Protein that Promotes Long-range signaling Through Maintenance of Wingless Solubility

Garret Hayes

Biochemistry
Analysis of Rab9 Effectors in Mannose Phosphate Receptor Trafficking

Garrett Collins Heffner

Immunology
Toward the Molecular Mechanisms of Lineage Determination in Hematopoietic Stem Cells

Jeremy Josef Heit

Developmental Biology
Calcineurin/NFAT Signaling Controls Pancreatic Beta-cell Growth and Function

Kristina Marie Herbert

Biophysics
Sequence Dependent Pausing by RNA Polymerase: A Single Molecule Optical Trapping Study

Matthew Micah Hill

Genetics
Construction of a Whole Genome Genetic Linkage Map and Analysis of Chromosome Rearrangements in Ciona Savignyi

Maureen Hillenmeyer

Biomedical Informatics
Identifying Relationships between Genes and Small Molecules from Yeast to Humans

Benjamin Douglass Hoehn

Neurosciences
Intervening to Treat Stroke in Acute and Chronic Phases: From Gene Therapy to Neurogenesis

Shawn Hoon

Genetics
High-throughput Approaches for Chemogenomics

Eric Dominguez Hoopfer

Neurosciences
Genetic Dissection of Axon Degeneration in Drosophila Melanogaster

Erik George Huntzicker

Cancer Biology
Dual Degradation Signals Control Gli Stability and Hedgehog Signaling in Tumor Formation

Lesley Ann Jarvis

Cancer Biology
Identification and Analysis of Mammalian Sprouty Proteins

Charay Daniea Jennings

Immunology
A Novel Role for Calcineurin in the Regulation of Innate Immunity and Inflammatory Responses

Kirk David Christian Jensen

Microbiology and Immunology
Gamma Delta T Cells That Develop in the Absence of Ligand Produce IL-17 Rapidly

Janet Yikai Jin

Cancer Biology
Missing in Metastasis, an I-bar Protein Regulating Actin Remodeling and Cell Migration

Thomas Michael Johnson

Cancer Biology
P53 Transactivation Domain Mutant Knock-in Mice Provide Novel Insight into p53 Tumor Suppressor Function

ChaRandle Stanlett Jordan

Genetics
Gene Expression Profile of the Cerebellum of Mecp2-deficient Mice

Michael George Kattah

Immunology
High-content Protein Arrays for Characterizing Immune Responses and Pathophysiology at the Molecular Level

Seonhi Kim

Biochemistry
Ligation of Mismatched DNA Ends During Nonhomologous End-joining

Nikesh Kotecha

Biomedical Informatics
Development, Management and Analysis of Flow Cytometry-based Cell Signaling Assays in a Translational Research Environment to Diagnose Juvenile Myelomonocytic Leukemia

Jennifer Shuwen Lee

Epidemiology
Hormonal and Familial Factors in Cancer Risks in Women

William Lee

Genetics
Next Generation Technologies for Systematic Analysis of DNA Structure and Repair

Ai Lin Lim

Cancer Biology
Novel Roles of Hypoxia in Modulating Tumor Progression

Andreas Markus Loening

Bioengineering
Technologies for Imaging with Bioluminescently Labeled Probes

Kristin Ann Maczko

Neurosciences
Role of Cholinergic Nucleus in Processing Spatial Information in the Barn Owl Midbrain

Simone Sigrid Marticke

Genetics
Ultra-high Throughput Sequencing Analysis of FOXP2 Occupancy in the Human Genome

Gilbert Martínez

Biophysics

Allosteric Regulation of CLC Transport Proteins by Cytoplasmic Domains and Conserved CBS Domain

BioMASS Award for Outstanding Service on Behalf of Graduate Students

Joshua David Mast

Neurosciences

Exploring the Mechanisms Underlying Synapse Loss and Neurodegeneration Induced by Mitochondrial Dysfunction in Drosophila Melanogaster

Kelly McGowan

Genetics

The Genetics of Dark Skin in Mice

Ross Jay Metzger

Biochemistry

Development of the Mouse Lung: Genetic Control of Organ Design

Amanda Jane Mikels

Cancer Biology

One Signal, Two Pathways: Analysis of How a Single Wnt Ligand Can Initiate Discrete Signaling Pathways Through the Activation of Two Distinct Receptors

Nesanet Senaite Mitiku

Genetics

Genomic Analysis of Early Mouse Development

Achim Klaus Moesta

Immunology

Functional Specificity of Killer Cell Immunoglobulin-like Receptors for MHC-C

Ryan Nottingham

Biochemistry

Regulation of Rab GTPases in Membrane Trafficking

Justin Iver Odegaard

Immunology

Macrophage Alternative Activation in Obesity and Metabolic Syndrome

Erika Anne O'Donnell

Immunology

Biased Cytokine Signaling Responses in Tumor-infiltrating T Cells

Adam Thomas Palermo

Molecular Pharmacology

Nuclear Reprogramming: Genome-wide Studies and Physiological Relevance

Jessica Tah-Tze Parra

Cancer Biology

Genomic Profiling of Breast Cancer

Florencia Pauli

Genetics

Global Analysis of Intestine-expressed Genes in Caenorhabditis Elegans

Linh Nguyen Pham

Microbiology and Immunology

Specific Memory in the Drosophila Immune Response is Dependent on Phagocytes

Daniel Ramot

Neurosciences

Quantitative Analysis of Neural and Behavioral Responses to Thermal Gradients in the Nematode Caenorhabditis Elegans

Diana Rios -Cardona

Biochemistry

A Role for GPRx in the Maintenance of Meiotic Arrest in Xenopus Laevis Oocytes

Madolyn Bowman Rogers
Developmental Biology
Control of CNS Neuronal Survival

Diane Irene Schroeder
Biomedical Informatics
Two Stories of Human Transcription Regulation: Bidirectional Promoters and the Multiple Transcription Start Sites of FOXP2

Jing Shi
Biomedical Informatics
Biostatistics Tools for Pathway and Gene Expression Analysis

Geoffrey Bryant Smith
Microbiology and Immunology
GADD45 Proteins Regulate the Activity of the Cytomegalovirus Mitochondria-localized Inhibitor of Apoptosis

Lucinda Southworth
Bioinformatics
Comparative Analysis of Gene Co-expression Over Multiple Data Sets

Benjamin John Spink
Biophysics
The Tale of the Tail: The Role of Myosin VI Tail Domains in Processive Stepping

Nitzan Sternheim
Developmental Biology
Genetic Dissection of Myelination and the Role of Notch3 in the Hindbrain Development

Stephen Jed Tam
Biophysics
Eukaryotic Chaperonin TRiC-mediated Modulation of Polyglutamine Aggregation and Neurotoxicity

Matthew Pendleton Taylor
Microbiology and Immunology
Utilization of Autophagy Protein LC3 During Poliovirus Infection

Andres Bayani Tellez
Biomedical Informatics
Protein-Protein Interactions in the Poliovirus Polymerase: Computational and Biochemical Investigations

Jessica Dale Tenenbaum
Biomedical Informatics
Expression-based Ligand Signature Analysis (ELSA): Mining Publicly Available Genomic Data for Insights into Human Disease

Mauricio Vargas
Neurosciences
Control of Axon Regeneration and Wallerian Degeneration by the Humoral Immune System

Maria Vaysberg
Immunology
Signaling of Latent Membrane Protein 1 Variants in B Cell Lymphoma

Eszter Katalin Vladar
Genetics
Centriole Formation During Ciliogenesis

Hsiao-Ting Wang
Cancer Biology
Functional and Expression Analysis of the Novel Angiogenic Regulator GPR124

Bill Piu Wong
Cancer Biology
Meis1 and MicroRNAs as Collaborating Oncogenes in MLL-mediated Leukemia

Stephen Jarrett Wrenn
Biochemistry
In Vitro Selection of Synthetic Ligands

Rong Xu
Biomedical Informatics
*Information Extraction from
Randomized Clinical Trial Abstracts*

Angela Leibo Zhang
Immunology
*Physiologic Regulation of Monocyte
into Dendritic Cells*

Anna Brotcke Zumsteg
Microbiology and Immunology
*Regulation of Virulence Gene
Expression in Francisella Tularensis*

DOCTOR OF MEDICINE

Mark Christopher Adams
Brigham and Women's Hospital
Boston, MA • Medicine – Preliminary
Massachusetts General Hospital
Boston, MA • Anesthesiology

Tina Marie Allee
University of California at Irvine
Irvine, CA • Psychiatry

Prasanna Janaki Ananth
Children's Hospital of Boston
Boston, MA • Pediatrics

Jose Gilberto Bazan
Kaiser Permanente Medical Center
Santa Clara, CA • Medicine –
Preliminary
Stanford Hospital and Clinics
Palo Alto, CA • Radiation Oncology

Pavan Kasi Bendapudi
Massachusetts General Hospital
Boston, CA • Internal Medicine

Franz Edward Boas
Stanford Hospital and Clinics
Palo Alto, CA • Surgery – Preliminary
Stanford Hospital and Clinics
Palo Alto, CA • Diagnostic Radiology

Regina Sheree Bower
Mayo Clinic
Rochester, MN • Neurological Surgery

Catharine Hunter Bradford
University of California at San Francisco
San Francisco, CA • Plastic Surgery

William Edward Bragg
Stanford Hospital and Clinics
Palo Alto, CA • Orthopaedic Surgery

Gabriel Alon Brat
Johns Hopkins Hospital
Baltimore, MD • General Surgery

Nicole Marie Brown
Johns Hopkins Hospital
Baltimore, MD • Pediatrics

Matthew Bucknor
Kaiser Permanente Medical Center
San Francisco, CA • Medicine –
Preliminary
University of California at San Francisco
San Francisco, CA • Diagnostic
Radiology

Robert Edward Burke
Brigham and Women's Hospital
Boston, MA • Medicine – Primary Care

Susan Marie Carré
O'Connor Hospital
San Jose, CA • Family Medicine

Thomas Jon Caruso

Kaiser Permanente Medical Center
Santa Clara, CA • Medicine -
Preliminary
Massachusetts General Hospital
Boston, MA • Anesthesiology

Dora Cristina Castañeda

Santa Clara Valley Medical Center
San Jose, CA • Medicine - Preliminary
Stanford Hospital and Clinics
Palo Alto, CA • Anesthesiology

Steven Mancheong Chan

Stanford Hospital and Clinics
Palo Alto, CA • Internal Medicine

Bernard P. Chang

Brigham and Women's Hospital
Boston, MA • Emergency Medicine

Lauren Wiltshire Cochran

New York Presbyterian Hospital at
Weill Cornell University Medical Center
New York, NY • Pediatrics

Sheila Ravi Cord

Santa Clara Valley Medical Center
San Jose, CA • Internal Medicine

Matthew T. Craven

Brigham and Women's Hospital
Boston, MA • Internal Medicine

Emily Kathleen Curran

University of Chicago Medical Center
Chicago, IL • Internal Medicine

Joanna Victoria Dearlove

White Memorial Medical Center
Los Angeles, CA • Medicine -
Preliminary
University of California at Los Angeles
Medical Center
Los Angeles, CA • Neurology

John Joseph DeCaro

Emory University School of Medicine
Atlanta, GA • Urology

Bronson Elizabeth Delasobera

Washington Hospital Center
Washington, DC • Emergency Medicine

Rajen Uday Desai

Maimonides Medical Center
Brooklyn, NY • Transitional
National Eye Institute Fellowship
Bethesda, MD

Frederick Edward Dewey

Stanford Hospital and Clinics
Palo Alto, CA • Internal Medicine

Rosa Lorenia Diaz

University of California at San Francisco
San Francisco, CA • Obstetrics and
Gynecology

Melissa Ellen Duan

Brigham and Women's Hospital
Boston, MA • Medicine - Preliminary
Massachusetts General Hospital
Boston, MA • Anesthesiology

Hetty Beth Eisenberg

University of California School of
Public Health
Berkeley, CA • MPH Program
Residency in Psychiatry to Begin 2009

Miri Englander

New York Downtown Hospital
New York, NY • Medicine – Preliminary
Massachusetts Eye and Ear Infirmary
Boston, MA • Ophthalmology

Liana Rachel Gefter

Residency to Begin in 2009

Sepideh Gholami

Stanford Hospital and Clinics
Palo Alto, CA • General Surgery

Tress Louise Goodwin
Washington Hospital Center
Washington, DC • Emergency Medicine

Judith Carolin Hagedorn
Stanford Hospital and Clinics
Palo Alto, CA • Urology

Jeremy Josef Heit
Brigham and Women's Hospital
Boston, MA • Medicine – Preliminary
Massachusetts General Hospital
Boston, MA • Diagnostic Radiology

Benjamin Douglass Hoehn
University of Virginia
Charlottesville, VA • Neurological
Surgery

Lyen Camille Huang
Stanford Hospital and Clinics
Palo Alto, CA • General Surgery

Stephen James Hunt
Kaiser Permanente Medical Center
San Francisco, CA • Medicine -
Preliminary
Hospital of the University of
Pennsylvania
Philadelphia, PA • Diagnostic Radiology

Lila Jazayeri
Stanford Hospital and Clinics
Palo Alto, CA • Plastic Surgery

Charay Daniea Jennings
Stanford Hospital and Clinics
Palo Alto, CA • Pathology

ChaRandle Stanlett Jordan
Residency to Begin in 2009

Sarah Hecquet Juul
Emory University School of Medicine
Atlanta, GA • Psychiatry

M. Yashar Kalani
Lund University - Lund Strategic
Research Center for Stem Cell Biology
and Cell Therapy and Stanford
University School of Medicine
Lund, Sweden • Postdoctoral Fellowship
Residency in Neurological Surgery to
Begin in 2009

Jenya Alissa Kaufman
University of California at San Francisco
San Francisco, CA • Psychiatry

Kirandeep Kaur
Santa Clara Valley Medical Center
San Jose, CA • Transitional
Stanford Hospital and Clinics
Palo Alto, CA • Ophthalmology

Bory Kea
University of California at San Francisco
San Francisco, CA • Emergency
Medicine

Hugh Lawrence Keegan
Stanford Hospital and Clinics
Palo Alto, CA • Internal Medicine

Hanna Yoo Kim
Memorial Sloan Kettering Cancer Center
New York, NY • Transitional
University of California at Los Angeles
Medical Center
Los Angeles, CA • Ophthalmology

Rebecca Yoonjung Kim
Stanford Hospital and Clinics
Palo Alto, CA • General Surgery

Leanne Kristen Komorowski
University of New Mexico School of
Medicine
Albuquerque, NM • Obstetrics and
Gynecology

David James Krodel

California Pacific Medical Center
San Francisco, CA • Medicine –
Preliminary
Massachusetts General Hospital
Boston, MA • Anesthesiology

Philip Abraham Kurien

Santa Clara County Medical Center
San Jose, CA • Transitional
University of California at San Francisco
San Francisco, CA • Anesthesiology

Christle Janel Layton

Stanford Hospital and Clinics
Palo Alto, CA • Preliminary
Residency in Dermatology to
Begin in 2009

Lucy Chu Lee

Stanford Hospital and Clinics
Palo Alto, CA • Pediatrics

Jason Andrew Liauw

The Johns Hopkins Hospital
Baltimore, MD • Neurological Surgery

Andreas Markus Loening

University of Hawaii
Honolulu, HI • Transitional
Stanford Hospital and Clinics
Palo Alto, CA • Diagnostic Radiology

Javier Lorenzo

Kaiser Permanente Medical Center -
Preliminary
San Francisco, CA
Stanford Hospital and Clinics
Palo Alto, CA • Anesthesiology

Celine Denise Marquez

Yale New Haven Hospital
New Haven, CT • Medicine -
Preliminary
California Pacific Medical Center
San Francisco, CA • Radiation Oncology

Bryan Geoffrey Maxwell

Stanford Hospital and Clinics
Palo Alto, CA • Transitional
Stanford Hospital and Clinics
Palo Alto, CA • Anesthesiology

Everett Hurteau Meyer

Stanford Hospital and Clinics
Palo Alto, CA • Internal Medicine

Michael Daniel Molina

Sutter Medical Center
Sacramento, CA • Family Medicine

Cindy Mong

University of California at Los Angeles
Medical Center
Los Angeles, CA • Internal Medicine

Mandar Deepak Muzumdar

Brigham and Women's Hospital
Boston, CA • Internal Medicine
*The Department of Medicine Allen B.
Barbour Award for Excellence in
Internal Medicine*

Jasvinder Singh Nangiana

Mayo Clinic
Rochester, MN • Neurological Surgery

Ehren Robert Nelson

White Memorial Medical Center
Los Angeles, CA • Medicine -
Preliminary
Brigham and Women's Hospital
Boston, MA • Anesthesiology

Michelle Bichchau Thi Nguyen

Stanford Hospital and Clinics
Palo Alto, CA • Medicine - Preliminary
University of California at San Diego
Medical Center
San Diego, CA • Dermatology

Steven Gilbert Ortiz
Stony Brook Teaching Hospitals
Stony Brook, NY • Orthopaedic Surgery

Kate Estelle Pettit
Kaiser Permanente Medical Center
San Francisco, CA • Obstetrics and
Gynecology

James Rush Priest
University of Washington Affiliated
Hospitals
Seattle, WA • Pediatrics

Meghan Claire Ramsey
Stanford Hospital and Clinics
Palo Alto, CA • Internal Medicine

Christopher Thomas Richards
McGaw Medical Center of Northwestern
University
Chicago, IL • Emergency Medicine

Eunice Valeria Rios
University of Southern California
Medical Center
Los Angeles, CA • Medicine / Pediatrics

Sahar Nayereh Rooholamini
Stanford Hospital and Clinics
Palo Alto, CA • Pediatrics

Lynne Novick Rosen
Children's Hospital & Research Center
Oakland, CA • Pediatrics

Valaiporn Joy Rusmantratip
Residency to Begin in 2009

Lori Ellen Rutman
Stanford Hospital and Clinics
Palo Alto, CA • Pediatrics

Maricela Sanchez
St. Vincent's Hospital and Medical
Center
New York, NY • Anesthesiology

Kavita Yang Sarin
Santa Clara Valley Medical Center
San Jose, CA • Transitional
Stanford Hospital and Clinics
Palo Alto, CA • Dermatology

Ruwan Amila Silva
University of California at Irvine
Medical Center
Irvine, CA • Medicine - Preliminary
University of Miami - Bascom Palmer
Eye Institute
Miami, FL • Ophthalmology

Geoffrey Bryant Smith
University of Chicago Medical Center
Chicago, IL • Internal Medicine

Eric Borden Sundberg
Stanford Hospital and Clinics
Palo Alto, CA • Orthopaedic Surgery

Gabriel Joel Tsao
Stanford Hospital and Clinics
Palo Alto, CA • Otolaryngology

Dona Amos Tversky
University of California at San Francisco
San Francisco, CA • Psychiatry

Yana Vaks
Stanford Hospital and Clinics
Palo Alto, CA • Pediatrics

Mauricio Vargas
Residency to Begin in 2009

Jasmine K. Waipa
Stanford Hospital and Clinics
Palo Alto, CA • Pediatrics

Graham Walker
St. Lukes - Roosevelt Hospital Center
New York, NY • Emergency Medicine

Ruobing Wang

Massachusetts General Hospital
Boston, MA • Pediatric

Gerardo Javier Zambrano
Stanford Hospital and Clinics
Palo Alto, CA • Psychiatry

Yingbing Wang

Kaiser Permanente Medical Center
Santa Clara, CA • Medicine –
Preliminary
Massachusetts General Hospital
Boston, MA • Diagnostic Radiology
*Department of Radiology Norman
Blank, M.D. Award*

Heather Fleharty Warren

University of Southern California
Medical Center
Los Angeles, CA • General Surgery

Jenny Lupovici Wilson

Stanford Hospital and Clinics
Palo Alto, CA • Pediatrics
Children's Hospital of Philadelphia
Philadelphia, PA • Child Neurology

Joanna Elaine Wrede

University of Washington Affiliated
Hospitals
Seattle, WA • Pediatrics
University of Washington Affiliated
Hospitals
Seattle, WA • Child Neurology

Stephen Jarrett Wrenn

Kaiser Permanente Medical Center
San Francisco, CA • Medicine –
Preliminary
University of California at San Francisco
San Francisco, CA • Diagnostic
Radiology

Jessica Rachel Yasnovsky

Stanford Hospital and Clinics
Palo Alto, CA • Pediatrics

Awards and Honors

The following students have received prestigious and highly competitive fellowships for 2008. Congratulations to all!

NSF:

Sadie Bartholomew (Biochemistry)
Cecil Benitez (Developmental Biology)
Jeremy Chang (Chemical and Systems Biology)
Shuai Chen (Cancer Biology)
Regina K Cheung (Immunology)
Edward Chuong (Genetics)
Karen Colbert (Structural Biology)
Dan Dickinson (Cancer Biology)
Antonia Dominguez (Genetics)
Vivian Ericson (Developmental Biology)
Jeanine Frey (Cancer Biology)
Richard Gaster (Bioengineering and MSTP)
Kira Irving (Neurosciences)
Max Jan (Cancer Biology)
Jonathan Karr (Biophysics)
Erik Lehnert (Genetics)
Grace Lin (Genetics)
Jordan Nechvatal (Neurosciences)
Jordan V Price (Immunology)
Jehna L Ronan (Immunology)
Jayodita Sanghvi (Bioengineering)
April Weissmiller (Neurosciences)

NIH:

Max Banko (Genetics)
Melanie Bocanegra (Cancer Biology)
Justin Brown (Neurosciences)
Brittany Burrows (Neurosciences)
Erika Bustamante (Developmental Biology)
Dan Calnan (Cancer Biology)
David Chen (Biomedical Informatics)
Thomas Jerde (Neurosciences)

NDSEG

Melanie Bocanegra (Cancer Biology)
Catherine Del Vecchio (Cancer Biology)
Anna Guan (Cancer Biology)
Jonathan Karr (Biophysics)

Michelle Zeman (Cancer Biology)

Ford Foundation

Tiffany Williams (Cancer Biology)

Paul & Daisy Soros:

Amit Kaushal (Biomedical Informatics)

ASM/Robert D. Watkins

Justine Pompey (Microbiology & Immunology)

HHMI Gilliam

Shoa Clarke (MSTP)

Mason Case

Christina D Swanson (Immunology)

Michael Wong (Immunology)

Matthew Carter, doctoral candidate in the Neuroscience Program, was awarded a Walter G. Gores Award for Excellence in Teaching, at this year's University Commencement. The Gores Award is the University's highest teaching honor. He was recognized for, among other things, conceiving, planning and teaching the popular and highly regarded course *Understanding Techniques in the Neurosciences*, conveying difficult material in a succinct and accessible way, the infectious energy and creativity he brings to the classroom, and his engaging and exceptional skill as a teacher.

Yingbing Wang, MD, is the recipient of the Norman Blank Award, given by the Department of Radiology in recognition of outstanding performance in radiology or radiology research.

Gilbert Martinez, PhD, is the recipient of the BioMASS Award for Outstanding Service on Behalf of Graduate Students.

Mandar Deepak Muzumadar, MD, has been named this year's winner of the Allen B. Barbour Award for Excellence in Internal Medicine.

Congratulations to all!

Appointments and Promotions

- *Sally Arai* has been reappointed to Assistant Professor of Medicine (Blood and Marrow Transplantation) at the Stanford University Medical Center, effective 6/01/08.

- ***Daniel T. Chang*** has been appointed to Assistant Professor of Radiation Oncology at the Stanford University Medical Center, effective 6/01/08.
- ***Kristen N. Ganjoo*** has been reappointed to Assistant Professor of Medicine (Oncology) at the Stanford University Medical Center, effective 8/01/08.
- ***Michael Grecius*** has been appointed to Assistant Professor of Neurology and Neurological Sciences, effective 6/01/08.
- ***Amreen Husain*** has been promoted to Associate Professor of Obstetrics and Gynecology at the Stanford University Medical Center, effective 6/01/08.
- ***Sun H. Kim*** has been appointed to Assistant Professor of Medicine (Endocrinology, Gerontology and Metabolism) at the Stanford University Medical Center, effective 6/01/08.
- ***Denise M. Monack*** has been appointed to Assistant Professor of Microbiology and Immunology, effective 6/01/08.
- ***Kari C. Nadeau*** has been appointed to Assistant Professor of Pediatrics (Pulmonary) and, by courtesy, of Otolaryngology – Head and Neck Surgery at the Lucile Salter Packard Children’s Hospital, effective 6/01/08.
- ***Maxence V. Nachury*** has been appointed to Assistant Professor of Molecular and Cellular Physiology, effective 7/01/08.
- ***Andrew R. Zolopa*** has been reappointed to Associate Professor of Medicine (Infectious Diseases) at the Stanford University Medical Center, effective 7/01/08.

