Dear Readers,

After ten long years serving BBS, the Bulletin is going DMS-wide! The Bulletin has tried on many personalities, sometimes lighthearted, sometimes hard-nosed, occasionally sarcastic, and always dedicated to the issues that touch students’ lives.

When the timing was right, we had April Fool’s Day Issues—one featured a report on the new BBS curriculum (including sequential courses “Evolution: from graduate student to junior faculty” and “Neurodegenerative diseases: from junior faculty to tenure,” and “Surviving the M2, especially motion sickness on the Coolidge Corner route”). In 2007, we conducted our own housing survey, which became the basis for the related material distributed at recruitment.

On April 17th, the GSAS Science Policy Group and the Biomedical Graduate Student Organization (BGSO) sponsored a special visit by Congresswoman Louise Slaughter (D-NY), who has held a seat in the U.S. House of Representatives since 1986. Rep. Slaughter is an enthusiastic and well-informed supporter of progressive science policies, a passion built upon her B.S. in Microbiology and M.S. in Public Health from the University of Kentucky. Her most consequential accomplishment to date is arguably the passage of the Genetic Information Nondiscrimination Act (GINA), which was signed into law in May 2008 after 13 years of perseverance. The remarks she delivered at HMS can be accessed at http://www.louise.house.gov/index.php?option=com_content&task=view&id=1126&Itemid=.

Of particular importance to our community, we have been urged by Rep. Slaughter to become actively engaged in the ongoing Congressional discourse on health care reform: “The Democratic-led Congress and President Obama have pledged to make comprehensive health care reform a reality. While the specific details remain to be determined, it is clear that we must work together to ensure that every American has access to affordable, high-quality health care.”

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Health Care Reform:  
A Call to Action by Congresswoman Louise Slaughter  
By Cherie Ramirez (G3)

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Stipend Stretches: Advanced Techniques for Maximization  
Suzanne Nizza (G2) and Jenny Sims (G5)

Forget all the lunchroom soap operas, the mischievous Coldroom Gnomes (who steal reagents in the night), and our PI’s perpetually imminent grant deadlines—one only has to look as far as the Dow Jones Industrial Average to pick up a case of the mood swings. With an uncertain market, it seems like everyone is cutting back on expenses and sniffing out deals wherever possible. Green may be the new Crimson, but Cheap is the new Green. So while we don’t emphasize this on our C.V.s, we grad students already have years of experience living on a budget. Compound that with Boston’s special deals and opportunities for students,
The components of this plan include:

- Expanding the BBS Bulletin to the DMS Bulletin, to bring our stories to a broader base of readers interested in the topics we cover
- Decreasing the paper circulation of the DMS Bulletin, in an effort to decrease paper usage and costs
- Reformating of our web interface to enable easy online access and new, interactive features.

So these are the changes you’ll see in the coming issues. If you’ve been a loyal reader all along, please bear with us. If you’re new to the Bulletin, welcome! And please check out who we are and what we’ve been up to—old issues and the full proposal (whose details are still evolving) are available at https://wiki.med.harvard.edu/view/DMS/BBS/Bulletin/WebHome.

Also, if you have any desire to share your writing/editing/graphic design talents (no experience required) or have thoughts on this transition, we want to hear from you! Write to us at bbs_bulletin@hms.harvard.edu.

All the best,
Jenny & Cherie

P.S. For those of you who have noticed that our borders are actually the sequence of the BBS1 protein, sorry, but we’re going to have to change that! We’re still deciding between dromyosuppressin and DMS, the Psuedomonas flagellin gene, so send your vote!

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**Long Distance Relationships**

Elizabeth Stover (G4)

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**Getting to Know HILS**

Jenny Antonucci (G1)

Harvard Integrated Life Sciences has been in the works since President Summers’ 2001 address, which spurred a trans-river town meeting to discuss interdepartmental accessibility among the graduate-level life sciences programs. From this meeting, an executive committee was formed, chaired by Dr. Christopher T. Walsh. Although HILS made its debut earlier this school year on the GSAS website, it is still far from assuming its final form, and not even the program directors involved are quite sure what that form will be.

BBS Program Head Dr. Bob Kingsley describes where we are in progress. “Dr. Hogle and the other directors are working hard on the game plan,” says Kingsley. “The focus is to provide the synergies we are all looking for.”

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**Community Service Opportunities**

Jennifer Svendsen (G2)

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**Your recruitment weekend might be a bust if...**

(Real-life responses, 2006)

- Interviewer told recruit that he had interviewed for a faculty position with the recruit’s PI and was turned down.
- Coordinator mentioned that they were discouraging doing third rotations since funding was so tight.
- Interviewer asked recruit why he/she even applied there, since he/she “could obviously do better.”
- Program did not reserve the hotel room for the entire weekend, and the recruit’s only contact info for the program was the student host.
Dear Laurie: The Doctor Is In!

Office of Advising Resources director Dr. Laurie Raymond, M.D., answers real questions from real students. Send yours to us at bbs_bulletin@hms.harvard.edu, or get advice directly from the source at laurie_raymond@hms.harvard.edu.

Dear Dr. Raymond,

I am wondering how best to deal with faculty who are not understanding about how difficult life as a graduate student can be, and how varied the levels of personal responsibilities among the members of their lab may be. Based on conversations we have had, or comments that they have made, I feel that my advisor and members of my committee cannot relate to my situation—I am struggling to balance my research with the much-less-flexible and often unpredictable demands of parenthood. I get the feeling that they don’t remember what it was like when they were young and unsure of themselves, and they had no money.

Specifically, I feel like they have unrealistic expectations regarding how long it takes me to do each experiment. I also feel that comparing one student to another or to a post-doc is an extremely insensitive thing to do given that everyone has different levels of responsibility in their home life and different amounts of time they can devote to the lab.

In some instances, I have tried to explain to them why my situation is different than another graduate student or why it took me two weeks to repeat an experiment that they thought should take one week, but it really ends up sounding like excuses. I am not trying to make excuses, I am trying to defend myself against unrealistic and unfair expectations, but I’m not sure how to do this in a politically successful manner.

Sincerely,

Not trying to make excuses
G6 Female

Dear G6 student,

You have a difficult dilemma before you—struggling to balance your research with the much-less-flexible and often unpredictable demands of parenthood. You are describing that you feel misunderstood, that the expectations of your advisor and the members of your committee are not compatible with the family/training demands you are currently facing.

In order to negotiate effectively with your advisor and committee members regarding what you need to complete your training, it may be helpful to first step back in your mind from the expectations of others in order to clarify what is realistically doable for you at this particular time in your life, with your partner (if present) and child, with the quality of life that is important to you. Here are some issues you might consider:

I. If you have a partner, planning with your partner at such a time is critical—what time do you need for your current work and your partner’s? What are your child’s current needs for attachment to you both, his/her development, learning, socialization, medical health, etc.? Do you and your partner want/need additional sources of child support and assistance? What is financially doable and acceptable to you both? If you are parenting on your own, you have already had to think through for yourself all these aspects of your child’s care, as well as manage being the sole shock absorber for all of the unexpected “bumps in the road” with respect to your child being sick, needing day care, etc., which is indeed a very difficult task. One valuable resource available to you in either situation (single parent or with a partner) for such a discussion is Barbara Wolf, Director of the Office for Family and Work at 164 Longwood Ave., who offers consultation about work and family to graduate students, faculty, and employees in the Longwood area.

II. With your family needs in mind, take a look at your own thesis work to date:

What are you able to devote time to in order to finish your training requirements (e.g. planning more experiments, writing papers, etc.). Part of your assessment will likely be tied to what you plan to do after training—an academic post-doc, industry work, teaching, time off, etc. Next, consider the time frame in which you are able to do that work: Which of these goals can you realistically accomplish in the short term and in a more extended time frame? How flexible is the setting for you to be doing this work: Can some of it be done at home, in the lab, or requiring travel?

III. Equally important and underlying your ability to see the first two issues clearly, how is your own self-care? Are you feeling and functioning well doing the combination of work, parenting, and being a partner, or has the stress of these competing demands of work and family resulted in your being depressed, preoccupied, and distractible? If you are lacking in daily energy and/or have lost motivation and enthusiasm for what you’re doing, this change in well-being can negatively color your perspective on what’s possible.

“If you are lacking in daily energy and/or have lost motivation and enthusiasm for what you’re doing, this change in well-being can negatively color your perspective on what’s possible.”

IV. Now that you’ve crafted a plan that incorporates serious consideration of the above-mentioned issues, it’s time to negotiate. Depending on your own history with your thesis advisor and committee members (and given that you are a G6 candidate), the hope would be that your thesis advisor first and your committee members next could reasonably negotiate their expectations with yours, given a well thought-out, responsible plan on your part. If this is not possible, you should take

see ‘Dear Laurie’ on page 5
Stemming the Science Drain:
Outlook on U.S. Stem Cell Research Under the Obama Administration

Carrie L. Lucas (G3) and Alison M. Taylor (G3)

Although the Obama administration is still in its infancy, important strides have been made to fulfill the promise President Obama made in his inaugural address to “…restore science to its rightful place…” For one, the $787-billion economic stimulus package has infused a much-needed $10.4 billion into the National Institutes of Health (NIH) and another $3 billion into the National Science Foundation (NSF). Given that the NIH and NSF fund the overwhelming majority of the basic science research in the U.S., this financial support is a promising sign of progress toward reinstating U.S. biological research as a world-premier engine for healthcare innovation and a major driver of economic stimulation.

Additionally, a significant change in policy is being implemented that aims to improve the ways politics influence science to better support progress, while still demanding accountability on the behalf of scientific researchers. Most recently, this has been made apparent by the March 9th announcement of Obama’s executive order to reverse restrictions on federally funded stem cell research.

As appreciated by the scientific community, totipotent human embryonic stem cells (hESCs) have the exciting potential to provide therapeutic benefit to patients with a range of disabilities (Parkinson’s disease, spinal cord injury, organ damage, and so on). Although the recent discovery of a mechanism by which somatic dermal cells can be coaxled into becoming induced pluripotent stem (iPS) cells is a remarkable achievement, the most effective approach requires potentially harmful viruses and must be refined before these findings can make it into the clinic. Continued research on hESCs is still critical to guarantee that scientists are able to take any future stem cell therapies to their fullest potential.

A bit of policy history

Prior to 1995, there was no legislation on stem cell research since this field had not been well established. In October 1995, however, Congress placed a ban (referred to as the “Dickey-Wicker” amendment) on federally-funded human embryonic stem cell research, which specified that no funds could be provided for research in which “a human embryo or embryos are destroyed, discarded, or knowingly subjected to risk of injury or death…” (H.R. 3010, Sec. 509). Up until 2001, no hESC research was funded by the NIH.

On August 9, 2001, however, former President George W. Bush announced that federal funding could support hESC research, but only when performed on stem cells already in existence at the time of his announcement. No newly developed hESCs could be studied using federal funds. Although this was an improvement in policy for scientists studying stem cells, it severely limited the progress that could be made, especially since the quality and availability of some of the stem cell lines was questionable. Twice (once in July 2006 and again in June 2007) after the Bush limits were put in place, the House and Senate approved the “Stem Cell Research Enhancement Act” (H.R.810), which would have supported research on hESCs (regardless of when they were isolated) as long as the embryos from which the stem cells were derived were from unpaid, consenting individuals who would otherwise have discarded the unused embryos after fertility treatment. Both times, Bush vetoed the bill.

As a result of these federal regulations, several states enacted funding alternatives. In early 2004, New Jersey passed appropriations specifically for stem cell research, and California did the same later that year. Several other states followed suit by allowing funding for hESC research and moving toward specifically allocating state funds for these studies.

After only seven weeks in office, President Obama issued an executive order lifting the limits imposed in 2001. This means that as soon as the NIH drafts guidelines, researchers will be able to receive federal funding for studies involving existing hESCs that were isolated using private funds, even if the isolation took place after August 9, 2001. However, the Dickey-Wicker amendment banning the use of tax money to generate new hESC lines is still in place.

President Obama has not taken a position on the ban and has no power to overturn it. It is left up to Congress to decide whether to overturn the Dickey-Wicker ban. As it currently stands, hESC researchers in the U.S. will have many more opportunities to make cutting-edge discoveries using hESCs generated privately, but they will not be able to create their own hESC lines using federal funds.

Implications on our lives as scientists

Not surprisingly, the effects of Obama’s executive order will be felt most by hESC researchers. Bush’s 2001 executive order did not prohibit generation and use of new ES cell lines, but instead prohibited federal funding of these studies. Labs that were fortunate enough to secure alternative funding sources still had bureaucratic difficulties as a result of the 2001 executive order. Because of the stipulations on federal funding, all resources had to be separated based on whether they were used for approved or unapproved hESCs. For some researchers, this meant having to create two
separate labs in different buildings. With the reversal of Bush’s policy, specialized resource allocation and the associated paperwork will no longer be necessary. Furthermore, collaborations between labs with different funding situations will now be feasible. These are significant changes that will, in time, have a considerable positive impact on the productivity of hESC researchers in the U.S.

This executive order also has implications for scientists outside of the stem cell community. According to Obama, part of the rationale behind the order was to listen “to what [scientists] tell us, even when it’s inconvenient—especially when it’s inconvenient. It is about ensuring that scientific data is never distorted or concealed to serve a political agenda—and that we make scientific decisions based on facts, not ideology.” These goals affirm this administration’s commitment to openness in science.

What the future may hold

A first test of the therapeutic potential of hESCs will be the FDA-approved phase I clinical trial by a company called Geron to test the safety of injecting neuronal progenitor cells into a small number of patients with recent spinal cord injuries. Based on animal studies, the hypothesis is that these injected cells will be capable of generating a new nerve coating called myelin to facilitate repair. Despite these and other exciting steps forward, the scientific community must remain diligent about putting science first to ensure that sufficient evidence is obtained prior to extensive use of hESC-derived therapies so that potential adverse medical side effects (e.g. tumor generation) are thwarted. Still, the future is bright for novel biological insights and truly revolutionary clinical applications.

With all this optimism about a renewed sense of priority for science, there is an unprecedented opportunity for engagement between scientists and non-scientists. It is important that we explain our research to the general public who fund it to help generate a realistic picture of what therapies we might expect to see in the coming years. Likewise, we can make an impact by giving our political leaders feedback, as scientists, on how we feel about their votes. If you’re interested in learning more about your elected officials’ views and voting record or are interested in signing up for science and health policy updates, visit the Scientists and Engineers for America website at sharp.sefora.org.

Questions and comments about the article are welcomed and can be sent to the authors at Carrie_Gibbons@hms.harvard.edu or amtaylor@fas.harvard.edu. Much of this article was previously published as a Science in the NewsFlash article for the general public at sitm.hms.harvard.edu. §

'Steem Cell Policy Sources and Resources:

- American Association for the Advancement of Science (AAAS) stimulus bill analysis: www.aaas.org/spp/rd/stim09c.htm
- AAAS stem cell legislation briefing: www.aaas.org/spp/cstc/briefs/stemcells/
- Library of Congress Appropriations: thomas.loc.gov/home/approp/app09.html
- National Conference of State Legislatures: www.ncsl.org/programs/health/genetics/esestatefunds.htm

‘Dear Laurie’ continued from page 3

advantage of additional consultations with your Department Head, mentors you trust, and the DMS Dean of Students, David Cardozo, to be sure you have explored all the possibilities before making any further decisions about your training and its completion. Taking this last step of negotiation is a risk, but also an important developmental step. You will need to do this at every step of your professional life with your partner and your growing family.

As a G6 candidate, you are approaching being colleagues with your advisor and your committee members after graduation. If you make a good faith effort to trust yourself and to trust them to be reasonable, you may find that your own more positive expectations of their response bring out more positive, respectful responses in turn. You may have reasons to mistrust, but if you don’t give them the benefit of the doubt, you don’t know if you have created a self-fulfilling situation of expecting nothing, mistrusting and not communicating with them, and then getting their mistrust in response.

V. The final issue you raise is how to deal with the expectations and attitudes you might have expressed toward you by those overseeing your work, which don’t seem to acknowledge the difficult balancing act you are accomplishing. This is another dilemma that doesn’t have a clear solution. You may be reluctant to point out the unique position you’re in because you don’t want to appear to be “unable to cut it.” On the other hand, there are very real aspects of your life situation that require lack of apology and clear communication with your advisor and members of your DAC, which do affect your timetable for completion of graduation requirements. How to talk to your advisor and committee about these issues is another developmental step. You can certainly present it as a dilemma: “On the one hand, I’m busy proving to you that I can do this work. On the other hand, I am doing many things for myself and my family that require priorities different than just my thesis completion alone. I don’t have the sense when we talk that you understand how those issues contribute to my own timetable for completing my work. If you think there is a way I could communicate about those issues differently that would help you understand better, I’d be very open to it. Your understanding of my situation and my efforts to complete this degree is very important to me.” This is a good faith effort to at least directly confront what you have experienced as insensitive and hurtful comments about your work efforts in this setting. It’s a start and, hopefully, the beginning of a more mutual conversation, for your future relationship as colleagues after graduation. Similar to the negotiation skills I mentioned above, there will likely be a need in the future for other such conversations as you work in other settings, continuing to balance your other life priorities.

Those are my thoughts for the moment, G6, but let me know how this works out. If you need support along the way, don’t hesitate to contact me. §
“Slaughter’ continued from page 1

details are still being worked out, the key players have committed to eight specific principles for reform.” In summary:

1. Protect families’ financial health.
3. Aim for universal coverage.
4. Provide portability of coverage.
5. Guarantee choice in health care provider.
7. Include “proven patient safety measures as well as incentives to improve the quality of health care in this country.”
8. Invest in prevention and wellness.

At this crucial moment in the history of American public health care policy, we have the obligation—whether as trainees or as established leaders in science and medicine—to inform ourselves and, more importantly, to communicate our ideas and opinions on health care reform with one another, non-scientists, and our representatives in Congress. Here are a few ways to get started:

1) State your support for health care reform at healthreform.gov/support.html.
2) Contact your representatives and senators regarding the importance of comprehensive reform, especially if you’re a constituent of moderate Republicans including Snowe (ME) and Collins (ME): writerep.house.gov. While emails and letters are important, phone calls top the list.
3) Watch Michael Moore’s Sicko.
4) Write a letter of support to the editor.
5) Keep abreast of progress in Congress at http://healthcareforamericanow.org/site/content/steps_to_win/#steps.

Recent DMS Student Publications:


Choo AY (G6), Blenis J. Not all substrates are treated equally: implications for mTOR, rapamycin-resistance and cancer therapy. Cell Cycle. 8(4):567-72.


Announcements

Lauren Campbell (G6) and Stephen Marotta were married on July 26, 2008, in Williamstown, New Jersey, and the couple honeymooned in Scotland.
‘Stipend’ continued from page 1
and you’ll agree that no one is better suited to saving money and looking good doing it.

As for the impact on science overall, the recession may (knock on wood!) actually have a positive impact. The new stimulus bill, the American Recovery and Reinvestment Act (ARRA) grants the NIH $10.4 billion over two years; in general, the funds available for researchers must be used by September 30, 2010. Other monies are being allocated for a wide range of needs, ranging from construction projects at the NIH and NIH-funded institutions for Shared and High-end Instrumentation Grants. The NIH will mainly allocate this money by funding recently reviewed and new R01 applications that have a reasonable chance of making progress within two years, and supplementing current grants with funds that must be used within two years. The National Science Foundation will also benefit from ARRA, receiving three billion dollars.

While it’s true that the recipients will face pressure to turn straw into gold in just two years, such expectations are only fair considering we’re being quite generously provided for by billions of tax dollars (even if it isn’t flowing straight into the DMS training grant purse). Although the upcoming stipend raise probably won’t radically alter your life, this is the best time in recent memory to ask your PI for that mass spectrometer (or other lab toy) you’ve always wanted!

More information regarding the NIH’s distribution of stimulus funds can be found at http://www.nih.gov/about/director/02252009statement_arra.htm. To learn more about stimulus funding at Harvard, visit the website set up by the Vice Provost for Research at http://research.harvard.edu. Now for the practical advice on ways to save with cards and clicks:

Top Seven Ways to Squeeze the Crimson Dime

1. Printing in the TMEC computer lab saves on paper and ink costs!
2. Harvard offers a 10% discount on monthly T passes for students.
3. The Harvard Museum of Natural History is free for Harvard ID holders plus one guest. In addition, the MFA, the Isabella Stewart Gardner Museum, and the Institute of Contemporary Art are free for students with Harvard IDs.
4. At Regal Cinemas, tickets bought with a student ID cost $9, compared to $11 for a regular ticket. You can save even more if your affiliated institution has an HR office (such as MGH East’s on the 7th Floor) where you can buy discounted tickets by showing your hospital ID.
5. Instantly save 20% when you use Crimson Cash to pay at on-campus eateries such as the Atrium Café or the Courtyard Café.
6. Get food discounts at local restaurants, such as:
   - La Famiglia Giorgio–Get 20% off when you show your student ID
   - Fire + Ice–All you can eat on Monday nights for $9.95 at the Boston location
   - Bengal Café–students receive 10% off the regular menu
7. And of course, there is always free food (and knowledge!) at program-sponsored data and journal clubs. There are also frequent seminars on campus: check posted signs and the weekly-emailed Quad Bulletin for announcements.

Charlie Is Your New Best Friend

Did you know that having a CharlieCard can get you more than just a discount on your T fare? Showing your CharlieCard can get you discounts or free stuff with purchase at many restaurants, gyms, and stores in the Boston area, including those at Faneuil Hall and the Prudential Center. Download the discount book at http://mbta.com/riding_the_t/CharlieCard_Discount_Book/. Some notable deals:
   - Free shoe rental when bowling at the Milkyway Lounge & Lanes in JP
   - 10% off at the Upper Crust

Give Some to Get Some

Another potentially useful thing to carry around is the Student Advantage Card available through studentadvantage.com. The card costs $22.50 for one year, and $10 each for up to four additional years. With the card, you can get numerous discounts through national companies (such as 15% off on Amtrak and Greyhound fares and up to 40% off at AMC theaters) and local shops, including Fajitas and ‘Ritas, which gives you 15% off with the card.

Green may be the new Crimson, but Cheap is the new Green.

Crimson Cash

For meals that come to you, GrubHub.com and Foodler.com are invaluable resources. These websites can tell you which local restaurants deliver to your address and also note delivery hours—so if you have a craving for Chinese at 11pm, you can get it satisfied. In addition, Foodler.com offers numerous discounts from participating restaurants if you order through their site.

Facility Profile continued from page 8 for your entire career because your curiosity is the only motivation for any scientist.” Kobayashi describes his first publication as a “kinda mediocre” paper, but he was still thrilled to get it in print. His second was a good paper in PNAS, but he was less excited to be published this time. His third was in Nature: while others in his position might have been ecstatic, he just took it in stride. His philosophy is that the scientist’s motivation should be his curiosity, as eventually any rewards (such as papers in top journals, good position, and awards) become less meaningful to successful scientists. As he summarizes, “Your excitement to get awarded by your work will diminish. But your excitement to find something new will stay at the same level always.”
Research Interests
The mechanism of the innate immune system, with a focus on the Toll-like receptors (TLRs) and nucleotide-binding domain, leucine rich containing (NLR) protein families

Ongoing Investigations
There are two large protein families that play key roles in the innate immune system. Toll-like receptors are on the cell surface to detect pathogens such as bacteria or fungi. The NLR protein family is more diverse, existing inside cells to detect pathogen products and activate the immune system.

One example of a gene Dr. Koichi Kobayashi’s lab studies is Nod2. Belonging to the NLR family, mutations in Nod2 increase a patient’s chance of Crohn’s disease up to 40-fold, making this one of the strongest genetic risk factors for Crohn’s disease. Why is Nod2 so important? Kobayashi’s lab found that Nod2 is a key player in the body’s defense mechanism against intestinal bacteria. As a result, his lab investigates the function of this protein in Crohn’s patients with Nod2 mutations.

Background
- Grad School: M.D. and Ph.D. granted from the Chiba University School of Medicine in Japan. Kobayashi also did his internship, residency, and chief residency there.
- Post-doc: Begun in 1998 at Yale University with Richard Flavell. While there, Kobayashi laid the foundation for his current work. He was studying a molecule with an unknown function and discovered that it was related to the innate immune system, sparking an interest in that field.
- Faculty Position: Arrived at Harvard in December 2004

The Path to Research
Kobayashi had been interested in medical research since he was eight years old and had wanted to be a doctor since he was ten. M.D. in hand and residency completed, he found the newly discovered allure of research to be irresistible. It was so “very fascinating” that he decided to earn a Ph.D.

Advice to Grad Students
“It’s important to follow your curiosity