The Director’s Column

by Lisa M. Satlin, MD

The 2009 admissions season is now winding down with Revisit Weekend for accepted and waitlisted MD/PhD candidates planned for March 26-28. Lily Recanati, Rhasili Rosario, and the Graduate School staff have assembled an outstanding program of activities to showcase the scientific accomplishments of our faculty and students, our state-of-the-art research facilities, the collegiality of our academic community, and the excitement of life in the Big Apple. For the first time, the MD/PhD program directors have selected a uniform acceptance date—April 30—so we look forward to finalizing our matriculating class shortly thereafter. I sincerely thank all of our MD/PhD students who volunteered their time towards this application season.

As we prepare to welcome the matriculating class of 2009, we must also say goodbye to the graduating class. They are an outstanding group, as evidenced by the caliber of the programs to which they have matched for residency (see pg. 4). Please join me in wishing them great success in residency and beyond!

As I have reported in past newsletters, a major focus of the Graduate School has been to foster “cross-training” opportunities for faculty and students in basic science and patient-based activities. To this end, we again encourage all MD/PhD students in their PhD years to register for (i) this summer’s six-week Summer Introduction to Clinical Research course, offered by the Masters in Clinical Research Program, and (ii) the three-month (half day every other week) selective entitled “Clinical/Translational (C/T) Research in the Clinical Research Center (CRC)”, an experience designed to expose future translational scientists to the “nuts and bolts” of C/T research. Finally, stay tuned for next year’s CEPORTED Annual Retreat which again will focus on a selected area at the interface of basic and clinical research with the aim of catalyzing information exchange between the bench and bedside.

Finally, I would like to again welcome Dr. Goutham Narla to his new role as an Assistant Director of our program. A 2006 graduate of our program, he is now an Assistant Professor of Medicine as well as Genetics and Genomic Sciences, and has received many awards, including, in 2008, an HHMI Physician Scientist Career Award and the Arnold P. Gold Foundation Humanism and Excellence in Teaching Award. In closing, have a wonderful spring semester and beyond! I look forward to sharing a rewarding and productive academic year with all of our students, alumni, and faculty!
**Summer Introduction To Clinical Research**  
by **Jay Pendse**

Last July and August, Sinai offered its first annual **Summer Introduction to Clinical Research program**, aimed both at fellows and junior faculty interested in clinical research as well as PhD students, MD/PhD students, and postdocs interested in “translating” their basic science. The course, described by its director Dr. Ethan Halm as a “**tapas menu,”** consisted of six morning lectures as well as six optional small group sessions which were intended especially for students actively developing study questions and designs as the course was going on. Over the **six weeks** of the course, students studied how to develop research questions, design studies, analyze datasets, and apply their findings to the prevention, diagnosis, and treatment of disease. One small group session also addressed how to find and benefit from **mentorship.** Jedd Sereysky, one of several Sinai MD/PhD student to participate, reports:

“Participating in last summer’s Introduction to Clinical Research course was a wonderful experience. Over the past several years, I have come to view clinical research as a link between the two ends of the ‘bench-to-bedside’ spectrum, but have found that the field is essentially overlooked by both the medical school and traditional graduate school curricula. The Introduction to Clinical Research course, at the very least, fits that niche, providing a sound survey of the various modalities through which clinical research is conducted and how the findings affect standards of medical care. Yet for those students, like myself, who find the prospect of conducting clinical research appealing, the course goes much further, giving a preview of material covered in advanced clinical research courses and affording an opportunity to network with active clinical researchers in the Sinai community. Whether or not your interests lie in clinical research, there is value in participating in this course.”

For information on scheduling, specific topics, and registration for this year’s summer clinical research intro program, e-mail **ethan.halm@mountsinai.org.**

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**Clinical Case Presentations**  
by **Andrew Chow**

Under the guidance of the Mount Sinai MSTP Junior Mentors (Drs. Goutham Narla, Michael Pourdehnad, and Daniel O’Connor), MSTP trainees meet approximately every other Monday to discuss case reports featured in the **New England Journal of Medicine** to help keep their clinical reasoning skills fresh during graduate training.

All MSTP students in the PhD phase of training are welcome to attend. To sign up to receive reminders and case taglines in advance, e-mail **andrew.chow@mssm.edu.**

Remaining sessions this spring (at 6 PM except as noted) are:

- **3/30:** Mila Ortigoza and Dr. Goutham Narla
- **4/20:** Vivek Rudrapatna and Dr. Daniel O’Connor
- **5/4:** Ursula Lang and Dr. Michael Pourdehnad
- **5/18, 5:45 PM:** Thomas Hays and Dr. Daniel O’Connor
- **6/1:** Zahra Ghiassi-Nejad and Dr. Goutham Narla

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**Forms You Should Have Filled Out By Now**  
by **Ittai Bushlin**

All forms can be downloaded online at **http://www.mssm.edu/students/gradhandbook/forms.shtml.**

**Students in their 1st MD year:**  
Laboratory Rotation Agreement

**Students in their 1st PhD year:**  
Preceptor/MTA Declaration  
Advisory Committee Declaration/Change Form

**Students in their 2nd PhD year:**  
Thesis Proposal – Registration

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**Of Note**

- The grad school handbook is located online at: **http://www.mssm.edu/students/gradhandbook/**
- The **Neuroscience MTA retreat** is May 21, 2009.
- Sinai MD/PhD students can take one course in the new graduate “clinical/translational” program for **free**—just get it approved by your PI, your MTA directors, and Lisa Satlin.
- There is a **change** to the composition of the committee for the **oral** part of the **general knowledge exam** required of all students in the **first PhD year.** The MTA co-director, or a faculty member designated by the MTA, will serve as Chair for this exam. The Chair of the Oral Exam Committee will appoint the three other members of the examining committee. Collaborators of the student’s thesis advisor should not be a member of the exam committee. For further details regarding the written part of the qualifying exam, consult your MTA director.
these disorders. Ultimately, I would like to see these discoveries lead to the development of improved treatments of behavioral plasticity. We focus on transcriptional mechanisms of regulation, including most recently the involvement of chromatin remodeling in mediating long-lasting neural and behavioral plasticity. Ultimately, I would like to see these discoveries lead to the development of improved treatments of these disorders.

Where did you receive your education?
All at Yale. I graduated from Yale College in 1976, then joined the MD/PhD program there, and graduated in 1982 (PhD) and 1983 (MD). I did my internship at Mount Auburn and McLean Hospitals outside of Boston, then returned to Yale for my Psychiatry residency, which I completed in 1987.

Please briefly describe your research interests.
The goal of my research is to better understand the molecular mechanisms of addiction and depression. My lab uses animal models of these disorders to identify the ways in which drugs of abuse or stress change the brain to lead to addiction-related syndromes. We focus on transcriptional mechanisms of regulation, including most recently the involvement of chromatin remodeling in mediating long-lasting neural and behavioral plasticity. Ultimately, I would like to see these discoveries lead to the development of improved treatments of these disorders.

What made you decide to become a scientist? If you were not a scientist, what would you be?
I always loved science. As a kid, I competed in science fairs with biology and chemistry projects (made me very popular with the girls). When I got to college, I learned about MD/PhD programs, which seemed perfect for me. I love all aspects of a life in biomedical research. I enjoy the challenge of science, figuring out biological mechanisms, pushing technological approaches, and writing about the results. I consider myself extremely lucky to have a job that I enjoy so much. I still look forward to going to work every morning.

If I were not a scientist, I think I would have pursued history and politics.

What is the role of the MD/PhD graduate in translational medicine?
The MD-PhD has a unique perspective by understanding the basic molecular-cellular basis of medical phenomena combined with an accurate view of the clinical syndrome.

What has been your favorite NY experience thus far?
I'm originally from New York, so moving to Mount Sinai has been like coming home. One of my favorite experiences is arriving at Penn Station and hearing people curse in thick New York accents. More seriously, I love being back in New York because of the diversity of the city and its vibrancy. It’s the center of the universe.

What can you tell us that might surprise us about you? Extracurriculars?
I love sports, am an avid Yankees and Giants fan. What might surprise you? I’m a Republican.

What is one of your lifelong dreams?
My lifelong dream is to see molecular advances contribute to improvements in clinical psychiatry. I look forward to the day when a person with a mental illness goes to the doctor, gets a genetic test or brain scan to establish a clear diagnosis, and gets treated with a drug designed to counteract or reverse the molecular lesion.

Anything else you’d like to add?
I love being part of Mount Sinai and look forward to working with the MD/PhD program.
NOURA ABUL-HUSN, MD/PhD
Thesis: Identification of Morphine-Regulated Proteins and Signaling Networks at the Presynapse: An Integrated Proteomic and Systems Biology Study
Advisor: Lakshmi Devi, PhD
Career Path: Medicine/Medical Genetics, Mount Sinai, New York

GEORGE CHENG, MD/PhD
Thesis: "Twist in Cancer Progression and Metastatic Program"
Advisor: Lu-Hai Wung, PhD
Career Path: Internal Medicine, Beth Israel Deaconess, Boston

LAUREL GLASER, MD/PhD
Thesis: "The Role of Receptor Binding Specificity in the Pathogenicity of Influenza Virus"
Advisor: Peter Palese, PhD
Career Path: Pathology, University of Pennsylvania, Philadelphia

AARON LAINE, MD/PhD
Thesis: "New Insights into the Regulation of p53 Localization and Activity by the Ubiquitin System"
Advisor: Ze’Ev Ronai, PhD
Career Path: Medicine Preliminary and Radiation Oncology, Mount Sinai, New York

ELVERA BARON, PhD
Thesis: "Sweet Taste Receptor Activity: Analysis of Functional Microdomains"
Advisors: Marianna Max, PhD, and Roman Osman, PhD

CONSTANTIN FRIEDMAN, PhD
Thesis: "The Tumor Suppressor CYLD is a Negative Regulation of Anti-Viral Innate Immunity"
Advisor: Adrian Ting, PhD

DEENA COLDWATER, PhD
Thesis: "Dual-Direction Plasticity of the Prefrontal Cortex in Chronic Stress and Recovery"
Advisor: John H. Morrison, PhD

DEVORAH SEGAL, PhD
Thesis: "Cingulum Bundle Pathophysiology in Schizophrenia"
Advisor: Patrick R. Hof, PhD

MELISA RUIZ-GUTIERREZ, MD/PhD
Thesis: "Composition and Regulation of Nuclear elF4E Ribonucleoprotein Complexes"
Advisor: Katherine Border, PhD
Career Path: Pediatrics, University of Washington, Seattle

STEVEN VEA, MD/PhD
Thesis: "Mechanisms of KLF6 Regulation in Cancer and Differentiation"
Advisor: Scott Friedman, MD
Career Path: Pathology, University of California, Los Angeles

ELIZABETH KICHULA, PhD
Thesis: "Developmental and Comparative Aspects of Posterior Medial Thalamocortical Innervation of Barrel Cortex in Mice and Rats"
Advisor: George Huntley, PhD

ERIC SMITH, PhD
Thesis: "The Anti-Neoplastic Potential of Modulating Acid Sphingomyelinase and Ceramide Metabolism"
Advisor: Edward Schuchman, PhD

JOTIN MARANGO, MD/PhD
Thesis: "Functional Characterization of the Multiple Myeloma SET Domain (MSET) Protein"
Advisor: Jonathan Licht, MD
Career Path: Venture Capital, San Francisco

MELISA RUIZ-GUTIERREZ, MD/PhD
Thesis: "Composition and Regulation of Nuclear elF4E Ribonucleoprotein Complexes"
Advisor: Katherine Border, PhD
Career Path: Pediatrics, University of Washington, Seattle

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Advisor: Patrick R. Hof, PhD
Crossword by Taia Wang

Across
1) Requires a host cell for replication.
5) Runs a lab.
6) Respiratory, circulatory, musculoskeletal, nervous, digestive... etc.
8) Varicella-zoster virus causes a disease characterized by these marks (var.).
10) Can be malignant or benign.
11) Eating too much will make you _________.
13) If bitten by a wild animal, might be concerned whether it is _________.

Down
1) Cover one eye as part of this exam.
2) _________ and digest.
3) Anti-dsDNA antibodies are commonly associated with this disease (abbrev.).
4) This neurodegenerative disease is also named after a baseball player from the 1920s and '30s (abbrev.).
7) May be affected after head injury.
9) Inoculating a flask with bacteria should result in a _________ culture some hours later.
12) Most of your time between years 2 and 3 of med school is spent here.

(Solution on pg. 7.)
Interview: Noura Abul-Husn
interviewed by Ittai Bushlin

Noura Abul-Husn, PhD, is in her final year of our MD/PhD program.

Why did you choose to come to Mount Sinai?
As MD/PhDs, we learn to base decisions on hard evidence. In fact, we hear the term “evidence-based” so much that it becomes ingrained in our minds. Then, near the culmination of our studies, we’re reminded that gut instinct and experience often play a role in the most difficult decisions.

Leaving a small college town in Canada to move to NYC, where I knew nothing and no one, was not an easy choice. I ended up at Mount Sinai because I had a good feeling about this institution and its MD/PhD program. That’s it. Not everything needs to be evidence-based, and I wouldn’t have done it any other way.

What were a few of your favorite things to do in NYC during your MD/PhD schooling?
My favorite thing continues to be exploring the city by foot. You could live here for several lifetimes without getting to know all of it. I love eating out, and I love the night life. In the summer, reading in Central Park makes me almost as happy as being on a beach. Other NYC favorites include bookstores with coffee shops, rooftop bars, live music and dance performances, and of course the shopping!

How did you feel seeing your MD class graduate, while you were still halfway through your training?
I remember Match Day 2006 quite well. My best friend from my original MD class actually had me open her envelope to tell her where she had matched. There was a picture of me “not matching” in the yearbook... hilarious. It was a mixed bag of emotions—I was so happy for my friends, for their excitement. I was sad to see many of them leave. A little bit of doubt did creep into my mind as to why I was sticking around when I too could have moved on to the next adventure. Then I went back to lab, finished a Western, spent the afternoon reading in the park, and remembered that life was good and everything was as it should be.

What was the most unexpected thing to happen during your PhD?
There were many unexpected things, both good and bad. I guess I’ll pick one of each.

Bad: In 2006, I unexpectedly got stuck in the war in Lebanon, had to be evacuated with my family through Syria, and afterwards found myself reconsidering whether I even wanted to live in the USA anymore.

Good: In 2007, I unexpectedly had a high-risk research project work, presented my findings at an international conference in Berlin (before my supervisor had a chance to see the data), and found myself writing and defending my thesis a year early.

Did you do any clinical work during your PhD years? If yes, then what, and did it help? If no, why not?
I did very little clinical work during the PhD years—I tried out EHHOP a couple times, and then basically did nothing until the clinical refresher. There are different thoughts on this. Nowadays more students are encouraged to maintain some clinical experience during the PhD years, in order to sustain some of their clinical knowledge and make the transition to third year easier. My feeling was that I needed to immerse myself into the research world completely. When I did have free time, I wanted to be able to attend conferences, travel a little, visit my family in the Middle East... and I’m sure a part of me didn’t think I’d forget everything by the time I returned to third year (I was wrong). The benefit of focusing solely on research was that I never felt like I was being pulled in two directions. I never had to leave the lab for clinical duties, and I could come in to work on the weekends when I needed to. And, the ultimate bonus: I finished my PhD in three years.

What was your experience in transitioning into the PhD and going from the PhD back to year 3 of medical school? Did you feel prepared to go back having been out of the hospital for so long? How did you handle this?
Transitioning into the PhD was not a problem. I had already been involved in lab meetings and had written a book chapter while in year 2 of medical school. I was ready and excited to transition to full-time researcher. The problem was transitioning back into medical school. Having avoided doing clinical work during the PhD years, I was not prepared. That being said, who is really prepared to be thrust into the clinical world? I would argue that even MD students who just took Step 1 are not prepared. It’s an instantaneous transition into a whole new world, with its acronym-rich vocabulary and strict hierarchy. In my case, just to make life more interesting, I joined the third year class three months into the year, so the students working alongside of me were somewhat seasoned. This made me feel (and look) like a complete idiot. I had to go back and review the basics, and lay low until I figured out what was going on around me. It wasn’t easy, but despite that I didn’t entirely hate the experience. My first clinical preceptor, in her evaluation, noted that my learning curve in the first six weeks was phenomenal. I took that as a compliment.

What is your most memorable clinical experience?
Once again, so many to choose from, so I’ll pick a recent one. At the end of my very last shift in the ER, I went around to say goodbye to my patients and to tell them that someone else would be taking over. One of my patients, who was very sick, became curious about where I was off to next. So I explained that this was the end of the rotation, and that I was nearing the

(continued on page 7)
• It really is true: follow your passion, do what you love, and you’ll never work a day in your life.

• Think hard about where you want your career to go. It’s very hard in my opinion to fully combine both degrees, and you need to figure out what is going to work best for you personally.

• Find good mentors, which is far more important than finding a good project. Listen closely to what your mentors have to say, but realize that on occasion you may learn the opposite of what they are telling you. Find an even better spouse, and make your marriage a partnership. Continue to acquire new skills (that go beyond the laboratory) throughout your career (e.g.: managing budgets, philanthropic fundraising, public speaking, networking, whatever else you need to learn); the dual degree is just one component. And don’t confuse your career with your life.

• Pay attention to not just the intellectual returns of your evolving career decision, but also your emotional response. If you don’t find this fun, it is probably not worth it.

• Try to do everything, but not all at once.

• Being a chief resident is actually very similar to being an administrative assistant. Your ego may tell you to do it, but resist.

• No one cares what your board scores were.

• Don’t be afraid to leave NYC. Do not spend a whole career in one city, and especially do not spend a career in one hospital system. BWH is very different from MGH which is very different than CHB, all of which are nothing like Sinai.

• You may HATE clinical rotations (I nearly left Sinai during 3rd year because I was miserable), and still love being a clinician. It seems to be a matter of finding the right fit of specialty, hospital, personality fit.

• If you want to do research, negotiate the percent research time in a residency upfront. Make sure you have it in writing.

• Don’t let years pass between when you finish your PhD research and the next time you do an experiment.

(Continued from page 6)

end of medical school. He then said: “Well, you did a wonderful job. You really made this experience easier for me, and I think you are going to be a great doctor.” His words meant so much to me, as I finished up yet another clerkship. And I couldn’t help but think: I hope you’re right because I’ll be a doctor really soon!

How do you plan to use both degrees to achieve your lifelong goals?
This sounds a lot like a residency interview question. Here’s the answer I think I gave most of the time. I plan to be mostly focused on research, one of those physician scientist types with the quoted 80/20 (or 85/15?) research/clinical time ratio. In terms of lifelong goals, other than winning a Nobel Prize (we have to dream big, don’t we?), one thing I would love to do eventually is help establish biomedical research in the Middle East, where it is seriously lacking.

What is the most important lesson you’ll take away from your experience at Sinai?
I’ve learned to always keep an open mind, smile and be nice to people. When you get along well with others, it makes life easier and more pleasant for everyone. Medicine (and research) is about working together and teaching each other. It’s an incredible journey, and I plan to enjoy it every step of the way.
Students of Mount Sinai know that they are in a special place. Bordering Central Park, in a more serene area of Manhattan, Sinai continues to grow and make its presence known in the Upper East Side. But how well do students know Sinai? Sure, we heard about the U.S. News & World Report ranking Sinai 2nd in geriatrics, 7th in gastrointestinal disorders, and 23rd in medical research for all U.S. medical schools. Or that Sinai is 18th among medical schools in the U.S. receiving NIH grants, receiving over 210 million dollars. But what do students know about the history of Sinai? Take the quiz and find out! (Turn page upside-down for answers.)

1. What was the name of the hospital currently called “The Mount Sinai Hospital” founded in 1852?
   a. Moses’ Palace
   b. New York Jewish Hospital
   c. Jews’ Hospital in New York
   d. It has always been called The Mount Sinai Hospital

2. Sinai was the ______ Jewish hospital in the United States.
   a. First
   b. Second
   c. Third
   d. Fourth

3. Who founded Sinai at the age of 72 and had graduated Columbia University in 1800 and studied law under Aaron Burr? He also donated the land where the hospital was to be built.
   a. Sampson Simson
   b. Aaron Levi
   c. Abraham Feinburg
   d. Jebediah Springfield

4. Where in New York was the original Sinai hospital located?
   a. Astoria
   b. 28th, between 7th and 8th Avenues
   c. 42nd, between 2nd and 3rd Avenues
   d. 98th-102nd, between Madison and 5th Avenue

5. What prompted the Board of Directors to increase the number of beds in the hospital for the first time?
   a. To accommodate soldiers wounded in the Civil War in 1861
   b. To accommodate the growing number of immigrating Jews to NYC in 1888
   c. Donations from Jewish business owners who wanted to expand the hospital
   d. The city gave the hospital funds to expand in 1902

6. When did the hospital change its name to The Mount Sinai Hospital and begin to accept patients without regard to race and religion?
   a. April 17, 1866
   b. May 23, 1876
   c. June 29, 1900
   d. December 29, 1917

7. Which diseases were first clinically described at Mount Sinai?
   a. Tay-Sachs and Crohn’s
   b. Buerger’s and Brill’s
   c. Recognition of Koplik’s spots as a sign of measles
   d. All of the above

8. When was the Medical School founded at Sinai?
   a. 1899
   b. 1955
   c. 1963
   d. 1970

The first Mount Sinai Hospital building (background), pictured with a Carriage (foreground).

We’re always looking for people to help us put the MD/PhD newsletter together. And we’re always looking for people to help us look for them! And we’re always looking for people who’ll help with that. But that’s it.

If you’ve been following all this, please e-mail ittai.bushlin@mssm.edu and explain it to us.