The educational enterprise at Memorial Sloan Kettering

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patient care
research
Education
Overall goal

Making MSK the best place ANYWHERE to get scientific training
How to achieve this overall goal?

- Right mentor, mentorship
- Coursework
- Professional development
- Quality of life
**Nomenclature**

› **Graduate students** *(predoctoral students)* = those seeking a PhD- at the Gerstner Sloan Kettering Graduate School or though our partnership with Weill Cornell Graduate School or another tri-institutional program

› **Postdocs** = those with a PhD seeking additional training (can be called Fellows/Scholars/Associates depending on funding source, years at MSK)

› **Clinical Fellows** = Medical doctors, post-residency, who choose to specialize further- like in oncology. During this fellowship many do research in a lab

› **Trainees** = umbrella term for all of the above
Graduate students at MSK

- 64 Gerstner Sloan Kettering
- 140 Weill Cornell Graduate School
- 23 Tri-I MD/PhD program
- 20 Tri-I computational biology program
- 13 Tri-I chemical biology program
- 45 Graduate research assistants

305 graduate students
Trainees by the numbers

› ~550 postdoctoral researchers
  › 340 Fellows (postgraduate year [PGY] 0-5)
  › 100 Scholars (PGY 0-5)
  › 107 Associates (PGY 3-8)
Trainees by the numbers

- **375** clinical fellows
- Additional **1160** rotating clinical trainees

- **550** postdoctoral researchers
- **305** graduate students
- **375** clinical fellows
- **1,230** clinical and scientific trainees
Trainees by the numbers: postdocs

› 53% male, 47% female
› a very international population: 74% here on a visa
  › 60% of those here on visa- restrictive J1 (5 year) visa
› Average length of stay: 3.6 years
  › around 115 postdocs enter & exit each year
› Updated pay in September 2016
  › moved to a minimum salary of $50,000 (from $43,600)
Mentors, mentorship

93 Sloan Kettering Institute labs
52 HOPP/ Memorial Hospital labs

Renewed emphasis on mentoring
New, required 10-question form introduced 11/16

Have you built professional relationships with scientists outside of your lab who can help advance your research and career goals? List scientists you would like to connect with in the next year.

What are your future career goals?

What aspects of mentoring that you received did you find most beneficial? Discuss how your mentor can provide advice to you in the most productive way.
Trainee scientific firepower: publications

2015: 514 publications from postdocs
2016: 560
2017 (Jan 17): 18
Trainee scientific firepower


Yusuke Shono (van den Brink) Increased GVHD-related mortality with broad-spectrum antibiotic use after allogeneic hematopoietic stem cell transplantation in human patients and mice. Science Translational Medicine 2016


Yosef Shamay (Heller) P-selectin is a nanotherapeutic delivery target in the tumor microenvironment. Science Translational Medicine 2016
Coursework

› Statistics
› Image analysis
› Computational biology
  › R, Python, C/C++, Unix
  › Data visualization
› Responsible conduct in research
› Rigor & transparency
› Entrepreneurship
› Communication
The art of scientific communication

› Writing for a scientific audience
› Oral presentation skills
› Slide design
› How to introduce yourself

› Lay audience communication
Other professional development

- Fellowship grantsmanship
- Job search for international scholars
- Unique career paths for PhDs
- Biotech careers outside of major hubs
- Time management
- Balancing your family and professional responsibilities

- Individual career counseling
Outcomes: graduate students

› 39 GSK graduates
› 19 went on to postdocs, 7 to scientific jobs, others to industry/ consulting/ communication

› Weill Cornell graduates are harder to track...
Outcomes: postdocs

Data from 244 trainees departed in last 2 years

- Employed: 92%
- Career hiatus: 5%
- Seeking another degree: 3%
- Other: 0%
Outcomes: postdocs

› National benchmark for academia: 7-15%
Notable alumni

Nick Arpaia (Rudensky), Faculty at Columbia University

Karen Kasza (Zallen), Faculty at Columbia University

Chong Luo (M Li), Scientist at Juno Therapeutics

Hisham Bazzi (Anderson), Faculty at University of Cologne

Lindsay Lafave (Keeney), Postdoc at MIT

Javier Sanz (Baselga), Editor at Nature Medicine

Mark Caty (Leslie), Postdoc at Princeton University
Notable alumni

Daniel Roxbury (Heller), Faculty at University of Rhode Island

Luke Dow (Lowe), Faculty at Weill Cornell

Qi Dai (Lai), Faculty at Stockholm University

Danilo Maddalo (Ventura), Lab Head at Novartis

Saida Dadi (M Li), Senior Scientist at Regeneron
Quality of life issues

› Benefits
› Retirement
› Housing
› Childcare
Childcare

Society Scholars Prize

› $1,250/ year to meritorious postdoc parents
  › potentially renewable for 4 years ($5,000 total)
› Children age 0–4
› 41 applicants
› 10 will be awarded in 2017
My continued presence and ability to work after 5pm without interruption is often required to finalize my laboratory work. I therefore am applying for the MSK Society Scholars Prize to have a financial support to hire a nanny to take care of my 1st son (11-month-old) and 2nd son (due on April 1st 2017). As a single mother with two sons, this MSK Society Scholars Prize will provide me a great opportunity to continue my future career in science.

About the time when I was finishing my thesis for Ph.D., I became a mother. There were many moments that I had to put aside myself and my career to meet more urgent needs of my son. I never felt more challenging to finish one experiment a day. Despite of many sleepless nights, I realized that I still want to be a successful and independent scientist as much as I want to be a good mother. The establishment of the Society Scholars Prize itself means a lot to me because it shows the support and care of MSK for working moms. I again feel proud that I work here, and say to myself “I can do this” one more time. If I receive the Prize, it will motivate me even further. During the past few years, I learned that the motivation inside me is what I need most to focus on the research when I am at work and keep the balance at home. I believe that my research makes difference and will help people including my own son.

My family, especially my husband, has been very supportive to me for pursuing my career. However, we have been struggling with financial problems since our twin boys, Albert and Allen, were born in 2013. The boys used to live with me in NYC and my husband, working at Yale University as a research scientist, used to commute between NYC and New Haven. After being wait-listed to enroll in the MSKCC childcare center for more than two years, we had to move to New Haven for affordable childcare of two children in 2015, and I have been commuting since then. The situation got worse in 2016 when the lab my husband worked in completely lost funding. My husband was laid off over three months, and then started a part-time job with minimum wage in his collaborator’s lab to continue his project. Being in this difficult time, I am very happy to hear that the society of MSK provides this scholars prize for postdoc parents. Any extra financial support would help my family to move forward in the year of 2017 and hopefully both my husband and I would benefit from the help and persevere in our research.
Through this Prize, the Society can stabilize this particularly difficult stage in a young family’s life, as these scientists try to get their careers off the ground while adjusting to being new parents.
Thank you for your support and dedication to all the aspects of MSK

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