

**Research Residency Training for MD-  
PhD Graduates:  
Handing Off the Baton**

**Moderators:**

**Lisa Satlin, MD**

**Myles Akabas, PhD**

**What can we – as MD/PhD Directors  
and Administrators – do to facilitate  
the success of our graduates as  
physician-scientists?**

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# Objective

- MD/PhD programs provide rigorous integrated graduate training in scientific research and clinical medicine with the goal of training physician-scientists poised to make major contributions to the understanding and improvement of human health.
- The training of physician-scientists does not end with receipt of the MD/PhD degree but demands support, guidance and close mentorship throughout residency, fellowship, and beyond.
- **Goal of this session:** to explore models (and their successes and challenges) of post-graduate training that create an academic culture that attracts, trains, nurtures and sustains physician-scientists in the transition from trainee to independent faculty member.

# Questions posed to speakers

- **What can we do to “maintain the dream” of the impressionable young people we are training for careers as physician-scientists and inoculate them against the pessimism prevailing today about this career path?**
  - **Challenge: the fiscal environment and contraction of NIH funding is making careers as physician-scientists look untenable**
- **How can we best advise our MD/PhD students about career opportunities for physician-scientists?**
- **What mechanisms exist during residency training to allow our graduates to continue research training while becoming competent clinicians?**
  - **Challenge: most residency training programs are designed to train clinicians, not physician-scientists.**
- **What can we do for our MD/PhD graduates when they reach instructor/junior faculty status to ensure their successful transition to become fully independent investigators?**

## National MD/PhD Residency Data 2004-2008

	2004	2005	2006	2007	2008	Total
Internal Medicine	78	74	83	95	76	406
Pediatrics	30	36	35	41	37	179
Pathology	30	36	30	39	43	178
Radiology	24	24	21	27	29	125
Psychiatry	23	18	17	21	18	97
Dermatology	16	21	21	16	18	92
Radiation Oncology	15	21	14	14	28	92
Neurology	16	14	12	21	24	87
Ophthalmology	17	13	16	12	17	75
Anesthesiology	4	10	9	15	17	55
Surgery	9	9	12	5	7	42
Neurosurgery	9	9	5	4	9	36
Otolaryngology	4	3	6	8	4	25
Emergency Medicine	3	2	5	8	5	23
OB/GYN	3	5	4	6	6	24
Orthopaedic Surgery	3	1	4	8	7	23
Urology	4	5	2	2	5	18

# Characteristics of the Study Sample

(~80,000 US medical graduates who completed the national AAMC Graduation Questionnaire between 2000-06)

Characteristic	No. (%)		
	Total (N = 79 104)	MD/PhD Graduates <sup>b</sup> (n = 1833)	All Other MD Graduates <sup>c</sup> (n = 77 271)
Degree program at matriculation			
MD/PhD	1859 (2.4)	1330 (72.6)	529 (0.7)
Non-MD/PhD	70 283 (88.8)	306 (16.7)	69 977 (90.6)
Not available	6962 (8.8)	197 (10.7)	6765 (8.8)
Sex			
Men	43 081 (54.5)	1283 (70.0)	41 798 (54.1)
Women	36 023 (45.5)	550 (30.0)	35 473 (45.9)
Race/ethnicity			
White	52 644 (66.6)	1228 (67.0)	51 416 (66.5)
Asian/Pacific Islander	15 493 (19.6)	459 (25.0)	15 034 (19.5)
Other/unknown	974 (1.2)	11 (0.6)	963 (1.2)
Underrepresented minority <sup>d</sup>	9993 (12.6)	135 (7.4)	9858 (12.8)
Age at graduation, y			
≤29	64 332 (81.3)	705 (38.5)	63 627 (82.3)
30-32	8687 (11.0)	860 (46.9)	7827 (10.1)
≥33	6085 (7.7)	268 (14.6)	5817 (7.5)
Specialty choice at graduation			
Internal medicine	12 808 (16.2)	383 (20.9)	12 425 (16.1)
Dermatology	1469 (1.9)	90 (4.9)	1379 (1.8)
Emergency medicine	5426 (6.9)	38 (2.1)	5388 (7.0)
Family medicine	6432 (8.1)	26 (1.4)	6406 (8.3)
Neurology	1573 (2.0)	120 (6.5)	1453 (1.9)
Obstetrics and gynecology	4467 (5.6)	41 (2.2)	4426 (5.7)
Ophthalmology	2099 (2.7)	70 (3.8)	2029 (2.6)
Pathology	1288 (1.6)	145 (7.9)	1143 (1.5)
Pediatrics	8010 (10.1)	189 (10.3)	7821 (10.1)
Psychiatry	3097 (3.9)	92 (5.0)	3005 (3.9)
Radiology	4800 (6.1)	148 (8.1)	4652 (6.0)
Surgery	12 201 (15.4)	222 (12.1)	11 979 (15.5)
Other	5759 (7.3)	109 (5.9)	5650 (7.3)
No specialty selected	9675 (12.2)	160 (8.7)	9515 (12.3)
Planned career involvement in research			

Andriole, D. A. et al. JAMA 2008;300:1165-1173.

# Panelists

- **Bruce R. Ransom MD, PhD**

Professor and Chair

Dept. of Neurology

U. of Washington

\* runs (x 6 yrs) an annual NIH-sponsored meeting on “*Combining Research and Clinical Careers in Neuroscience*”, a course aimed at encouraging medical students with neuroscience research training to pursue clinical training and choose clinician-scientist careers.

- **Don Ganem, MD**

Professor and Vice-Chairman, Microbiology

Director, Molecular Medicine Training Program

University of California, San Francisco

- **James R. Goldenring, MD, PhD**

Professor and Vice Chairman of Surgery for Research

Vanderbilt U.