



Basic Scientist: From Resident to Faculty

Christina V. Angeles, MD FACS
Assistant Professor of Surgery
Dartmouth-Hitchcock Medical Center/ Norris Cotton Cancer Center

 @cvangelesMD

Disclosures

- None
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My Career Path

- General Surgery Residency at Cornell 2005-2012
- Two year dedicated Basic Science Research Fellowship at MSKCC after PGY3 2008-2010
 - Developed a high throughput drug screen to look for novel therapeutics for dedifferentiated liposarcoma.
 - Confirmation drug/ compound studies *in vitro* and *in vivo* murine models.

My Career Path

- Surgical Oncology Fellowship at MSKCC 2012-2014
- First attending job at Dartmouth-Hitchcock Medical Center, Assistant Professor of Surgery
 - Perfect clinical job: sarcoma, melanoma, gastric cancer (+breast)
 - 20% research time with opportunities for internal funding

Timeline

Faculty Year	1	2	3	4	Start of 5
Clinic	2 d/wk	2 d/wk	1.5 d/wk	0.5d/wk	0.5d/wk
OR	2 d/wk	2 d/wk	1.5 d/wk	1d/wk	1d/wk
Research time	20%	20%	40%	75%	75% -> ?
Grants		DHMC surgery grant -\$ not time		KL2 CTSA - \$ and time	
			Dartmouth SYNERGY grant – time not \$		ACS-CSDG 50% R01 Co-I 10% K08 Pending

NATURE | EDITORIAL



More surgeons must start doing basic science

They say they don't have the time or incentives to do research — and that's dangerous for translational medicine.


21 April 2017 | Corrected: 25 April 2017

nature
REVIEWS UROLOGY

News & Views | Published: 22 November 2016

Surgery

The surgeon–scientist — a dying breed?

Solomon L. Woldu & Ganesh V. Raj 

Nature Reviews Urology **13**, 698–699 (2016) | [Download Citation](#) ↓

Resident life in the lab

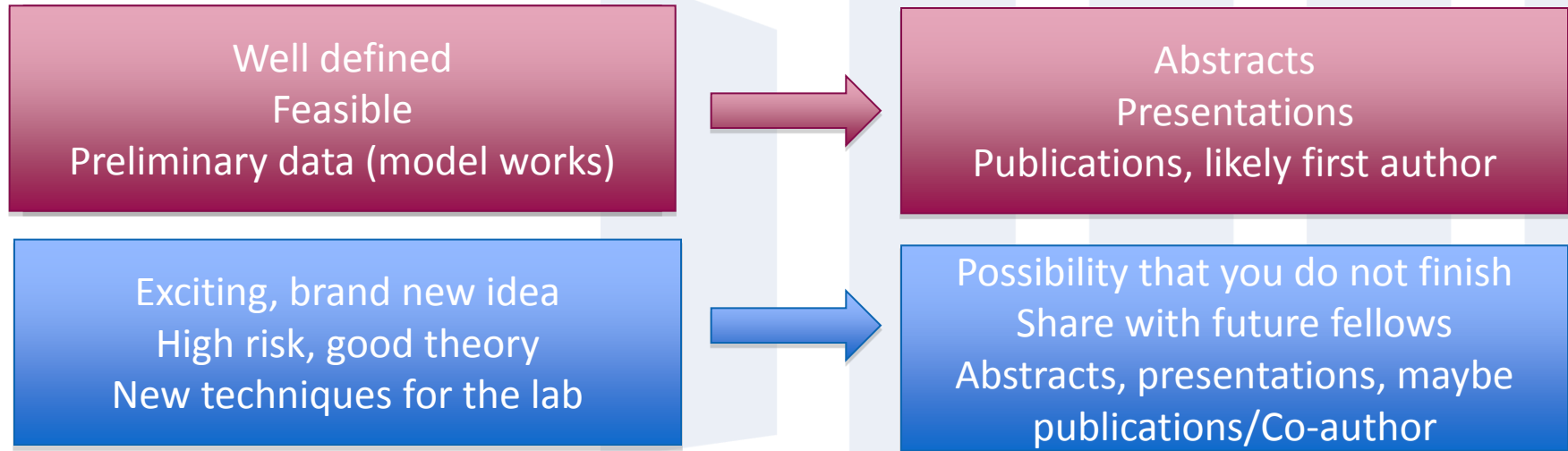
Choosing a lab experience

- Availability
- Interests
- Funding
- Dedicated time (?moonlighting)
- PI success at mentoring residents
- Research-oriented formal education
- Who are you learning from? Grad students, postdocs, other surgical fellows



Productivity

- The type and complexity of the project may dictate tangible outcomes



Overarching goals

- To become a surgeon-scientist
- To get into a better clinical fellowship program
- To figure out if basic/ translational science is right for you

“You must have long term goals to keep you from being frustrated by short term failures.”

- Charles C. Noble



Make the best of your research years

- FIND A RESEARCH MENTOR(s)
- Go to basic science lectures
- Learn new techniques
- Watch how your PI
 - Manages the lab
 - Runs lab meetings
 - Balances (or not) clinic/ research
- Understand core facilities
- review with PI
- Set sub-goals
- Attend and present at national meetings
- HAVE FUN!!!



Resilience

Persistence

So...

you want to be a
surgeon-scientist

Passion for research

Ability to accept failure

Educating the surgeon-scientist: A qualitative study evaluating challenges and barriers toward becoming an academically successful surgeon. Kodadek LM et al. *Surgery* 2016

Faculty life in the lab

Choosing the right job

- Availability
- Clinical practice should parallel your research
- Funding – research start up package vs individual grants
 - Basic science costs more than outcomes research
- Support and infrastructure of the hospital/ department
- Dedicated time – is it truly protected?
- Resources: lab space, core facilities, \$\$\$\$
- Who will you be learning from?
- Collaborators
- MENTORS are KEY



Clinical factors to consider

- Clinical time is ALWAYS more than what is scheduled
 - Calling back patients and referring providers
- More control over your practice will allow more true protected time
 - Supportive colleagues and adequate coverage
 - Outpatient vs inpatient/ complexity of case volume
 - Associate providers
- As you get more established in your research... your surgical practice blossoms (direct referrals, now your known)

Your lab

- Integrating into a well established lab for a quicker start
 - Shared equipment and resources
 - Easy access to science discussions
 - More face time with mentors and collaborators
- Location
 - Easy back & forth to clinic/ OR



Thank you

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