

Career Pathways and Opportunities: Graduate & Medical Education

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Virginia Commonwealth University

- Two downtown campuses:
 - Medical campus – formerly MCV
 - Undergraduate campus – Monroe Park
- MCV – independent med school – 1838
- Richmond Professional Institute – 1939
- Merged - Virginia Commonwealth Univ in 1968
- Total student population: >30,000
- Undergraduate, graduate, professional programs

My Path to the Professoriate

- B.S. in Microbiology – University of Illinois at Urbana-Champaign
- M.S. and Ph.D. in Microbiology – UIUC
- 8 years postdoctoral research at the UNC at Chapel Hill
- 1997 – Assistant Professor of Microbiology at VCU
- 2002 – Associate Professor with tenure
- 2007 - Professor

Academic duties

- Research and scholarship
 - Teaching
 - Service

Research

- Funded research – *Neisseriae* and iron acquisition pathways as vaccine targets
 - National Institutes of Health
 - R01 awards
- Publications
 - Primary
 - Literature reviews
 - Book chapters

Research

- Other scholarly activities
 - Presentations (at national, international meetings)
 - Seminars at other universities
 - Manuscript review
 - Grant review

Teaching

- Professional students
 - Medical – Pharmacy
 - Dental – Allied Health
- Grad students – lecture courses
 - Principles of Molecular Microbiology
 - Bacterial Pathogenesis
 - Prokaryotic Genetics
- Grad students – outside lectures
- Elementary, middle and high school

Developing a course – graduate students

- Course will fill a need in department
- Confer with departmental curric cmte
- Who will teach each lecture? Many graduate courses are team-taught
- Resources? Book, primary literature
- Means of evaluation? Exams, etc.
 - Critical-thinking, exercise, cum. Final
- Decisions left up to the course director

Coordinating course for professional schools

- Much less flexibility
- Curriculum very prescribed by school
- Testing, syllabus format, slides and instructor-student interaction controlled
- Many more students (M2 – Microbiology course: ~200 students)

Teaching research

- Ph.D., M.S. students
- M.D.-Ph.D. students
- Undergraduate students - summer
- High school students
- Grad student committees – written and qualifying exams; final thesis

Service



- Departmental committees
 - Curriculum, admissions, promotion, search
- School of medicine committees
 - MD/PhD steering, search, review
- University committees
 - Faculty senate, safety, promotion
- National/international (scholarship)
 - Editorial boards, grant review, scientific committee for national/international meetings, other

Typical week



- Lots of reading and writing
- Meet with all students/postdocs individually (open door policy)
- Lab meetings 1x per week
- Ms or grant reviews
- Ms or grant writing
- Thesis revision or reading
- Present lectures ~1-2 hrs./wk (varies widely)
- Compliance issues – IACUC, biosafety, on-line-training, evaluations and reporting
- Seminars and meetings (3-4 per week)

Are you interested in a career in an academic medical center?

- Collateral track positions
 - Little security; “soft” money
- Tenure-track positions – more secure
 - 5 or 6 year contract until apply for tenure
- What do you need?
 - Well trained
 - Well published
 - Funding or a fundable project
 - Fill a niche in the department

Application and interview

- CV with coverletter expressing interest in position – be specific
- Many CVs will be screened by departmental search committee
- If you make the first cut, you'll be asked to interview
- Be prepared with seminar and “chalk talk”
- My also present mini-lecture – ex. teaching

Benefits on tenure-track

- Salary
 - Typical starting (public) ~\$80,000
 - Full professor (public) ~\$120,000
- Benefits
 - Retirement, health insurance, etc.
- Start up package to launch research program
 - Technician salary, funds for equipment, supplies

Planning for promotion/tenure

- New faculty orientation
- Plan ahead – consistent pubs/funding
- Develop and direct a course
- Teach lectures in professional schools
- Develop a national reputation
- Research, teaching, service philosophy
- Set long-term, short-term goals
- Keep CV current - Save everything!

What to expect

- Researcher (benchwork, dishwasher, tech)
- Teacher (one-on-one, classroom)
- Manager (finances, people)
- Writer (grants, reviews, manuscripts)
- Master of the literature
- Colleague (committees)

What to expect

- Mentor (students, junior faculty)
- Archivist (notebooks, strains, digital data)
- Planner (projects, funding, meetings, courses)
- Computer tech and mechanic
- Many others

Advice

- Be organized
- Don't procrastinate
- Balance teaching with Research
- Set goals (weekly, monthly, yearly, 5-year plan)
- Go to scientific conferences
- Find a mentor
- Be a mentor

Opportunities (Pros)

- Independence
- Job security
- The excitement of discovery
- Training the next generation
- Impact academia
- Great colleagues (local and international)
- Travel



Challenges (Cons)

- The struggle for funding
- Wearing many hats
- Maintaining optimism
- Managing personality conflicts

Prospects

- Federal funding is at a low point:
 - Payline 2011 (NIAID – R01): 10th/14th percentile
 - 2000 : 20th percentile
- Need for trained physicians increasing
- Need for faculty to teach medical and graduate student classes is increasing
- More recruitment of new faculty (?)

Maintaining Balance

- Organize
- Prioritize
- Multi-task
- Be efficient



Attributes of a good lab leader

- Character
- Integrity
- Vision
- Passion
- Credibility
- Empowerment
- Guide
- Lead
- Empower