Careers and Opportunities in Pharmaceutical Discovery Toxicology

DDTSS Webinar, April 5th 2017
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OUTLINE

• Personal experience and career path
• Discovery Toxicology
• Discovery Toxicology in Large vs Small Pharma
• How do skills and responsibilities change with time

• Is a Career in Discovery Toxicology the Right thing for YOU?
• How to prepare yourself for a successful career in Discovery Toxicology
Lessons Learned in Academia

1. **Drive** your PhD
2. An academic postdoc is not a waste of time if you want to go into Industry, but **keep is short** and **switch fields**
3. Use the “endless” time to develop **communication** and **leadership skills**
PERSONAL EXPERIENCE AND CAREER PATH (2 OF 2)

CEREP Inc
Job #1: Scientist/Sr Scientist at CEREP (4 years)

Genentech
Job #2: Scientist/Sr Scientist/Assoc Director at GENENTECH (9 years, wow!)

Some Lessons Learned in Industry
1. Don’t be too picky about your first job, it is usually hard to get (more on this!)
2. Follow your passion
3. Keep an open mind about opportunities (most interesting career paths are not linear)

Job #3: Director at DENALI (current-6 months)
DISCOVERY TOXICOLOGY

- Toxicology in the early drug discovery space (non-GLP)
- Very dynamic environment, with lots of novelty
- Relies on lead optimization and investigational approaches
- Terrific fun!
- Junior discovery toxicology roles are well suited for fresh PhD or postdoc graduates
  - PhD in fields other than toxicology are welcomed (at least by me!)
- Large pharma companies have dedicated discovery toxicology positions
- Investigative toxicologist is closely related
DISCOVERY TOXICOLOGY IN LARGE VS SMALL PHARMA

- Dedicated discovery toxicology departments
- Internal investigative capabilities
- Large portfolios, very active lead optimization

- One or a few toxicologists do discovery and development toxicology
- More limited investigative work, relying on outsourcing
- Smaller portfolios, deeper work on fewer targets/leads
WHAT SKILLS DID YOU LEARN IN ACADEMIA THAT CAN BE APPLICABLE TO DISCOVERY TOXICOLOGY

• **Scientific strength:** a good discovery toxicologist must be a strong scientist

• **Curiosity:** discovery toxicologists deal with new and unexpected findings all the time

• **Team work:** discovery toxicologists are integrated in drug discovery teams

• **Communication:** discovery toxicologists constantly communicate, specially in teams; learn how to communicate your science (simple, succinct, impactful)
HOW DID THOSE SKILLS AND RESPONSIBILITIES CHANGE OVER TIME WITH VARYING LEVELS OF EXPERIENCE E.G.

- **Individual contributor** (scientific strength, curiosity, team work, communication)

- **Junior Group leader**: (all of the above plus: strategic ability, managerial skills, organizational savvy)

- **Senior Group leader**: (all of the above plus: create space for your people to grow, empower and motivate people, mentor other leaders)
WHAT TO DO TO FIND OUT IF A CAREER AS A DISCOVERY TOXICOLOGIST IS THE THING FOR YOU?

• Connect with discovery toxicologists to find out more
  – Attend SOT or regional chapter meetings
  – Leverage the DDTSS organization for contacts
  – IMPORTANT: Most toxicologists are happy to give you a few minutes of their time to help you in your career, take advantage of this!

• Consider internships in discovery or investigative toxicology
THINGS YOU CAN DO TO PREPARE YOURSELF FOR A SUCCESSFUL CAREER AS A DISCOVERY TOXICOLOGIST

• Practice agility in decision-making in your research
  – Extracting knowledge from data
• Publish your work
• Leverage your postdoc to learn a new discipline
• Take courses in communication and public speaking
• Network with toxicologists
• Take on leadership opportunities in your institution or within Toxicology societies (SOT, ACT, etc)