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Thursday, March 16, 2017

Exploring Alternative Careers in Chemistry
Co-produced with ACS YCC, ACS WCC, and C&EN Jobs

Tashica Amirgholizadeh, IP litigation, Gilead
Bonnie Charpentier, Regulatory Affairs and Compliance, Cytokinetics
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Session 3 of the 2017 Drug Design and Delivery Symposium

Scott Edmondson, Director of Chemistry, AstraZeneca
Stefan Gross, Director of Enzymology, Agios Pharmaceuticals

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“Professional Development that Makes a Difference:
Communication Skills, Networking, and Time Management

Matt Grandbois
Strategic Market Manager,
The Dow Chemical

Linda Wang
Senior Editor,
Chemical & Engineering News

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This ACS Webinar is being co-produced with C&EN Jobs
Agenda

• Making the case for professional development
• Development that makes a difference
  • Communication Skills
  • Networking
  • Time Management
• Compounding enables the difference
• Resources
• Summary

When was the first time you actively participated in your own professional development?

• Prior to graduating college
• Grad School/Post-Doc
• After entering the work force
• Never
Your career trajectory is much like sailing on the open sea ...  

Gradual movements early on mitigate later drastic actions.  

Navigating your career requires you to know where you are, where you’re going, and how to get there.

Career Journey: A Human Potential Function

• Your career journey is highly dependent on your human potential.

\[ \text{Career} = \text{Human Potential} \times \text{Time} \]

• Increasing your trajectory can be accomplished by introducing external development.

\[ \text{Career} = \text{Human Potential} \times \text{Time} \times \text{Professional Development} \]

• **Compounding** is the key to unlocking your potential and achieving your desired career pathway.

\[ \text{Career} = \text{Human Potential} \times \text{Time} \times (\text{Professional Development})^X \]
Elevation of Scientific Potential

Scientific professionals need both “hard” and “soft” skills.

• **“Technical/Hard” Skills**
  - Synthesis, Analysis, Computational Methodology, etc.
  - Developed prior to entering work force, often function of pedigree
  - Look GREAT on a resume!

• **“Professional/Soft” Skills**
  - Harder to put into a one-page document
  - Less defined acquisition procedure
  - *What are they?*

What do you think are some types of professional **“soft skills”** for chemists?
(type your suggestions in the chat!)
Professional “Soft Skills” for Chemists

**Communication Skills**
- Teamwork/Collaboration
- Adaptability/Flexibility
- Problem Solving
- Critical Observation
- Conflict Resolution

**Time Management**
- Work Ethic
- Patience
- Influence/Persuasion

**Networking**
- Leadership
- Self-Confidence
- Acceptance of Criticism
- Positive Attitude
- Growth Mindset
- Resilience
- Coaching/Coachability

**Creativity**
- Decision Making

**Written Communication**
- Social Media
- Email
- White Paper
- Stakeholder Update
- Research Paper
- Scientific Communication

**Audience**
- Distant
- Boss
- Upward
- Same/Below
- Subordinate
- Intimate
- Mentor
- Friend

**Purpose**
- Team Meeting
- Conference Presentation
- Stakeholder Review
- Audience leads to Purpose.

**Timing**
- Key to Impact is Brevity.

---

*We spend **70-80 percent** of our waking hours in some form of communication.*

*Preparation comes down to knowing your audience, message/purpose, and timing.*
“One talk leads to another….”
- Develop your thought leadership by engaging in various forms of communication can open up new opportunities to learn and share your ideas.

Metacommunication is just as important
- Your message is often much more than just what you say, but how you say it.

Audience Survey Question
ANSWER THE QUESTION ON BLUE SCREEN IN ONE MOMENT

In your opinion, what is networking best for?
- Your current job
- Your future job
- Both your current and future job
- Neither, you like collecting business cards.
Networking

Networking is more than business card collecting.

Networking is a continuous development of relationships.
• Your network includes mentors, collaborators, employers, friends, etc.
• Your network contacts should know the value you bring to them.
• Your network needs maintenance, so don’t “set it and forget it”.

Network is finding the right person with the right skills at the right time.

Networking²

• Develop your extended network!
  • Actively analyze your network in reference to your personal goals
  • Address gaps in your network by finding key “connected contacts”
  • “Connected contacts” can indirectly expand your existing network.
  • What’s the good in having a network if you don’t use it?

Source: partiallyexaminedlife.com
Time Management

• (Obvious) There is only so much time in the day and as scientists we have much to do.....

• (Spoiler)...it’s only going to get worse!

• Regardless of your age or position, it always seems that there is never enough time to address both our responsibilities and our interests.

• Time management is a skill that can be developed over time through practice

• One way to improve your time management is learning and applying the critical path method.

Audience Survey Question

When managing your time which of the following methods do you employ? (multiple correct answers)

• Identify what needs to be done
• Identify the time needed to complete each task
• Identify the order or the connection of each task
• Arrange the tasks in order and how they are connected
Critical Path Method for Time Management

1. Identify all tasks that need to be done.
   - Acquire chemicals
   - Load reagents
   - Set-up Apparatus
   - Incubate Reaction
   - Quench Reaction
   - Prep Column
   - Clean Column Apparatus
   - Clean Apparatus
   - Analyze Product
   - Purify Product

2. Identify duration for each task
   - Acquire chemicals
   - Load reagents
   - Set-up Apparatus
   - Incubate Reaction
   - Quench Reaction
   - Prep Column
   - Clean Column Apparatus
   - Clean Apparatus
   - Analyze Product
   - Purify Product

3. Identify order/connection between tasks
   - Be aware that some tasks may have more connectivity than others (e.g., purify product):
     - Some have multiple precursors
     - Some have multiple dependencies
     - Some have both!!

4. Arrange the tasks according to their order and connectivity.
   - The duration of the task appears daunting when plotted linearly...
   - ...but when you place paths in parallel based on their connectivity the overall task takes up less resources!

Applying the critical path method for time management uncovers “more time in the day”!
Time Management

• As you become more proficient at critical path time management, you will discover that more time will become available to you
  • Computers were invented to give us more time in the day, but now they are the vehicle to helping us get more out of the day

• This new found time can be used to further focus on value-adding activities......like more professional development!!!

(Professional Development)^x

• There is no “one-size fits all” approach to professional development, so play to your strengths and don’t force what isn’t natural.

• Connecting and compounding your development will create a unique path that is best suited to maximize your personal happiness.
So where should you start? What’s the next step?

Guiding Principle: **80-20 Rule**

80% comes from hands-on experience and practice; 20% comes from reading a book.

1. Attend a PROF symposium or activity during your next ACS Meeting. ([http://prof.sites.acs.org](http://prof.sites.acs.org))

2. Take time to evaluate the intersection of your current extracurricular activities and your professional development needs... **then ACT!!**

3. Practice critical path time management to uncover some “free time” and fill it up by having coffee with a new contact (networking).

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**Summary**

- Professional Development is an important part of transforming your linear trajectory into an exponential path to realizing your potential.

- Soft skills (e.g. communication skills, networking, time management) are great stand-alone, but their true value comes in **compounding**.

- There are great resources available in a variety of locations, you just need to take the initiative as the **most vested stakeholder is you!**
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Ph.D. Chemistry (2010; University of Minnesota)
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Final Thoughts

• Professional Development is an important part of transforming your linear trajectory into an exponential path to realizing your potential.

• Soft skills (e.g. communication skills, networking, time management) are great stand-alone, but their true value comes in compounding.

• There are great resources available in a variety of locations, you just need to take the initiative as the most vested stakeholder is you!
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