We will begin momentarily at 2pm ET

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“Why am I muted?”
Don’t worry. Everyone is muted except the presenter and host. Thank you and enjoy the show.

Type them into questions box!

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Fan of the Week
Dr. Patricia L. Stan
Associate Professor
Department of Chemistry and Biochemistry
ACS member for 31 years strong!

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Thursday, March 16, 2017

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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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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

Influence/Persuasion
- Creativity
- Decision Making
- Networking
- Leadership
- Self-Confidence
- Growth Mindset
- Resilience
- Coaching/Coachability

Written Communication
- Social Media
- Email
- White Paper
- Scientific Communication
- Research Paper

Source: bemycareercoach.com

Communication
- 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**.

<table>
<thead>
<tr>
<th>Personal Communication</th>
<th>Small Group Communication</th>
<th>Written Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distant</td>
<td>Team Meeting</td>
<td>Social Media</td>
</tr>
<tr>
<td>Boss</td>
<td>Conference Presentation</td>
<td>Email</td>
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<tr>
<td>Upward</td>
<td>Stakeholder Review</td>
<td>White Paper</td>
</tr>
<tr>
<td>Same/Below</td>
<td>Audience leads to Purpose.</td>
<td>Scientific Communication</td>
</tr>
<tr>
<td>Subordinate</td>
<td></td>
<td>Research Paper</td>
</tr>
<tr>
<td>Friend</td>
<td></td>
<td>Key to Impact is Brevity.</td>
</tr>
</tbody>
</table>

What quadrant is your audience?

AUDIENCE  PURPOSE  TIMING
Communication

“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

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”.

Networking 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.

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.

2. Identify duration for each task

3. Identify order/connection between tasks

   - Acquire chemicals
   - Set-up Apparatus
   - Load reagents
   - Incubate Reaction
   - Quench Reaction
   - Clean Column Apparatus
   - Clean Apparatus
   - Analyze Product
   - Purify Product
   - Prep Column
   - Set-up Column Apparatus

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!

   Critical path

   FREE TIME!!!!!?

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).

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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Final Thoughts

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