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Upcoming ACS Webinars™

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Dr. Bruce Molino

Thursday, October 6, 2011

The Future of R&D Outsourcing

Bruce Molino, Senior Director of Medicinal Chemistry at AMRI, and Christopher Conway, Senior Director of Business Development at AMRI



Dr. Molly Schmid

Thursday, October 13, 2011

Success, Bottlenecks, and the Future of Antimicrobial Drug Discovery

Dr. Molly Schmid, Professor and Entrepreneur in Residence, Keck Graduate Institute of Applied Life Sciences

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Like Patricia?



Now you can look forward to more ACS Webinars™ featuring Patricia Simpson!

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**Fast Track
Your Career**
WITH PATRICIA SIMPSON



*The Road Less Traveled – Alternative Careers for
PhD Scientists*



Patricia Simpson
The University of Illinois
Champaign-Urbana



Dr. Steven Carlo
Federal Government

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The Road Less Traveled?

Alternative Careers for PhD Scientists
Dr Steven Carlo

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**Disclaimer: The views
expressed in this
webinar are my own**

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**“Absorb what is useful.
Reject what is useless” –
quote ascribed to
Bruce Lee**

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Why Chemists are the Best

- We can write
- We can do math(s)
- We can do experiments
- Credited to Judith Drew's father who liked to employ chemists in the U.K. Foreign Office (my “A” level chemistry teacher).

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**Now you have
graduated...
or
“exploring options”**

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**But first...Let's look at
the poll and find out
where we are all
coming from...with the
poll results**

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Where to now?

- Academia:
 - University/College
 - K-12
- Chemical Industry:
 - Multi-national
 - Large company
 - Small company
 - Start Up
- Government
 - National Lab
 - Other lab environment

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Traditional - Academic Post Doc

- Look for a research area which interests you *and* ask:
 - Where will this area take me?
 - Will I get to go to conferences *and* present?
- Better to be with an advisor you like who is less prestigious than one you hate and has a Nobel? You decide...
- It may be better to avoid a post doc if you have no intention of going into academia

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“It is OK to not know exactly what you want to do...but you must know what you enjoy doing”

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But the Problem is...

- We don't always know what we want!
- Sometimes we don't know that we don't want to do something until we really try it.
- This means your ideas can and will change.

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“If we leave ‘active science’ behind, will it mean that all of that hard work was wasted?”

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NO!!!

- Being a chemist is about thinking like a chemist and if that means applying the scientific method to analyzing financial data, then so be it!
- Few will question why you took 2 years “off” and decided to return to science...20 years is another matter!
- But most of all, the question is whether you are happy now.

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What Level am I?

- BS – Technician level
- MS – Technician/Scientist level
 - Room for advancement but it won't be as fast (2-3 times slower)
- PhD – Scientist/Senior Scientist level
 - More rapid advancement
 - Be proud of the title “Doctor” but use with care
- Typically companies consider past-experience, but just because one company says you are “Senior” do not expect another to do the same
- Be prepared to relocate

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Four Types of Employers (not including academia)

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Industry - Pros

- Nice salary
- No worries about your next grant
- Corporate travel is very comfortable
- Corporate culture
- Patents are encouraged

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Industry - Cons

- Limited vacation (2-3 weeks)
- You work on what the company deems necessary
- You will have to translate for non-scientists
- Publishing is usually not encouraged
- Conference attendance may not be supported
- Advancement is often by moving into management
- May not be a scientist promotional track
- “The Office” and “Office Space” were good comedy for a reason...

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Consulting is the best...when the \$s are flowing!

- Consultants provide solutions to problems or validate client observations
- Huge variety of projects are possible
- Projects may be given to you, or you may be expected to get them yourself
- If you don't have a project, you aren't billable...

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Federal Government: Federal Contracting

- Contractors can range from being someone with a different color badge to hired hands
- Your continued employment is contingent on the continuation of the contract
- It may be a way to become a Federal employee...
- Federal labs take on contractors when they do not have the funding to take on a new employee

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Federal Government: Career Federal Employee

Pros

- Competitive salary and pension
- Benefits roughly equivalent to industry
- Stable
- 12.5 days vacation to start (up to 26 days)
- You can move within the federal system

Cons

- You are a civil *servant*
- Technical publishing may be restricted
- Technical presentations may be restricted
- Bureaucracy

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Lab Environments...

- Group – Classic set up
- Matrix – You are part of a core group, but you join project orientated teams.
- Applied Research
- Development
- Production

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Non-Lab Careers: IP

Intellectual Property – Patent Examiner

- USPTO has over 9000 employees

Technology Transfer

- The Bayh-Dole Act of 1980 gave universities and other nonprofit organizations, and small businesses the option to retain title to the inventions they make in the course of federally funded research
- Universities need scientists to manage their IP portfolio
- Funding bodies, e.g., venture capitalist, want to know what is hot

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Non-Lab Careers: Lobbying

“Lobbyists are in many cases expert technicians capable of examining complex and difficult subjects in clear, understandable fashion. They engage in personal discussion with members of Congress in which they explain in detail the reasons for the positions they advocate...Because our congressional representation is based upon geographical boundaries, the lobbyists who speak for the various economic, commercial and other functional interests of the country serve a useful purpose and have assumed an important role in the legislative process”

Senator John F. Kennedy, 1956

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Non-Lab Careers: Regulatory

- Government:
 - Food and Drug Administration
 - Nuclear Regulatory Commission
 - IRS: taxes
 - OSHA: Health and safety
- Industry equivalents

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Non-Lab Careers: Sales

- Every product sold needs a salesman:
 - Instruments
 - New polymer
 - Latest blockbuster drug

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Non-Lab Careers: Technical Writing

- Journal editor – you don't need to be a great writer to be a great editor
- Journalist
- Every instrument has a user manual
- Every class has a textbook

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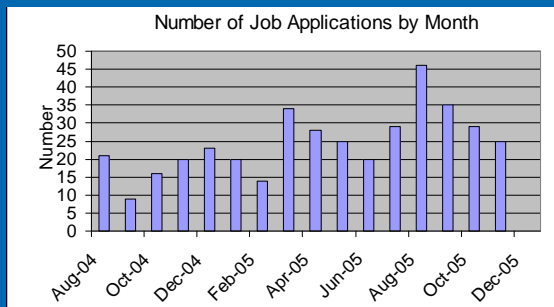
**Often times a
(relevant) higher
degree might not be
necessary, just the
ability to think on your
feet**

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Application Process

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The Odds are Against You



- 394 applications
- 25 applications/month
- 22 phone interviews (5.6%)
- 9 On-site interviews (2.4%)

Of those 9 jobs:

- I “ran screaming” from 3
- One hiring manager was fired – job search terminated
- One was not the right job for me
- One company lost a contract and had to stop searching
- One company I would have killed to work for
- One company offered me a job with an unacceptable package
- One company offered me a job *and* I wanted it!

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Finding a Job

- Your advisor
- Career Services
- The Internet:
 - ACS web site
 - Monster.com
 - Careerbuilder.com
 - Chemistryjobs.com
 - USAjobs.com
- Print:
 - C&E News
 - Science etc.,

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Finding a Job

- Recruiters
 - *Recruiters do not charge you*
- Your network
 - If you don't have a network now is the time to start!
 - Schmooze at conferences – talk to people
 - Linked-In – look to see where people come *from* before they joined your dream company
 - Glass Door reviews companies

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Your Resume Must Tell Me...

- Pages 1 & 2:
 - Name
 - Professional Experience (also include work experience)
 - Education
 - Professional Development/Further Education
- Additional Pages:
 - Publications
 - Presentations at conferences
- Use different words for the same thing, e.g. ESCA, XPS, electron spectroscopy, X-ray photoelectron spectroscopy

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Your Resume Must Tell Me...

- Why you want the job
- Why should *I* believe you can do the job?
- *What you* have achieved:
 - Used instrument A to quantify the amount of B versus 5 years experience using instrument A
 - Wrote a VBA script which improved data analysis throughput by 20%
 - Quantify your contributions

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Do Not Include

- Age
- Sex
- Marital status
- Immigration status
- Salary information
- Spilling mistakes
- N.B. There are exceptions when applying for a federal position – failure to provide the information can mean an incomplete application

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Federal Resume

- A completely different beast from standard resumes...But there is no excuse for not making it readable...
- Two very good resources:
 - http://dmna.state.ny.us/jobs/fed_res_guide.pdf
 - <http://www.spd.usace.army.mil/cpac/documents/ResumeWritingGuide.pdf>
- Each job posting will require different information, e.g.:
 - Transcripts
 - SSN
 - Age
- If you fail to provide the requested information, your application will be rejected

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Phone Screening

- Used to get to know you and tell you about the job
- Read up about the company and the person you are interviewing with (could be HR or the hiring manager), patents, papers, Google, Glass Door...
- Have 1-2 questions prepared for them:
 - What was it about me which interested you?
 - How do you see me best contributing to your organization?

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Phone Screening

- Be prepared to talk about “The Usual Suspects”:
 - The weather
 - Your current work and its relevance to the real world
 - Why you are interested in the job/company
 - Your biggest accomplishment
 - The question we all hate
 - Visa status
- Don't assume your interrogator understands your science, be prepared to describe it in layman's terms, use analogies – ask them!
- Do not be drawn into salary discussions at this stage

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The On-Site Interview

- At this point you are usually one of 2 – 4
- Be prepared for an all day interview
- The company should either arrange your travel and/or hotel or reimburse you
- Dress up! Suit, tie, shiny shoes

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The On-Site Interview

- Read about their company and industry and try and come up with 1 or 2 ideas for work, or ask why they do X
- If you are asked to do a presentation, practice it!
- You will meet lots of people & probably have lunch
- Do a background search on the names of people you know you will meet
- Be prepared for psychometric testing
- Ask them what their time line for a decision is
- Send a follow up “thank you” email
- **BE HONEST**

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The Offer

- Do your homework on salaries in the geographic area and industry:
 - ACS does a nice break down
 - Monster applies a consumer index correction to the national average
- Is it reasonable?
 - Request they send you the offer in writing (not email)
 - Ask for 1-2 days to think it over
 - Give a verbal acceptance and request a written offer
 - Ask them to include full details of vacation, sick time, health coverage, 401k, relocation, other fringe benefits, including the cost to you

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The Offer

- If it is not as good as you were hoping...
 - Your first job is the most difficult job to get
 - Ask for what you want, there is usually wiggle room
 - BUT, be prepared to walk away

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You have a job... now what?

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Technical Skills to Develop

- Writing skills
- PowerPoint and Presentations
- Formal project management
- Intellectual property
- 6 Sigma – application of stats to real life situations
- ISO 9001 – documentation and procedures
- BUT...technical skills are just one component of being a chemist...

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General Career Thoughts

- The person most interested in your development is you – take ownership of your career
- Do unto others as you would have them do unto you
- Objective decision making requires as much information as is available
- Disagreement can lead to progress – everyone has something to teach and something to learn
- Life is a journey, not an event - never say never!

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Thank you for your time

Any other questions?

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