



THE INSIDE TRACK ON CAREERS IN CHEMICAL ENGINEERING

**Keynote Address at the AIChE (Metro NY Section's)
Career Day at the Chem Show**

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Jessica Stinson, Senior Consultant,
Energy & Chemicals Advisory,
Century Associates Executive Search

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"OK, wow me. Then impress me. Then dazzle me. Then maybe a little sadness. Then wow me again."

CAREER PATHS IN CHEMISTRY

- Chemical engineering graduates use principles of chemistry, biology, physics and other engineering and technical disciplines in industries such as:
 - ❖ Paper and pulp
 - ❖ Chemical
 - ❖ Petrochemical
 - ❖ Semiconductors
 - ❖ Pharmaceutical
 - ❖ Textile manufacturers
 - ❖ Consumer
- Other graduates choose careers with government agencies or consulting firms that specialize in environmental regulations, pollution controls, microelectronics, and biotechnology.

INDUSTRIES WITH THE HIGHEST LEVELS OF EMPLOYMENT ... and growing

Industry	2012		2014	
	Employment	% of Industry Employment	Employment	% of Industry Employment
Architectural, Engineering & Related Services	5,560	0.43%	6,090	0.45%
Basic Chemical Manufacturing	4,240	2.96%	4,610	3.19%
Scientific Research & Development Services	3,310	0.52%	3,370	0.53%
Resin, Synthetic Rubber, Artificial Synthetic & Filaments Manufacturing	2,110	2.31%	2,360	2.14%
Petroleum & Coal Product Manufacturing	1,890	1.70%	2,250	2.44%

CAREER PATH POTENTIAL

Technical Focus

ENTRY LEVEL:

Process Engineer, Plant Engineer
Quality, R&D
Manufacturing/Production
Technical Service

LARGER AREAS:

Operations/Site EHS
Supply Chain
New Product Development

Business Focus





ENTRY LEVEL:

Account Management
Product Management

LARGER AREAS:

Business Management
GM/P&L Responsibility
Commercial Leader

EMPLOYMENT OUTLOOK? *

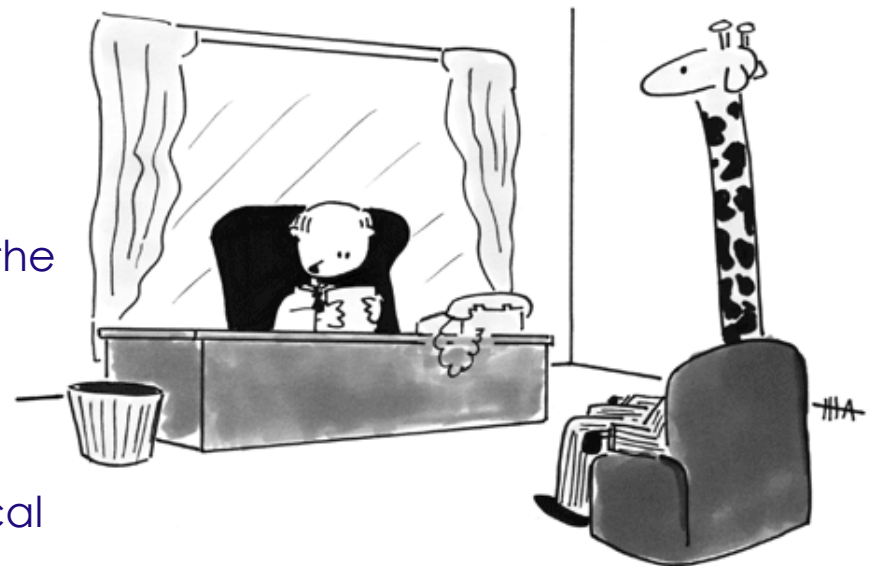
- Overall opportunities in engineering are expected to be good and employment is expected to grow 6% by 2020 as many individuals in this job will be retiring. 
- There will be employment growth in SERVICE PROVIDING industries:
 - ❖ professional, scientific, and technical services opportunities
 - ❖ research in energy and the developing fields of biotechnology and nanotechnology.
- And even during economically low times, many engineers are contracted by companies to work on long-term research and development projects. 
- BE SURE to continue your education throughout your career, a lot of value to your employer depends on your knowledge of what's hot in industry and how to create and work within the latest technologies. 

THE RESUME: STAND OUT FROM THE CROWD

- Lose the objective statement – most people want to know what you are going to do for them, not what you are looking for from them
- Have a summary statement which includes:
 - ❖ Any general accomplishments
 - ❖ Projects you've worked on for the new graduates and what you contributed
- Body of the resume:
 - ❖ Definitely do this in chronological order
 - ❖ QUANTIFY Responsibilities then achievements at every job (my clients complain that too many resumes look like job descriptions)

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"So, it says here on your resume that you're a giraffe."

THE RESUME: STAND OUT FROM THE CROWD

- Education – make sure you include publications, certifications and awards
- **DO NOT** HAVE A SUMMARY STATEMENT AND THEN LIST THE CHRONOLOGICAL ORDER OF PLACES OF EMPLOYMENT – EVERY HR PERSON I KNOW WILL TOSS THE RESUME
- **DO NOT** WORRY ABOUT THE LENGTH OF YOUR RESUME – THE IDEA OF A ONE PAGE RESUME IS A MYTH

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DOs OF THE APPLICATION PROCESS

- DO get the name of the hiring manager and the HR / Staffing Manager for the position.
- DO call them directly, and if they aren't there leave a message referencing your interest in the position.
- DO GET THEIR EMAIL
 - How do you do this?
 - What do you say in the email
- DO follow up with another phone call 3-5 days later

KEEP IT PERSONAL

INTERVIEW PREP

➤ **Be Prepared**

- ✓ Specifics to the job description
- ✓ Go to their website; make sure you understand what they do and align that with your background
- ✓ KNOW YOUR RESUME

➤ **Phone Interview**

- ✓ Have your materials in front of you while you are on the phone
- ✓ Make sure you give them 2 numbers in case one is not working
- ✓ Go somewhere you can focus as if it were a face to face; envision you being in the same room with them even though you are on the phone
- ✓ Emit ENERGY and PASSION

PREPARATION, ENERGY, PASSION

INTERVIEW PREP

➤ Face to Face Interview

- ✓ Take a few copies of your resume in case someone else unexpectedly stops in to also take part or if someone forgets theirs.
- ✓ Have the job description with your specifics written down (for reference so you don't have to go back into your head)
- ✓ Have a few extras with you:
 - ✓ Writing samples if applicable
 - ✓ 30/60/90-Day action plan (for more senior level opportunities)
 - ✓ Anything else you think will impress them and is appropriate (eg references, recommendation letters, etc.)

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"Any references outside Webster and Roget?"

THE ADVERBS OF INTERVIEWING

When you are thinking about examples you want to use during interviewing ask yourself these questions to be able to get specific:

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"Do you have any experience in addition to
'been there, done that?'"

Who?

What?

When?

Where?

Why?

How?

AFTER THE INTERVIEW

➤ **Thank You Notes**

- ✓ Get their email address or mailing address and send a thank you note to all with whom you interviewed!

➤ **Follow Up**

- ✓ Always make sure you follow up again and give phone calls about a week after the interview
- ✓ Remember, in your field there are probably 2-4 people interviewing so after the first follow up make sure you keep up with the interviewers.

➤ **Be Patient**

BE POLITE, BE PATIENT

BEST RESOURCES FOR JOB SEARCHES

- <http://www.chemicalengineer.com/>
A Career Marketplace site since 1996. This site Focuses on Chemical Engineering jobs and careers and connects job seekers in related professions with employers and employment recruiters.
- ChemEmploy at <http://www.che.com/>
A chemical engineering site that has a career center, ChemEmploy was constructed to help connect members with new employment opportunities.
- Any industry websites
 - ❖ American Chemical Society (www.acs.org)
 - ❖ American Institute of Chemical Engineers (www.aiche.org)
- Most university web sites

BEST RESOURCES FOR JOB SEARCHES

- Industry-Specific Organizations
www.croplifeamerica.org, National Petrochemical & Refiners Association, www.NPRA.org, etc.
- LinkedIn (www.linkedin.com) career center and group jobs
- AiChE, ASQ, ACS, SPE,
- Internships / Coops

Jessica (Jess) Stinson, Senior Consultant

Century Associates Executive Search

1420 Walnut Street, Suite 1402

Philadelphia, PA 19102

Phone: (215) 732-4311

Toll-free: (800) 225-4260

Email: jess@centuryassociates.com