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http://ycc.sites.acs.org/catalyzethevote.htm
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Thursday, June 22, 2017

**Chemistry and the Economy: Mid-Year Update**

Paul Hodges, Chairman, International eChem
William Carroll, Adjunct Professor of Chemistry, Indiana University and Former Board Chair and President, American Chemical Society

Thursday, June 29, 2017

**Tuberculosis: An Introduction for Medicinal Chemists**
Co-produced with ACS Medicinal Chemistry Division and AAPS

Carl Nathan, MD, R.A. Rees Pritchett Professor and Chairman of the Department of Microbiology and Immunology, Weill Cornell Medicine
Christopher Boyce, Associate Principal Scientist, Merck

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“Exploring Alternative Careers in Chemistry: Part 2”

Rachel Mohler
Senior Chemist, Petroleum Materials Characterization, Chevron

Kristen Kulinowski
Board Member, U.S. Chemical Safety Board

Teresa Fryberger
Senior Director, Chemical Sciences & Technology Board, National Academy of the Sciences

Jyllian Kemsley
Senior Editor, Chemical & Engineering News

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All about Me

• Not satisfied with black boxes!

• Obtained B.S. Chemistry from UCR
  – Inorganic or Analytical chemistry?

• Obtained a Ph.D. Analytical Chemistry from University of Washington
  – Biochemistry or Petroleum?
  – Chemometrics?

• Hired by Chevron in 2007 as a Research Scientist
  – Upstream, Downstream or Environmental?
  – Lab rat, project manager or consultant?
Current Role

• Environmental
  – Working with industry groups, regulators and community to help interpret environmental data and advocate for the use of better analytical methods.
  – Data Interpretation
    • Source of material
    • Build models to convert spectral data into concentrations

• Downstream
  – Predictive Chemometric Models
    • Crude properties
    • Product blending

Soft Skills Are Required

• Relationships matter
  – Be friendly
  – Smile
  – Be a good listener

• It’s all about working as a team
What soft skills would you like to most improve upon?
(multiple correct answers possible)

• Communication skills
• Time management
• Problem solving
• Adaptability
• Other (type your response in the chat window)
What is the CSB?

- The CSB is an independent, non-regulatory U.S. Federal agency
  - ~40 professional staff; $11 million annual budget
  - Board members are appointed to 5-year terms by the President and confirmed by the Senate.
- CSB conducts root cause investigations of chemical accidents at fixed industrial facilities.
- The agency does not issue fines or citations.
- Primary policy levers are outreach and safety recommendations.
Types of Incidents That We Investigate

Jurisdiction: Release of hazardous substance into the ambient air from a fixed facility (with consequences)

- Incidents in chemical plants, oil refineries and facilities using chemicals
- Toxic gas releases
- Explosions
- Other fatalities, e.g., confined space, hot work
- Major environmental releases

What Investigators Do

- Gather physical evidence
- Interview people
- Test equipment
- Comb through documentary evidence
- Draft reports with proposed recommendations for Board approval
What Board Members Do

• Provide oversight over agency operations
• Vote on reports and recommendations status changes
• Advocate for open recommendations
• Interface with journalists and elected officials
• Act as public face of the agency with stakeholders

What alternative career paths are of interest to you?

• Government and science policy
• Science journalism and communication
• Chemistry and the law or IP
• Consulting
• Other (type your response in the chat window)
Teresa Fryberger, Senior Director
Board on Chemical Sciences and Technology,
National Academy of Sciences
tfryberger@nas.edu
www.nasonline.org

Education/Background

• Bachelors in Chemistry, University of Oklahoma
• PhD in Physical Chemistry, Northwestern University
• NRC Postdoctoral Fellow at National Institute of Standards and Technology
• Brief experience as associate book review editor at Science
• 20 years in government service at DOE, OSTP, NASA
Current Responsibilities

- Leads National Academies activities on chemical science and engineering issues, including
  - Board on Chemical Sciences and Technology (BCST)
  - Chemical Sciences Roundtable (CSR)
- Oversees studies of important national issues in the chemical sciences
- Responsible for raising/managing the funding for the activities and staff

Skills/Traits Required

- Scientific background
- Curiosity
- Big picture thinking
- Communication skills—especially writing
- People skills
Resources

Happy to be contacted!  tfryberger@nas.edu

For information on BCST:  http://dels.nas.edu/bcst

For information about the Academies:  
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Jyllian Kemsley, Senior Editor,
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