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Newsletter

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Chemical Entrepreneurs Council

The impetus for formation of the Chemical Entrepreneurs Council (CEC) has been a result of several economic and employment changes that face the American Chemical Society (ACS). Currently, the ACS and chemistry industry are facing the worst 2 years of unemployment ever. Much of this is due to the recent trend of companies in the pharmaceuticals industry closing research facilities and moving manufacturing offshore.

In a recent *C&E News* article entitled "The Doctoral Dilemma," the question posed was whether chemistry was facing a glut of PhDs. The article discussed the positive implications of discouraging students from seeking a higher degree in chemistry. To a PhD chemist who has benefited immensely from my graduate school training, I found this article upsetting.

In her *C&E News* article from January 3rd, ACS President Nancy B. Jackson stated that the top priority of the ACS is to identify, evaluate, and communicate the measures and improvements needed to ele-

vate the US Industrial R&D pose.

I pose the question of why chemists have become totally reliant upon others to create jobs for them. If society values are changing in a way such that chemists are no longer viewed as valuable, then how do we respond to this challenge?

One potential means of increasing the purported societal value of chemists and of creating employment opportunities is by facilitating an active participation of chemists in entrepreneurial efforts. Chemists can demonstrate their value to society by bringing to the commercial forefront the incredible wealth of inventions that reside unnoticed in the laboratory.

Obviously, this will require new training and focus for all chemists. However, the chemistry profession has historically responded favorably to changes.

When the environmental impact of the chemicals being created and the means to create them began to face

heavy scrutiny, chemists responded with holistic or "cradle-to-grave" considerations in designing reaction schemes and processes. These ethics are now taught in schools and in the scientific industry, and are ubiquitous concepts in all experimental and industrial design.

In this same fashion, we need to participate in commoditizing laboratory inventions into marketable products and goods. This must be done in a way that protects the importance of fundamental research; which represents the heart of the invention process.

A few initiatives within the ACS have been implemented.

A strategy session will be held in Anaheim by members of the ACS Division of Business Development and Management (BMGT), Women Chemists Committee (WCC), the Division of Small Chemical Businesses (SCHB), and the National Collegiate Inventors and Innovators Alliance (NCIIA) in order to form the CEC. They plan to sponsor

ACS Webinars™

CLICK * WATCH * LEARN
* DISCUSS

Learn more and register at
www.acswebinars.org

Tuesday April 5, 2011 |
2pm-3pm ET

Successfully Working with
Recruiters – Do's and
Don'ts



Learn from seasoned recruiters in the chemical and life sciences sectors, tips for

building relationships and how to communicate your knowledge, skills, and abilities. Speakers: Patrick Ropella, The Ropella Group and Don Alexander, Carlyle & Conlan



Thursday April 7, 2011 |
2-3 p.m. ET

Optimizing the Workplace
Across Five Generations of
Scientists



Each generation's assumptions, values, and experience with technology

shapes their fundamental assumptions about how to get things done. Learn practical approaches that can help leverage each generation's values in your lab, group, or department. Speaker: Tamara Erickson, Researcher and McKinsey Award-winning author



Chemical Entrepreneurs Council (Continued)

workshops at various regional meetings in which the basics of forming a business model and of selling the idea in the form of an elevator pitch will be given. Also, the CEC will discuss other infrastructure support of chemical entrepreneurs that needs to be given to increase the chances of sustainability of these small companies. The CEC will also discuss the additional infrastructure support necessary for chemical entrepreneurs to effectively sustain these small businesses.

At Anaheim the ACS Committee on Science will hold a special symposium on how we can better prepare the next generation of Science, Technology, Engineering and Mathematics (STEM) workers for discovery, innovation and entrepreneurship. Topics will include:

- Novel platforms for STEM teaching & learning
- Facilitating education on intellectual property, technology commercialization and entrepreneurship to help scientists succeed in small and large companies
- What government laboratories are looking for in prospective employees beyond technical

knowledge

• University research officers' perspectives about technology transfer knowledge for STEM graduates

As every chemist understands, the fundamental knowledge that is acquired in getting a degree in chemistry is of paramount societal value. It is our responsibility to ensure that future chemistry students are not discouraged from getting advanced degrees in this profession because of lack of employment options. Where else are the solutions to larger issues of clean energy and water going to come from if not from our chemical laboratories?

The world needs us, and we need to convince them of this.

One way to achieve this end is to develop our inventions to the point that businesses can recognize their value.

I am reminded of an old fable in which a chemist invented glass. He then gave the glass to one of the emperors aides, who dropped and broke the glass prior to giving it to the emperor. When the emperor touched the glass, it cut him, and so he ordered the chemist killed. The emperor dismissed the invention, lamenting its uselessness.

We must ensure that our inventions are developed in such a way that their practicality, value and very

existence are as widely and clearly articulated as their purpose is immutable.

Daniel T. Daly, Director of the Alabama Innovation and Mentoring of Entrepreneurs Center at The University of Alabama organized the CEC initiative. The views expressed are those of the author.

Chemical Entrepreneurship Series

ACS Webinars: Chemical Entrepreneurship Series

Dare to dream! Many people dream of starting their own businesses, or being a part of the exciting start-up culture. But do you know what it takes to succeed? A successful business, large or small, takes careful and strategic planning, knowledge of the industry, financial resources, fiscal know-how, legal savvy, and guts. Join our speakers to learn the A-to-Z of being an entrepreneur, finding the right resources, and the challenges/rewards of start-ups. Are you ready?

Join us in this 7-part series...
Every 3rd Thursday from April to October at 2-3 pm EST!

Click on the date to Register!

- [April 21, 2011](#) - "Is Being an Entrepreneur/Innovator Your Cup of Tea?" with [Dr. Judy Giordan](#), Managing Director, VisionWell, and

Chemical Entrepreneurship Series (Continued)

moderator [Dr. Dan Daly](#), Alabama Innovation and Mentoring of Entrepreneurs.

May 19, 2011 - "Turning on the Light Bulb – Idea Generation and Idea Evaluation." with [Dr. Nick Conti](#), VP, Quest Diagnostics, and moderator [Dr. Lynn Leger](#), GreenCentre Canada.

June 16, 2011 - "Protecting Your Idea & Safeguarding Your Business Structure" with [Dr. Christine Bellon](#), VP Intellectual Property/Legal Affairs, Hydra Biosciences, and [Dr. Christopher Curfman](#) [begin of the skype highlighting end of the skype highlighting](#), Principal, McKeon, Meunier, Carlin & Curfman, LLC, with moderator [Dr. Andy Gilicinski](#), Clorox.

July 21, 2011 - "Who's Around the Corner? Performing Technology Scouting and Market Feasibility Analysis."

Aug 18, 2011 - "The Science of Selling: Selling Science to Non-Scientists."

Sept 15, 2011 - "Writing a Winning Executive Summary and Business Plan." with [Dr. Dan Daly](#), Alabama Innovation and Mentoring of Entrepreneurs, and moderator [Dr. Richard Swatloski](#), Licensing Associate, University of Alabama, Office for Technology Transfer.

Oct 20, 2011 - "The Art in Startups: Getting Funded." with [Joseph Steig](#), Director, NCIA

VentureWell, and CFO, [Long River Ventures](#)

Meet Your Experts



Dr. Judith Giordan currently serves as Chairman of VentureWell. Judy is the author of over 200 articles, presentations. Judy is the recipient of the 2010 ACS Garvan-Olin Medal of the American Chemical Society. She received her PhD from the University of Maryland and was an Alexander von Humboldt Post Doctoral Research Fellow at the University of Frankfurt in Germany.



Dr. Nick Conti is responsible for the licensing, strategic alliance and business development activities for Quest Diagnostics, a \$7 billion diagnostic testing corporation. He has been in business development, management and R&D positions with Becton Dickinson and Union Carbide. He had held visiting and adjunct faculty positions at Rutgers (Chemistry) and Seton Hall (Finance). He serves on several boards of start-ups and is an advisor to funds. He holds a Ph.D. from the University of Florida, a B.S. in Chemistry from Notre Dame, and an MBA from The Wharton School.



Lynn Leger is a Director of Commercial Development for [GreenCentre Canada](#). She has

more than two decades of commercialization experience at DuPont, from automotive coatings to disinfection technologies. She has been a Project and Market Leader for a range of new technologies in the chemical industry and is a named inventor on several patents. Ms. Leger is a certified Six Sigma Green Belt and a recipient of the DuPont Global Sustainable Growth Award and a \$EED Grant for Entrepreneurial Development. She is the former Chairperson of the Advisory Board for Canadian Research Institute for Food Safety at the University of Guelph, and has been a frequent speaker for DuPont and GreenCentre Canada.



Dr. Christine Bellon is currently Vice President of Intellectual Property & Legal Affairs for Hydra Biosciences and is responsible for all legal matters for the company. Dr. Bellon was previously on patent portfolios as Assistant General Counsel, Intellectual Property, as Patent Counsel at Wyeth, and as an attorney in the Boston office of Fish & Richardson P.C. Christine holds a J.D. degree from Columbia Law School, a Ph.D. in Organic Chemistry from the Massachusetts Institute of Technology, and is a graduate from Yale University with honors, with a B.S. in Chemistry.

ACS Webinars™ (Continued)

Thursday April 14, 2011 |
2pm-3pm ET

Me Too Drugs: R&D Innovations or Imitations?

A "me too" drug is similar in chemical structure or has the mechanism



of action as the prototype. What are the merits of these me too drugs? Innovations in targeted therapies or wasteful R&D? Speaker: Dr. Joseph DiMasi, Tufts University

Thursday April 21, 2011 |
2pm-3pm ET

Is Being an Entrepreneur/Innovator Your Cup of Tea?



Do you have an idea you want to get off the ground? What are the considerations you need to know for this high-stake but high-reward challenge? This discussion walks you through the skills and emotional readiness you need - from idea to realization. Speaker: Dr. Judith Giordan, VentureWell

ACS Webinars™ (Continued)

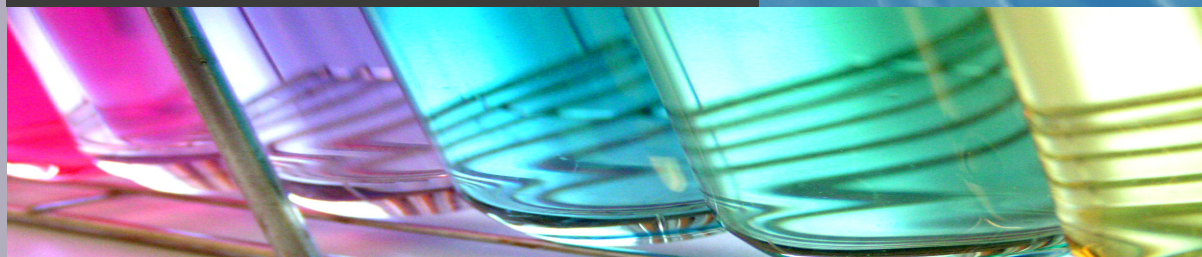
Thursday, April 28, 2011 |
2-3 p.m. EDT

Cheers! The Chemistry of
Wine



La vérité est dans le vin, as the French say, “The truth is in the wine.”

Uncork everything (chemistry) you need to know to fully appreciate this best companion of good food. *Santé!* Speaker: Dr. Ariel Fenster, McGill University



Chemical Entrepreneurship Series (Continued)



Dr. Chris Curfman has an extensive scientific background in chemistry and pharmaceuticals, as a researcher, scientific advisor, patent agent, and patent attorney. He counsels startups, large and small corporations, and universities on all aspects of patent prosecution in pharmaceutical, chemical, and biotechnology-related technologies. Chris was named a Georgia Super Lawyers “Rising Star” by *Atlanta Magazine* (2006). He received a JD from Georgia State University, PhD in Chemistry from Emory University, and a BS in Biology and MS in Chemistry from Virginia Tech.



Dr. Andy Gilicinski, Director, Open Innovation Networks at Clorox is an innovation leader with a current focus on creating new open innovation capabilities to accelerate growth. He has a 22-year career in chemicals and consumer packaged goods industries including two successful \$30MM+ (year 1 sales) launches, R&D management (including global teams), building technology platforms and developing cross-functional innovation proc-

esses. He has a PhD in Analytical Chemistry from University of Wisconsin-Madison and B.S. in Chemistry (with Honors) from University of Illinois at Urbana-Champaign.



Dr. Dan Daly is the Director of the Alabama Innovation and Mentoring of Entrepreneurs Center. He has 17 years of experience in the fuel and lubricant businesses where he served as Technology and Business Development Manager. He has led the development of several commercially successful projects and has managed and coordinated fundamental programs at several universities and national laboratories. He received B.S. from Florida State University and his Ph.D. in Physical-Organic Chemistry from the University of Florida.



Dr. Richard Swatloski is a Licensing Associate and helped establish The University of Alabama’s Office for Technology Transfer. His duties include various aspects of intellectual property protection, management and licensing, agreement development, business creation, and education. He has contributed to 50+ peer-reviewed publications and multiple patents. Dr. Swatloski holds both bachelor’s and Ph.D. degrees in chemistry.



Joseph Steig, Director, Venture Well is a CFO and adviser to both non-profits and for-profits. He is also NCIIA’s Manager of Venture Development. Joseph is the founder of the angel group, [River Valley Investors](#) and serves as CFO of [Long River Ventures](#). Joseph has a background with technology-based start-up, serving primarily in CFO positions, and has worked in sectors as diverse as aquaculture and software. He also has extensive experience in economic development. Joseph has a B.A. from Hampshire College.

BMGT Symposia

Billions of dollars worldwide are spent by government and industries on greener, smarter, and more renewable energy solutions, from economic stimulus packages and to promote clean energy. However, in the US, wind, solar, and related markets still remain a small fraction of the total energy capacity.

BMGT will be host a symposium that looks at the forces and economic hurdles industry needs to overcome prior to transition to a new chemical manufacturing paradigm. A discussion of strategies to develop cleaner alternatives without quickly abandoning the huge investment in

BMGT Symposia (Continued)

current chemical manufacturing infrastructure will be given.

Business Development in the Natural Resource Sector

Monday, March 28, 2011

Location: Disney's Paradise Pier Hotel

Room: Disney's Paradise Pier, Oceanside

9:00 Keynote: Energy Landscape in 2020: Smart and Sustainable? *Roberta Gamble*

9:30 Challenges facing the investment environment for

natural resource based companies *Randy Balik*

10:00 Challenges facing the investment environment for natural resource based companies or Business development in the natural resource sector *Bob Peoples*

10:30 The Advances in Alternative Energy have increased Potential Areas for Small Businesses Market Entry *Dan Daly*

11:00 California's Green Chemistry Initiative: Safer Alternatives *Jeffrey Wong, Ph.D*

John A. Lowe III will present the award address before the ACS Division of Business Development & Management (BMGT) symposium in Anaheim on Monday 3/28/2011. He is being honored for his role in the discovery of a treatment for schizophrenia.

One of his major accomplishments was the discovery of a compound that could block the Neurokinin receptor NK₁. This receptor has been associated with the transmission of stress signals and pain.

John lead a research team

that found a series of quinuclidines that strongly bound the NK₁ receptor and derived the first small, non-peptide-based molecule to effectively block Substance P from binding to the receptor.

Lowe also played a key role in the discovery of Geodon (ziprasidone) for the treatment of schizophrenia.

Born in 1951, Lowe earned a B.A. in chemistry and history from Williams College, in Massachusetts, in 1973 and a Ph.D. in synthetic organic chemistry from the University of California, Los Angeles, in 1977. After a postdoctoral fellowship at Stanford University, he joined Pfizer in 1979. By 2002, Lowe had become a senior research fellow at the company.

Lowe's honors include the 2007 ACS Heroes of Chemistry award and the 2005 Northeast Regional Industrial Innovation Award from ACS for his work with Geodon.

ACS Award in Industrial Chemistry

Location: Disney's Paradise Pier Hotel

Room: Disney's Paradise Pier, Oceanside

2:00 Discovery and development of novel non-peptide

neurokinin antagonists *Peter R Bernstein*

2:30 New methods for the synthesis of hindered cycloalkenones *Michael E Jung*¹

3:00 Review of SAR studies at Pfizer on non-peptide antagonists of substance P *Brian T O'Neill*

3:30 Understanding the Nicotinic Pharmacophore *Dennis A. Dougherty*¹

4:00 Discovery of a novel series of [3.2.1] azabicyclic biaryl ethers as $\alpha 3\beta 4$ and $\alpha 6/4\beta 4$ nicotinic receptor agonist *John A Lowe III*¹

Millions of students at schools in poorer countries have no access at their schools to clean, safe drinking water, nor do they have the means to learn and practice commonly accepted hand sanitation methods. If these students have access to clean water they will be able to influence not only their health but by example spread the learned new practices into their families and communities. As one example of the impact as quoted by the Economist (may 22nd 2010, page 6) - "... patients with water-related diseases fill half the hospital beds in the poorest countries, and dirty water and poor sanitation kill 5,000 children a day."



Program & Events Roadmap, 241st ACS National Meeting, Anaheim, CA March 27-31, 2011

Sunday, March 27, 2011

Aging: A Trend and an Opportunity for ACS

1:00 PM-4:30 PM, Disney's Paradise Pier Hotel – San Diego

PROF, Co-sponsored with BMGT, CEPA, SCHB, and SCTF

Chemistry and the Environment Film Series

7:00 PM-9:00 PM, Anaheim Convention Center – 204 C

CEI, Co-sponsored with BMGT CHED, ENVR

Monday, March 28, 2011

Business Development in the Natural Resource Sector

9:00 AM-11:30 AM, Disney's Paradise Pier Hotel – Oceanside

BMGT

ACS Award in Industrial Chemistry: Symposium in Honor of John Lowe III

2:00 PM-4:30 PM, Disney's Paradise Pier Hotel - Oceanside

BMGT Co-sponsored with MEDI and financially supported by Pfizer

Award presentation and reception following the symposium 6:00 PM – 8:00 PM, Disney's Paradise Pier Hotel – Crystal Cove

Tuesday, March 29, 2011

Water: The Ultimate Natural Resource

9:00 AM-12:00 PM, Disney's Paradise Pier Hotel – Oceanside

2:00 PM-3:00 PM, Disney's Paradise Pier Hotel – Oceanside

BMGT

Program & Events
Roadmap,
241st ACS National
Meeting,
Anaheim, CA
March 27-31, 2011

Wednesday, March 30, 2011

Issues Affecting Chemical
Consultants and Small Business
Owners:

An Underwriter's Perspective
on Professional Liability

1:00 PM-2:55 PM, Disney-
land Hotel – Fantasy A/B/C
SCHB, Co-sponsored by
BMGT, CEPA, PROF, and YCC

BUSINESS MEETINGS

Sunday, March 27, 2011

Division Open Business
Meeting

12:00 PM-1:00 PM, Disney-
land Hotel – Dreams B

Social Events

Industrial Chemistry Award
Reception For John Lowe III
Monday, March 28th, 6:00
PM-8:00 PM, Disney's Para-
dise Pier Hotel – Crystal
Cove

BMGT, co-sponsored with
MEDI and financially sup-
ported by Pfizer

BMGT Reception for Water
Tuesday, March 29th, 4:00
PM-6:00 PM, Disney's Para-
dise Pier Hotel – Crystal
Cove

BMGT, financially supported
by ITT and Nalco

2011 ACS Awards Banquet
Ceremony & General Meet-
ing of the Society

Tuesday, March 29th 7:30
PM-10 PM, Anaheim Mar-
riott Hotel - Marquis Ball-
room

General meeting begins at
8:30



BMGT Symposia (Continued)

During the all day event **Water: The Ultimate Natural Resource**, sponsored by Nalco and ITT, BMGT will have a host of activities in celebration of the theme of the 241st National Meeting of the American Chemical Society "Chemistry of Natural Resources" and in conjunction with the International Year of Chemistry (IYC2011). The Division has organized an informative all day symposium and panel discussion to shed some

light on the current breakthroughs being made across the chemical enterprise with respect to water. This will be followed by a cocktail reception in which we will be performing the Global Experiment for the IYC2011 - Water: a Chemical Solution with a local high school. The results of the experiment will be uploaded on the Global Experiment website and will help the students participating recognize the role that chemistry plays in issues of water quality and purification

Water: The Ultimate Natural Resource

Water: The Ultimate Natural Resource

Tuesday March 29th

Location: Disney's Paradise Pier Hotel

Room: Disney's Paradise Pier, Oceanside

9:00 Responses to Global Climate Change *David Bartlett*

9:30 Water and education: the ultimate lever? *Bjorn von Euler*

10:00 $H_2O + e^- + CO_2 + \gamma + Life =$

Towards a Balanced Equation *Jim van Camp*

10:30 New carbon neutral, zero waste cities by using latest technology for water transportation systems *Anthonie Lombard*

11:00 CFD simulations in the investigation of pump performance for complex Fluids mixing & transport *Mikhail P. P. Strongin*

11:30 Lunch

2:00 Bio-renewable chemicals: integrating nature and human ingenuity *Stephen A. Di Biase*

2:30 How Nalco's 3D TRASAR® Cooling System Chemistry and

Control reduces fresh water usage. *Mani Ramesh*

3:00 Panel Discussion: The Water Recycle Imperative in California and globally: *Leader: Pankaj Parekh*

4:00 PM - 6:00 PM Division of Business Management and Development Division - BMGT Reception for Water (Sponsored by Nalco and ITT): *International Water Experiment. Philanthropy and Engineering.*

