

- **Please note:** all workshops are open to everyone ,
- RSVP is required: <https://csep.cnsi.ucsb.edu/forms/PDS/Registration.php>

FALL 2016 CALENDAR

PROFESSIONAL DEVELOPMENT SERIES

(PDS)

FOR POSTDOCS AND GRADUATE STUDENTS

Career Talk: From the Bench to the Board Room, A Career in Biotechnology (co-sponsored by CBE, GSDS and WiSE)

Krisztina M. Zsebo, Ph.D., President, Biovest Consulting, LLC
Thursday, Oct 6, 2-3pm, Elings 1601

The Chemists' Code for Success: 3 Essential Skill Sets for Your Career (co-sponsored by the American Chemical Society)

Patricia Simpson (University of Illinois at Urbana-Champaign) and Amanda Yarnell (Chemical & Engineering News)
Tuesday, Oct 11, 4-5PM, Elings Hall 1601

Center for Bioengineering Industry Tour (co-sponsored by CBE, GSDS and WiSE)

Steven P. Trainoff, Ph.D. (R & D Chief Scientist Wyatt Technology Corporation)
Wyatt Technology Corporation Site Visit
Thursday, October 13, 2:00 – 3:30 pm

Career Talk: What I Did For Summer Vacation (And The Two Decades That Preceded It) (co-sponsored by CBE, GSDS and WiSE)

Scott Baker, Ph.D., Science Theme Lead, Biosystem Dynamics Design, Pacific Northwest National Laboratory
Tuesday, Oct 18, 2:30-3:30pm, Elings 1601

Informational Interviews & How to Use Networking to Your Advantage

Lana Smith-Hale, Career Counselor, Graduate Students, UCSB Career Services
Thursday, Oct 27, 4:15-5pm, Elings 1605

Developing and Fostering Successful Collaborations (organized by Office of Research Seminar Series on Research Ethics)

Guest Panel includes Dennis Clegg, Professor, MCDB, Scott Grafton, Professor, PBS, and Barbara Walker, Director of Research Development for Social Sciences, Moderator Brandt Burgess, Director of Research Integrity
Thursday Dec 1, 2:00-3:15pm, Elings 1605

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Career Talk: From the Bench to the Board Room, A Career in Biotechnology (co-sponsored by CBE, GSDS and WiSE)

Krisztina M. Zsebo, Ph.D., President, Biovest Consulting, LLC
Thursday, Oct 6, 2-3pm, Elings 1601

Event Description: Dr. Zsebo is a biopharmaceutical veteran with 32 years of experience, and numerous successful ventures, in the Biotechnology industry. Most recently, she was CEO & President of Celladon Corporation, where she took the company public and led a team of researchers who took a basic research project through to Phase 2b clinical trials. She has been an Entrepreneur in Residence at Enterprise Partners Venture Capital, CEO & President of Remedyne Corporation, and Executive VP of Connetics Corporation. When heading up the Biopharmaceutical and Implant Division of ALZA Corporation, she oversaw the development and filing of the NDA for Viadur®, an implantable drug/device for prostate cancer patients. And when she was Executive VP of Research and Product Development at Cell Genesys, she filed their first IND for a gene therapy product for AIDS, and managed the division that spun off to become Abgenix, one of the most successful biotech companies. Kris began her career with eight years at Amgen in research and product development where she worked on the discovery of NEUPOGEN®, Stem Cell Factor, and various aspects of EPOGEN® development. Dr. Zsebo holds a B.S. in Biochemistry (University of Maryland), a M.S. in Biochemistry and Biophysics (Oregon State University) and a PhD in Comparative Biochemistry and Molecular Biology (UC Berkeley). She has published >100 articles and holds 21 patents in the biotech field. In this talk, Kris will share several case studies of product candidates (biologics) as they evolved within the industry along with important lessons learned regarding transitioning from academia to industry.

The Chemists' Code for Success: 3 Essential Skill Sets for Your Career (co-sponsored by the American Chemical Society)

Patricia Simpson (University of Illinois at Urbana-Champaign) and Amanda Yarnell (Chemical & Engineering News)
Tuesday, Oct 11, 4-5PM, Elings Hall 1601

Event Description: Your career as a chemist depends on more than just your abilities in the lab. Join our panel of experts to learn how time management, handling failure and professional etiquette will shape your career. Tune in to learn the following strategies and skills that will help you get started and keep you moving forward: Basic workplace etiquette that will enable you to be remembered by your work...not your faux pas, How implementing professional etiquette now can set the course of your career, The value of failure and learning from your mistakes.

Patricia Simpson is Owner/Consultant of Game Changing Etiquette and the Director of Academic Advising and Career Services for the School of Chemical Sciences at the University of Illinois. She has worked in higher education for 20 years and has been presenting etiquette dinners and workshops to corporations, universities, and civic groups for over 10 years. Amanda Yarnell: A chemist by training and a journalist by passion, Amanda works for the American Chemical Society's flagship chemistry news outlet, Chemical & Engineering News. She was an undergraduate at Johns Hopkins before doing her graduate work in chemistry at MIT, where she studied the mechanism of action of the cancer drug cisplatin. It's also where she discovered the world of science journalism, which inspired her to merge her fascination with the power and beauty of chemistry with her long-time love of telling stories. Soon thereafter she joined the staff of C&EN, where she has held various writing, editing, and leadership roles over the past 14 years. Today she runs C&EN's day-to-day editorial operations (and a staff of more than 30 writers and editors) from her home office in Somerville, Massachusetts.

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PROFESSIONAL DEVELOPMENT SERIES

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FOR POSTDOCS AND GRADUATE STUDENTS

Center for Bioengineering Industry Tour (co-sponsored by Center for Bioengineering, CSEP, CNSI, GSDS, and Wise)

Steven P. Trainoff, Ph.D. (R & D Chief Scientist Wyatt Technology Corporation)
Wyatt Technology Corporation Site Visit
Thursday, October 13, 2:00 – 3:30 pm

Event Description: We perceive the physical world from light that scatters from the environment. The same physics that describes the blue sky can be used to accurately measure the physical properties of macromolecules in solution. For over thirty years Wyatt Technology has been manufacturing desktop instruments that use light scattering and related techniques to measure absolute molar mass, size, charge and interactions of macromolecules and nanoparticles in solution. The range of applications is incredibly diverse ranging from characterizing pharmaceuticals to sizing metal clusters to making stronger polymers. Come hear about the practical applications of "blue sky" physics and take a tour of Wyatt Technology Corporation's Santa Barbara headquarters containing over 30,000 square feet of modern electronics, optical prototype, machine shop, and laboratory facilities.

Career Talk: What I Did For Summer Vacation (And The Two Decades That Preceded It) (co-sponsored by CBE, GSDS and WiSE)

Scott Baker, Ph.D., Science Theme Lead, Biosystem Dynamics Design, Pacific Northwest National Laboratory
Tuesday, Oct 18, 2:30-3:30pm, Elings 1601

Event Description: This summer I led a team that submitted a proposal for a DOE Bioenergy Research Center (BRC). The proposal was a massive effort and fantastic learning experience. I will discuss my path to becoming a researcher at PNNL and how pulling together the BRC proposal simultaneously induced more grey hairs and made me nostalgic for graduate school.

Scott Baker joined the Pacific Northwest National Laboratory in 2003 to conduct research in the area of fungal biotechnology. In 2012, he moved into the Environmental Molecular Sciences Laboratory, a DOE User National User Facility located at and operated by PNNL. At EMSL he is the Science Theme Lead for the Biosystem Dynamics and Design Science Theme, which focuses on spatial and temporal dynamics of biological pathways in microbes, fungi and plants to advance our understanding of the carbon cycle and accelerate production of biofuels and bioproducts. In this role, he coordinates and implements science and strategy. As a researcher, he has published nearly 80 peer-reviewed journal articles related to fungal biotechnology and genomics applied to production of biofuels and bioproducts. Dr. Baker has been a PI and co-PI supporting a variety of funding agencies, most recently, DOE's Office of Biological and Environmental Research. Dr. Baker's PhD is from Northwestern University in the area of tumor cell biology. He completed postdoctoral fellowships at University of Arizona, studying *Drosophila* genetics, and at Syngenta's Torrey Mesa Research Institute in San Diego, conducting research in the area of fungal plant pathogen functional genomics.

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FOR POSTDOCS AND GRADUATE STUDENTS

Informational Interviews & How to Use Networking to Your Advantage

Lana Smith-Hale, Career Counselor, Graduate Students, UCSB Career Services
Thursday, Oct 27, 4:15-5pm, Elings 1605

Event Description: Building professional relationships is crucial to career success. Some estimates posit that over 80% of jobs are secured either directly or indirectly through personal networks. We will focus specifically on demystifying the informational interview and why they are important for building a professional network. This workshop will cover how to create a strong base of professional connections, as well as how to identify and successfully navigate in-person and online networking opportunities including LinkedIn and VersatilePhD.

Developing and Fostering Successful Collaborations (organized by the Office of Research and Seminar Series on Research Ethics)

Guest Panel includes Dennis Clegg, Professor, MCDB, Scott Grafton, Professor, PBS, and Barbara Walker, Director of Research Development for Social Sciences, Moderator Brandt Burgess, Director of Research Integrity
Thursday Dec 1, 2:00-3:15pm, Elings 1605

Event Description: How are collaborations formed? How does an idea morph into a collaborative effort between research groups? What are the challenges of forming a collaboration? Successful collaborations require coordination and planning amongst investigators and the ability to work together. Come join us for a discussion with a panel of guest speakers on a talk about creating and fostering successful collaborations.

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WINTER 2017 CALENDAR

PROFESSIONAL DEVELOPMENT SERIES

(PDS)

FOR POSTDOCS AND GRADUATE STUDENTS

Career Talk: Machine Learning for Bio Research (co-sponsored by CBE, GSDS and WiSE)

Philip Nelson, Director, Software Engineering, Google
Thu, Jan 12, 2-3PM, Elings 1601

Career Talk: Journey of the Artificial Pancreas: From Graduate School to Industry (co-sponsored by CBE, GSDS and WiSE)

Joon Bok Lee, PhD, Analytics Algorithms Engineer, Insulet Corporation
Thu, Jan 19, 2-3PM, Elings 1601

Career Talk: Forging a career in STEM education: The Postdoc Stage (co-sponsored by UCSB Education and Pedagogy Discussion Group and Instructional Development)

Nate Emery, PhD, Postdoctoral Research Associate, Michigan State University
Tue, Jan 24, 12-1PM, Elings 1601

STEM Teaching Essentials Workshop Series: Backward Design (co-sponsored by Instructional Development)

Nate Emery, PhD, Postdoctoral Research Associate, Michigan State University
Tue, Jan 17, 24 and 31, 10-11:30AM, Elings 1601

CCST Science and Technology Policy Fellowships Seminar (co-sponsored by Graduate Division)

Sarah Brady, Ph.D (CCST Science & Technology Policy Fellow, CCST Senior Program Associate)
Annie Morgan (CCST Manager of Science and Technology Policy Fellowships)
Fri, Jan 27, 1-2:30PM, Elings 1601

Getting Started: Techniques for Getting your Writing Going (co-sponsored by UCSB Writing Program)

Karen Lunsford (UCSB Writing Program)
Mon, Feb 6, 12-1:30PM, Elings 1601

Writer's Block and the Creative Process in Science (co-sponsored by the UCSB Writing Program)

Kevin Moore (UCSB Writing Program)
Wed, Feb 15, 4-5:30PM, Elings Hall 1601

Using Video to Promote Your Research (co-sponsored by Graduate Division)

Jai Ranganathan (NCEAS and SciFund Challenge)
Thursday Feb 23, 3-4PM, Elings 1601

Using Social Media to Advance Your Career (co-sponsored by Graduate Division)

Jai Ranganathan (NCEAS and SciFund Challenge)
Thursday March 9, 3-4PM, Elings 1601

Harnessing Writing to Impact Your Research (co-sponsored by the UCSB Writing Program)

Doug Bradley (UCSB Writing Program), Deborah Fygenon (Physics), Doug McCauley (EEMB), Susannah Scott (ChemE)
Mon, March 13, 11AM-12PM, Elings 1605

2017 Art of Science Reception (co-sponsored by CCS, Schuller Lab, UCSB Library)

Wed, Mar 15, 4-5pm, Elings Lobby,

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FOR POSTDOCS AND GRADUATE STUDENTS

Career Talk: Machine Learning for Bio Research (co-sponsored by CBE, GSDS and WiSE)

Philip Nelson, Director, Software Engineering, Google
Thu, Jan 12, 2-3PM, Elings 1601

Event Description: Google Accelerated Sciences is a translational research team that brings Google's technological expertise to the scientific community. Recent advances in machine learning have delivered incredible results in consumer applications (e.g. photo recognition, language translation), and is now beginning to play an important role in biological science. Taking examples from collaborations in the biochemical, biological, and bio-medical fields, I will focus on how our team transforms science problems into data problems and applies Google's scaled computation, data driven engineering, and machine learning, to accelerate scientific discovery.

Career Talk: Journey of the Artificial Pancreas: From Graduate School to Industry (co-sponsored by CBE, GSDS and WiSE)

Joon Bok Lee, PhD, Analytics Algorithms Engineer, Insulet Corporation
Thu, Jan 19, 2-3PM, Elings 1601

Event Description: Control of blood glucose concentrations in people with Type I Diabetes Mellitus (T1DM) is a challenging task. Millions of T1DM patients suffer from the effects of dangerously high or low glucose levels every day. Principles of process dynamics and control play a critical role in the design of an artificial pancreas (AP), a device that can automate this regulation of blood glucose and significantly reduce the dangers faced by people with T1DM. In this talk, I will present a brief overview of the histories and motivations behind this research, and how Insulet is developing AP technology upon innovations originated from academia. I will describe how my current position as analytics algorithms contributes to the development of both the closed-loop algorithm and the infrastructures that surround the AP system. I will also share my personal journey from graduate school to the industry, and discuss insights and advice I gained during this process that may be also helpful to other graduate students and researchers who are considering career options.

Career Talk: Forging a career in STEM education: The Postdoc Stage (co-sponsored by UCSB Education and Pedagogy Discussion Group and Instructional Development)

Nate Emery, PhD, Postdoctoral Research Associate, Michigan State University
Tue, Jan 24, 12-1PM, Elings 1601

Event Description: Nate Emery will share about his current postdoc position and what motivated the career moves that have brought him to where he is now. He'll discuss current trends and strategies in STEM pedagogy research, the scope of discipline-based education research (DBER), and the current employment landscape for teaching-focused academics.

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FOR POSTDOCS AND GRADUATE STUDENTS

STEM Teaching Essentials Workshop Series: Backward Design (co-sponsored by Instructional Development)

Nate Emery, PhD, Postdoctoral Research Associate, Michigan State University
Tue, Jan 17, 24 and 31, 10-11:30AM, Elings 1601

Event Description: This 3-part workshop series will help you to critically evaluate your teaching style and approach to teaching. Over the three sessions, we will discuss challenges and solutions for teaching undergraduate courses and work together to implement evidence-based teaching practices such as CATME team-maker and Calibrated Peer Review. We will explore instruction through the framework of Backward Design, similar to how scientists approach a research question. By the third workshop, you will have designed a course goal, assessment and an instructional activity to embed in your (current or future) course.

CCST Science and Technology Policy Fellowships Seminar (co-sponsored by Graduate Division)

Sarah Brady, Ph.D (CCST Science & Technology Policy Fellow, CCST Senior Program Associate)
Annie Morgan (CCST Manager of Science and Technology Policy Fellowships)
Fri, Jan 27, 1-2:30PM, Elings 1601

Event Description: The fellowships are ideal for qualified applicants who are interested in improving the interface between science and legislative decision-making and who want to learn the public policy decision-making process. Following the one-year program, Fellows have moved on to an impressive array of policy-oriented, professional positions. The application deadline is Tuesday, Feb. 28, 2017 at 5 p.m. PST. Two CCST-affiliated representatives will be present at the session to provide information and answer questions:

Getting Started: Techniques for Getting your Writing Going (co-sponsored by UCSB Writing Program)

Karen Lunsford (UCSB Writing Program)
Mon, Feb 6, 12-1:30PM, Elings 1601

Event Description: This interactive workshop will present techniques for managing your life as a writer, planning your next writing project, and avoiding writer's block.

Writer's Block and the Creative Process in Science (co-sponsored by UCSB Writing Program)

Kevin Moore (UCSB Writing Program)
Wed, Feb 15, 4-5:30PM, Elings Hall 1601

Event Description: What is writer's block? What psychological, social, and epistemological factors inhibit creative flow in science, and how do we mitigate them? This presentation looks at the myths and realities of the varied and often contradictory phenomena that constitute what we call "writer's block," offering strategies for how to manage and get beyond block as science writers.

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FOR POSTDOCS AND GRADUATE STUDENTS

Using Video to Promote Your Research (co-sponsored by Graduate Division)

Jai Ranganathan (NCEAS and SciFund Challenge)
Thursday Feb 23, 3-4PM, Elings 1601

Event Description: Creating effective videos about your research with your smartphone Online video can be a very effective way for academics to connect their research to many different groups. For example, in many fields, video abstracts are a method of communicating research to others in the same field. Video is also a powerful tool that researchers can use to engage potential research funders, investors, and parts of the broader public. In this session, I will show how academics can use their smartphone to simply produce videos about their research, as well as how to create compelling storylines for those videos. At the end of the session, session participants will have learned extremely practical approaches to video. They will put that knowledge to immediate use, as participants will also have devised a plan for their own engaging video about their research.

Using Social Media to Advance Your Career (co-sponsored by Graduate Division)

Jai Ranganathan (NCEAS and SciFund Challenge)
Thursday March 9, 3-4PM, Elings 1601

Event Description: Most of us use social media to connect with friends and family. For academics though, social media can be even more effective at advancing professional goals. In this session, I will illustrate the many ways that academics can use social media to powerfully further their career objectives. These objectives include things like: keeping track of the latest developments in the field, increasing awareness among colleagues of your research, and furthering outreach goals. I will be focusing on Twitter, though the principles are roughly the same across social media platforms. At the end of the session, my intention is that participants will have gained actionable information about social media that they can immediately put to work to further career goals. This session will involve some interactive activities, but participants will not need to bring computers (or anything else) to take part in these activities.

Harnessing Writing to Impact Your Research (co-sponsored by UCSB Writing Program)

Doug Bradley(UCSB Writing Program, Deborah Fygenson(Physics), Doug McCauley(EEMB), Susannah Scott(ChemE)
Mon, March 13, 11AM-12PM, Elings 1605

Event Description: A panel of science and engineering faculty share techniques and perspectives on utilizing writing to inform the research and discovery process (rather than just as a tool for communicating results). Panelists will discuss how writing can contribute to the creative process of problem solving and even transform research setbacks into research opportunities. For example, strategies for using lab notebooks, manuscripts, and written correspondence to enhance your research, and for responding to unforeseen logistical and experimental challenges. Panelists will share lessons learned for collaborating on written works, getting published, and avoiding pitfalls, as well as, how you can harness these strategies to propel your research, creativity and your writing.

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SPRING 2017 CALENDAR

PROFESSIONAL DEVELOPMENT SERIES

(PDS)

FOR POSTDOCS AND GRADUATE STUDENTS

Library of Congress (co-sponsored by GSDS)

Dr. Eric Monroe, Chemist
Thu, Apr 6, 4-5PM, MRL 2053

Industry Professionals Panel (co-sponsored by SACNAS)

Daniel Lofgreen, PhD, Product Manufacturing Manager, Raytheon
Jenny Du, PhD, Vice President of Operations at Apeel Sciences
Jennifer Guerrero, PhD, Scientist at Amgen
Friday, April 7, 4:30-5:15PM, Elings 1601

Career Talk: Broad-spectrum and highly selective antimicrobial and antiviral macromolecular assemblies that mitigate resistance (co-sponsored by CBE, GSDS and WiSE)

Mareva Fevre, Polymer Scientist, IBM Almaden Research Center
Thu, Apr 13, 2-3PM, Elings 1601

STEAM (a.k.a. How to Combine Every Thing You Love and Call it Work) (co-sponsored by the UCSB MARC Scholars, CCS, CBE and SEED SB)

Keri Kukral, Founder & CEO, RAW SCIENCE TV
Thursday Apr 20, 12-1PM, ESB 1001

NSF I-Corps and Innovation Node-Los Angeles (co-sponsored by SEED SB)

Steve Konsek – NSF Program Director for I-Corps
Melihe Taciroglu and Azar Nazeri – ZAP Instructors, IN-LA
With panel of UCSB I-Corp alums – Prof. Chandra Krintz (CS), Prof. Javier Read de Alaniz (Chem), Dr. Kristin Denault (Fluency Lighting Tech).
Thursday, Apr 27, 12-2PM, Elings 1601

Using the Creative Process as a Computational Framework for Unfolding Complex Systems (co-sponsored by CBE, GSDS and WiSE)

JoAnn Kuchera-Morin, Ph.D.
Professor, Media Arts & Technology and Music
Media Arts & Technology Graduate Program
Thursday, May 4, 2-3PM, Elings 1601

Making the most of your presentation (co-sponsored by Graduate Division, GSDS, and WiSE)

Jean-luc Doumont, Principia
Friday, May 5, 1-3PM, ESB 1001

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Navigating through the Fog: Launching a Startup While Avoiding the Reefs (organized by UCSB Office of Technology & Industry Alliances, SEED SB)

Seth Levy, Managing Partner of Nixon Peabody LA will talk about legal aspects
Manny Stockman of Osage Partners will talk from the VC perspective
Ron Chiarello (UCSB alum) will talk about the entrepreneur perspective.
Thursday, May 11, 3:30-5PM, Elings 1601

Visible and Invisible Identities: A Personal Journey in the Sciences (co-sponsored by SACNAS, GSA, Graduate Division and GSDS)

Dr. Joel Yuen-Zhou, Professor of Chemistry and Biochemistry at UCSD
Friday, May 12, 10-11AM, Elings Hall 1605

UCSB Beyond Academia Career Conference for Graduate Students and Postdocs

Friday, May 20, 12:30 PM until Saturday, May 21, 6:00 PM, Corwin Pavilion

NSF I-Corps ZAP training workshops (co-sponsored by SEED SB)

Meliha Bulu Taciroglu, Economist, Lecturer at UCLA
May 26th and June 2nd, 10AM-2PM in Elings 1601

Santa Barbara & Goleta Biotechnology Industry Showcase (co-sponsored by CBE, SEED SB)

Tuesday, May 30, 8:30AM-5:30PM, Elings 1601

Career Talk: From Molecules to Microstructure: Using Food to Preserve Food (co-sponsored by UCSB Office of Technology & Industry Alliances, Bren School, CBE, TMP, GSDS and Dow)

Dr. James Rogers, Science Director & CEO
Dr. Louis Perez, VP of Technology, Apeel Sciences
Thursday, June 1, 2-3PM, Elings 1601

Summer Mentor Training: A Workshop for Those Mentoring Research Interns this Summer

Jens-Uwe Kuhn, Professor, Chemistry Dept, Santa Barbara City College
Friday, June 9, 12-2PM, Elings 1601

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Library of Congress (co-sponsored by GSDS)

Dr. Eric Monroe, Chemist
Thu, Apr 6, 4-5PM, MRL 2053

Event Description: The Preservation Research and Testing Division at the Library of Congress utilizes a broad array of analytical techniques to study items from our collections. This talk will highlight some of our work on a range of collection materials as well as detail a recent, detailed study regarding the analysis of early recorded sound carriers. The Library has a large collection of wax cylinders, the earliest commercialized recorded sound carrier, many of which contain ethnographic field recordings from as early as 1890. Unfortunately, these wax cylinders can present with significant condition issues including cracking when they are retrieved for digital transfer. To understand the cause of these issues and develop strategies to prevent further degradation, we are taking a multi-pronged approach to identify changes resulting from aging as well as guide the continued preservation of these materials. To this end, we are performing detailed chemical analyses of wax cylinders and fragments from our collection as well as recreating historical wax compositions as guided by both primary literature reports and chemical analyses.

Industry Professionals Panel (co-sponsored by SACNAS)

Daniel Lofgreen, PhD, Product Manufacturing Manager, Raytheon
Jenny Du, PhD, Vice President of Operations at Apeel Sciences
Jennifer Guerrero, PhD, Scientist at Amgen
Friday, April 7, 4:30-5:15PM, Elings 1601

Event Description: Join us for the first industry professionals panel hosted by the newly established graduate student and postdoc Society for the Advancement of Chicanos and Native Americans in STEM (SACNAS) Chapter.

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Career Talk: Broad-spectrum and highly selective antimicrobial and antiviral macromolecular assemblies that mitigate resistance (co-sponsored by CBE, GSDS and WiSE)

Mareva Fevre, Polymer Scientist, IBM Almaden Research Center
Thu, Apr 13, 2-3PM, Elings 1601

Event Description: Each year, approximately 2 million people in the U.S. suffer from nosocomial infections, 4.5% of which lead to death. Diagnosis and treatment are tricky, due to the complexity of biofilm composition, difficulty to fully eradicate biofilms, and emergence of antibiotic resistant bacteria strains. We developed antimicrobial polymers that have potent antimicrobial activity and high selectivity over mammalian cells. The polymers demonstrated high antimicrobial efficacy against clinically-isolated multidrug-resistant microbes and in a mouse skin model, yet exhibited superior biocompatibility compared to other clinically used surgical scrubs. Unlike small molecular antibiotics, repeated use of our polymer does not induce drug resistance. We also recently developed coating materials that successfully inhibited the attachment of bacteria on substrates, with up to 90% reduction of the metabolic activity of *S. Aureus* after a 7-day incubation period. Viral infections also pose an eminent global public health problem, because of a rapid increase in human population, aging, global warming, and immunosuppressive medical treatments. The rapid mutation of viruses, due to inherent genomic instability, complicates the design of efficient antiviral drugs and vaccines that won't garner resistance. We recently developed a general strategy to prevent viral infection using multi-functional macromolecules. Virus-binding assay using representative RNA and DNA-based, as well as enveloped and non-enveloped viruses, including Dengue, Influenza, Chikungunya, Enterovirus 71, Ebola, Marburg and Herpes, demonstrated a significant reduction in infection. The polymer complexes with immune cells and viral surface proteins both via electrostatic and H-bonding interactions, as evidenced by molecular docking computations. The antiviral mechanism is based on non-specific supramolecular interactions between the amino acid residues and moieties of the macromolecule, allowing the formation of the viral/polymer and polymer/cell assemblies, regardless of viral mutation, preventing drug resistance development. In this talk, I will discuss both technical advances in research as well as career paths and opportunities at IBM Almaden Research Center (ARC). ARC's research community focuses on solving problems across areas as diverse as nanomedicine, data science, atomic scale storage, food safety and medical image analytics.

STEAM (a.k.a. How to Combine Every Thing You Love and Call it Work) (co-sponsored by the UCSB MARC Scholars, CCS, CBE and SEED SB)

Keri Kukral, Founder & CEO, RAW SCIENCE TV
Thursday Apr 20, 12-1PM, ESB 1001

Event Description: Keri Kukral is the founder of Raw Science TV with the mission to keep the logic and beauty of science and its impact on humanity and our world on center stage in the mainstream media. The digital channel, coined "a media company to watch" by Forbes, aims to combine cutting edge science journalism with a video-on-demand movie platform to tell the most compelling stories of science and technology. The company has created various video projects, including a video series in Taiwan on thorium nuclear reactor development, as well as the first video of Elon Musk detailing specific plans to reach and colonize Mars.

How and why does one go from professional ballet to biomedical engineering and then entrepreneurship? There will be a complex decision tree leading all the way to space aliens, lasers, UCSB, and you.

Please check our website for more information:

<http://csep.cnsi.ucsb.edu/programs/professional-development-series>



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SPRING 2017 CALENDAR

PROFESSIONAL DEVELOPMENT SERIES

(PDS)

FOR POSTDOCS AND GRADUATE STUDENTS

NSF I-Corps and Innovation Node-Los Angeles (co-sponsored by SEED SB)

Steve Konsek – NSF Program Director for I-Corps

Melihe Taciroglu and Azar Nazeri – ZAP Instructors, IN-LA

With panel of UCSB I-Corp alums – Prof. Chandra Krintz (CS), Prof. Javier Read de Alaniz (Chem), Dr. Kristin Denault (Fluency Lighting Tech).

Thursday, Apr 27, 12-2PM, Elings 1601

Event Description: The I-Corps™ program was created by the NSF in 2011 to help move academic research it has funded to market, and offers entrepreneurship training to student and faculty participants. Teams qualified for the National Program can apply for \$50k grants focused on customer discovery and on identifying the problem-solution and product market fit for emerging technology. Innovation Node LA offers a number of programs that groom teams for qualification for the national program. The LA Node program also provides the teams with the required NSF lineage for the I-Corps application, regardless of the project's original funding source.

Using the Creative Process as a Computational Framework for Unfolding Complex Systems (co-sponsored by CBE, GSDS and WiSE)

JoAnn Kuchera-Morin, Ph.D.

Professor, Media Arts & Technology and Music

Media Arts & Technology Graduate Program

Thursday, May 4, 2-3PM, Elings 1601

Event Description: In my research one picture is worth approximately 60 million numbers. How can one find patterns in complex information and work with the information creatively and intuitively leading to new and unique innovation? Visualization of a complex system is not the end goal. It is the beginning of the representation of immersive, interactive, data, mathematical information that can then be transformed through experimentation and simulation on the proper computational platform. A mathematical/computational language that can parse a complex system, encompassing the physics, chemistry, and biology of that system, through visual/aural frequency representation and transformation. By applying the creative compositional process of sketching in building our computational language and representing very complex information through our senses, namely visual and audio representations, we are enabling the same right brain/left brain process that artists experience when they create a work of art, for scientists and other researchers. This will facilitate the uncovering of new patterns in complex information, and allow scientists and engineers to work with their information perceptually and intuitively. The AlloSphere is a 3-story tall audio and visual immersive instrument and laboratory that allows one to literally step inside a representation of experimental data. Approximately 20 researchers can be immersed in their data performing analysis as well as synthesis on a data set. Researchers enter a near-to-anechoic room containing a custom-built close-to-spherical screen, ten meters in diameter. The sphere environment integrates visual, sonic, sensory, and interactive components, 26 immersive projectors connected to a 14-compute rendering cluster, 54 channels of sound, with multi-user interactivity. Use of the laboratory requires collaborative research funding partnerships through grants and gifts as well as industrial affiliations

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SPRING 2017 CALENDAR

PROFESSIONAL DEVELOPMENT SERIES

(PDS)

FOR POSTDOCS AND GRADUATE STUDENTS

Making the most of your presentation (co-sponsored by Graduate Division, GSDS, and WiSE)

Jean-luc Doumont, Principia
Friday, May 5, 1-3PM, ESB 1001

Event Description: Strong presentation skills are a key to success for engineers, scientists, and others, yet many speakers are at a loss to tackle the task. Systematic as they otherwise can be in their work, they go at it intuitively or haphazardly, with much good will but seldom good results. In this talk, Dr Doumont proposes a systematic way to prepare and deliver an oral presentation: he covers structure, slides, and delivery, as well as stage fright. An engineer (Louvain) and PhD in applied physics (Stanford), Jean-luc is acclaimed worldwide for his no-nonsense approach, his highly applicable, often life-changing recommendations on a wide range of topics, and Trees, maps, and theorems, his book about “effective communication for rational minds”.

Navigating through the Fog: Launching a Startup While Avoiding the Reefs (organized by UCSB Office of Technology & Industry Alliances, SEED SB)

Seth Levy, Managing Partner of Nixon Peabody LA will talk about legal aspects
Manny Stockman of Osage Partners will talk from the VC perspective
Ron Chiarello (UCSB alum) will talk about the entrepreneur perspective.
Thursday, May 11, 3:30-5PM, Elings 1601

Event Description: Presented by TIA, in collaboration with Bren School, CNSI, TMP and PDS as part of a new seminar series focused on Technology Translation, Innovation, and Entrepreneurship.

Visible and Invisible Identities: A Personal Journey in the Sciences (co-sponsored by SACNAS, GSA, Graduate Division and GSDS)

Dr. Joel Yuen-Zhou, Professor of Chemistry and Biochemistry at UCSD
Friday, May 12, 10-11AM, Elings 1605

Event Description: Prof. Joel Yuen-Zhou received a B.S. in Chemistry and a B.S. in Math from MIT in 2007, where he did undergraduate research under the late Prof. Robert J. Silbey. In 2012, he graduated with a Ph.D. in Chemical Physics under the supervision of Prof. Alan Aspuru-Guzik at Harvard University. He was the Robert J. Silbey Postdoctoral Fellow in the Center for Excitonics at MIT in 2012-2015. Since July 2015, he is an Assistant Professor in the Department of Chemistry and Biochemistry at the University of California, San Diego. He recently received the National Science Foundation CAREER award. His research group is interested in the weak, strong, and ultrastrong coupling of light and molecular matter to design and probe new materials and phenomena at the interface of chemical physics, materials science, and nanophotonics.

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SPRING 2017 CALENDAR

PROFESSIONAL DEVELOPMENT SERIES

(PDS)

FOR POSTDOCS AND GRADUATE STUDENTS

NSF I-Corps ZAP training workshops (co-sponsored by SEED SB)

Meliha Bulu Taciroglu, Economist, Lecturer at UCLA
May 26th and June 2nd, 10AM-2PM in Elings 1601

Event Description: These ZAP boot camp sessions will be taught by faculty at UCLA who lead the Los Angeles pre-I-Corps training sessions. This is a great opportunity as these sessions which are normally taught at UCLA will be brought here. Even if you are not sure if you are ready to apply for I-Corps, you should consider attending the ZAP sessions as they will provide you with guidance and useful training that you can use now or in the future.

Santa Barbara & Goleta Biotechnology Industry Showcase (co-sponsored by CBE, SEED SB)

Tuesday, May 30, 8:30AM-5:30PM, Elings 1601

Event Description: Join us for a series of short presentations and networking opportunities with industry representatives from the local biotechnology community!

Career Talk: From Molecules to Microstructure: Using Food to Preserve Food (co-sponsored by CBE, TMP, GSDS, WiSE and SEED SB)

Dr. James Rogers, Science Director & CEO; Dr. Louis Perez, VP of Technology, Apeel Sciences
Thursday, June 1, 2-3PM, Elings 1601

Event Description: Apeel Sciences uses natural plant extracts, derived from uneaten parts of plants (e.g. stems, leaves, skins, etc.), to create an edible, invisible "peel" which is applied to the surface of fresh produce in order to extend shelf life and improve quality. When our barriers are applied to the surfaces of perishable items such as fruits, vegetables, and fresh cut flowers, they impart resistance to both abiotic and biotic stressors, reducing reliance on the cold-chain and reducing the need for pesticides. Currently, the produce industry has adopted two postharvest preservation strategies: refrigeration and modified atmosphere packaging. Although these technologies offer significant benefits for growers and shippers, these methods are ineffective once the produce is exposed to the ambient environment of retail shelves. Our products are designed to reduce food waste across the entire value chain, extending benefits to producers, retailers, and consumers. In this talk, we will discuss the founding of Apeel, the science behind our technology, and how it will change how food is processed worldwide. The speakers will also address the "soft science" relating to the founding of Apeel during the talk and give the audience the opportunity to vote as to whether they'd like to hear more details about the founding story or the technical bit.

Summer Mentor Training: A Workshop for Those Mentoring Research Interns this Summer

Jens-Uwe Kuhn, Professor, Chemistry Dept, Santa Barbara City College
Friday, June 9, 12-2PM, Elings 1601

Event Description: In this training session, Dr. Kuhn will provide a brief introduction to mentoring goals and strategies for managing a summer research intern project and making it a successful experience for both you and your intern. Then we will break up in small groups and share ideas, tips, and thoughts on mentoring based on your summer project. Please note that you must RSVP to attend this and we will email participants a 1pg worksheet to review in order to come prepared for a fruitful discussion.

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