



THE DAYTON SECTION

Fostering scientific education and research, and promoting public understanding of science since 1930

WEB ADDRESS: <http://DaytonACS.org>

DAYTON SECTION OFFICERS

CHAIR

Prof. Vladimir A. Benin
229-4762, vladimir.benin@notes.udayton.edu

CHAIR-ELECT

Prof. Suzanne Seleem
376-6689, sseleem1@aol.com

IMMEDIATE PAST CHAIR

Dr. Hilmar Koerner
904-5091, hilmar.koerner@wpafb.af.mil

SECRETARY

Mr. James P. Carey
513-241-2324, jcarey@whepatent.com

TREASURER

Dr. Christopher E. Tabor, 255-9150,
christopher.tabor@wpafb.af.mil

COUNCILOR

Dr. Steven Trohalaki
255-9593, steven.trohalaki@wpafb.af.mil

ALTERNATE COUNCILOR

Dr. Rachel Jakubiak
255-9672, rachel.jakubiak@wpafb.af.mil

COMMITTEE CHAIRS

PROFESSIONAL PRACTICES

Dr. Narayanan Venkat
255-9913, narayanan.venkat@wpafb.af.mil

PUBLIC RELATIONS

Vacant

PATTERSON COLLEGE CHEMISTRY AWARDS

Dr. Leanne Petry
leanne.petry@udri.udayton.edu

PATTERSON HIGH SCHOOL CHEMISTRY AWARDS

Ms. Bonnie Buddendeck,
bonnie.buddendeck@centerville.k12.oh.us
Ms. Cindy Hasler: chasler@woh.rr.com

PATTERSON-CRANE AWARD

Mr. James P. Carey
513-241-2324, jcarey@whepatent.com

BULLETIN EDITOR

Dr. Steven Trohalaki (contact information above)

INDUSTRIAL RELATIONS

Dr. Wayne Cook
259-3162, wayne.cook@kodak.com

EDUCATION

Dr. Paul A. Fleitz
255-9672, paul.fleitz@wpafb.af.mil

INVESTMENT

Dr. Jorge Chavez-Benavides, 255-1227
jorge.chavezbenavides.ctr.PER@wpafb.af.mil

SECTION CAREER PROGRAM

Dr. Aaron Burke
255-9572, aaron.burke@wpafb.af.mil

GOVERNMENT RELATIONS

Mr. Jon Slagle
255-9691, jonathan.slagle@wpafb.af.mil

WOMEN CHEMISTS

Dr. Sarah Lane
255-9113, sarah.lane.ctr@wpafb.af.mil

YOUNGER CHEMISTS

Mr. Kirby Underwood, kirby.underwood@wright.edu
Dr. Raymond Dudek
327-6476, rdudek@wittenberg.edu

WEBMASTER

Dr. Hilmar Koerner
904-5091, hilmar.koerner@wpafb.af.mil

NATIONAL CHEMISTRY WEEK COORDINATOR

Dr. Joy Haley
255-9896, joy.haley@wpafb.af.mil

BULLETIN

New Year's Edition 2011

Meetings and Events

Feb. 19-20: TechFest 2011 (see enclosed flier)

March 1: Annual Poster Session & Patterson College
Chemistry Awards

March 9: Joint Dinner Meeting with the Cincinnati Section

Section News and Other Stuff

- Call for Abstracts — page 2
- Election Results — page 5
- Past Meetings:
 - ◆ Professional Practices Meeting — Venkat challenges the Editor to a *Creative Caption Contest* — page 4
 - ◆ National Chemistry Week Events—pages 6-7
- Call for TechFest Volunteers—page 7
- Alzheimer's Avoidance Therapy — page 8
- AAT-2: Su Doku for Chemists — page 8

DATE MATERIAL - MEETING ANNOUNCEMENT - DO NOT DELAY

ADDRESS SERVICE REQUESTED

PERMIT NO. 517
DAYTON, OHIO
U.S. POSTAGE PAID
NON-PROFIT ORG.

American Chemical Society
Dayton Section
4801 Springfield Street
Dayton, OH 45431

UPCOMING MEETING

MARCH 1

ANNUAL POSTER SESSION AND PATTERSON COLLEGE CHEMISTRY AWARDS

Venue: University of Dayton, Kennedy Union Ballroom (see map, below)

Parking: Lots C or P. Get parking permits from the Security Hut. See map below or go to <http://map.udayton.edu/> for more information.

Agenda: Poster Set-Up: 5:30 – 6:00 PM

Poster Judging: 6:00 – 7:00 PM

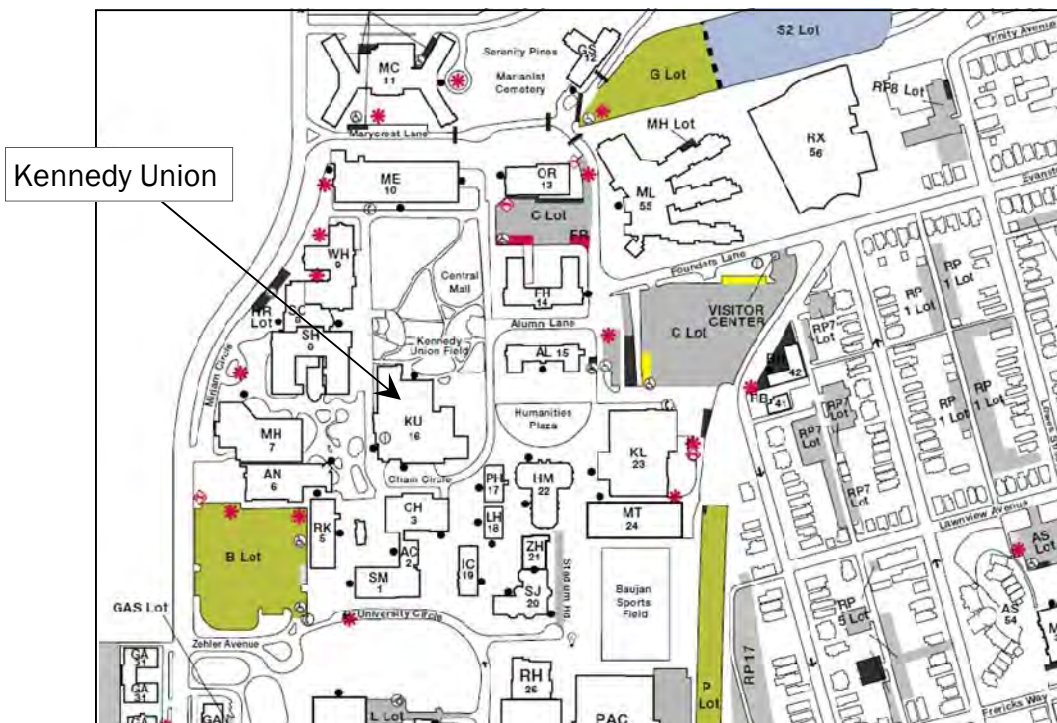
Poster Viewing: 6:00 – 7:30 PM

Awards Presented: 7:30 – 8:15 PM

The Annual Poster Session is a tradition of long standing in the Dayton Section. As in recent years, we will present four \$100 cash awards for the best undergraduate and graduate poster presentations. The Dayton Section Officers invite you, your colleagues, and students to present a poster relating to any area of chemical research. Complimentary food (the best free pizza in the Miami Valley!) and drink will be provided by the Section. In addition to poster awards, we will also recognize the outstanding junior chemistry major at each college and university within the Section's boundaries with the Patterson College Chemistry Award.

Call for Abstracts

Send abstracts of 250 words or fewer by close of business Friday, February 25, 2011 to Prof. Vladimir Benin at vladimir.benin@notes.udayton.edu. For students, please indicate on the abstract if you would like to be considered for an award and whether you are an undergraduate or graduate student. Please use standard ACS abstract format (see the example on DaytonACS.org/abstract/AbstractTemplate.doc).



UPCOMING JOINT MEETING WITH THE CINCINNATI SECTION

MARCH 9

Speaker: Leonard Katz, Synthetic Biology Engineering Research Center (<http://www.synberc.org>)

Venue: Savannah Center, West Chester (45 minutes from downtown Dayton;
<http://www.savannahcenter.com>)

Agenda: Social: 6:00-7:00 PM

Dinner: 7:00-8:00 PM

Speaker: 8:00-9:00 PM



Abstract

Recent advances in molecular biology, genetics, increases in the speed of genome sequencing and DNA synthesis, coupled with the vast increase in both the speed and storage capacity of computers and the internet, have enabled detailed understanding of living organisms at the individual molecule and system levels. From these advances the field of Synthetic Biology has emerged. Although difficult to define precisely, it is generally accepted that the goal of synthetic biology is the deliberate design and fabrication of biologically based parts, novel devices and systems, as well as the redesigning of existing, natural biological system by applying the engineering principles of specification, design, modeling, testing and validation. By its very nature, synthetic biology is a multidisciplinary field that links biology, chemistry, physics, and engineering to produce valuable and life enhancing products in a variety of applications (e.g. medicine, transportation, chemicals, agriculture, etc.). Included in this endeavor are social scientists and philosophers who consider the social and cultural consequences of work itself and the outcomes.

The Synthetic Biology Engineering Research Center (SynBERC) is an NSF-sponsored research project that involves 18 PIs from Stanford, MIT, Harvard, UC-San Francisco, Prairie View A&M, and UC-Berkeley, where it is headquartered. The SynBERC faculty is composed of Bio- and chemical engineers, biochemists, microbiologists, and social scientists who oversee the work of 60 graduate students and post-docs in their laboratories in a variety of applications and fundamental aspects of synthetic biology. SynBERC has an Industrial Advisory Board composed of 20 companies that guides and reviews the research undertaken, a Scientific Advisory Board, and a Student Leadership Council.

Dr. Katz will review the field of Synthetic Biology and focus the structure and organization of SynBERC and describe some of the work being conducted of interest to industry and academia.

Biography

Leonard Katz is currently the Research Director and Industry Liaison Officer of the Synthetic Biology Engineering Research Center (SynBERC) based at the University of California-Berkeley and located at the Joint BioEnergy Institute (JBEI) in Emeryville, CA. His most recognized research is in the area of genetic manipulation of polyketide synthases for the production of novel polyketides. Dr. Katz received his B.Sc. in Microbiology from McGill University and his Ph.D. in Molecular Biology from the University of California-Santa Barbara, and did a post-doc in Biochemistry at the University of California-San Diego. Dr. Katz spent the major part of his career in the pharmaceutical-biotech sector where he led the group that discovered the modular basis for polyketide biosynthesis, and subsequently developed and employed genetic methodology for the manipulation of polyketide synthases to produce novel polyketide-based pharmaceuticals. In his current position, Dr. Katz's research is concerned with using polyketide synthases to produce renewable chemicals and biofuels. He has 95 publications, 26 granted US patents, and numerous patents pending in the area of uses of polyketide synthases to produce novel natural products. Dr Katz is the recipient of the 2000 SIM Charles Thom Research Award from the Society for Industrial Microbiology and is a Fellow of the American Association for the Advancement of Science.

Further meeting details, such as registration deadline, meal options, and cost, will be sent out via email and posted at DaytonACS.org when they become available.

PAST MEETING — PROFESSIONAL PRACTICES

On November 18, 2010, more than two dozen section members gathered at the Wellington Grille to honor the newest 50-year members — Prof. Albert V. Fratini and Dr. Tsu Tsai — as well as our new 60-year members — Mr. Robert D. Fremgen and Dr. Leo Parts. Narayanan Venkat, the chair of the Professional Practices Committee, presented each honoree with an ACS certificate and a plaque of recognition. After the awards, the honorees informally addressed the audience.



Venkat the host, with the familiar gesture of despair. (v)

Venkat starts off the proceedings with an inappropriate joke containing way too much personal information. (e)



Young Al Fratini with X-ray Crystallography in its pristine days (v).

The crowd was stunned to see that Al was such a hottie in his halcyon days. (e)



Dr. Parts speaks, Venkat listens. His folded arms can do no harm. (v)

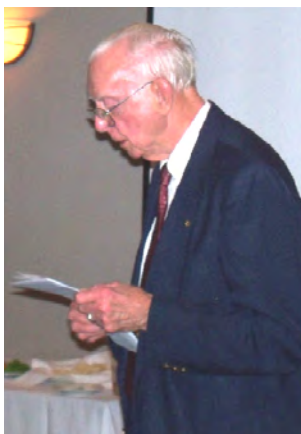
With all his might, Venkat resists the urge to smell his fingertips after cramming his hands deep into his armpits. (e)

The Section also paid tribute to its outgoing officers — Todd Yeates and Aaron Sellinger; announced the results of the Section Elections; and welcomed its newly-elected officers — Suzanne Seleem, Chris Tabor, Steve Trohalaki, and Rachel Jakubiak. Competing captions were supplied by Venkat and the Editor.



The familiar impasse prior to an electronic presentation with people pondering solutions. (v)

Prof. Fratini skillfully blocks projection of the porn site that inexplicably popped up on Venkat's laptop, while Hilmar, summoning all his powers of concentration, memorizes the web address. (e)



Mr. Robert Fremgen describes his career. (v)

While everyone was impressed by Mr. Fremgen's career, the managers in the audience demanded to know, "what has he done lately?" (e)

Vote for your favorite captions — those by Venkat (v) or those by the Editor (e) — at DaytonACS.org



Mr. Robert Fremgen, the 60-year member awardee ignoring Venkat's feeble but persistent attempt at a handshake. (v)

The reason Mr. Fremgen's refused to shake hands with Venkat was olfactory in nature. (e)

RESULTS OF THE 2010 DAYTON SECTION ELECTIONS

We received 31 ballots in all, which is only about 7% of the membership. Still, there were three more votes than last year! Prof. Suzanne Seleem was elected Chair-Elect, Dr. Christopher Tabor Treasurer, Dr. Steve Trohalaki Councilor, and Dr. Rachel Jakubiak Alternate Councilor. Congratulations to all our newly elected officers! Prof. Vladimir Benin succeeds to Chair and Hilmar Koerner to Immediate Past Chair. Mr. Jim Carey starts his final year as Secretary. The Section owes a debt of thanks to our outgoing officers — Drs. Todd Yeates and Aaron Sellinger, who, for personal reasons, resigned before the end of his term — for their selfless service. The alter egos of the 2011 Dayton Section Board of Directors and our outgoing officers are pictured below.

Newly Elected Officers



Suzanne Seleem
Chair-Elect



Christopher Tabor
Treasurer



Steve Trohalaki
Councilor



Rachel Jakubiak
Alternate Councilor

Returning Officers



Vladimir Benin
Chair



Hilmar Koerner
Immediate Past Chair

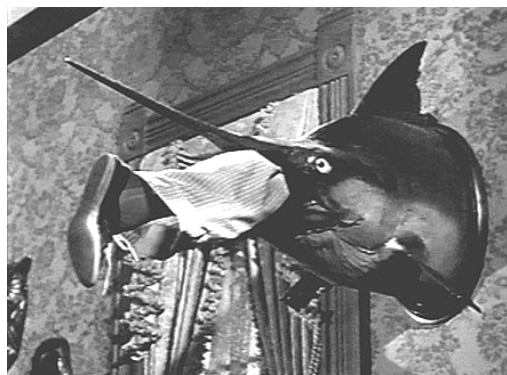


Jim Carey
Secretary

Outgoing Officers



Todd Yeates
Immediate Past Chair



Aaron Sellinger
Treasurer

PAST EVENTS — NATIONAL CHEMISTRY WEEK

The Dayton Section celebrated National Chemistry Week at three separate events in 2010. All events highlighted this year's theme of "Behind the Scenes with Chemistry."

The first event took place at the Dayton Regional STEM School on October 19th. Volunteers Bill Crawford (Cincinnati Section), Jonathan Flikkema, and Joy Haley brought dry ice experiments, glow-in-the-dark slime, and quicksand (oobleck) to the 8th grade class of Ms. Brittnee Lydy. The second event took place at the Centerville Library on October 23rd, and the third event was held on November 6th and 7th at the Boonshoft Museum of Discovery. At the Centerville Library, experiments included fake snow, glow-in-the-dark slime, invisible ink, quick sand, and bleeding paper. At the Boonshoft Museum of Discovery ten experiments were performed over the two-day period, including those mentioned above as well as fake blood, fake wounds, fake rocks, oobleck on a subwoofer, and a smoke machine. All in all, we experimented with around 350 local children.



Dayton ACS volunteer Melanie Poon shows two future chemists how adding water to a super-absorbing polymer makes fake snow used in the movies. Melanie told the girls that they might not even know it but someday they'd be incredibly indebted to the chemists who invented this polymer because they'd never have to wash a diaper.



Dayton ACS volunteer Marie Severyn makes glow-in-the-dark slime with a budding scientist. His son seemed to like making it, too.



Volunteer Bill Crawford works with a volunteer at the Dayton Regional STEM School demonstrating the properties of dry ice, and how heavy metal concerts in the '70s got way cool when they started making smoke with dry ice. Then, he broke into a very embarrassing air-guitar thing.



A future scientist shows us her "secret" message written with special ink that is only revealed when placed under ultraviolet light. When asked if she thought if this was cooler than texting, she just laughed and laughed and laughed.

PAST EVENTS — NATIONAL CHEMISTRY WEEK

We give a special thanks to all of our volunteers. At the Centerville Library, they include Melanie Poon, Eric Wu, Marie Severyn, Amy Willcox, Katie Sullivan, Allie Meyerhoefer, Dominique Judkins, Danielle Schmitt, Alexis Marruffo, Daqing Gao, and Joy Haley. Dayton Section Members volunteering at the Boonshoft Museum include Ed Geller, Wayne Cook, Rhonda Cook, Daqing Gao, Tat Tong, Ernest Capraro, Vladimir Benin, Dorothy Ogden, Lisa Draughn, Ben Tway, Alexis Marruffo, Chris Kanalas, and Joy Haley. We are thankful for all the volunteers from the University of Dayton Chemistry Club and to the Wright State University Chemistry Club. In addition, very special thanks go to Wright State for performing demonstrations throughout the weekend!

We also acknowledge the winner of the NCW Dayton Poster Contest highlighting the theme — “Behind the Scenes with Chemistry” — Ms. Emily Adair from Urbana High School. She is a 12th grader in Kathryn Zaborowski’s class. Her winning submission was sent to National ACS as a contender in the National NCW Poster Contest. She was awarded a \$25 gift card for her efforts. Congratulations!

Volunteers Needed for TechFest 2011

When: Saturday, Feb 19, 10 AM–6 PM

Sunday, Feb 20, 11 AM–5 PM

Where: Sinclair Community College Ponitz Center (Building 12)

Parking: Free in the underground garage beneath Building 12 off Fourth St.

This is a free event about sharing and learning about math, science, engineering, and technology – past present and future – for the entire family. TechFest features over sixty interactive science and technology demonstrations, exhibits, and games hosted by dedicated volunteers and practicing professionals in the Miami Valley representing professional societies, universities, industry, the Air Force, and NASA.

The Dayton Section of the American Chemical Society will be there again this year with hands-on demonstrations exploring chemistry. We need volunteers to help makes this event a success. Trust us; it’ll be fun!

To volunteer, even for just a couple of hours, contact
Wayne Cook at :

wayne.cook@kodak.com or 937.259.3162

Alzheimer's Avoidance Therapy* Unscramble the letters to reveal chemical names, prefixes, or concepts. Then, use the circled letters to solve the riddle. Answers next edition!

ACINOST ○ □ □ ○ ○ ○ ○
 GNNOSTTU ○ ○ □ □ □ □ ○ □
 BMOOR ○ □ □ ○ □

The old, blind man is not taken aback by the monster's hideous appearance because, well, he's *blind*. Hearing the monster shriek in response to the crackling fire, the blind man calms the monster by reassuring him that,

“ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

is good!” He demonstrates this by puffing on a cigar. He gives the monster a new cigar, lights a stick of kindling, feels for the monster's cigar, then lights the Monster's thumb. The monster shrieks in pain and runs away.

Answers for Last Edition

ARSOLE JOULE CHROMIUM

A strange creature, wearing goggles, a pocket protector, and a long, horribly stained white coat, scurries through the dark streets and back alleys near the University of London as it is pursued by a curious, bemused crowd. Finding itself cornered, this, this, ... this *thing* turns, faces its tormentors and shrieks, “I am *not* an animal. I am a CHEM MAJOR!”

AAT-2 – Su Doku for Chemists!

Using the following nine chemical elements:

Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu
----	----	---	----	----	----	----	----	----

fill in the grid below so that each row, column, and 9-element subcell has only one occurrence of each element.

	Sc	Ni		Cu				
		Mn	Co	V			Cu	
	V					Ni		
	Ni		V					Sc
	Co							V
				Ti				
V		Co	Cr			Cu	Ti	
Cr			Fe					
							Mn	

Quotable Quotes for \$2000, Alex

"Do not bother just to be better than your contemporaries or predecessors. Try to be better than yourself."

William Faulkner

"Any activity becomes creative when the doer cares about doing it right, or better."

John Updike

"Become addicted to constant and never ending self improvement."

Anthony J. D'Angelo

"Good, better, best; never let it rest till your good is better and your better is best."

Unknown

"You aren't the only one bettering yourself! I worked out with a hand weight yesterday. I feel *vigorous!*"

Frank Costanza

Solution for Last Edition

V	Fe	Co	Cr	Ti	Ni	Mn	Cu	Sc
Ti	Cu	Mn	Co	Sc	Fe	Cr	Ni	V
Sc	Cr	Ni	V	Cu	Mn	Ti	Fe	Co
Co	Ni	Ti	Fe	Mn	Sc	Cu	V	Cr
Cr	Mn	V	Cu	Ni	Co	Fe	Sc	Ti
Cu	Sc	Fe	Ti	V	Cr	Ni	Co	Mn
Ni	Co	Cu	Mn	Cr	V	Sc	Ti	Fe
Mn	V	Sc	Ni	Fe	Ti	Co	Cr	Cu
Fe	Ti	Cr	Sc	Co	Cu	V	Mn	Ni

*Surveys suggest that mental exercises, including word puzzles, may delay the progression of Alzheimer's Disease.