

Department of Chemistry

Fumes from the Hood

Winter 2017



Oregon State
University

Department of Chemistry
Head, Mike Lerner

Editor/Designer
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On the cover:



Battery Research in David Ji's Lab.
Performed by Clement Bommier.

Expanded stories available online:
blogs.oregonstate.edu/erlenmeyer

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DEPARTMENTAL LEADERSHIP: MIKE LERNER APPOINTED DEPT. HEAD

By: Debbie Farris (COS)

The College of Science welcomes Michael Lerner as the Head of the Department of Chemistry effective immediately. Lerner is a Professor in Chemistry and is the longtime director of online education and head graduate advisor in the department.

With extensive research and teaching experience as a professor of chemistry, Mike Lerner will lead the department's academic and research mission. Chemistry is home to internationally renowned faculty with an outstanding graduate program and state-of-the-art research. He will oversee about 40 faculty/staff and 120 graduate students. Lerner will also continue his research and teaching.

With a passion for undergraduate education, Lerner has taught inorganic and general chemistry courses for more than 25 years since joining Oregon State in 1990. He has spent time in industry, at the battery company PolyStor (1996-98) and at Intel (2001-02) and continues to consult for the battery industry.

Lerner has spent decades training generations of science students, also developing new courses and components in courses, such as Energy and Transportation, Scientific Hypotheses, and Integrated Labs among others.

An early pioneer of online learning, Lerner helped establish and lead the distance education program in chemistry. Under Lerner's tenure, online chemistry courses have grown dramatically and helped students be successful on and off campus for the past decade. In 2007, roughly 2,000 student credit hours were taught in online chemistry courses. By last year, that number had quadrupled to more

than 9,000. Currently, about 15% of all credit hours in chemistry are now delivered online. This percentage will continue to grow as educators and students become increasingly familiar with online learning, according to Lerner.

For more than 15 years, the department has been at the forefront of technology-enabled learning and pedagogical innovation in its online chemistry courses, with Lerner one of the key drivers. Extremely popular among students from around the world, the courses provide flexible scheduling, access to previously unavailable courses and an alternative way to learn. Currently, the department offers more than 20 chemistry courses and labs online.

In collaboration with colleagues

Richard Nafshun and Michael Schuyler, Lerner co-founded OnlineLabs, Inc. in 2009. The company is dedicated to developing the next generation of virtual lab software and bringing a superior online lab experience to college and high school students and educators nationwide. The three chemistry professors developed a way to deliver a superior virtual lab experience that has significantly improved outcomes, as confirmed by both students and instructors.

Most recently, Lerner has been instrumental in launching a new collaboration between the Chemistry Department, Ecampus and Smart Sparrow, an adaptive learning and instructional design company. This collaboration will enable chemistry faculty to design their own, scientifically meaningful, wet



lab experiments that can serve as stand-alone experiences, be used to reinforce material or help prepare students for on campus lab work. With a completion date of early 2018, the project is currently focused on general chemistry course sequences for non-science majors.

A highly accomplished scholar, Lerner was named a Fulbright Scholar twice, in 2002 and 2015, received a Presidential Young Investigator award by the National Science Foundation (NSF) and was an NSF Postdoctoral Fellow.

Lerner's research focuses on developing new materials, especially intercalation compounds and nanocomposites for applications in energy storage. To date, he has about 80 academic publications, in journals, such as *Inorganic Chemistry*, *Chemistry of Materials*, *Nanoscale*, *Journal of the American Chemical Society* and more.

Lerner has served in a range of leadership and service capacities at OSU, including the Baccalaureate Core Committee and the Graduate Council. Recently, he also served as chair of the Distance Learning Working Group that is leading efforts to advance the College's 5-year strategic plan goals.

After completing his undergraduate education in chemistry at the University of Pennsylvania, Lerner earned his Ph.D. in Inorganic Chemistry at the University of California, Berkeley. He had postdoctoral positions at Northwestern University and the Lawrence Berkeley Laboratory.

WELCOME NEW SCIENCE LEADER

Mike Lerner

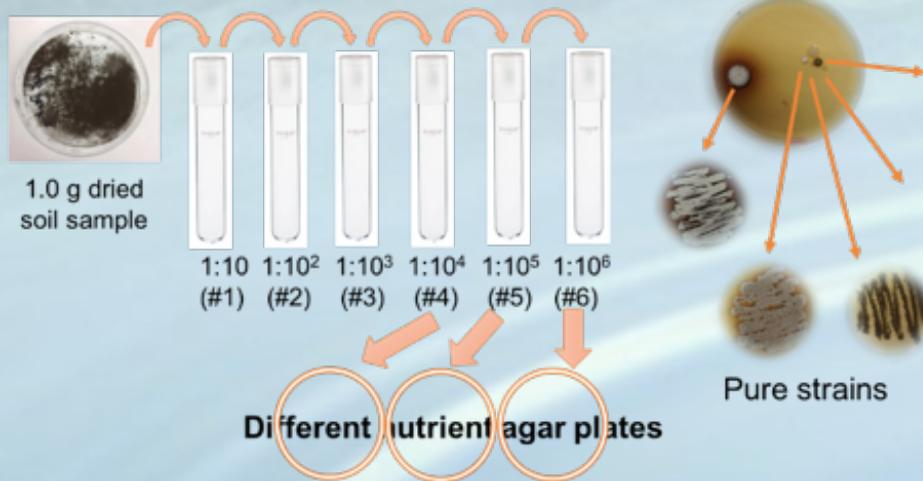
DRUGS FROM DIRT & OCEANS: NEWS FROM THE LOESGEN LAB

Microbes account for a large fraction of the diversity of life on earth, but are these microbes friend or foe? Although pathogenic microbes certainly cause their fair share of problems, other microbial species may hold the key to treating a wide range of human diseases. Many different microbes produce potent molecules that can be co-opted for use as drugs. In fact, ~25% of all clinically approved drugs and pharmaceuticals were derived from molecules first isolated from microbes. Several of these drugs have revolutionized how major diseases are treated, such as the antibiotic penicillin, the immune suppressant cyclosporine, the anti-tumor drug doxorubicin, and the cholesterol-lowering agent lovastatin.

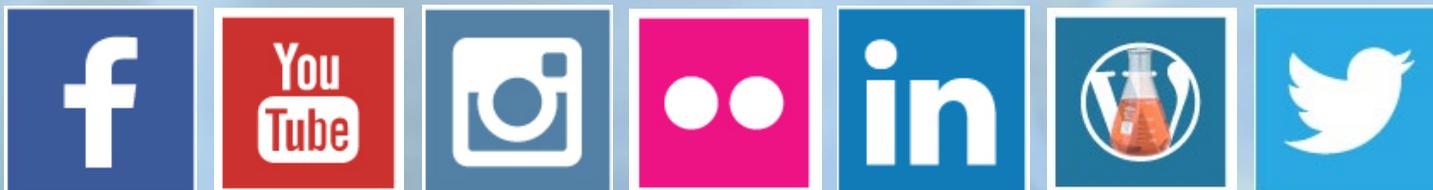


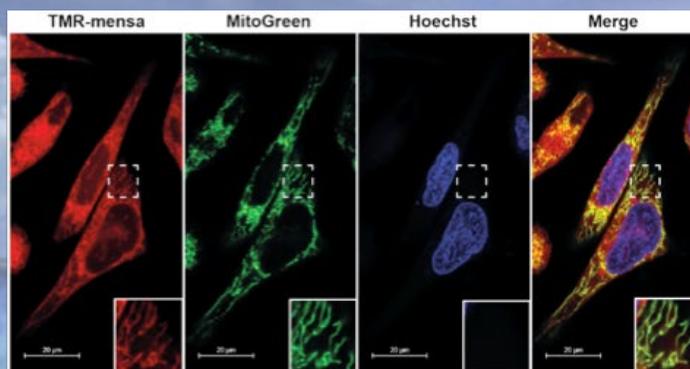
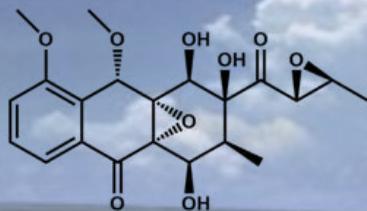
It turns out you don't necessarily have to go far to find interesting microbes. Our lab has isolated hundreds of different microbial strains from right here in Oregon. We've isolated microbes from the intertidal zone along the coast, the high desert east of the Cascades, and everywhere in between. These microbes produce a large number of complex chemical structures, and several of these molecules have unique antibiotic, antiviral, and anticancer activity.

For example, in an ongoing experiment, we examine soil bacteria from Bend, OR, and we continue to find surprising biodiversity and bioactivity from Oregonian soils.



Want to keep up with everything happening in the department? Check out our **social media!**





Numerous cytotoxic compounds and antibiotics have been identified. These include familiar microbial metabolites like chloramphenicol and bafilomycin, but we are also currently investigating several new metabolites.

Once a new active compound has been identified, the race is on to understand the mechanism of action. One particular soil bacterium kept us busy the last year, *Streptomyces bottropensis*, which produces the compound mensacarcin. Mensacarcin has potent anticancer activity, with selectivity against melanoma cells. In particular, mensacarcin shows potent universal anti-proliferative effects in all tested cancer cell lines in the NCI-60 cell line panel, but cytostasis is accompanied by fast progression into cell death in only a small number of cell lines, such as melanoma cells. Over the last year, our lab has examined how mensacarcin produces these effects. We found that when mensacarcin is chemically coupled

to a rhodamine dye to produce a fluorescent probe, this probe quickly localizes to mitochondria. Subsequent experiments revealed that mensacarcin rapidly alters mitochondrial pathways, resulting in mitochondrial dysfunction that activates caspase-dependent apoptotic pathways, ultimately killing melanoma cells. We are excited to continue to pursue this activity, which will surely keep us busy in 2018.

Our lab is also very interested in understanding how microbes regulate the production of small molecules. Recent studies have shown that microbes tightly control the production of secondary metabolites, depending on environmental conditions and other factors. This may be especially true for endophytic fungi, which are fungi that live within plants. In a recently published study, we used epigenetic modifying drugs to activate gene expression in the endophytic fungal strain *Chalara* sp. We found the histone deacetylase

inhibitor vorinostat (top left) is utilized by this fungus to synthesize two new molecules we named chalanine A (top right) and chalanine B. These molecules show promise as lead structures for cytotoxic compounds and antibiotics that are active against multi-drug resistant human pathogen *Staphylococcus aureus*.

Our lab continues to examine the diversity of chemical produced by Oregonian microbes, harness new gene activation and metabolomics methods to isolate new active compounds, and develop new methods for testing for bioactivity. As the saying goes "leave no stone unturned." So we'll keep turning over rocks, looking for the next new antimicrobial and the next class of anticancer drugs.

Last but not least, I would like to acknowledge that much of this work has been done by very talented OSU graduate and undergraduate students, supported by NSF and OSU funds.





Great scientists are

MADE

NOT BORN



**Oregon State
University**



UNDERGRADUATES OF THE QUARTER WINTER 2017



by: Connor Jenson
Alena Vasquez has been named the Winter 2017 Undergraduate of the Quarter and we couldn't be happier for her. Alena was born and raised in California until she was 18. She moved to Oregon because she said, she just "felt it was where she was meant to live."

She came to Oregon State University to study Veterinary Medicine. Upon matriculation, Alena discovered that she didn't really enjoy

biology, a major component for her degree program, but she loved Chemistry. Her first chemistry class, ECampus CH231, she took while living in Eugene; it allowed her to come to campus only once a week in order to do the lab. It was during this class that she developed a close bond with Instructor, **Margie Haak**.

It was Margie's advice that got Alena into research for the first time. Alena began working in **Rich Carter's** lab and within two weeks, she was loving every moment. She hopes to go on in the future and do something altruistic with her degree that can benefit and help others.

Students like Alena Vasquez are a huge part of what makes our Department so great. We wish her well in the future and hope she finds her altruistic path going forward.



by: Connor Jenson
Stephanie Marshall has been named the Winter 2017 Undergraduate of the Quarter and we couldn't be happier for her. Stephanie was born and raised in Sherwood Oregon, where she went to Sherwood High School; it was here that she discovered her love for teaching chemistry.

Although Stephanie has always been interested in science and teaching, during high school she had yet to determine if it would be the correct path for her. During sophomore year she had OSU alumnus **John McGinity** as her teacher. She explained that once he noticed her interest in science and teaching he took her under his wing, and guided her towards the tools she would need to make an informed decision about her professional future.

Even though both her mom and her mentor Mr. McGinity both graduated from OSU, Stephanie reported that it still took 4 visits to campus to decide this is the place she wanted to call home. The deciding factor was her visit to the education department. They

showed her a great program for her dual major, and she also discovered that the local schools where she could student teach at were also excellent.

Although she is an Undergraduate she has signed on as a T.A. for the CH12X series. She explained that it will be helpful for her teaching experiences as a high school teacher because, "I learned that high school students really like to push your buttons and college students it's even more." Even with the hardships of having many students testing their boundaries, she was still shocked to see how dedicated many of her students could be.

When asked about the future Stephanie revealed she hadn't completely decided her path yet. With her starting her first year of student teaching next year, Stephanie believes that it would be best to wait until after she gets advice from high school teachers before deciding her career path.

The time that Stephanie spends outside of Chemistry is usually

outdoors. "I like to be outside a lot; I love to hike, and with the nice weather I do a lot outdoors. I play beach volleyball which is a lot of fun, and do yoga when I'm not playing beach volleyball. It's just a lot of outdoor activities." She likes to go hiking in the gorge, explaining that she loved Blue Place because it was so awe-inspiring.

Students like Stephanie are a huge part of what makes our Department so great. We wish her well in student teaching and wherever else her path may take her next.



UNDERGRADUATES OF THE QUARTER SPRING 2017



by: Luanne Johnson

We are thrilled to announce that Matt Clark has been named one of the Spring 2017 Undergraduates of the Quarter. Although he plans to graduate by the end of this term, his experiences at Oregon State have left a lasting impact on him.

During Matt's undergraduate career at Oregon State, he has been a part of an integrative lab which has helped him define his career path. After joining **Michelle Dolgos'** lab during his sophomore year, he has been immersing himself with research dealing with lead free piezoelectric materials. After winning the URISC grant for his summer research and working with graduate students and Michelle, he is finally at the end of his project and is looking forward to a publication about his work.

However, even though it seems like he was destined to pursue Chemistry, that wasn't always the case for Matt. When he first came to OSU, he was majoring in Mechanical Engineering because he liked to build and be hands-on with his work. All of that changed once he started to become fascinated with

Chemistry and soon he switched his major to Chemistry with a Materials option.

Being a part of an integrated lab has helped Matt to gain a deeper understanding of concepts and he recommends other undergraduates to become a part of an integrated lab because it really increases the proficiency and understanding of the course. Some of Matt's favorite courses were the graduate courses, CH 513 and CH 616, he was able to take because he enjoyed the applied concepts and also really enjoyed both the instructors, Dr. **Subramanian** and Dr. Dolgos.

After he graduates, he is planning on pursuing one of the opportunities that have been offered to him in hopes of continuing to apply his knowledge in his field of work. He has been offered opportunities from all over the country such as California & Virginia just to name a few. He is excited to get into the industry and hopes to continue his path in working on leading us to a better world.

When Matt's not working long hours at the lab, he likes to unwind by watching one of his favorite classic movies, Star Wars: A New Hope. He enjoys watching the movie multiple times and fondly remembers the times when he watched it on VHS tapes.

Students like Matt Clark are a major part of what makes our Department so great! We wish him well for all of his future endeavors and cannot wait to hear about all of his accomplishments.

by: Connor Jenson

Savinda Aponso has been named one of the Spring 2017 Undergraduate of the Quarter and we couldn't be happier for him. He has spent most of his life in Corvallis and has been associated with Oregon State before he even decided where he wanted to go to college. This makes his pending graduation all the more bittersweet.

While Savinda was in high school he was part of ASE, the Apprenticeships in Science and Engineering, which during his junior year helped him get his first experience in a lab. He was selected to work in Dr. **Subramanian's** lab. Along with the scholarships he got from the school, his experiences in the lab helped him decide that OSU was his school of choice.

During his freshman year, he started working in Dr. **Koley's** lab. His work focuses on sensors that detect bacterial metabolites and the interactions bacteria have with dental composites. He was trying to see how the smart dental composites react to changes in the local pH environment and how they work to prevent secondary cavities.

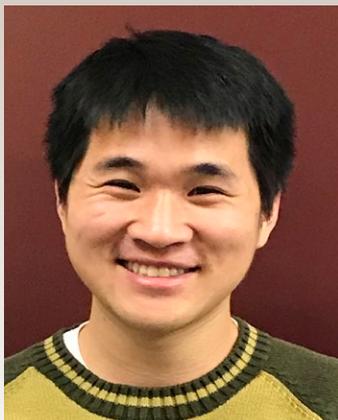
After he graduates at the end of this term, he is planning to apply to medical school and take a year off from school. During his year off he is hoping to finish his research projects for Dr. Koley and continue to be a researcher at least part-time. Savinda doesn't know exactly what he wants to study in medical school, but he is interested in hematology.

Savinda's favorite film is Monty Python and the Holy Grail. He loves to eat sushi since it is his favorite food. His ideal vacation would be traveling through Europe. His favorite class was the Experimental 460 labs that he worked with Dr. **Pastorek**.

Students like Savinda are a huge part of what makes our Department so great. We wish him well in the future, and cannot wait to see what his next big adventure is.



UNDERGRADUATES OF THE QUARTER FALL 2017



by: Jake Bigelow
Eaton Fong has been named one of the Fall 2017 Undergraduates of the Quarter and we couldn't be happier for him. Eaton is a Corvallis local and attended Crescent Valley High School. He has had lots of exposure to OSU before it was time to decide where to go to college. From Discovery Days

as a youngster to various science outreach events, including Saturday Academy, and building a robot with Legos. With the proximity to home and Oregon State University being such a good school, he chose to come here.

Eaton chose chemistry thanks in part to his high school chemistry teacher, OSU alumnus **Ryan Kanter**, who was very strict about the fundamentals of Chemistry. Eaton feels this gave him a really good foundation to build from. He knew he also wanted to follow his mother's footsteps into a science field, mainly because science is more about asking questions and finding an answer than just a day-in, day-out routine. He says it's a new excitement every day. He would like to dedicate this recognition to his late mother, **Anne Fong**.

He is currently doing research with Dr. **Douglas Keszler**

by: Connor Jensen

Amy Kutnerian has been named one of the Fall 2017 Undergraduates of the Quarter and we couldn't be happier for her. Amy grew up in Beaver Creek, Oregon, but moved to Silverton, Oregon when she was around the age of 11. She ended up taking online classes during high school which included Chemistry. In her freshman year, Amy took a physical science class that started to make chemistry a focal point.

The main reason Amy sought Oregon State University was the atmosphere and the gorgeous campus. In addition, she was very interested in the Forensic Science program.

Currently Amy is performing research in Dr. **Staci Simonich's** lab where she works on analyzing pesticide compounds in whale scat. The aim of her research is to find improved methods for analyzing the compounds in these samples. Amy is in the Honors College, which requires a thesis for her major, and while taking a chemistry class she

in the Center for Sustainable Materials Chemistry, where he's studied the crystal-glass transition of zirconium oxychloride and is currently looking for more efficient ways to make tin oxide thin films.

His favorite Chemistry class was Inorganic Chemistry, and he also really enjoyed our Integrated Labs. His favorite non-chemistry class was a Fundamentals of Toxicology course, since it gave some more context to compounds he already knew from chemistry.

When asked about the future, Eaton says he is still deciding exactly what to do next. He's been thinking about graduate school, though he may opt to go out into industry first and see the other side of the field. In academics, there's a lot of "what if we try something new?" whereas in industry, he envisions learning how to fix or optimize something that had been performed 50 times before. So, he's seriously contemplating a stint in industry before going on to a graduate program.

Outside of academics, Eaton likes to swim, play tennis, and work on his bicycle. He also sometimes likes to play Pokemon Go! His favorite movie is Hollywood Shuffle, and his favorite food is Chinese, which he's also been trying to learn to cook.

Students like Eaton are a huge part of what makes our Department so great. We wish him well in the future, and cannot wait to hear about his next big adventure!

heard Dr. Simonich give a presentation. When Amy felt ready to go into research in Winter 2016, she reached out to Dr. Simonich to see if she could work in her lab.

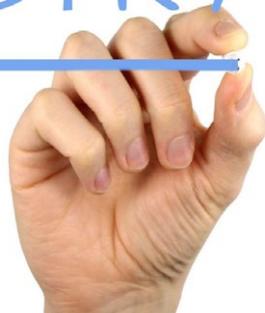
Although Amy does not believe she will be able to publish her results before graduating, since most of her efforts go to writing her thesis, she believes she has progressed far enough to submit a publication later. She is hoping to include more data in her thesis, but she is not sure if she will receive the samples in time.

Amy is not completely sure what she hopes to do post-graduation. She still hasn't giving up the idea of doing forensic



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CHEMISTRY



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science, but at the same time her research experience has piqued her interest in doing more work in that field. Her ideal for now would be to find a job that allows her to continue her current work. She's definitely decided to take at least a little time off from school, and will think about applying to graduate school later.

Students like Amy are a huge part of what makes our Department so great. We wish her well in the future, and cannot wait to hear about her next big adventure.

CHEMISTRY IS AWESOME: 4TH ANNUAL CIA PARTY HUGE SUCCESS

by: Luanne Johnson

The 4th Annual CIA (Chemistry is Awesome) Party was held Wednesday, June 7, 2017 in the Gilbert Hall/GBAD Breezeway. I, personally would like to say a huge thank you to the local Walmart Community Market for their generous grant to the CIA Party and an additional thank you to all the local businesses who donated items for our raffle and additional prizes.

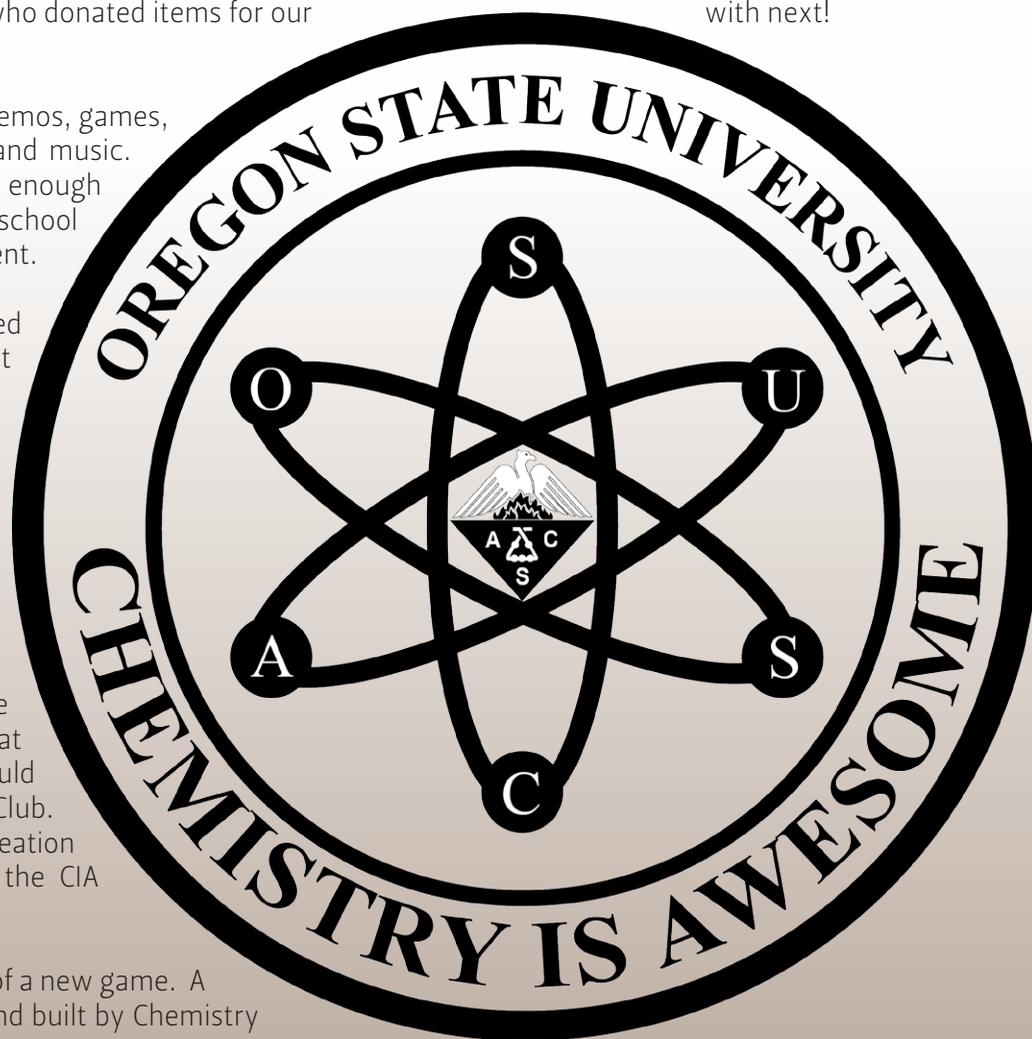
The event featured Chemistry demos, games, prizes, food, a poster session and music. This year, we were fortunate enough to even have a class of high school science students attend the event.

Some of the demos included samples of YInMn Blue, Elephant Toothpaste, Electromagnets and more. Students and visitors got to partake in liquid nitrogen ice cream demonstrations, nachos and games.

The 2017 CIA Party partnered with the Chemistry Club to put on a tie dye event. T-shirts were made available for purchase at the event that participants could tie dye with the Chemistry Club. This activity necessitated the creation of a combined logo between the CIA Party and the Chemistry Club.

This year also saw the addition of a new game. A ring toss game was designed and built by Chemistry

Department Student Workers using graduated cylinders. It was a big hit with our Chemistry Store Keeper who earned himself several dozen raffle tickets and took home some amazing prizes donated from our generous local businesses. We're hoping to add more games in the coming year, so stay tuned to hear what we come up with next!



HONOR ROLL STUDENTS:

Fall 2016

Albrecht, Amy
Aldous, Tanner
Anderson, Jordan
Ansari, Surfyan Ahmed,
Aponso, Savinda
Ash, Kaitlyn
Austin, Molly
Bahro, Christopher
Bali, Meghan
Bierman, Jeffrey
Bryant, Natalie
Coddington, Nathan
Conroy, Jocelyn
Day, Blake
Devine, Sarah
Ferguson, Janet
Fried, Zachary
Fuller, Duncan
Gonzales, Seth
Hanson, Erin
Hargrave, Haily
Hoag, Morgan
Hochstetler, Cory
Hoffman, Zachary
Humphreys, Hunter
Kim, Maya
Koga, Kenneth
La Jeunesse, Jesse
Lachance, Jon-Luke
Lafave, Derek
Lee-Rouille, Taylor
Lew, Cassandra
Lindermann, Makayla
Liu-May, Rachel
Malone, Alexandra
Marshall, Stephanie
Matlapudi, Susmitha
Moore, Kohlson
Naas, Kayla
Ocel, Duncan
Palmiter, James
Pina, Jasmine
Potter, Kristin
Rear, Henry
Renaud, Richard
Reynolds, Tyelor
Richards, Maxson
Rist, Benjamin
Ruark, Collin
Ryu, Jennifer
Sandwich, Jason
Simpson, Avery
Stout, Kenneth
Tully, Sara
Turner, Allison

Vergis, John
Walker, Mesa

Winter 2017

Albrecht, Amy M
Aldous, Tanner
Alghumiz, Nasser
Ansari, Sufyan
Aponso, Savinda
Ash, Kaitlyn
Austin, Molly
Bahro, Christopher
Berger, Rachel
Brown, Abby
Coddington, Nathan
Criss, Bonnie
Devine, Sarah
Ferguson, Janet
Fried, Zachary
Fuller, Duncan
Gallegos, Marissa
Garcia, Jeffrey
Gonzales, Seth
Haines, Michael
Hanson, Erin
Hoag, Morgan
Hoffman, Zachary
Huggins, Nicholas
Humphreys, Hunter
Koga, Kenneth
La Jeunesse, Jesse
Lew, Cassandra
Lindemann, Makayla
Liu-May, Rachel
Ly, Laikana
Marshall, Stephanie
Matlapudi, Susmitha
McKinnon, Rachel
Niesner, Benjamin
Ocel, Duncan
Palmiter, James
Potter, Kristin
Rear, Henry
Reynolds, Tyelor
Richards, Maxson
Rist, Benjamin
Ruark, Collin
Ryu, Jennifer
Simpson, Nathaniel
Steinhauer, Taylor
Stout, Kenneth
Tomlinson, Kiara
Vasquez, Alena
Vergis, John
Yu, Xinhui

Spring 2017

Albaqawi, Khalaf
Aldous, Tanner
Alghumiz, Nasser
Allen, Marshall
Ash, Kaitlyn
Austin, Molly
Bali, Megan
Berger, Rachel
Bierman, Jeffrey
Browne, Makenna
Chen, Anqi
Chen, Kathryn
Devine, Sarah
Fantoni, Costanza
Ferguson, Janet
Foster, Rebecca
Fried, Zachary
Gallagher, Trenton
Hall, Galen
Herbert, Joseph
Hoag, Morgan
Hochstetler, Cory
Hoffman, Zachary
Huffman, Lucy Su Xiao
Huggins, Nicholas
Humphreys, Hunter
Johnson, Joshua
Kincaid, Joseph
Koga, Kenneth
Liu-May, Rachel
Marshall, Stephanie
Matlapudi, Susmitha
McKinnon, Rachel
Qian, Eric
Rear, Henry
Renaud, Richard
Renken, Scott
Richards, Maxson
Ruark, Collin
Seevers, Travis
Simpson, Avery
Snyder, Nathaniel
Stout, Kenneth
Svadlenak, Scott
Swope, Gabrielle
Taylor, Calico
Teadtke, Lillian
Tomlinson, Kiara
Tran, Hung
Vasquez, Alena
Vergis, John
Vong, Leif
Walls, William
Yang, Jasmin Shaolee
Yu, Xinhui

DEPARTMENTAL HONORS & AWARDS

David Ji was promoted to Associate Professor with indefinite tenure

Daniel Myles was promoted to Senior Instructor II

Michael Burand and **Jeff Gautschi** were promoted to Senior Instructor I

Daniel Myles was named Phi Beta Kappa's Inaugural Best University Instructor

YInMn Blue was huge in the news for most of the year and Crayola has named a new crayon, Bluetiful in honor of the pigment

Rick Nafshun named Oregon Academy of Science Outstanding Educator

Staci Simonich has been named Associate Vice President of Research

Ken Hedberg received the inaugural Lifetime Achievement in Science Award

Michelle Dolgos was elected to the SNS/HFIR User Group (SHUG) Executive Committee at Oak Ridge National Lab

Chong Fang was awarded the OSU Promising Scholar Award

Doug Keszler received the 2017 ACS Award in the Chemistry of Materials

Peter B Culter Memorial Scholarship winners were: **Blake Day, Ryan Lopez,**

Conner Rivers & Aya Samhan

Carroll DeKock Scholarship winner was **Avery Simpson**

Linda May Oleson Scholarship for Excellence was awarded to **Nathan Coddington & Lucy Huffman**

Colleen Spurgeon Scholarship recipients were **Lucy Huffman & Colin Muniz**

ACS-Hach Teaching Scholarships awarded to **Nicholas Huggins, Taylor Lee-Rouille & Kiara Tomlinson**

Keith McKennon Undergraduate Research Scholarship awarded to **James Palmiter, Eric Qian & Kenneth Stout**

James D Ingle Chemistry Scholarship recipient was **Alena Vasquez**

CRC awardees were **Nicholas Gadinis & Tyelor Reynolds**

PLU Award recipient was **Henry Rear**

Top Physical Chemistry Awardee was **Jason Sandwisch**

Top Analytical Chemistry Awardee was **Savinda Aponso**

ACS Inorganic Chemistry Award Recipient was **Jason Sandwisch**

ACS Organic Chemistry Award winner was **Cassandra Lew**

AICHe Award winner was **Cassandra Lew**

Hypercube Scholar was **Lucy Huffman**

Merck Awardee was **Alexander Zuk**

WIC Culture of Writing awardee was **Christopher Bahro**

NL Tartar summer Research Project winners were **Donovan Adpressa, Paige Mandelare, Daniel McCauley-Walden, George Neuhaus & Andrew Oswald**

Milton Harris Summer Fellowship winners were **Gayan Bandara, Xin Li, Yi Lu, Lulu Zhang, & Taylor Krueger**

Dorothy & Ramon Barnes Graduate Fellowship recipients were **Charles Culbertson, Zhifei Li, Partha Sheet & Hanyang Zhang**

Bruce Graham Memorial Scholarship winner was **Karoly Kazma**

Ingram Award winner was **Rachelle Smith**

Benedict Awardee was **Alexander Bruekner**

Shoemaker Fellowship was awarded to **Lixia Zhou**

Milton Harris Faculty Teaching Award went to **Sandra Loesgen**

Milton Harris Teaching Assistant Awards were presented to **Andrew Oswald, Ankhan Ghosh & Bella Giampaoli**

James H Krueger Faculty Teaching Award recipient was **Jeff Gautschi**

Staff Service Awards were presented to **Paula Christie & Sarah Burton**

Doug Keszler, Judy Giordan & Rich Carter were recipients of the ACS P3 Award

The Alchemists (Departmental Summer Men's Softball Team) brought home the Championship Trophy.



CHEMISTRY CLASS OF 2017

Khalaf Albaqawi, BS (Mat Sci)
Jason Anderson, BS (Mat Sci)
Savinda Aponso, HBS (Adv BioCh)
Leo Asberry, BS (ChEng)
Christopher Barro, BS (Adv CH)
Jimmy Beaty, BS (Adv CH)
Kanitpong Boonma, BS (ChEng)
Matthew Clark, BS (Mat Sci)
Sergiu Corporan, BS (Adv CH)
Dena Crawford, BS (Pre-Med)
Bonnie Criss, BS (For Sci)
Nicholas Diaz-Hui, BS (Pre-Med)
Andrea Domen, BS (Pre-Med)
David Encke, BS (Adv CH)
Janet Ferguson, BS (Pre-Med)
Eduardo Gutierrez, BS (Mat Sci)
Erin Hanson, BS (Pre-Med)
Michael Jagielski, BS (BioCH/Pre-Med)
Thomas Ketsdever, BS (Adv CH)
Jon-Luke Lachance, BS (BioCH)
Darek Lafave, BS (Pre-Med)
Kooi Lau, BS (ChEng)
Joshua Leories, BS (ChEng)
Cassandra Lew, BS (Adv CH)

Michael Litwin, BS (Bus)
Sarah Lund, BS (For Sci)
Trevor Lusk, BS (Adv CH)
Nichole Maestretti, BS (For Sci)
Alexandra Malone, BS (ChEng)
Joshua Marsh, BS (ChEng)
Aaron Morrison, BS (Bus)
Josh Murane, BS (Pre-Med)
Kayla Naas, BS (Adv CH)
John Ozcelik, BS (Pre-Med)
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