The Blue Ridge Chemist

The Blue Ridge Chemist, since 1947 the
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Virginia Blue Ridge Section, American Chemical Society

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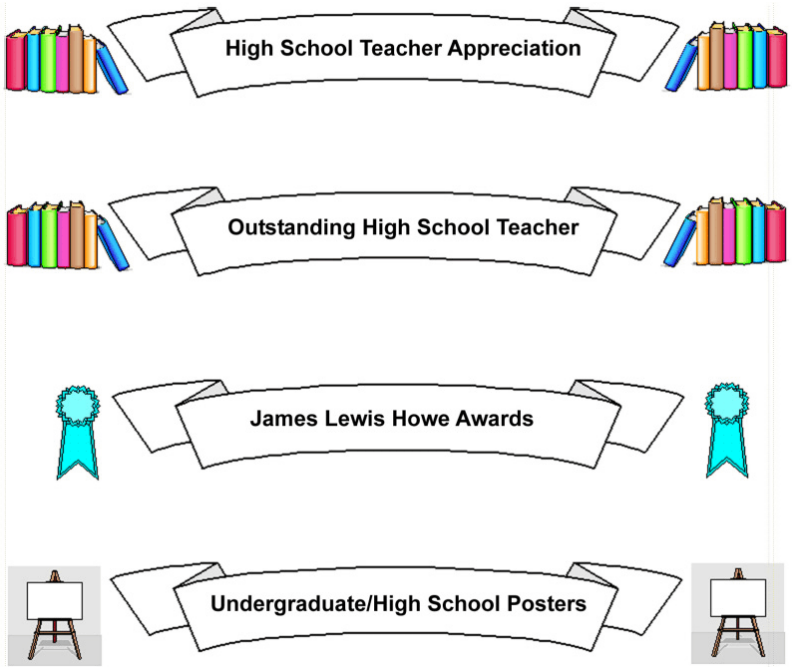


Radford University hosts the April Meeting

VIRGINIA BLUE RIDGE SECTION AMERICAN CHEMICAL SOCIETY

663rd SECTION MEETING
Hosted by Radford University
Wednesday, April 16, 2014

PROGRAM:

5:30-6:30 **Social hour/poster session (Muse Banquet Hall)**
6:30-7:45 **Dinner & Awards (Muse Banquet Hall)**
8:00-9:00 **Talk (Hurlburt Auditorium)**

The speaker will be Sam Kean. The buffet dinner will have an Asian theme – Szechwan chicken stir fry, beef and broccoli, egg drop soup, egg rolls, vegetable fried rice, lo Mein noodles, Asian slaw, fortune cookies, sticky rolls, hot mustard, chili sauce, soy sauce, iced tea, and water. Special diets can be accommodated by mentioning it when the reservations are made.

Cost for the dinner is $14.00, with students and retired ACS members being half price. Poster presenters receive a free meal. High school teachers are guests of the section with a complementary meal for themselves and a companion. Reservations for the dinner must be made by WEDNESDAY, APRIL 9, SEVEN DAYS before the meeting, by phoning Chris Hermann at 540-831-5413, or by email to chermann@radford.edu.

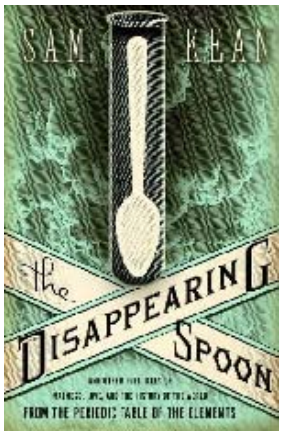
Sam Kean
Science Writer

Officical: Sam Kean spent years collecting mercury from broken thermometers as a kid, and now he's a writer in Washington, D.C. His stories have appeared in *The New York Times Magazine*, *Mental Floss*, *Slate*, *Psychology Today*, and *The New Scientist*, among other places, and his work has been featured on "Radiolab" and NPR's "All Things Considered," among other shows. Both his books, *The Disappearing Spoon* and *The Violinist's Thumb*, were national bestsellers, and both were named as an Amazon "Top 5″ science books of the year. *The Disappearing Spoon* was nominated by the Royal Society for one of the top science books of 2010, while *The Violinist's Thumb* was a finalist for PEN's literary science writing award.

Unofficial: Sam Kean gets called Sean once a month. He grew up in South Dakota, which means more to him than it probably should. He's a fast reader but a very slow eater. He went to college in Minnesota and studied physics and English. He taught for a few years at an experimental charter school in St. Paul, where the kids showed up at night. After that, he tried to move to Spain (it didn't take) and ended up in Washington, D.C. He has a master's degree in library science he will probably never use. He wishes he had a sports team he was passionate about, but doesn't, though he does love track & field.

(Both taken from his page at Amazon.com)

The Disappearing Spoon



Why did Gandhi hate iodine (I, 53)? Why did the Japanese kill Godzilla with missiles made of cadmium (Cd, 48)? How did radium (Ra, 88) nearly ruin Marie Curie's reputation? And why did tellurium (Te, 52) lead to the most bizarre gold rush in history?

The Periodic Table is one of our crowning scientific achievements, but it's also a treasure trove of passion, adventure, betrayal, and obsession. The fascinating tales in The Disappearing Spoon follow carbon, neon, silicon, gold, and every single element on the table as they play out their parts in human history, finance, mythology, conflict, the arts, medicine, and the lives of the (frequently) mad scientists who discovered them.

Why did a little lithium (Li, 3) help cure poet Robert Lowell of his madness? And how did Gallium (Ga, 31) become the go-to element for laboratory pranksters? The Disappearing Spoon has the answers, fusing science with the classic lore of invention, investigation, discovery, and alchemy, from the Big Bang through the end of time.

James Lewis Howe Awardees

We are again pleased to be able to honor the outstanding students who are majoring in an area of chemistry in the Colleges and Universities in the Virginia Blue Ridge Local Section. These students are listed below.

Casey Hazlewood
Concord University–Chemistry

HOMETOWN: Princeton, WV
ANTICIPATED DEGREE: B.S. in Pre-professional Chemistry, May 2014

AWARDS, HONORS, AND MEMBERSHIPS: American Chemical Society, Alpha Chi National Honor Society, Gamma Beta Phi National Honor Society, Sigma Zeta National Honor Society, Blue Key National Honor Society

Sara Parker Puckett
Ferrum College–Chemistry, Biology, and Pre-professional science

HOMETOWN: Bassett, VA

ANTICIPATED DEGREE**:** B.S. Biology and Pre-Professional Sciences, B. A. Chemistry and Spanish, May 2014

AWARDS, HONORS, AND MEMBERSHIPS: Dean's List, Women's Leadership Award of Ferrum College, Who's Who Among Students, Most Outstanding Spanish Student of Ferrum College, Tri Beta Biological Honor Society, Alpha Chi National Honor Society, Alpha Mu Gamma National Foreign Language Honor Society, -American Chemical Society, Vice President of Rotaract Club of Ferrum College

Elizabeth Cheng
Hollins University–Chemistry

HOMETOWN: Virginia Beach, VA

ANTICIPATED DEGREE: B.S. in Chemistry with a concentration in Biochemistry, May 2014

AWARDS, HONORS: Undergraduate Award in Analytical Chemistry - received from the American Chemical Society, Judith Gregory Smith Award, Women's Collegiate Golf All-American Scholar, WGCA Division III Second All-American Team, ODAC Player of the Year, ODAC/Farm Bureau Insurance Scholar-Athlete, Hollins Sportswomen of the Year, WGCA All-East Region Team, Hollins Scholar, All-ODAC first team, VaSID Academic All-State Honors, Honor Student

Marissa Estep
Liberty University–Biochemistry & Molecular Biology and Mathematics

HOMETOWN: Berryville, VA

ANTICIPATED DEGREE: B.S. in Biochemistry & Molecular Biology and Mathematics, May 2014

AWARDS, HONORS, AND MEMBERSHIPS: Promising Student – Biochemistry & Molecular Biology, Dean's List, Virginia Academy of Sciences Undergraduate Research Grant, National Merit Scholar, Honors Program, Virginia Academy of Sciences, American Chemical Society

Karen Butler
Lynchburg College–Chemistry

HOMETOWN: Madison Heights, Va

ANTICIPATED DEGREE: B.S. in Chemistry; May 2014

AWARDS, HONORS, AND MEMBERSHIPS: Student Scholar Showcase, Dean's Award, Dean's List, American Chemical Society, Iota Sigma Pi, Phi Kappa Phi, Omicron Delta Kappa, Phi Eta Sigma

John "Dennis" Godward
Radford University–Chemistry

HOMETOWN: Thaxton, VA

ANTICIPATED DEGREE: B.S. in Chemistry, May 2014

AWARDS, HONORS, AND MEMBERSHIPS: Grand Champion Award for interdisciplinary research, Sigma Xi Graduate and Undergraduate Poster Colloquium, George Mason University; 2013 P3 Award Winner: EPA P3: People, Prosperity and the Planet Student Design Competition for Sustainability,Dean's List, Sigma Xi

Rose Kohinke
Roanoke College–Chemistry

HOMETOWN: Salem, Virginia

ANTICIPATED DEGREE: B.S. in Chemistry, May 2014

Katlyn A. Fleming
Sweet Briar College–Biochemistry and Molecular Biology

HOMETOWN: Enfield, CT

ANTICIPATED DEGREE: B.S. in Biochemistry and Molecular Biology, May, 2014

AWARDS, HONORS, AND MEMBERSHIPS: Pannell Scholars Research Grant, Old Dominion Athletic Conference Scholar Athlete, Who's Who Among American Colleges and Universities, Virginia Foundation of Independent Colleges Undergraduate Research Scholarship, Iota Sigma Pi, Eta Sigma Phi

Matthew Nguyen
Virginia Tech – Biochemistry

HOMETOWN: Lorton, VA

ANTICIPATED DEGREE: B.S. in Biochemistry, May 2014

AWARDS, HONORS, AND MEMBERSHIPS: Frank and Sarah McKnight Prize in Chemistry (Semi-finalist), University of Texas Southwestern Medical Center, Amgen Fellowship Writing Competition (Honorable Mention) Washington University in St. Louis, William B. Downey Scholarship, Arthur G. Meakin Scholarship, 2nd Place for Best Poster at the Virginia Tech Department of Chemistry at the Undergraduate Research Symposium, ABRCMS Presentation Award in Chemistry, Sigma Xi Associate Membership, Phi Beta Kappa, Phi Kappa Phi, American Chemical Society

Philip J. Pryor
Virginia Military Institute–Chemistry

HOMETOWN: Staunton, VA

ANTICIPATED DEGREE: B.S. in chemistry, May 2014

AWARDS, HONORS, AND MEMBERSHIPS: Biochemistry Award, Dean's List for outstanding academic merit for six semesters, Gamma Sigma Epsilon

Christine (Christy) Mays
Virginia Tech – Chemical Engineering

HOMETOWN: Allentown, PA
ANTICIPATED DEGREE: B.S. in Chemical Engineering, May 2014

AWARDS & HONORS, Dean's List with Distinction, Dean's Engineering Scholarship (Pratt Engineering Scholarship), University Honors Housing Scholarship, Chemical Engineering Departmental Scholarships, Maxine Shelly Turner Memorial Scholarship, University Honors Academic Merit Scholarship, Unit Operations Laboratory Study Abroad (Technical University of Denmark) Award, GE Bronze Award, Eastman Award for Excellence in Chemical Engineering, Intel Instant Recognition Awards, Outstanding 1st Year Engineering Student, Noblis Instant Recognition Award, University Honors Strong Start, Society of Women Engineers ScholarshipEngineers

Greg Veber
Virginia Tech – Chemistry

HOMETOWN: Great Bridge, Chesapeake

ANTICIPATED DEGREE: B.S. in Chemistry, May 2014

AWARDS, HONORS, AND MEMBERSHIPS: Academic Merit-Based Scholarship, DC & DE Grant Scholarship, Undergraduate Research Scholarship Chem. Dept, Chemistry Friends Scholarship, John William May '42 Memorial Scholarship, Dr. Roy H. Bible Jr. '48 Memorial Scholarship, Harry B. Gilbert Merit Scholarship, Dean's List, Published in the 2012 Edition of the Virginia Tech Freshmen English textbook for a group project on tutorial writing, American Chemical Society.

Kathryn E. Driest
Washington and Lee University – Biochemistry

HOMETOWN: Davidson, NC

ANTICIPATED DEGREE: B.S. in Biochemistry, May 2014

AWARDS, HONORS, AND MEMBERSHIPS: Johnson Scholarship, Howard Hughes Medical Institute Research Fellowship, The First-year Chemistry Achievement Award, The James Keith Shillington Scholarship, Barry M. Goldwater Scholarship, Dana's Angels Research Trust Fellowship, Phi Eta Sigma, Omicron Delta Kappa, Phi Beta Kappa, Beta Beta Beta, American Chemical Society, American Society for Biochemistry and Molecular Biology - Undergraduate Chapter President (2012-2014)

Dr. James Lewis Howe
1859-1955

James Lewis Howe was for many years Professor of Chemistry and Head of the Department at Washington and Lee University. As one of the most distinguished chemists in the Blue Ridge Section, we have chosen to name our annual awards to outstanding students in his memory.

Dr. Howe was born in Newburyport, Massachusetts in 1859; this is the same year in which Svante Arrhenius was born, and during Dr. Howe's professional career he was to know many of the famous early chemists, such as Liebig, Wohler, Bunsen, and many others. He attended Amherst College, where he pursued his favorite subjects of chemistry, German, and religion. He was selected to deliver the graduation address on the subject of "The Scientific Method and Religion".

He earned his M.S. and Ph.D. degrees at the University of Gottingen, and published his first scientific papers on the subject of aromatic carbon chemistry. He then began an intensive literature search of the platinum metals, beginning a bibliography for which he was to become world famous. He decided that the most interesting and least known metal of the group was ruthenium.

In 1883 he married Henrietta Leavenworth Marvine of Scranton, Pennsylvania. This marked the beginning of a marriage of 60 years duration. The Howes became the parents of two daughters and a son (who was also a chemist). After Mrs. Howe's death in 1944, one of his daughters, Guendolen Howe, became her father's constant companion.

Dr. Howe's teaching career began at Brooks Military Academy in Cleveland, Ohio. From there he went to Central University in Richmond, Kentucky, where he was Professor of Chemistry (and later Physics and Geology as well). In 1894 he accepted the Chair of Chemistry at Washington and Lee University, and for almost half a century he was at that institution.

It was here that he began his intensive bibliographic study of the platinum group and his outstanding research on the element ruthenium. In 1917 he was appointed chairman of a special subcommittee on platinum of the National Research Council. His work led to the development of platinum alloys, and averted a potentially crucial shortage in platinum, threatening our efforts during World War I. He later received several presidential commissions dealing with the platinum metals.

Dr. Howe was beloved by his students and colleagues at W&L. For the first fifteen years he was a one person department. His lectures were informal, but completely up to date. He was known for his extreme congeniality, charming personality, mild manner, and even temper. He was unceasingly helpful, and believed that more could be learned in the laboratory than from lectures.

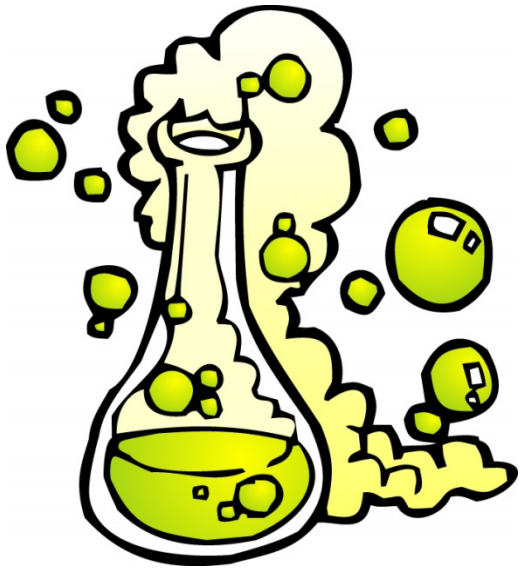
Dr. Howe's unflagging energy found him serving in many capacities outside the scientific field. He was an Elder of the Lexington Presbyterian Church, an active Mason, and held positions in the Town Council in Lexington and the People's National Bank of Lexington.

Science Fair Awards

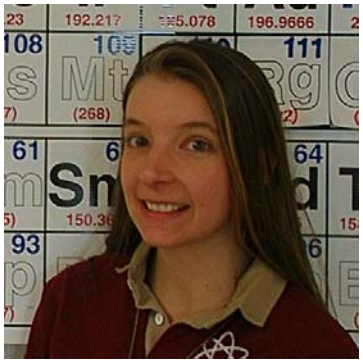
Each year the Virginia Blue Ridge Section awards a gift certificate to the project selected as the best overall chemistry project at science fairs in its boundaries. This year's winners are listed below.

Blue Ridge Highlands Regional Science Fair

Brittney Worrell
Effects of Petroleum Diesel and Biodiesel on Polymer Engine Parts
Southwest Virginia Governor's School
Adult Sponsor: Krista Stith



Outstanding High School Teacher Awardee



Melissa Carr

William Byrd High School

Melissa is a Roanoke native and has been working at William Byrd High School in Vinton, Va since 2006. She teaches Chemistry, Pre-AP Chemistry, and AP Chemistry. She interned at Patrick Henry High School, the high school she attended and student taught at Hidden Valley High School both in Roanoke.

While attending Roanoke College for Chemistry and Education, she realized a passion for music as well as science. She auditioned and joined the Roanoke College Choir and the Mainstreet Acapella choir, as well as served as president of the Mu Beta Psi music fraternity her senior year.

Her favorite part of her job is getting students excited about seeing chemistry in action through demos, labs, or even their personal science fair projects. She loves getting into the in-depth details in AP Chemistry. She said, "Explaining college-level concepts in the high school classroom is very rewarding for me. I get to see my students leave my classroom with an expansive knowledge that they will take with them to their first year of college Chemistry. Many of my students even write or visit to tell me how EASY Chemistry is because of my AP Chemistry class."

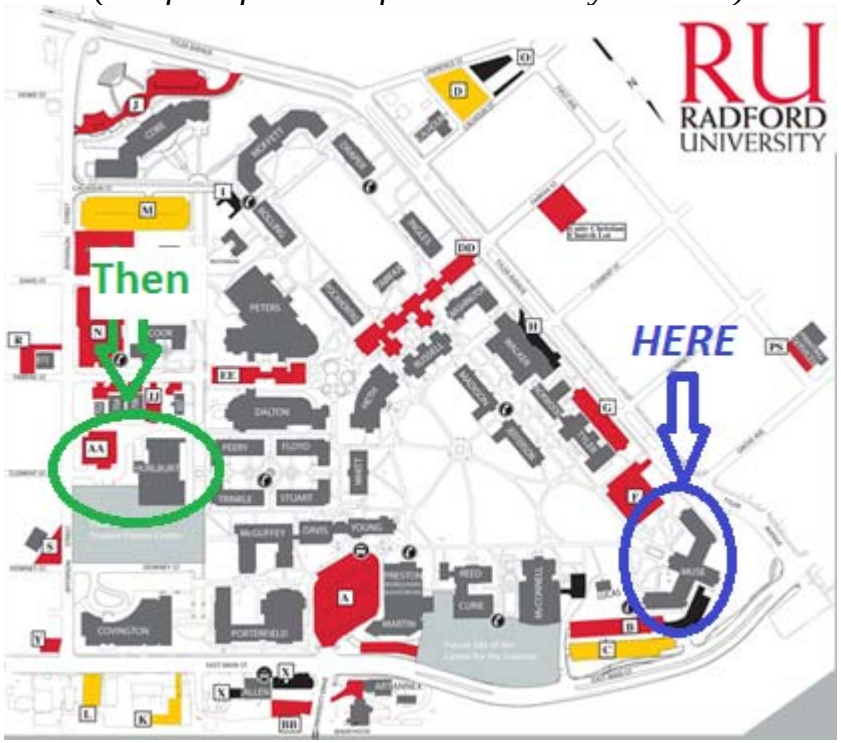
Melissa was even recognized at RIT(Rochester Institute of Technology) in New York last year by a previous student who was graduating early in Engineering. Also last year, a current student in her AP class nominated her for the Golden Apple Teaching Excellence Award from the Roanoke County Education Foundation and she won.

Directions to Radford University

Directions: Take I-81 to exit 109 and follow Route 177 (Tyler Ave) to Main Street. Dinner is in The Muse Banquet Hall in the basement; the talk is in Hurlburt. CAUTION: Parking permits are required before 6:00. Parking passes will be sent when dinner reservations and poster submissions are made.

Map of Radford University

(Adapted from Radford University Website)



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Return Service Requested

The details of the May meeting, which will be a tour, will be in the next issue of the Blue Ridge Chemist.