

A Zombie Apocalypse?



INSIDE THIS REPORT

2014 SECTION CHAIRS ANNOUNCED & BUDGET PROPOSAL

NCW POSTER CONTEST AT CBC

ZYC3 CONFERENCE & 2014 CHEMISTRY OLYMPIAD

12th Annual Girls In Science

ACS outreach through EOU

National Chemistry Week (NCW) celebrations in La Grande started with our famous Girls in Science event which was held on the campus of Eastern Oregon University (EOU) on Saturday, October 19, 2013. A total of 110 girls in grades 6 through 8 from the eastern counties of Oregon and southern Washington engaged in an investigation aimed at discovering what had turned a famous anthropologist into a “zombie” upon returning from a trip in the Caribbean islands.

Girls investigated whether the “zombie” symptoms could be due to high alcohol content in blood, the nature of a mysterious powder he was seen carrying around and whether he had DNA. Girls also learned about the effect of neurotoxins on the nervous system, recorded EEGs, and learned how to decode secret messages. Each participant received a t-shirt, lunch and NCW giveaways sponsored by the Richland Section. The Section also contributed \$500 to cover part of the expenses.

The event was a great success and involved over 50 volunteers including students and faculty from chemistry, biology, neuroscience, math and computer science departments at EOU. The Northeast Oregon Area Health Education Center played a major role in assisting with registration and logistics.

Girls in Science testing a mysterious powder.



VOTE ON THE RICHLAND SECTION 2014 BUDGET

The proposed 2014 budget is shown in the following table. The Section Board believes this budget reflects the encouragement and advancement of chemistry in the broadest manner possible, the increase and dissemination of knowledge, the promotion of scientific interests and inquiry, the stimulation of professional interests, the fostering of chemistry literacy in the community, and education of its members. The budget is submitted to the membership at this time for consideration, and will be voted on by the membership.

	2012 Proposed	2012 Actual	2013 Proposed	2013 Actual	2014 Proposed
REVENUES					
(1) Annual ACS Allotment	\$8,175	\$8,175.00	\$8,397.00	\$8,397.00	\$8,126.89
(2) New member commissions	\$0	\$150.00	\$0.00	\$0.00	\$0.00
(3a) Donations, contributions	\$0	\$0.00	\$0.00	\$0.00	\$0.00
b) Requests and/or trusts	\$0	\$0.00	\$0.00	\$0.00	\$0.00
(4a) Rebate from ACS for Councilor travel expenses	\$2,110	\$2,110.00	\$2,110.00	\$1,078.00	\$2,100.00
b) Rebate from ACS for leadership conference	\$300	\$300.00	\$300.00	\$0.00	\$300.00
(5a) Program revenue (includes newsletters, short courses, lecture series, national or regional meetings, etc.)	\$0	\$0.00	\$0.00	\$15.00	\$0.00
b) Leadership Development System	\$0	\$0.00	\$0.00	\$0.00	\$1,800.00
(6) Local section dues, affiliate dues	\$1,600	\$1,627.00	\$1,600.00	\$746.00	\$1,500.00
(7) Interest, dividends	\$0	\$0.00	\$0.00	\$0.00	\$0.00
a) Checking interest (Banner)	\$0	\$4.43	\$0.00	\$1.99	\$0.00
b) Savings interest (Banner)	\$0	\$73.34	\$0.00	\$43.81	\$0.00
c) ACS Investment Pool	\$0	\$0.00	\$0.00	\$0.00	\$0.00
(8) Special events and activities	\$0	\$0.00	\$0.00	\$300.00	\$0.00
(9) Meals (include total meals in revenue)	\$0	\$0.00	\$0.00	\$0.00	\$0.00
(10) Other revenue (describe and itemize)	\$0	\$0.00	\$0.00	\$0.00	\$0.00
a) Reserved funds (Science cafes)*	\$0	\$0.00	\$0.00	\$0.00	\$0.00
Science cafes (New Grant)	\$678	\$345.65	\$332.35	\$0.00	\$300.00
b) Reserved Funds (student support ACS meetings)*	\$0	\$0.00	\$0.00	\$0.00	\$0.00
c) Reserved Funds (Leadership Development System, 2010 carryover)	\$3,000	\$2,457.96	\$0.00	\$0.00	\$0.00
d) Reserved Funds (Career Fair grant)	\$250	\$159.72	\$0.00	\$0.00	\$0.00
e) Reserved Funds (Earth day)	\$100	\$100.00	\$0.00	\$0.00	\$0.00
f) URS Corporation (Nuclear science merit badge)*	\$500	\$500.00	\$500.00	\$500.00	\$500.00
g) ACS and You nano-grant (bridge gaps)*	\$0	\$250.00	\$82.43	\$82.43	\$82.43
(11) TOTAL REVENUES	\$16,713	\$16,253.10	13321.78	\$11,164.23	\$14,709.32
EXPENSES					
(12) Subsidies to subsections, topical groups, or affiliate groups				\$0.00	\$0.00
a) Travel subsidies for ACS student members	\$0	\$0.00	\$0.00	\$0.00	\$0.00
b) 2-year colleges	\$0	\$0.00	\$0.00	\$0.00	\$0.00
(13) Awards, scholarships, grants, etc.	\$0	\$0.00	\$0.00	\$0.00	\$0.00
a) Travel awards for ACS student members	\$1,500	\$1,500.00	\$2,500.00	\$2,650.00	\$2,800.00
b) HS Teacher Grants	\$0	\$0.00	\$0.00	\$0.00	\$0.00
c) Outstanding Teacher Award	\$0	\$0.00	\$50.00	\$0.00	\$50.00
d) General Awards	\$75	\$0.00	\$150.00	\$228.95	\$200.00
(14) Administrative expenses (including postage, printing, and shipping)	\$200	\$200.00	\$200.00	\$230.00	\$200.00
(15) Printing, publications, newsletters, meeting announcements, postage					
a) Newsletter	\$1,200	\$1,271.68	\$1,300.00	\$1,212.98	\$1,300.00
b) Public relations	\$400	\$0.00	\$400.00		\$400.00
c) Web update	\$0	\$0.00	\$0.00	\$0.00	\$0.00
(16) Local Meetings (include speakers' expenses)					
a) Speakers	\$400	\$400.00	\$400.00	\$0.00	\$400.00
b) ACS Picnic	\$300	\$221.46	\$300.00	\$317.89	\$350.00
c) ACS Annual social	\$350	\$270.90	\$600.00	\$626.19	\$750.00
d) Post-NORM celebration	\$0	\$0.00	\$0.00	\$0.00	\$0.00
e) Science Cafes	\$678	\$345.65	\$600.00	\$830.00	\$600.00
Leadership Development System	\$3,000	\$2,457.96	\$0.00	\$0.00	\$0.00
(17) Meals	\$0	\$0.00	\$0.00	\$0.00	\$0.00
a) Arrangements	\$0	\$0.00	\$0.00	\$0.00	\$0.00
(18) Travel subsidies to Councilors	\$4,000	\$4,345.77	\$4,500.00	\$4,583.19	\$4,750.00
(19) Travel subsidy and fee for Local Section Leadership Conference	\$2,076	\$2,076.60	\$900.00	\$461.60	\$500.00
(20) Other expenses (describe and itemize)					
a) Regional Meeting (NORM) CC Event	\$0	\$0.00	\$0.00	\$0.00	\$0.00
b) TCTC Dues	\$0	\$0.00	\$0.00	\$0.00	\$0.00
c) NCW, K-12 outreach	\$500	\$281.80	\$500.00	\$254.54	\$500.00
d) Olympiad	\$200	\$163.75	\$250.00	\$113.75	\$250.00
e) Science Fair and award	\$400	\$400.00	\$400.00	\$400.00	\$400.00
f) HS Teacher Endowment Fund	\$0	\$0.00	\$0.00	\$0.00	\$0.00
g) Mini-Symposium	\$0	\$0.00	\$0.00	\$0.00	\$1,000.00
h) Diversity Affairs Committee	\$500	\$500.00	\$600.00	\$500.00	\$600.00
i) Boy Scouts Nuclear Science Merit Badge	\$550	\$50.00	\$550.00	\$50.00	\$575.00
j) Earth Day	\$250	\$200.00	\$250.00	\$216.56	\$250.00
k) Project SEED	\$900	\$900.00	\$900.00	\$900.00	\$1,400.00
l) IYC Events	\$0	\$762.00	\$0.00	\$0.00	\$0.00
m) Other expenses (ANS-Dec meeting)	\$0	\$25.72	\$50.00	\$8.96	\$50.00
n) career fair		\$159.52		\$0.00	\$0.00
o) Acs and you (nano grant-bridge the gap)		\$167.57		\$0.00	\$82.43
(21) TOTAL EXPENSES	\$17,479	\$16,700.38	15400	\$13,584.61	\$17,407.43
(22) EXCESS (DEFICIT)	(\$766)	(\$447.28)	-2078.22	-2420.38	-2698.11

* Reserved fund is not new revenue, but monies at hand committed for these activities

2014 OFFICERS

Meet your newly elected ACS Richland Section officers and Committee Chairs. They are volunteering their time and talents to help make this section the best it can be. Please help them in any way you can by volunteering your ideas and time (a little or a lot) to help our events succeed. Many thanks to our outgoing officers Frannie Smith (2013 Chair) and Dave Heldebrant (Past Chair).



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BUDGET VOTE 3/6

WESTERN SINTERING TOUR REVIEW

ACS members finally got to peek around the curtain of Western Sintering during National Chemistry Week! On Thursday, October 24, 2013, twenty-three Richland section members toured the Western Sintering Company located at 2620 Stevens Drive in Richland, WA. The company has its roots beginning with the “Manhattan Project”. Its founder, John Rector, arrived from Illinois when DuPont sent him to the Eastern Washington desert where he worked on designing the process to sinter aluminum-boron, which was control-rod material for the historic B Reactor.

Sintering is best described as the synthetic manufacture of solid products by using controlled heating of powdered raw materials. The Richland facility specializes in providing highly engineered parts from powdered metallurgy materials. Company representatives Jeff Wood and Dave Morash demonstrated and explained the entire process from molding the parts from the powdered



metal, sintering in the high temperature ovens, and polishing the final products. Members of the tour examined the equipment and process steps used to create finished parts from powder components. Contact Jo Marie Johnson or Abhi Karkamkar if you have ideas for future tours.

Shown below: High temperature oven used during sintering process.



PASSING THE TORCH



Dear Richland Section Members,

As 2014 is upon us, I just wanted to say thank you for the opportunity to serve as your 2013 Chair. To the executive board, volunteers, and student members, thank you for your tireless efforts in sharing your passion for chemistry with our Section by attending meetings, planning events, and helping to bring recognition to our members! Whether the focus is on Education and Outreach, Networking, or Career Development, your efforts are sincerely appreciated.

Sometimes it is challenging to share with people what the purpose of the Local ACS Sections is; however, some of the numbers from 2013 should lend a hand:

2 The number of Richland Section volunteers recognized for their outstanding contributions to the field of Chemistry and to the Section; also, the number of 50-year and 60-year members (respectively) present for recognition at our Honors and Awards Ceremony in November.

0 The number of meetings (monthly or national) missed by our elected Councilors, ensuring national-level representation for our Section; also, the number of future elections to be held by paper ballot.

1 The number of ChemLuminary Awards brought home by our Section from the ACS National Meeting, specifically the Eastern Oregon University Student Chapter; also, the number of new Student Chapters started within our Section (welcome, Yakima Valley Community College).

3 The number of Section members who received national recognition as ACS Fellows!

The list of accolades is certainly longer, but one purpose of Local ACS Sections is to celebrate our members' achievements, both locally and nationally.

Finally, if I picked one word to describe 2013, it would be momentum. We had continuously increasing member involvement as the year progressed, and I know our creative and dedicated 2014 Chair, Jo Marie, is eager to see that trend continue!

Happy 2014 to all, and as "Chemistry Cat" would say, "I'd leave you with a chemistry joke, but all the good ones Argon." Sincerely,

Frannie Smith

GREETINGS FROM NEW SECTION CHAIR



Dear Richland Section Members,

I am excited to serve as the 2014 Chair for the ACS Richland section, and look forward to working with all of you. Participation in our section's activities grew as 2013

progressed, and we want to keep that momentum going as we transition into 2014. In fact, our last board meeting of 2013 was attended by almost 20 members, and only 5 had to be there! With your support we will continue to provide educational outreach to our students, support for our members, and promote chemistry in our community. Our tours (B-reactor and Western Sintering), and Wine and Cheese event were well attended, and we want to do more events like that this year. We've already had a request for a chemistry careers event and we are planning a Leadership Development Course. We want to focus on our members, so, feel free to contact me or any of our board members with your suggestions or ideas.

I want to take this opportunity to say "Thanks" to our past chair, Frannie Smith, for all of her hard work, and enthusiasm, and to our officers, board members, and volunteers for their commitment to our section and to the ACS.

As we plan our activities for 2014, we will be requesting your help. I urge everyone to make the effort to volunteer. We have a lot of young chemists and students in our community who are in need of your time and expertise. Your involvement can make a difference for the community, and volunteering is rewarding and easy. And, so is participation. So, just show up and have fun! Sincerely,

Jo Marie

UPDATE YOUR CONTACT INFO

It is time to update your contact information (e-mail, phone, and address) at the ACS website (national). It is easy! Just call the ACS membership office at **1-800-ACS-5558** or **login with your member ID** and update your profile.



<http://acs.labworks.org>

Richland Section American Chemical Society
Pamela Archer and Alice Xu, *Co-Editors*

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WHAT'S NEW AT YVC₄

In October of 2012, **Yakima Valley Community College Chemistry Club** (YVC₄) officially became an ACS club. As an ACS club, they have done several outreach activities including the GEAR UP! science fair at the Yakima Convention Center and Family Science Night at Outlook Elementary School. There were 15 club members at the GEAR UP Science Fair and about five club members at Family Science Night at Outlook Elementary school. For both events, they presented three main topics – acid/base chemistry you can do at home, non-Newtonian fluids, and spectroscopy.

For acid/base chemistry, students were able to make their own pH indicator from red cabbage. The indicator starts as a purple color like the cabbage. Then, they added it to some Maalox (a base) and water which turned the indicator bright blue. Then, they added vinegar (an acid) and it turned bright pink. Students were also able to observe the same color change (from blue to purple to pink) when dry ice was sublimed in water and the resulting gas was bubbled through a solution. $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{CO}_3$ which is a weak acid.

For the non-Newtonian fluid demonstration, students were shown how to mix corn starch and water to get a mixture that acts like a solid if you apply a lot of force and like a liquid if you move very slowly through it. That was the biggest draw by far. Participants could pick up a handful of the mixture (with gloves to minimize the mess) and pack it into a snowball, but then once they stopped pressing it, it seemed to melt and flow like a liquid!

For the spectroscopy demonstration, YVC₄ members brought spectrometers that break visible light up into its component wavelengths. For sunlight, that would give a rainbow. But, for light from a single element (like neon signs or mercury vapor overhead lights), only certain wavelengths are visible, giving what is known as a line spectrum. Students were able to observe the line spectra from the overhead lights and from the various gas-filled tubes (like neon lights).

YVC₄ students explained the science behind each of these to students from 1st grade all the way through parents and grandparents. For the GEAR UP science fair, there were ~1500 students who came and ~1000 people from the community when it was opened to the public and about 250 people attended Family Science Night at Outlook Elementary! The YVC₄ students were able to explain things in an age-appropriate way to increase interest in chemistry for students of all ages. The more they can pique participants' interest in science, the more likely they are to become STEM majors. Additionally, this outreach helps students show what they know which gives them a lot of confidence in the material. If they can explain it so someone else understands it, they feel like an expert and that helps them realize that they really ARE experts!



Studying the properties of non-Newtonian fluids



Learning about acid/base chemistry

NUCLEAR SCIENCE MERIT BADGE



**Merit Badge
to be Offered
March 22 & 29**



Richland ACS Section member Sandra Fiskum is organizing a training event in March for Scouts and other youth (13 to 17 years old) interested in learning about nuclear science. During the 2-Saturday course, experts in nuclear science fields will teach material as outlined in the **Boy Scouts of America** Nuclear Science merit badge book. Most activities are interactive and will be conducted in a small group setting. This experience should be fun, interesting, and rewarding. At the conclusion of this 2-day class, each Scout will have completed the requirements to earn the Nuclear Science merit badge. Girl Scouts may be awarded an activity badge by the **Girl Scouts of America**. Non-scouts will receive a certificate of completion. Contact Sandy at (509) 967-0908 or sandenf@msn.com for more information.

2014 CHEMISTRY OLYMPIAD

The Richland Section of the American Chemical Society (ACS) is seeking students to participate in the **2014 U.S. National Chemistry Olympiad (USNCO)**. The primary goals of this program are to stimulate interest and achievement in chemistry among high school students throughout the United States and to provide recognition of outstanding young chemistry students, teachers, and schools. We would like to invite and encourage high school students to take part in the **International Chemistry Olympiad** by providing this opportunity to take the USNCO national exam. The Richland Section of ACS is asking for your help to identify interested students. The Richland Section needs your help to identify, nominate, and select up to 10 students to sit for the USNCO national exam in the Tri-Cities area April 26, 2014.

The **Chemistry Olympiad** is a multi-tiered competition that promotes excellence in high school chemistry. Nationally twenty students with the highest grades on the national exam will be invited to attend a two-week study camp at

the **U.S. Air Force Academy in Colorado** the first week of June. At the end of the camp four students will be selected based on a combination of objective and subjective evaluations as the United States team to participate at the **46th International Chemistry Olympiad (IChO)** in **Hanoi, Vietnam**, July 20-29, 2014.

A student from our local area (Northeastern Oregon and Central Washington) could be one of the members of the 2014 team! All students who participate will be recognized and presented with a certificate; some students will receive recognition for outstanding performance in certain categories. We hope this recognition will serve to promote and stimulate a positive interest in Chemistry.

Contact **Cary Seidel (USNCO Coordinator** for this area) for additional information or to enter students in the competition; Phone: **509 376-3036** or E-mail: **cary.seidel1@frontier.com**. Hurry, the deadline for entering a student into the competition is early March.

Do you know a high school student looking for a challenge?

NCW POSTER CONTEST

The theme for this year's National Chemistry Week was "**Energy Now and Forever!**" Chemistry students at Columbia Basin College designed posters supporting **National Chemistry Week (October 20th -31st)**. Posters needed to point out how chemistry is involved in the application chosen under this year's theme.

The Richland Section of ACS supported this effort by funding the first prize of \$25. Congratulations to **Christopher Smith (1st prize)** for his depiction of "Biogas: A Source of Energy Now and Forever"; **Zachery Young** (second prize) for his presentation on "Grape Seed Oil"; and to **Cassandra Sanders** (3rd prize) for her project depicting "Wind Energy". All three posters were on display at the Richland Section Honors and Awards Ceremony in November.

SATURDAY SCIENCE DAY

On Saturday, November 9th, 2013, students and faculty from EOU (Eastern Oregon University) traveled to South Baker Elementary in Baker City, OR where they organized "Energy - Now and Forever!", a science exploration day for boys and girls in 5th through 8th grades revolving around the NCW theme of "Energy." Activities included making batteries, electrical circuits and magnets, exploring the energy content of oils, and constructing solar powered motors. At one station students learned how to make an aluminum-air battery as well as constructed the most powerful battery from fruits and vegetables and different metals for electrodes. At another station they compared the caloric content of



Saturday Science participant making an aluminum-air battery.

different types of oils by assembling a simple calorimeter. One of the most popular activities was racing solar powered cars. The day concluded with a magic show hosted by the EOU students. Forty-five attended the event which was made possible by a generous donation of the Baker City Rotary Club and support from the Richland Section.

UPCOMING EVENTS AT YVCC

YVC4 will be meeting with the **Chemistry Club at Central Washington University (CWU)** on Friday, February 21, 2014 starting at 3:30 PM for an inter-club social event supported by a \$500 Inter-Chapter Relations Grant from the 2YC3. Food, games, prizes, and research talks from the CWU faculty will be provided. ACS members are more than welcome to participate! The more students can meet successful chemists in the area, the more likely they will be to see chemistry as a real career option.

The Chemistry Club is also looking for speakers for their Friday meetings. Although they cannot afford to pay much, they would be happy to take you to dinner after the talk! The Chemistry Club meetings start at 2:30 PM on the 1st and 3rd Friday of each month. They have students who are interested in all aspects of chemistry including chemical education, cosmetic chemistry, food chemistry, chemical engineering, analytical chemistry, and physical chemistry. If you would be willing to come and share your expertise with them, please contact **Tanya Knickerbocker** at tknickerbocker@yvcc.edu.



2YC3 CONFERENCE

In November of 2013, Dr. Tanya Knickerbocker attended the **Two-Year College Chemistry Consortium (2YC3)** conference in Memphis, TN. This conference was supported by the 2YC3, a part of the ACS that supports chemistry in two year colleges. While attending this conference, she participated in a program review with a panel of chemical educators from around the country. Two year colleges were able to submit a program review package prepared by the 2YC3 arm of the ACS and filled out by the faculty at the college. This review package allows

faculty at any two-year institution to get feedback on the strengths of their program and on the areas where improvements may be needed, as assessed by the faculty. This feedback gives faculty a powerful tool to take to administration to show the current best practices recommended by the ACS. For Dr. Knickerbocker, it was a chance to see how programs throughout the country achieve the goal of successfully matriculating students from their two-year school into a four-year school. The first two years of the undergraduate education in chemistry are crucial to student success in chemistry and

are the best time to attract young chemists. The ability to see how other schools obtain access to materials such as journals and high-priced laboratory equipment to enrich the student experience was very illuminating for her. Her school currently has access only to free scientific journals and a limited amount of research-grade equipment. Networking with other chemical education professionals gave her insight into how to improve access to these materials for the chemistry students at Yakima Valley Community College.

GEEZERFEST 2013

The November 15th, 2013 Richland Section Honors and Awards Reception, affectionately known as "Geezerfest", was a huge success this year: numerous honorees, great food, and significant participation by both high school and college students. We were privileged to honor 60-yr members Jack Ryan and John Swanson, and 50-yr members James White, James Noyce, and James Peters. We also honored our newly inducted ACS Fellows Drs. Sam Bryan, Anna Cavinato, and Dave Koppenaal, as well as our local section award recipients Anna Cavinato and Janet Bryant. The High School Teacher of the Year Award went to national Teacher of the Year, Mr. Jeff Charbonneau of Zillah High School. Project Seed Participants, student Jessica Nava and teacher Molly Blatz from Irrigon High School in Oregon, were also honored.

Bill Krieger from Cheese Louise in Richland, WA provided several varieties of cheese for tasting and shared the stories of their origins. Attendees enjoyed this tasty treat after the presentation while mingling with students at their posters. Students from Eastern Oregon University, Columbia Basin College, and Pacific Northwest National Laboratory displayed their posters from the national ACS Spring Meeting (2013), CBC's National Chemistry Week poster competition, and the 2013 Northwest Regional ACS Meeting (NORM), respectively. Last year's Mid-Columbia Science Fair "Best in Chemistry" ACS awardee Swetha Shutthanandan gave a short talk about the subject of her research/poster on zinc oxide nanoparticles which won at the state competition this year, and awardee Shanta Katipamula's poster was on display for all to see.

UPCOMING EVENTS

BOARD MEETINGS
FEBRUARY 12
MARCH 12
APRIL 9

6PM, WSU-TRI-CITIES CIC ROOM 223
CALL-IN NUMBER IS AVAILABLE
For more information, contact
Jo Marie Johnson or Jann Frye

PASSING THE TORCH

It has been an honor and a privilege to edit the Richland Section ACS newsletter these past three years—I hope you have enjoyed them. I have learned so much about our vibrant section, met many interesting colleagues, and forged new friendships. I am proud to be a part of this great organization. Please join me in thanking our new newsletter co-editors, Pamela Archer and Alice Xu, for taking up this challenge.

Sincerely,
Sandy Fiskum

<http://acs.labworks.org>

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