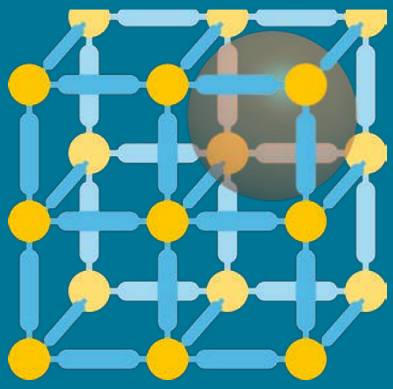
ACS Chemistry for Life®

Richland Section
American Chemical Society

JULY 2026



INSIDE THIS ISSUE

SCIENCE CAFE

MOFs: The Molecular Sponge

An introduction & discussion on the material at the center of the 2025 Nobel Prize in Chemistry

July 16 at 6-7pm Richland Public Library & Zoom

955 Northgate Dr., Richland, WA 99352

ABOUT THE TALK: As the pores of sponge can soak up water, the pores of metal-organic frameworks (MOFs) allow scientists to grab gases out of air and pollutants out of water. MOFs have pores so small that only a single molecule can enter at a time but enough surface area that a single gram, the same amount in a pack of sugar, of the material is equivalent in area to a football field. These incredible materials have received recent attention as the center of the 2025 Noble Prize in Chemistry, but where does that leave these materials? This SciCafe will illustrate how MOFs went from niche compounds to Noble prize winners and discuss how materials are used now and where MOFs are going in the future. Snacks and refreshments will be served. The talk is free and is open to the public.

ABOUT THE SPEAKER: Dr. Matthew Hurlock is a chemist and materials scientist in the Materials and System Design team, a part of the Nuclear Materials group at PNNL. For the last decade, he has worked with metal–organic frameworks (MOFs); designing, synthesizing, and testing these materials for various applications. Currently, his work focuses on using MOFs and other advanced porous materials to develop and demonstrate scalable separations, capture, and monitoring systems of hazardous compounds. His research interests focus on studying sorbent materials under real process conditions and extreme environments to gain material design insights for new and emerging separations.

This event can also be viewed remotely on Zoom. Here is a link to register if wishing to view the talk using Zoom:

https://american-chemical-society.zoom.com/meeting/register/zUR72QAkRW-PqiI_sYMe2w

IT'S MEMBER PICNIC TIME!

July 18 at 11:30–1pm - Badger Mtn. Park, Shelter 1

350 Keene Court, Richland, WA 99352

MAP: https://maps.app.goo.gl/nFyTAa5QS7dK7hgm8

Bring your family to enjoy the playground, the splash pad, and conversations with fellow ACS members. All Section members and their families are invited. Additionally, please invite anyone, including early career chemists, who you think would like to learn more about the local section and the ACS. Entrees and drinks will be provided; please bring a side dish or dessert to share. Please RSVP so we know how much food to bring!

RSVP HERE:

https://docs.google.com/forms/d/e/1FAIpQLSdQHryP3wJumP2czT1qaaqW5ppcGYYlxPzP_-5Azx2-Cj3JTw/viewform?usp=dialog

ACS NATIONAL COMMITTEES - HOW TO GET INVOLVED

If you have an ACS Standard or Premium membership, you should have recently received an email from the ACS Secretary inviting you to complete an ACS Committee Preference Form. If you've never served on an ACS national committee, this is your opportunity to consider it!

ACS has more than 30 committees that fulfill various roles in Society governance and serve a broad range of interests. For example, the Younger Chemists Committee advocates for and provides resources to early-career chemists and professionals; the Society Committee on Education develops and promotes policies, resources, and programs that advance chemistry education for all. Committees meet 2-3 times per year, often at national meetings, and travel to meetings is reimbursed up to about $2000 per year (that's the 2026 rate; the rate is adjusted periodically). The average time commitment for serving on a committee is about 4 hours per month.

The benefits of serving on a committee include opportunities to network with like-minded professionals, and access to potential leadership roles and associated training. Most committee members enjoy the experience enough to sign up for a second, third, or even fourth committee once their term on their first committee is complete. I've been a member of national committees for 25 years and am currently on my fourth, having served on the Committee in Chemistry and Public Affairs, the Committee on Budget and Finance, the Board of Trustees for Group Insurance Programs, and now the Committee on Communicating Chemistry. By the end of the summer, I will have chaired two of those committees and participated in strategic planning efforts for all four. If you're not sure which committee would be a good fit for you, descriptions of all the committees are available at https://www.acs.org/about/governance/committees.html. You can also reach out to me or the other members of the executive committee for advice.

If you're interested in serving on a committee, here are my pro tips: 1) fill out the committee preference form completely, including an explanation of why you are interested in the committee(s) you select. The chair receives your input, and as a former chair, I'm disappointed when someone expresses interest in my committee but doesn't provide any information to tell me why. 2) Get in touch with the chair directly. You may not know the chair, but you probably know someone who does. The local section Executive Committee is here to help! Reach out to us and we will find someone who can put you in touch with the chair so you can tell them, personally, why you're an outstanding fit for their committee. If we know you, we can also provide the chair with our personal recommendation. 3) If you're at a national meeting, drop in on the committee's open meeting, listen to what they're doing, and introduce yourself. The committee's open meetings are listed in the national meeting program; they are usually held in the first part of the week. That extra effort really distinguishes your application.

More information on ACS committees and the link to the form are available at https://www.acs.org/about/governance/committees.html. The form will remain open through July 6, 2026 for calendar year 2027 committee membership. – *Kristin Omberg*

ACS SECTION ACTIVITY - HOW TO GET INVOLVED LOCALLY

In the article above, Kristin Omberg described volunteering on an ACS committee at the national level. While very rewarding, there are also rewarding volunteer opportunities at the local level. One way to get started is to simply help out with a local Section activity. All of the Richland Section activities are posted on the "Events" tab on the Section's website, https://acsrichland.org, along with contact information for the event's organizer.

Another possibility is to work on one of the Section's committees that interests you. The Section has the following committees: Awards, Inclusion and Belonging, Education, Government Affairs, Membership, Nominations, Program, Public Relations, Women Chemists, Environment and Sustainability, and Younger Chemists.

Finally, there are four elected positions: Councilor, Secretary, Treasurer, and Chair-Elect. Elections are held in the fall, but nominations are accepted anytime! For more information, contact any of the people listed under the "About Us / Leadership" tabs on the website.

EOU CHEM CLUB & LOCAL SECTION SERVE UP EDIBLE SCIENCE

Liquid nitrogen ice cream was the main attraction at a recent public outreach that was held at the La Grande Farmer Market on Saturday May 30th. Members of the Richland Section and the Eastern Oregon University Student Chapter attracted a large crowd as they mixed ingredients and poured in liquid nitrogen to make ice cream. Volunteers stressed the importance of safety when conducting demonstrations, utilizing gloves and a face shield as PPE for those working with liquid nitrogen. Even those who weren't ready for ice cream enjoyed watching as cream and sugar were rapidly transformed under the billowing clouds from the liquid nitrogen. Several individuals commented on how fun it was to have edible science available to the community.

Eight volunteers participated in the event, serving a crowd of approximately 200 people. In addition to learning about ice cream and tasting the delicious mix of ingredients, participants received the Celebrating Chemistry booklet about Chemists Celebrate Earth Week (CCEW) and giveaways such as pocket-size periodic tables, pencils, moles and more.

The event was supported by an ACS grant to promote Inclusion & Belonging.

MEMBER SPOTLIGHT - SUSAN ASMUSSEN

Susan Asmussen with daughter Isla

I was born and raised in Canada (residing in Edmonton, Toronto, and London for periods of time) where I also completed my education. I chose Chemistry as my path in university due to my interest in the wide range of categories it covered – analytical, organic, inorganic, medicinal, etc. The methodical nature of analytical chemistry and its application to real world issues intrigued me. I took these analytical skills and applied them to radiation chemistry studies for my PhD thesis. After obtaining a Bachelor of Science and Doctor of Philosophy in Chemistry at the University of Western Ontario, I started my career at the Atomic Energy of Canada (now Canadian Nuclear Laboratories) within the Analytical Chemistry Branch.

Following this, I relocated to the Tri-Cities area with my husband to advance our careers at Pacific Northwest National Laboratory (PNNL). Since 2016, I have been based at the Radiochemical Processing Laboratory (RPL), initially joining PNNL as a postdoctoral researcher before transitioning to my current role as staff scientist.

My responsibilities at PNNL encompass various projects, including many different aspects of used fuel management, supporting Hanford tank waste initiatives, evaluating dangerous waste codes related to nuclear waste, liquid-liquid separations at both macro and micro levels, and investigating reactor materials. The majority of my time is now focused on materials science studies of cladding and spent fuel management initiatives. Although my academic background is in chemistry—specifically the radiation chemistry of liquids for reprocessing—I have broadened my expertise to include post-irradiation examination of cladding and reactor materials. In addition to my research activities, I serve as a Team Lead, Project Manager, and contribute to several support roles within the organization.

I have been a member of the American Chemical Society (ACS) since January 2017. Early in my career, I actively participated in the local section to connect with fellow scientists. After attending a Women Chemist Committee Luncheon at the 2017 NORM meeting, myself, Shirmir Branch, and Megan Nims established the WCC – Richland Section, with guidance and support from Janet Bryant. The committee was successfully launched, hosting multiple events during its inaugural year.

CHEMSHORTS FOR KIDS

FiZZy Lemons

Did you know you could turn fruits, like the lemon, into a volcano? By combining a few simple pantry staples with a common fruit, you can use the power of chemistry to transform a plain lemon into a bubbling, technicolor volcano.

Materials:

- Paper plate or Pan
- Lemon(s)
- Baking Soda
- Food Coloring
- Cutting knife
- Butter knife
- Spoon
- Measuring cup

Caution:

Food coloring can stain clothes and surfaces. A cutting knife should be used or supervised by an adult.

Experiment:

After cutting a lemon into two halves, lay the halves onto the pan (or plate), with the flat side facing up. If the lemon halves are struggling to stay upright, cut a small part off the bottom, to give it a flat base. Using the butter knife or spoon, break up the inside of the lemon. Once the center of the lemon is broken up, add a few drops of any color food coloring to the inside of the lemon (for rainbow effects add many different colors). Spoon a few scoops of baking soda onto the lemon. Using the butter knife or spoon, poke the mixture into the lemon and watch the fizzing grow. To keep the reaction going, add the lemon juice from another lemon half or add a little more baking soda.

What's Happening?

Lemons are a type of citrus fruit, which means they contain lots of citric acid. This acid is what gives lemons their famous sour taste! Like all acids, citric acid is packed with hydrogen ions (H^+), which our taste buds recognize as "sour." Acids react with other chemicals called bases. Baking soda ($NaHCO_3$) is a great example of a base. Bases contain lots of hydroxide ions (OH^-). When an acid's hydrogen ions are combined with a

base's hydroxide ions, they neutralize each other. When the baking soda (the base) encounters the lemon juice (the acid), a chemical reaction starts (this is called an acid-base reaction). The reaction neutralizes the acid and forms carbonic acid (H_2CO_3) which breaks down into water and carbon dioxide (CO_2) gas. The gas wants to escape the liquid, creating the bubbly foam that fizzes over the sides of the lemon! Once the citric acid and baking soda have neutralized each other, the reaction stops, so eventually the lemon volcano will stop erupting. We've seen this reaction numerous times before, for example with baking soda and vinegar (containing a different acid), but giving the same results.

Extension:

Does this experiment work with other citrus fruits, like oranges or grapefruits? Which type of fruit works the best, and which one give the best eruption? Does the eruption happen with other household bases, like a Tums tablet? What happens if you add dish soap to the eruption? Does it make the foam bigger or change the number of bubbles?

Resources:

https://www.sandiegofamily.com/for-the-kids/family-science/easy-science-experiments-for-kids

To view all past "ChemShorts for Kids", go to: https://chicagoacs.org/ChemShorts

—KATE SCHMIDTHUBER & PAUL BRANDT

CROSSWORD PUZZLE - SCRAMBLED ELEMENTS

ABOUT THE AUTHOR *Robert Pike is a professor of chemistry at The College of William & Mary. He is an inorganic chemist with interests in Materials for Sensors and Catalysts, Metal-Organic Networks Chemistry, X-Ray Crystallography, and Chemistry Education, in addition to creating crossword puzzles.*

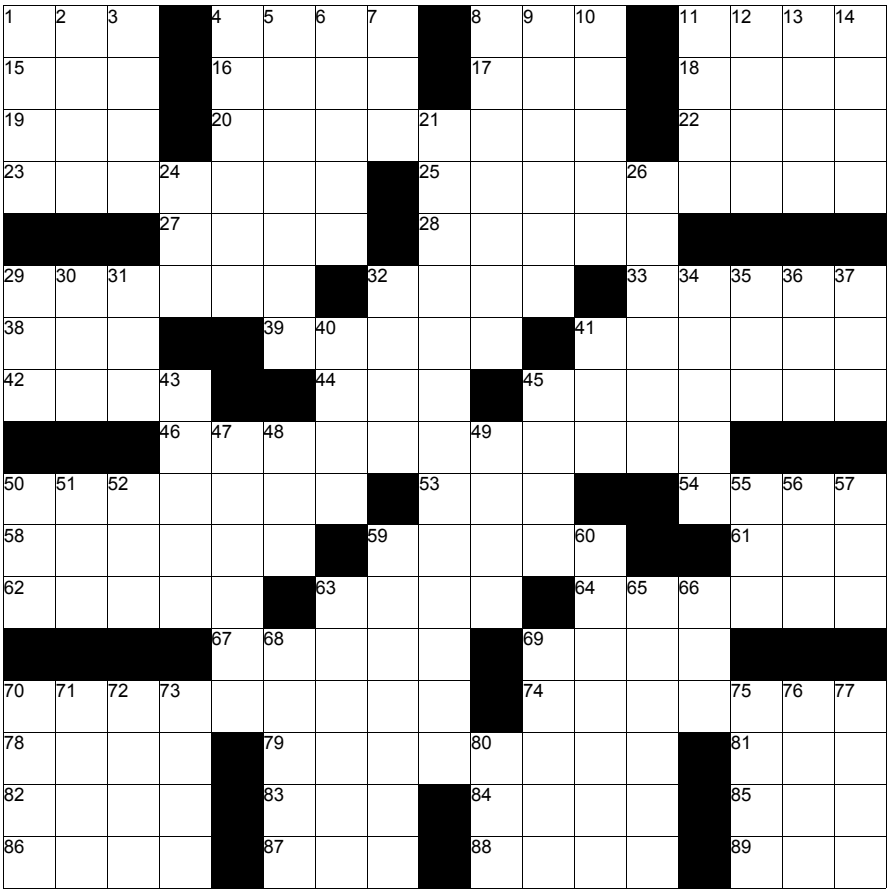
Scrambled Elements Robert D. Pike

ACROSS

1. Relaxation locale
4. Groups of kangaroos
8. Govt. agency concerned with 73 down
11. Detergent brand
15. Fleeing, with "on the"
16. City of New Orleans singer Guthrie
17. It's sometimes represented as X
18. Auricular
19. Superior serve
20. Scrambled element #87
22. Response to danger
23. Remnant
25. Scrambled elelement #52
27. ____ much as (to the extent)
28. Regretting
29. Built for two
32. Between
33. Opposite of alpha
38. Kind of pen
39. Home made of 57 down
41. Derived from HO2C-CO2H
42. Slick fish
44. Japanese theater style
45. ____ Any Place (Janet Jackson hit)
46. Scrambled element #101
50. Folklore
53. Psych lab need
54. Org. that scans the heavens
58. Brits
59. Vehicles
61. Uncontrolled muscle motion
62. Egg-shaped
63. Big birds
64. Fat-cleaving enzyme
67. "No man is an island" poet
69. Yearn
70. Scrambled element #44
74. Kind of tooth
78. Mr. Descartes
79. Popular Asian sauce
81. Greeting for Maria
82. Skip
83. Jewish first name meaning "lion"
84. Tech review site
85. Ear metal?
86. Son of Adam
87. Paterno's school, abbrev.
88. Computer program details
89. Summertime time

DOWN

1. Eastern European
2. Tempo
3. Home of Iowa State
4. Salt water-dwelling
5. Paper-folding art
6. Music born from pain
7. Male offspring
8. Scrambled element #45
9. The father of geometry
10. "Let me repeat myself..."
11. Vegan meat substitute
12. One in a list
13. Analog display
14. Off-white decorator color
21. Scrambled element composed from all other element symbols in this puzzle
24. Thrice daily, abbrev.



26. Scrambled element #8
29. Golf need
30. Gibbon, e.g.
31. Pretty much nothing
32. Soothing plant
34. Breeding pairs
35. QB Manning
36. Where one works out
37. A brew
40. Wildebeests
41. 1992 U2 hit
43. Extract metal from its ore
45. Harmony part
47. Scrambled element #53
48. Drs.
49. Vessels for industrial reactions
50. Southeast Asian language
51. Branch of science, abbrev.
52. A DNA codon
55. Frat letter
56. Christmas carol contraction
57. Crystalline dihydrogen monoxide
59. Scrambled element #92
60. Sneaked
63. Types in
65. Egg on
66. Canadian Prov.
68. Serving option for 37 down
69. Billy Joel classic ____ Man
70. Cupid by another name
71. Iron porphyrin
72. Dalton, Coulomb, or Kelvin
73. N-methyl-1-phenylpropan-2-amine, informally
75. Fill up
76. Roman poet
77. Broadway musical 1996 to 2008
80. National park work program for kids, abbrev.

FIND THE *SOLUTION* AT ACSRICHLAND.ORG/NEWS

ACS RICHLAND SECTION SHINES AS OUTSTANDING NCW EVENT FINALIST

The Richland Section was recently named to the ChemLuminary Awards finalist list for:
Outstanding NCW Event for a Specific Audience

The winner of the award will be announced during the ACS national meeting in Chicago.

UPCOMING EVENTS

JULY 16 FROM 6-7PM
SCIENCE CAFE ON MOFS
RICHLAND PUBLIC LIBRARY
More Information: https://acsrichland.org/events

JULY 18 FROM 11:30AM - 1PM
MEMBER PICNIC
BADGER MOUNTAIN PARK
More Information: kristin.omberg@pnnl.gov

NOVEMBER
FALL SOCIAL & AWARDS CEREMONY
More Information: coming soon!

LEARN MORE ON THESE AND OTHER EVENTS AT

HTTPS://ACSRICHLAND.ORG/EVENTS

ACS FELLOWS PROGRAM SEEKS NOMINEES

Awards and Honors

The Richland Section is soliciting recommendations for a section member to nominate for the ACS Fellows program. The ACS Fellows Program was created by the ACS Board of Directors in December 2008 to recognize members of the ACS for outstanding achievements and contributions to science, the profession, and the Society. Each year the Richland Section is allowed to nominate one member for this honor. If you know someone you would like the section to nominate, please contact the section's award committee chairperson, Sonia Anguiano at sonia.alcantaranguiano@pnnl.com.

Besides the Fellows program, the ACS offers a plethora of awards and grants. The possibilities can be explored by visiting the website:

https://www.acs.org/funding.html?selectedPage=1&ACS%3Afunding-type%2Faward=true

POINT TO PONDER

"In anything at all, perfection is finally attained not when there is no longer anything to add, but when there is no longer anything to take away."

– Antoine de Saint-Exupery
(Translated from the French by Lewis Galantiere)

LEARN MORE ONLINE **https://acsrichland.org**