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TRIAD CHEMICAL TIMES

Central North Carolina Section American Chemical Society

March Local Section Meeting

Dr. Greg Hampikian, Boise State University: The Idaho Innocence Project – Using Novel DNA Techniques to Free the Wrongfully Imprisoned

When : March 9, 2021, 7 pm

Where: Virtual

Upcoming Events

February 19, 2021: RTP Nobel Lecture (see page 3)
March 9, 2021: Virtual Local Section Meeting (see pg 2)
March 15, 2021: Senior Chemist Virtual Meeting (see pg 4)
April 7, 2021: PVN Session 1 (see pg 6)
April 14, 2021: PVN Session 2 (see pg 6)
April 21, 2021: PVN Session 2 (see pg 6)
April 28, 2021: PVN Session 2 (see pg 6)

Highlights in this issue:

CNC-ACS Officers

Mr. Kent Kabler	Chair	kent.kabler@syngenta.com
Dr Steve Kennedy	Chair Elect	
OPEN	Treasurer	

CNC-ACS Website: https://cnc-acs.org/

Newsletter Editor: Bill Eberle bill.eberle@syngenta.com

March Local Section Meeting

Title: The Idaho Innocence Project – Using Novel DNA Techniques to Free the Wrongfully Imprisoned.

Bio and Abstract: Dr. Greg Hampikian is professor of Biology and Criminal Justice at Boise State University (BSU), founder and Co-Director of the Idaho Innocence Project (IIP) at BSU. As a forensic DNA expert, he has worked on DNA cases both nationally and worldwide, with many of those cases leading to exonerations of individuals on death row. His work has been discussed in Science, the Wall Street Journal, Time Magazine, Fox News, and he has appeared on CNN, 20/20, Nightline, and Good Morning America.

Hampikian's *New York Times* Op-eds, include "The Dangers of DNA Testing" (2018), "When May I Shoot a Student?" (2014), and "Men Who Needs Them?" (2012); and a profile of his forensic work appeared in *Science* (March 2016). His book *Exit to Freedom* with exoneree Calvin Johnson, chronicles Mr. Jonson's 17-year fight to prove his innocence using DNA. Hampikian's research includes discovery of the smallest sequences absent from nature that he has termed Nullomers. Nullomers have been used to protect forensic DNA samples against contamination, and to develop 198 Nullomer peptide drug candidates effective against cancer. He was awarded a Ph.D. in Genetics from the University of Connecticut, and has held positions at the Yale University Medical School, the Worcester Foundation, Emory Univ., Clayton State Univ., La Trobe Univ. (Melbourne, Australia), and the CDC (Atlanta, GA). He is best known as a DNA expert on Innocence Network cases around the world including that of Amanda Knox, Freddie Lawrence and Paul Jenkins (2018, with Montana Innocence Project), and Christopher Tapp (exonerated 2019) in Idaho. Dr. Hampikian will discuss how his lab has used novel techniques to free the wrongfully imprisoned, and help police find the true perpetrators.

Greg Hampikian, Ph.D.
Professor of Biology, and Criminal Justice
Director of the Forensic Justice Project at BSU
Co-Director of the Idaho Innocence Project
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Idaho Innocence Project https://www.boisestate.edu/innocenceproject/
Follow us on Facebook https://www.facebook.com/IdahoIP/

March Meeting Links

Topic: CNC-ACS March 2021 Section Meeting

Time: March 9 @ 07:00 PM Eastern Time (US and Canada)
Join Zoom Meeting
https://american-chemical-society.zoom.com/j/83497113439?pwd=K0M5eHVDS2xldnBiRnNkc0Q3S1F5dz09
Meeting ID: 834 9711 3439

Password: 398536

Dial-in by your location

+1 646 558 8656 US (New York)

Nobel Laureate Lecture (courtesy of our colleagues in the RTP area)

The Chemistry Graduate Student Association at NC State University is honored to host Dr. M Stanley Whittingham, the Chemistry Nobel Laureate, for a seminar on Friday, February 19th at 3:40 PM. Please use the following google form to sign up to attend the event: https://docs.google.com/forms/d/e/1FAIpQLSdMyaTbiN7a6UgJJ6lpo9odEbArw1jM_HSFIwMFiclq42SZ4 g/viewform Dr. Whittingham was awarded the 2019 Nobel Prize for his work on the development of lithium-ion batteries. In the 1970s, Dr. Whittingham developed a cathode in the lithium battery from titanium disulfide, which was a crucial contribution to the work on lithium-ion batteries. Today, these batteries are used for laptops, cellphones and most electric cars. Dr. Whittingham's research has laid the groundwork of a fossil fuel-free society.

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Dr. Whittingham studied at Oxford University for his PhD in 1968, then completed a postdoctoral fellowship at Stanford University. He worked for Exxon and Schlumberger oil companies, and afterwards became a professor at Binghamton University, a State University of New York, in 1988.

For more information on the event, please use: https://chemistry.sciences.ncsu.edu/event/chemistry-graduate-student-association-seminar-dr-m-stanley-whittingham-nobel-laureate-binghamton-university-state-university-of-new-york/

--
Jessie Garcia (she/her)

Graduate Student | Williams Lab
Department of Chemistry
North Carolina State University

Dear Senior Chemists,

Our next Zoom meeting is scheduled for 7:00 PM, Monday, March 15, 2021. The link and other log-in information is shown below. Our very own SCG member, Professor Dave MacInness, will present "The 13 Archimedean Solids". Grab your favorite beverage and snack and join us for an hour of fun enlightenment. Abstract, bio, and other information at the bottom of this message.

Robert

Chair, SCG

Robert Yokley is inviting you to a scheduled Zoom meeting.

Join Zoom Meeting
https://us02web.zoom.us/j/81951311055?pwd=RFZYRk80YTVaZnZkdXYzcVdqaU0rdz09

Meeting ID: 819 5131 1055
Passcode: 206981
One tap mobile
+13017158592,,81951311055#,,,,*206981# US (Washington DC)
+13126266799,,81951311055#,,,,*206981# US (Chicago)

Dial by your location
+1 301 715 8592 US (Washington DC)
+1 312 626 6799 US (Chicago)
+1 929 205 6099 US (New York)
+1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston)
+1 669 900 6833 US (San Jose)
Meeting ID: 819 5131 1055
Passcode: 206981
Find your local number: https://us02web.zoom.us/u/kbXiQJvwtL

A chemist looks at Archimedes and his solids

Archimedes, 287BCE -212 BCE lived in the city of Syracuse on the island of Sicily. He is generally regarded as one of the three greatest mathematicians of all time and was important in the development of mathematics, engineering, and science. While there are a lot of myths and urban myths about this man, after a brief excursion into the lurid details of his life, I will focus on his mathematics and its application to symmetry and chemistry. Despite the many fantastic tales surrounding his life we are most indebted to him for his mathematical treatises and his contributions of understanding of fundamental physical phenomena. His mathematical and physical discoveries will be briefly covered. Most of the presentation will focus on the 13 Archimedean solids and how they relate to chemistry though symmetry. I will begin with the well-known Platonic solids and turn them into the Archimedean solids using simple symmetry operations For those of you with little knowledge of symmetry, there is some homework for you below. Questions are encouraged during the presentation.

Homework exercise:

Take a blank piece of paper and draw any of the regular polygons (triangle, square, pentagon, hexagon or such) in its center as best as you can, using a ruler to get the lines straight and the same length. Label each corner 1, 2 etc, lay the paper down and turn it so that one corner is facing away from you. Then put your pen or pencil in the very middle of the figure. Start with one of the corners, rotate the paper in either direction about the center until the next corner is facing away from you. It should look like it did before you rotated it except that the numbers have moved. How many times can you do this symmetry operation before you get back to the original configuration?

Congratulations, you have just discovered your first symmetry element – the axis of rotation and the symmetry operation of rotating something in space a certain angle. Bring your piece of paper to the presentation where you will find out how to name your symmetry axis, along with learning some other symmetry elements and operations. Our goal is to use what you have learned to describe and categorize the 13 Archimedean solids. Hopefully, the models I photograph will be clear enough for our purposes (I've never done a Zoom presentation.

The best Web site for learning about Archimedean solids is at Wulfram Mathworld. If you like making models, there are simple paper patterns at this site.

Bio for Dave MacInnes

Currently retired, Dave has been a teacher of chemistry, a chemist associated with Nobel Prize winning research on his study leaves, and an early worker in the fields of nanoscience, nanotechnology and material science. Besides publishing research papers and books, he was awarded several patents dealing with the synthesis and application of conducting polymers. One of his compounds he developed at NASA Langley Research Center is used to protect the International Space Station and interplanetary probes from things like atomic oxygen, micrometeorites and static electricity. Dave also was an officer in our ACS local section, going through all positions from secretary to councilor. Currently he is a contributing member of the Senior Chemists group. One of his interests is symmetry and how it relates to the history of science and to chemistry. It is from these interests that he will be talking with you about Archimedes, the person, his work, and why a chemist would be interested.

Poster Vendor Night is Back, well, sort of . . .

In March of 2020, we cancelled the 20th Annual Central NC ACS Poster Vendor Night (PVN). Little did we know the, the profound changes that were in store for the world and the scientific community. We are eleven months into the COVID-19 pandemic and will not be able to host PVN in our traditional face to face venue where ACS members could meet with vendors, network, and take in posters highlighting research in the Triad. However, we recognize the need to push forward with an event which focuses on the research activities in the Triad. The PVN Organizing Committee (Bill Eberle, Sarah Sihvonen, Molly Stacy, and Mandy Stauffer) have discussed how best to host PVN in 2021.

We have decided to make PVN 2021 a virtual poster event that will be comprised of 4 one hour Zoom Meetings held on each Wednesday in April. Poster presenters will be assigned a ten minute time slot. The poster presenter will have five minutes to provide an overview of their topic and five minutes for questions. The poster presenters will need to register (see link below) and send their Power Point slides to Sarah Sihvonen prior to the meeting.

When the Zoom Meeting Invitations are issued in March, they will include the poster title, poster abstract, poster presenters, and contact information.

Mark your calendars as PVN 2021 will take place as 4 one hour Zoom Meetings on the following days:
Wednesday, April 7th 2021, 1:00-2:00
Wednesday, April 14th 2021, 3:00-4:00
Wednesday, April 21st 2021, 1:00-2:00
Wednesday, April 28th 2021, 3:00-4:00

Unfortunately, PVN 2021 will not have a vendor component. We recognize the value and support our vendors have provided to the Central NC section over the past 20 years. We are inviting our vendors to provide a one page update on their products which will be featured in our April newsletter.

Further details on PVN will be sent out shortly in a separate email.

Changes to the CNC-ACS Executive Committee

After our elections in December, the position of Chair Elect remained open. During this month's Executive Committee Meeting, Dr Steve Kennedy was appointed to the position of Chair Elect.

The Committee was also informed that Dr Gail Webster has decided to step down as local section treasurer. If you have interest in taking on this volunteer role, please contact our Chair, Kent Kabler.

CNC-ACS Executive Committee

Chair	Kent Kabler	Kent.kabler@syngenta.com	336-708-1626
Chair Elect	Steve Kennedy		
Treasurer	**OPEN**	gwebster@guilford.edu	
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Alternate Councilor ('21)	Ed Robinson	Edwardrobin-son.robinsoner@gmail.com	336-337-3361
Director ('20)	Bill Eberle	bill.eberle@syngenta.com	336-632-7569
Director ('20)	TJ Mayer	tjmayer@carringers.com	336-708-0643

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Science Center Advisor	Jerry Walsh	jlwalsh@uncg.edu	336-334-5672
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Earth Day	TJ Mayer	tjmayer@carringers.com	336-708-0643
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Long Range Planning	**OPEN**		
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Public Relations/Publicity	**OPEN**		
Science Advisor – Mark Walker	**OPEN**		
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