



Minutes of Executive Meeting of  
Maryland Section of the American Chemical Society  
Virtual Meeting on Zoom  
Chair Kelly Elkins, presiding  
February 16, 2023

Present: Eric Cotton, Merle Eiss, Kelly Elkins, Louise Hellwig, Jan Kolakowski, Lee Lefkowitz, Jillian Marlborough, Sara Narayan, Jiangnan Peng, Beatrice Salazar, Niru Trivedi, Stephanie Watson, Sarah Zimmerman

Kelly called the meeting to order at 7:03 p.m.

The Agenda of this meeting and the Minutes from the December 14, 2022 meeting were approved.

Lee gave the Treasurer's Report. We have \$30,824.15 in our Checking account and \$61,711.09 in our Money Market account.

Jan reported that we have \$89,511.42 (up about \$5000 since December) in our Fidelity Contra Fund and \$126,474.96 (up about \$7,000 since December) in our Nicholas Fund.

The Annual Report has been submitted to the national ACS.

The Women Chemists Committee Meeting was held on February 8.

We thank Sarah for her service as 2022 Chair.

Rose Pesce-Rodriguez' Outreach report and Louise's Student Travel report are attached to these Minutes.

Kelly proposed holding meetings or events in the farther "corners" of Maryland to give ACS members in those areas more opportunity to attend. Niru and Rose Pesce-Rodriguez will work on an event in the northeast of Maryland. Eric Cotton will organize something in Frederick in late August. We would like someone to organize an event in southern Maryland around St. Mary's, and one on the Eastern Shore around Salisbury. A motion was passed to designate up to \$500 for each of these four events.

Beatrice spoke about plans for four events for Earth Day, April 20.

Merle will be organizing an in-person Luncheon for 50-60 Year ACS members once she gets the list of such members from the national ACS.



The Mid-Atlantic Regional Meeting (MARM) will be held June 9-10 in New York City. Paul Smith requested support from the Maryland Section to nominate Michael Summers and Robert Meyerhoff for the Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences. Our Section will support these nominees once we receive the nomination letter from Paul.

Beatrice is organizing the Chemistry Olympiad. The deadline for school teams to apply is April 2. The students will take a virtual exam and then an in-person exam. The location for the latter exam has not yet been determined.

Kelly will look into the Strategic Planning weekends offered by the national ACS in Washington D.C.

Beatrice met a UMBC student, Kylene Stewart, who is interested in resurrecting a Younger Chemists Committee in our Section.

The idea of vetting some of the articles in the Chesapeake Chemist was discussed. Jillian and Olivia Wilkens would like to get involved in this publication. We need someone to keep our Facebook and Twitter presence up to date. Nicole Carbonaro will be happy to implement updates to the Section website.

Sara reported that the Student Awards meeting will be held April 16 at Notre Dame U. There will be box lunches and a speaker. Students who received Travel Grants to the Minneapolis national ACS meeting will be invited to present their posters.

Louise reported that Morgan State has submitted three projects to the national Project Seed high school student internship program for financially disadvantaged students. The national ACS expects the local section to pay \$1250 for each student intern in our area. The Maryland Section also has a Maryland Research Program Project SEED in which we support high school summer interns with no financial stipulations. Last year we paid such students \$2000 apiece. Five high school students have applied for the Maryland Project SEED program, two at Morgan and three at Towson. We will revisit these programs and decided how many to fund at the next E-board meeting.

The meeting was adjourned at 8:45 p.m.

Respectfully submitted,  
Louise Hellwig, Secretary

See attached Outreach Report and Student Travel Grants Report

**Report Date:** Jan 2022 (report for CY2022)

**Report by:** Dr. Rose Pesce-Rodriguez (rose.a.pesce-rodriguez.civ@army.mil)

**Title:** Outreach Coordinator; Member at Large

**Event Names:**

National Chemistry Week

Chemists Celebrate Earth Day

Gains in the Education of Math and Science - GEMS @ US Army Research Lab

**Event Summary:** Hands-on chemistry experiments and activities for children and adults

**Supporting committees/volunteers:**

Committees:

- K-8 Chemistry Education
- High School Chemistry Education
- Public Outreach

Volunteers:

- Angelica Guzman (6th grade; Anne Arundel Public School System)
- Claire Shamul (Johns Hopkins Whiting School of Engineering)
- Dr. Tolu Aduroja (Morgan State, recent PhD)
- Rose Pesce-Rodriguez (MD ACS)

**Categories:** STEM Outreach to children and adults

**Event coverage/announcements:**

Howard County Library System

<http://polaris.hclibrary.org/polaris/>

Enoch Pratt Free Library

<https://www.prattlibrary.org/>

Carroll County Public Library

<https://library.carr.org/>

Anne Arundel County Public Library

<https://www.aacpl.net/>

**Noteworthy in 2022:**

**1. Chemists Celebrate Earth Week 2022 – Chemistry in the Library**



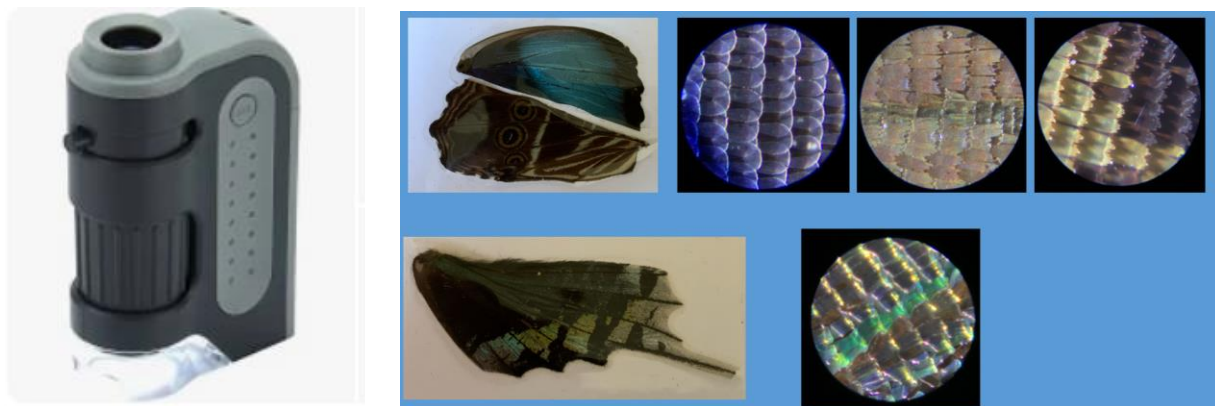
In person, hands-on CCEW programs on the theme of the chemistry of insects were conducted in 11 branches of four Maryland library systems, as per the schedule given in [Table 1](#).

**Table 1: Schedule of 2022 CCEW Library Events**

Library System	Day	Date	Time
Enoch Pratt, Central	Saturday	19 Mar	2:00 pm
Howard County, Elkridge	Saturday	26 Mar	2:00 pm
Carroll County, Eldersburg	Saturday	02 Apr	2:00 pm
Howard County, Glenwood	Saturday	09 Apr	10:30 am
Howard County, Central	Saturday	16 Apr	1:00 pm
Enoch Pratt, Govans	Saturday	23 Apr	2:00 pm
Howard County, East Columbia	Saturday	30 Apr	2:00 pm
Howard County, Miller	Saturday	07 May	11:00am
Howard County, Savage	Saturday	14 May	2:00 am
Enoch Pratt, Light Street	Saturday	21 May	2:00 am
Anne Arundel Co., Odenton	Saturday	28 May	11:00 am

We had 260 total participants, including approximately 150 students and 110 accompanying adults. We encourage hand-on participation of accompanying adults because it is a learning experience for them and enables them to better follow up on the topic with their children at home.

The total cost for the 2022 CCEW “Buzz about Bugs” program was \$2548, of which \$2129 went to purchase of Carson Microbrite mini microscopes (and batteries) that were given to all student participants. We use the microscopes in many of our programs and find that in addition to being very good microscopes (magnification 60-120x), they are robust and easy to use. Kids and adults love them.



**Carson Microbrite mini microscope and images of butterfly wings taken with the scope using a cell phone camera.**

A detailed summary of our budget is given in [Table 2](#). On a per-participant basis the cost was \$9.80 each; on a per-student basis the cost was \$17.00. In both cases, most of the cost came from the microscope that each child received.

**Table 2: Detailed summary of 2022 CCEW Expenses**

Vendor	Item	Quantity	Cost (\$)	
Amazon	Rhino beetles	1pk of 2	13.73	
Amazon	Dried insects (crickets, grasshoppers, mealworms)	1 pk of 3	26.49	
Amazon	Edible termites (17.99)	1 pk	78.94	
	Edible crickets (2.69)	1pk		
	Silkworm cocoons (12.39)	1pk of 100		
	Edible weaver ants (16.99)	1pk of 10g		
	Edible water scorpion (12.99)	1 pk of 2		
Amazon	pH test strips		57.56	48.31
	Microscopes	1 pk of 4		
Amazon	The Chemistry of Plants & Insects (Book)	1 book	40.15	
Ebay	mixed lot of beetles bugs insects (\$100)	1 set, 100 insects	167.48	
	Assorted butterfly moth wings (\$50)	1 set, 50 pieces		
B&H Photo	Microscopes (40 total)	10pk f 4	529.89	529.89
Walmart	Microscopes (40 total)	10pk f 4	529.89	529.89
Walmart	Microscopes (10 total)	10 pks of 1	148.29	148.29
Office Depot	Microscopes (20 total)	20 Pks of 1	296.59	296.59
Amazon	Microscopes (40 total; 529.89)	10pk f 4	558.85	558.85
	Batteries (100 total; 27.31)	1 pk of 100		
Amazon	Batteries (60 total; 15.88)	1 pk of 60	16.83	16.83
Amazon	mini UV flashlights (100 total, 48.98)	1 pk of 100	51.92	
Amazon	Chitin	100g	18.12	
Amazon	Caprylic acid	150 capsules	12.99	
	<b>total</b>		<b>2547.72</b>	2128.65
				microscopes & batteries only

Our CCEW Illustrated Poetry contest had a fair response with 7 total submissions broken down as follows:

- K-2 3 submissions
- 3-5 3 submissions
- 6-8 0 submissions
- 9-12 1 submission

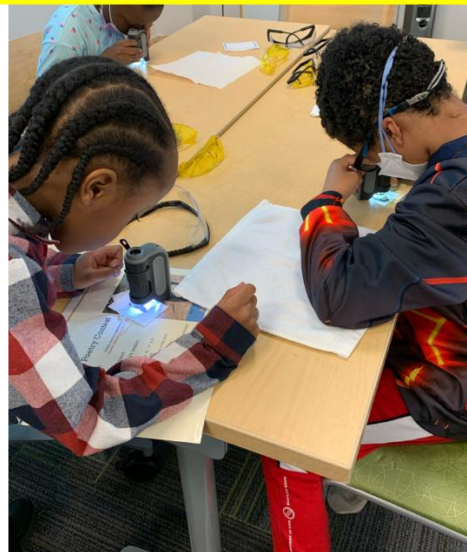
Activities included:

1. Microscopy of butterfly wings along with discussions about pigment- and structural-based insect color
2. Qualitative assessments of silkworm cocoons and discussion of their life cycle
3. Discussion of the importance of acids in insect defense against predators along with assessment of pH of common materials using cabbage juice indicators
4. Discussion about insect vision (visible and UV) along with assessment of luminescence of scorpions, wasp nests and other materials
5. Assessment of honey/honeycombs, along with discussion of process of honey production and the observation of hexagonal structures in nature.
6. Demo and discussion about edible insects.

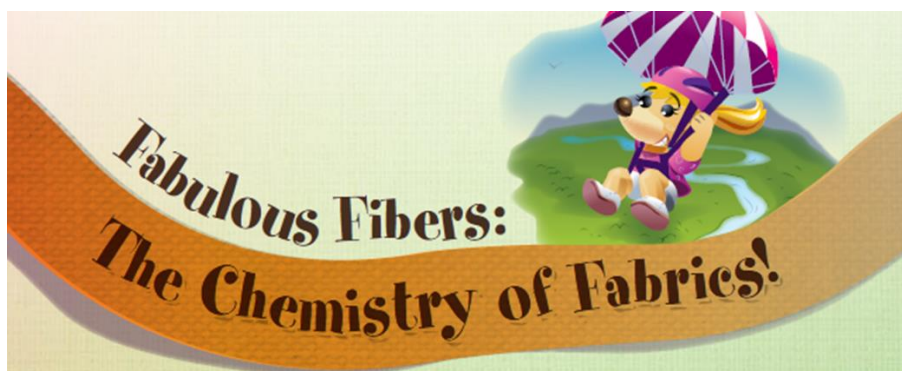
Student at MD Section CCEW event at the Elkridge Branch library testing pH of materials using cabbage juice indicator



Students at MD Section CCEW event at the Elkridge Branch library observing butterfly wings with mini microscopes.



## 2. National Chemistry Week 2022 – Chemistry in the Library



In-person, hands-on NCW programs on the theme of the chemistry of fabrics were conducted in 12 branches of public libraries in five Maryland counties as per the schedule given in [Table 3](#). (Note that two sessions are yet to take place in Jan 2023.)

**Table 3: Schedule of 2022 NCW Library Events**

Library System	Day	Date	Time
Enoch Pratt, Light Street	Saturday	03 Sep	2:00 pm
Howard County, Savage	Saturday	10 Sep	2:00 pm
Enoch Pratt, Central	Saturday	17 Sep	2:00 pm
Howard County, Elkridge	Saturday	24 Sep	2:00 pm
Howard County, Central	Saturday	01 Oct	2:00 pm
Howard County, E. Columbia	Saturday	08 Oct	2:00 pm
Enoch Pratt, Govans	Saturday	15 Oct	2:00 pm
Howard County, Miller	Saturday	22 Oct	11:00 am

Howard County, Glenwood	Saturday	29 Oct	10:30am
Anne Arundel Co., Linthicum	Saturday	19 Nov	12:20pm
Anne Arundel Co., Odenton	Saturday	03 Dec	2:00 pm
Harford County, Jarrettsville	Tuesday	17 Jan	12&1:30 pm

Our 2022 NCW program was very successful both with respect to how the content was received and the overall attendance. Our two final programs are yet to take place; we have a guaranteed participation of 48 students plus a minimum of 24 adult caregivers (the session is for a homeschool group and has a long waiting list.) On completion of the Jan 2023 programs, we will have had approximate 285 participants, including 175 students and 110 caregivers We added two new libraries (Linthicum and Jarrettsville) but missed Eldersburg because a change in staffing at that branch (and consequently no response to our invite). Eldersburg is back on the list for our 2023 CCEW program. The cost for the 2022 NCW program was \$518. A detailed summary of expenses is given in [Table 4](#). On a “per participant” basis the cost was \$1.82 each; on a per student basis the cost was \$2.96.

**Table 4: Detailed summary of 2022 CCEW Expenses**

Items	Company	Cost
Multi-fabric strips, unknown fabric, dye mix; Classroom kit; water model kit	Educational Innovations	237.13
Multi-fabric ribbon	Educational Innovations	21.86
Multi-fabric ribbon	Educational Innovations	45.96
Book- Dyes and Pigments	Amazon	64.64
Plastic jars and plastic forceps	Amazon	51.91
Gray cloths (to save on paper towels)	Amazon	22.65
Koolaid - Orange (dye)	Amazon	7.95
Weaving loom (for demo)	Amazon	28.08
Koolaid - Cherry and Grape (dye)	Safeway	6.67
Pinking shears (to cut fabric strips)	Joann's Fabrics	29.14
White paint pen (to label black jar lids/lal	Joann's Fabrics	2.99
	Total	518.98

Our CCEW Illustrated Poetry contest had a fair response with 7 total submissions broken down as follows:

K-2	0 submissions
3-5	4 submissions
6-8	1 submissions
9-12	2 submission

Activities included:

1. Microscopy of fabrics and fibers, fabric
2. Wettability/contact angle.
3. Hydrogen bonding (using magnetic water models...very effective!)
4. Dying of multi-fabric strips using Kool-aid and dye mixes.

5. The concepts of polarity, charge and hydrogen bonding were related in terms that were broadly understandable.



**Celebration of 20<sup>th</sup> year of Chemistry in the Library program at Govans Branch Library, Baltimore City, MD.**





Families dying multi-fabric strips.  
(Central Branch Library Columbia, MD)



Students examining dyed multi-fabric strips.  
(East Columbia Branch Library Columbia, MD)

### 3. Summer Program at the Army Research Laboratory (ARL)

Virtual programs were held in support of ARL's Gains in the Education of Math and Science (GEMS) Program. Content from our 2021 NCW program (Fast or slow Chemistry Makes it Go: The Chemistry of Reaction Rates) were run in 5 virtual sessions for a total of 125 students according to the schedule given in [Table 5](#).

**Table 5: Schedule of 2022 Summer Events**

Location	Date
ARL-West	17 Jul 2022
ARL-West	26 July 2022
ARL-APG	17 Jul 2022
ARL-APG	08 Aug 2022
ARL-APG	15 Aug 2022

### 4. Summary/Recommendations:

With the conclusion of NCW classes, the MD Local Section **marked 20 years of our Chemistry in the Library program!** The program currently serves libraries in Baltimore City and Howard, Anne Arundel, Carroll and Harford Counties. In 2022, approximately 670 students and caregivers participated in our programs. Based on the positive and enthusiastic feedback from students, caregivers and library staff, the program appears to be well worth the relatively small financial investment provided by the MD-ACS and the substantial time investment by the presenters.

**Student Travel Grant recipients for Minneapolis national ACS meeting in March 2023**

<u>Student Name</u>	<u>School--Professor</u>
Larissa Speaks	TU--Elkins
Ewa Harinszka	JHU—Hernandez
Alex Chan	Pharmacy School--Fletcher
Zoe Wuyts	“
Chris Goodis	“
Brandan Lowe	“
Divya Yadav	JHU--Fried
Sukh Singh	UMBC –Kelly
Desmond Smith	TU—Devadas—high school student, \$149 each
Mansoor Johnson	“
Tessa Snyder	“
Catherine Connolly	“
Anna McClain	UMBC—Blaney