

The Detroit Chemist

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Photo courtesy of Thomas Knisley

Table of Content

Page	Topic
1	Chemistry Olympiad Results
2	Project SEED 2020
5	Brewing Chemistry Zoom Presentation

Results of the 2020 Chemistry Olympiad

The United States National Chemistry Olympiad is a multi-tiered event to select the four-person team to represent the United States at the International Chemistry Olympiad (IChO). The Detroit Section has participated in the Olympiad for the past 35 years.

The first stage of the Olympiad program is the Local Section exam typically administered in mid-March. This year, as a result of the pandemic the Detroit Section was forced to cancel the Local Section exam. Instead the Section's eleven Nominees were chosen from among the 2019 Nominees and Runners-up who had not yet graduated. The Nominees for 2020 and their schools are listed below.

Alex de la Iglesia	Howell High School
Srihari Ganesh	Novi High School
Kyler Hwa	West Bloomfield High School
Jaewoo Kim	Troy High School
David Lewis	Univ. of Detroit Jesuit H.S.
Kevin Masel	Northville High School
Atharv Relekar	International Academy East
Aneesh Sabnis	Plymouth High School
Pratham Soni	Troy High School
Pranhav Sundarajan	Churchill High School
Linda Weng	Novi High School

Ten of the Nominees sat for Part I (multiple choice) of the National exam, administered virtually to about 1000 students nationwide on Sunday, April 26. Two of them, Srihari Ganesh and Pratham Soni, scored in the top 150 and were invited to complete Part II (problem solving and free response) the following Sunday. Combined scores for Parts I

and II were the basis for the selection of study camp attendees. Both Ganesh and Soni earned Honors on the National exam, but they were not among the twenty persons chosen to attend the virtual Olympiad study camp. The four-person US team was selected based on performance at the study camp.

As reported in the August 24 issue of C&EN, for the first time in the history of US participation in the IChO, all four US team members earned gold medals. Alex Li of Lexington (MA) High School was the overall top scorer in the international competition.

Project SEED Summer 2020 Innovation and Creativity

By Felicia A. Benson, STEM Educational Services

It has been over 50 consecutive years that ACS-National has offered Project SEED (Summer Educational Experience for Disadvantaged Students), a program directed towards low income high school students who have successfully completed high school Chemistry. The ultimate goal of this program is to increase the diversity of professionals in Science Technology Engineering and Mathematics (STEM) but, in particular Chemistry-related careers.

Project SEED places high school students in advanced Chemistry research assignments in industry, government laboratories or at a university over the summer. Selected participants are placed in an assignment, under a mentor, for 8 – 10 weeks. Additionally, in Detroit, these students receive a stipend, complete community service, attend designed workshops as well as develop a research paper and poster as an overview of their research assignment. Each student potentially has 2 years of eligibility that enhances the program's impact.

While the previous paragraphs specifically highlighted the Detroit section's program in times past, this summer National solely championed the execution all the chapters, due to the current world-wide health crisis. This year's program was transformed into an exceptional 4-week effort. The scope of this year's program was to expose the participants to research fundamentals, cutting edge research, and select careers in Chemistry. This was all accomplished virtually via Zoom. As a bonus, some of the presentation were streamed internationally.

The SEED virtual experience was modelled after a summer camp. There were pods that consisted of 9 – 12 students spread across the country. The pods would meet (virtually)

at the start of each day. Later, the pods/clusters had breakout sessions where they were exposed to research presentations. The clusters were then directed to a workshop or panel discussion, which generated assignments to be graded by the pod leader.

The effort was largely designed by ACS-national. Although, ACS-national made the final student selections, local sections were integral as it related to recruiting local students. Moreover, local SEED committees were able to give input on the final list of students, see below. Over 200 students were selected to this year's program. Specifically, under this format a record number of SEED students from the Detroit section were selected.

This year's Detroit SEED committee has been in contact with its student participants and have polled these students in terms of their perceptions of the virtual experience. Below are the highlights of their responses.

What did you like least about this year's experience

- Too many surveys
- Not enough application activities
- Many of the research presentations were too technical
- Large or joint group activities
- Not enough college prep activities

What did you like most about this years' experience?

- The pay; \$1,000
- The morning sessions with undergrads in smaller groups
- Relatable researchable presentations
- Interactions with other SEED students
- Introduction to potential Chemistry related careers

Hopefully, in 2021, SEED will return to its fundamental programming features. However, ACS-national wants to retain some parts of this summer's virtual effort. ACS-national is looking to offer a virtual component at the beginning of the program in order to lay a foundation for students before they enter their lab assignments, as well as introduce ACS-national as a current or future student resource. Additionally, ACS-national has a one-year scholarship program for incoming college freshmen who major in Chemistry. Next year, ACS-national looks to extend the years of support as well as extend its efforts to non-Chemistry majors. It should be noted, a participant from last year's program from the Detroit-section, Tyler Johnson, received one of this year's Project SEED scholarships.

Furthermore, data generated from students indicated that they enjoyed discussions related to choices and consequences that the undergraduates and graduates have made thus far on their journey. Hence, National is exploring this aspect of student decision making by offering a series of panel discussions or a town hall format.

Moreover, If the face to face platform within SEED is restored, the stipend structure from past years will be reinstated. Also, National is looking to redefine the criteria used to define

“disadvantaged students”, which could positively impact student eligibility. Lastly, National is looking to increase the centralization of the student application process. Interested students, like this year, will submit application materials on-line. The local section committee will evaluate and generate a short list of candidates and complete student interviews.

It is clear, this year’s Project SEED program was faced with several challenges but, has emerged with potentially a more effective program that may impact more students.

Notwithstanding, the financial aspect of the program was altered. While ACS-national covered the entire reduced student stipend this year, moving forward, this will not be the case. In a normal year, National covers half of the student stipends. Hence, donations are vital to local programming. If interested, please contact the local ACS section for more information.

Subject: student names

Murshed Armed	Cass Technical High School Detroit ACS Local Section
Juan Disla	Cass Technical High School Detroit ACS Local Section
Sintia Islam	Western High School Virtual American Chemical Society Site
Tyler Johnson	Home School Detroit ACS Local Section
Lauren McIntyre	Midland ACS Local Section
Shahad Nasir	Michigan State University
Evamelo Oleita	Cass Technical High School Detroit ACS Local Section
Anijah Postell	Cass Technical High School Detroit ACS Local Section
Ridwan Sheikh-Omar	Michigan State University
Ola Turkey	Kalamazoo ACS Local Section
Zihao Wang	Western High School American Chemical Society Site



American Chemical Society – Detroit Local Section – Younger Chemists Committee Presents:

Brewing Chemistry

Detroit, Michigan

Brewing Chemistry is a monthly lectures series. These informal talks are designed to make science fun and accessible for all.

ATTENTION - This is a Zoom presentation!

You must pre-register by Monday, October 12th to attend.

To register, please contact

Meghann at [313.993.1259](tel:313.993.1259) or meghann@brewingchemistry.com

Tuesday, October 20th, 2020 at 7 PM

STEM Inclusion: Frankenstein, Black Panther and Vibranium

Presented by:

Sibrina N. Collins, Ph.D.,

The Marburger STEM Center, Lawrence Technological University, Southfield, MI

How can we engage the next generation of chemistry leaders with the periodic table of elements? In this conversation, we will focus on using popular movies such as Marvel Studios' *Black Panther*, *Hidden Figures* and Mary Shelley's novel *Frankenstein* for classroom engagement with students in both the STEM (Science, Technology, Engineering, and Mathematics) and the Humanities disciplines. Furthermore, we will highlight the public engagement initiatives for LTU's Marburger STEM Center.

www.brewingchemistry.com

Sibrina N. Collins, PhD
Executive Director, Marburger STEM Center,
Lawrence Technological University, 21000 W. Ten Mile Rd.,
Southfield, MI 48075-1058



Dr. Sibrina N. Collins is an inorganic chemist and STEM administrator. She is a proud Detroit Public Schools graduate and began her college career at Highland Park Community College (Highland Park, MI), where she earned an associate of science degree in 1990. Dr. Collins later earned a B.A. in chemistry (cum laude) in 1994 from Wayne State University (Detroit, MI).

She earned her M.S. (1996) and Ph.D. (2000) both in the field of inorganic chemistry, from The Ohio State University under the direction of Professor Bruce Bursten. As a graduate student at OSU, she received significant training as a photochemist, where she used light to study chemical reactions and photochemically reactive molecules. She later completed a postdoctoral appointment at Louisiana State University (Baton Rouge, LA), where she focused on heart disease research.

Between 2003-06, Dr. Collins was an assistant professor of chemistry at Claflin University, an HBCU (Historically Black Colleges and Universities) in Orangeburg, SC. Her research efforts at Claflin focused on the crystal-engineering of metal-organic frameworks (MOFs), which have many potential applications as electronic materials. Dr. Collins has also worked as a writer and editor for the American Association for the Advancement of Science (AAAS) in Washington, DC. From 2006-08, she served as the director of graduate diversity recruiting for the University of Washington (Seattle, WA). In this role, she focused on building effective partnerships between STEM (Science, Technology, Engineering, Mathematics) faculty at minority-serving institutions (MSIs) and the University of Washington.

Dr. Collins served as a faculty member in the Department of Chemistry at The College of Wooster (Wooster, OH) 2008-14. At Wooster, her research focused on developing a detailed understanding of the molecular structures, electronic structures, photophysics and reactivity of a selection of late transition metal complexes and exploit this understanding to design effective anticancer agents. The transition metal complexes contained ruthenium (Ru), rhenium (Re), gold (Au) and copper (Cu) metal centers. Dr. Collins has mentored 17 undergraduate chemistry students and published peer-reviewed articles in high-impact journals such as *Inorganic Chemistry*, *Acta Crystallographia*, *Journal of Chemical Education*, and *the Bulletin for the History of Chemistry*.

Dr. Collins previously served as the director of education at The Charles H. Wright Museum of African American History in Detroit, which is a cultural institution focused on the African American experience. In this role, she focused on the science education and social studies programming for the Wright Museum. Dr. Collins is now the executive director of the Marburger STEM Center (MSC), at Lawrence Technological University. The Marburger STEM Center is the intellectual home of campus-wide STEM initiatives at LTU, which promotes inclusiveness, excellence, creativity and innovation.