

ACS Virginia Section Project SEED Report

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Mission and Goal Statement

To ensure that high school students from economically disadvantaged backgrounds who aspire to go to college and major in chemistry or a STEM-discipline are able to participate in a transformative summer research experience that helps to prepare and contribute to their future success. To increase awareness, promote, and recognize Project SEED participation in the Virginia Section.

2020 Executive Summary

Summer 2020 marked the first time in 52 years the ACS Project SEED Program was not able to offer an in-person summer research experience to economically disadvantaged high school students who plan to attend a 4-year college or university and major in a STEM-field. Since 1968 Project SEED has served over 11,200 students. The Project SEED program is led by Racquel Jemison, Ph.D. (Student Experiences Portfolio Manager, ACS Education Division). The Virginia Section has hosted 19 students in the hands-on version of the program between 2017-2019 and was on-track for a record year until the pandemic curtailed in-person activities at colleges and universities last spring. Prior to cancellation, three universities in the Section were registered to participate in the 2020 program. Each had submitted project proposals to the ACS and initiated recruiting activities with high schools in their areas (James Madison University, Longwood University, and Virginia Commonwealth University).

In response to the pandemic, the ACS announced the cancellation of the traditional in-person research program on April 29th and the Project SEED Committee and ACS staff subsequently developed a 4-week on-line virtual camp as an alternative. Approximately 300 students nationwide participated in the virtual program this past summer. Project SEED typically serves ~450 student each year.

The content of the virtual program built on the non-laboratory benefits of Project SEED and focussed to provide enrichment activities in following areas:

1. research basics and student preparedness,
2. professional etiquette and college readiness, and
3. exposure to chemistry-related career pathways.

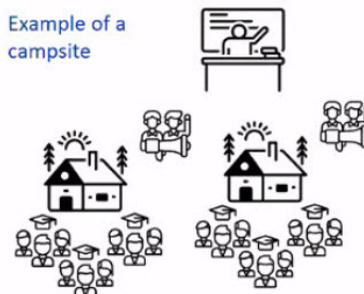
The virtual camp was organized into a series of cabins across the nation.

Each cabin consisted of ~10 SEED students and a cabin leader. The cabin leaders were either graduate and/or undergraduate students majoring in STEM-fields. Camp managers volunteered to aid cabin leaders with the planning and coordination across the cabins in their camp. Camp activities consisted of synchronous and asynchronous meetings and activities that included a weekly campfire meeting, nation-wide webinars, virtual panels, and research discussions. Cabin leaders designed and lead meetings to address the students' questions or interests in college or pursuing careers in science.

Two universities from the Virginia Section participated in the Project SEED Virtual Camp Program: **Longwood University** and **James Madison University** under the leadership of Sarah Porter and Linette Watkins respectively. This was the second consecutive year of participation by Longwood University and the first year by James Madison University. Overall, the Longwood and JMU participants rated the program as exceptional, especially considering the quick move to online modality.

Virginia Commonwealth University who had participated the past three years did not to participate in the virtual camp option.

Example of a
campsite



Project SEED at Longwood University

Sarah Porter (Professor of Chemistry, Project SEED coordinator, Director of Longwood Summer Scholars) served as a Camp Manager for the virtual summer camp offered by Project SEED. In this capacity, she and another professor from Bob Jones University, Dr. Robert E. Lee, oversaw a group of Cabin Leaders (mostly college students and graduate students) who worked directly with the Project SEED students in small groups, or "cabins."

Jonathan White (Assistant Professor of Chemistry, Assistant Director of Longwood Summer Scholars) presented a "Research Hike" during the virtual summer camp. His talk was titled "The history and chemistry of the platinum-based drugs." Research Hikes were one of several different experiences offered to the students in Project SEED this summer. During the Research Hikes, researchers from across academia and industry presented their research to interested students.

Benjamin Campbell (Assistant Professor of Biology/Science Education) participated in the final "un-conference" by presenting a talk in one of the sessions. His talk was titled "Different Levels of Conceptualizing Science Phenomena."

Keira Naff (senior chemistry/science education major at Longwood) was a Cabin Leader, and worked directly with twelve students in the virtual camp. Cabin leaders designed and lead meetings that were oriented toward the students' questions or interests in college or pursuing careers in science.

Antonio Harvey (Prince Edward County High School) was a student participant in the virtual summer camp. Antonio was a Project SEED student at Longwood in the summer of 2019 and was accepted as a SEED II student for the virtual summer camp in 2020. Antonio will be graduating from PECHS in May and will attend Longwood in the Fall of 2021 and major in chemistry.

Project SEED at James Madison University

Linette Watkins (Professor of Chemistry, Chemistry Department Head, and Project SEED coordinator) initiated efforts for at JMU to host the in-person, hands-on version of the program. The department established key contacts in the Harrisonburg City Public Schools and Rockingham County Public Schools and subsequently sent recruitment information for interested students to these schools.

Gina MacDonald (Professor of Chemistry) and Ashleigh Baber (Assistant Professor) each served as a Camp Manager for the virtual summer camp program. They participated in nation-wide Project SEED events, as well as, worked with their Cabin Leaders to design, plan, and participate in meetings with the Project SEED students assigned to their cabins.

Adrienne Lee (2020 JMU graduate, chemistry major) served as a was a Cabin Leader, and worked directly with ten students in her cabin. The three other cabin leaders were not affiliated with JMU.

Project SEED at Virginia Commonwealth University

Efforts at VCU were led by Mike Hunnicutt (Associate Professor of Chemistry, Project SEED Lead Coordinator) and Mychal Smith (Assistant Professor, Project SEED Co-coordinator). Faculty participation was anticipated to eclipsed prior years with the submission of 8 SEED project proposals to the Project SEED National Committee. In an effort to expand the student candidate pool, the VCU team arranged for the Maggie L. Walker Governor's School (located in the Richmond city limits) to participate in Project SEED for the first time along with the high schools in the Richmond Public School system. Virginia Commonwealth University chose not to participate in the virtual camp option.

Virginia Section Plan for 2021

As shown on the next page, the national Project SEED Committee has redesigned the program for 2021 based on the positive experience with the virtual program this past summer. The "New Normal" (Plan A)

will consist of the traditional in-person research-based program as well as the virtual camp option. The research-based program will include weekly webinars for all SEED sites nationally. Sites participating in the in-person research program are encouraged to continue to offer non-research enrichment activities previously offered in the areas of student preparedness, financial aid, college readiness, professional etiquette, and exposure to chemistry-related career pathways. The Virtual Camp will operate based on the 2020 design with the addition of a small pilot program for “Virtual Research Projects” (i.e., computational research). The decision to offer the Virtual Camp option in the “new normal” plan makes the SEED program more inclusive and accessible to high school students not able to participate in the in-person program.

The ACS anticipates making a go/no-go decision on offering Plan A or Plan B versions of Project SEED sometime in the spring based on the status of the pandemic nationwide and whether or not institutions planning to participate in the 2021 Project SEED program anticipate they will be permitted to have minors on-campus.



2021 Goals

- Program participation at JMU, Longwood, and VCU (Plan A or Plan B).
- Improve awareness and visibility of Project SEED in chemistry departments at colleges and universities in the Virginia ACS Section with the goal of increasing participation in 2022.
- Recruit members for the Project SEED Subcommittee

2021 Budget Request

- 2020 Budget: \$6,250. No funds were spent due to cancellation of in-person research-based program. Funding can only be used for cash pay-outs for SEED student scholarships for program participation (ACS requirement).
- 2021 Budget Request: \$6,250