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Project SEED Mission Statement

“To assure that students from economically disadvantaged backgrounds have opportunities to experience the challenges and rewards of chemically-related sciences.”

Photo Courtesy of University of Puerto Rico, Rio Piedras
Project SEED, a program of the American Chemical Society (ACS), provides economically disadvantaged high school students an opportunity to participate in research and learn what it is like to work in science-related fields through a hands-on experience. Since 1968, the program has placed nearly 10,600 students in academic, industrial, and governmental laboratories for 8 to 10 weeks during the summer. This past summer, more than 400 volunteer scientists and coordinators worked with one or two students at more than 130 institutions in 36 states, the District of Columbia, and Puerto Rico. Project SEED offers a fellowship to support one or two summers. This summer, a total of 411 students participated in the program, 304 students of whom were summer I students and 107 of whom were Summer II students.

At the end of the program, students were asked to respond to a questionnaire designed to assess the success of the program. Of the 411 students in the program, 407 responded. The results of the survey (See pages 30-32) provide information on the background of the students, their educational aspirations, and their assessment of Project SEED. The results of the survey indicate that Project SEED is serving its target population: most of the respondents come from low-income families with incomes of $35,000 or less; 67% of the respondents indicate that Project SEED experience helped them to decide to pursue a career in science, and 88% indicate that they will continue their education after high school because of Project SEED; 97% indicate that Project SEED helped them to develop new skills and abilities; 83% note that Project SEED was successful in improving their self-confidence; and 85% indicate they will become a scientist, engineer, or mathematician. Most of the respondents rated Project SEED “Excellent”.

At the ACS fall national meeting in Washington, D.C., 36 Project SEED students presented their summer research at the Sci-Mix poster session. The students represented the Chemical Society of Washington, Georgia, Maryland, New York, North Jersey, Trenton, and Washington-Idaho Border local sections. (See pages 27-29)

The ACS Project SEED Endowment, industries, foundations, academic institutions, ACS Local Sections, and ACS friends and members supported total student fellowships of $1,081,000. (See pages 33-35.) ACS provided student fellowships and paid all administrative costs.

In 2017, Project SEED awarded 27 college scholarships to Project SEED alumni entering their freshman year in college during the academic year 2017-2018 and who are pursuing careers in a chemical science. (See pages 19-22.) The scholarships of up to $5,000 were funded through the continuing generosity of Alfred and Isabel Bader, Ashland Inc., Bayer Foundation, and Russel J. Fosbinder. In addition, three Project SEED college scholars received the Ciba Specialty Chemicals scholarships for three renewable years beginning in their sophomore year.

In 2018, the ACS Project SEED program will celebrate its 50th anniversary! We would like to express our sincere thanks and appreciation to Alfred and Isabel Bader (Bader Philanthropies), Susan Fahrenholtz, and Cynthia and Bruce Maryanoff for their generous gifts as first contributors to launch the 2018 Project SEED milestone fundraising appeal.

The success of the program is contributed to its many generous financial supporters, volunteer coordinators and mentors. Please join us to recognize its success.
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

### ALABAMA

**Jacksonville State University, Nixon Mwebi**  
Nixon Mwebi

### ARKANSAS

**University of Arkansas, Grant Wangila**  
Grant Wangila

### CALIFORNIA

**California Local Section, ACS, Elaine Yamaguchi**  
Florence Wu  
Aemtek, Inc.

<table>
<thead>
<tr>
<th>Cory Brooks</th>
<th>Shuchi Kakkad</th>
<th>Hubert Muchalski</th>
<th>California State University, Fresno</th>
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</thead>
</table>
| Michael Cheng |                | Tiffany Wong     | Summer I  
Asialyn Lee  
Jonathan Zarate Jimenez  
Sahil Singh Gill  
Karen Gonzalez  
Brian Higareda  
Jose Alfaro  
Sarah Latino  
Angela Rodriguez  
Nathalie Velazquez  
Joanna Marie Cayanan  
Meilu Huang  
Emily Roman  
Francisco Chavez  
Jingjun Zeng  
Armen Phelps  
Truc Nguyen  
Tiffany Thuy Vu  
Aaron Bettencourt  
Guadalupe Covarrubias-Oregel  
Adrian Gomez  
Jagandee Mokha  
Gregorio Nava-Ponce  
Kathy Vue |
# 2017 Project SEED Summer I & II Programs

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<thead>
<tr>
<th>Institutions/Coordinators/Mentors</th>
<th>Students</th>
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<td>University of San Francisco</td>
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<td>Jianhua Ren</td>
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<td>Jerry Tsai</td>
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<td>Qiuang Zhao</td>
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<td>David Sparkman</td>
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<td>USDA-ARS Water Management Research Lab.</td>
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<td>Gary Banuelos</td>
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<td>Raymond Garcia</td>
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<td>Lorena Orozco</td>
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<td>William Hart-Cooper</td>
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<td>Niu Dong</td>
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<td>Colleen McMahan</td>
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<td>Andrew Breksa, Ana Vilches</td>
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<td>Sarah Throne</td>
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<td>California State University, Fresno</td>
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<td>Hussein Albudwarej</td>
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<td>Art Inouye</td>
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<td>Mitra Hosseini Ken Nelson</td>
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<td>Weiming Wu</td>
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<td>San Francisco State University</td>
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<td>Kenneth Forbes</td>
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<td>Brad Hanson, Caio Brunaro</td>
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<td>University of California, Merced</td>
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<td>Jenhui Ren</td>
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<td>Andy Franz</td>
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<td>University of the Pacific</td>
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<td>Ron Haff</td>
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<td>Sam Lieboff</td>
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<td>University of California, Berkeley</td>
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<td>California State University, Los Angeles, Frank Gomez</td>
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<td>Jesus Arroyo</td>
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<td>Jacqueline Ramirez</td>
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<td>Paola Ramirez</td>
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<td>Zehui Li</td>
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<td>Ruth Cervantes</td>
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<td>Jose del Carmen Li</td>
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<td>Luis Moreno</td>
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<td>Belen Sandoval</td>
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<td>Emony Hill</td>
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<td>Andrew Orellana</td>
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<td>Andrew Franz</td>
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<td>USDA-ARS Western Regional Research Center</td>
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</tbody>
</table>
2017 Project SEED Summer I & II Programs

Institutions/Coordinators/Mentors

**California State University, San Bernardino, Dennis Pederson**
Jingsong Zhang  
University of California, Riverside

**San Diego Local Section, ACS, Valerie Kuck**
Francisco Paesani  
University of California San Diego
Seth Cohen
Jessica Bell  
University of San Diego
Joan Schellinger

**Stanford University, Kaye Storm**
Gerald Fuller  
Andrew Spakowitz  
Junzhe Lou  
Kyle Gustafson

Chris Lindsey

**The Scripps Research Institute, Ashley Hull**
Floyd Romesberg  
Keary Engle  
Jeffery Kelly

**University of California, Davis, Shota Atsumi**
Louise Berben  
Susan Kauzlarich  
Shota Atsumi

Sheila David

**COLORADO**

**Colorado State University – Pueblo, David Dillon**
Sandra Bonetti  
Melvin Druelinger  
Matthew Cranswich

**CONNECTICUT**

**University of Connecticut, Alfredo Angeles-Boza**
Jie (Jay) He  
Jessica Rouge

**Students**

**Summer I**
Jose Benitez-Ponce

**Summer I**
Mohamed Ali  
Thien Thai  
Konthong Khisirivong  
Van Phan  
Marco Tamez

**Summer II**
Blanca Jaime

**Summer I**
Lesley Avila  
Bonnie Chu  
Maria Gutierrez  
Thanh Luong

**Summer I**
Reta Behnam  
Forrest Graham  
Deka Ismail  
Faatimah Iqbal  
Jacinto Lepe-Banales  
Long Nguyen

**Summer II**
Beili Huang  

**Summer I**
Eva Darling  
Jade Garcia  
Zek Kelly  
Marcus Ortega Keshmiri

**Summer I**
Medina Kheyabani  
Malina Kheyabani  
Zaret Rodriguez
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

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<tr>
<th>Institutions/Coordinators/Mentors</th>
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<td><strong>DISTRICT OF COLUMBIA</strong></td>
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<td><strong>Chemical Society of Washington, Allison Aldridge</strong></td>
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<td><strong>Barry University, George Fisher</strong></td>
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<td>John Berry</td>
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<td><strong>Clark Atlanta University, Ishrat Khan</strong></td>
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<td>Briyhan Martin</td>
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<td>Jeremiah Minor</td>
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<td>Richard Nwakamma</td>
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<td><strong>Georgia College and State University, Catrena Higginbotham</strong></td>
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<td>Jonathan Uriostegui</td>
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<td>Emily Xu</td>
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</table>
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

### IDAHO

**Idaho State University, Andrew Holland**  
Rene Rodriguez  
Andrew Holland  
Joshua Pak  
Caryn Evilia  

**Snake River Local Section, ACS, Don Warner**  
Jeunghoon Lee  
Don Warner  

### ILLINOIS

**Chicago Local Section, ACS, Raelynn Miller**  
James Devery  
Loyola University of Chicago  

**Milikin University, Anne Rammelsberg**  
Kyle Knust  
Anne Rammelsberg  

### INDIANA

**Indiana Local Section, ACS, Elmer Sanders**  
Pascal Lafontant  
DePauw University  

**Yu Lu**  
Eli Lilly and Company  

**James Williams**  
Indiana University School of Medicine  

**Uma Sankar**  

**Christoph Naumann**  
Indiana University-Purdue University Indianapolis  

**Hiroki Yokota**  
IUPUI School of Engineering and Technology  

**Ann Kimble-Hill**  
IUPUI School of Medicine  

## Students

### Summer I

**Luis Cruz**  
Andrew Perry  
Edith Gonzalez  
Ethan Miller  
Erin Moore  
Sean Morrissey  

**Summer II**  
Andrea Nguyen  
Emily Wade  

**Selena Cruz**  
Janiel Cortes  
Rocco Molinelli  
Mir Rehman  
Brielle Ross  

**Summer II**  
Caleb Grover  
Rodney Spicer  
Robert Spicer  

**Summer II**  
Connor Dickey  

**Rania Ousman**  
Neel Sangani  
Mathews Zemen  
Kailee Jackson  
Sarah Nawar  
Elissa Tam  
Erika Bello Ramirez  
Feven Araya  
Nahum Gerezgher  
Manuel Senra
## 2017 Project SEED Summer I & II Programs

### Institutions/Coordinators/Mentors

<table>
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<th>Horia Petrasche</th>
<th>IUPUI School of Science</th>
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<td><strong>University of Notre Dame, Mary Prorok</strong></td>
<td>Amanda Hummon</td>
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### Students

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<td>Emmanuel Atilola</td>
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<td>Justice Vaughn</td>
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### IOWA

**Iowa State University, Javier Vela**

Emily Smith
Jared Anderson
Vincenzo Venditti

**Summer I**

Jayda Anaya-Negrete
Isabel Camacho Arias

**Summer II**

Moises Garcia

### KANSAS

**Wichita State University, Syed Taher**

Syed Taher

**Summer I**

Mohanned Ullah

**Summer II**

Ashley Romero

### MARYLAND

**John Hopkins University, Takashi Tsukamoto**

Takashi Tsukamoto

**Summer I**

Shan Shueh
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

**Morgan State University, Louise Hellwig**
Santosh Mandal

**University of Maryland Eastern Shore, Victoria Volkis**
Simon Zebelo
Victoria Volkis

### MASSACHUSETTS

**Stonehill College, Cheryl Schnitzer**
Marilena Hall
Louis Liotta

### MICHIGAN

**Delta College, Bernadette Harkness**
Anja Mueller
Central Michigan University

Jennifer Chaytor
Saginaw Valley State University
Tami Sivy

**Henry Ford Community College, Keith Williams**
Matthew Allen
Wayne State University

Howard Matthew
Wen Li

**Kalamazoo Local Section, ACS, Michael Walsh**
Dwight Williams
Kalamazoo College

**Michigan State University, Chrysoula Vasileiou**
J.W. Frost
James Jackson
James Geiger
Greg Swain
Babak Borhan
Robert Maleczka

Remi Beaulac
Benjamin Levine
William Wulff

### Students

**Summer II**
Ariana Jennings

**Summer I**
Cylah Bailey
Julia Cornish

**Summer I**
Nessie Dubuisson
Pui-Lam Lo
Brandon Ugbesia

**Summer I**
Kaitlyn Schwallier

**Summer II**
Darla Martinez
Aubrie Tacey

**Summer I**
Arionna Nelson

**Summer II**
Suriya Chowdhury
Ruma Deb
Shaida Nishat

**Summer I**
Victor Plascencia

**Summer I**
Nagham Al-Masraf
Vivian Ho
Ruth Horta
Aya Mohammed
Mohamed Salem
Kamisha Tuma

**Summer II**
Dhan Bhandari
Maryam Ezz
Fardowsa Omar
Gadir Mohamed
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

### MINNESOTA

**3M Company, Sarah Mullins**
Lee Penn, Alon McCormick  
Romas Kazlauskas  
Wayland Noland  
Jerry Cohen  
Mark Distefano

Philippe Buhlmann

### MISSOURI

**Kansas City Local Section, ACS, Michelle Paquette**
Shin Moteki  
University of Missouri-Kansas City

Michelle Paquette

**Saint Louis University, Ryan McCulla**
Ryan McCulla

### MISSISSIPPI

**The University of Southern Mississippi, Douglas Masterson**
Julie Pigza  
Philip Bates  
Karl Wallace  
Douglas Masterson

### MONTANA

**University of Montana, Earle Adams**
Kendal River

### NEBRASKA

**Creighton University, Sade Kosoko-Lasaki**
Yaping Tu  
Devendra Agrawal

## Students

### Summer I

- **Maria Balderrama**  
- **Camryn Franke**  
- **Anaa Jibicho**  
- **Bao Nhia Thao**  
- **Xee Thao**  
- **Pa Thao**

### Summer II

- **Ka Lia Xiong**

### Summer I

- **Milkise Yassin**

### Summer II

- **Derrick Bailey**

### Summer I

- **Shaquina Johnson**  
- **Louis Stith**

### Summer I

- **Tamica Davis**  
- **Kimberton Mai**  
- **Sara Pacheco**  
- **Rachelle Speights**

### Summer II

- **John Bowers**

### Summer I

- **Malcom Gladney**  
- **Elsa Ramirez**
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

### NEVADA

**University of Nevada, Reno, Laina Geary**
- Yiftah Tal-Gan
- Samuel Odoh
- Ian Wallace
- Wesley Chalifoux
- Matthew Tucker

### NEW JERSEY

**Academy for Enrichment & Advancement, Union City High School, Amanda Smith**
- Stavroula Sofou
- Rutgers University

**Academy for Enrichment & Advancement, Union City High School, Mina Armani**
- Sagnik Basuray
- New Jersey Institute of Technology

**Academy for Enrichment & Advancement, Union City High School, Judith Barrios**
- Johana Moreno
- Academy for Enrichment and Advancement

**Academy for Enrichment & Advancement, Union City High School, Nadia Makar**
- Marc Cohen
- Beth Israel Medical Center

## Students

### Summer I

**University of Nevada, Reno, Laina Geary**
- Joseph Dailey
- Angel Gomez
- Olivia Hall
- Emma Osgood
- Luz Salorio

**Academy for Enrichment & Advancement, Union City High School, Amanda Smith**
- Kamila Amador
- Valerie Zapata

**Academy for Enrichment & Advancement, Union City High School, Mina Armani**
- Yunior Toribia
- Keith Branes

**Academy for Enrichment & Advancement, Union City High School, Judith Barrios**
- Racquenel Abreu
- Allyson Perero
- Brandon Moran
- Dana Vitiello

**Academy for Enrichment & Advancement, Union City High School, Nadia Makar**
- Jennifer Aguilar
- Daniella Blanco
- Verenice Bonilla
- Denia Diaz

### Summer II

**University of Nevada, Reno, Laina Geary**
- Mario Banos
- Aswin Aguinaga

**Academy for Enrichment & Advancement, Union City High School, Amanda Smith**
- Mina Armani
- Union City High School
2017 Project SEED Summer I & II Programs

Institutions/Coordinators/Mentors

Treena Arenzeh  New Jersey Institute of Technology
Karina Schafer  Rutgers University, Newark
Agostino Pietrangelo
Michele Pavanello

Yosra Badiei  Saint Peters University
Weidong Zhu
Debing Zeng

Marc Cohen  Beth Israel Medical Center
Kevin Olsen  Montclair State University
Stefan Strauf  Stevens Institute of Technology

Fairleigh Dickinson University, Marion McClary
Marion McClary, Sixto Mahecha
Catherine Daugherty

Marion McClary

Fordham University, Susan Fahrenholtz
Joseph Bozzelli  New Jersey Institute of Technology

High Tech High School, Nina Lavlinskaia
Mereiem Bendahoud  New Jersey City University
Tianning Diao  New York University
Christian Traba  Saint Peters University
Woo Lee  Stevens Institute of Technology
Simon Podkolzin

New Jersey City University, Robert Aslanian
Hun Bok Jung
Deborah Freile
Robert Aslanian
Reed Carroll

Students

Michael Yanqui
Ranol Handapangoda
Lyndsey Lara
Emely Urbina
Alyssa Vargas
Chelsea Castillo
Jesus Mexica
Roberto Saenz

Summer II
Gabriela Ale
Giovanni Cruz
Aldair Medrano

Summer I
Stephanie Caballero-Vega
Zamira Miranda
Estelle Akdemir
Cristopher Hidalgo

Summer II
Ashley Gordillo

Summer I
Christy Zheng

Summer I
Reika Hayashi
Shelina Chotrani
Muhammed Umar
Anna Rezk
John Rezk

Summer II
John Carvajal
Mirka Ortiz
Anna Yactayo
2017 Project SEED Summer I & II Programs

Institutions/Coordinators/Mentors

New Jersey Institute of Technology, Reginald Tomkins
Yuanwel Zhang
Yong Yan
Bhavani Balasubramanian

Roman Voronov
Alexei Khalizov
Gennady Gor

North Jersey Local Section, ACS, Bobbi Gorman
Gerald Buonopane
Seton Hall University
Rhonda Quinn

North Jersey Local Section, ACS, Bobbi Gorman
Gerald Buonopane
Seton Hall University
Rhonda Quinn

James White
Rutgers University, New Brunswick

Ramapo College of New Jersey, Carol Frishberg
Catalin Martin
Thomas Owen

Rider University, Jamie Ludwig
Danielle Jacobs
Jamie Ludwig

Rowan University, Gregory Caputo
Gustavo Moura-Letts

Timothy Vaden
Lark Perez

Rutgers University-Camden, David Salas-de la Cruz
David Salas-de la Cruz

Rutgers, The State University of New Jersey, Deborah Stalling
Luca Cartegni

Science Park High School, Andre Bridgett
Alexis Rodriguez
Rutgers University, Newark

Seton Hall University, Gerald Buonopane
Gerald Buonopane
Daniel Nichols

Daniel Nichols

Students

Summer I
Camile Cordero
Emanuel Diaz
Miyoko Quinonez

Summer II
Rebecca Amador
Jaime Mendoza
Marcelo Munoz

Summer I
Naomi Guinyard
Abieyuwa Osayande
Hiroshi Onyinah Poku

Summer II
Jonathan Reynolds

Summer I
Ishham Chowdhury
Amel Hassan

Summer I
Geordelle Maxwell
Ameka Yawson
Gbaweah Sandy

Summer I
Melissa Hernandez-Reyes

Summer II
Omar Cruz Garcia
Citlalli Jimenez

Summer I
Kayla McKinnon

Summer I
Sommer Gomez Gonzalez

Summer I
Erika Vasquez
Kevin Zavala

Summer I
Jasser Dominguez
Rodensley Philippe

Summer II
Jamila Osborne
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

### NEW MEXICO

- **University of New Mexico, Naomi Lee**
  - Naomi Lee
  - Lurita Tenorio

- **Sandia National Laboratories, Bernadette Hernandez-Sanchez**
  - Bernadette Hernandez-Sanchez
  - Timothy Boyle

### NEW YORK

- **Advanced Science Research Center, Adam Braunschweig**
  - Dorthe Eisele
  - Adam Braunschweig
  - Rein Ulijn
  - Amedee des Georges

- **Ellis Preparatory Academy, Jeremy Heyman**
  - Daniel Esposito
  - Columbia University
  - Kristin Myers
  - Qi Wang
  - Yuan Yang
  - Donna McGregor
  - Lehman College

- **Rochester Institute of Technology, Lea Vacca Michel**
  - Gabrielle Gaustad
  - Rochester Institute of Technology
  - Callie Babbitt
  - Todd Krauss
  - University of Rochester
  - Callie Babbitt
  - Rochester Institute of Technology

### NORTH CAROLINA

- **North Carolina Local Section, ACS, J. Stewart Witzeman**
  - Kathleen Donohue
  - Michael Fitzgerald
  - Denis Fourches
  - North Carolina State University
  - Erik Santiso
  - Melissa Pasquenelli
  - Felix Castellano

- **University of North Carolina, Charlotte, Thomas Schmedake**
  - Daniel Rabinovich
  - Jacob Horger

## Students

### Summer I

- **NEW MEXICO**
  - Naomi Lee
  - Lurita Tenorio

- **NEW YORK**
  - Dorthe Eisele
  - Adam Braunschweig
  - Rein Ulijn
  - Amedee des Georges

- **NORTH CAROLINA**
  - Kathleen Donohue
  - Michael Fitzgerald
  - Denis Fourches
  - North Carolina State University

### Summer II

- **NEW MEXICO**
  - Timothy Boyle

- **NEW YORK**
  - Adam Braunschweig
  - Moussa Niang
  - Alejandro Ramirez
  - Patricia Santos

- **NORTH CAROLINA**
  - Daniel Rabinovich
  - Jacob Horger
  - George Andrade
  - Mirna Peralta
2017 Project SEED Summer I & II Programs

Institutions/Coordinators/Mentors

Michael Walter
Thomas Schmedake
Kirill Afonin

Case Western Reserve University, Carlos Crespo-Hernandez
Emily Pentzer
Anna Samia
Carlos Crespo-Hernandez

Blanton Tolbert
Rohan Akolkar
Chris Dealwis
Daniel Scherson
John Protasiewicz
Carlos Crespo-Hernandez
Genevieve Sauve
Emily Pentzer

Akron Local Section, ACS
Hiram College, Carol Shreiner
Christopher Ziegler The University of Akron
Michael Konopka
Kevin Cavicchi
David Modarelli

Chrys Wesdemiotis

University of Cincinnati, Anna Gudmundsdottir
Anna Gudmundsdottir

Edward Merino

James Mack

University of Toledo, Ajith Karunarathne
Jianglong Zhu
Wei Li
Michael Young
Ajith Karunarathne

Cora Lind-Kovacs

Students

Summer II
Brandon Miller
Liliana Moranchel
Beamiak Worku

Summer I
RhayAuna Dent
Nickie Lam
Dawn Luong

Summer II
Abdel-Raheem Abed
Jade Britton
Amanda Kong
Ali Mokdad
Yousaf Rouiha
daisha Taylor
Yondez Webb
Jaylen Williams

Summer I
Taylor Davis
David Miller
Tommy Sayarath
Esther Staley

Summer II
Maxwell Rankin

Summer I
Alexis Mack
Eva Mazzola
Olivia Reblando

Summer II
Carl Williams

Summer I
Zhane Crockett
Morgan Dussel
Kayla Goolsby
Doyun Kim

Summer II
Lich Do
2017 Project SEED Summer I & II Programs

**Institutions/Coordinators/Mentors**

**Youngstown State University, Sherri Lovelace-Cameron**
Tom Oder
Sherri Lovelace-Cameron

**Students**

**Summer I**
Burke Lizzie
Vi-Trinh Luu
Brea Tinsley

**Oregon**

**Eastern Oregon University, Anna Cavinato**
Anna Cavinato

**Students**

**Summer II**
Gabriella Rodriguez

**Portland Local Section, ACS, Angela Hoffman**
Angela Hoffman
University of Portland

**Students**

**Summer I**
Elizabeth Lujano-Caballero
Diana Angeles-Ramos

**Summer II**
Julia Dayton

**Pennsylvania**

**Covestro LLC, Irene McGee**
Mike Super

**Students**

**Summer I**
Terrance Hollaman

**Duquesne University, Jennifer Aitken**
Theodore Corcovilos
Stephanie Wetzel
Michael Van Stipdonk

**Students**

**Summer I**
Bryonna Beeson
Danielle Beres
Zayauna Liddell

**Summer II**
Israa Abdulmuttaleb
Gildas Kodjo
Asia Parker

**Solvay, Julie Tanavade**
Julie Tanavade

**Students**

**Summer I**
Kristen Gilmore

**Puerto Rico**

**University of Puerto Rico, Rio Piedras, Ingrid Montes**
Arthur Tinoco
Eduardo Nicolau
Jorge Colon
Carlos Cabrera
Marvin Bayro
Dalice Piñero-Cruz

**Students**

**Summer I**
Nahiara Alicea
Alanis Zayas
Julio Canino
Alianys Rosario Colon
Alejandra Delgado
Jonniel Morales Ramos
Isis Guadalupe
Danitza Vazquez
2017 Project SEED Summer I & II Programs

Institutions/Coordinators/Mentors

Carlos Gonzalez
Jorge Colon
Vilmali Lopez-Mejias
Jose Lasalde

Carlos Gonzalez
Rocio Del M. Aviles
Jelliany Lopez Batista
Darwing Padilla Rolon

SOUTH CAROLINA

University of South Carolina, Chuanbing Tang
Dmitry Peryshkov
Aaron Vannucci
Chuanbing Tang

Sheryl Wiskur
Thomas Makris

SOUTH CAROLINA

University of South Carolina, Chuanbing Tang
Dmitry Peryshkov
Aaron Vannucci
Chuanbing Tang

Sheryl Wiskur
Thomas Makris

TENNESSEE

LeMoyne-Owen College, Yahia Hamada
Yahia Hamada

Sherry Painter

TENNESSEE

LeMoyne-Owen College, Yahia Hamada
Yahia Hamada

Sherry Painter

Middle Tennessee State University, Paul Gregory Van Patten
Keying Ding

Middle Tennessee State University, Paul Gregory Van Patten
Keying Ding

TEXAS

Baylor College of Medicine, Oluwatoyin Asojo
Oluwatoyin Asojo
Kjersti Aagaard-Tillery

Bert O'Malley
Oluwatoyin Asojo

TEXAS

Baylor College of Medicine, Oluwatoyin Asojo
Oluwatoyin Asojo
Kjersti Aagaard-Tillery

Bert O'Malley
Oluwatoyin Asojo

TEXAS

Baylor College of Medicine, Oluwatoyin Asojo
Oluwatoyin Asojo
Kjersti Aagaard-Tillery

Bert O'Malley
Oluwatoyin Asojo

TEXAS

Greater Houston Local Section, ACS, Carolyn Burnley
Yingchun Li
Gururaj Neelgund
David Thompson
Bruce Prince
Crystal Young

Greater Houston Local Section, ACS, Carolyn Burnley
Yingchun Li
Gururaj Neelgund
David Thompson
Bruce Prince
Crystal Young

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David Thompson
Bruce Prince
Crystal Young

Greater Houston Local Section, ACS, Carolyn Burnley
Yingchun Li
Gururaj Neelgund
David Thompson
Bruce Prince
Crystal Young

Students

Summer II
Rocio Del M. Aviles-Mercado
Emanuel Colon-Escalera
Jelliany Lopez Batista
Darwing Padilla Rolon

Summer I
Precious Breeland
Aujaunae Brown
Laurel Evans
Samuel Hankinson
Jassamine Green
Veda Lightfoot

Summer II
Hasan Hamada

Summer I
Khadijah Darboe
Sarah Shotwell

Summer II
Hasan Hamada

Summer I
Amberlynn Smith

Summer II
Edgar Lozano

Summer II
Alberto Partida
Shanii Tabb

Summer I
Carlos Gerardo Fuentes
Chinecherem Ndukwe
Miguel Velasquez

Summer II
Alberto Partida
Shanii Tabb

Summer I
Deshau Miller
Kaleb Small
Laila Tucker
Heaven Banks
Robin Reyes Velasquez
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

<table>
<thead>
<tr>
<th>Institution/Cooperator/Mentor</th>
<th>University/Institution</th>
<th>Summer I</th>
<th>Summer II</th>
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</thead>
<tbody>
<tr>
<td>Yingchun Li</td>
<td>Prairie View University</td>
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<td>Reginald Collins</td>
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<tr>
<td>Bruce Prince</td>
<td>Texas Southern University</td>
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<td>Adesuwa Ehioghae</td>
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<tr>
<td>Jakoah Brgoch</td>
<td>University of Houston</td>
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<td>Alma Harris</td>
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<td>Lars Grabow</td>
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<td>Cindy Mai</td>
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<tr>
<td>B. Montgomery Pettitt</td>
<td>University of Texas Medical Branch</td>
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<td>Yenifer Gil</td>
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<tr>
<td><strong>San Antonio Local Section, ACS, E. Robert Fanick</strong></td>
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<tr>
<td>Carol Ellis-Terrell</td>
<td>Southwest Research Institute</td>
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<td>Alexus Arizola</td>
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<td>Maoqi (Mark) Feng</td>
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<td>Kristin Silva</td>
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<td>Stephen Bach</td>
<td>University of Texas at San Antonio</td>
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<td>Robert Castillo</td>
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<td>Doug Frantz</td>
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<td>Mychaela Harris</td>
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<td>Kathryn Mayer</td>
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<td>Juan Valdivia</td>
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<tr>
<td>Maoqi (Mark) Feng</td>
<td>Southwest Research Institute</td>
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<td>Elysha Garcia</td>
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<tr>
<td>Paulo Carvalho</td>
<td>University of the Incarnate Word</td>
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<td>Tristin Zamora</td>
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<tr>
<td><strong>Texas Wesleyan University, Terrence Neumann</strong></td>
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<tr>
<td>Terrence Neumann</td>
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<td>Cristopher Romero</td>
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<td>Phillip Pelphrey</td>
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<td>Ifeoluwa Kehindle</td>
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<td>Michael Weir</td>
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<td>Kevin Meraz</td>
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<tr>
<td>Terrence Neuman</td>
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<td>Bennie Tarrant</td>
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</tbody>
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## Students

<table>
<thead>
<tr>
<th>Student</th>
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<tbody>
<tr>
<td>Reginald Collins</td>
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<td>Elysha Garcia</td>
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<td>Tristin Zamora</td>
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<td>Cristopher Romero</td>
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<td>Bennie Tarrant</td>
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<tr>
<td>Alfonso Chinchilla</td>
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<tr>
<td>DeSange Kuenishi</td>
<td></td>
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<tr>
<td>Hibojafar</td>
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</tr>
<tr>
<td>LaStacia Sampson</td>
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</tr>
</tbody>
</table>
# 2017 Project SEED Summer I & II Programs

## Institutions/Coordinators/Mentors

**Virginia Commonwealth University, Michael Hunnicutt**
- Katherine Tibbetts
- Julio Alvarez
- M. Samy El-Shall
- Indika Arachchige

## Students

### Summer I
- Zahna Jones
- Simmone McLain
- Jazmyne Scott
- Dorcas Williams

## Washington

**Washington State University, Su Ha**
- Jake Gray

### Summer I
- Hongyeoul Park

## West Virginia

**Marshall University, Derrick Kolling**
- Rosalynn Quinones

**West Virginia State University, Michael Fultz**
- Michael Fultz

### Summer I
- Cheyenne Elswick
- Briana Haas
- Ciera Moles

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*Photo Courtesy of Virginia Commonwealth University*

*Photo Courtesy of Greater Houston Local Section*

*Photo Courtesy of Akron Local Section*
2017–2018 College Scholarship Recipients

The Project SEED College Scholarship is a first-year nonrenewable scholarship for Project SEED participants entering their freshman year majoring in a chemical science field. In 2017, 27 students who have demonstrated a high potential to succeed in chemistry were awarded the college scholarships for the 2017-2018 academic year. Congratulations to the recipients of the College Scholarships; the ACS Committee on Project SEED wishes all students continued success in their future studies.

Ciba Specialty Chemicals Scholars

Ciba Specialty Chemicals was a leading global chemical company acquired by BASF in 2008. The Ciba Foundation made a generous legacy gift to the American Chemical Society to establish the Ciba Specialty Chemicals Scholars Endowment, a new component added to the Project SEED college scholarship program, which expanded the one-year Project SEED college scholarships to a three-year renewable scholarship. As of today, 13 of the 21 awardees have graduated in the chemical sciences.

Demi Reed is attending Ohio University, Athens, majoring in Forensic Chemistry.

Career goals: Demi would like to be the Lead Forensic Chemist for the FBI Laboratory in Quantico, Va.

Chrisan-Kay Clarke is attending Prairie View A&M University, Tex., majoring in Chemistry Bio-Medical.

Career goals: After graduation, Chrisan-Kay is interested in working as a Pharmacist Technician.

Mary Martinez Nunez is attending Bronx Community College, N.Y., majoring in Chemistry.

Career goals: Mary’s career goal is to get a doctorate degree in Biochemistry and be a research scientist.

Alfred and Isabel Bader Scholars

Alfred Bader is one of the founders of the Sigma-Aldrich Company, today Sigma-Aldrich Co. Alfred and Isabel Bader have generously contributed to Project SEED over the years. In 1992 their support started the Summer II program and since 1997, supported the Project SEED college scholarships.

Ashland Scholars

Ashland Inc. is a leading global company which provides specialty chemicals, technologies and expertise to customers worldwide. Since 2011, Ashland Inc. has sponsored Project SEED alumni.

Bayer Scholars

The Bayer Foundation contributed to the Project SEED Endowment. Bayer is a research based company with major businesses in health care and life sciences as well as chemicals and imagining technologies. Since 1993, Bayer has supported Project SEED alumni.

Fosbinder Scholars

The Estate of Elizabeth Ernst Fosbinder, wife of late ACS member, Dr. Russel J. Fosbinder stipulated the establishment of an endowment in honor of Dr. Fosbinder to fund college scholarships for graduates of Project SEED. Since 2004, the endowment has supported Project SEED alumni.
2017–2018 College Scholarship Recipients

Bader Scholars

Rayna Bandy
High School: Rio Rancho High School, Rio Rancho, N. Mex.
SEED Institution: Sandia National Laboratories, N. Mex.
SEED Mentor: Bernadette Hernandez-Sanchez
University: New Mexico Tech, Socorro
Major: Chemistry

Kelly Flores
High School: College Park High School, Pleasant Hill, Calif.
SEED Institution: USDA, Albany, Calif.
SEED Mentor: Jennifer Bragg
University: University of California, Davis
Major: Biochemistry

Jessica Grabowski
High School: Delcastle Technical High School, Wilmington, Del.
SEED Institution: University of Delaware, Newark
SEED Mentor: Mariah Woodroof
University: University of Delaware
Major: Chemical Engineering

Fernando Guerrero
High School: Rio Rancho High School, Rio Rancho, N. Mex.
SEED Institution: University of New Mexico, Albuquerque
SEED Mentor: Timothy Boyle
University: University of New Mexico, Albuquerque
Major: Chemistry

Emanuel Colon Escalera
High School: Rafael Cordero High School, San Juan, P.R.
SEED Institution: University of Puerto Rico Río Piedras Campus, San Juan
SEED Mentor: Jorge Colon
University: University of Puerto Rico, Bayamon
Major: Chemical Engineering

Beili Huang
High School: Natomas High School, Sacramento, Calif.
SEED Institution: University of California, Davis
SEED Mentor: Sheila David
University: University of California, Davis
Major: Chemical Engineering

Chang Kim
High School: Lowell High School, San Francisco, Calif.
SEED Institution: United States Department of Agriculture Western Regional Research Center, Albany, Calif.
SEED Mentor: Wallace Yokoyama
University: University of California, Santa Cruz
Major: Chemical Informatics/Computational Chemistry

Michael Lee
High School: Southside High School, Southside, Ala.
SEED Institution: Jacksonville State University, Ala.
SEED Mentor: Jan Gryko
University: Gadsden State Community College, Gadsden, Ala.
Major: Chemical Engineering

Sumar Beauti
High School: Oak Grove High School, Hattiesburg, Miss.
SEED Institution: The University of Southern Mississippi, Hattiesburg
SEED Mentor: Joseph Lott
University: The University of Southern Mississippi, Hattiesburg
Major: Biochemistry

David Bruns
High School: Fishers of Men Academy, Rosamond, ILL.
SEED Institution: Millikin University, Decatur, ILL.
SEED Mentor: Anne Rammelsberg
University: Millikin University, Decatur
Major: Chemistry

Janiel Cortes
High School: Barrington High School, Carpentersville, ILL.
SEED Institution: Loyola University Chicago, ILL.
SEED Mentor: James Devery
University: Loyola University, Chicago
Major: Chemistry

JooKun Ejie
High School: Hercules Middle High School, Hercules, Calif.
SEED Institution: Chevron Richmond Technology Center, Calif.
SEED Mentor: Jonathan Moore
University: Centra Costa College, San Pablo, Calif.
Major: BioChemistry

Michael Lee
2017–2018 College Scholarship Recipients

Bader Scholars

Cindy Mai
High School: North Shore Senior High School, Houston, Tex.
SEED Institution: University of Houston, Tex.
SEED Mentor: Lars Grabow
University: University of Houston
Major: Chemical Engineering

Sarine McKenzie
High School: Pittsburgh Creative and Performing Arts High School, Pa.
SEED Institution: Duquesne University, Pittsburgh, Pa.
SEED Mentor: Partha Basu
University: The Pennsylvania State University, University Park
Major: Chemistry

Clarissa Ortega
High School: Eisenhower High School, Rialto, Calif.
SEED Institution: San Joaquin Valley Agriculture Science Center, Parlier, Calif.
SEED Mentor: Jianchi Chen
University: University of California, Santa Cruz
Major: Chemical Engineering

Mir Faiz Rehman
High School: Nicolas Senn High School, Chicago, ILL.
SEED Institution: Loyola University Chicago, ILL.
SEED Mentor: Chad Eichman
University: University of Illinois at Chicago
Major: Biochemistry

Jacqueline Sandoval
High School: Garinger High School, Charlotte, N.C.
SEED Institution: University of North Carolina at Charlotte
SEED Mentor: Tom Schmedake
University: University of North Carolina, Greensboro
Major: Biochemistry

Camila Sierra Gutierrez
High School: Union City High School, Union City, N.J.
SEED Institution: New Jersey Institute of Technology, Newark
SEED Mentor: Roman Voronov and Long Pham
University: Hudson County Community College, Jersey City, N.J.
Major: Chemical Engineering

Nicole Taylor
High School: East Orange STEM Academy, East Orange, N.J.
SEED Institution: The State University of New Jersey, Rutgers, Newark
SEED Mentor: Huixin He
University: Rensselaer Polytechnic Inst., Troy, N.Y.
Major: Chemical Physics and Physics

Malcolm Wiseman
High School: Pike High School, Indianapolis, Ind.
SEED Institution: Eli Lilly & Company, Indianapolis, Ind.
SEED Mentor: David Myers
University: Prairie View A&M University, Tex.
Major: Chemistry

Ashland Scholars

Hannah Burnau
High School: West Lafayette Jr/Sr High School, Ind.
SEED Institution: Purdue University, Lafayette, Ind.
SEED Mentor: Stephen Beaudoin
University: Purdue University, Ind.
Major: Materials Science and Engineering

Rocco Molinelli
High School: Elmwood Park High School, Elmwood Park, ILL.
SEED Institution: Loyola University, Chicago, ILL.
SEED Mentor: Wei Tsung Lee
University: The University of Chicago
Major: Chemical Engineering

Bayer Scholars

Brian Foster
High School: Shady Side Academy, Pittsburgh, Pa.
SEED Institution: Covestro, Pittsburgh, Pa.
SEED Mentor: Marie Urick and Robyn Francis
University: Princeton University, N.J.
Major: Chemistry/Biochemistry
2017–2018 College Scholarship Recipients

**Bayer Scholars**

**Jahzeel Ortiz**
High School: Dra Conchita Cuevas High School, Gurabo, P.R.
SEED Institution: University of Puerto Rico Rio Piedras
SEED Mentor: Abel Baerga Ortiz
University: Universidad Politecnica de Puerto Rico, San Juan
Major: Chemical Engineering

**Umme Simanto**
High School: Earl Wooster High School, Reno, Nev.
SEED Institution: University of Nevada, Reno
SEED Mentor: Ian Wallace
University: University of Nevada, Reno

**Fosbinder Scholars**

**Andrea Nguyen**
High School: Capital High School, Boise, Idaho
SEED Institution: Boise State University, Idaho
SEED Mentor: Jeunghoon Lee
University: Pomona College, Claremont, Calif.
Major: Chemistry

**Chou Xiong**
High School: Golden Valley High School, Merced, Calif.
SEED Institution: University of California, Merced
SEED Mentor: Christine Isborn
University: University of California, Irvine
Major: Chemistry
Completing the Project SEED program has been a fulfilling and rewarding experience for me. From this experience, I have gained and improved several skills that will help me with my future studies, such as time management, better observation of details, critical-thinking, and most importantly, being able to work independently. I was able to convert the knowledge I have gained from chemistry and science-related classes in school into a hands-on experience, only to learn more in one summer than I did in a semester of high school. “Although my original anticipated major was biochemistry, I am now considering polymer science as a possible major, a decision I would not have thought about before my Project SEED experience.”

Prior to participating in the Project SEED program this summer, I was 100% sure of pursuing a career in a STEM-related field. I have since narrowed it down to the field of chemistry. This project sparked my interest in performing research at the undergraduate and graduate level. Before entering the Project SEED program, I was always interested in science and research, but I thought I had to come up with my own unique idea to research. Having been able to participate in the Project SEED program has influenced me to continue the research where I left off and to get involved in the undergraduate mentoring part of the Project SEED program while I am in college. “My experiences in the Project SEED have had a lasting impact on my life, personally, by making new friends, educationally, by meeting professors that I will be working with in the future and professionally, by meeting ACS members and honing my speaking skills.”

Before I participated in the Project SEED for the first time two years ago, I had little interest in the career with chemistry. Even though, I enjoyed chemistry and was excited about the opportunity to further explore it through this program, I had never actually considered a future career in any scientific field, let alone chemistry. That all changed during my first summer with Project SEED at Covestro. “For the first time in my life, I was exposed to the wide variety of careers that exist in the chemical field. For the first time in my life, I witnessed what chemical research looked like outside of a classroom environment. For the first time in my life, I imagined a career in chemical research for myself.” And if the first summer wasn’t great enough, the second summer was absolutely amazing.
2017–2018 College Student Testimonials

Bader Scholar: Jacqueline Sandoval  
Gariner High School, Charlotte, N.C.  
Mentor: Thomas Schmedake  
SEED Institution: University of North Carolina-Charlotte

As a young Hispanic woman, I thought it was going to be difficult to receive opportunities like this one. But once I heard about this amazing opportunity, I made sure I took full advantage of it. I knew it would help me to reach my goal of becoming a pharmacist. I had great mentors to look up to and learn from. While I was very hesitant in the beginning because of the little experience I had working with chemistry, my mentors pushed me and taught me to believe in myself. Project SEED has helped me develop great skills such as communication, leadership, and self-motivation. I have challenged myself by taking AP classes and participating in many clubs to prepare me for life after high school. “If I had not participated in Project SEED, I do not think I would have the self-motivation I have today and will continue to have in the future.”

Bader Scholar: Nichole Taylor  
East Orange STEM Academy, East Orange, N.J.  
Mentor: Huixin He  
SEED Institution: The State University of NJ, Rutgers, Newark

Growing up I knew that I always wanted to pursue a higher education after high school, but never thought that becoming a researcher was possible. From the age of 12, I knew that I wanted to save and accomplish great things in the world in the fields of either: Chemical Physics, Astrophysics, Computer Science, and or Astrochemistry. With the help of Project SEED, I was able to be exposed to research the many opportunities that followed. Project SEED has provided me with opportunities that I once thought as impossible. Having completed two summers of research has made me appreciate the chemistry field even more and has made me look at academia from a different perspective. “Being able to contribute in life changing projects made me one step closer to making the world a better place for our successor. Project SEED has done more than influence my education, it has given me the maturity to want to do and see more outside of my community despite my economic background.”

Fosbinder Scholar: Chong Xiong  
Merced Union High School, Atwater, Calif.  
Mentor: Mackenzie Provorose  
SEED Institution: University of California Merced

During my Project SEED experience, I discussed with the principal investigator of the research group about the field of Computational Chemistry and was amazed by the superlative education I was receiving from her. I have never seen myself being so dedicated to a project that I would constantly wait for days just to see my results. My time during the internship was worthwhile and extremely beneficial; I gained preparation for college studies, enhanced my self-confidence, experienced college-level research, and finally, built strong relationship with my mentors that have significantly helped me solidify and grow my passion for chemistry. “I have already applied to four UCs and plan to major in chemistry because of my rich experience during Project SEED. After finishing my B.A in chemistry, I plan to get into a Ph.D. program that deals with computational chemistry.”

Bader Scholar: Malcom Wiseman  
Pike High School, Indianapolis, Ind.  
Mentor: David Myers  
SEED Institution: Eli Lilly and Company, Ind.

I was informed about an internship through my teacher, and I appreciate the chance very much. By being in this amazing program I was able to take knowledge from the class room and apply it to real life experiences. When I came back from the summer, and entered the class room I then put my experiences into practice. “Project SEED was a true eye opening experience. I have always wanted to be a surgeon, but since this summer of research I want to make sure my future involves a career in research. I now understand its importance to the world and how exciting it can be. I never would have guessed that I would get the opportunity to meet such wonderful people who gave me great advice. Ultimately shaping my new path as a scientist.”
The opportunity to work in a research lab is an enriching experience in itself. Here, our Project SEED students give us a look at their summers as they transitioned from high school chemistry classes to professional level research.

**Yenifer Gil, Tex.**  
Summer II  
“Project SEED is an amazing program, it allowed me to get familiar with an environment I had always envisioned myself in. I loved being allowed to participate as a fellow in this program. I came in as a sprout and now I leave like a blossoming flower. Thank you!”

**Clara Reasoner, Ind.**  
Summer II  
“Project SEED is an exceptional program that has greatly impacted my life. The opportunity to participate in active research while still in high school has cemented my interest in science and research.”

**Isis Guadalupe, P.R.**  
Summer I  
“The program has helped me get the knowledge and experience not many high school students have. Here we are able to grow both in a professional and personal way, and learn hands-on which will get us closer of what it feels like being in the science field.”

**Jingjun Zeng, Calif.**  
Summer I  
“It was a very helpful and nice opportunity to work in a lab. As I was doing research in this program, I learned not only the biological techniques but also the research spirits that inspire me to pursue a career in science.”

**Cesar Romero, Mass.**  
Summer II  
“Project SEED is one of the best experiences I have had in learning and in branching out my interest of pursuing science as a major in the future. The relationship created with other people, the constant learning being done, and the overall achievement of making everyone feel equal, regardless of financial background is the highlight of accomplishment done by Project SEED. The past two summers could not have been better without Project SEED.”

**Erin Moore, Idaho**  
Summer I  
“This project taught me what life is like in a lab doing research. It will help me in the future to determine what career path I wish to go down. My lab mates taught me how to use the basic equipment and all the chemistry I did not understand. This project helped me not just as a student but as a person, I truly have to thank this program.”

**Ashley Ring, Ind.**  
Summer I  
“My SEED mentor was very involved and supportive of my continued learning. He always made sure I was comfortable in the lab and that I understood all of the processes that were happening. My mentor made such an amazing difference in my life and helped me gain a wealth of knowledge.”

**Julie Dinh, Ind.**  
Summer I  
“I was challenged and treated like the other undergraduate students in the lab. I had the perfect balance of working independently and working in a group. Because of that, I learned so much about science than I could possibly in eight weeks.”
Students Speaking from the Lab

Precious Breeland, S.C.
Summer I
“I really enjoyed my summer at USC. By doing hands on work, it really gave me a better understanding of chemistry. By being a part of this program it made me think about considering chemistry as my major. I am more than grateful for the experience.”

Miguel Velasquez, Tex.
Summer I
“Project SEED is an amazing program that definitely changed my perspective of research, and allowed me to meet a very diverse group of professionals.”

John Bowers, Mont.
Summer II
“I thought this was a wonderful program. It allowed me to really see what scientists actually do in a lab and some of the work required in the field of scientific discovery. I absolutely would recommend this program to my friends. It was a phenomenal way to spend my summer.”

Asialyn Lee, Calif.
Summer I
“Thank you for this program; we need more of these kind of programs! It has truly changed my life for the better. I would love to eventually contribute back to this program when I am older.”

Salimata Konate, N.Y.
Summer I
“The ACS Project SEED really broadened my perspective on the careers I can pursue in life. The environment I was placed in made me feel as though there was nothing I couldn’t conquer! The summer definitely inspired me to pursue a career in biological and life sciences.”

Rania Ousman, Ind.
Summer I
My Project SEED experience has been nothing but an invaluable experience for me and has taught me skills that I wouldn’t trade for anything in the world. Being able to work in a lab and to see yourself succeed in something was nothing but a dream come true for me. Having come from a country that never allows students to experience the science I have been exposed to, has made me realize how very fortunate I am and I cannot stress enough on how tremendously this experience has changed my life.

Guadalupe Covarrubias-Oregel, Calif.
Summer I
“Project SEED changed my views of the research world. I would have never thought that I would be working with a professor one on one or with graduate students everyday receiving their knowledge and encouragement. I learned about the ethics in research, how to work with confocal microscopes, keep a lab journal, and the list goes on. When I would see pictures of students conducting research in a lab, I thought it would be impossible for me to ever do that, but thanks to Project SEED, I was able to do research before I was even in college! It is such an immense opportunity that I consider myself blessed to be a part of this and I am so grateful for this experience. I was able to buy my first laptop and scholastic supplies for college with the stipends I received! For all of the donors and sponsors, you have no idea how many lives you change through this program!”

Ishmam Chowdhury, N.J.
Summer I
“Project SEED is a great opportunity for economically disadvantaged students who want to pursue a degree in the science field. The experience I had in the lab was incredible. Working in the lab helped me develop practical skills, enhanced my interest in physics and chemistry and increased my understanding of science. I conducted my research with a great mentor, Dr. Martin, who guided and helped me throughout the research. Project SEED helped me to decide which major I will pick in my future.”

Photo Courtesy of Stanford University
Project SEED Students at Sci-Mix

Project SEED students from the Chemical Society of Washington, Georgia, Maryland, New York, North Jersey, Trenton, and Washington-Idaho Border local sections presented posters of their research at the Sci-Mix poster session at the 254th ACS Fall National Meeting in Washington, DC.

Photos Courtesy of ACS, Linda Wang

Chemical Society of Washington:  Coordinator, Allison Aldridge
Georgetown University
Giselle Flores  Catalytic C-H Functionalization
Christopher Okorie  Flow-Modulated GCxGC Dielectric Barrier Discharge Mass Spectrometry for Elemental Detection of Organochlorines
Johaness Osorio  Synthesizing Diverse Metal- or Oxide-Based Nanoparticles

Howard University
Tennen Dukuly  Design & Synthesis of Novel NLRP3 Inhibitors Nigrum
Osogieahon Ewanehi  Extraction, Purification and Quantitation of Piperine in Piper Nigrum

Library of Congress, Preservation Research and testing Division
Yoonjae Jee  Identifying the Quality of Paper Through Non-Invasive Techniques

Thermodynamic Metrology Group, NIST
Sheku Deen-Tarawalie  Synthesis of Shaped Silica Colloid Particle and Silver Nanoparticles

University of Maryland, Baltimore
Absatas Njie  Controlled Assembly of Inorganic Nanoparticles for the Formation of New Hybrid Nanomaterials

University of Maryland, College Park
Kevin Fuentes  What Effects Does Changes in the Flow Rate of Helium Have on the Signal Detection of the Mass Spectrometer?
Maria Rojas  Developing New Catalytic Systems for Oxidative Methylation of Amines with Methane and Oxygen
Project SEED Students at Sci-Mix

Georgia Local Section
Clark Atlanta University: Coordinator, Ishrat Khan
Briyhan Martin Self-Assembly of Hairy Nanoparticles: Bottom-up Preparation of Hierarchical Superstructures

Georgia Gwinnett College: Coordinator, Ajay Mallia
Emily Xu Molecular Modeling of Plasmodium falciparum Dihydropteroate Synthase: A Target for Antimalarial Drug Studies

Maryland Local Section
John Hopkins University: Coordinator, Takashi Tsukamoto
Shan Shueh Drug Discovery Driven by Chemistry

University of Maryland Eastern Shore: Coordinator, Victoria Volkis
Cylah Bailey Comparing the Composition of Essential Oils Extracted from Different Breeds of Holy Basil and Moroccan Argan
Julia Cornish Seafood industry Waste into Carbon Dioxide Capturing Sorbent

New York Local Section
Union City High School/AEA: Coordinators, Mina Armani, Nadia Makar, Amanda Smith
Gabriela Ale Effects of Sodium Chloride on Hypertension
Aswin Aguinaga Biofuel Production from Enzymatic Hydrolysis of Plant Leaves
Mario Banos Biofuel Production from Enzymatic Hydrolysis of Plant Leaves
Keith Branes Organ-On-Chip: Microfluidic In-Vitro, NVU Model
Chelsea Castillo Surface Attachment of Ru Molecular Complex to Plasma Grafted FTO Surfaces
Leilani Garcia Exploring Alkali Promotion for CO2 Activation and Catalyst Coke Suppression
Giselle Guaman Global Warming and Photosynthesis: Leaf Gas Exchange in Wetlands and Forests
Aldair Medrano Graphine and Nanotubes: Carbon Allotropes and Spectroscopy
Yunior Toribio Gold Coated Membrane-Based Biosensor
Valerie Zapata Encapsulation of DNA in liposomes

North Jersey Local Section
New Jersey City University: Coordinator, Robert Aslanian
Mirka Ortiz Synthesis and Evaluation of a Mutual Prodrug
John Carvajal Conducting N-Arylation of Sulfonamides with Boronic Acids using a New Method
Anna Yactayo Regulation of CAMK2 at Inhibitory Synapses by Calcineurin
Youstina Youssef Preliminary Observations on the Role of Udotea in Ocean Acidification

New Jersey Institute of Technology: Coordinator, Reginald Tomkins
Jaime Mendoza Estimating Atmospheric Black Carbon Concentrations
Marcelo Munoz Analysis of Atomistic Structures of Adsorbed Argon Using Python
Camile Cordero Water Soluble Fluorescent Compound for Cell Imaging
**Project SEED Students at Sci-Mix**

**Trenton Local Section**
**Rider University: Coordinator, Jamie Ludwig**
Geordelle Maxwell  
Gbaweah Sandy  
Ameka Yawson  

What Causes Gum Spots on Black Cherry Trees at Fernow, WV?  
Synthesis of Pyridine Sulfonamides using N-Oxides  
How Can Visual Aids Help Organic Lab Students?

**Washington-Idaho Border Local Section**
**Washington State University: Coordinator, Su Ha**
Hongyeoul Park  

Testing Reduction Times for Exsolved Nickel Nanoparticles on LaSrTi Perovskite for Electric Field Assisted Catalytic Reactors

*Photos Courtesy, Allison Aldridge*
2017 Student Survey Results

The survey is designed to assess the success of the program. The results of the survey provide information on the background of the students, their educational aspirations, and their assessment about Project SEED. This information is useful in determining whether ACS Project SEED is serving its target population and if it is achieving its goals. Of the 411 students in the program, 407 students responded.

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<th>Student Gender</th>
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<th>Summer II</th>
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<td>Male</td>
<td>109</td>
<td>51</td>
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<td>303</td>
<td>104</td>
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<td>$36,000 or more</td>
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<tr>
<td>TOTAL</td>
<td>303</td>
<td>104</td>
<td>407</td>
<td>100%</td>
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<th>Demographics by State</th>
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<td>District of Columbia</td>
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<td>Pennsylvania</td>
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<td>Tennessee</td>
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<td>Vermont</td>
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<td>Washington</td>
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<tr>
<td>West Virginia</td>
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<td>TOTAL</td>
<td>304</td>
<td>107</td>
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### 2017 Student Survey Results

#### What is the highest level of education you expect to complete?%

<table>
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<th></th>
<th>Summer I</th>
<th>Summer II</th>
<th>Total %</th>
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<tbody>
<tr>
<td>High School</td>
<td>4</td>
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<td>1%</td>
</tr>
<tr>
<td>Vocational, Trade, Business</td>
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<td>0.5%</td>
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<tr>
<td>Some College</td>
<td>2</td>
<td>1</td>
<td>0.5%</td>
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<tr>
<td>2-year College Graduate</td>
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<td>0%</td>
</tr>
<tr>
<td>4-year College Graduate</td>
<td>104</td>
<td>31</td>
<td>33%</td>
</tr>
<tr>
<td>Graduate/Professional School</td>
<td>191</td>
<td>72</td>
<td>65%</td>
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#### College Majors

<table>
<thead>
<tr>
<th></th>
<th>Summer I</th>
<th>Summer II</th>
<th>Total First Choice %</th>
</tr>
</thead>
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<tr>
<td>Agriculture</td>
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<td>0%</td>
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<tr>
<td>Architecture</td>
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<td></td>
</tr>
<tr>
<td>Astronomy</td>
<td>1%</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Biology &amp; Life Sciences</td>
<td>15%</td>
<td>16%</td>
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</tr>
<tr>
<td>Business &amp; Commerce</td>
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<td>4%</td>
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<tr>
<td>Chemistry</td>
<td>25%</td>
<td>25%</td>
<td></td>
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<tr>
<td>Communications</td>
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<tr>
<td>Computer Sciences</td>
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<td>7%</td>
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<tr>
<td>Earth Sciences</td>
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<tr>
<td>Education</td>
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<td>1%</td>
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<tr>
<td>Engineering</td>
<td>13%</td>
<td>11%</td>
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<tr>
<td>Foreign</td>
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<td>0%</td>
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</tr>
<tr>
<td>Languages</td>
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<td>0%</td>
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</tr>
<tr>
<td>Health Professions</td>
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<td>13%</td>
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<tr>
<td>Home Economics</td>
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<td>0%</td>
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<tr>
<td>Language &amp; Literature</td>
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<td>Library Science</td>
<td>0%</td>
<td>0%</td>
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</tr>
<tr>
<td>Mathematics</td>
<td>2%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Military Sciences</td>
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<td>0%</td>
<td></td>
</tr>
<tr>
<td>Pharmacy Sciences</td>
<td>1%</td>
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<tr>
<td>Philosophy</td>
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<td>Physics</td>
<td>2%</td>
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<tr>
<td>Social Sciences</td>
<td>1%</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>13%</td>
<td>12%</td>
<td></td>
</tr>
</tbody>
</table>

#### Student Research Sites

<table>
<thead>
<tr>
<th></th>
<th>Summer I</th>
<th>Summer II</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Laboratory</td>
<td>227</td>
<td>70</td>
<td>72%</td>
</tr>
<tr>
<td>Government Laboratory</td>
<td>13</td>
<td>6</td>
<td>5%</td>
</tr>
<tr>
<td>Industrial Laboratory</td>
<td>32</td>
<td>15</td>
<td>12%</td>
</tr>
<tr>
<td>Medical Laboratory</td>
<td>31</td>
<td>13</td>
<td>11%</td>
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</tbody>
</table>

#### Students Agreed that Project SEED Helped:

<table>
<thead>
<tr>
<th></th>
<th>Summer I</th>
<th>Summer II</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop Skills and abilities</td>
<td>293</td>
<td>101</td>
<td>97%</td>
</tr>
<tr>
<td>Develop self-confidence</td>
<td>250</td>
<td>87</td>
<td>83%</td>
</tr>
<tr>
<td>Develop responsibility</td>
<td>284</td>
<td>99</td>
<td>95%</td>
</tr>
<tr>
<td>Understand the ethical behavior of scientists</td>
<td>276</td>
<td>93</td>
<td>91%</td>
</tr>
<tr>
<td>Develop better study habits</td>
<td>200</td>
<td>73</td>
<td>67%</td>
</tr>
<tr>
<td>Learn what advanced study is like</td>
<td>278</td>
<td>96</td>
<td>92%</td>
</tr>
<tr>
<td>Decide to continue my education after high school</td>
<td>265</td>
<td>91</td>
<td>88%</td>
</tr>
<tr>
<td>Choose a college major</td>
<td>156</td>
<td>51</td>
<td>51%</td>
</tr>
<tr>
<td>Decide to pursue a career in science</td>
<td>198</td>
<td>75</td>
<td>67%</td>
</tr>
<tr>
<td>Develop greater interest in scientific/technical areas</td>
<td>260</td>
<td>90</td>
<td>86%</td>
</tr>
</tbody>
</table>

#### What are the chances that you will become a scientist, engineer, or mathematician in the future?

<table>
<thead>
<tr>
<th></th>
<th>Summer I</th>
<th>Summer II</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>139</td>
<td>51</td>
<td>47%</td>
</tr>
<tr>
<td>Good</td>
<td>113</td>
<td>40</td>
<td>38%</td>
</tr>
<tr>
<td>Fair</td>
<td>40</td>
<td>71</td>
<td>27%</td>
</tr>
<tr>
<td>Poor</td>
<td>11</td>
<td>2</td>
<td>3%</td>
</tr>
</tbody>
</table>
2017 Student Survey Results

In the following statements, students were asked to evaluate their experience with their mentor. | Strongly Agree or Agree | Neutral | Disagree or Strongly Disagree |
--- | --- | --- | --- |
I learned new skills from my SEED mentor | 93% | 5% | 2% |
It is easy to talk to my SEED mentor | 91% | 6% | 3% |
My SEED mentor assisted me with improving my overall performance and SEED research work | 94% | 4% | 2% |
My SEED mentor discussed career paths (including education) in chemistry and related sciences with me | 74% | 16% | 9% |

| Student/Mentor Relationship | Total% |
--- | --- |
Very Good | 75% |
Good | 21% |
Fair | 3% |
Poor | 0% |
Total | 100% |

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We appreciate your continued generosity!
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