



Gates Summer Internship Program



THANK YOU FOR MAKING THE GATES SUMMER
INTERNSHIP PROGRAM A GREAT SUCCESS!



Gates Center for Regenerative Medicine
UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**



In addition to the following notes of thanks from our 2017 Gates Center Summer Internship Program (GSIP) students, we want to add our tremendous appreciation to all those who have made this special program possible.

First and foremost, we are grateful to Rhondda and Peter Grant who, from the outset, have generously supported the Gates Center's dream of tangibly encouraging exceptional college undergraduates to pursue careers in stem cell biology and regenerative medicine. Thanks to their unflagging enthusiasm and support, we established the GSIP program in the summer of 2015 with 14 students. This past summer, additional benefactors joined the Grants to provide transformational opportunities for 20 students in the labs of Gates Center members pursuing a variety of research topics and therapies across the Anschutz Medical Campus.

Second, we want to acknowledge the researchers and clinicians who kindly agreed to serve as mentors and take our Gates Center interns under their wings for the summer. These colleagues of ours spend passionately busy days and lives advancing research and/or caring for patients, so we are particularly grateful for their additional devotion of time and talent to our students.

Finally, on behalf of the Gates Center, we want to thank the directors of our program, whose photo is below, and especially our interns for the sparkle, intellect, energy and countless hours they contributed toward their respective labs, individual research projects and to the Center, itself. These students, who were chosen from a nationwide pool of 130 applicants, represented us beautifully during the summer of 2017 and made us exceptionally proud!

Sincerely,

Dennis R. Roop, PhD
Director, Gates Center for Regenerative Medicine

2017 GSIP MENTORS

Kristin Artinger, Ph.D.	Associate Professor	Department of Craniofacial Biology
Ganna Bilousova, Ph.D.	Assistant Professor	Department of Dermatology
Stanca Birlea, M.D., Ph.D.	Associate Professor	Department of Dermatology
Neil Box, Ph.D.	Associate Professor	Department of Dermatology
Joe Brzezinski, Ph.D.	Assistant Professor	Department of Ophthalmology
Peter Dempsey, Ph.D.	Associate Professor	Department of Pediatrics
Heidi Ford, Ph.D.	Professor	Department of Pharmacology
Curt Freed, M.D.	Professor	Department of Medicine/Clinical Pharmacology and Toxicology
Mayumi Fujita, M.D., Ph.D.	Professor	Department of Dermatology
Paco Herson, Ph.D.	Principal Investigator	Department of Anesthesiology, Neuronal Injury Program
Antonio Jimeno, M.D., Ph.D.	Professor, Daniel and Janet Mordecai Chair in Cancer Stem Cell Biology	Department of Medicine/Medical Oncology
Mark Petrash, Ph.D.	Professor	Department of Ophthalmology
Yiqun Shellman, Ph.D.	Associate Professor	Department of Dermatology
Tamara Terzian, Ph.D.	Assistant Professor	Department of Dermatology
Enrique Torchia, Ph.D.	Assistant Professor	Department of Dermatology
Lori Walker, Ph.D.	Associate Professor	Department of Medicine/Cardiology
Xiao-jing Wang, M.D., Ph.D.	Professor, John S. Gates Endowed Chair in Stem Cell Biology	Department of Pathology

2017 GSIP DIRECTORS



GSIP Directors (left to right) Neil Box, Ph.D., Tamara Terzian, Ph.D and Enrique Torchia, Ph.D.



Dearest Peter and Rhonda Grant and all donors,

I would like to thank you all from the depths of my heart for making it possible for me to be able to experience this research internship. This was truly a life-changing experience that I will never forget. It caused me to consider slightly changing my career path. Prior to entering this internship, I was planning on pursuing an MD; however, this internship has allowed me to appreciate the hard work that comes from research. I am now thinking of pursuing an MD/PhD.

I greatly enjoyed my time researching and I cannot express how much this internship has changed my life. Therefore, I would like to thank you for your investment in my life and other students' lives. There are no words I can use to tell how thankful I am. I would not have been able to participate in research this summer without this wonderful program to which you have kindly donated. Once again, thank you very much!

Sincerely,

Joy Abraham

Regis College

Mentor: Joe Brzezinski, PhD

Dear Generous Donors,

Thank you so much for your support for this year's summer internship program. I had a fantastic experience, and it would not have been possible without your generosity. I learned so many new techniques in the lab and also learned what makes an experimental design strong. This was my first opportunity to be exposed to scientific research on a large scale, and I found it interesting to see how scientists of all education levels come together to push research forward. In addition, spending a summer in Colorado was an experience I will never forget. I can't wait for the next time I can come back.

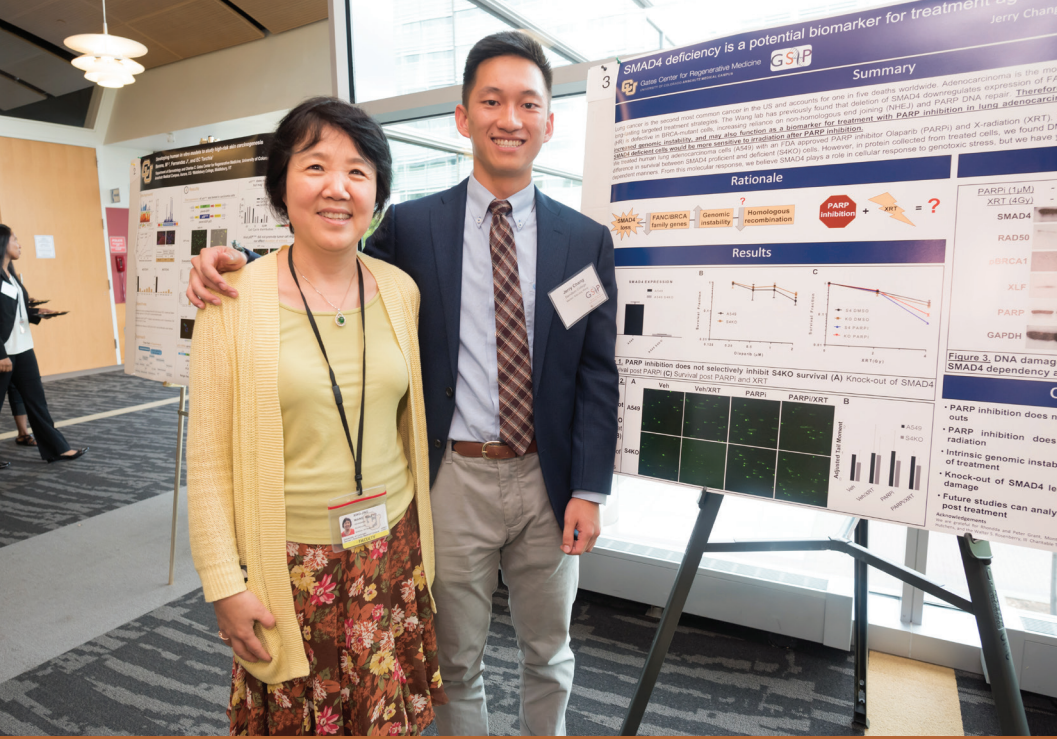
Thank you again for all of your support!

Michaela Berens

Middlebury College

Mentor: Enrique Torchia, PhD





Dear Grants and other donors,

Thank you so much for your contributions to the Gates Summer Internship Program. I had the summer of my life these past few months in a beautiful state with incredible scientists and an intellectually stimulating environment. My experience has really solidified my career interest in science and medicine, and my adventures in Colorado have secured it as a place I would like to live in the future. I would not have had these experiences without your contribution, so for that, I am tremendously grateful. I hope this program continues to support aspiring scientists, and your donations inspire me to give back when I am able!

Sincerely,
 Jerry Chang
Davidson College
Mentor: Xiao-jing Wang, MD, PhD

Dear Peter and Rhondda Grant and others,

Thank you for your contributions to the Gates Center. Your generosity allowed us to conduct ground-breaking research this summer, and make friends that will surely last a life time. It was my first time living in Colorado, and it was an incredible experience. We are thankful for your community involvement and support of the scientific community.

Sincerely,

Alyssa Downey

University of Texas at El Paso

Mentor: Matt Seefeldt, PhD



To the Donors of the Gates Summer Internship Program,

This past summer helped me solidify my career goals more than any other singular experience I have had. I worked independently in Dr. Dempsey's lab on a project, and in a field, no less, that had been completely new to me a few weeks earlier. Nearly everything I did in lab involved a new method that I had never had hands-on experience with before. I attended our bi-weekly lectures by Gates scientists from a range of fields and departments, and not once did I want those hour-long lectures to end. I gained some much-needed confidence in plans to apply to grad school. I experienced Colorado for the first time. I experienced snow in July for the first time. I somehow managed to wake up at 3:30am to climb a 14er. And then I did it again.

This summer was more than just formative; it was an extremely positive and enjoyable experience that would not have been possible without your generous support of the GSIP program. I gained a new mentor and new friends, and I even intend to pursue stem cell research in grad school. Your continued support of GSIP will ensure that many more students like myself get a chance to have these impactful experiences.

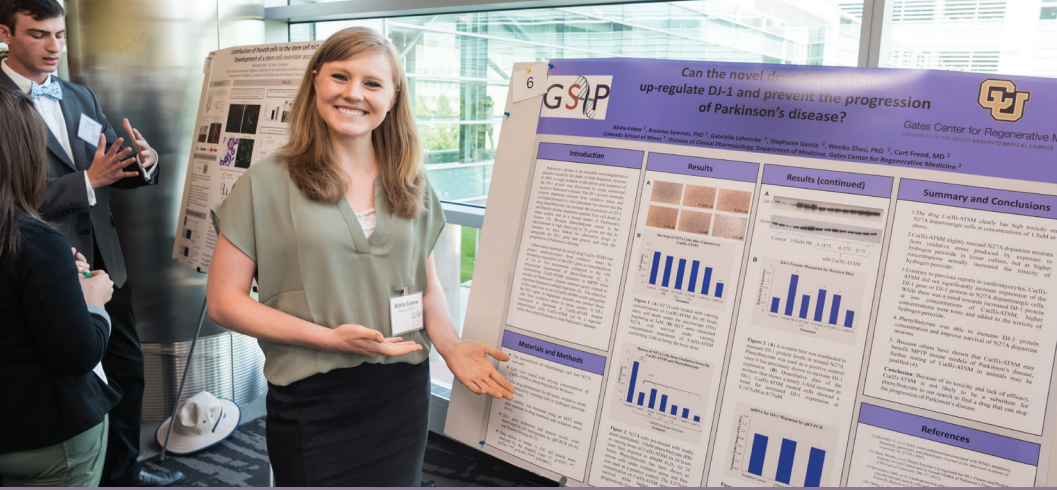
Since I cannot be with you in person to shake your hand, I instead offer a humble Thank You for your desire to give meaningful opportunities to students interested in improving the lives of other through research and medicine.

*Sincerely,
Nicholas Elder*

Davidson College

Mentor: Peter Dempsey, PhD

(Pictured Left)



Dear Peter and Rhondda Grant and other GSIP donors,

Thank you so much for supporting the GSIP and for helping give me the opportunity to work in a Parkinson' disease research lab at Anschutz this summer. It has been a privilege.

I have learned so much this summer—not only about Parkinson's disease and lab techniques, but also about the research process; I have also acquired many lab skills. This research experience has made me appreciate knowledge even more and see the importance of the collaboration between doctors and researchers and between all fields of science. As my first real research experience, I gained valuable life skills including communication, team-work, and problem-solving.

I am planning to become a doctor, and I was able to confirm my intention and desire to become a doctor through the research experience this summer. The opportunity you gave me will no doubt contribute to my future successes and is helping pave the way for me to go to medical school.

Your support and belief in me means a great deal to me. The entire summer experience will have an impact on my life for years to come. Once again, thank you for your ongoing support.

Sincerely,
Alisha Eskew

Colorado School of Mines
Mentor: Curt Freed, MD

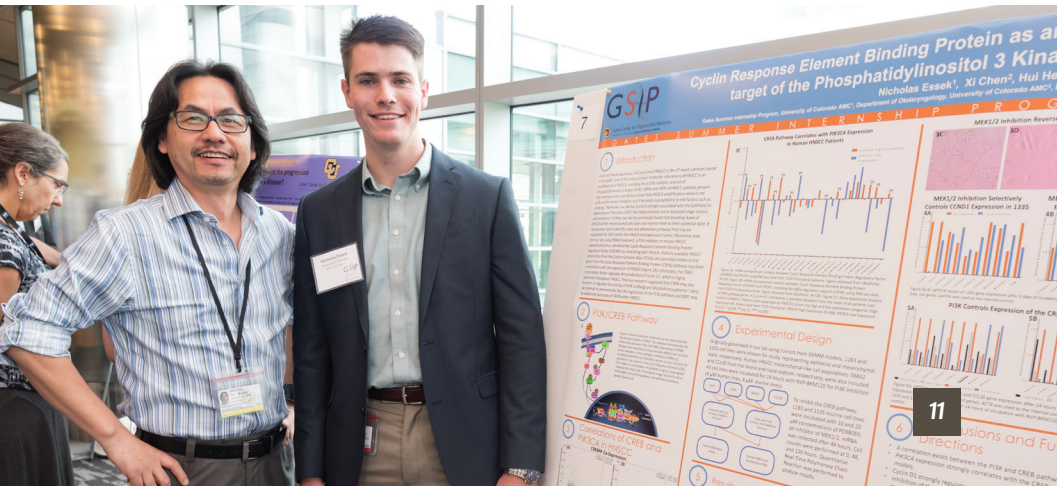
Dear Mr. and Mrs. Grant,

This summer, I had the amazing opportunity to participate in the Gates Summer Internship Program. I worked in the research laboratory of Dr. Shi-Long Lu studying the phosphatidylinositol 3 kinase pathway of Head and Neck Cancer. While I have had the chance to do research before, I had never done so in a lab, and I feel I may have never without the great opportunity that this internship provided me.

As I moved through the summer, we interns were reminded of some of our funding sources that made this great internship possible this year. But, the two of you are one of the biggest reasons this internship began and continues to thrive. As a student, it can be hard to find any sort of opportunity to take part in research, especially finding opportunities that can help offset the costs of school, but your contribution along with those from others allowed me to find an internship that did both. Last summer I had the chance to participate in another internship on campus, but the position was not paid, and I had to find a second job to support myself financially. This year I was able to focus on this internship and not worry about the semester ahead.

While our interaction has been limited, I can absolutely tell just how caring the two of you are about investing in the future. It takes a special eye to see the individual potential of each student in a large batch of interns, but we are all thankful that you have that vision. My father served in the Air Force for many years. He always told me I needed to find some way to serve my community and country for part of my life, regardless of whether or not the military was that route. I admire his service and his contribution, but you have shown me that service and philanthropy never has to leave my life. You are a gift to the Denver and Colorado communities that would be impossible to replace.

(Continued on page 12)



Thank you again, so much, for all that you have done to support the Gates Summer Internship Program. Your gift has helped a wonderful cohort of students explore their passions and gain some of the most sought after experiences to strengthen our chances of continuing our careers. I am absolutely grateful for your impact on myself, this program, and the state of Colorado.

Many thanks,
Nicholas Essek
University of Colorado
Mentor: Shi-Long Lu, MD, PhD



Mr. and Mrs. Grant and other donors,

My experience at GSIP is one I will never forget. I had the honor of winning the poster competition, which was a perfect finish to a life-changing summer. This internship was an unparalleled opportunity, and the exposure to cutting-edge medical developments is invaluable. I write this to express my sincerest gratitude for your support of this program, and to say that your investments have forever changed my career path and outlook on the scientific world.

Thank you,
Zachary Feuer
Rensselaer Polytechnic Institute
Mentor: Karin Payne, PhD

Dear Peter and Rhondda Grant,

There are simply not enough words to express how grateful I am for everything you have done for this program, and for the students who get to participate in it. I want to thank you for your generosity, and your encouragement, but I would also like to offer you an additional thanks in the form of a promise. From this summer I gained a new sense of self-confidence, and drive to pursue a career I had only tentatively been dreaming about. My promise to you is firstly, to take what I have learned from this program and use it to fuel my desire to be curious, engaged and inspired by challenging work. Secondly, I promise to always find places to give back in my own life. Your gift to the GSIP program has inspired me to seek out new opportunities to put my knowledge, skills, and resources to work for other people, and I will always keep you both in the forefront of my mind as a reminder of that sentiment. This summer was truly a remarkable experience, and none of it would be possible without your and others' investment in the mission of GSIP. Thank you for believing in the students who take part in this program, and thank you for reminding me that supporting others is always a worthy cause.

Sincerely,

Elena Fulton

University of Puget Sound

Mentor: Ganna Bilousova, PhD



Dear Mr. and Mrs. Grant,

I am a rising senior at Berea College in Berea, Kentucky, where I am majoring in health science with a minor in business. This summer interning at The Gates Center for Regenerative Medicine in Aurora, Colorado, has blessed me with infinite number of opportunities that I have the both of you to thank, for each and every one. Growing up in the small town of Maysville, Kentucky with two sisters and a brother, I would have never dreamed that I would be in Colorado working in collaboration with this amazing research center. My research project this summer with the Gates Center for Regenerative Medicine has helped to challenge and push me beyond things I thought I was capable. My project has taught me so many new scientific terms and state-of-the-art techniques. I have felt myself grow more and more into a scientist and a professional young adult. The friendships I've developed are ones that I hope to continue to learn from with each new stage in my career.

Going back to Kentucky, I will cherish each memory and accomplishment that has happened because of this internship. I sincerely, from the bottom of my heart, want to thank the both of you for your generous donation. Your philanthropy and that of other generous donors have enabled me and many other young adults to grow in science and the love of learning. If either of you are ever in Kentucky, I would love to meet with you and further discuss my summer experience over a good ole' Kentucky meal! I hope God continues to bless you and your family.

Best Wishes,
Lauren S. Heller

Berea College

Mentor: Sean McGrath, Ph.D.

“

I think the program is superb. The two students I have had in this program have really been great. The selection process is obviously good.

- 2017 GSIP Mentor

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Dear Donors,

Thank you so much for your generous support of the Gates Summer Internship Program. Without it, I would not have been able to participate in the program. The experience allowed me to work in a molecular biology research lab for the first time, hear about the advances in stem-cell based medicine and consider my career options and development. I met some wonderful people I am planning to keep up with this summer, as well! I am very appreciative and grateful for the experience and for your support.

Best,

Alanna Horton

Davidson College

Mentor: Tamara Terzian, Ph.D.

Dear GSIP Donors,

Thank you so much for your generous contributions that made this summer possible for me. In 11 weeks, I learned and accomplished more than I ever would have anticipated. I met wonderful colleagues and mentors, and for the first time, really envisioned a future of research for myself. At the same time, I had the opportunity to learn about some of the forefront projects in regenerative medicine, which was simply inspiring. And really you made that all possible – so thank you very much!

All the best,

Kate Johnson

Middlebury College

Mentor: Heide Ford, PhD





To the Grants and all of the donors who made this program possible,

My name is Roshni Kalkur, and I was a member of the Gates Summer Internship Program this summer. I would like to thank you for supporting this program because it truly has been one of the best summers of my life! In the lab, I learned techniques and theories that I will continue to use throughout my career, I made lifelong friends in my colleagues, and I got a glimpse at the rigor and rewarding nature of medical research. In addition to that, I learned about what my future could hold through biweekly lectures, which genuinely inspired me every week. I have had previous internships here at Anschutz being a Colorado native, but I must say that this one was definitely unique in the best possible way. I absorbed such a wide range of information aside from science about future careers, the importance of philanthropy, and even the role of business in the medical world. I learned that there is so much more to medicine and research than meets the eye, and it was an honor to be able to volunteer, connect, and immerse myself in the wonderful things going on at this campus. This summer definitely solidified my decision to become a physician-scientist, and thanks to you, I am one step closer to achieving my goal. I wish you all the best, and once again, thank you for everything!

*Sincerely,
Roshni Kalkur*

Rensselaer Polytechnic Institute
Mentor: Lori Walker, PhD

To all the donors that have made this internship opportunity possible,

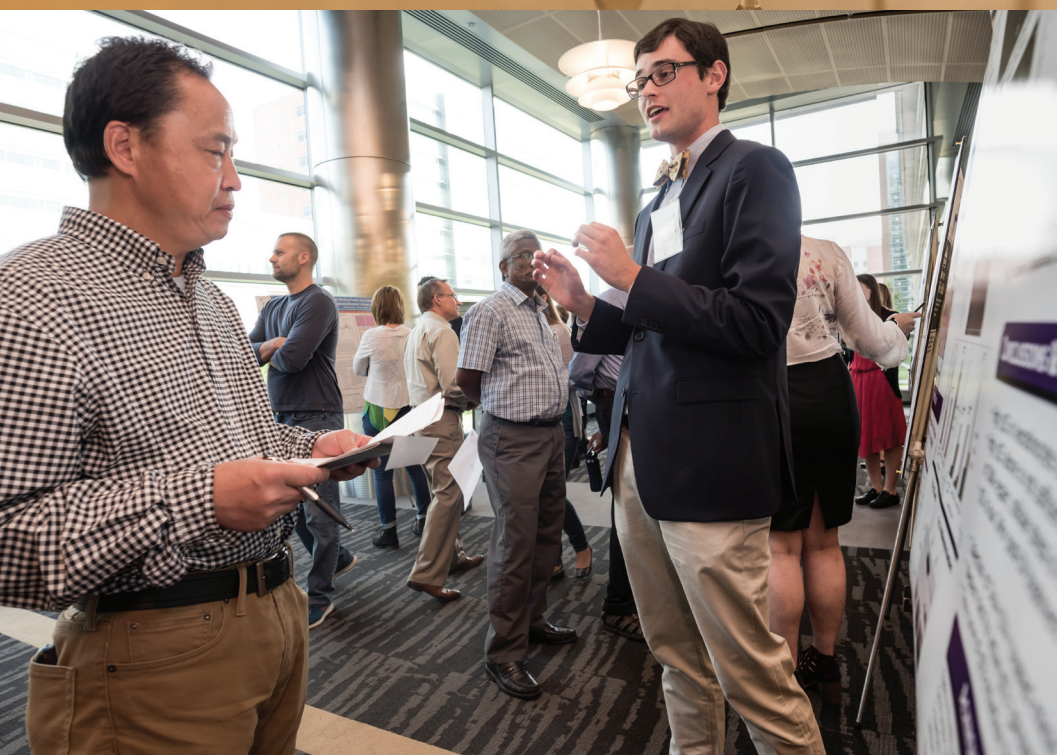
Thank you so much! I do not know of any other job that I would love commuting one and half hours to every morning. I am so grateful for the independence and experience in the lab that this internship offered. I learned more about the research career path, and this insight has only solidified my desire to attend graduate school and pursue research! The project I engaged in was really interesting and right up my alley, and I looked forward to working with my mentors every day. I am staying in contact with my mentors to hear about how the project progresses! Because of the research and the friends made in this program, I can honestly say that this has been one of the best summers of my life.

*Thank you again,
Shannon McCallan*

Northeastern

Mentor: Mayumi Fujita, MD, PhD





Dear GSIP Donors,

Thank you so much for your generous gifts, which allowed GSIP to continue this past summer. I was lucky enough to complete my second year as a GSIP intern in the lab of Dr. Neil Box, and I cannot even begin to sufficiently express my gratitude to you for allowing me such a phenomenal experience. It has been a thrill to be at the forefront of scientific advancement, and I believe that the understanding of scientific research, a core tenet of GSIP, is critical for the researchers and physicians of the future. I recognize how unique and important GSIP has been in shaping the way I think about science and research and for that I am very grateful.

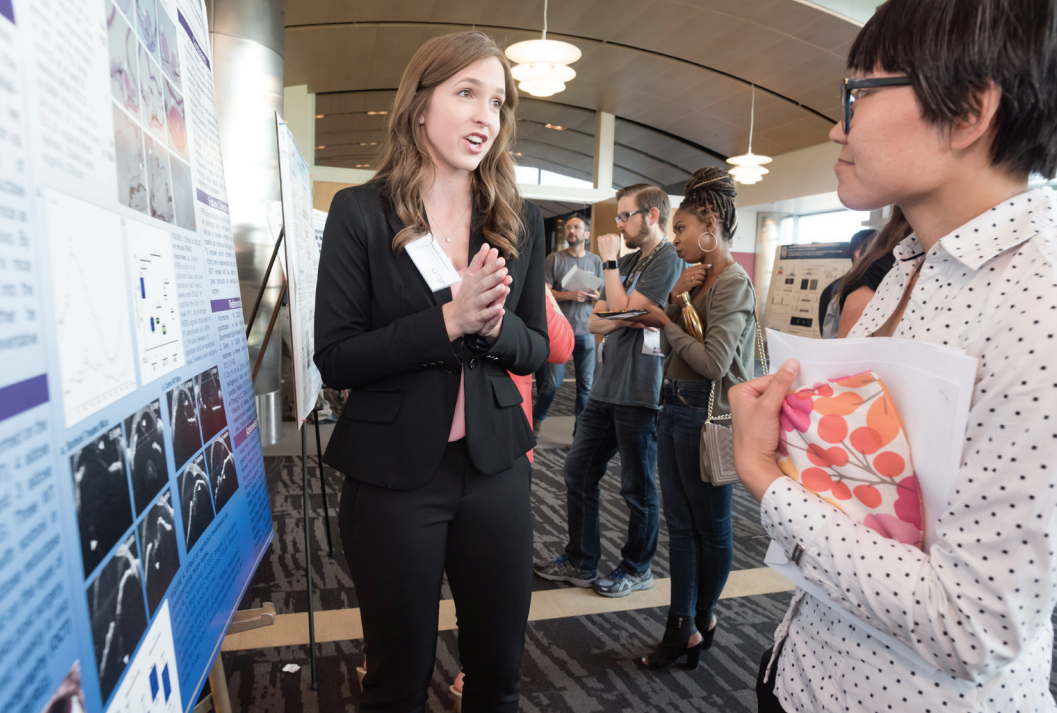
Best,
Andrew Parker
Amherst College
Mentor: Neil Box, PhD

To GSIP donors,

Thank you so much for supporting this program. Opportunities like this are both valuable and rare, so the fact that the GSIP can offer this experience to so many students is very special. I have learned so much this summer, from future career paths to laboratory techniques, and this has both shaped what I want to do in the future and given me the skill set to pursue it.

Thank you again,
Matthew Ramsey
St. Olaf College
Mentor: Paco Herson, PhD





To Peter and Rhondda Grant,

I cannot thank you enough for your support and instrumental hand in making the Gates Summer Research Internship possible. As an intern this year, I have come away with an unforgettable experience; an experience not only working with cutting edge research, but also getting to personally know brilliant people. In the past, my research experiences have primarily been with organic molecules and DNA, however my research with the Gates Center exposed me to a realm of research intrinsically tied to solving medical mysteries aimed to help people. Thank you and others for your generous support of this program. The Anschutz medical campus is full of intelligent, driven people with whom I had the pleasure of working. I cannot wait to see in the coming years what new research experiences other students will have that will undoubtedly inspire them to pursue their own research questions.

Sincerely,

Sarah Seiwald

Regis College

Mentor: Mark Petrash, PhD

Dear GSIP Donors,

I wanted to start off by stating that I do go to a rural school, so the facilities that are available within the Gates Center not only allowed me exposure to real life research, but gave me the experience that I would not have gotten otherwise. The Gates Center Summer Internship allowed me to have access to people who could help me find what I love about science and also what I did not like and I think that is a very important part of a program like this. The whole idea allows students to come in no matter the level and learn more about themselves than they had before. Not many people can say they have been a part of that. Without this internship and without the ability to have a little bit of help financially, I would have a hard time living by myself next year, and for that I am very thankful. I hope that more students who are like me without the fortunes of some of the bigger schools get the opportunity to be a part of this program as well. I know I will be passing on the good word.

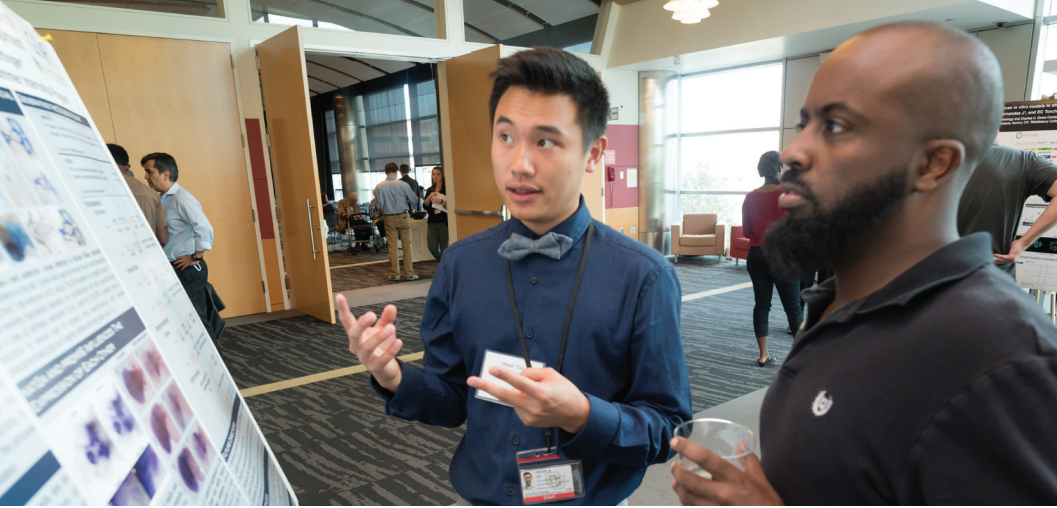
Thank you very much again,

Bay Vagher

Fort Lewis College

Mentor: Yiqun Shellman





Dear Mr. and Mrs. Grant,

Thank you so much for your generous contribution to the Gates Summer Internship Program. Your interest and donation to the program has given me the extraordinary opportunity to conduct fascinating research for the summer at CU Anschutz Medical Campus, and I am truly grateful for this experience. As a recent college graduate with a major in cellular and molecular biology, I wanted a chance to conduct some research centered around stem cells and regenerative medicine over the summer because I found this field of study to be very interesting and realized the potential for this field to be a monumental tool in the future of medicine. GSIP not only provided me with this opportunity to learn a great deal about stem cells and regenerative medicine, helping me to make a more informed decision about PhD programs in the future, but also exposed me to a group of phenomenal peers that I am proud to call my friends. This summer has been one of many fond memories both within the lab working alongside mentors on an intriguing research project and outside the lab bonding with the other interns – and it would not have been possible without the support you and others provided to make the program possible! Therefore, I wanted to express my gratitude for your donation and let you know how impactful these gifts have been on the lives of the many interns who had the wonderful chance to partake in GSIP this summer! Thank you!

Sincerely,

Oscar Yip

Occidental College

Mentor: Kristin Artinger, PhD



Gates Center for Regenerative Medicine

UNIVERSITY OF COLORADO **ANSCHUTZ MEDICAL CAMPUS**

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“ *The GSIP program has rapidly developed into a large and successful training experience for college students. They learn about research and also clarify their thinking about their futures in graduate or medical schools.*

- 2017 GSIP Mentor

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We are grateful to all those who have made this program possible.

Special thanks to our college and university partners:

University of Colorado

Berea College Davidson College Middlebury College