

# Annual Report

2019-2020



# Our Community Continues to Give Back in This Time of Need

On a local, national, and global scale, the COVID-19 pandemic tested the resilience, strength, and unity of us all. In spite of the obstacles that our Keck Graduate Institute (KGI) students, faculty, and staff experienced in 2020, our entire community continues to be adaptable and flexible. Our students exhibited tremendous perseverance in their studies and career pursuits, and we owe great thanks and appreciation to our faculty and staff who continued to make the KGI student experience one-of-a-kind! This was done through a relentless focus on innovation and collaboration in a challenging shift to a temporary online-only environment.

COVID-19 also presented an unprecedented array of personal challenges across the country and globe: family and friends falling ill, job loss, financial hardship, mental health crises, limited resources, and isolation. In the face of hardships, we are proud that our KGI community offered a helping hand.

KGI Assistant Professor **Anna Hickerson** produced vacuum-formed 3D-printed masks for healthcare professionals to address the personal protective equipment (PPE) shortage. **Nina Kar**, a member of KGI's 2020 graduating class from the Master of Business and Science program, also produced 3D-printed masks and delivered donations to many hospitals in the area.

**Christy Billock**, the founding program director of KGI's Occupational Therapy Doctorate program, appeared on ABC7 in April to share tips on coping with stress during the COVID-19 pandemic. She also recorded a webinar ([bit.ly/billock-webinar](http://bit.ly/billock-webinar)) for local hospitals on how healthcare workers can better handle the stress of the current situation.

KGI alumna **Kathleen Dinh**, PPC '17, made masks with her mother, and they teamed up to donate those masks to hospitals in New York. Another KGI alumna, **Fatima Faisal**, PPC '18, MS '19, wrote a children's book related to COVID-19. The book is titled "The Incredible Docs vs. Billy the Bad Virus" ([kgi.edu/faisal-book](http://kgi.edu/faisal-book)) and all proceeds go directly to No Kid Hungry, a non-profit feeding children throughout America.

This spirit of innovation and response led to an even stronger bond between KGI and our alumni. The #InvestInInnovators spring giving campaign exceeded its goal, raising \$11,145 to support KGI students affected by COVID-19. Many thanks to those who contributed! You can still donate at [kgi.edu/give](http://kgi.edu/give).

“As we start the 2020-21 academic year in an online setting, we are confident in our ability to deliver a superb, high-quality educational experience. In addition to our faculty expertise, a key area that sets KGI apart is our students' ability to network and connect with industry leaders.”

Our alumni are making important contributions at key companies such as Amgen, Abbott, BioMarin, Genentech, Gilead, and Kaiser Permanente, along with many other companies within the life sciences industry. We are very proud of the efforts they are making to find solutions to this global threat including breakthroughs in vaccines, testing, and many other areas. For alumni who were affected by job loss during the pandemic, KGI's Career Services team continues to work with them on finding new opportunities.

Essential research is also happening on campus. Dean of Research **Larry Grill** is working toward a low-cost COVID-19 vaccine for developing countries. Based on our students' new interests arising from the COVID-19 pandemic, Grill's virology course this fall is already oversubscribed by 150 percent. Our faculty expertise in infectious diseases helped jumpstart a "Pandemic Solutions: Virtual Speaker Series" that featured a wide range of guests. These biotech and healthcare leaders inspired our KGI summer

students, who received an authentic glimpse into the valuable bridges between KGI and industry.

In total, more than 850 students participated in our online summer programs. This is a substantial increase of 257% from last year. Spread across 10 different programs, they learned about opportunities in bioprocessing, device engineering, genetics, occupational therapy, pharmacy, and many other pathways. Many participated in COVID-related team-based projects, working virtually with one another from locations around the globe.

As these summer students and other potential students consider KGI for their graduate education, we will have several new options for them in the near future. The Master of Science in Physician Assistant Studies program and Occupational Therapy Doctorate program will enroll their first cohorts in fall 2022, and we are thrilled that **Dr. David Lawrence**, former CEO of Kaiser Permanente, is leading the development of the KGI School of Medicine as our new dean.

As we start the 2020-21 academic year in an online setting, we are confident in our ability to deliver a superb, high-quality educational experience. In addition to our faculty expertise, a key area that sets KGI apart is our students' ability to network and connect with industry leaders. More than 60 virtual events are scheduled for fall 2020. In addition to Industry Talks from biotech and healthcare innovators across the globe, KGI's Division of Student Affairs is also hosting Academic Success Workshops, Wellness@KGI events, and Information Sessions with top employers. We hope many of you will continue to help in supporting our students' educational needs and goals.

Although we were sad to cancel our commencement ceremony in May, we look forward to the day when we can celebrate the Class of 2020 in person. We are proud to now call them alumni!

For the 270 incoming students, welcome to KGI! Innovators start here.



*Sheldon M. Schuster*

DR. SHELDON M. SCHUSTER, KGI PRESIDENT

*James F. Widergren*

JAMES F. WIDERGREN, CHAIR, KGI BOARD OF TRUSTEES

# Leading in Times of Crisis

## Five KGI Women Provide Valuable Contributions in the Fight Against COVID-19

In addition to the critical work that KGI alumni are doing through their employers in the biotech and healthcare industries, there are many individuals who are making innovative contributions in the fight against the COVID-19 pandemic. Here are five stories we featured earlier in 2020.

### **Anna Hickerson, Assistant Professor and Master of Science in Medical Device Engineering Program Director**



Anna and her husband, Kevin Peter Hickerson, teamed up to produce vacuum-formed 3D-printed masks for healthcare professionals during the PPE shortage.

### **Kathleen Dinh, PPC '17**



While studying at Michigan State University College of Human Medicine, Kathleen made masks with her mother. They teamed up to donate those masks to hospitals in New York.

### **Nina Kar, PPC '19, MBS '20**



During her final months of the Master of Business and Science program, Nina volunteered her time to produce 3D-printed masks for healthcare professionals. She delivered donations to many hospitals in the area and to the Santa Ana Police Department.

### **Fatima Faisal, PPC '18, MS '19**



Fatima wrote a children's book related to COVID-19. The book is titled "The Incredible Docs vs. Billy the Bad Virus," and it's available on Amazon. She was featured on ABC in

Syracuse, NY, and her book was mentioned in New York Governor Andrew Cuomo's statewide email regarding top books to read during the pandemic. All proceeds go directly to No Kid Hungry, a non-profit feeding children throughout America, and extra books are being donated to inner-city schools!

### **Christy Billock, Founding Program Director of the Occupational Therapy Doctorate**



On April 3, Christy appeared on ABC7 in Los Angeles to share tips on coping with stress during the COVID-19 pandemic. She also recorded a webinar for local hospitals on how healthcare workers can better handle the stress of the current situation.

Want to learn about the Hickersons' 3D-mask production process? Visit [bit.ly/hickerson-mask](https://bit.ly/hickerson-mask).



## KGI Student Government Leads our Community's Conversation Regarding the Black Lives Matter Movement

During the summer, KGI Student Government met to discuss our country's current situation regarding the Black Lives Matter movement. Then, on Sept. 2, they wrote this message to KGI students, faculty, and staff to update the community on their ongoing Black Lives Matter initiatives.

Dear KGI Family,

We hope this letter finds you well after a productive summer with internships, rotations, or summer jobs! We are writing to welcome you back to our upcoming fall semester and update you on our ongoing Black Lives Matter initiatives.

Earlier this summer, the grounded racial inequalities of our country's past and present were brought back to life with the tragic deaths of George Floyd, Breonna Taylor, Elijah McClain, and many other innocent but targeted people of color. We all felt it: a deeply rooted feeling of anger towards how our colleagues, friends, and family were being treated. This is something that cannot be ignored. We know many of you did everything you could to make a difference. Whether that was having tough conversations with your family, questioning your friend's beliefs, or trying to understand your own privilege; your actions are supported and echoed by KGI's Student Government.

As soon as we could, our Student Government team got together with a collective goal: to protect, include, and diversify our student body and to coordinate future actions to ensure the education and safety of every student, faculty, and staff on our campus. Through countless hours of meetings and working closely with our administration, we are excited and proud to update you on multiple initiatives that we will have in place for this school year, and many more to come.

### BLM Task Force

The purpose of this task force is to make sure the Black students at KGI feel both welcome and safe. The goal is to create a safe environment for us to voice our concerns and talk about how the current state of this country is impacting them. By doing this, KGI Student Government will help them in any way possible to deal with what they are going through in these delicate times. This task force will also look into the statistics of KGI enrollment and professional placement to further understand the journey of our diverse student body. With this newfound insight, we plan to make proposals to the administration for adequate changes to correct or benefit students. KGI Student Government is in the process of appointing a representative to lead the task force in collaboration with KGI Student Government. KGI Student Government will be hosting (virtual) meetings so students can have a safe space to talk, laugh, and move towards a healing process.



### Welcome Back Social with President Schuster

The purpose of this annual event is to offer a warm KGI welcome to both incoming and returning students. Typically for this event, KGI Student Government collaborates with President Schuster to organize fun activities and offer complimentary food and refreshers to all students in celebration of the beginning of the school year. In alignment with the Black Lives Matter initiative this year, KGI Student Government proposes catered food from local Black-owned businesses to show our support for fellow Black brothers and sisters in the Claremont (and other nearby) communit(ies)!

Despite the virtual platform this year, KGI Student Government strives to keep our promise by sourcing a spreadsheet syndicated by The Claremont Colleges Office of Black Student Affairs ([bit.ly/1a-black-owned-businesses](https://bit.ly/1a-black-owned-businesses)), which includes a list of many LA local Black-owned businesses.

For future Welcome Back Socials, KGI Student Government is proposing the following:

- If in-person, cater from a local person of color (POC) owned restaurant.
- If virtual, invite several local POC-owned businesses to promote their business.



Hopelessness is the enemy of justice. —Reggie Jackson

### Black History Month Traditions

In honor of Black History Month (February), there will be some traditions that KGI Student Government feel would help educate and broaden knowledge of the Black community. KGI will be hosting (virtual) informational sessions to help educate anyone who wants to learn about the history of the dedicated and powerful men and women who fought for equality. Also, we will be highlighting a Black student every week in the newsletter to highlight the Black excellence that walks the halls and virtual platforms of KGI. There will also be weekly movie nights to allow us all, as a cohort, to appreciate and have some fun while sharing the Black culture with everyone here at KGI.

### POC Panel Event

KGI Student Government will be hosting a (virtual) Fall Panel Discussion on Diversity, Equity, and Inclusion (DEI). To align with the greater KGI Student Government Black Lives Matter movement, Student Government is organizing a panel with invited guest speakers to talk about their experiences in industry and healthcare professions, and facilitate a conversation on building more diverse and inclusive teams and communities. Diversity, equity, and inclusion have become especially relevant in light of recent racial and social injustices, and commitment to DEI aims to break down systemic barriers obstructing the advancement and opportunity of marginalized groups by increasing diversity, challenging bias and discrimination, and creating an environment of inclusivity, welcome, and respect.

### Professional Speaker Event

To further Student Government's commitment to the Black Lives Matter movement along with general diversification initiatives, this year's speaker series aims to increase representation of speakers. There will be a concerted effort to bring to campus (virtually) individuals and speakers from diverse backgrounds. This involves leveraging greater Claremont Colleges resources and tapping into our already existing network to round out our speaker and workshop series. Through giving a platform for students to hear from a diverse assortment of speakers, we continue our collective goal of forging the next generation of innovators.

### Diverse Industry Talks

KGI Student Government is collaborating with the KGI Corporate Partnerships team to diversify industry guest speakers represented on campus this year to include more people of color, women, and professionals of varying experience levels in industry and healthcare professions. Corporate Partnerships is responsible for putting on many informative and well-attended Industry Talks throughout the school year, and KGI Student Government is excited to be working on the initiative to diversify speakers and provide input from the student perspective.

### Cultural Educational Movie Nights

KGI Student Government is looking to further our BLM initiatives by adding cultural-educational movie nights. Movie nights will be hosted virtually using either Netflix Party or Prime Video Watch Party. We will survey those interested in joining the watch party to help choose movies in line with our BLM initiative. We hope you join us, and don't forget to have some popcorn ready for the watch party!

Along with these ongoing initiatives, we also want to provide you with an additional education and actionable resource:

- **7C's Petition** [msha.ke/cgustudents/](https://msha.ke/cgustudents/)

Uncovering and understanding the long-standing racial injustice embedded within academia will remain a top priority for KGI Student Government. These ongoing initiatives are just a small token of KGI Student Government's commitment to enacting a positive and robust change within our institution. We plan on creating these in such a way that will hold future members accountable to continue and evolve in ways that will benefit our students, faculty, and staff.

We look forward to seeing all of you at these events! Until then, practice empathy, smile, and find ways to make those lives around you better—the KGI way! Student Government will continue to meet throughout the academic year every Monday from 12–1 p.m.

If you have any questions or would like to get in contact, please email [sg1@kgi.edu](mailto:sg1@kgi.edu).



## KGI Student Government 2020-2021



**Erik Wehse**  
President



**Michael Blanco**  
Vice President



**Stephanie Lee**  
Ethics and Judicial Chair



**Cathy Pham**  
Social Chair



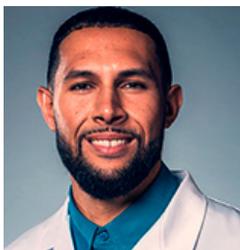
**Maria Melville**  
Cross-Cultural Global  
Diversity Chair



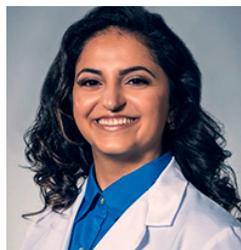
**Divij Gulati**  
Treasurer



**Brian Lavongtheung**  
Professional  
Development Chair



**Jimothy Brewington**  
4th Year Pharmacy  
Representative



**Narine Karapetyan**  
3rd Year Pharmacy  
Representative



**Mustafa Awadalla**  
2nd Year Pharmacy  
Representative

## Industry Leaders Surprise KGI Students in “Zoombombing” Series



The COVID-19 pandemic disrupted the job market in many industries. Within biotech and healthcare, KGI students gained a sense of calm, focus, and inspiration from industry leaders and corporate partners.

A total of 24 biotech and healthcare leaders surprised KGI students this spring with a “Zoombomb”—a new term to describe an unexpected drop-in to a Zoom class—and passed along advice for entering and succeeding in industry. The visitors also shared their assessment of the COVID-19 pandemic and what opportunities to look for in the job market.

Providing students with opportunities to interact directly with a broad network of alumni and industry leaders is a hallmark of KGI’s educational model, even during a pandemic. When KGI President Sheldon Schuster and KGI Board Chair Jim Widergren put out the call to these industry leaders, each one seized the opportunity to speak with KGI’s talented graduate students. The complete list of guests includes:

- **Bonnie Anderson**  
CEO, Veracyte
- **Ryan Bethencourt**  
CEO, Wild Earth
- **Dan Bradbury**  
CEO, BioBrit
- **Raymond Cohen**  
CEO, Axonics
- **Stephen Eck**  
Chief Medical Officer, Immatix
- **Abasi Ene-Obong, PPM ’14**  
CEO, 54gene
- **Brian Feth**  
CEO & Founder, Xcell Biosciences
- **Weaver Gaines**  
Chairman & CEO, Evren Technologies
- **Steven Galson**  
Senior VP of Global Regulatory Affairs, Amgen
- **Chris Garabedian**  
Chairman & CEO, Xontogeny
- **Amita Goel**  
CEO, Celltheon
- **Larry Gold**  
Chairman & Founder, Somalogic
- **Paul Grint**  
Chairman of the Innovation Council, Cardea Bio
- **Phillips Kuhl**  
President, Cambridge Innovation Institute
- **Alan Miller**  
Chief Medical Director of Oncology, SCL Health
- **Michael Mussallem**  
Chairman and CEO, Edwards Lifesciences
- **Tony Page**  
CEO, Voxx Analytics
- **Ryan Peeler**  
Chief Innovation Officer, Voxx Analytics
- **Monde Qhobosheane**  
President & CEO, Analytik Jena
- **Line Raquet**  
CEO, Creoptix
- **Christopher Rhodes**  
President & CEO, Drug Delivery Experts
- **Harry Schiavi**  
Managing Partner & Executive VP, PrecisionAdvisors
- **Jay Stout**  
President, Sage Biosolutions
- **Charles Theuer**  
Pharma CEO, Tracon



On May 7, Analytik Jena CEO **Monde Qhobosheane** made a surprise visit to KGI’s Medical Device Expo being held on Zoom. When talking to the students, Monde outlined eight successful habits and shared some inspiration for the KGI students as they begin to launch careers in biotech and healthcare. Watch the entire video at:  
[bit.ly/monde-surprise-visit](https://bit.ly/monde-surprise-visit)



## Virtual Speaker Series Showcases KGI’s Industry Connections for Summer Students

Prior to the start of this year’s summer programs, faculty and staff brainstormed ideas on how to introduce KGI’s industry connections to the 858 participating students.

Ultimately, a seven-part Pandemic Solutions: Virtual Speaker Series showcased the long-standing collaboration that exists between KGI and the biotech and healthcare industries. Each week, KGI’s guests talked to more than 100 students about the global response to the COVID-19 pandemic and shared advice on how to prepare for an innovative career.

All seven interviews are available on the KGI Podcast:

- **Kiran Mazumdar-Shaw**  
Executive Chairperson of Biocon Limited
- **Dafni Bika**  
Global Head of Pharmaceutical Technology at AstraZeneca
- **David Lawrence**  
Dean of the KGI School of Medicine
- **Brian Hill**  
Director of Supply Chain at Gilead Sciences
- **Steven Galson**  
Senior Vice President at Amgen
- Data Scientist Panel featuring **DJ Chhatre** (Gilead Sciences), **Sangeeta Bhattacharya** (Janssen), **Sascha Ahrweiler** (Bayer Pharmaceuticals), and **Chris Price** (Roche)
- **David Robinson**  
Deputy Director, Bill & Melinda Gates Foundation



Visit [kgi.edu/podcast](https://kgi.edu/podcast) to listen, and subscribe on Apple Podcasts!



# Innovative Leaders in Transition

## Celebrating Steve Casper's Accomplishments as Dean of the Henry E. Riggs School of Applied Life Sciences

At the start of this summer, KGI's Steve Casper transitioned from being Dean of the Henry E. Riggs School of Applied Life Sciences (Riggs School) to devote all his time to being a faculty member, conducting research, and teaching courses, which include the Introduction to the Bioscience Industries.

As Dean, he added innovative programs to the Riggs School such as the Master of Engineering in Biopharmaceutical Processing, the Master of Science in Medical Device Engineering, and the Postbaccalaureate Pre-PA Certificate program.

Casper, who has taught at KGI since 2003 and been Dean since the end of 2012, said that KGI has always had world-

class programs in science and industry, but he is most proud of recent increases in graduation and retention rates.

Nationwide, only about two-thirds of students who start Science, Technology, Engineering, and Mathematics (STEM) master's programs, on average, graduate. KGI, by contrast, has historically had graduation rates well above 90 percent each year, and this rate has increased to 98 percent in the past three years.

"Pretty much everybody graduates, and very few students drop out, which is what we're really proud of," Casper said. "Our outcomes have been stellar in terms of employment, too."





The Riggs School is focused on industry programs oriented toward preparing students for careers in the biotech industry. Although graduates this year face challenges due to the economic repercussions of COVID-19, in the past two years, more than 70 percent of students already had a job at graduation and most graduates landed a position within a few months.

Casper credits these high figures in graduation rates and job placement to KGI's supportive atmosphere and personalized approach.

"We have some great faculty and administrators that offer a high-touch environment," Casper said. "They work really hard to identify students that are having problems and give them help as soon as possible."

KGI President Sheldon Schuster has invested in dedicated support staff to provide help to students. Additionally, student support networks, dedicated teachers, and a low faculty-to-student ratio all contribute to the success of KGI students.

Now Casper is excited about being able to dedicate more time and energy to teaching and research. As a professor, he values project-based learning and forming partnerships with companies to give students real-world experience in the bioscience industry.

"Within the Introduction to the Bioscience Industry course, we organize projects for teams of students to work with a startup to help them figure out how to move their technology along, mainly through trying to better understand the markets that it can go into," Casper said.

He estimates that he's organized at least 250 of these projects over the last 15 years, many of which include startup entrepreneurs working in local incubators and technology accelerators. The relationships he has formed have helped Casper better understand biotech industry cluster dynamics, one of his research specialties.

"Across the board, we find that a lot of our students end up getting these jobs that integrate roles where they're not the specialist finance person or doctor or PhD scientist, but they know enough about those three fields to talk about all of them and bring the knowledge together," Casper said. "My experience has shown that these integrator people tend to be the most entrepreneurial because they can forge patterns of communication that are not possible otherwise because those other people don't know how to talk to others outside of their professional world."

Casper also looks forward to spending more time with his wife and two daughters and pursuing his hobbies, which include traveling, going to Disneyland, listening to classical music, and running.

## Martin Zdanowicz Begins Expanded Role as Dean of the School of Pharmacy and Health Sciences and Henry E. Riggs School of Applied Life Sciences

In addition to leading the KGI School of Pharmacy and Health Sciences (SPHS), the role of Dean Martin Zdanowicz has expanded to also include leadership of the Henry E. Riggs School of Applied Life Sciences (Riggs School). The dean's expanded role became official on June 1, 2020.



With the help of faculty and staff, Dean Zdanowicz is developing a new organizational structure that will best utilize the talents of faculty and staff from both schools. He has also played an instrumental role in preparing both schools for online course delivery in the fall semester.

"I am constantly impressed by the abilities of our students, faculty, and staff to adapt to the changing circumstances of this COVID-19 pandemic," Zdanowicz said. "I know we all look forward to the day when we can be back on campus, but our faculty are committed to offering a premier, online experience through this fall semester. We will also host more than 60 virtual events to help our students connect, network, and prepare for their careers in biotech and healthcare."

Since joining KGI in August 2019, Zdanowicz has led the development of Doctor of Pharmacy curriculum changes and established a pipeline for community college students to progress toward graduate school within SPHS.

The first cohorts of KGI's genetics programs earned their degrees in May 2020, and SPHS is expanding to also include an Occupational Therapy Doctorate and Master of Science in Physician Assistant Studies programs.

"I have full confidence that Dean Zdanowicz will work to find collaborative opportunities between

the two schools," KGI President Sheldon Schuster said, "and will embody the innovative spirit that the school was founded on and that continues to thrive today. Dean Zdanowicz has initiated a process to understand the needs of both schools with input from all parties."

Steve Casper, who served as the dean of the Riggs School from 2013 through 2020, continues to serve as the Henry E. Riggs Professor of Management at KGI. Casper first joined KGI in July 2003.

"I want to take this opportunity to thank Steve for his tireless work as the dean of the Riggs School," President Schuster said. "Under his leadership, the Riggs School added innovative programs such as Master of Engineering in Biopharmaceutical Processing, Master of Science in Medical Device Engineering, and the Postbaccalaureate Pre-PA Certificate.

"The influence and impact of KGI alumni continue to grow, and all of them benefited from Steve's commitment to the Riggs School. He has been an incredible example of dedication to KGI, our students, and the faculty and staff of the school."



# Beyond KGI: Alumni Excelling in Industry

## Shabri Patel, MSGC '20, and Alexandra Petrasek, MSGC '20, Land Jobs at Fulgent Genetics

Shabri Patel and Alexandra Petrasek, who recently received their graduate degrees from KGI's Master of Science in Human Genetics and Genetic Counseling (MSGC) program, have both obtained positions as genetic counselors at Fulgent Genetics. They work primarily in a lab setting, interpreting results from genetic testing that can help individuals assess the risk of inherited conditions that can impact their health or their children's.

Patel, MSGC '20, initially wanted to become a doctor but soon found herself gravitating toward more niche medical careers. As a pre-medical undergraduate, she excelled in statistics, psychology, and especially in her first upper-division biology class, Intro to Genetics.

"I was trying to figure out, 'How can I marry all of my interests?'" Patel said.

Her path eventually led her to KGI's MSGC program.

Petrasek, MSGC '20, on the other hand, became interested in genetic counseling early on.

"I actually learned about genetic counseling in my high school biology class, which is unheard of," Petrasek said. "I got lucky in that I had a teacher who felt strongly about sharing that with the class, and I thought it was the coolest thing I'd ever heard of."

As an undergraduate, Petrasek got a psychology degree with a pre-health track specifically to fulfill the requirements for a genetic counseling program. She had originally planned to work in patient care, but after doing a KGI industry

rotation at the Children's Hospital Los Angeles lab, her positive experience compelled her to pursue a job in industry, which led her to Fulgent.

Patel completed an industry rotation at Fulgent in April after she was hired, as she was displaced from her initial rotation placement due to COVID-19 restrictions. Fulgent graciously made accommodations to take her as a student. Though she had originally planned to work in a pediatric clinical setting, Patel applied for the position in early March because she felt drawn to the company's mission and ethics.

"They have something that I'm very passionate about, which is bringing awareness and accessibility to underrepresented groups," Patel said. "Even if I am not working directly with patients, I still feel like I am making an impact in this role."

What Patel valued most about KGI's MSGC program was the intimate learning environment, where she could get to know her professors and classmates. She also enjoyed the networking opportunities, meeting genetics counselors of many different specialties who spoke in the classes.

For Petrasek, a highlight of her KGI experience was writing her thesis on pharmacogenomics for psychiatric drugs and psychiatrists' general genetics knowledge. She found the process to be unexpectedly enjoyable.

"I had a really wonderful thesis advisor—Professor of Clinical Sciences Talia Puzantian—



SHABRI PATEL, MSGC '20



ALEXANDRA PETRASEK, MSGC '20

and I actually learned as much about myself as I did about the topic,” Petrasek said.

Both Patel and Petrasek credit MSGDA Program Director Barbara Fortini, who teaches the course Human Molecular Genetics, for making difficult concepts more accessible.

“She taught us complex genetic concepts and skills that I thought I would never fully wrap my head around, like variant curation, which is now a large part of my day-to-day,” Patel said.

“We use the skills she taught us every single day,” Petrasek added.

“I also have to give a shout-out to MSGC Program Director Ashley Mills, who built

**Fulgent has something that I’m very passionate about, which is bringing awareness and accessibility to underrepresented groups.**

this program from the ground up. It is what it is because of how she put it together.”

Patel is grateful to MSGC Associate Program Director Emily Quinn for providing support and guidance to her as a faculty mentor and thesis advisor.

For Patel and Petrasek, the Professional Development Class was formative in shaping their trajectory.

“I think part of what made it so amazing was that it was new, and we had the opportunity to shape it,” Petrasek said. “Every faculty member would ask us, ‘What do you think you need?’”

Now they are eager to begin a new chapter in their lives as genetic counselors at Fulgent Genetics.

“We both are committed to service to others and continuous learning and improvement,” Patel said. “The company is growing day by day. It’s an exciting place to be, especially in a field that is still in its infancy.”

To learn more about the MSGC program, visit [kgi.edu/msgc](http://kgi.edu/msgc).

## Angela Hoang, MSGDA '20, Empowers Prospective Parents as Associate Clinical Variant Curator

Angela Hoang, who recently received her Master of Science in Human Genetics and Genomic Data Analytics (MSGDA) degree from KGI, now works as an Associate Clinical Variant Curator at Natera for the Women’s Health division. She analyzes genetic test results for prospective parents to help determine if there’s a risk of passing down serious genetic conditions to their children.

“You’re providing a family with answers and reassurance, and whether or not the report comes back positive or negative, I believe that knowledge is power,” said Hoang, MSGDA '20.

Hoang has always been drawn towards the lab. It was during her post-baccalaureate internship in cancer therapeutics at City of Hope that she became interested in clinical genetics.

“I figured out my professional goal, which is to translate complex concepts into something that’s more simplified, but still meaningful,” Hoang said. “That’s what led me to KGI and the MSGDA program.”

She learned of the opening at Natera after Associate Director of Career Services Melissa Scott encouraged her to conduct informational interviews with others in her prospective field. During this process, Hoang talked to someone from Natera, who told her about the position and is now her coworker.

Hoang has been passionate about women’s health since college, where she did undergraduate research on reproductive physiology. Getting to work in the Women’s Health division, along with the company’s overall mission, drew her to Natera.



ANGELA HOANG, MSGDA '20

“I love being part of a company that emphasizes that they embrace diversity, and they believe in making a difference through their products because they state that behind every sample is a person,” Hoang said.

“I’m really appreciative that I get to combine my passion for women’s health and clinical genetics on a daily basis.”

In her current role, she acts as a liaison for genetics counselors, presenting relevant information from the data, which the counselors then use to prepare reports for clients.

“I’m kind of like a genetic detective in that I am looking for any evidence to assess a genetic variant and determine if it should be reported back to the patient,” Hoang said.

Hoang believes that KGI’s MSGDA program prepared her well for her current position in that it introduced her to the guidelines used to classify variants. She’s also grateful to Melissa Randall, Emily Quinn, and Ashley Mills of KGI’s Master of Science in Human Genetics and Genetic Counseling program.

“They taught us so much about the clinical side of genetic testing because they shared case studies and patients’ stories,” Hoang said. “I mainly work with data on a daily basis, and it’s interesting to understand the disease on a molecular level, but also knowing how it can

“I’m kind of like a genetic detective in that I am looking for any evidence to assess a genetic variant and determine if it should be reported back to the patient.”

affect a patient and their family reminds you how impactful the work that you’re doing is.”

Hoang also credits MSGDA Program Director Barbara Fortini, who teaches several genetics courses and is an advisor for the capstone project, for her success.

“I really admire her in that she wore so many hats,” Hoang said. “She was a mentor to all of us when we came looking for internships and applying for jobs.”

For Hoang, her most rewarding experience at KGI was being in the inaugural class of the genetics program.

“I appreciate that KGI valued our input about what we thought could be improved upon for future cohorts,” Hoang said.

To learn more about the MSGDA program, visit [kgi.edu/msgda](http://kgi.edu/msgda).



## KGI Alumnus Stephen Hsu, MBS '12, Develops Cell-Based Meat Products With Memphis Meats



STEPHEN HSU, MBS '12

As the world's collective wealth grows, so does the consumption of resources, including meat. The startup Memphis Meats aims to take the animal out of the equation while still satisfying meat lovers by growing meat from animal cells, which

also could theoretically reduce land and water usage when compared to raising farm animals.

Stephen Hsu, a 2012 KGI alumnus who received his Master of Business and Science (MBS) degree, now works as a bioprocess engineer for Memphis Meats' process development team. He emphasizes that the product his company is developing is completely different from plant-based products such as the Impossible Burger, which mimic the taste of meat, in that cell-based meat is derived from animals and thus is real meat.

"Strangely enough, what we're doing is not that new," Hsu said. "In fact, the idea has been thought about way back in the 1920s when biologists were first playing around with growing cells outside of an animal. From a technological standpoint, though, we haven't been able to fully explore this possibility until just the past couple decades."

He cites innovations in stem cell research and tissue engineering for medical purposes as key influences, which then prompted scientists to consider how the same work they were doing with human cells could be applied to animal cells. The seminal work came in 2013, when the world's first lab-grown burger was consumed at a news conference in London, receiving positive feedback from food critics.

Memphis Meats was formed by cardiologist Uma Valeti and cell biologist Nicholas Genovese. Although Valeti is a licensed cardiologist, the goal of meat without animals is one of the reasons he started the company.

The company obtains animal cells from biopsies and other methods, and feeds the cells essential micronutrients needed to grow and develop. While it may take months or years to grow a full animal, developing the cells into meat is on the order of a few weeks to a few months. Potential meats now include beef, duck, and chicken.

In order to best mimic physiological systems, cells are traditionally cultivated in animal blood serum. Memphis Meats, as well as other cell-based meat companies, are actively researching alternatives to the serum, as it is costly and detracts from the main purpose, which is to produce meat in the most ethical, minimally invasive way possible.

Currently, the main challenges the company faces are reducing costs, making their process scalable, navigating regulatory hurdles as they work with the U.S. Food and Drug Administration and United States Department of Agriculture to fully clarify the regulatory path to market, and educating the public about cell-based products.

When the 2013 lab-grown burger debuted, some people characterized it as "Frankenmeat." However, there is now widespread support for cell-based meat—survey data suggests that roughly two-thirds of Americans would eat cell-based meat—as awareness around the ills of factory farming, from both an ethical and public health viewpoint, grows.

After graduating from KGI, Hsu worked in biopharmaceuticals, most notably as a Senior Research Associate for Gilead Sciences. He was drawn to Memphis Meats for the challenge of working in a completely new field.

"Now we have different species to play around with," Hsu said. "In the biopharma industry, there are a limited number of species that companies generally work with to produce recombinant proteins. While you may have specific cell lines that have different phenotypes and different ways of growing, with new species in the equation, the scientific challenge is much more fascinating."

They still have a long road ahead of them before the product reaches the market, but Hsu is committed to the company's mission.

"If we can change the food production system, that will have a positive impact on the environment and animal welfare," Hsu said. "Additionally, minimizing the carbon footprint could be game changing in terms of climate change. That's why I joined the company—to see if we can make it a reality."

To learn more about the MBS program, visit [kgi.edu/mbs](http://kgi.edu/mbs).

# Leading Master's Students to Innovative Career Paths

## KGI's Master of Science in Applied Life Sciences Program Provides Hands-On Training in Hospital Research

At KGI, students witness the impact of their research firsthand.

Students enrolled in the Master of Science in Applied Life Sciences (MS) program can choose from five concentrations: the Clinical Research Thesis (focused on helping hospitals improve quality of care), Translational Research Thesis (geared toward developing new drugs, devices, or diagnostic interventions), Public Health Research Thesis (examines public health issues, particularly in underserved communities), Team Master's Project (helps a biotech company solve a real-life issue), and Infectious Diseases (provides graduate-level training in the fundamentals of pathogenic agents and infectious diseases).

Through strategic partnerships, Clinical Research Thesis students can work with local hospitals to make systemic changes to improve patient care or partner with biotech companies to develop new drugs and technologies.

The MS program is designed for students pursuing careers in medicine, research and development (R&D), or academia. The first year consists of science/industry-focused courses, independent research, and professional development, while the second year is devoted to the thesis or the capstone Team Master's Project.

Infectious Diseases is a new concentration that will be implemented in fall 2020. According to Professor of Practice in Translational Medicine, Anastasia Levitin, this concentration reflects the impact that infectious diseases have on human health, and students requested to learn more about this topic due to COVID-19.

The Clinical Research concentration also arose out of student requests. In this case, students expressed that they wanted to perform research in a hospital setting, and the partnership between KGI and COPE Health Solutions was born.

COPE is an organization that pairs local hospitals with students interested in pursuing careers

in medicine or research. The relationship is mutually beneficial in that it provides students with real-life exposure to how data is collected in a hospital setting, while the students offer fresh perspectives that lead to structural changes in areas such as pain management, antibiotic usage, and staff performance.

"Some of the projects are organized from scratch, while others are taking data that nobody in the hospital would ever have the time, energy, or even the ability to synthesize," said Dr. Alan Rothfeld, the former medical director at COPE and Professor of Practice in KGI's Henry E. Riggs School of Applied Life Sciences.

Several projects have centered around improving timing when it comes to treating heart attack patients.

"You have a specific number of minutes that you can spend making the diagnosis and instituting treatment," Rothfeld said. "Tissue has the ability to remain alive or even hibernate for maybe an hour or two hours. But after that, it is dead."

By performing a detailed analysis of exactly what happens when the patient enters the emergency room, students identified the delays and



ANASTASIA LEVITIN, PHD

proposed more efficient ways to treat the patient. Cutting down on time not only saves the patient's life but can also salvage tissue and reverse the damage caused by heart attacks and strokes.

Programs such as this allow prospective medical school students to stand out from other applicants, and over 70% of KGI graduates who apply to medical school get accepted. More than that, though, the program provides them with invaluable experience that will serve them throughout their careers.

"This research experience allows them to see how hospitals work," Levitin said. "When they become physicians, they know what nurses, administration, and people on the floor go through when they make those decisions. Sometimes there is a disconnect between physicians and staff, so being on the other side before they become physicians helps them understand the dynamics at work."

MS graduates also gain employment as clinical trial coordinators or researchers for hospitals, universities, and biotech companies. The program helps students prepare for this career path in that the thesis year unfolds in a real-world environment, where students are actively helping hospitals, companies, and government organizations find solutions to problems.

Levitin enjoys seeing the progression as students gain confidence and learn to take the initiative.

**This research experience allows them to see how hospitals work.**

"At the beginning, they are very stressed because a hospital is a busy place," Levitin said of the Clinical Research concentration. "It's not like working on a research project in a lab where you have your advisor helping a lot. A clinical thesis is different because you have to find a way to help hospitals improve and move your project forward, and our training focuses on this. It's real-life experience, and that's why our students are so successful in finding jobs."

To learn more about the MS program, visit [kgi.edu/ms](http://kgi.edu/ms).

## KGI's MSTM Program Forges Symbiotic Partnership With City of Hope

Translational medicine is an emerging field in which questions around the mechanisms of disease are used to guide research in order to find the most effective treatments for these diseases. In Keck Graduate Institute KGI's Master of Science in Translational Medicine (MSTM) program, students get dynamic exposure to this field as they work with City of Hope to find treatments for elusive types of cancer and autoimmune conditions.

The partnership between KGI and City of Hope is a symbiotic one.

"At City of Hope, we have all this opportunity for clinical research for drug development, but we don't actually have a curriculum that was specifically developed for this purpose," said Yilun Liu,

Co-Director of KGI's MSTM program, Vice Dean of City of Hope's Irell & Manella Graduate School of Biological Science, and Professor/Associate Chair for the Department of Cancer Genetics and Epigenetics.

In this joint program, City of Hope provides MSTM students with an opportunity to conduct hands-on drug development and translational research at one of the nation's leading hospital and cancer/autoimmune research institutions, while KGI brings its curriculum and pharma/biotech connections to the table.

The first year consists of science- and industry-focused courses, independent research, and professional development, while the second year is devoted to the translational research thesis, which is conducted almost exclusively at City of Hope.

Students can choose from more than 100 projects in areas such as Disease Mechanisms and Therapeutics Development, Genomics/Epigenetics Research and Precision Medicine, and Stem Cell Therapy. They are paired with a City of Hope faculty mentor who assists them with their research.



Emon Tizpa and Gubidxa Gutierrez Seymour, the two 2020 graduates from KGI's inaugural MSTM class, conducted award-winning projects for KGI's Research Symposium exploring, respectively, brain cancer treatments and breast cancer susceptibility among Latinas. Seymour is currently pursuing employment opportunities in industry and research, while Tizpa is working on secondaries and applying to medical school this cycle.

Examples of thesis projects from the Class of 2021 include pancreatic cancer treatment, developing Epstein-Barr virus vaccines, and treating multiple myeloma.

These projects expose students to the rigors of graduate-level research. According to Liu, students entering PhD programs directly from undergraduate programs often are not prepared for the challenges.

"In a PhD program, there's a lot of failure and criticism you have to face, which creates stress if you're not used to it," Liu said.

The MSTM program, then, helps students to better transition into PhD programs. For students entering the medical profession, this program sets them apart from other medical school applicants while providing valuable hospital experience.

The program is also well-suited for students who hope to pursue careers in industry or research and development. Clinical research is the skill most frequently listed in top postings for Clinical and Translational Science professionals.

Among the top fields for Life Sciences employment, Research and Development, Biopharmaceuticals, and Academic Research rank high both in terms of total employment and growth.

"At KGI, we're helping students acquire knowledge that they would not acquire in other institutions," said Anastasia Levitin, Professor of Practice in Translational Medicine. "We prepare them to work in the industry."

When students are starting out, she said that most of them either want to pursue a PhD or go to medical school. While KGI prepares them for these paths, it also helps them understand that there are other paths and gives them the tools for entering these careers.

"If you want to help people, you can help many more people by working in research and development," Levitin said. "You can design tools and therapies that doctors will use to treat their patients."

To learn more about the MSTM program, visit [kgi.edu/mstm](http://kgi.edu/mstm).



# Leading the Launch of KGI's Newest Programs

## KGI's Occupational Therapy Doctorate Program to Enroll First Cohort in Fall 2022



CHRISTY BILLOCK, PHD, OTR/L

Occupational therapy is a career that matters, impacting lives by helping clients of all ages flourish in the midst of the complexities of daily life. Clients of occupational therapy learn to maximize their capacity for doing and to navigate physical, developmental, mental, emotional, contextual, and/or social challenges to be able to live life to its fullest.

During summer 2020, 114 students were introduced to this career pathway as part of KGI's Pre-Occupational Therapy program. They also gained an understanding

of how hands-on industry experiences and team collaboration are at the core of KGI's success in biotech and healthcare education.

With Founding Program Director Christy Billock leading the way, KGI's innovative Occupational Therapy Doctorate (OTD) program will enroll its first cohort in fall 2022. Its active-learning and hands-on approach will prepare students to become resourceful, ethical, flexible, and agile problem-solvers.

Billock, who was hired in September 2019, is directing the OTD program's development, administration, budget, faculty recruitment, and assessment. Beyond those leadership responsibilities, she is also sharing her expertise to assist the healthcare industry and the general public.

On April 3, Billock appeared on ABC7 in Los Angeles to share tips on coping with stress during the COVID-19 pandemic. In addition, she hosted weekly Wellness Workshops for KGI students, faculty, staff, and alumni through the spring and summer sessions and also recorded webinars on building stress resilience for both clinical partners as well as the Occupational Therapy Association of California.

Like all KGI programs, collaboration will be key to the success of the OTD program. Housed within KGI's School of Pharmacy and Health Sciences, OTD students will gain a holistic understanding of the healthcare industry through the interdisciplinary collaboration among programs.

One of the stronger collaborations will be between the OTD program and the Master of Science in Medical Device Engineering (MSMDE) program. Together with MSMDE Program Director Anna Hickerson, Billock will design quality learning opportunities for the OTD program, with the aim of integrating project-based experiences that form a basis for extensive interaction between MSMDE and OTD students. The aim is to provide both groups of students with an understanding of the interface between engineering assistive devices and technologies to maximize participation in daily life activities.

As the occupational therapy profession grows to meet the needs of our world, KGI OTD students will be ready to lead and proactively innovate solutions for maximizing the health-promoting potential of engagement in activities of everyday life.

To learn more about the OTD program, visit [kgi.edu/otd](https://kgi.edu/otd).

### TIMELINE

- **October 2018:**  
The KGI Board of Trustees unanimously approved to move forward with the creation of the OTD program housed within the KGI School of Pharmacy and Health Sciences.
- **September 2019:**  
Christy Billock Named Founding Program Director for the OTD program
- **June–July 2020:**  
KGI hosted 114 summer students in the online Pre-Occupational Therapy Program
- **August 2022:**  
KGI to enroll first cohort of the OTD program

## Sonia V. Otte Named KGI's Founding Program Director for Physician Assistant Studies

KGI Dean Martin Zdanowicz announced Sonia V. Otte as the Founding Program Director for the new Master of Science in Physician Assistant Studies (MSPA) program.

Based on the accreditation process timelines, KGI is aiming for a 2022 launch of the MSPA program.

"We are very excited to welcome Sonia as the Founding Director of our new MSPA program," said Zdanowicz. "She brings a wealth of experience and great enthusiasm, and I am certain that under her direction, the program will be innovative, high-quality, and a great service to our community."

Otte will lead the accreditation process with the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). She will also direct the MSPA program's development.

"I am incredibly excited and honored to be in this role," said Otte. "It is truly a pivotal time for the physician assistant (PA) profession, and we plan to prepare our graduates to be at the forefront as compassionate clinicians, researchers, and future PA leaders."



From 2012 to 2020, Otte was a practicing PA in South Florida, where she worked primarily in hospital medicine and medical dermatology. Originally from southeast Georgia, Otte graduated summa cum laude from the University of Georgia Honors Program with a Bachelor of Science in Psychology with Pre-Medicine emphasis.

SONIA V. OTTE, MMS, PA-C

Following graduation, she worked at the American Cancer Society headquarters in Atlanta, GA, as an Internal Communications Manager. In 2010, she attended the Nova Southeastern University PA Program in Fort Lauderdale, FL, where she earned a Master of Medical Science and graduated as valedictorian of her class.

**We are very excited to welcome Sonia as the Founding Director of our new MSPA program.**

Following years of clinical practice, Otte transitioned into academia in 2016 at South University in West Palm Beach, FL. She served as an Assistant Professor, Director of Pre-Clinical Education, as well as a PA Education Consultant.

Since starting consulting in 2018, Otte successfully led PA program directors and new PA faculty through curriculum development at multiple applicant PA programs across the U.S. Otte is also a published contributor of a chapter within a prominent Physician Assistant board exam review book (PA Review for the PANCE Fifth Edition).

"I plan to leverage the power of KGI to build an innovative PA program that will encourage our future graduates to forge their own paths as physician assistants," Otte said. "I look forward to creating strong roots here and serving our local community."

To learn more about the MSPA program, visit [kgi.edu/mspa](http://kgi.edu/mspa).

### TIMELINE

- **February 2020:**  
The KGI Board of Trustees approved the creation of the MSPA program housed within the KGI School of Pharmacy and Health Sciences.
- **July 2020:**  
Sonia Otte named Founding Program Director of the MSPA program
- **August 2022:**  
KGI to enroll first cohort of the MSPA program

## Dr. Lawrence Places Community Medicine at the Core of KGI School of Medicine's Mission

KGI appointed former Kaiser CEO Dr. David Lawrence as Dean of the KGI School of Medicine in March 2020. In his first few months, Lawrence has met with faculty and staff to develop synergies between the KGI School of Medicine and KGI's existing certificate and degree programs.

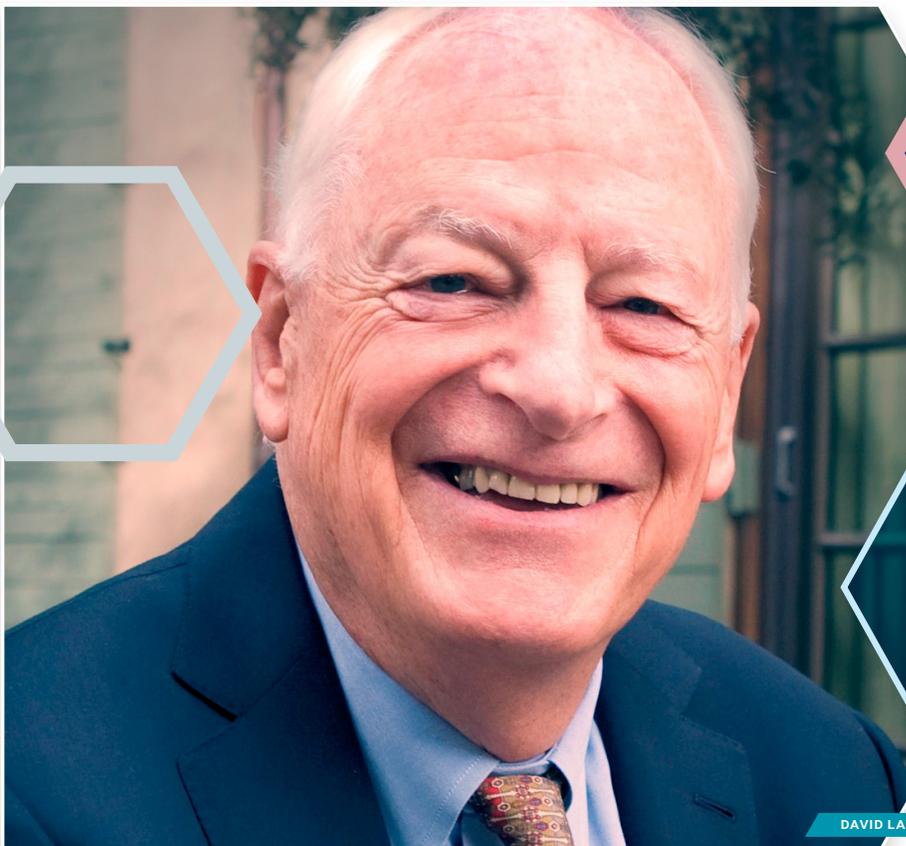
Through those countless conversations, Lawrence has also gained a deeper understanding of the faculty expertise and advanced educational technologies at KGI and The Claremont Colleges. Drawing on KGI's strengths and developing partnerships with health professionals, the KGI School of Medicine will prepare a different type of physician.

With new scientific advances, powerful technology-driven tools, and advanced analytics, healthcare professionals now have an unprecedented ability to provide "precision health"—the solutions that can help people stay healthy, prevent illness and injury, and detect those conditions before symptoms occur.

But this is not the work of physicians and health systems who take care of patients. They are already hard-pressed to provide safe and effective medical care for the worried, sick, and injured.

A different physician is required to bring the new tools of precision health to the individuals, families, and communities who can benefit: a professional from those communities trained in community medicine. The community medicine specialist physician is prepared to:

- Work in teams to deliver the science of precision health: bio-computation related to genomics and proteomics, massive data analytics, artificial intelligence, machine learning, and behavioral and motivational science.
- Use the tools of telecommunications and advanced engineering to bring health information and diagnostic and therapeutic support directly to individuals and families.



DAVID LAWRENCE, MD

- Work in teams with and from the communities to identify the local health challenges, design and implement solutions, and assess their impact.
- Work with patients to bridge the increasingly complex world of clinical diagnosis and treatment decision-making and the unique context and culture from which those patients come.
- Provide leadership in the design and management of the systems that bring these solutions to those who need them.

One medical school cannot solve the challenges we face. But one school can prepare skilled physician leaders to improve health in the communities where they choose to work. One school can show how to select and prepare this new kind of physician.

“We will prepare outstanding, rigorously trained community medicine specialist physicians with the backgrounds, maturity, intelligence, skills, ethics, and compassion to confront the challenges that lie ahead,” Lawrence says. “We will do this in partnership with health professionals, community representatives, and the families and individuals our graduates will serve.”

While serving as the CEO and Chairman of the Kaiser Foundation Health Plan and Hospitals from 1991 to 2002, Lawrence focused the nation’s attention on the issue of patient safety and the need for reform in healthcare delivery systems.

Now, in his current role at KGI, he has the opportunity to reform medical education and prepare physician leaders for satisfying careers in Community Medicine in the underserved and underrepresented communities where they work.

Want to learn more about Dr. Lawrence’s vision for the KGI School of Medicine? Visit [kgi.edu/som](http://kgi.edu/som).



# Summer@KGI 2020: By the Numbers

## Summer programs in 2020

### Application Boot Camp (ABC)

ABC is designed to assist students in completing their graduate health applications. The program consists of personalized advising along with support in the areas of personal statement, extracurricular activities, school selection, and interview prep.

### Bioprocessing Summer Undergraduate Internship Training and Education (BSUITE)

The BSUITE program for undergraduate research in bioprocessing and bioengineering provides an opportunity for participants to obtain valuable experience through team projects based on bioprocessing for the production of monoclonal antibodies, enzymes, and vaccines as well as cell and gene therapy.

### Botswanan Summer Undergraduate Research Experience (BSURE)\*

BSURE is a unique opportunity for students interested in acquiring research experience in the applied life sciences while serving as cultural ambassadors. Students spend the first four weeks of the summer in Botswana and the last four weeks at KGI.

### Careers Beyond the Bench: Biotech Industry Summer Program (CBB)

CBB provides skills and professional development opportunities for undergraduates interested in careers in biotechnology, pharmaceuticals, medical devices, or other biomedical product industries.

### Clinical Genetics and Bioinformatics Summer Program (CGB)

CGB is designed for undergraduates interested in learning more about human genomics, bioinformatics, genetic counseling, and precision medicine by exposing individuals to fundamental principles of human genetics and cutting-edge applications of human genomics.



### High School Summer STEM (HSS)

This unpaid internship opportunity is available to exceptionally motivated and academically strong high school students to gain hands-on research experience and learn about the pursuit of a science- or engineering-related college education and professional career.

### Managing Science in Biotech for Postdocs (ASCB)

Developed in partnership with the American Society for Cell Biology, the course introduces PhD scientists, postdocs, and graduate students to the competencies they need to thrive in industry.

### Medical Device Development Bootcamp (MDD)

MDD is a learning opportunity for students interested in the process of designing and manufacturing medical devices.

### Pre-Occupational Therapy Program (PrOT)

PrOT provides participants interested in an occupational therapy career a chance to immersively explore the profession through interactive and hands-on learning.



### Pre-Pharmacy Enrichment Program (PrEP)

PrEP is designed for students interested in a career in pharmacy. Participants explore the profession through activities that provide an introduction to the field, along with available career opportunities.

### Summer Explore Health Professions (SEHP)

The program is best geared for students contemplating a career in healthcare. Participants receive personalized advising, conversations with healthcare professionals, and access to guest speakers from different health programs.

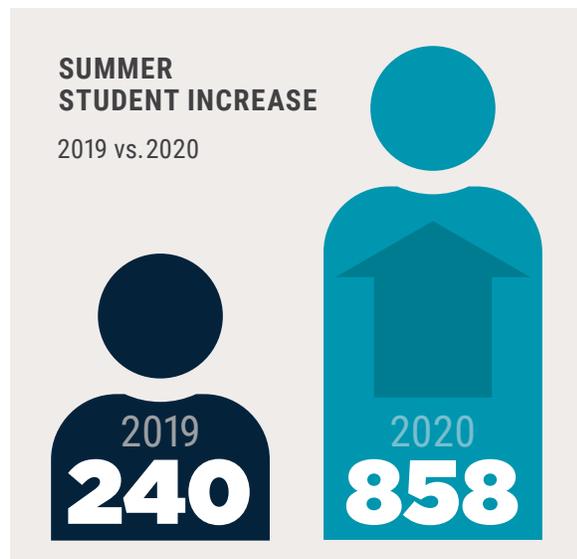
### Summer Undergraduate Research Experience (SURE)

The SURE program for undergraduate research in biotechnology and bioengineering provides students the opportunity for cutting-edge, interdisciplinary research.

### Undergraduate Summer Science Courses (USSC)

Prerequisite science classes for undergraduates include biochemistry, genetics, human anatomy, biostatistics, human physiology, microbiology, and drug discovery.

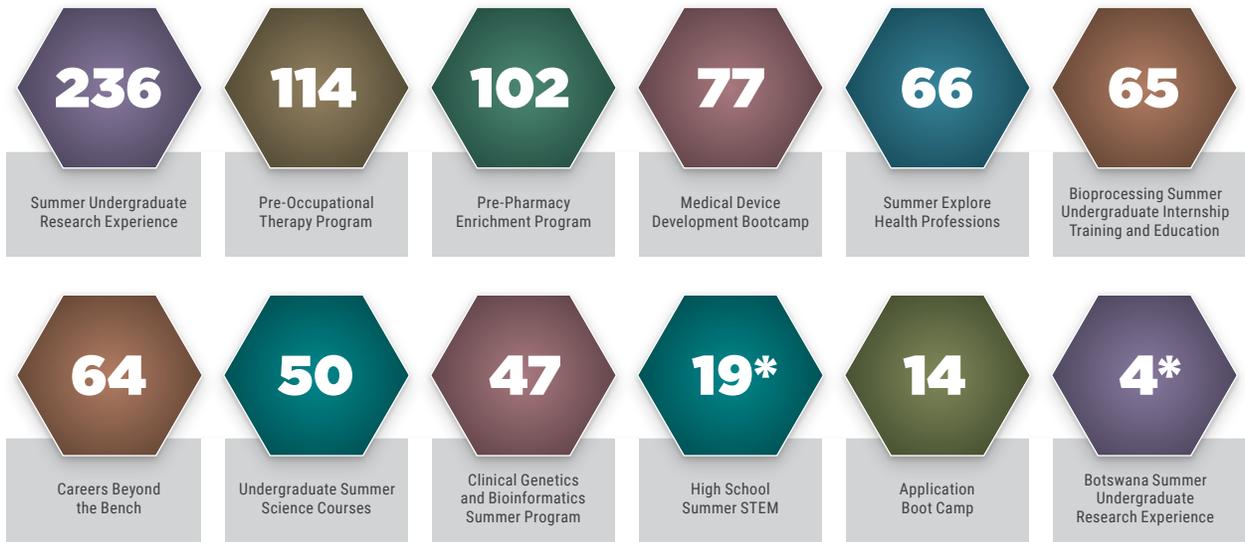
*\* This program will not be offered in 2021 due to travel cautions caused by COVID-19*



Visit [kgi.edu/summer](http://kgi.edu/summer) to learn about KGI's summer 2021 programs.

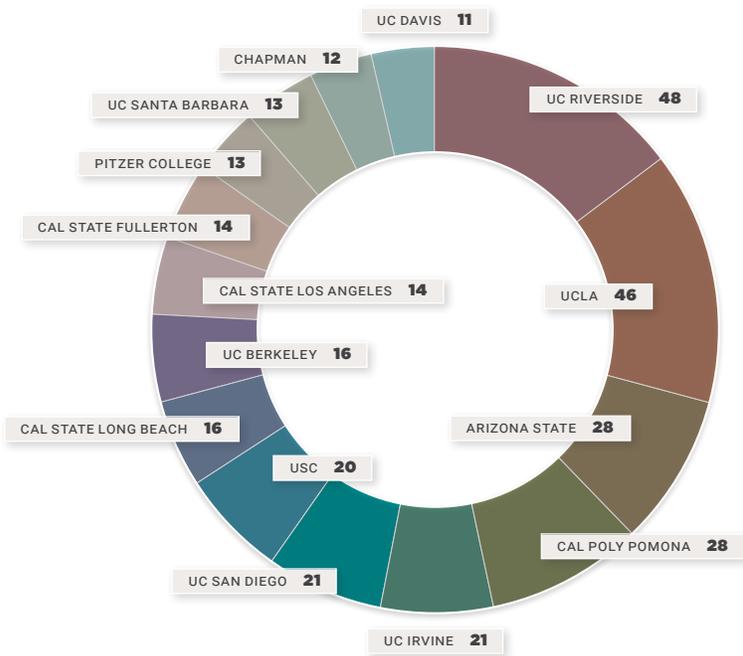


## Number of students in each program

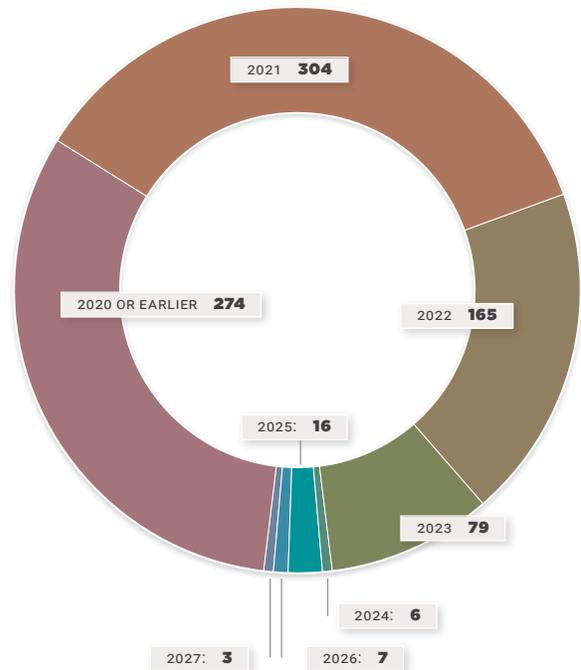


\* High School Summer STEM and Botswana Summer Undergraduate Research Experience students participated in the Summer Undergraduate Research Experience.

## Undergraduate institutions with the largest representation in KGI's summer programs



## Undergraduate graduation year or anticipated graduation year



**Citizenship of the KGI summer students (44 countries represented)**

	United States	<b>715</b>		Indonesia	<b>2</b>
	India	<b>23</b>		Iran	<b>2</b>
	Canada	<b>17</b>		Syria	<b>2</b>
	Mexico	<b>11</b>		Armenia	<b>1</b>
	Vietnam	<b>7</b>		Bahrain	<b>1</b>
	Nigeria	<b>6</b>		Greece	<b>1</b>
	Egypt	<b>6</b>		Guyana	<b>1</b>
	China	<b>5</b>		Hong Kong	<b>1</b>
	Colombia	<b>5</b>		Iraq	<b>1</b>
	Philippines	<b>5</b>		Japan	<b>1</b>
	South Korea	<b>4</b>		Kenya	<b>1</b>
	Peru	<b>4</b>		Lebanon	<b>1</b>
	Brazil	<b>3</b>		Nepal	<b>1</b>
	Guatemala	<b>3</b>		Oman	<b>1</b>
	Israel	<b>3</b>		Panama	<b>1</b>
	Italy	<b>3</b>		Singapore	<b>1</b>
	Pakistan	<b>3</b>		South Africa	<b>1</b>
	United Kingdom	<b>3</b>		Spain	<b>1</b>
	Bolivia	<b>2</b>		Tunisia	<b>1</b>
	Ecuador	<b>2</b>		Turkey	<b>1</b>
	El Salvador	<b>2</b>		Ukraine	<b>1</b>
	Ghana	<b>2</b>		Venezuela	<b>1</b>

# Exploring Career Paths with Summer@KGI

## KGI's BSUITE Program Introduces Career Opportunities in Bioprocessing

KGI's Bioprocessing Summer Undergraduate Internship Training and Education (BSUITE) two-week program introduced undergraduates to the technical and regulatory considerations for production of biopharmaceuticals through guest lectures and team-based projects.

Sue Behrens, KGI Bioprocessing Professor and Director of the Amgen

Bioprocessing Center, organized this program to expose students to the educational and career opportunities in this emerging field.

For Jared Cristobal, who received his bachelors in Bioengineering from UC Riverside and will be entering KGI's Master of

Engineering in Biopharmaceutical Processing program in the fall, this was his second summer attending BSUITE. He originally attended the program to learn more about the bioprocessing industry, as he felt that his undergraduate program catered primarily to medical device engineering.

"This program has really opened my eyes to the possibilities of career pathways that I can have," Cristobal said. "I reached out to industry professionals to gain a more in-depth understanding of the industry, and hearing their advice really led me to see the benefits of doing a master's program for bioprocessing."

Catherine Kieu, majoring in Chemical Engineering with a focus in Biochemical Engineering at UC Riverside, also attended BSUITE to learn more about bioprocessing. She hopes to pursue a career in the medical field.

"It was amazing that I learned a lot about the development of vaccines, antibodies, and cell and gene therapies," Kieu said.

"Ultimately, my goal is to apply my engineering background to make a difference in medicine. I especially wanted to explore career options in bioprocessing. That's why the BSUITE program was perfect for me."

Both Kieu and Cristobal enjoyed the variety of guest speakers and learning about the current climate in regard to COVID-19. One spoke on testing mechanisms and the percentage of false positives and false negatives, while another spoke on new safety regulations that had been implemented in the labs.

In addition to guest lectures, the BSUITE program also involved a hands-on group project evaluating the process development, manufacturing, and regulatory aspects of a COVID-19 treatment. Kieu's team focused on stem cell therapy, while Cristobal's team looked into a vaccine.

"One thing that we noticed was the amount of purification that really had to go in after the upstream process," Cristobal said.

"Our group didn't realize how much time and money downstream would take until we were piecing our flow map together. That was a huge breakthrough for us."

After completing the BSUITE program, Kieu and Cristobal felt more informed about the wealth of career opportunities in the bioprocessing field.

"I knew there were many positions in process engineering, but I didn't really know what these positions involved until this program," Kieu said. "We learned about upstream and downstream



JARED CRISTOBAL



CATHERINE KIEU

processing, and I had not known that process engineering related to those two fields.”

Cristobal was surprised to learn just how specialized bioprocessing careers are.

“For example, someone might just focus on the first part of upstream,” Cristobal said.

Another goal of BSUITE is to equip students with professional and business knowledge.

“I appreciate how KGI faculty specifically went over the process on an Excel sheet of how you would calculate all the manufacturing costs for any biopharmaceutical products,” Kieu said.

Cristobal appreciated that BSUITE added a side project that involved making kombucha and ginger beer.

“That was a really fun, interactive thing for the students,” Cristobal said.

“This program has really opened my eyes to the possibilities of career pathways that I can have.”

Despite the challenges of moving the program to an online format due to COVID-19, one benefit was that it opened up BSUITE to a diversity of students who might not have otherwise been able to attend.

“I like how they brought in students from different backgrounds across the U.S. and the world,” Kieu said. “I got a chance to meet my peers and collaborate with them on a team project. It was a really fun experience with them.”

Cristobal felt that despite the limitations, he was still able to bond with fellow attendees.

“I didn’t think my group would get as close as we did in two weeks, but by the end of it, we were on Google Hangouts for hours,” Cristobal said. “We were still making plans to hang out after the pandemic ends.”

To learn more about the BSUITE program, visit [kgi.edu/bsuite](http://kgi.edu/bsuite).

## KGI’s Pre-Occupational Therapy Program Showcases Career Trajectories

Occupational therapy is a rewarding career path with a client-centered approach. The inaugural session of KGI’s Pre-Occupational Therapy Program (PrOT) provided an immersive three-day experience to help students better understand this multifaceted profession and prepare for a career in occupational therapy.

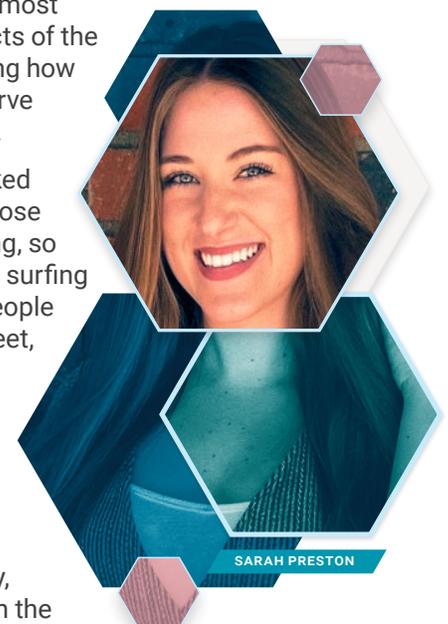
“The multiple voices of seasoned occupational therapy professionals, new graduates, and current students helped provide insight into the process of getting into occupational therapy, career trajectories, the work of occupational therapy, and leadership within the profession,” said Christy Billock, Professor and Founding Program Director of KGI’s Occupational Therapy Doctorate program. “This unique opportunity served to inspire and support participants’ decision-making and motivation for pursuing occupational therapy as a profession and was enthusiastically received.”

One of the purposes of PrOT was to showcase the diversity of roles that an occupational therapist (OT) can take on. OTs can work in hospitals, assisted living facilities, schools, community-based settings, and more, helping with a range of services including adapting to physical disability, promoting independence and development, and supporting mental health.

For Sarah Preston, a Cal State Fullerton graduate who hopes to work with children in a school setting, one of the most eye-opening aspects of the program was seeing how someone could carve out a unique niche.

“One of the OTs talked about a person whose passion was surfing, so they created an OT surfing program to help people get back on their feet, which I thought was so creative and awesome,” Preston said.

Kayla Michel, a graduate of Saint Joseph’s University, appreciated that on the



SARAH PRESTON



KAYLA MICHEL

first day of the program, Billock had everyone give a 30-second pitch that defined occupational therapy.

“Being able to get my words down and talk about what the profession can provide and how it expands on a lifespan was really beneficial,” Michel said.

Michel felt that the program reaffirmed

her desire to work in occupational therapy, specifically with helping incarcerated people reintegrate into society.

“For my senior year, I took an Inside-Out course in the prison system alongside people who are incarcerated, and I learned how we need to improve our rehabilitation efforts within this system,” Michel said. “Through the intersection of occupational therapy and mental health services, we can help them learn how to enhance their skill set because nine times out of ten, society is completely different from when they first entered the prison system.”

For Preston, one of the major takeaways from PrOT was to treat each client as an individual and improve their overall quality of life. For example, one speaker said that it was important to give meaningful goals—instead of saying “stand for 30 seconds,” an OT could say, “Stand so you can hug your daughter.”

“The OTs theme is creating meaning in everything that they do,” Preston said. “It’s a holistic approach. They get to know each person they work with and incorporate that person’s family and hobbies to motivate them.”

Michel also enjoyed the variety of speakers as well as learning how to make her application stand out and receiving personalized support from Billock. Additionally, she appreciated that the program informed them on how COVID-19 restrictions are impacting both OT students and professionals.

“I got a first-hand perspective on how to make the transition and how this is teaching you to be

a better occupational therapist, exposing you to services such as telehealth,” Michel said.

Both Michel and Preston appreciated that the PrOT program, which was held online, allowed them to connect with people across the world. Preston has organized a Facebook group to keep in touch with pre-OT students she met through the program.

“I’m taking anatomy, which is one of our hardest pre-reqs that we have,” Preston said. “KGI reminded me of the light at the end of the tunnel. OTs really do make an impact on people’s lives. It’s such a rewarding field to be in, and this KGI program re-sparked that passion in me.”

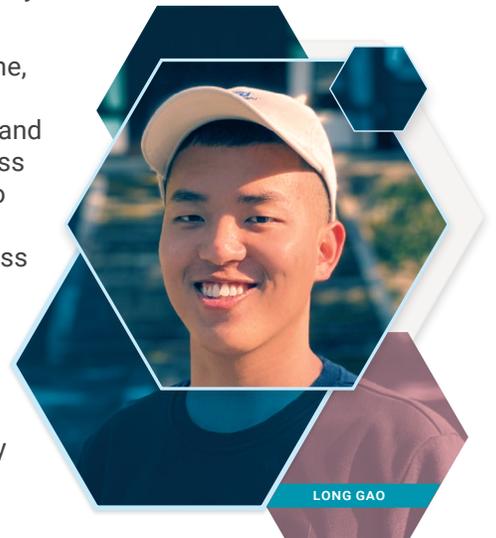
To learn more about the PrOT program, visit [kgi.edu/prot](https://kgi.edu/prot).

## Building Confidence and Showcasing Strengths at KGI’s Application Boot Camp

Completing graduate health applications can be overwhelming. KGI’s Application Boot Camp (ABC), a five-day interactive online workshop, helps students to navigate this process as they learn to write personal statements that capture their unique stories, create a strong first impression in interviews, and highlight their extracurricular activities in a conducive way.

ABC, organized by Joon Kim and Elba Muñoz, director and assistant director of KGI’s Postbaccalaureate programs, features personalized advising and feedback in the areas of school selection, personal statements, interview prep, and more. Its overall goal is to help students become stronger candidates for the schools they are applying to.

“I am a low-income, first-generation college student, and I was very clueless when it comes to the financial and admission process of applying for dental schools,” said Long Gao, a rising senior at Lehigh University

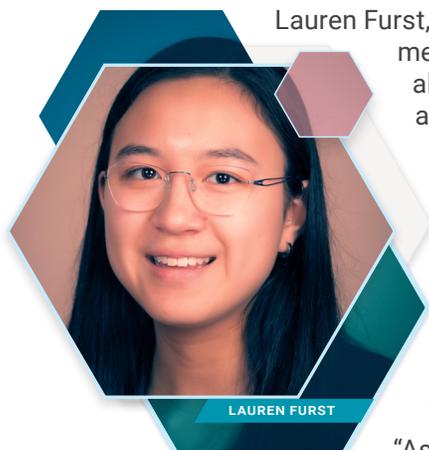


LONG GAO

who grew up in a small village in China and immigrated to the United States when he was 11 years old. “I was always really shy and lacked confidence because of my upbringing. Joining ABC really helped me to build up my confidence and become more hopeful about applying to dental school.”

One of his most surprising takeaways from the program was learning how to highlight his extracurriculars. Many applicants feel pressured to participate in as many activities as possible, but Muñoz and Kim stressed that it’s more important to build a cohesive narrative around their activities.

“At first, I was just going to write directly about the things I did, like volunteering at a food kitchen, but at ABC I learned to go beyond that, going into detail about why the activity was meaningful to me,” Gao said.



Lauren Furst, who is applying to medical school and also a rising senior at Lehigh University, found this takeaway enlightening as well. She learned to connect her passion for music to her medical ambitions, as both have elements of teamwork.

“As a musician, especially as an ensemble musician in choir and orchestra, you always have to be listening to those around you and paying attention to all the details to make sure that you can bring these different groups of people together,” Furst said.

She compared this to being in a hospital, coordinating with nurses, administrators, other doctors, and patients to ensure the best possible outcome for the patient.

Both Furst and Gao enjoyed learning about the interview process and details they never would have thought about, such as questions that pose ethical dilemmas, proper dress code, and how to prepare for an online interview. Furst learned the importance of elaborating on her answers in interviews.

“They advised me to answer the question with more than just the answer and tell them

more about myself than just, for instance, my favorite extracurricular activity,” Furst said. “That way they get to really know you even in a confined interview setting.”

Furst, who hopes to become a pediatrician, said she appreciated all the individualized support she received from Kim and Muñoz in addition to the general discussions.

“I thought it was super helpful to be able to talk specifically about anything I needed to focus on, even if it didn’t relate to the topic of the day,” Furst said.

Gao is looking to go into either general dentistry or periodontics. He said he feels more confident about his prospects because of this experience.

“ABC really helped me prepare for each step of the process, and the individualized meetings with the professional counselors were invaluable,” Gao said. “Joon and Elba helped me put together the best application possible.”

To learn more about the ABC program, visit [kgi.edu/abc](http://kgi.edu/abc).

### KGI’s PrEP Offers an Inspirational, Eye-Opening Experience for Aspiring Pharmacists

In KGI’s five-day Pre-Pharmacy Enrichment Program (PrEP), prospective students explored the pharmacy profession through interactive classes, lab breakout sessions, and round tables with KGI staff and alumni. This year, the program was held online due to COVID-19, and each participant received an at-home kit for the lab sessions. PrEP is co-directed by Christine Cadiz, Associate Professor of Clinical Sciences, and Derick Han, Associate Professor of Biopharmaceutical Sciences.

“Most people think pharmacists only work in retail stores like CVS, but a Doctor of Pharmacy degree can lead to job opportunities in hospitals, biotech, and drug companies,” Han said. “Our program brings pharmacists, including many recent graduates from KGI, from many backgrounds, to discuss all these job opportunities given to pharmacists.”

Sahira Lorenzo Aguilar, a rising senior and Chemistry major at Cal State Channel Islands, has been drawn to the profession since going to the pharmacy with her mother as a child.



SAHIRA LORENZO AGUILAR

"I would see the guy behind the counter dressed in white, and I'd always wonder, 'How come he's putting so many pills in there, and how does he know the quantity?'" Aguilar said. "And I would be the translator for my mom because she only spoke Spanish."

Karen Ly, a rising senior and Biochemistry major at Cal State LA, was also attracted to the profession from an early age.

"When my grandparents were sick, we would go to the pharmacy a lot, and I would look at the descriptions on the pill bottles," Ly said. "I didn't know what they were, but that intrigued me more since I really wanted to help people."

During PrEP, Ly appreciated learning about all the opportunities for pharmacy students, specifically rotations.

"I thought those only pertained to nurses," Ly said. "What excited me was that they worked with patients closely, and they told us how some patients look forward to talking to you because you make that personal connection."

Aguilar enjoyed hearing the guest speakers, particularly KGI Professor of Clinical Sciences Talia Puzantian, who spoke about the prevalence of overdoses.

"Not only did she describe the crisis, but she also gave a solution," Aguilar said. "I could see how passionate she was during the presentation and when we were asking questions. I saw that from every single presenter."

At PrEP, students discovered the variety of career pathways for pharmacists.

"I just thought about the ones who work in Walgreens, but I found out that there are pharmacists who work in the hospital,"

Aguilar said. "There's the pharmacist that you reach out to when somebody gets to the entrance of the emergency room, and there are the ones who talk about doses."

Ly learned about behind-the-scenes careers in pharmacy, which influenced her desire to pursue a job in industry.

"After I graduate, I want to become a pharmacy tech so I can get hands-on experience in the field and then go along the pathway to get into pharmacy," Ly said.

For Aguilar, attending PrEP made her more confident about applying to pharmacy schools.

"Before KGI, I thought it was impossible—that I didn't have the background of a pharmacist," Aguilar said. "But this year, I set my mind to it."

As a pharmacist, Aguilar wants to serve

**PrEP was really an eye-opener for us. It shifts your thinking process about pharmacy school in general and how you perceive pharmacists and what they do.**

her community. She is able to understand Spanish, English, and Mixteco—a dialect—which would allow her to reach more people and help them feel comfortable.

"PrEP was really an eye-opener for us," Ly said. "It shifts your thinking process about pharmacy school in general and how you perceive pharmacists and what they do."

For Aguilar, the enthusiasm of the presenters was contagious.

"I would like to encourage anyone in the future to apply because this program was amazing," Aguilar said. "Even though it was virtual, I really saw passionate people in this program and mentors who just wanted to showcase all the knowledge they had. It was exciting and fun, and the presentations were really informative."

To learn more about PrEP, visit [kgi.edu/prep](https://kgi.edu/prep).

# Year-in-Review

## July 2019

### Professor Ian Phillips Honored with Lifetime Achievement Award

As he read the 2019 KGI Commencement program on May 18, Ian Phillips noticed that someone would receive a lifetime achievement award and wondered who it might be. Then the Norris Professor of Applied Life Sciences heard KGI President Sheldon Schuster call his name. The award recognizes his teaching and research.

### Sue Behrens Appointed to Lead KGI Bioprocessing Programs



KGI President Sheldon Schuster announced Sue Behrens as the George B. and Joy Rathmann Professor in Bioprocessing and Director of the Amgen Bioprocessing Center. Behrens will lead the Master of Engineering in Biopharmaceutical

Processing program, which trains students to become bioprocess engineering professionals employed within the biopharmaceutical industry.

### Internship Offers KGI Pharmacy Student Early Exposure to Industry

Kacey Egusa's stay at AbbVie, a research-oriented biopharmaceutical company, was only expected to last two weeks. She traveled to AbbVie's North Chicago headquarters in January as part of a KGI course that introduces first-year PharmD students to the pharmaceutical industry. But she came away so impressed by AbbVie that she inquired about a summer internship. Equally impressed by Egusa, the company created one for her.

## August 2019

### Martin Zdanowicz Selected to Lead KGI School of Pharmacy and Health Sciences

KGI President Sheldon Schuster announced Martin Zdanowicz as the Dean of the KGI School of Pharmacy and Health Sciences (SPHS). Zdanowicz spent the past seven years in a leadership role at the University of Miami. He is tasked with moving SPHS forward by creating new and innovative opportunities for KGI students.

### Alex Zambon Involved in a Study that Uncovers Mechanisms to Help Future Dental Treatment

Stem cells hold the key to wound healing, as they develop into specialized cell types throughout the body—including in teeth. Now an international team of researchers, including KGI Associate Professor of Biopharmaceutical Sciences Alexander Zambon, has found a mechanism that could offer a potential novel solution to tooth repair.

### KGI Welcomes PharmD Class of 2023 at White Coat Ceremony

KGI's School of Pharmacy and Health Sciences (SPHS) celebrated its Class of 2023 in the annual White Coat Ceremony. The formal ceremony recognized the students as members of the sixth class of KGI's SPHS and as members of the pharmacy profession.



## September 2019

### Travis Schlappi Awarded NIH Grant for Point-of-Care Diagnostic Device



KGI Assistant Professor Travis Schlappi is working to develop an affordable point-of-care diagnostic device that would enable a patient to receive the correct antibiotic that they need, and be less likely to develop antibiotic resistance.

### Christy Billock Named KGI's Founding Program Director for Occupational Therapy

KGI Dean Martin Zdanowicz announced Christy Billock as the Founding Program Director of the Doctor of Occupational Therapy (OTD) program. Based on the accreditation process timeline, KGI is aiming for a 2022 launch of the OTD program.

### Derick Han Receives NIH Grant to Research Adaptation of Liver Mitochondria to Alcohol

KGI Associate Professor Derick Han is the principal investigator on a study that will look at the signaling pathways that regulate mitochondria adaptation and seek to better understand its role in alcoholic liver disease.

## October 2019

### KGI and the City of Claremont Celebrate Oasis KGI Commons Ribbon Cutting

Oasis KGI Commons is KGI's first-ever housing complex. A crowd of more than 200 people gathered to enjoy the festivities, which included the formal ribbon cutting, food from Claremont Village vendors, a DJ in the pool area, and the work of a whiteboard artist.



### KGI Removes Bachelor's Degree as Requirement for Doctor of Pharmacy Program

The change will be particularly helpful to community college students and undergraduates seeking to transfer to KGI's PharmD program from their current colleges and universities. Students who enter the PharmD program before earning a bachelor's degree will have fewer years of college expenses and be able to enter the professional workforce earlier.

### Rachita Sumbria Receives Major NIH Grant for Alzheimer's Research

Could Enbrel, a drug approved for rheumatoid arthritis, prove to be the answer to treating Alzheimer's disease? That's what KGI Associate Professor Rachita Sumbria has been seeking to determine, and the results from an initial study supported by a grant from the Alzheimer's Association were promising.



## November 2019

### Bioprocessing Students and Faculty Connect with Industry Leaders at Annual Conference

In a collaborative environment filled with networking opportunities, KGI hosted the Industry Insights Bioprocessing Conference along with KGI's Annual Amgen Bioprocessing Center Advisory Board Meeting. The event was a great opportunity to showcase the tremendous work of KGI's master's and PhD students.

### PharmD Students Earn Scholarship to Present Research at NORD Rare Summit

Kacey Egusa and Ramisha Ali are champions for patient advocacy, and their dedication earned them each a coveted scholarship to present their joint research at the National Organization for Rare Disorders (NORD) Rare Disease Summit in Washington, D.C.

### Finding Winning Ways to Make an Impact on a Community’s Health

KGI graduates Maxine Yang, PPC ’19, MBS ’20 and Derrick Sy, PPC ’19, MSMDE ’20 are striving to make a bigger impact for people infected with the Hepatitis B virus. The duo were part of the winning team in the advocacy hackathon at the 11th Annual International Team HBV Collegiate Conference held at Harvard University.

### December 2019

#### Amgen Gift to Fund Launch of the KGI Center for Training in Applied Genomics

KGI has received \$1 million from Amgen, one of the world’s leading biotechnology companies, to start the KGI Center for Training in Applied Genomics in response to the workforce need for more scientists in the emerging field of clinical genomics.

#### Making Music Part of Life at KGI

Stephanie Lee, and Josephine Gao, devote most of their time at KGI to their academic programs. Yet two evenings a week, they dedicate themselves to an activity unrelated to their studies: the Pomona College Band.

#### PharmD Students Showcase Innovative Products at Annual Shark Tank Event

KGI hosted its fifth annual Shark Tank Event for the PHAR 430 Pharmacy Informatics course. The competition featured 11 teams of students who pitched their pharmacy-related apps to a panel of judges and asked for fictitious seed funding, similar to the popular television show Shark Tank. Team Notorious B.I.D. won the 2019 competition with its product, the PharmaSEE.



### January 2020

#### Research Symposium Promotes Collaboration and the Sharing of Ideas

KGI’s 15th Annual Research Symposium highlighted broad research areas including biotechnology and pharmaceuticals development, biomanufacturing for 21st-century medicine, drug discovery and vaccines, mechanisms of diseases, medical diagnostics and devices, and healthcare.



#### Hu Zhang Publishes New Research on Osteochondral Regeneration

Hu Zhang, Professor in Bioprocessing, has co-authored a groundbreaking research paper appearing in Applied Materials Today on the use of hydrogel for osteochondral (bone and cartilage) regeneration. The study specifically targets individuals with osteoarthritis.

#### KGI Addresses Mental Health on Campus Through Kognito Gatekeeper

If someone you knew was contemplating suicide or struggling with an addiction, what would you say to that person? KGI Professor of Clinical Sciences Talia Puzantian, along with Dean of Students Cynthia Martinez, has brought Kognito gatekeeper training to the KGI campus to give students and faculty the tools they need to have these difficult conversations.

## February 2020

### Taylor Noriega and Chloe Nguyen Excel in Profusa Fellowship

Taylor Noriega and Chloe Nguyen have both experienced tremendous success in the Biopharmaceutical Industry Fellowship Program with KGI in partnership with Profusa, Inc. Based on their fellowship work, they have now landed positions with Profusa in Medical Affairs, where their responsibilities include overseeing clinical trials for biosensors.

### KGI Alumnus Pranay Madan, MBS '15 Launches DeciBio Analytics

Pranay Madan, a 2015 KGI alumnus from the Master of Business and Science program, recently launched DeciBio Analytics, a subsidiary of DeciBio Consulting. DeciBio Analytics develops business intelligence and analytical platforms for the precision medicine industry.

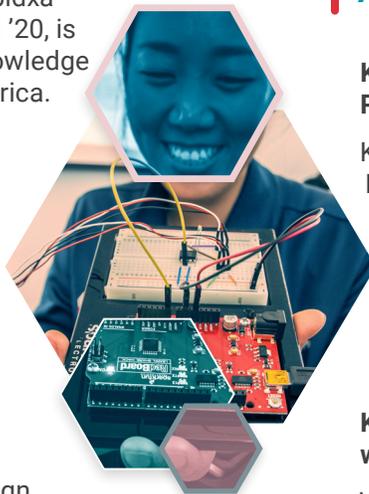
### KGI Student Gubidxa Gutierrez Seymour Examines Breast Cancer Susceptibility Among Latinas

Genomics is a rising field, yet the wealth of research has been conducted on people of European ancestry. Gubidxa Gutierrez Seymour, MSTM '20, is working to expand our knowledge base to include Latin America.

## March 2020

### KGI Appoints Former Kaiser CEO as New Dean of Medical School

KGI announced the appointment of Dr. David Lawrence as the KGI School of Medicine Dean. As the fundraising campaign expands, Lawrence will assume responsibility for charting a bold vision for the medical school.



### 13th Annual Rare Disease Day Aims to Translate Genetics into Action

KGI hosted its 13th Annual Rare Disease Day with presentations from industry leaders, a genetic counseling panel, and a poster session from students. This year's theme was "Translating Genetics into Action." The event served as an opportunity for students, faculty, and guests to collaborate, discuss, and raise awareness for rare disease therapies.



### KGI Announces MS in Physician Assistant Studies Program

Given the current shortage of primary care providers, the School of Pharmacy and Health Sciences at KGI is developing a new Master of Science in Physician Assistant Studies program. Physician Assistants work as integral members of the healthcare team and practice in a number of clinical settings.

## April 2020

### KGI's Medical Device Engineering Program Receives Grant for Lab

KGI's Master of Science in Medical Device Engineering program received a \$200,000 grant in December 2019 to further develop infrastructure for their Medical and Assistive Device Lab. This grant was awarded by the Fletcher Jones Foundation, who supports educational programs in higher education.

### KGI Signs Articulation Agreement with Los Angeles Mission College

With the new agreement between LA Mission College, KGI has expanded its list of articulation agreements to 27 institutions, helping prospective students to make a seamless transition into the master's programs within the Henry E. Riggs School of Applied Life Sciences and the School of Pharmacy and Health Sciences.

### **Mona Vaidya, PharmD '20, Lands Rutgers Pharmaceutical Industry Fellowship**

Recent PharmD graduate Mona Vaidya has been accepted into the Rutgers Pharmaceutical Industry Fellowship Program. This two-year industry-based program partners with leading pharmaceutical and biopharmaceutical companies. These pharmacists are provided with hands-on industry experience, preparing them to become highly marketable professionals.



MONA VAIDYA, PHARM D '20

### **May 2020**

#### **KGI Introduces Pathway from Community College to Pharmacy Career**

KGI is partnering with community colleges to make pharmacy careers more accessible by building a path for students to go from high school to a career in as little as six years. The first two years would be at a community college, with the remaining four years as a student at KGI.

#### **KGI Signs Articulation Agreement with India-Based Atmiya University**

KGI expanded its list of articulation agreements to 28 institutions, helping prospective students to make a seamless transition into master's programs at KGI. The most recent addition to the list is Atmiya University in India, KGI's third collaboration with an international university.

#### **KGI Celebrates 2019-2020 Accomplishments During Virtual Awards Ceremonies**

In celebration of KGI's accomplishments during the 2019-20 academic year, the School of Pharmacy and Health Sciences and Henry E. Riggs School of Applied Life Sciences hosted virtual award ceremonies to honor their students, faculty, and staff.

### **June 2020**

#### **Celebrating Steve Casper's Accomplishments as Dean of the Riggs School**

KGI's Steve Casper has recently transitioned from being Dean of the Henry E. Riggs School of Applied Life Sciences to devote all his time to being a faculty member, conducting research, and teaching courses.

#### **Dean Martin Zdanowicz to Lead both SPHS and Riggs School**

In addition to leading the KGI School of Pharmacy and Health Sciences, the role of Dean Martin Zdanowicz is expanding to also include leadership of the Henry E. Riggs School of Applied Life Sciences. KGI President Sheldon Schuster announced the change to the KGI community in spring 2020, and the dean's expanded role became official on June 1, 2020.

#### **Springer Nature Journals Publishes a Study from KGI Master of Science Students**

As part of the KGI Master of Science in Applied Life Sciences program, Gloria Bartolo, Leandra Gonzalez, and Saleem Alameh published a paper entitled "Identification of Glucocorticoid Receptor in *Drosophila melanogaster*" in the journal BMC Microbiology.



SALEEM ALAMEH, PPC '17, MS '18

LEANDRA GONZALEZ, MS '21

GLORIA BARTOLO, MS '20

### **Kiana Aran, Inventor of the CRISPR-Chip, Wins Pinnacle 2020 Award**

Kiana Aran, Assistant Professor of Medical Diagnostics and Therapeutics at KGI and Co-founder and Chief Scientific Officer of Cardea Bio, received the Pinnacle 2020 award, which is given to women in STEM leadership positions. Aran is the inventor and developer of the CRISPR-Chip, the first CRISPR-powered transistor that allows for fast detection of heritable disease variants like muscular dystrophy.

At Cardea Bio, Aran and her team are currently expanding the CRISPR-Chip for different applications, including a quality control automated system for CRISPR applications in various fields such as diagnostics, therapeutics, and agriculture.

“You can monitor the stability of the CRISPR complex in various environments, or you can monitor a sequence in the gene before you did anything to it, and then you monitor it afterwards to see if you have done the editing sufficiently,” Aran said.

The CRISPR-Chip uses Cardea’s proprietary transistor technology. The same transistor technology can also monitor protein-to-protein interactions and measure the antibodies in your blood, making it ideal for COVID-19 diagnosis. This allows for digital monitoring of the disease and provides a testing technology that can be used for tracking and biosurveillance.



Visit [bit.ly/Aran-award](https://bit.ly/Aran-award) to read more about Kiana and her award.





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Keck Graduate Institute (KGI) was founded in 1997 as the first higher education institution in the United States dedicated exclusively to education and research related to the applied life sciences. KGI offers innovative postgraduate degrees and certificates that integrate life and health sciences, business, pharmacy, engineering, and genetics, with a focus on industry projects, hands-on industry experiences, and team collaborations.

A member of The Claremont Colleges, KGI employs an entrepreneurial approach and industry connections that provide pathways for students to become leaders within healthcare and the applied life sciences. KGI consists of four schools: the Henry E. Riggs School of Applied Life Sciences, the School of Medicine, the School of Pharmacy and Health Sciences, and the Minerva Schools at KGI.

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