COVID-19 and You
CHECKING IN WITH 12 BSA MEMBERS DURING A GLOBAL PANDEMIC

The past year has brought unprecedented challenges to those of us working in STEM and higher education. In late 2019, a novel coronavirus arose in Wuhan, China and spread throughout the globe, prompting wide-scale shutdowns and quarantines across most continents. These shutdowns hit the majority of the United States in early to mid-March 2020. Schools and universities closed, the majority of classrooms transitioned to remote learning, and research labs were shuttered. Many of us have lost friends, family, and/or colleagues to this disease.

As I write this in August 2020, the death toll in the United States continues to climb, even as many universities are reopening for fall classes. Those of us returning to campuses are faced with the challenge of implementing new, daunting requirements for enforcing social distancing, sanitizing classrooms, and wearing personal protective equipment such as goggles and masks, as well as accommodating students who are unable or unwilling to attend in-person classes. Others among us are facing another semester of teaching online.

One of the greatest challenges of the COVID-19 pandemic has been the isolation it has created. Many of us transitioned to working remotely where we missed regular, face-to-face interactions with students, mentors, and colleagues. In my opinion, it has been easy to feel as though each of us is alone in facing the challenges presented by the pandemic.

We asked people from across the Society to write briefly about their experiences with COVID-19 in order to document these experiences and to share them with others in the botanical community. It is my sincerest hope that the readers of PSB will find reading these reflections to be beneficial.

By Mackenzie Taylor
Editor-in-Chief, PSB
How has the pandemic and its response changed your job and/or daily routine?

I think many botanical researchers, regardless of their affiliations, were affected by the pandemic and efforts to control the spread of the virus in much the same ways. For myself and most of my colleagues at the Desert Botanical Garden, we lost several significant things:

- Access to our office and laboratory spaces.
- Access to the Garden’s Living Collection for scientific purposes (essential staff continue their comprehensive care for the Living Collection itself).
- Ability to conduct fieldwork.
- Ability to work with volunteers (the Garden has more than 700 volunteers who not only care for plants but also work in our research labs, herbarium, and citizen science program).
- Revenue generated by daily visitors and special events during the height of the Garden’s typical visitorship (spring season).

These losses primarily required shifts in the focus of our efforts. My new efforts were focused on adjusting project expectations, timelines, and budgets; making alternative project plans under multiple, theoretical scenarios; transitioning from active data collection (in the lab or field) to data analysis and proposal and manuscript writing, and working with graduate students to finish up thesis work and defend virtually.

What was your greatest challenge in adapting to this new format?

For me the greatest challenge in adapting to these changes is the long work days. To accommodate working with my kids on their school work (before summer break) and other interruptions, I frequently have to work from sunup to sundown (on and off). The pressure to accomplish my daily work tasks and put in my hours, all while taking on additional and demanding responsibilities, feels unrelenting and exhausting. These changes come with other challenges too, like facing uncertainty in almost every aspect of life and adapting projects that really can’t meet their goals without fieldwork, lab work, or volunteers.

What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?

Some of the most important skills I rely on during this time are to be very organized in listing and prioritizing my daily and weekly goals and using software to track my time and efforts (I find this to be an excellent tool in helping me to stay focused). One important thing I am learning is to accept my limitations and other people’s limitations (time, physical, mental)—we all are working to accomplish what we can in the midst of difficult circumstances.

Going into the fall, what challenges and opportunities do you see?

In the spring, when our states and institutions first began taking measures to limit the spread of the virus, we all hoped for a summer and
fall season with decreased rates of spread of
the virus and a phasing-in of some of the
things we'd lost. But in my part of the country,
we are not seeing a decreased rate of spread
but rather an alarming increase in the rate
of spread, leading to more uncertainty and
conflict among interests. The pandemic looks
as though it will continue to delay our projects,
shift our focus, increase our responsibilities,
and shrink our budgets. Despite this, I am
moving forward in a determined way to
continue to make progress on all fronts and
take advantage of some of the unexpected
opportunities we have during these times.
I am grateful for the additional time I’ve
been able to spend with my children and the
dramatic change we’ve seen in the pace of life's
activities. I appreciate that virtual meetings,
workshops, and conferences are providing
chances for learning and interactions that
might not have been possible otherwise. I’m
looking forward to co-teaching a new course
this fall incorporating a smaller class size
and virtual components. As have heard said
among family, friends, and co-workers, this is
an opportunity to learn a new way of doing
things, and that new way is not all bad.

John Z. Kiss
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How has the pandemic and the response
changed your job and/or daily routine?

My job has not changed at all—I am the
academic leader of the College of Arts &
Sciences with about 500 faculty and staff
members. All of the end of my academic year
functions such as writing annual reviews of
heads/chairs/staff and budget planning are
the same as always. What really has changed
is my daily routine—I work from home! We
have been using Zoom to communicate and
to schedule meetings large and small. I have
taken over one room and my wife Helen is
working remotely in another room. I have a
lovely spacious house and live next to a lake
with nature trails—so I am lucky.

One additional challenge is that my research
lab has been closed, so my students have had
to work remotely, and I have had to meet
with them via Zoom. They have done well
in that they have worked on analyses of the
large amount of data that they had generated.
Fortunately, now with some limitations, we
can open our lab again.

What was your greatest challenge in
adapting to this new format?

I feel like we are all working harder than ever
dealing with the many changes that have
resulted due to the corona virus situation.
Thus, in my role as dean, I am “on” all of the
time—but I am even more “on” now. Thus, I
have to turn off and stop looking at email and doing other types of work! In some ways, I am surprised that remote working is working well for me. I consider myself fortunate as I know other members of our society cannot adapt so easily to working remotely.

**How did your interactions with your faculty and/or students change with the shift to online?**

Moving to online meetings with faculty and the students in my research lab as well as having committee meetings online have worked reasonably well. Seeing and talking to them on Zoom is better than a phone call or conference call as there are some visual cues. However, there is still an element that is missing vs. having face-to-face meetings. You can lose more subtle signal and prompts. Personal interaction is still better—humans are social creatures. At the end of the day, I miss seeing my staff, faculty, and students!

**What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?**

I feel like I am working harder and longer than ever. Part of this problem is that we all are dealing with massive changes and planning for the fall semester: moving things online, hybrid classes etc. Another issue is that with online meetings you can have more since there is no walking time needed between meetings! I seem to have developed skills with all of the major online meeting platforms. I also think that online meetings have made me focus more and stay on topic.

**Going into the fall, how are you feeling about starting a new year? What challenges and opportunities do you see?**

The University of North Carolina system has decided to open all public universities in the state. Surveys show that our students want to come back to campus, but things will look different. The university leaders and faculty have had to institute many changes to make it a safe environment, and these measures include maintaining social distancing and keeping a clean environment. Some of our courses will go online and others will be in a hybrid format. I feel positive about seeing students and faculty on campus again but do have a degree of trepidation. I also feel we are doing everything we can to open the university safely but are likely to see unforeseen challenges. I do not see the university (and the world) getting back to normal until we have an effective vaccine with large scale distribution.

**How are you feeling emotionally at this point?**

While I am an optimistic person by nature, I have concerns about our society at large. Notwithstanding challenges, while we in higher education have been privileged in many ways, I am concerned about the massive disruption to our society at large: economic turmoil due to layoffs, problems due to a limited social safety net, continued health risks to vulnerable populations, among others. At the end of the day, I feel positive that our students, faculty, and staff will emerge from these challenges as well as our previous generations, who have had deal with tough situations in their time.
How has the pandemic and its response changed your job and/or daily routine?

The pandemic and its response have not changed my job too much, but did to the form of my job as a university professor in Wuhan. Students and faculty members were not allowed to study at the campus and the laboratory until late April. Fortunately, graduate students who pass the DNA examination and are without an infection of CoVID-19 virus have been able to apply to go back to the campus since Mid-June.

Research: Students and I are interested in plant reproductive biology, particularly plant-pollinator interactions, and ecology and evolution of flowers. Our research includes work in the field station and in the lab. For example, one of the PhD students in my lab is interested in the chemical ecology of pollen and nectar in spring-flowering plants of Rhododendron species. The field study of this year was missed and materials are unavailable for her further study in the lab. We are looking forward to conducting a field study in the field station of our university in Shangri-La, southwest China in this summer-flowering season from July to August.

During this spring pandemic, I was trying to read, write, and revise papers every day. Nine graduate students (five for a Master’s degree and four for a PhD) graduated this June from our research group, the busiest season in my scientific career. Face-to-face or oral communications were reduced to nearly zero, which may allow me to think deeply without distraction, but had made me dull in mind, because feedbacks cannot be gained as rapidly as usual. Generally, I do not like this style, because debates or even quarrels would ignite great ideas in our brains. In summary, the work efficiency of mine during the global crisis is quite low.

Teaching: I believe that online teaching has been possible for at least 15 years and the efficiency of online study seems quite low. One may expect that students can do other things during class given that the teacher could not directly watch them. During the pandemic online teaching, the students were actually much more active than usual. When they had any question, they simply typed out the question to be noted, letting me answer the questions immediately. In this year, all oral defenses for the graduated theses (dissertations) are communicated virtually online. This allows colleagues from worldwide and anyone who can access online, including students’ parents, to join. From this point, I really appreciate this interaction mode online.

What was your greatest challenge in adapting to this new format?

As the outbreak was first realized in Wuhan, the isolation through a lockdown of the city had effectively protected people from virus infection. Staying isolated for a short time seems fine, but feeling lonely 2 to 3 months later. In this manner, I really agree the idea that humans are social animals; one is somehow living in other people’s eyes, it is what you do that makes you what you are. Actually, I am not good at overcoming this challenge, but I see many people be brave, well behaved, and friendly. I got emails from western colleagues who kindly informed whether I needed help
in the early stages of the pandemic. One of my collaborators, an American evolutionary biologist, has been infected by the CoVID-19 and isolated in UK in February. I hope he will fully recover soon.

What were some surprises you experienced as the spring went on? What skills did you pick up along the way?

The biggest surprise is that until the vanish of COVID-19 in Wuhan, none of my relatives or acquaintances was infected by COVID-19. I picked up the skill of cooking and housekeeping, as I have to cook lunch for my daughter, a high-school student, now staying at home and learning from online classes. I note young and old generations playing table tennis in rooms or outside. The exercise has become more popular recently in China, as team sports are not recommended.

Going into the summer/fall, what challenges and opportunities do you see?

Challenges and opportunities co-exist in the current situation.

Challenges: We are not sure whether students can return the university campus and laboratory to study.

Opportunities: Our university inspires teachers to teach online and students to study online. However, experimental studies such as biology or chemistry are difficult to practice. We are trying to develop more practical projects under Virtual Reality (VR) technique for undergraduate students.

How are you feeling emotionally at this point?

As nearly half a million people passed because of deadly virus in the world, I feel that keeping healthy is essential to all of us at this point. We humans only can survive on the earth if we are in harmony with nature, with no more damages to wildlife and ecosystems. If everyone treats the earth as his/her own eyes or as home and own garden, the diverse life forms will be symbiotic and sustainable in the green planet.

How has the pandemic and its response changed your job and/or daily routine?

Thankfully, conservation work was deemed essential early on in the state of Hawai‘i so I have been able to continue field work. There was only a 2- to 3-week pause on field work while the state’s, our county’s and our organizations’ safety protocols were being figured out. Other than that, office-related work has changed from my office at our NTBG headquarters to my home office, which is just a couple miles away. I still go into the office at least once a week to process collections. I use Google Meet and Zoom on a daily basis now.

What was your greatest challenge in adapting to this new format?

I was never very comfortable communicating over video conferencing platforms such as Google Meet and Zoom before this. I got used to it really quick though and now it feels very easy and natural.
What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?

I was surprised that conferences and meetings scheduled for late summer and fall were being cancelled left and right. Didn’t initially expect that the pandemic would last that long. I’ve picked up some skills in pre-recording presentations for conferences! For example, making sure lighting, sound, and background are appropriate, having video at eye level, making it a little more engaging, etc.

Going into the fall, what challenges and opportunities do you see?

Challenges I see will be as easily maintaining and building relationships with colleagues and friends. Also, making new connections and building new collaborations. Nothing can replace the connections you make with people in-person, including the ideas that come up spontaneously when you’re physically together and talking in an informal way. Opportunities I see are connecting more frequently with colleagues and friends because of this, over video conferencing platforms, phone, text, etc. I think we’ll need to connect more in that way since we won’t be able to see each other for a while in-person. There is also an obvious opportunity to work on publishing those hanging papers with freed-up time due to cancelled conferences and cancelled field work for some.

How are you feeling emotionally at this point?

Being out here on Kaua‘i, I feel very safe at the moment and am very grateful for that. We haven’t had any new or active COVID-19 cases in over two months. I’m a little nervous how things will change once we open up again for tourism with the way things are in other parts of the country. I am a little disappointed that I haven’t been able to, and won’t for the foreseeable future, connect with colleagues, family, and friends in-person. I agree that cancelling travel plans is the safest and smartest decision at this point, though.

How has the pandemic and the response changed your job and/or daily routine?

Yes, the pandemic has absolutely changed my daily routine, but my job is secure (TT Assistant Professor). There may be upcoming changes to my job, including a furlough or pay cut. Additionally, I have an option to delay my tenure review clock slightly. I have not yet decided if it is in my benefit to do so. My daily work routine is mostly sitting at my dining room table with my roommate (and occasionally my partner, who is a health care worker) trying to be considerate about our various meetings. I also stare at my pantry all the time and try not to think of all the snacks I could be eating!

The shift to online teaching was very fast. What was your greatest challenge in adapting to this format?

I was in the middle of teaching a Plant Systematics class which has a large component of hands-on labs with live plant material and 11 field trips. Most of this was cancelled when we moved in early March to completely remote instruction. Converting the class almost instantaneously was a struggle particularly as...
much of my teaching material is not digitized (ex. herbarium specimens, live plant materials, plants/habitats at a field site). I struggled most with providing experiences that would stand in for the outdoor field experience and exposure to different native plants. Technology was also an issue, but mostly, I found our video meeting platform to be challenging and not equitable for my student's home situation. It was difficult to meet synchronously with my students. I also believe that many students had a rough time and their mental health was challenged in being able to finish the semester.

How did your interactions with your students change with the shift to online?

In my classes, they became less initially. Our video meetings were not terribly engaging and I felt as if I was struggling to reach them. Eventually, save for a few students, I had found a rhythm that seemed to work after a few weeks of trial and error. For my grad students, I prepped them with as much material as possible to go home with and we started weekly lab meetings to simply check-in with each other. Sometimes interactions with them were spotty or challenging as they were losing their jobs or housing, or were struggling to maintain positive mental health as family members, friends, and people around the globe became sick.

What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?

I’m grateful that San Francisco State University has several opportunities to prepare for Fall semester that will be taught almost exclusively remotely. A group of nearly 70 staff, faculty, lecturers, and graduate teaching assistants of our Biology department have committed to revamping high impact / high enrollment courses to completely reinvent our lab activities for these classes so that they are 100% capable of online instruction. Additionally, we have committed to having a new lab manual for all of these classes by the end of the summer with a critical eye towards student learning outcomes, and diversity, equity, and inclusion. Also, SF State has a professional development center, called the Center for Equity and Excellence in Teaching and Learning (CEETL), that is running summer workshop for literally hundreds of faculty members who will be learning all kinds of skills for better online engagement for their remotely instructed fall semester. These experiences are providing me with a large set of skills that I believe will make me a better educator, especially as we move to remote learning for the fall.

Going into the fall, how are you feeling about starting a new year? What challenges and opportunities do you see?

I’m anxious, to be honest. While I feel like I will be working hard this summer to be able to deliver an engaging course that meets remotely, it is still overwhelming. I am trying not to worry that this class will be like a new course prep during this important time point in my path to tenure. I know that the time I am spending on course development is in direct tradeoff with my research and lab productivity. I feel like the Fall will be okay given the current state of the world and my preparation, but I recognize the extra work that I will do to ensure a successful learning experience for the students that I engage with in class and within my lab.

How are you feeling emotionally at this point?

At this point, I feel okay. But I would be lying if I didn’t say this experience is an emotional roller coaster. I’ve been doing weekly reflections with my partner, and sometimes I’m feeling fine, but other weeks I’m feeling quite low. Low moments are strongly felt and noticeable because my productivity tanks.
I fail to schedule meetings and lose track of important emails or deadlines that I need to stay on top of. Those weeks are a struggle. And if I’m being truly honest, those weeks are correlated with the national mood that I cannot escape in the middle of San Francisco where I live. My partner is an emergency medicine doctor and has had (and might continue to have) to intubate several SARS-CoV-2 positive patients with rapidly declining health. Some of those patients have died, some are still on ventilators, others have recovered. I worry because he is seeing a lot of death and his work environment is full of people who are stressed out, overworked, and anxious or sick. His direct contact with the virus puts our household at an elevated risk of contraction. On top of that, just outside my apartment windows, I’ve witnessed several peaceful civil rights protests with thousands of participants chanting for justice sparked by the death of George Floyd. Across the street, a hotel has been converted by the city into temporary living accommodations for homeless individuals who need to recover in quarantine safely away from others. There are often sirens from police and ambulances every day. It has not been possible for me to escape the duel crises that our nation is now facing. As I write this, daily cases are increasing across our nation at an alarming rate. California, and thankfully to a lesser degree San Francisco, is poised to become one of the next hotspots. I just hope that we can all stay as healthy as possible, mitigate as much death as we can, and weather out the pandemic safely.

How has the pandemic and its response changed your job and/or daily routine?

The inconvenience of work has been an adjustment, especially living in a one-bedroom apartment. It was easy to be distracted working from home at the beginning, but I adjusted by turning the dining room space into as much of a clutter-free office as possible. My spouse had just moved across the country in December and we had been apart in the field for all of that month and much of January. The apartment was filled with our newly reunited lives and all of the clutter and boxes that came with it, so finding and making space was a challenge. We rented a storage unit to move overflow. Just before the shutdown and travel ban, my spouse also traveled to Germany for a workshop and ended up getting trapped for a couple extra weeks. That was not ideal, but we adapted and made the most of it—in fact, this time apart was quite productive for both of us.

Unlike most of my colleagues, I have been back at work (in my office) since mid-May. Returning to work has been interesting. It feels more like a “work environment” again, but highly controlled and a little stressful to move throughout and use shared facilities. Lunch is difficult to coordinate, I need to bring enough coffee and water to last throughout the day, and I am prioritizing office-work (e.g., analyses/writing) over herbarium and lab work because I want to minimize shared contact.
My spouse and I welcome this opportunity to be out of our cramped one-bedroom space, but we are anxious for and mindful of our colleagues and their families at home.

**What was your greatest challenge in adapting to this new format?**

The distractions and fluidity of work/life balance were a difficult adjustment. I’m not sure I ever fully adjusted, but I did eventually become quite productive and my writing was prolific for a month at home. It took two weeks to adjust and then afterward, returning to the office again was another adjustment. Lost work opportunities include a lot of canceled travel, lack of specimen loans to/from herbaria, and inability to hire students this summer. Fortunately I have a lot of backlog work that I can continue with, so I have much to keep me busy. I am especially concerned for the next generation of botanists who are missing important opportunities to learn and develop. I miss the more engaging aspects of my work—including conferences, daily interactions (lunch and social gatherings) with co-workers, and work with students and volunteers. Our offices are part of an open/shared layout and because so many of our normal activities have shifted to regularly schedule virtual meetings, there is often excessive noise throughout this shared space that adds an extra distraction for work and productivity. Knowing that we are back to work, we also try to completely restrict any outside exposure, so we have shifted all normal activities to delivery and pickup. Although we try and have succeeded in so many ways, there are many parts of our work that cannot be replaced in a virtual format.

**What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?**

My time management skills definitely improved and the ability to create new routines. Expectations in March were not met for reasons associated with difficulty of coordinating with colleagues, closure of herbaria (and corresponding lack of shipping offices/ability to send or receive loans), inability to travel, etc. I am fortunate that my place of work is continuing to operate with minimal impacts—thanks to hardworking and committed staff; I’m not surprised, but I continue to be impressed.

**Going into the fall, what challenges and opportunities do you see?**

There will continue to be challenges for time management and coordination of activities both for myself and with colleagues. Additional conferences and field trips will switch to online only. Being able to work in the laboratory, herbarium, or other traditionally shared spaces will require further coordination. I won’t be able to sort through a pile of specimens to make determinations, with a colleague next to me with whom I can bounce ideas around. Direct student mentorship will be challenging and eventually the “back log” will begin to run out. I’m trying to focus on taking this time, as before, to focus on work that is feasible, including writing and fieldwork. My spouse and I took a trip to southwest Texas to do fieldwork and are planning another in September. The laboratory at BRIT has re-opened on a limited basis and I have begun working with a volunteer to get some DNA sequencing completed. We continue to adapt and manage in this new normal.

**How are you feeling emotionally at this point?**

This is a difficult question. Sometimes I feel a little misanthropic due to the disregard by a lot of leadership in the United States to this pandemic. However, my personal situation is quite unique right now for personal reasons, so perhaps I’m able to see more of a silver lining than others. I’m not sure if I feel okay because I’m willing myself to do so, or if it’s
because I’m able to accept things are the way they are and trying to go with the flow of this crazy time. In a way I think I am happy things have slowed down and am forced to focus on what is important. My spouse and I are privileged to have jobs and not have to worry about taking care of others or coordinating online school during these extremely difficult times. I am hyperaware of my friends and colleagues, though, and their needs. I’m counting my blessings and allowing this time to reflect on other parts of my life and focus on what is important. This pandemic is a global tragedy—it has been heartbreaking to watch it unfold—but somehow my eternal optimism sees a positive outcome in my life and those of my friends and colleagues. We’ll get through this with renewed ties, a sharper focus on what is important, and I hope we will learn something that endures about where our values rest.

Allison Miller
Danforth Plant Science Center, St. Louis, MO

How has the pandemic and the response changed your job and/or daily routine?

The pandemic landed me, my husband, and our two kids (ages 11 and 8) working and doing school at home for ~3 months. We converted part of our house to an office and set up a divided schedule where one parent was working and one parent was the teacher, and we would switch half way through the day. Many days, the parent serving as the elementary school teacher was also doing Zoom calls, or even teaching his/her university class, at the same time.

What was your greatest challenge in adapting to this new format?

The pandemic has been challenging to so many people for so many different reasons. My husband and I are grateful that our jobs were intact and that we have been able to remain healthy (so far). Having said that, the greatest challenge for me was trying to do my job—the expectations of which didn't change much with the pandemic—in roughly half as much time. The struggle is real: it is extremely difficult, if not impossible, to work a full-time job and serve as the teacher/parent of two kids. Further, the accumulating backlog of stuff—both at work and at home—that I couldn’t get to was (and continues to be) overwhelming. The pace of work hasn’t slowed, but my capacity to do it has been severely impacted.

How did your interactions with your colleagues and/or students change with the shift to online communication?

My lab group started a morning coffee from 8:30 to 9:00 a.m. Mondays through Thursdays, and then we held our regular lab meeting on Friday. This has been a joy, to touch base with people each day, talk about what is going on, and think about what we were trying to do that day. My Economic Botany class moved to Zoom—and my attendance improved!! It was fun to teach people from home; I really enjoyed the interaction with students.

What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?

One of the greatest joys of the pandemic has
been rediscovering nature and gardening with our kids. We live within walking distance of a major park in St. Louis where we have been recording bird sightings and plants in bloom since March. The kids are turning into great naturalists! Also, our garden has never looked better—although our dog Cookie is currently decimating the squashes....

How are you feeling emotionally at this point?
Exhausted, but grateful for our health, the extra time with family, and the joy of consciously taking in the biodiversity that surrounds us every day.

How has the pandemic and its response changed your job and/or daily routine?
In some major ways, my daily routine and that of my lab’s has been significantly altered. I have ongoing experiments plus imbibed seeds in my lab and was and so was deemed essential by my organization. However, restrictions were in place so that I could only access the lab two to three days per week. This was enough to assay and water the imbibed seeds and monitor the physical facilities of the ex situ conservation seed collection. I rely on a half-time staff person, and full-time intern, plus a small group of dedicated volunteers to help carry out the daily operations in the lab. The staff person went on leave (unrelated to COVID-19) just as the world was melting down, and all volunteer activities were suspended. I was able to advocate for my intern to be physically present, so it was just the two of us trying to do more work in less time. This has led to reduced operations overall including less-frequent germination assays, and halting initiating new experiments altogether.

What was your greatest challenge in adapting to this new format?
The greatest challenge by far was figuring out how to work from home two to three days per week, while my partner also worked from home while attempting to provide distance-learning to our kindergarten-aged son, Canyon. We worked out a schedule where she would wear the Kindergarten teacher hat Monday through Thursday, with me playing that role on Fridays. Now that that school is out it is less challenging, but one of us is still working every day of the week.

What were some surprises you experienced as the spring/summer went on?
I expected that with limited access to my lab, I could focus on projects with existing data and hanging papers. I thought I was going to be super productive, submitting papers and grant proposals left and right, leaving me feeling accomplished and proud. The reality has been just the opposite. Working from home has its perks (e.g., eating lunch with family every day; attending Zoom meetings with your child), but it just was not nearly as productive as I had hoped. Since the safe-at-home order was enacted, I’ve yet to submit one project in which I am leading.

What skills did you pick up along the way?
Well I’m still trying to figure out a Zoom background, LOL. My organization is
focusing on communication to the general public, so I have been trying to sharpen my public outreach writing skills.

**Going into the fall, what challenges and opportunities do you see?**

We are planning for volunteers to return to the lab in early July, including rearranging the lab space to accommodate social-distancing practices. The return of volunteers is huge for my program since I rely so heavily upon them. New germination experiments will restart, assays will be conducted more frequently, and I will be freed up to get back to those papers I never finished.

How has the pandemic and the response changed your job and/or daily routine?

As an educator, the pandemic has impacted my daily routine tremendously. I teach a mixture of virtual and in-person science courses during the academic year. My virtual courses were not altered by the pandemic, but my in-person courses were drastically changed. Transitioning to remote delivery for the remainder of the spring 2020 semester impacted the way in which lectures and labs were conducted. Students expressed the disappointment in not being able to interact with each other as well as myself. However, I believe my students understood the need to change our daily routines to help our community reduce disease transmission.

During the summers, I instruct elementary science camps at our local museum. We transitioned our camps to a 100% virtual platform, which has had many positive results. Many campers that otherwise would not be able to attend our science camps due to distance (i.e., living in another state) or a physical handicap (e.g., having an autoimmune disorder) are now able to have a camp experience through a virtual setting. I do miss the in-person interactions with campers, but I have been excited to share science with elementary aged students across the United States. Without the transition to virtual science camps, I would not have had the opportunity to teach such a diverse group of young scientists.

What was your greatest challenge in adapting to this new format?

Being an educator, the greatest challenge has been finding new ways to teach science outside of a classroom setting. However, I feel that challenges help us grow as individuals. This is especially relevant in education. Sometimes during challenging times, educators find themselves redesigning their curricula that may need a refresher. This benefits us as educators as well as our students. Therefore, I have enjoyed this challenge. I am also thankful my career places me in a position to spread scientific knowledge while also ensuring disease transmission in my community is minimized.

How did your interactions with your colleagues and/or students change with the shift to online communication?

Many of my colleagues have come together to
share new ideas and methods for educating students during a pandemic. Students have become more communicative with me as many of them feel more comfortable asking questions in a virtual setting. This situation does not apply to all colleagues and students I interact with, but I have noticed a shift toward strengthening of relationships as we feel we are all in the “same boat” when it comes to these major changes.

What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?

I would say the biggest surprise came in March 2020 when our campus decided to transition to remote delivery of courses. All decisions that have come following this one major decision have not really been surprises as many of us have accepted that our way of living and working has and will continue to change each day. Many of my students and advisees are taking my courses to enter a nursing program. Therefore, many of my students are CNAs working at organizations and institutions that are at the forefront of COVID-19. I have gained an entirely new appreciation for nurses as I have seen what my students have encountered during this pandemic as they continue their work.

Going into the fall, how are you feeling about starting a new year? What challenges and opportunities do you see?

Living in western Kansas, you come to understand that science is not always going to be accepted in your community. I have noticed just how true this is when interacting friends, family, co-workers, and students. Many of the individuals around me have different interpretations of the current issues, which have shocked and disgusted me. That being said, I feel that this new academic year is an opportunity to not only share the importance of science (specifically, basic concepts of epidemiology and immunology), but also a time to take a stand toward the racial injustice that is happening in our country. The changes to my daily life have shown me the importance of acting and speaking up in the moment rather than waiting for something to happen. The pandemic has encouraged me to redefine my approach toward current scientific and political issues as I know now how quickly a lifestyle can change.

How are you feeling emotionally at this point?

I am greatly concerned about our country’s decisions, but empowered to know that, as an educator, I can educate those around me with the facts. We all have decisions to make in life. Political leaders may choose to reject science and visions of equality, but I choose to use my knowledge to support my students to be better human beings through education.

How has the pandemic and the response changed your job and/or daily routine?

Well, I’ve been working at home since mid-March, making liberal use of Zoom. I see much less of my colleagues and students, but much more of my family (which is a silver lining).
What was your greatest challenge in adapting to this new format?

Not being able to interact with students on campus has been difficult. I can’t read the classroom nearly as easily, and I worry about the welfare of some students more than I ever have.

What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?

I think the shift to online-only learning in the spring has had me thinking about ways to incorporate elements of online learning to supplement my classroom teaching when, one day, the world returns to a more normal routine. In particular, how can I make more efficient and more impactful use of lecture time? I have been thinking a lot about how to lecture less and have more in-class discussions.

I’ve also been very pleasantly surprised at how effective shifting my Plant Systematics lab to remote learning was. I was really worried about the loss of field trips in April and May. To try to minimize the loss of field work, I had my students go on individualized, short field trips at home and post the plants they found to iNaturalist. They adapted to this extremely well and learned a tremendous amount on their own. We still met on Zoom during lab time, and I still taught plant families and a few key species, but I was very pleased with the individual learning at home. Several of my students from this past spring are still actively using iNaturalist over the summer, and collectively they have posted over 500 new plant observations from various parts of the country.

Going into the fall, how are you feeling about starting a new year? What challenges and opportunities do you see?

To be honest, I feel a bit uneasy about the plans to reopen so many universities to in-person classes this fall. For several reasons, I have decided to teach my courses remotely this fall, and so I will have all the challenges that come with online learning. I am most worried about my introductory biology section, which is composed almost entirely of first- and second-year students. I have been brainstorming ways to effectively introduce a lot of students to biology in an online format.

However, I think my first-year seminar course should work fairly well in an online-only format, and I think there might be some cool ways to incorporate online resources into the course. Plus, the breakout rooms feature on Zoom should work well for small-group discussions, which I like to emphasize.

How are you feeling emotionally at this point?

Overall, I feel OK. I think the state of the world right now is taking a bit of a toll, and the uncertainty of the coming months is not easy. But we’re all in this together, and I’m very happy to belong to welcoming and open professional societies!
How has the pandemic and the response changed your job and/or daily routine?

It was certainly an adjustment, at first, to work almost entirely from home, but I had to visit the office briefly each week to take care of a few tasks. However, I became quite comfortable with the change and had a routine in place, but I have recently returned to the office full-time.

The shift to online teaching was very fast. What was your greatest challenge in adapting to this format?

My greatest challenge was that I had not participated in any remote work or meetings, but I was fortunate to have excellent assistance from CITR staff on campus. They offered webinars multiple times each week to help faculty and staff learn how to use Zoom, Google Meets, and our Western On-line platform, and they were readily available to answer questions and assist with troubleshooting.

How did your interactions with your faculty and/or students change with the shift to online?

We held our department meetings using Google Meets. Most of my meetings were held in this way too, with the exceptions of large-attendance meetings where Zoom was employed. My Tropical Ecology class was able to travel to and from the Galapagos safely before the shutdown. Prior to the study abroad experience, we met weekly for lectures and class discussions, and we resumed this using Google Meets once classes were back in session.

What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?

With eight students, Google Meets worked well each week, and I lectured with my PowerPoint slides with this format too. I learned how to give exams online with our Western On-line platform, and we quickly developed a weekly routine of lecture, followed by class discussion. Students even gave their individual presentations using Google Meets, while discussion essays and group reports were submitted electronically to me via e-mail. I was surprised to see how much I enjoyed the on-line exam preparation and administration, especially when the program can grade a number of questions automatically. I learned how to implement Respondus Lockdown Browser and Respondus Monitor for use by students during the scheduled exam times.

Going into the fall, how are you feeling about starting a new year? What challenges and opportunities do you see?

As a Department Chair, working through modifications of the fall schedule to be able to offer face-to-face classes and laboratories with limited room capacities and social distancing has been challenging. I want everyone in my department and on campus to feel safe and be safe, but many of us know that our plans can change on a moment’s notice with COVID-19 surging in many parts of the country again.
How are you feeling emotionally at this point?

I am still mentally tired from such a taxing spring semester, along with educators and parents, as we all had an abrupt shift in our daily and weekly routines. I recall seeing a phrase about us “all being in the same storm but a different boat,” and this still resonates with me. Fall will look different to all of us in academia, and we will have to hope for the best yet be prepared for a switch to online and alternative deliveries.

How has the pandemic and the response changed your job and/or daily routine?

On the whole I’ve been incredibly lucky and benefit from amazing privilege. I’m lucky to still have my job at all! I’m lucky to have a family situation that is relatively conducive to working from home. I and my family have remained relatively healthy. So has everyone in my lab, thank goodness—I hope that doesn’t change!

In addition to moving my teaching and research to 100% online, I had to cancel a field season, had a pilot study cancelled halfway through, and today I should be visiting a colleague to help collect data but am not allowed to travel. My institution has responded to the financial pressures by, in part, not renewing contracts for many non-tenure track teaching faculty. Consequently, my teaching load will more than double next semester. We also have an altered Fall 2020 academic calendar that is not compatible with the growing season for my plants. I expect my research productivity and grant proposal submissions will be substantially decreased. Thankfully, my institution offers the option to delay the tenure clock as well as an extension on the time to spend startup funds.

If these teaching changes are permanent, a tenure clock extension may not be enough. For instance, if we keep the new academic calendar, I will need to re-envision my research program. I think my tenure and promotion committee understands this, but I am not so sure about the upper administrators. I hope they will recognize that if my job description permanently changes, then the expectations for tenure and promotion should also change.

Amid all this uncertainty, I did my best not to change my daily routine: I still held class at the same time (with asynchronous options available). I make sure to meet with my entire lab group during our usual timeslot and scheduled additional individual meetings with my grad students. We moved all of our work online to data entry and analysis, or alternatively collecting data from previously recorded digital images. My students were able to (virtually) present their posters and all of the undergrads graduating from my lab either have well deserved jobs or graduate positions in the fall. And, I am able to take short breaks, contribute more to childcare, and do fun things like eat lunch with my family instead of at my desk.

Robert Baker
Miami University,
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What was your greatest challenge in adapting to this new format?

The biggest challenge was and continues to be uncertainty. Our institutions are not used to dealing with the rapid pace of the changes we've seen over the past 3 to 4 months. There was (and still is) a lot of conflicting information. This past spring, there was no forewarning or time to plan, and our budgets were frozen so we were unable to do things like construct and mail kits to students so they could do labs at home. While I did (and continue) to do my best to pivot towards on-line interactions, it's hard to do something as simple as design a course syllabus without knowing whether it will be in person, online, or hybrid. Designing research projects involving living organisms that are robust to these unknowns is even more challenging.

How did your interactions with your colleagues and/or students change with the shift to online communication?

They decreased both in quantity and quality. It's really pushed us to adopt a number of online collaboration tools that we probably should have been using all along. Within my research group there are a few things I've done: first, I've made it a point to have regularly scheduled meetings individually and in groups with all my lab members. Second, we tested project management software (turns out we don't like to be managed and I prefer mentoring to managing) and communication software (turns out we do like to communicate!). Third, I'm taking a page out of the Bioinformatics culture of open-source sharing and extensive documentation and applying it to our wet lab, growth chamber, greenhouse, and field studies. Faculty in my department have an informal virtual lunch hour, which has been great. And finally, even as a sometimes-introvert, I've increased the amount of time I spend on Twitter (mostly lurking) so that I can feel more connected to my scientific friends and colleagues.

What were some surprises you experienced as the spring/summer went on? What skills did you pick up along the way?

One of the best, most exciting things about being a scientist is solving problems—improvising, making do, and overcoming unique obstacles that no other person has ever encountered before. As a profession, I think we are uniquely suited to dealing with new challenges. Tapping into that problem-solving reserve has been critical.

Going into the fall, how are you feeling about starting a new year? What challenges and opportunities do you see?

Apprehensive. What if my partner and I get sick at the same time? Who takes care of the kids? What if we get shut down again, mid-experiment? What if there are further visa restrictions and my grad students can't leave to visit family or return afterwards? How can I serve students in countries that block our online tools while maintaining FERPA compliance? What if students refuse to (correctly) wear masks? How can I teach a 32-student lab in a room that has a new maximum occupancy of 5? Is it possible to socially distance as over a thousand people move through narrow corridors and tight stairwells within our building? Can I be productive enough to pass tenure review? One potential opportunity is that if we restructure our courses to be deliverable in an online (or even hybrid) format, that could really increase the size and diversity of the audience we can reach.

How are you feeling emotionally at this point?

Drained.