Annual Review | 2020

PEPPERDINE INFORMATION TECHNOLOGY

How the IT department helped Pepperdine University shift to remote instruction in the face of a pandemic

"Blessed is the one who perseveres under trial"

– James 1:12

Pivoting a Pedagogy

Standing Up to Coronavirus

In reflecting over the events of 2020 and the anniversary of the coronavirus pandemic, I'll never forget how Pepperdine University was tested from Shanghai to Malibu, time and time again. Our students and faculty had to change the way they interacted, the way they taught, and the way they learned. And many had to do it over a weekend in March. So, they rolled with the punches… because that's what Waves do.

Here at Pepperdine, we're no strangers to adversity. In recent years, we've had to deal with unthinkable devastation and loss. Yet, when barriers are put before us, our community always answers the call.

This year, I wanted to share how your Information Technology department contributed to the immense effort necessary to keep professors teaching, students learning, and Pepperdine running, in the face of the worst global pandemic in a century.

From TechLearn to Tech Central, Network Engineering to Information Security and beyond, you can see just how many layers of support our community has in the IT department. I want to share a few names like Bronson Somerville, Sean Kalaras, and Natalina Parker, so that you may know just a fraction of the hard work and vision our team brought to bear to support Pepperdine when it mattered most.

Jonathan See
Chief Information Officer
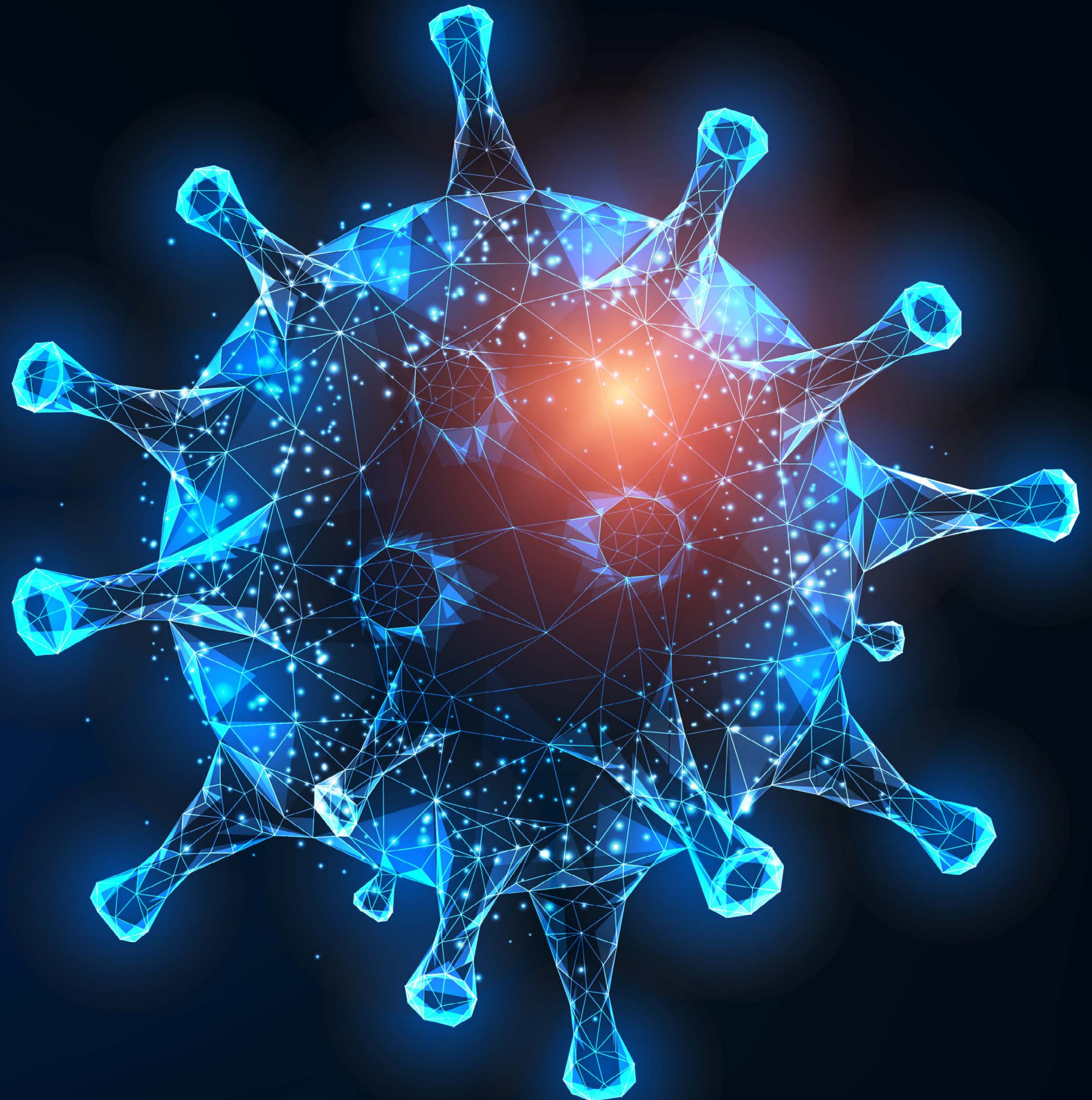
The Dawn of Remote Reality

"What a difference a year makes," said Senior Director of IT Administration and Client Services Gerard Flynn, remembering where he was in late February 2020. "It was a Saturday...February 29," he continued, "and I was flying to Seattle for the ELI Conference (EDUCAUSE Learning Initiative). I had intended on hosting faculty representatives from several of Pepperdine's schools as well as our Technology & Learning department.

"Then, in the course of 48 hours, news broke that the region had experienced significant Coronavirus outbreaks in the area, primarily at nursing homes," Flynn continued. "Some faculty who were going to join us decided against attending when they heard the story."

Other Pepperdine staff made it to LAX before being notified, and one TechLearn staff member got as far as the lobby of his Seattle hotel before doing an about-face and coming home to Los Angeles.

"Dr. Charla Griffy-Brown is a professor in the Graziadio Business School, and she lives in the Seattle area," Flynn noted. "She graciously invited a couple of us to her home for dinner, and her family was already talking about school being cancelled locally, with the possibility of remote study. Then the conversation shifted to having the kids study from home, and we talked about how to make that happen."

For Pepperdine, it happened quickly.

With the Shanghai program already closed due to COVID-19 on January 28, and the Florence program suspended on February 26, the virus was spreading quickly abroad. Less than a week later, the University suspended the Heidelberg and Lausanne international programs on March 1, followed by the London and Buenos Aires programs on March 10.

"Roughly a week after coming back from Seattle, when the other dominos fell, it seemed to be an international affair," Flynn noted. "Then on March 11, President Gash issued an announcement that Pepperdine would be having remote classes for the remainder of the semester for all our domestic campuses. So, the last day of in-person classes was March 13."

As a major university with five Southern California campuses, Washington, D.C., and the aforementioned International Program sites, there were operational and technical chasms between functioning as an in-person institution and switching to emergency remote instruction in just a few days. Bridging that gap would require a fundamentally different approach to teaching, learning, and working that hinged on multiple variables.

"Prior to these events, the IT department, including IT Communications, the support teams, and the training teams, was working very hard to communicate, to train, and to develop a plan to support the students, faculty, and staff at these international campuses because they would have unique needs this year," Flynn said.

Lead Instructional Technologist Natalina Parker started her days at 4:30 AM to accommodate the Seaver International Programs faculty and staff.

"For example, we initially published a webpage to inform Seaver students in the Florence program on how to obtain resources and to study in this new environment," Flynn explained. "And as these other International Programs suspended their operations, we adjusted our web content to direct people to our training resources and support avenues for all programs."

In the two weeks from the Florence campus closure to going fully remote with all classes, Pepperdine University successfully pivoted its entire pedagogy to distance learning.

"The different programs started to shift one by one in late February, with Shanghai being hit first," said Director of Client Services Alan Regan. "But the bigger one was when all of the European programs went online. Natalina Parker from our Technology & Learning team immediately went to work with International Programs to schedule times that were early in the morning so that the time difference could work out for those faculty members abroad."

"We let everyone know that they were supported, and that they were not alone."

Alan Regan
Director, Client Services
Information Technology

"I remember it very well," said Lead Instructional Technologist Parker. "It was a week before the campus shut down, and we did an orientation with 10 to 12 people at 6 AM. We had three or four group consultations with them. And then moving forward, I worked with Lausanne which was a little more intensive.

"They scheduled several training sessions with the faculty in Switzerland," Parker continued, "and I created a course template so that they could go in and apply their content. So, rather than having to build out modules, they had a template that they were able to use that allowed them to add learning objectives, links for videos and readings, and any other material they wanted to include. That was really helpful for them."

A number of teams were vital in working long hours in designing resources, training programs, and communicating their availability to all faculty, staff, and students. The IT department worked to provide resources for traditional office staff members, for example, who found themselves working from home. IT had to answer basic questions including:

"I would be lost without all this instruction and support. I also enjoyed being able to work with Pepperdine colleagues from all different campuses and specialties."

Melissa Huy, PhD
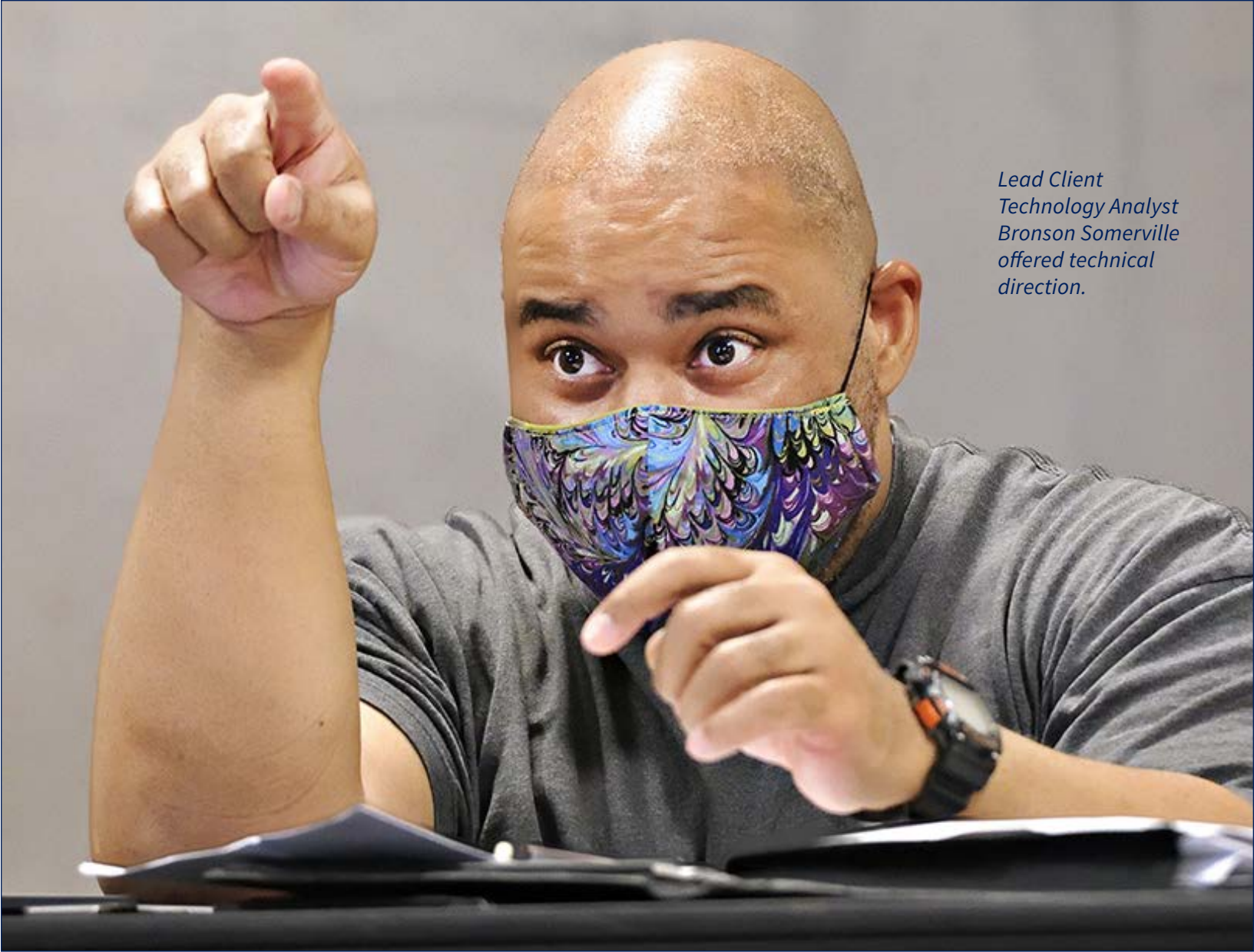**Visiting Clinical Professor**
GSEP

- How do you answer your office number?
- How do you share files?
- How do you conduct business?
- How are you holding virtual meetings?

In short order, Cisco Jabber, Google Shared Drives, and Zoom became the language of how the University functioned every day, as students embraced remote learning, one day at a time.

"This was impressive, not only from a logistical perspective, but also because it provided Pepperdine with the opportunity to embrace the (remote) technologies as a community," said Regan. "It also gives us a lot of flexibility for accessibility of classes and content."

The Technology & Learning group (TechLearn) was essential in working with Pepperdine faculty in creating a structure to move their courses online, but that was just the beginning.

"Those teams immediately added a significant number of classes to the schedule including crash courses in Zoom basics and more advanced details on how to use the Gradebook, Forums, and Tests and Quizzes tools in our LMS, Courses," said Regan.

Lead Client Technology Analyst Bronson Somerville offered technical direction.

2020: THE YEAR THAT WENT VIRAL

January 28, 2020	February 28, 2020	March 2, 2020	March 13, 2020	March 16, 2020	April 15, 2020	June 2, 2020	August 7, 2020
COVID-19 concerns lead Pepperdine to suspend the Shanghai program.	Two days after Pepperdine suspends the Florence program, IT launches its Coronavirus resources page.	The day after the Heidelberg and Lausanne programs suspend, TechLearn begins trainings for Seaver International Programs faculty and staff.	• Pepperdine University suspends all in-person classes for all remaining campuses. • TechLearn launches daily "remote teaching" training series for all faculty.	IT Training launches "remote working" training series for all staff.	The classroom refresh project kicks off with a goal to complete audio-visual equipment upgrades that would normally take 10 years to complete.	New AV equipment begins arriving at Pepperdine's Malibu campus.	Just 70 days after the first equipment arrived in Malibu, and less than four months from the project's inception, the Audio Visual Technologies group verifies that 166 classrooms have been refreshed to accomodate hybrid teaching.

28   28   2   13   16   15   2   7

Manager of Institutional Support in Client Services Reyn Oyadomori stands in front of a shipment of audio-visual equipment for the classroom refresh project on the Malibu campus.

Lott worked to create greater dexterity within the two teams to provide greater coverage for the community's support needs.

"IT Training has more of a group-style environment, while TechLearn often uses more of a one-on-one style approach," Lott said. "In response to the community's increased support demand, both teams recognized that that one method isn't better than the other. So, each team started offering more of what they typically *didn't* do. IT Training was offering one-on-one sessions, while TechLearn offered multiple group sessions every week."

These collective efforts focused on the community's immediate needs as campuses suspended in-person classes, but the IT department also recognized an even bigger potential hurdle on the horizon. Thinking past the spring semester, what would the summer and fall terms look like at Pepperdine? How long would it take to recover from the pandemic? Upgrading the University's classrooms with the necessary technology to deliver hybrid learning became IT's top priority.

When it became obvious that this was a longer, more substantive challenge with a longer timeline," Flynn noted, "President Gash and the Deans asked the AVT department to investigate designing classrooms to deliver hybrid instruction."

"I try to be as proactive as possible," said Manager of Audio-Visual Technologies (AVT) and Special Projects Jared Mukai. "And I think that's one of the things that we really tried to do over the last few years is to get away from being reactive to everything and really focus on preventive measures.

About five years ago, we set up our AV Refresh Program where we try to put all of our 200 classrooms on a five-year cycle," Mukai explained. "So, we try to refresh about 20 percent of our rooms every year, and 2019 concluded that first five-year cycle.

"We were looking forward to all the new technologies we could install while re-evaluating what the new standard was going to be," Mukai said. "And of course, COVID threw a big fat wrench into all of that.

"We also had to think forward and assume that this might not go away anytime soon," Mukai added. "Yet, at the time, we had no idea what it was going to be like in the fall semester. Were we going to be able to have students on campus? Were we going to be able to have in-person learning? Would it be fully remote? Would it be this weird hybrid, or maybe we don't have max capacity, and only 50 percent of students can be on ground? We had to come up with several different solutions."

Based on their comfort level with technology, some training session attendees were more stressed as they coped with the changes that came with remote instruction.

"We let everyone know that they were supported and that they were not alone," Regan noted. "At times, that support also came from peers, as Pepperdine's faculty and staff would pitch in during Zoom meetings, sharing what works along with alternate strategies, tools, and ideas."

There were also countless emails to IT Training and TechLearn with everything from general questions about Zoom to specific technical support issues. As IT Training and TechLearn Manager Jordan Lott noted, the quick transition to remote teaching and learning required considerable support.

"Sudden increased usage means sudden increased questions as well," Lott observed. "We had to ramp up support very, very quickly, from building and conducting new trainings, to answering questions from everyone. IT Training also created increased office hours so that people could book an hour to ask questions one on one."

"I had numerous questions and areas to troubleshoot in preparation for my classes, and Mr. Oliver was consistently patient and kind in helping me, and at such a terribly hectic time!"

Alison Stewart, PhD
Visiting Assistant Professor
Seaver College

"Lucky for us, we had more of the 'make it happen' freedom to do what we needed to," said Audio Visual Technologies Team Lead Sean Kalaras. "We still had the challenge of looking down the road to make decisions on the best approach to build on what we already had in order to deliver the best result."

The team understood that the solution would have to satisfy a number of requirements. Although the budget hurdle was removed early on, they still needed adaptability to the University's existing classrooms and technology. And there was another issue that made time and timing crucial to the success of the project.

"Remember, COVID has suddenly put every other college, university, and business in the world in the same position with the same needs," Flynn added. "So, now we're all looking to buy the same equipment at the same time with the same sense of urgency," Flynn added.

"Bronson Somerville is one of our Lead Client Technologies Analysts who supports the Business Division of Seaver College," Flynn explained. "He saw the future last spring and immediately started ordering microphones and cameras to support Zoom sessions for his faculty."

From one analyst's instincts to AVT's vision, the IT staff were preparing Pepperdine for what was to come.

"We worked with University leadership to determine the project scope," said Mukai. "Pepperdine has five different (Southern California) campuses and five different schools that operate at those campuses, so we had to get all of their input on which rooms were the most important, which rooms would benefit from this technology, and which rooms weren't going to be used during this time."

With a scope, a budget, and an approved technical solution, the classroom refresh project launched on the main campus on June 2, 2020.

"We had three or four teams working in parallel at various campuses," Mukai added. "At one point, we were knocking out 8 to 12 rooms a day. The pace we were working at was just remarkable. We transformed 166 classrooms to be long-distance-learning, hybrid classrooms."

Ultimately, the massive project was completed in just 70 days over the summer, culminating on August 7.

"I just want to send a huge thank you for your ongoing and prompt support for my technical needs during online instruction."

Ellie Tabibian
Adjunct Faculty
GSEP

Above, Audio Visual Technologies Team Lead Sean Kalaras in the TAC 100 conference room with a new Panasonic PTZ camera. *Right*, Lead Client Technologies Analyst Jordan Seah conducts a training on the new classroom technology in Malibu.

"The scope of this project was 10 times our previously largest project and was completed in less than half the time," said Flynn. "In retrospect, we achieved a tremendous amount of work. What I'm very pleased with, proud of, and grateful for, was the selfless work by all my IT colleagues."

"We were ready in so many aspects, including the things people don't even think about," Regan added. "For example, the network team had an infrastructure in place so that, even when we're at a skeletal crew, 'The Show Must Go On', and the show did. We were well-positioned by just good, old-fashioned contingency and project planning.

"With a TechLearn team of basically four people and an IT Training team of two, we helped thousands of people," Regan said. "It just shows how small teams can make a huge impact in helping professors teach, students learn, and staff members work.

"That's what I love about Pepperdine. It's more than just its physical campuses: it's about people, especially our amazing faculty. We're all working together to create the best possible learning experiences to help our students become their best possible selves."

Above, *Seaver College Associate Professor of Biology Javier Monzón prepares a research site from a coyote's perspective.*

Breaking Ground

When Pepperdine shifted to remote instruction due to COVID-19 in 2020, Biology Professor Javier Monzón used IT's powerful research computing server to create a new educational opportunity for students studying remotely

When the Pepperdine IT department dedicated a server to research computing efforts for Pepperdine students and faculty, the team knew they had to provide the power to solve two common issues with research projects: storage space and speed. The server had to provide the capacity for massive amounts of data such as videos and photographs, along with lightning-quick computational speed to run complex analyses.

In 2020, Seaver College Associate Professor of Biology Javier Monzón needed better solutions for two different projects, and IT's new Cork server proved to be the answer for both.

"Over the summer, I was preparing to teach a course in conservation genetics for the first time," said Monzón. "I initially wanted to do some laboratory work, but when the announcement came that we were going to be online in the fall due to COVID-19, I was scrambling for exercises that I could do with students where they would be able to analyze Big Data: genetic and genomic data sets for the laboratory component of the course.

"But, I was concerned that some of these analyses require specialized software, which may or may not run on students' personal machines," Monzón continued. "And even if they did work on student computers, they could be rather computationally demanding which would bog the students' machines down."

Then, Professor Monzón received a well-timed email from the Office of Research and Sponsored Programs (RSP) detailing the IT department's research computing offering. He immediately took action.

"On August 12, after receiving the Research Connections Newsletter from RSP," Monzón continued, "I contacted Brian Aasen in IT. He basically set me up with the software that I needed and the remote access for students to work from IT's dedicated Cork server," Monzón explained. "That allowed all the students to get onto the server and then simultaneously run those demanding analyses during lab time. These are analyses that I might normally begin in the evening on my personal laptop and then hope they might be completed by morning."

Professor Monzón noted that having students using different versions of Windows, and others working on Macs with different operating systems would have made troubleshooting issues with each computer very difficult.

Using the Cork server, Professor Monzón's 13 students were all able to conduct their analyses during their two-and-a-half-hour lab time without those issues.

"That was really cool to see, because it's not like students were working in groups. They were each doing their own analysis and all in real time, together," Monzón said.

Professor Monzón had his students perform three different types of analyses: population genetic structure, molecular variance, and population viability.

"The analyses of population genetic structure are essentially, like the ancestry analyses that you would get on ancestry.com," said Monzón. "So, you would ascertain whether a human is like a certain percentage of a particular ethnicity, right? We would do those kinds of analyses on coyotes, which is the animal that I conduct research on.

"In the population viability analyses, we basically create a virtual population, given some demographic parameters, like survival rates, reproduction rates, dispersal rates, and a lot of other rates," Monzón said, "and then we run simulations many, many times for a period of time like 50 or 100 years. That way, we can estimate the extinction risk of that population in that duration of time."

Professor Monzón first had his students perform two population viability analyses on koalas: one in which things were looking good for them, and one in which they were not. The goal was to replicate an analysis that was done in a published paper to teach the class how to use the software before performing their own analysis.

The students analyzed real-life populations of various species, such as a New Zealand parrot, a sea otter, and a tropical rainforest frog. More important, all were completed during the semester thanks to the power and storage that the Cork server provided.

"I don't know that the students could have completed their research in such a short time without these resources, and I wouldn't have been able to teach the course, for sure," Monzón noted.

In addition to leveraging the IT research computing servers' computational power for his students, Professor Monzón put the Cork servers to work for another important project.

"I use wildlife cameras in my research, and I have gigabytes of photographs and videos of animals," said Monzón. "So, I needed a better storage solution than just keeping a bunch of SD cards on my desk."

"Brian basically set me up with 400 gigabytes on the research computing server, which put me in a much better position for storing and curating these data," said Monzón.

"The target animal in my research is the coyote," Monzón noted. "But because we use motion-activated cameras that are triggered by any furry or feathery creature that goes in front of them, we have lots of pictures and videos of wildlife."

Dr. Monzón placed cameras in select locations around Los Angeles to explore a particular research question: are coyotes in urban habitats in the Los Angeles area bolder than those that live in more rural habitats?

"I've been studying coyotes for more than 10 years now, and I've had this idea for a long time," Monzón said. "Coyotes live in all types of terrestrial habitats, and I've wondered if there are some genetic distinctions between coyotes that live in the city and those that live in the country.

"We discovered that there are measurable distinctions between coyotes that live in urban areas and those that live in less developed areas," said Monzón. "We discuss the findings in a paper we just published in May of 2020 in the *Journal of Urban Ecology*."

At the same time, another team working in the Rocky Mountains found some behavioral distinctions between coyotes that live in Denver and those that live in surrounding rural areas.

"Several of us who study coyotes decided to do this large, multi-city experiment," Monzón added. "We wanted to see if these urban-vs.-rural behavioral distinctions are unique to Denver, or if they are more general throughout many cities," Monzón said.

Coyote researchers in Los Angeles, Tacoma, Raleigh, New York City, Denver, and Chicago contributed to the study.

"We will test the hypothesis that urban coyotes behave differently from rural coyotes in all cities," Monzón noted. "That would be a big finding, because it would mean that urbanization changes the behavior of wildlife, and it does it in a consistent pattern: that's the hypothesis. And having the storage capacity in IT's research computing server makes the study possible. It made things possible for me *and* my students that we never would have been able to accomplish without it."

> **"It made things possible for me and my students that we never would have been able to accomplish without it."**
>
> **Javier Monzón, PhD**
> **Associate Professor**
> Seaver College

Embracing Technology

Professor Augus Harjoto of the Pepperdine Graziadio Business School made the successful transition to remote instruction, and he's sharing his "Do's and Don'ts" for setting up the classroom

Above, *Pepperdine Graziadio Business School Professor of Finance Maretno "Augus" Harjoto on Pepperdine's Calabasas campus.*

During spring and summer 2020, the Pepperdine IT department and the Pepperdine Graziadio Business School (PGBS) invested significant resources and time preparing for multiple class delivery scenarios. Thanks to the efforts of Pepperdine IT, the majority of our classrooms are now equipped with a camera that can capture an in-person instructor or a close-up view of the class whiteboard. The room audio is also installed such that everyone in the classroom can hear when the online students join the conversation, which facilitates the flexible learning environment.

In August, Pepperdine IT's Client Services department held several training sessions on how to use these classroom technologies. After attending these sessions, PGBS Professor of Finance Maretno "Augus" Harjoto decided to try out the equipment at the Calabasas campus. "I have learned a few things that are worth sharing with my esteemed faculty colleagues," said Dr. Harjoto, who offers these tips to help our academic community prepare for future class offerings.

The Do's

Arrive Early. Come to the classroom at least one-hour prior to the start time of class to prepare. If you have never taught in the room before, consider conducting a "dry run" of your class a week in advance (if possible) to test the equipment and become comfortable with the environment.

Use the Classroom PC (not your laptop). In order to leverage the installed classroom camera and audio (and avoid feedback!), you must use the PC in the classroom, not your laptop. The steps include:

1. Log into the classroom PC (and LOG OUT after the class session is complete).
2. Start and log into the Zoom app on the classroom PC.
3. Test the preset camera angles and see where it is best to stand, especially if you plan to write on and capture the whiteboard during the session.
4. Activate the Zoom audio and video on the classroom PC.
5. You may need to adjust the classroom camera by clicking the green "Auto" button (to force the camera to autofocus) or change the angle using the camera controls on the classroom PC.

Leverage Google Drive. Consider using Google Drive to create, store, and share your lecture content (PowerPoint slides, Google slides, Excel spreadsheets, PDFs, and other documents). This is easier than transferring materials via a USB stick, which is another option to transfer content to the classroom PC. If you choose to use a USB stick, don't forget to disconnect the USB drive and take it with you! Finally, always sign out of your Windows profile on the classroom PC or restart the machine to keep your account and data secure.

Clip on the Microphone (and turn it ON). Dr. Harjoto loves the "mini microphone" in the classroom since it produces clear audio. Be sure to turn on the lapel mic and place the battery power pack in a comfortable location. Dr. Harjoto recommends that you attach it to yourself somehow to offer you more freedom to move around the room. Pockets or waistbands/belts are the best option for securing the battery back, so please consider your choice of clothing when delivering a session that requires the use of the lapel mic.

Ask your students to be your "Tech Support." Dr. Harjoto reports that his students "LOVE to be [my] 'tech support' and they enjoy letting [me] know when things don't seem right." Set the expectations that it's okay for them to report when you're off-screen, the mic is muted by mistake, or you're standing in front of the whiteboard and blocking your notes, equations, or agenda items.

The Don'ts

Don't use your personal laptop as your Zoom mic. The classroom setup is designed for the classroom PC to handle the audio and video. If you use your laptop or a mobile device for Zoom audio, you will create feedback noise.

Don't "Share Screen" on your personal laptop. If you want your students to see you, the classroom camera that captures the physical whiteboard in the classroom, and any content you screen share from the classroom PC, be sure that you log into the classroom PC and Zoom first and avoid using a second device (laptop, phone, or tablet) to screen share. This will allow your students the best "live" and "recording" experience.

Don't Block the Class Whiteboard. You need to be mindful of where you stand in the room, not only to be seen on camera, but also to avoid blocking the whiteboard. While this may seem obvious, be sure to check with your students that they can see your content fine (and be prepared to step out of the way if they ask you to do so).
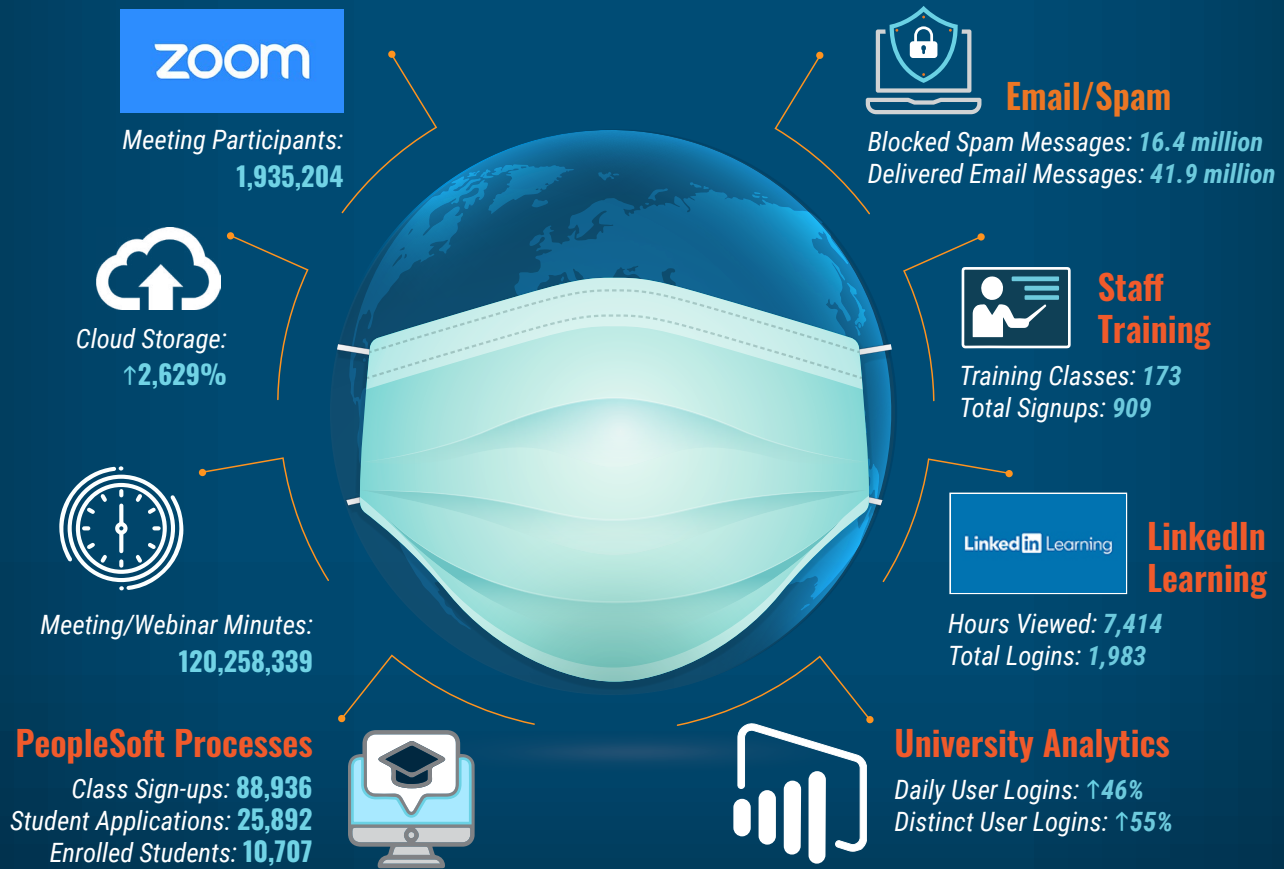
Don't Give Up! Dr. Harjoto offers this wisdom, "There will be days when you experience troubles, but don't lose heart. Our students show their great appreciation for our effort to provide them with the best learning experience. Stay positive and our students will also stay positive with using technology online or in our classrooms."

PEPPERDINE
Information Technology
2020

zoom

Meeting Participants:
1,935,204

Cloud Storage:
↑2,629%

Meeting/Webinar Minutes:
120,258,339

PeopleSoft Processes

Class Sign-ups: **88,936**
Student Applications: **25,892**
Enrolled Students: **10,707**

Email/Spam

Blocked Spam Messages: **16.4 million**
Delivered Email Messages: **41.9 million**

Staff Training

Training Classes: **173**
Total Signups: **909**

LinkedIn Learning
LinkedIn Learning

Hours Viewed: **7,414**
Total Logins: **1,983**

University Analytics

Daily User Logins: **↑46%**
Distinct User Logins: **↑55%**

Document Management

245,073

Approximately 245,073 documents were uploaded to Etrieve comprising 103 GB of data.

etrieve by Softdocs

Socially Distant Surfing

Top Community Webpage Visits

IT	Seaver College	Fac/Staff Directory	Housing Res Life	Int'l Programs	PGBS
722,684	377,700	237,635	203,231	163,337	119,561
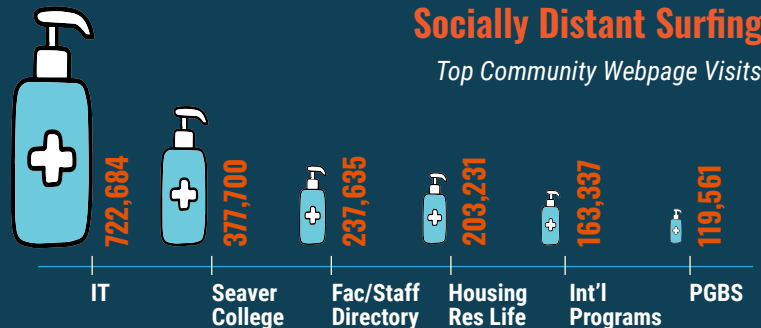
IT Service Desk

42,000

Tech Central Operators handled more than 42,000 calls and technicians closed 12,065 support tickets for Pepperdine's faculty, staff, and student body.

Courses Logins

2,517,522

In 2020, the Technology & Learning team reported a 36% increase in Courses logins, with 2,517,522.

Sakai