

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM



UNITED IN THE FIGHT

Working together, the UAB community battled the coronavirus pandemic with skill, innovation and compassion.



#4

AMERICA'S BEST EMPLOYER FOR DIVERSITY

Forbes 2021

At UAB, diversity is more than a buzzword. It's a practice. Here, everyone counts—every day.

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We're proud that *Insight Into Diversity*® has named us a Diversity Champion for the past three years and presented us with the Higher Education Excellence in Diversity Award four times.

Now Forbes has named us America's #4 Best Employer for Diversity.

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COVER PHOTO: LEXI COON

Vigilance and Victory Over COVID

OVER THIS PAST YEAR, UAB and our community and state have come together in a common cause as never before, partnering on an unprecedented scale to meet an unprecedented challenge. Together we have confronted the worst global pandemic of our lifetimes with the very best of our collective will and collaborative spirit. We have persevered through 13 months marked by hope, heartache and heroism, and we remain vigilant as the light at the end of the tunnel grows brighter by the day.



Our successful efforts to combat COVID-19 have spanned our campus and state, beginning with our initial response, conducted in coordination with the UA System, Alabama Department of Public Health (ADPH), local government and others. We partnered with the Jefferson County Department of Health in the first appointment-based testing site in Birmingham, and our UAB Grand Challenge team established walk-up sites in 38 underserved communities. Our health care teams have treated more than 4,300 COVID-positive patients, and—along with a host of volunteers—delivered close to 200,000 vaccinations. Our clinicians and researchers have conducted clinical trials on treatments and vaccines, served on state and national task forces, and done 75-plus interviews on major worldwide television broadcast networks alone.

At the same time, our entire campus has rallied behind UAB United, readily adopting measures to ensure our safety and success—on-line and hybrid instruction, masking and social distancing, and use of UAB Healthcheck and GuideSafe™ Exposure Notification App, which were developed jointly by UAB and ADPH. Our alumni, donors and corporate partners have rallied along with us, helping us provide, among other vital needs, \$1.6 million for our COVID research, \$200,000 for drive-through testing, \$320,000 in emergency grant funding for students, and over 31,600 meals for our frontline healthcare heroes. Through it all, we have never wavered in our commitment, and I am forever grateful—and proud—of the ingenuity, resilience and resolve that continue to carry the day.

Even amid this massive effort, we have also made remarkable, missionwide strides despite COVID. We achieved a fifth straight year of record enrollment, record retention and record research awards, carrying on the most successful era of research funding in university history. We developed new, one-of-a-kind academic programs as well as our Signature Core Curriculum. We treated more patients and saved more lives than ever. And, most recently, *Forbes* ranked UAB No. 1 on its list of Best Large Employers (above the likes of Mayo Clinic, NASA and Google), a testament to the exceptional enthusiasm, professionalism and pride of our people—our greatest asset.

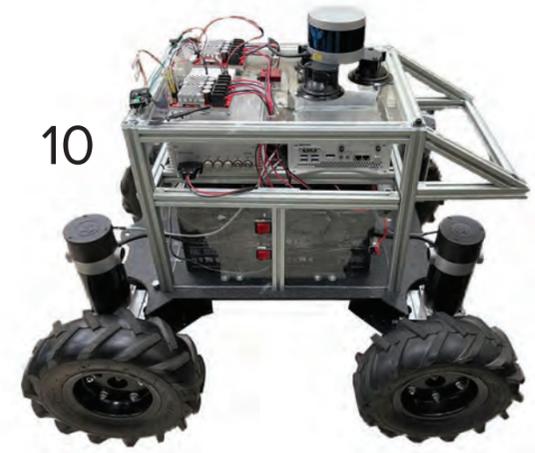
We look forward to building on these accomplishments in the months to come and beyond. When we first developed our strategic plan for 2018 through 2022, we intentionally designed a dynamic plan that would adapt to ever-changing circumstances. We could not have known just how adaptable the plan would have to be in the median year of 2020. Thanks to all of you, our ongoing planning and collaboration is bringing success in all pillars of our mission, as together we finish this fight and continue forging the future.

With my best regards,

Ray L. Watts, M.D.

President

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ON THE COVER: People across UAB's vast enterprise joined forces and deployed their skills to protect our campus and nation from the threat of the global coronavirus pandemic.

Explore more stories at uab.edu/uabmagazine.

Our COVID Year



2020

JANUARY

7 World Health Organization identified the outbreak as a new coronavirus

27 UAB Supply Chain identified supply disruption in critical PPE categories and sequestered N95s

FEBRUARY

30 WHO declared global health emergency

29 UAB Hospital Incident Command Structure established

MARCH

4 International travel restrictions set in place at UAB; UAB's COVID-19 informational website launched

11 Pandemic declared by WHO

12 UA System made immediate plans to transition to online or alternate instruction

15/16 UAB and UAB Hospital moved to limited business operations and visitor restrictions

13 Alabama declared state of emergency; UAB surge bed plan prepared, visitor restrictions implemented

18 UAB announced in-person/on-campus classes canceled for rest of spring semester

19 First COVID-19 positive patient admitted at UAB, PCR testing began; Activities and events on the UAB campus are canceled or postponed due to COVID-19

23 Drive-thru COVID-19 mass testing site opened downtown

25 First COVID-positive inpatient death in Alabama at UAB

24 Universal masking implemented on UAB campus; Birmingham stay-at-home order issued

APRIL

8 Summer semester moved to online/remote

15 UAB experts, including Drs. Vickers and Marrazzo, joined Gov. Ivey's COVID-19 Task Force

28 Alabama issued safer-at-home order

30 UAB provided masks for all on-site campus employees

"Never in my wildest imagination did I imagine it turning into the global pandemic that it's become."

MICHAEL SAAG, M.D.



MAY

1 UAB hosted virtual commencement to celebrate spring 2020 graduates

4 UAB announced temporary expense reduction strategies due to COVID-19

JUNE

10 People knelt at the Student Affairs "Moment of Solidarity" event for racial justice

26 UAB announced transition from Limited Business Model to Modified Business Operations

JULY

2 UAB adopted Sentinel Testing

15 Statewide mask mandate implemented by Gov. Ivey

31 Furlough period for UAB ended

29 All students began receiving free testing prior to coming on campus for the fall 2020 semester

1 UAB United COVID-19 safety campaign launched

16 UAB ED surge plan activated; UAB Hospital reported first day of triple-digit COVID inpatients

AUGUST

5 UAB Pathology developed strategy to support GuideSafe Entry Testing, process more than 200,000 samples

3 UAB Hospital reached summer peak of 124 COVID inpatients

13 Childcare Assistance Programs expanded for UAB employees

21 UAB Healthcheck launched

17 Alabama's GuideSafe Exposure Notification App launched statewide

SEPTEMBER

21 Expense Reduction Strategies ended

30 Plans for spring 2021 semester announced, including delayed start to Jan. 19 and canceled spring break

OCTOBER

12 Healthcheck for all on-campus students and employees required daily

11 COVID-positive tests among UAB students trended upward (up from 19 to 49 weekly cases)

16 Student gatherings restricted



In October 2020, students participated in Into The Streets, the student-led day of service.



30
Classes resumed in virtual-only format; two planned Wellness Days announced for the spring semester

12
UAB held third virtual commencement

17
First COVID-19 vaccines administered to UAB frontline health care workers

2021

8
Director of Athletics Mark Ingram announced 7-0 start to men's basketball, best in school history

29
All UAB employees were able to register to be scheduled to receive vaccine

2
UAB's COVID-19 drive-thru vaccine site at the Hoover Met opened

11
Parker High School COVID-19 vaccination site opened, offering unscheduled walk-up opportunities for members of the surrounding community

18
The Board of Trustees approved Stage III of men's and women's basketball practice facility

25
UAB announced an extra holiday will be offered on the April 14 Wellness Day

MARCH

1
UA System announced return to in-person classes beginning for the fall 2021 semester, and UAB announced plans for the summer term

NOVEMBER

DECEMBER

14
30.2 percent of patients in UAB Hospital were being treated for COVID-19

15
First shipment of COVID-19 vaccines [Pfizer] arrived at UAB Hospital

27
UAB Hospital reached 200+ COVID inpatients for the first time

JANUARY

3
UAB Hospital reached winter peak with 226 COVID inpatients

19
Students returned to on-campus, remote and hybrid learning for spring 2021 semester

FEBRUARY

8
In partnership with MIT's PathCheck Foundation, UAB launched worldwide, interactive, COVID-19 vaccination dashboard

14
On-campus gatherings restrictions eased

17
59,167 vaccination doses delivered to date by UAB (almost 21 percent given to individuals self-identified as Black; 33 percent to underrepresented populations)

15
Year anniversary of UA System's move to remote operations

HONORS COLLEGE

Enhancing Student Experiences

THE UAB HONORS COLLEGE ADAPTED ITS HONORS PROGRAMMING and operations to continue fulfilling its mission of providing a unique and exceptional experience for students through its honors courses, experiential learning, leadership development and community engagement. The Honors College modified all of its Honors courses for safe delivery during the pandemic—with 84 percent of Honors classes offered directly by the College and its specialized programs in a socially distanced in-person or hybrid format—and several thesis proposals and preparation classes offered virtually.

Honors students participated in a variety of events organized by its Honors Faculty Fellows, specialized programs, student-led groups and honors staff. The student-led Honors College Leadership Council (HCLC) held over 30 events for students that focused on professional development, health and wellness, service, and social involvement. The 2020-2021 Honors Faculty Fellows kept students engaged with more than 40 fun and innovative events offered either in-person or virtually. Honors students learned about the fundamentals of mental health, explored ethical dilemmas and discussed various aspects of exemplary leadership. In addition, students learned about the importance of nutrition, wellness and a healthy lifestyle. As part of the Honors College's annual participation

in the National Conference of Undergraduate Research, 30 Honors students presented their research and creative activity virtually to a national audience of their peers. The spirit of volunteerism remained an active priority for Honors students who were eager to serve the community. On weekends, students participated in the Honors College Day of Service with community partners including Sloss Furnaces, The Red Barn, Birmingham Botanical Gardens, and Lovelady Thrift Store along with other agencies throughout Birmingham. Students also answered the call to volunteer to assist with COVID-19 vaccine distribution to the community at the Hoover Met. As part of a disaster response to the tornado that destroyed homes and businesses



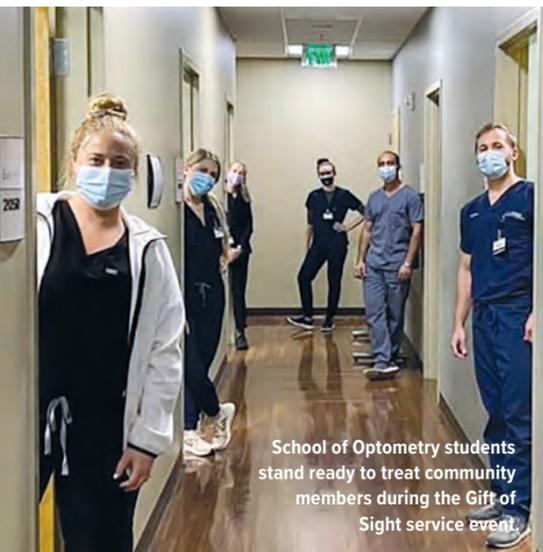
Honors College students collected supplies for victims of the January 2020 tornado that struck Fultondale, Ala.

in the Fultondale, Ala., community on Jan. 26, 15 students served a combined 63 hours sorting through donated items at the Gardendale Civic Center, preparing items for pickup and working the drive-thru line for distribution to residents. ■

—By Joi Jackson

SCHOOL OF OPTOMETRY

Gift of Sight Changed, Continued During Pandemic



School of Optometry students stand ready to treat community members during the Gift of Sight service event.

THE GIFT OF SIGHT, now in its seventh year, is the UAB School of Optometry's biggest charitable event. This year, organizers were determined to provide free, comprehensive eye exams and glasses to 227 low-income and underinsured patients despite the challenges of the COVID-19 pandemic.

The School of Optometry made changes to ensure the safety of patients as well as UAB faculty, staff and students. Previous years featured a marathon three-day event that began at Western Health Center and culminated with patients from area shelters or group facilities crowding the on-campus UAB Eye Care lobby all day on a Saturday.

This year, however, underserved patients became part of the clinic schedule at Western Health Center beginning in early November. Rural Area Medical (RAM), usually on-site only for the Saturday event, set up at the Western

clinic the week of Nov. 30 to make glasses while patients waited. The last Gift of Sight patient was seen Dec. 11.

Ocular conditions included glaucoma, detached retina, ocular hypertension and degenerative myopia. On day five, a young man arrived at his appointment with electrical tape over one side of his glasses because one of his lenses had fallen out, and it was easier for him to see with his blurred eye covered. RAM was able to cut his lenses as soon as the UAB team refracted him, and he left with glasses that same day.

"Reorganizing the event required some ingenuity," said Janene Sims, O.D., Ph.D., Community Eye Care director at the UAB School of Optometry. "The UABSO family, along with RAM, Vision Service Plan's Eyes of Hope and Essilor's Changing Lives Through Lenses, came together and made Gift of Sight happen during these unprecedented times. There is always a need for care, and we didn't want to disappoint patients who rely on this annual event for assistance. We wanted something to be normal in the midst of COVID." ■

—By Satina Richardson

SCHOOL OF DENTISTRY

Remembering Scotty McCallum

CHARLES A. "SCOTTY" MCCALLUM JR., DMD, M.D., the third president of the University of Alabama at Birmingham and a pillar of the community for 70 years, passed away in January 2021.

He served as vice president for Health Affairs, dean of the School of Dentistry and chair of the Department of Oral Surgery. McCallum came to Birmingham in 1951 as an oral surgery intern and earned his medical doctorate in 1957 from what was then known as the Birmingham Medical School.

McCallum (1925-2021) became the third president of UAB in April 1987 and served until September 1993.

"Scotty believed in the people of this university, their work, and their mission to provide a quality education to all and to build a medical facility that could care for the people of our state and beyond. Without his visionary leadership and dedication, UAB would not be the world-class institution it is today," said UAB President Ray L. Watts. ■

—By Tyler Greer

SCHOOL OF EDUCATION

Mowling Named State Educator of the Year

CLAIRE MOWLING, Ph.D., assistant professor in the School of Education, was awarded College/University Educator of the Year by the Alabama State Association for Health, Physical Education, Recreation and Dance.

Mowling has been instructing prospective physical education teachers at UAB since 2015 and has worked to create authentic experiences for her students.



She is a reviewer for several national professional journals and served on the regional and national boards for the Shape America National Convention Program Review Committee. Mowling also runs an after-school program at Avondale Elementary School called "Move It."

ASAPERD offers recognition of its outstanding members outside the profession for their contributions and achievements. Its mission is to promote and support healthy lifestyles for Alabama residents through high-quality programs in health and recreation. ■

—By Alicia Rohan

PHOTO: COURTESY OF UAB ARCHIVES

COLLEGE OF ARTS AND SCIENCES

New Multicultural Curriculum Grants

IN HER FIRST YEAR in the College, Dean Kecia Thomas has prioritized recruiting, retaining, and developing diverse talent. She also launched the Building a Multicultural Curriculum grants program in fall 2020.



The awards incentivize faculty to develop new classes or revise existing classes to support students' diversity awareness and build their multicultural competence. In the first year of the program, eight faculty members received grants to support courses that align with the goals of the initiative.

Congratulations to the winning proposals for the 2020-2021 academic year.

- **Dr. Erin Borry,**
Department of Political Science and Public Administration: "Isms in Public Administration"
- **Dr. Olivio J. Clay,**
Department of Psychology: "Diversity, Equity, and Inclusion in Research and the Workplace"
- **Prof. Michele Forman,**
Department of History: "Our Histories: Documentary Film and Public History in Birmingham"
- **Dr. Reginald Jackson,**
Department of Music: "African American Music from 1619-Present"
- **Dr. Dione Moultrie King,**
Department of Social Work: "The Health and Well-being of Black Americans: A Social Work Approach"
- **Dr. Angela Lewis-Maddox,**
Department of Political Science and Public Administration: "Social Justice and Pop Culture"
- **Dr. Samiksha Raut,**
Department of Biology: "Building a Multicultural Curriculum"
- **Prof. Ana Maria Santiago,**
Department of English: "Themes in Lit with a Latina-o-x American Identity Focus" ■

—By Chris McCauley

SCHOOL OF NURSING

Nursing Achieves Significant Growth and Expansion of Research



THE UAB SCHOOL OF NURSING, an internationally recognized leader in nursing research and scholarship, continues to reach new heights and expand its research portfolio.

The School now ranks No. 11 overall and No. 5 among public schools of nursing in National Institutes of Health (NIH) funding rankings for fiscal year 2020, as published by the Blue Ridge Institute for Medical Research. The UAB School of Nursing has remained in the Top 15 for NIH funding among Schools of Nursing since 2017.

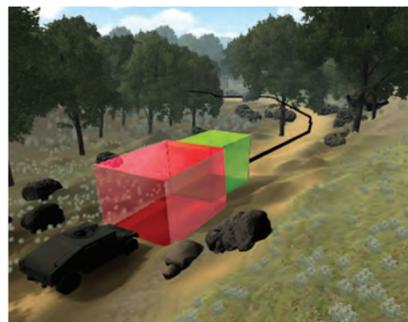
This marks a four-spot climb from its FY 2019 rank of No. 15, reflecting the school's dedication to an ever-growing research portfolio, with more than a \$1 million increase in NIH funding to \$5.9 million in NIH research funding for fiscal year 2020, and an annual total of \$12.7 million. The latter figure recognizes the funding contributions from all missions—research, teaching, practice and scholarship.

"In recent years, we have been able to continually grow and diversify our research portfolio through strategic recruitment, faculty development and a dedication to mentorship," said Dean and Fay B. Ireland Endowed Chair in Nursing Doreen C. Harper, Ph.D., R.N., FAAN. "This recognition is a reflection of the hard work and commitment of all of the UABSON faculty, staff and students, the significant work, focus and output of our Office of Research and Scholarship, and of being at UAB and in the great company of interprofessional research colleagues and scientists." ■

—By Jennifer Lollar

SCHOOL OF ENGINEERING

Novel Research Facility Tackles the Challenges of Autonomous All-Terrain Vehicles



FLEETS OF AUTONOMOUS (SELF-DRIVING) VEHICLES are being manufactured with one primary goal in mind: keeping the vehicles on the road. But what happens when road conditions are suddenly altered? And what if vehicles are designed to go where there are no roads?

Those questions and more are being answered at UAB, thanks to a new \$35 million Autonomous Vehicle Mobility Initiative (AVMI) funded by the U.S. Department of Defense and the U.S. Army Combat Capabilities Development Command Ground Vehicle Systems Center (DEVCOM GVSC). The AVMI program will serve as the first academic national-level laboratory of the U.S. Army DEVCOM GVSC dedicated to autonomous mobility research and engineering.

The AVMI program is co-directed by Vladimir Vantsevich, Sc.D., Ph.D., a professor in the Department of Mechanical Engineering; and Lee Moradi, Ph.D., director of the UAB Engineering and Innovative Technology Development (EITD) research group. Their UAB team will collaborate with the DEVCOM GVSC, multiple organizations within NATO, partner universities in the Automotive Research Center and industry.

"Military vehicles and emergency vehicles are often required to travel off-road," Vantsevich said. "But designing autonomous vehicles for off-road terrain poses unique challenges." For example, in war zones or areas affected by natural disasters, terrain can change rapidly. Likewise, when vehicles travel off-road in convoys, the terrain changes as the convoy progresses—so the ground traversed by the lead vehicles is much altered by the time the trailing vehicles pass over.

The AVMI program is exploring new technologies

that will allow vehicles to anticipate and adjust to real-time changes in physical and cyber environment. The bulk of that research will take place in five new AVMI research labs and a new facility called "Simulator of Autonomous Mobility" (SAM). SAM will be a first-of-its-kind cyber-physical indoor proving ground for applications of artificial intelligence to vehicle design for autonomous mobility.

The AVMI program is expected to advance vehicle technology transformation beyond the military sector, such as off-road truck engineering, construction equipment, forestry machinery and farm-tractor engineering companies. ■

—By Grant Martin



School of Medicine students, along with other students from across campus, worked as contact tracers—the School of Public Health initiative



SCHOOL OF PUBLIC HEALTH

Student Contact Tracers Helped Chase Down Exposure

AS COVID-19 CASES IN ALABAMA CONTINUED their up-and-down, roller-coaster climb to ever-higher numbers in the summer and fall of 2020, the School of Public Health hit upon an idea: What if UAB students helped fill the huge gap in contact-tracing?

Early in the pandemic, the CDC recommended that each new confirmed case of COVID-19 should be notified in fewer than 24 hours. But the Alabama Department of Public Health was struggling to make the thousands of calls to Alabama residents who may not have realized they were infected with COVID-19. Reaching those individuals, explaining the necessity of quarantine and asking them whom they might have exposed was a monumental—and urgent—task.

The School of Public Health has a contract with the ADPH to support the agency in contact-tracing and other critical work during

the ongoing pandemic. It turned to students as well as employees of UAB's Survey Research Unit, who communicate with participants in large UAB studies such as the REGARDS stroke trial, to take on the contact-tracing project. Both groups were under the direction of Andrew Rucks, Ph.D., professor emeritus in the Department of Health Care Organization and Policy within the School of Public Health.

Once the call went out, students from the College of Arts and Sciences, Honors College, the Collat School of Business, and the Schools of Health Professions, Medicine and Public Health sprang into action. In fact, the response was

so great that the schools had to use a random number-generator to select the students who would take part.

All of the students worked remotely using laptops and telephone headsets. Shifts were designed to fit around student schedules. Some of the folks on the other end of the phone were receptive, chatty, and willing to adhere to public health guidelines like masking and isolating. But many were not—telling students that the virus was a scam, and sometimes being hostile on the calls. Despite the challenges, the students and employees logged hundreds of hours, calling upward of 4,000 cases each month by December 2020. The project continues to support the ADPH into spring 2021.

Students with proficiencies in other languages have been invaluable in reaching the experience has helped the students affirm their own academic and career plans, pairing an M.D. with an MBA to address health disparities, or connecting a Spanish minor with a master's in public health. ■

—By Matt Windsor



SCHOOL OF MEDICINE

NIH Leaders Speak at UAB



Dr. Francis Collins, NIH director, had breakfast with UAB medical students prior to the outbreak of the novel coronavirus.

SEVERAL HIGH-PROFILE VISITORS IN 2020 highlighted the growing scope and prestige of the School of Medicine's research enterprise. Speaking to a packed audience on March 6, **Francis Collins, M.D., Ph.D.**, director of the National Institutes of Health (NIH), shared his picks of 10 "areas of particular excitement and promise" in biomedical research. In nearly every area, UAB scientists are helping lead the way, as Collins himself noted in several cases. Collins concluded his talk by sharing his advice for young scientists, including the suggestion that, "every investigator needs to be pretty comfortable with some of the computational approaches to science. Big data is here—artificial intelligence, machine-learning. We can all get into that space. But it's going to take some training, and it will be really helpful to have those skills."

Collins' TOP 10 Areas of Promise:

1. Single-cell sequencing
2. New ways to see the brain
3. Induced pluripotent stem cells
4. Microbiome advances
5. Influenza vaccines
6. Addiction prevention and treatment of pain
7. Cancer immunotherapy
8. The All of Us Research Program
9. Rare diseases
10. Diversity in the scientific workforce

In addition to his public talk, Collins had breakfast with UAB medical students, heard research presentations from senior faculty, had lunch with graduate students and postdoctoral fellows, including M.D./Ph.D. students, and discussed strategic directions with UAB research leaders. "I am eager to meet with you," he told a group of junior faculty. "UAB is one institution we are particularly interested in seeing flourish."

On Oct. 28, **Anthony Fauci, M.D.**, director of the NIH's National Institute of Allergy and Infectious Diseases, and Kathleen Neuzil, M.D., director for the Center for Vaccine Development and professor in the Departments of Medicine and Pediatrics at the University of Maryland School of Medicine, delivered keynote addresses to more than 2,000 trainees, faculty, staff and invited guests as part of UAB's virtual COVID-19 Research Symposium. The symposium

highlighted COVID-19 research and clinical trials on a global, national and institutional level. Speakers discussed and presented on topics such as the NIH's involvement in research since the onset of COVID-19, global vaccine development, basic science surrounding COVID-19, therapeutics and population health.

Fauci gave the symposium's kickoff keynote address, speaking for almost 20 minutes on the public health and scientific challenges of the historic COVID-19 pandemic and what's next, which he said he hoped would be a vaccine candidate in the very near future. Neuzil concluded the symposium with a second keynote address highlighting the work on national COVID-19 vaccines. She noted in her talk that "UAB has been a major player" in vaccine trial design and execution due to the leadership role played by UAB faculty in groups including the Infectious Diseases Clinical Research Consortium and HIV Prevention Trials Network.

"The fact that two prominent national leaders such as Dr. Fauci and Dr. Neuzil were keynote speakers at the UAB COVID-19 Research Symposium speaks not only to the importance and timeliness of the topic but also to the critical role that UAB is playing in the effort to combat this pandemic," said Christopher Brown, Ph.D., vice president for Research at UAB.

Watch the full COVID-19 Research Symposium on the UAB School of Medicine YouTube channel. ■

—By Tyler Greer, Jeff Hansen, and Matt Windsor

COLLAT SCHOOL OF BUSINESS

First Entrepreneurship Student Graduates

FIVE YEARS AGO, Matt Graben dropped out of college. At the time, he was a junior at UAB studying finance; but he was more interested in launching a nonprofit than he was in his business courses. During the next five years, he worked with other self-starters in Birmingham to create more than 10 businesses focused on everything from housing development to coffee sourcing and production.

But while he was navigating his way around the city's entrepreneurial ecosystem, he met Patrick Murphy, Ph.D., UAB's Goodrich Endowed Chair for Innovation and Entrepreneurship. Murphy was developing a new undergraduate major in entrepreneurship in the Collat School of Business.

After talking with Murphy, Graben felt something was missing. He had practical experience from his startups, but he didn't have the academic foundation.

"I knew how to build the structure of a home, but I was missing my contractor's license," he said, using a construction analogy. "I had grown an appreciation of how businesses work and wanted to learn the theory behind it all."

Graben returned to UAB and immersed himself in Collat's entrepreneurial classes. He worked with Murphy to take all of the courses that, once approved, would be required by the major. The University of Alabama System Board of Trustees approved the entrepreneurship major in June 2020, and Graben became the first

graduate in December 2020.

Graben says his classes validated his experiences as a business owner, and he learned from his professors' experiences. "My professors weren't just teachers; they were practitioners. They are business owners themselves."

The former creative director for Seeds Coffee Co., Graben is now focused on building Co-Trade Imports, a coffee importing company that focuses on creating fair and equitable partnerships between coffee producers and roasters.

Ultimately, he says, the program taught him how to be a better thinker. And as UAB's first entrepreneurship graduate, he recommends students jump in and take a class in the program.

"My biggest recommendation is just do it," Graben said. "It's one thing to have a good idea or story, but it's another to know how the market works and how to turn your idea into a profitable business. The entrepreneurship program teaches you how business works." ■

—By Jared Jones

"My biggest recommendation is just do it. The entrepreneurship program teaches you how business works."

MATT GRABEN



PHOTO: RANDY MARTIN

SCHOOL OF HEALTH PROFESSIONS

Thirumalai Awarded \$1.5 Million Grant

MOHANRAJ THIRUMALAI,

Ph.D., assistant professor in the School of Health Professions' Department of Health Services Administration, has been awarded a \$1.5

million grant from the National Institute on Disability, Independent Living and Rehabilitation Research.

Thirumalai's research was inspired by the recent customer-service trend of convergent or omni-channel communications, when the customer can reach out through a variety of platforms—phone, email, text, chat, etc.—to receive support. But delivering that to people with disabilities is challenging because, even if individuals share a disability, their individual symptoms or scenarios may be different.

"We will be working to allow for people with disabilities to be able to choose the method, the frequency and the length of how they communicate, and to make this possible, there will be a layer of artificial intelligence-supported natural language processing layers," Thirumalai said. "First it is artificial intelligence—a machine talking to you and taking you as far as it can. Then the machine transfers them to a person—we call this the human handover."

The UAB/Lakeshore Research Collaborative is the subcontractor on the grant. Thirumalai also serves as director of Information and Communication Technology at the Collaborative. The human handover will connect the user with trained coaches at the Lakeshore Foundation via telehealth.

Work on the grant began Sept. 1, and will run through Aug. 31, 2023. If the work proves scalable, the program will be distributed nationally through the National Center on Health, Physical Activity and Disability. ■

—By Kevin Storr

UAB INSTITUTE FOR HUMAN RIGHTS

Smart Cities & Human Rights



IN SPRING 2020, UAB Institute for Human Rights Director Tina Kempin Reuter, Ph.D., published a new paper titled "Smart City Visions and Human Rights: How Our Thinking About

Smart Cities Has Impacted City Life and What to Do About It." In it, she argues that social scientists and human rights activists should work alongside the tech industry to develop inclusive, equitable smart cities.

Kempin Reuter's take on the intersections between smart city tech and human rights earned her the Michel de Montaigne Endowed Prize in the History of Ideas, awarded annually by the College of Arts and Sciences to a full-time UAB faculty member. A version of the paper was published in April in the Harvard Kennedy School Carr Center for Human Rights Policy Discussion Paper Series.

Kempin Reuter says that the coronavirus pandemic has exposed even more of the opportunities and challenges our urban environments present to diverse societies. "With cities growing and becoming more digitized, they become more complex spaces, where humans of all different backgrounds, ethnicities, races, religions, values and ideas come and live together. How do we manage that space?" Kempin Reuter asked. "We need to reframe smart city design and include citizens alongside corporate engineers and policymakers in the decision-making."

Kempin Reuter says she feels positively about the future of smart cities—the dialogue surrounding the place of human rights in smart city initiatives is much more advanced than it was a decade ago. She has begun working with the School of Engineering and their UAB Sustainable Smart Cities Research Center to implement human rights aspects in their engineering-driven approaches, she said. ■

—by Haley Herfurth

ALZHEIMER'S DISEASE RESEARCH CENTER

UAB named Exploratory Alzheimer's Disease Research Center by NIH

FURTHER EXPANDING UAB'S AGING RESEARCH PLATFORM, the National Institutes of Health's National Institute on Aging has also named UAB as an exploratory Alzheimer's Disease Research Center. The UAB exploratory ADRC will join the network of 31 ADRCs in 21 states and is the only exploratory ADRC in the four-state region of Alabama, Mississippi, Arkansas and Louisiana.

ADRCs are located at major medical institutions across the United States. Researchers at these centers work to translate research advances into improved diagnosis and care for people with Alzheimer's disease and related dementias, as well as to find ways to treat and possibly prevent these diseases. They also contribute substantially to major national neurodegenerative disease research initiatives.

The UAB exploratory center will focus on racial disparities in Alzheimer's disease throughout the Deep South, with studies that will collect data and follow study participants over time to better understand and then reduce these disparities. Areas of investigation range from the basic mechanisms of disease to managing the symptoms and helping families cope with the effects. Researchers at the UAB exploratory ADRC will conduct basic, clinical, translational and behavioral research and train the next generation of scientists. ■

—By Bob Shepard

UAB PROTON THERAPY CENTER



Advanced Therapies Available to Cancer Patients

UAB OPENED ITS PROTON THERAPY CENTER IN JANUARY 2020, just before the coronavirus pandemic shifted the medical center to a limited operations model. Still, the state-of-the-art facility, one of only 36 in the nation, has been able to deliver advanced proton therapy to hundreds of patients since its opening.

Proton therapy uses an aimed beam of protons directed at the tumor site. The beam is configured to deliver the majority of its energy precisely at the tumor location. Healthy tissue in front of the tumor receives a minimal amount of energy, and tissue behind the tumor receives very little. This reduces the damage to healthy tissue that is common in the use of conventional X-ray radiation and is the cause of most side effects. Proton therapy is used to

treat tumors of the brain and central nervous system, spine, head and neck, lung, prostate, liver, gastrointestinal tract and colon, and some breast tumors.

The heart of proton therapy is a machine called a cyclotron, which produces the proton beam and delivers it to the precise location in the body to destroy tumor cells. Proton International, UAB's partner in building the center, manufactured the cyclotron in Germany. Nicknamed "Emma," the \$25 million, 90-ton cyclotron now supports the O'Neal Comprehensive Cancer Center and the Department of Radiation Oncology in the School of Medicine at her new location on 20th Street, between Fourth and Fifth Avenues North. ■

—By Bob Shepard

BILL L. HARBERT INSTITUTE FOR INNOVATION AND ENTREPRENEURSHIP



Winners of the Fifth Annual UAB Innovation Awards

STAFF, STUDENT AND COMMUNITY INNOVATORS WERE RECOGNIZED

for their contributions to COVID-19 research, innovation and entrepreneurship during the fifth annual UAB Innovation Awards presented by the Bill L. Harbert Institute for Innovation and Entrepreneurship, presented in four categories:

FACULTY INNOVATOR OF THE YEAR
Sue Feldman, Ph.D., and Mohanraj Thirumalai, Ph.D.

Feldman is an associate professor in the School of Health Professions (SHP), senior scientist in the School of Medicine Informatics Institute and director of graduate programs in Health informatics. Thirumalai is assistant professor in the SHP Department of Health Services

Administration and director of Information and Communication Technologies for the UAB/Lakeshore Foundation Research Collaborative. Their teams worked to build and scale the GuideSafe™ and Healthcheck web applications and ensured UAB held a leadership role in addressing the COVID-19 pandemic across the state and beyond. (Learn more about GuideSafe™ on Page 50.)

STARTUP OF THE YEAR
Solution Studios

Solution Studios, led by Joel Berry, Ph.D., associate professor in the Department of Biomedical Engineering, brings students together to collaborate in solving real world clinical problems. Along with his team, Berry officially launched the platform as a startup company this year, and pivoted quickly to create a pandemic-specific interface where clinicians could pose COVID-19 challenges, including addressing social needs amid the pandemic, tackling at-home care for discharged COVID-19 patients and keeping patients safe during routine treatments such as dialysis.

STAFF INNOVATOR OF THE YEAR
Brian Rivers

Brian Rivers is associate vice president and UAB chief technology officer and was the UAB lead in developing the GuideSafe™ Exposure Notification App in partnership with Google, Apple, MotionMobs and the Alabama Department of Public Health (ADPH). Rivers developed a novel method to verify positive tests, allowing automation of verification to reduce false positives. Alabama was the first state to introduce the method, which currently is in the patent process.

COMMUNITY INNOVATOR OF THE YEAR
Taylor Peake, MotionMobs

UAB alumna Taylor Peake is president of Birmingham-based software consulting and development firm MotionMobs. Together with UAB and the ADPH, MotionMobs developed GuideSafe™, which has been downloaded by more than 250,000 residents across the state. Alabama was the fourth state to launch such an app in the country. ■

—By Briana Bryant

UAB NATHAN SHOCK CENTER FOR THE BASIC BIOLOGY OF AGING

Center Renewed With \$4.5 Million Grant

THE NATHAN SHOCK CENTER OF EXCELLENCE FOR THE BASIC BIOLOGY OF AGING has been renewed with a prestigious \$4.5 million grant from the National Institutes of Health's National Institute on Aging, ensuring that the center is able to continue its research on how energetics affects the aging process.

This renewal grant is the result of a collaborative, campuswide effort. The UAB Nathan Shock Center is led by co-directors Steven N. Austad, Ph.D., distinguished professor and department chair in the UAB College of Arts and Sciences Department of Biology, and Thomas W. Buford, Ph.D.,

director of the UAB Center for Exercise Medicine and associate professor in the School of Medicine Department of Medicine.

UAB's Nathan Shock Center was established in 2015 with a five-year \$2.5 million grant. At the time, UAB was one of six Nathan Shock Center sites around the nation. Today, there are eight locations.

The NIA's Nathan Shock Center grants are intended to further the pursuit of basic research into the biology of aging through services provided by specialized research cores, small pilot grants, and the organization of meetings and symposia to highlight specific areas of research. ■

—By Julie Keith



UAB FOOTBALL WINS SECOND C-USA TITLE IN THREE YEARS

UAB FOOTBALL WAS CROWNED 2020 CONFERENCE USA CHAMPIONS on December 18, 2020, by earning a hard-fought 22-13 victory at Marshall in the 2020 Ryan C-USA Football Championship.

The Blazers (6-3) won their second league title in the past three years and have won both of their championships on the road, the only team in league history to do so.

Senior running back Spencer Brown became the first player in C-USA history to be named the Conference USA Championship Game MVP twice, after posting 30 carries for 149 yards. He is also just the second player in league history to rush for over 100 yards in two different C-USA title games.

In the process, Brown eclipsed 4,000 career rushing yards, and he was one of two players in the nation to have 4,000 career rushing yards, along with Travis Etienne of Clemson.

Other standout UAB players included quarterback Tyler Johnson, III, wide receivers Trea Shropshire and Hayden Pittman, defensive lineman Antonio Moultrie, and placekicker Matt Quinn.

The championship victory capped a year of upheaval from COVID-19, from spring training through the pre-season and into the season itself. But coaches and administrators worked closely with UAB clinicians and physicians to ensure player, staff and fan safety. ■ —By Ted Feeley

"Being only the third school in the history of C-USA to win three consecutive titles is an incredible feat."

MARK INGRAM,
DIRECTOR OF ATHLETICS

PHOTOS: UAB ATHLETICS

Excitement Builds for Protective Stadium

UAB Football will host first home game Oct. 2

AS THE CONSTRUCTION of Protective Stadium continues up in Uptown, UAB Football is already making preparations for its new home.

UAB Athletics has unveiled season ticket pricing and allocation details to provide Blazer fans and the Birmingham community the best opportunity to guarantee their place in history.

Season ticket packages in 2021 are available starting as low as \$75 with the Family Zone season ticket. The Public season ticket price is set at \$125, and Blaze's Corner season tickets are also available for an affordable \$100 per seat.

Scholarship seating is available on the West and East sides of Protective Stadium, and a limited number of 1,700 Stadium Club seats are available for \$950 per seat. UAB employees and UAB National Alumni Society members will also receive a 10 percent discount off the season ticket price.

The 2021 UAB Football priority seat allocation is underway. But there are plenty of UAB Football season tickets still on sale for the 2021 season, and fans can continue to build their priority by joining Blazer Boosters. ■ —By Ted Feeley



Learn more at uabsports.com/protectivestadium, or call the UAB Athletics Ticket Office at (205) 975-UAB1.





"Approaching learning from important historical and cultural perspectives is integral to the evolving UAB undergraduate experience as is looking at the community as a classroom."

PAM BENOIT, PH.D.
SENIOR VICE PRESIDENT FOR
ACADEMIC AFFAIRS & PROVOST

Leadership in a Time of Change

New Signature Core Curriculum

UAB STUDENTS ARE ENCOURAGED to think critically and develop innovative solutions to local and global problems. With the new Signature Core Curriculum, incoming students in fall 2022 will have immediate opportunities to apply these skills to the local community and beyond.

The development of new core courses for undergraduate students is an integral component of the education pillar of Forging the Future, UAB's Strategic Plan. After 50 years, an appraisal and revision of the curriculum was necessary to reflect UAB's unique culture and focus on the development of socially conscious global leaders and citizens.

In developing a new core curriculum, Senior Vice President for Academic Affairs and Provost Pam Benoit, Ph.D., in consultation with deans and the UAB Faculty Senate, established the Signature Core Curriculum Committee led by Alison Chapman, Ph.D., professor and chair of the Department of English in the College of Arts and Sciences, and Suzanne Judd, Ph.D., professor of biostatistics in the School of Public Health.

"The opportunity to integrate classroom learning with local and world events quickly emerged as foundational to the undergraduate experience at UAB," Judd said. "Students, faculty

and community members became truly excited about how to make this happen."

The committee also wanted this new curriculum to intersect with other aspects of the undergraduate experience.

UAB has experienced significant growth during the past 50 years, so it just made sense to update the required core classes to keep pace with our

evolution," Chapman said. We wanted to develop courses and approaches that change how students and faculty approach teaching and learning."

Chapman, Judd and the committee developed student and faculty surveys and hosted listening sessions across campus. The committee gathered ideas from stakeholders and drafted course outlines for feedback and revision. The committee developed a set of guiding principles:

- **Develop critical, analytical thinking and data-driven decision-making in ways that engage students in the learning process**
- **Teach students the skills, knowledge and habits of mind they need to solve real-world problems**
- **Teach excellent communication skills**
- **Enable students to freely exchange and debate new ideas, question biases and assumptions, and test and redefine their personal values**

In February 2021, Associate Professor of English and Director of Freshman Composition Chris Minnix, Ph.D., was hired as the Signature Core Curriculum director. During the next year, courses will be refined to implement the new core requirements and updates reflected in the university course catalog. ■

—By Karen Templeton



Despite the significant challenges presented by the novel coronavirus, UAB boasted a fifth-straight year of enrollment growth in fall 2020.

22,563
students*

2% growth from 2019

7,512
graduate students

6% increase

*highest mark ever

EXPANDED OMBUDS OFFICE

THE UAB OMBUDS OFFICE is a neutral resource available to all university faculty, staff, and mentored graduate and postdoctoral students to discuss workplace issues, academic concerns, issues relating to administrative paperwork and processes, and explanation and interpretation of policies and procedures, among other issues. Prior to 2020, UAB provided an ombudsman for faculty; now the position has expanded to include university staff. The Ombuds Office straddles both the Office of the Provost and Human Resources.



Alicia Booker was selected as the new university ombudsman and has been working within the UAB community to bring collaborative techniques to addressing conflict and providing solutions.

Conflict is a part of life, Booker said. The role of the Ombuds Office is to offer "a safe space when people are faced with a conflict and don't know where to go or how to address it, and aren't sure what their options are," she explained.

Booker adheres to the Code of Ethics and Standards of Practice of the International Ombudsman Association—which means I am confidential, informal, independent and impartial, Booker said.

Conflicts generally fall into three categories, Booker explained: personal, policy or procedure. "What I do as an ombudsman is listen to the problem, let the visitor share their perspective and then explain their options to address them," Booker said.

When people bring her concerns about policies and procedures, she guides them toward UAB's established avenues for addressing these concerns, including the Compliance Office, Human Resources, the appropriate leaders or committees. "I am not a replacement for any other process," Booker said. "I don't own any process. I can be a sounding board for the people who do make decisions. What I love about UAB is we have leaders who care and want to do something when problems emerge." ■

—By Karen Templeton

"As a team, we stand ready to embrace all that comes our way in 2021."

initiatives for the entire year. Respect, inclusivity and accountability are vital components of a community that empowers a sense of belonging and well-being in others. While work remains, the call to ACT will always be a guidepost for how we engage in our communities of influence.

We embraced inclusive excellence and supported our communities

Campus and Community Engagement raised awareness on issues from policing, mental health conversations on racial trauma and racial disparities exacerbated by COVID-19 to the impact of political leadership on our communities and our First Amendment rights. Each semester was highlighted by a keynote speaker. During the fall semester, we invited Dr. Beverly Tatum, president emerita of Spelman College and author of the award-winning book, "Why Are All the Black Kids Sitting Together in the Cafeteria?" Dr. Tatum joined us for a sit-down conversation moderated by Dean Kecia Thomas of the College of Arts and Sciences. The discussion focused on racial identity development, race and education, strategies for creating inclusive campus environments, and higher education leadership.

The spring semester featured an Evening with Alice Walker, Pulitzer Prize-winning novelist, award-winning poet and international activist.

We joined forces with our UA System campuses in Tuscaloosa and Huntsville, as well as with UAB campus partners including the Institute for Human Rights, the African American Studies program, the Department of Psychology, Student Multicultural & Diversity Programs, and the Student Counseling Center. We also included the Birmingham Civil Rights Institute, the City of Birmingham and Samford University, deepening our focus on serving the campus and the border community—particularly with professional and nonprofit organizations—and expanding our presence across the state.

Traditionally, ODEI's communications team has been dedicated to promoting our initiatives and programs to the campus community.

However, 2020 required a new strategy to include the broader community. We pivoted to virtual formats covering uncomfortable—yet critical—topics; we realized the importance of extending our reach to community partners and friends. Via social media, we stood in solidarity with others around the nation and world for movements such as Blackout Tuesday, a collective action to protest police brutality and racism. Social media became the megaphone for a growing social justice movement, and

we believed it was crucial to stand with our students, faculty, staff and global community. As usual, our monthly ODEI newsletter continued to keep our stakeholders informed about the ongoing programming initiatives and events while anticipating and addressing the unique issues and inherent challenges.

Before COVID-19, all ODEI diversity education courses were delivered in person, except the first course in the series (Awareness @ UAB). But as the pandemic continued into the summer, racial injustice and unrest accelerated the number of education requests and increased the UAB community's desire to act and to learn more about anti-racism, white privilege, unconscious bias, and how people might "show up" and participate in the moment. The ODEI saw a marked increase in requests, emails and inquiries for Diversity Education from across campus, Birmingham and Alabama. The team developed a new virtual strategy that allowed the team to pivot and respond to the increased demand for diversity education sessions.

In partnership with the HR AWARE Program, we launched the "Everybody Counts Every Day" campaign, a series of eight videos highlighting UAB employees who are veterans and individuals with disabilities to support and encourage the importance of self-identification. Also, the Freedom of Expression and Facility Use video was created in collaboration with E-Learning to educate the campus community.

We continued to strengthen our team.

Ivory Leonard Sirmans joined the ODEI team as diversity education coordinator.

We celebrated our accomplishments

INSIGHT Into Diversity magazine, the oldest and largest publication and website in higher education today, recognized the University of Alabama at Birmingham as a 2020 Higher Education Excellence in Diversity Award recipient and a 2020 Diversity Champion.

We look toward the future

In 2021 and beyond, the ODEI team looks forward to continuing our commitment to reenvision diversity, equity and inclusive practice within the UAB community. We envision a comprehensive approach that requires a fundamental transformation of the institution by infusing Inclusive Excellence in every effort, aspect and level of the university. Those efforts will continue to be anchored by our Shared Values and the UAB Strategic Diversity Plan, "Moving with Bold Vision and Bold Ideas." ■



Standing in Solidarity

While many at UAB tackled the COVID-19 virus, the Office of Diversity, Equity and Inclusion developed a virtual plan to champion racial equity and social justice.

BY ASHLEIGH ALDRIDGE

THE YEAR 2020 WAS UNPRECEDENTED, with the global COVID-19 pandemic, economic uncertainty and racial unrest affecting every one of us in some way. While the past 12 months did not unfold in the way any of us had planned, colleges, universities and individuals around the world leaned in to navigate the storm and reimagine a more hopeful future. That was very true in the Office of the Vice President for Diversity, Equity and Inclusion, where our 10-member team developed innovative ways of staying connected and helping our campus and community partners, and each other, succeed.

Now, as we shift our thinking and turn the page on 2020, our hearts and minds are optimistic about the future. We stand ready to embrace all that comes our way in 2021. As a team, we are proud of what ODEI and the UAB campus community have achieved during this truly unusual year. Some of our highlights include:

We shared insights and grew our virtual presence to serve our campus community

Over the course of 48 hours, we quickly pivoted to working in a 100 percent virtual environment so we could continue to serve the UAB com-

munity while keeping our staff and their families safe at home. As protests against racism and police brutality filled our newsfeeds alongside continuing coverage of the COVID-19 pandemic, we took time to reflect on the interconnectedness of these two public health crises. As people did

across the globe, we checked in with one another, reflected on how we arrived at this point and asked ourselves, "How do we move forward?"

Many of our students, faculty and staff responded by taking to the streets in protest, as did so many people across the world. Others leveraged their roles and platforms to advocate in other ways. Our office created the Anti-Racism: A Call to ACT (Advocate awareness, Commit to education, Take action) campaign, an initiative designed to encourage anyone who is seeking to educate themselves about what it means to be anti-racist or to become an ally, accomplice or champion, to "ACT."

What initially began as a list of resources and "marching orders" for campus and community stakeholders would later become the framework for all of our programs and



Paulette Patterson Dilworth, Ph.D.
Vice President,
Diversity Equity and Inclusion



Brandon L. Wolfe, Ph.D.
Assistant Vice President,
Campus & Community
Engagement



Anita Clemon
Assistant Vice President
for Institutional Equity



Holly Holliday-Jones
Director of Strategic
Initiatives



Davelyn Daniels-Carter
Executive Assistant



Jeffery Little
Business Manager



Michelle M. Allen, Ed.D.
Diversity Education
Director



Ashleigh Aldridge
Communications
Director



Ivory Leonard Sirmans
Diversity Education
Coordinator

A United Front

Supporters from across the state, country and globe helped UAB in the fight against COVID

BY RICK LEWIS, BRETT BRALLEY AND STAFF

WHEN THE PANDEMIC HIT ALABAMA LAST SPRING, UAB put out a call for philanthropic support.

Many answered that call—UAB students, faculty, staff, alumni—and also Birmingham-area churches, businesses and schools. Support even came from UAB friends from across the country and the world.

The impact of that support was felt across the UAB community. UAB students in need received emergency financial aid to help pay bills. Frontline health care workers were provided with more than 31,600 meals while they cared for sick patients or assisted with COVID-19 vaccinations. UAB researchers received funding for 24 coronavirus-related research projects. And that was just the beginning.

“Philanthropic support given to dedicated and talented people can make a huge difference. The outpouring of community support in response to the pandemic highlighted the philanthropic spirit and desire to make a difference that Birmingham and the UAB family are known for,” said Tom Brannan, UAB vice president for Advancement.

Selwyn M. Vickers, M.D., FACS, senior vice president of Medicine and dean of the UAB School of Medicine, echoed that sentiment.

“Community support has made it possible for our faculty, staff, care providers, researchers and trainees to persevere and adapt from the earliest days of the pandemic until now,” he said. “Gifts and donations supporting all our mission areas throughout this past year are a testament to the trust placed in our institution by the people of our city and state, which is an honor to uphold.”

Since March 2020, more than \$2 million has been raised for UAB’s COVID-19 funds. Additionally, the support from the larger community meant that UAB frontline health care workers did not feel as though they were working alone.

“As our UAB Medicine community forged ahead through an immensely challenging year, the light that lit our path was the immediate and tireless support of our neighbors in the Birmingham area and across Alabama,” Vickers said.

Here, we take a look at the many fundraising efforts to support UAB in the fight against the COVID-19.



Kevin Harrod, M.D., professor of anesthesiology, is in his lab. Dr. Harrod’s work on SARS-CoV-2 was supported by the Urgent COVID-19 Clinical Research and Laboratory Research Fund.

DEVELOPING NEW TOOLS TO UNDERSTAND AND MANAGE COVID-19

Last spring, the pandemic disrupted the standard course of research at UAB. Multiple labs that were years into their research were suddenly told to pause their work. Soon, many of the labs on UAB’s campus were focused on a new issue: SARS-CoV-2, the official name of the novel coronavirus affecting the world.

The School of Medicine’s Urgent COVID-19 Clinical Research and Laboratory Research Fund was started to support UAB researchers using a competitive awarding process. Within 20 days of the fund’s launch, corporations in Birmingham and Montgomery had raised \$1.1 million to enhance the world’s understanding of the virus and possible treatment pathways.

Several of these research projects saw success. For example, Benjamin Larimer, Ph.D., an assistant professor in the Department of Radiology, was able to put a tool usually

used in cancer studies to use in searching for coronavirus biomarkers. Larimer’s group found new information about how COVID-19 antibodies are created in the immune system—allowing them to create a new antibody test that will hopefully allow for less expensive tracking of immunity within communities.

Additionally, Kevin Harrod, Ph.D., Benjamin Monroe Carraway Endowed Chair and professor in the Department of Anesthesiology and Perioperative Medicine, has spent much of his career as a research scientist charged with studying SARS viruses, like the novel coronavirus. His lab’s research proposal was funded through the Urgent COVID-19 Clinical Research and Laboratory Research Fund.

With the support it received, Harrod’s lab was able to find 18 drugs that have antiviral capabilities against SARS-CoV-2; he believes that many of these compounds will aid in the drug research efforts throughout the coming year to keep the virus at bay.

SUPPORTING OUR STUDENTS

As shutdowns took effect during the start of the pandemic, many students faced difficult situations. Some had internships called off, some were suddenly in need of emergency flights to get back home, and others needed help paying bills after job layoffs.

Recognizing the pressing need of many students, UAB undergraduate and graduate student governments and UAB Student Affairs, bolstered by efforts from UAB community members and donors, created the UAB Student COVID-19 Emergency Aid Fund to provide emergency aid to students facing lost wages, a decrease of financial support from parents, relocation expenses and more.

More than \$319,000 has been distributed to 1,240 qualifying students—with students receiving an average of \$250.

Dara Russell, who transferred to UAB in 2019, received help from the fund last year after her hours were cut at her part-time job.

“It may seem like a little bit to some people, but it was huge for me,” she said. “It gave me security and made my life much easier to handle. It gave me the ability to focus on other important things, like school. It was such a blessing, and I don’t want anyone to underestimate how much it meant.”

Sydney Madrigal, who was completing UAB’s dual O.D./MPH program in the School of Optometry and School of Public Health last spring, was concerned that travel restrictions would prevent her from returning home to Miami, Fla. She wanted to be with her family during the crisis, so she bought a plane ticket home, which she calls a “big, unexpected cost.”

She applied for help from the Student COVID-19 Emergency Aid Fund and received emergency aid to cover the plane ticket.

“It really made a difference for me,” Madrigal said. And it’s made me realize the importance of having a fund like this for students in an emergency. One day, when I have a job and start practicing, I want to give back and support other students in need.”



Dara Russell said the financial aid she received from UAB during the pandemic was “a huge help.”

Sydney Madrigal joined a UAB photographer for a virtual photo shoot. She was able to fly home to Miami, Fla., thanks to donor support.



MEALS FOR HEROES

With hours-long shifts and busy schedules, many of UAB’s frontline workers and administrative staff weren’t able to take breaks to grab a meal, especially during the height of the pandemic. In response, the university created the Meals for Heroes fund, which launched April 1, 2020. A collaboration between the UAB Office of Advancement and the UAB Department of Food and Nutrition Services, the fund helped feed health care providers and administrative staff at UAB

hospitals and the remote COVID-19 testing site in downtown Birmingham.

Since its launch, Meals for Heroes has raised more than \$143,000 and served more than 31,600 meals. The effort saw a donation of \$10,000 from UAB Football head coach Bill Clark and wife Jennifer, along with The Heart of Alabama Chevy Dealers. The fund was also popular among individual contributors from the community, and it received more than 620 gifts from donors.

(continued on next page)

UAB Hospital staff workers picked up meals from the Atlanta Braves Los Bravos food truck when the Braves Home Plate Project made a stop at UAB to provide 600 meals to essential COVID-19 frontline hospital staff workers on June 12, 2020.

Meals for Heroes organizers placed orders with local restaurants and caterers in an effort to help bolster Birmingham restaurants and caterers—which provided more than 19,000 in-kind meal donations. UAB Food Services worked with businesses to ensure specific food safety guidelines were met, and also served more than 5,800 meals to compassionate caregivers.

“Our health care workers were heroic in their efforts during this pandemic, and our community was equally heroic in their flood of care and encouragement,” said Charlotte Beeker, associate vice president for Food, Nutrition and Guest Services at UAB Medicine.

A NOVEL TESTING APPROACH TO A NOVEL DISEASE

Since the pandemic reached Alabama last spring, hundreds—sometimes thousands—of people pulled their cars into a downtown Birmingham parking lot each week and rolled down their windows to be tested for COVID-19. The drive-through testing site, which was set up by UAB and sponsored in partnership with the Jefferson County Department of Health, was open seven days a week and staffed with more than 100 volunteers a day through the height of the pandemic.



The university had help funding the site—and in increasing testing throughout the community: Hyundai Hope On Wheels® (HHOW) and Hyundai Motor America. After seeing the positive outcomes of drive-through testing in South Korea, HHOW gave a \$200,000 grant in April 2020 to help UAB expand its testing capabilities and increase focus on pediatric patients. More than 83,000 people were tested throughout the community—about 8 percent of whom were minors.

ADDRESSING THE NEED FOR PPE
As the pandemic raged and personal protective equipment (PPE) was in short supply, many members of the community were quick to jump to UAB’s aid.

In fact, UAB was so overwhelmed with the community response, it had to set up a process for fielding donations, which ranged from single N95 masks from local residents to large donations from businesses.

When the leaders of the Birmingham Chinese

Association (BCA) learned in March 2020 that UAB was in need of PPE for its essential health care workers, they turned to their community for help. They asked for masks, gloves and other protective gear to share with UAB—and they “received an immense response,” noted J.J. Fu, a member of the BCA board. Within a week, they had collected more than 600 N95 respirators and over 200 disposable facemasks, as well as protection gowns, examination gloves and other PPE. In addition, the BCA raised \$20,000 to finance future PPE purchases for the hospital.

A COMMUNITY WORKS TOGETHER

During the pandemic, a patchwork of community support blossomed with people of all ages wanting to find ways to help.

In Springville, Ala., 17-year-old Macy Nolen, who wants to earn a nursing degree before studying to become a pediatric cardiologist, set up a GoFundMe page to support UAB’s efforts to fight COVID-19 and raised \$1,000 for the UAB Coronavirus Response Support Fund.

To show support to frontline health care workers, children from 20 schools in the Birmingham area turned what was in their hearts into art and created colorful Valentine’s Day cards for UAB Medicine workers in February 2021. University Events employees collected the cards and delivered them, along with individually wrapped cookies and popcorn, to UAB Hospital to be delivered to workers.

The Porsche Club of America also got in on the action. A drive-by pep rally was organized last fall in support of local hospitals; drivers honked and held signs in support of UAB’s health care workers and also collected around

\$5,000 for Meals for Heroes.

And, finally, people from across the state came together to donate to UAB’s Day of Caring last June. In all, more than \$47,000 was raised in just 24 hours to support a variety of UAB’s efforts to both fight COVID-19 and support its students and employees during a difficult time. ■

“They’re working extremely hard and honestly not getting enough credit for all they are doing. I just hope we have been able to help out our frontline workers and keep them safe—and I hope we can help in finding a vaccine.”

MACY NOLEN, A HIGH SCHOOL STUDENT, WHO SET UP A GOFUNDME PAGE TO SUPPORT UAB’S FIGHT AGAINST COVID-19



EMPLOYEE CHILDCARE FOR FRONTLINE WORKERS

When Marian Howse found out she was approved to receive childcare assistance from UAB last spring, she nearly cried with relief.

“It was an absolute godsend. We were under so much stress,” explained Howse, who is a medical technologist at UAB and an essential worker in the COVID-19 outbreak. She and her husband had been racking their brains for a solution to their sudden lack of care for their 2-year-old son, Orion.

The daycare facility Orion usually attended—as well as others in the area—had closed last spring as a result of the pandemic. That left Howse, who graduated from UAB with an M.S. in clinical laboratory sciences in 2011, and many other essential workers scrambling to find a safe place for their children to stay during work hours.

Many essential health care workers found it difficult to find reliable and available childcare last year.

The impact on these essential workers was brought to the attention of Lauren Leach, associate vice president of Planning and Population Health for UAB Medicine. “Our first goal was to assess the need,” Leach said. “We were hearing some concern from employees that they might not be able to come into work. Then we started focusing on different strategies to connect employees with childcare.”

Leach learned that some local daycare facilities were opening up exclusively for essential health care workers. Around that same time, UAB received approximately \$75,000 from two donors—the Birmingham-based Gratitude Foundation and another anonymous donor—to provide financial assistance for the care of children of essential workers.

The donations provided weeks of support for 41 families, with many of the children staying at the UAB Child Development Center. “We heard that people were relieved, that it took a great deal of burden off of them to be able to secure childcare during that time,” Leach said.

Marian Howse with her husband, Jeremy Pate, and their son, Orion.



ABOVE: Valentine’s Day cards made by local schoolchildren for UAB health care workers.

LEFT: UAB leadership with their \$20,000 check from the Birmingham Chinese Association.



Blazing a Trail

Dr. Kierstin Kennedy's UAB education trained her to create her own path—an essential lesson during the pandemic

BY CARLA JEAN WHITLEY
PHOTO BY LEXI COON

DR. KIERSTIN KENNEDY didn't intend to be a trailblazer when she selected Spanish for her major. As an undergraduate student at UAB, Kennedy simply saw something she loved and wanted to spend more time studying it. But in the early 2000s, doctors didn't major in Spanish, and Kennedy dreamed of becoming a doctor.

But the faculty in the College of Arts and Sciences' Department of Foreign Languages and Literatures rallied to ensure that Kennedy was able to complete the necessary medical school prerequisites. That experience shaped her.

"The lessons learned in undergrad about being able to follow my own path, blaze my own trail, that's really been a theme in my career going forward," said Kennedy, who, after holding numerous other positions at the hospital, has worked as UAB's first chief of hospital medicine since 2018.

"UAB has taught me that lesson that I hope to teach my own children: If there's something you really want to do, you don't stop because it's not there." DR. KIERSTIN KENNEDY

Kennedy has lived out that lesson during the ongoing COVID-19 pandemic, working alongside countless medical professionals and support staff to provide patient care in unforeseen circumstances. She and the larger team, whom she praises, have put aside usual ways of operation and found ways to better collaborate as they face a still-new disease.

AN UNEXPECTED MAJOR

Kennedy's interest in Spanish dates to Loveless Academic Magnet Program High School in Montgomery, where she was required to take three consecutive years of a foreign language. Because of her interest in medicine, Kennedy intended to enroll in Latin. But many students at LAMP had the same idea, and the classes were full by the time she went to register.

She jokes that she landed in Spanish because she didn't pay attention to her brother. He said there was another language class where students listened to music and played cards all day. With Latin out of the picture, Kennedy didn't care what she studied—but she couldn't remember which language her brother recommended. She guessed Spanish. The answer was French.

Though it wasn't what she expected, Kennedy fell in love with Spanish. She continued to study the language at UAB, where she planned to major in biology as a pre-health student. Her Spanish minor could be for love, she thought. But after finishing her minor, Kennedy still wanted more. She was completing work-study at a neurobiology lab, and one of the doctoral students told her that she'd never get into medical school if she changed her major to Spanish. Though every decision she'd made to that point was focused on med school, Kennedy followed her heart.

"I figured if I majored in what I loved, I would perform well, that it would open doors—maybe even someone would think it was useful," she said.

She had no idea how useful a Spanish major would prove to be.

Since she made that decision in 2000, Alabama's Hispanic population has grown significantly. Kennedy can speak to patients in their native language, increasing their comfort. And the challenges of learning a second language taught her to be patient with others and empathetic to whatever struggles they may face.

CONTINUED OPPORTUNITIES

Finances drew Kennedy to UAB, but she dreamed of moving away from Alabama. ("I still have the Michigan sweatshirt my dad gave me," she said.) A scholarship covered her tuition, fees and books, and she was able to cover room and board with grants.

"I even used public assistance. I had food stamps to be sure I had food," she said.

But she was determined to find another adventure after she received her bachelor's. Kennedy worked as a Spanish interpreter for an insurance company and then for a law firm as a case clerk, earning money to cover the travel costs and professional attire her medical school interviews would require. But as she interviewed around the country, Kennedy realized how much she was stretching to afford those opportunities.

Ultimately, she compared UAB with a program in the Northeast that was working to recruit minority students. The schools were similarly ranked, so academic quality wasn't a question. But UAB would cost about a third of the Northeastern school.

Kennedy chose UAB.

The pattern repeated as she considered residency. Kennedy sought a combined internal medicine-pediatrics (med-peds) residency, and she wanted a program that was equally strong in both platforms. Though she thought of moving to another part of the country as a rite of passage, Kennedy chose UAB again.

"I've continued to stay because of opportunities offered to me here at UAB—and I've never sacrificed," she said.

CREATE A PATH AND OTHERS WILL FOLLOW

Kennedy's Spanish professors taught her that she could pursue her interests even when they weren't on the obvious path, and she has followed that lesson throughout her career. During medical school, she began to worry that being a doctor wasn't going to be a fit after all. Kennedy selected her broad med-peds specialty expecting she would find a field that she loved. But as she entered her internship, she was miserable. Every month, she would meet with her program director and argue that she needed to quit. He eventually asked if she might be interested in a career in administration and helped her design an elective to explore that possibility.

That experience confirmed Kennedy's interest in administration, and she completed UAB's Master of Science in health administration concurrently with her medical residency. The program required five years of medical experience, which Kennedy didn't have unless her medical school experience counted. The program staff approved, again clearing a path forward.

When she desired a career as an academic hospitalist, the pattern was clear: Although that option didn't exist at UAB, Kennedy saw it as a possibility. Now UAB Hospital has numerous academic hospitalists, who not only take care of patients in an in-patient setting, but also pursue scholarship in the form of research, publications or teaching.

"UAB has taught me that lesson that I hope to teach my own children: If there's something you really want to do, you don't stop because it's not there," Kennedy said.

COVID-19

In 2020, Kennedy and her team didn't have a clear precedent to follow. As they prepared to treat some of Alabama's first COVID-19 patients, the hospital staff were quickly forced to dismantle their traditional silos. They have supported each other with research and obtaining data and funding, and Kennedy hopes those practices will continue after the pandemic.

"We can be so much more innovative now that we have this precedent," she said, noting the processes that are now in place. "I think all of that technology was there. It's kind of like Zoom. Zoom was there, but nobody was really using it. This pandemic forced us to take a look at those resources."

It has also challenged Kennedy to grow as a content expert, and she now constantly reads literature about COVID-19. She has learned about public health and community messaging along the way, often appearing on video to answer the public's questions and share information about the virus and, more recently, vaccines.

Kennedy uses her own experiences, and works with community partners including the health department and Black churches, to help the public with medical decision-making. And as she has done so many times before—and like the institution she has made her academic and professional home—Kennedy continues to blaze a trail. ■

TEAM DOC

KENT HAGAN, M.D., team physician for the University of Arkansas Razorbacks, always knew he wanted



a life in sports. In high school, he ran cross country, was a kicker on the football team, and played tennis and golf. And when pursuing a medical career became a possibility for him in college, he immediately thought of sports medicine.

The "stars aligned" for him at the UAB School of Medicine. After graduating in 2015, Hagan went on to work for the Philadelphia Flyers and the University of Pennsylvania. But it was last year, in a newly accepted position as the Razorbacks' physician, that he ran headlong into the pandemic. Hagan sits as the most junior member on the SEC's COVID-19 Medical Task Force, the body responsible for making the difficult choices about when and whether games can be played safely. Early on, he often felt like "the guy wearing the evil, black cowboy hat," warning of doom and gloom.

But he says the task force's decisions, like the decision to play football only on Saturdays so teams could test players for COVID-19 on a consistent schedule, were made without "pressure or contention." The result was fairly few cases of the virus on his team and others.

Overseeing the care and monitoring of 550-plus students is just a part of Hagan's job in Arkansas, but ensuring the safety of an entire athletic conference is something Blazer "expertise and excellence" allowed him to conquer. And if all goes well, he thinks "2021 football will likely look like 2019."

You can hear more about Hagan's experience on the UAB Office of Alumni Affairs' Green & Told podcast, hosted by Greg Berry, assistant director of Communications and Governmental Relations. ■ —By Rick Lewis

Answering the Call

SISTER LINDA HILL'S ACCENT SERVES AS A PASSPORT of the places she has lived and worked throughout her life: There's a hint of Midwestern from her hometown of Grand Rapids, Mich., a dose of British English from her 27-year stint in Kenya, and a dollop of Italian from her home in Grugliasco, a township in northeastern Italy hard-hit by the COVID-19 pandemic.

A devout Catholic and member of the Consolata Missionary, Hill was called to nursing almost 50 years ago. It was in this role that she learned firsthand the fear that gripped Europe during the first wave of the virus last spring. Hospitals were closed to anything other than emergencies, she explained, and "police were on the streets" looking for anybody outside of their home without good reason.

Then, 22 of the 35 sisters in her mission, almost all over the age of 70, contracted the virus. Thankfully, Hill never experienced any symptoms and sprang into action to treat those affected around her, taking them to the hospital and monitoring their conditions. Sadly, one sister lost her battle with COVID-19; but the rest are in good health today. Hill credits her training at UAB—she received her bachelor's degree in nursing in 1988—with her ability to adapt to the ever-changing situation and to be a beacon of hope amid darkness. According to her, being a Blazer means "to blaze where you are—to bring the sun, the warmth, the heat and to bring happiness and health where you go."

You can hear more about Sister Hill's story on the UAB Office of Alumni Affairs' Green & Told podcast, hosted by Greg Berry, assistant director of Communications and Governmental Relations. ■

—By Rick Lewis



"[Being a Blazer means] to blaze where you are—to bring the sun, the warmth, the heat and to bring happiness and health where you go." SISTER LINDA HILL

NAS WEBINARS LEAD TO ENGAGEMENT, FUNDRAISING IN 2020

In a year where virtual events became the new normal, UAB's National Alumni Society embraced them as successful engagement and fundraising tools. In 2020, more than 1,900 attendees attended webinars and other virtual events hosted by NAS in partnership with other units.

One of the year's most popular—"Hamilton, The Musical: The Webinar!"—allowed participants to take a deep dive into the musical with Brian Steele, Ph.D., assistant professor of history with the College of Arts and Sciences. The event also led to nearly \$1,000 in donations.

Other popular webinars included "Estate Planning: Tips and Tax Considerations" and "Retirement Planning: Winning by Not Losing," which were hosted in partnership with Planned Giving. "Essentially, we are creating a centralized place for alumni to find interesting webinars produced and supported by their alma mater," said Jennifer Breland, Ph.D., assistant vice president of alumni affairs and executive director of NAS.

All webinars can be found on the NAS website at www.alumni.uab.edu. ■

PHOTO: COURTESY OF SISTER LINDA HILL

DUES ARE OUT FROM HERE ON IN.

UAB National Alumni Society announces transition to dues-free membership

THE UAB NAS RECENTLY TRANSITIONED TO A NON-DUES MEMBERSHIP MODEL, which means that all UAB alumni—more than 6,000 of whom are UAB employees—will be part of a network of over 150,000 graduates, said Jennifer Breland, Ph.D., NAS executive director and assistant vice president of Alumni Affairs.

"Our goal is to be a central hub for alumni," Breland said. "The reason we decided to move in this direction is that we realized that membership was becoming a barrier to engagement. We didn't want membership dues to stop anyone from supporting UAB or the schools or programs that mean the most to them."

To promote the transition, which took place Oct. 1, 2020, the NAS launched a campaign centered around the phrase "From Here On IN."

"Here, 'in' refers to the inclusivity and involvement that we want our alumni to experience," Breland said.

The new membership model also includes a realignment of regional chapters, which will now be known as alumni networks. Any graduates within a school or college, special interest group, area or specific regional area will automatically be part of that local alumni network instead of having to pay chapter dues. "Say we have a School of Nursing graduate who lives in Atlanta," Breland suggested. "That graduate won't have to worry about paying dues for the Atlanta chapter and the School of Nursing chapter before participating in a local gathering. He or she will simply be receiving information about what the local networks are up to."

Keeping alumni engaged is vital to university growth, but not just from a financial standpoint, Breland emphasized.

"I think the biggest reason alumni want to remain connected and involved is to give back to an institution that's given you your degree, that's helped you get to where you are today. Of course we want every alumnus to be a donor, but it's about more than that. It's about mentoring students, connecting graduates to jobs, supporting our arts and athletic programs. Our goal is for NAS to be a place where alumni can plug in and get involved in a way that means the most to them." ■ —By Brett Bralley

What the NAS membership transition means for you

Used to be a member?
Currently a member?
Find out what the non-dues membership model means for you.

I'm a graduate who was paying dues based on a membership level.

You no longer pay dues. As of Oct. 1, 2020, all NAS memberships automatically renew.

I'm a graduate who has never been part of the NAS.

Welcome! You are now part of a network of 150,000-plus graduates—no dues required.

I used to pay dues, but I let my membership lapse.

We're thrilled to have you back. Let's never part ways again.

More information about this transition can be found at go.uab.edu/in.

UNITED IN THE FIGHT

The story of UAB and the global coronavirus pandemic

How UAB responded to the pandemic—in treating patients, in researching treatments, in educating our students, and in supporting our surrounding communities—is something in which we should take great pride.

We're proud to share some of the most important stories our communications team produced over the past year—stories that highlight UAB's challenges and achievements—as people across our institution joined forces to fight the greatest public health battle of our lifetime.

Through it all, we remained #UABUNITED.

TIME TO HEAL

I REMEMBER WELL THE FIRST TIME I HEARD about a series of cases of a “new” pneumonia occurring in Wuhan, China. People started tweeting about this in late 2019, with escalating media coverage (largely on social media—not so much in the traditional press) in mid- to late December. I remember contacting colleagues at the Centers for Disease Control and Prevention to see if we could get some information, and when it became clearer that this was probably a respiratory coronavirus similar to SARS, I, like all of my infectious disease colleagues, started to lose sleep.

As it turned out, that anxiety and sense of foreboding were realized more than we could have ever anticipated—as I write this, nearly 32 million cases of COVID-19 have been reported in the United States alone, and nearly 600,000 people have died: a staggering loss. As if that were not bad enough, SARS-CoV-2 was especially adept at attacking the elderly, those with compromised immune systems and common medical problems like diabetes and obesity, and persons of color. It’s hard to overstate the devastation this has effected: Overall, COVID-19 directly reduced the annual life expectancy in the United States by a whole year, and among Black men, three years. Thousands of people died without their families or friends present due to quarantine restrictions, and health care workers struggled not only to avoid infection in the face of PPE shortages but with the heavy emotional burden imposed by this surge in lives lost.

If I sound more traumatized than hopeful, it’s because it’s going to take us a while not only to end this scourge, but also to recover from what turned out to be an ultra-marathon.

The development and deployment of effective SARS-CoV-2 vaccines have been near-miraculous feats, and despite deep political differences, overall, we mobilized as a society to address surges and drive cases down when we had to. Still, many are scarred from the trauma of the past year and will take some time to heal. I know that the support and commitment of the amazing UAB community will continue to be the lifeline for so many, and I could not be more grateful for that.

Dr. Jeanne Marrazzo
DIRECTOR, DIVISION OF INFECTIOUS DISEASES
C. Glenn Cobbs, M.D., Endowed Professor
in Infectious Diseases

ON THE FRONT LINES: TREATING PATIENTS

During the COVID-19 pandemic, UAB had to develop multiple ways to improve efficiency, discovery and patient care. And as it’s done so many times before, the UAB health care community rose to the occasion.

REPORTING BY HOLLY GAINER, SAVANNAH KOPLON,
ADAM POPE, BOB SHEPARD, AND MATT WINDSOR

Pathology Processes Statewide Test Results

UAB PATHOLOGISTS PLAY KEY ROLE IN FIGHTING CORONAVIRUS PANDEMIC

PATHOLOGISTS AT the University of Alabama at Birmingham have been a crucial part of battling the COVID-19 pandemic in Alabama.

Testing has been a major cause for concern worldwide ever since the pandemic began, but clinicians and researchers with UAB's Department of Pathology have been working around the clock to make testing available for as many people as possible, making sure accurate results are available in a timely manner.

Due to UAB's efforts in molecular testing led by Assistant Professor Sixto Leal, M.D., UAB was among the first academic medical centers in the country to offer in-house testing by launching a laboratory-developed test in March. Leal and his team are currently testing between 300 and 500 samples daily with COVID-19 RNA testing, confirming the presence of the virus in patients, with a turnaround time of less than 24

hours. This includes all inpatient admissions and health care workers, as well as all patients undergoing surgical procedures at UAB Hospital, and labor and delivery patients. A second COVID-19 RNA testing platform with less than two hours' turnaround time is now operational.

"One example of the department's staff's adapting to serve unmet needs is reconfiguring the department's Roche COBAS 6800 machine—usually used for hepatitis and STD testing—now running high-throughput COVID-19 tests. This effort, under the direction of Craig Mackinnon, M.D., Ph.D., division director for Genomic Diagnostics and Bioinformatics, has resulted in more highly automated testing that requires less personnel and tech time to complete, with results reporting directly to the electronic medical record.

“

Developing our own tests enables us to obtain the reagents we need to perform the tests in our laboratory.”

—SIXTO LEAL, M.D.



#UABUNITED



Conserving PPE to Protect Patients and Providers

MEDICAL AND ADMINISTRATIVE LEADERS WITHIN UNIVERSITY OF ALABAMA AT BIRMINGHAM HOSPITAL GATHERED IN EARLY MARCH TO ADDRESS WHAT—AT THE TIME—SEEMED LIKE MORE THAN AN IMMINENT THREAT. IT SEEMED TO BE A FOREGONE CONCLUSION.

SOME PERSONAL PROTECTIVE equipment, or PPE, was going to run out, and it was going to run out fast. N95 respirators, face shields, gowns, gloves and other supplies were a concern. Seven weeks later, the unease is still very real even though the surge in novel coronavirus, or COVID-19, patients in central Alabama and at UAB Hospital has not been as overwhelming as feared. The fact is that personal protection equipment was in short supply well before the world was turned upside down by the spread of COVID-19.

One of the biggest supply concerns at UAB and hospitals beyond has been and continues to be N95 respirators, a protective device designed to achieve a very close facial fit and very efficient filtration of airborne particles—critical protection for health care workers treating patients with COVID-19.

Some supply issues still persist, but UAB leaders continue to work diligently to ensure adequate resources and conserving methods.



Medicine Without the Mileage

IN JUNE, 2020, UAB received \$1 million from the Federal Communications Commission to facilitate the massive telehealth transition that occurred during the onset of the COVID-19 public health emergency.

The award funded the purchase of iPads, webcams and remote patient-monitoring

UAB eMedicine already utilizes telehealth carts to expand telehealth services to other hospitals to ensure access to subspecialty care such as infectious diseases, critical care, stroke and nephrology. The award funded expanded remote patient monitoring of patients with COVID-19, particularly for those at high risk of morbidity and mortality due to secondary conditions such as diabetes, heart failure, kidney disease and hypertension.

Since the outbreak of the novel coronavirus forced UAB to change its health care delivery modules, telehealth visits through UAB eMedicine saved patients approximately 263,000 hours of travel and \$5.68 million in time saved based on the 2019 Alabama median hourly wage. Those statistics are a few of the highlights from a remarkable year for telehealth at UAB, as explored in UAB eMedicine's new annual report.

As of Dec. 31, 2020, UAB eMedicine had completed 280,668 telehealth appointments, and 91% of UAB providers are using telehealth. Patients saved an average of 58.1 miles of driving per telehealth visit, which totaled approximately 13.7 million driving miles and 5.7 million kilograms of carbon dioxide emissions saved—the equivalent of taking 1,231 passenger vehicles off the road for a year.

"My eMedicine video call saved me about half a day, taking off work and driving 30-45 minutes to go sit in a crowded waiting room for an hour," according to one patient quoted in the report.

"Telehealth is the future of medicine," another patient said. "Convenient, safer, efficient and I actually look forward to my appointment. I think UAB would see much better compliance with patients keeping appointments if this became the norm."

In addition to ambulatory care, UAB eMedicine's inpatient consultation service was used by 12 hospitals around the state, who consulted on 832 nephrology cases, 779 critical care cases and 678 stroke cases, among others.



Learn more about UAB eMedicine in the 2020 annual report or visit uabmedicine.org/emedicine to learn about services, including on-demand urgent care questionnaire-based appointments and on-demand urgent care video visits.

“

Telehealth is the future of medicine.”

—UAB MEDICINE PATIENT

devices that facilitated the huge increase in telehealth that UAB has experienced. UAB also added additional telehealth carts in the emergency department and maternal emergency unit to improve the ability to screen patients and reduce health care provider exposure.

Stopping the Spread

AS THE DEEP SOUTH SAW a surge in cases of the novel coronavirus in March and April 2020, COVID-19 experts from the University of Alabama at Birmingham created a symptom checker to identify hot spots where the virus was spreading. The website, HelpBeatCOVID19.org, provided public health officials insight into underserved areas based on the symptomatic data collected from the region and could help inform and enhance public health observation.

HelpBeatCOVID19 is a multi-channel geographical symptom tracker platform driven by crowdsourced, consumer-generated data collection that is inclusive and representative. The inclusive system focuses on health and wellness tracking across the Southeast, with an emphasis on underserved communities and underrepresented populations.

"We are taking a look at COVID-19 symptoms alongside underlying medical conditions to provide public health officials an in-depth analysis of how rural areas are affected in real time," said Sue Feldman, Ph.D., associate professor in the UAB School of Health Professions and UAB School of Medicine. "The website asks people about their symptoms to produce an interactive map showing how areas are effected and hot spots that are showing a rise in symptoms. We hope to learn more about how coronavirus is spreading in rural communities who have health disparities so we can help fight the spread of the disease."

HelpBeatCOVID19 was able to help public health officials and health care workers track symptoms before the disease spread by encouraging people to take a daily survey about their symptoms. The symptom tracker provides up-to-date information that tracks the progression of symptoms in communities in real time.

"During this devastating disease outbreak, we cannot ignore anyone, any population, any demographic," said Mohanraj Thirumalai, Ph.D., assistant professor in the UAB School of Health Professions. "HelpBeatCOVID19 gives everyone a voice and a chance to contribute to a new way of reporting symptoms that is specifically designed for the rural communities who are often without the resources of those who live closer to urban areas."

“

We hope to learn more about how coronavirus is spreading in rural communities who have health disparities.”

—SUE FELDMAN, PH.D.



Nursing Students, Faculty Answer the Call

MORE THAN 120 undergraduate, graduate and faculty members of the School of Nursing began working in UAB Hospital in December and January to support the fight against COVID-19. The UAB Nursing Partnership, the School of Nursing's academic practice partner, provided assistance.

The faculty and students joined the frontline health care workers who have been caring for COVID-19 patients since the start of the pandemic.

During the winter surge of cases, UAB Hospital was short on nursing staff due to the spread of the illness and because of the intensive care the disease requires for each patient.

The nurses and students helped provide bedside care, as well as assist with the distribution of the vaccine.

"As COVID-19 cases and hospitalizations continue to rise in our community, we are grateful to be able to offer our academic-practice partner, UAB Hospital, assistance from UAB School of Nursing faculty and students to help with staffing issues resulting from the surge in patients and to help with COVID-19 vaccine administration," said Doreen C. Harper, Ph.D., dean and Fay B. Ireland Endowed Chair in Nursing, UAB School of Nursing. "Teams of highly qualified faculty and students will be providing care on units and working collaboratively with UAB Hospital staff to deliver safe, quality care to all patients. Historically, nurses have always answered the call—during World War II, other pandemics and the like—and again we are answering the call to meet the patient care needs of our community."

Faculty and students received training to refresh the skills needed to care for a patient with COVID-19, including learning how to safely put on and take off personal protective equipment and how to safely put patients in the prone position, which is the process of turning a patient from their back onto their stomach. The technique is especially beneficial to compromised COVID-19 patients with or without a ventilator, as it helps expand the back of the lungs.

The goal was not to replace the nurses in the hospital, but to support them.

Of the more than 120 members of the School of Nursing who worked in the hospital, nearly 50 were faculty members, and more than 70 were undergraduate and graduate nursing students.

“

Historically, nurses have always answered the call... and again we are answering the call to meet the patient care needs of our community.”

—DOREEN C. HARPER, PH.D.



Treating Long COVID

UAB MEDICINE HAS LAUNCHED a new multidisciplinary program to help guide patients who are still experiencing COVID-19 symptoms more than three weeks after a positive test to the appropriate specialized care they need.

The Post COVID Treatment Program is designed to help patients receive proper follow-up care in the weeks and months after their recovery process and will be open to all who need further medical evaluation related to

COVID-19 symptoms. This program is unique not only in Birmingham; it is one of only a few programs of its kind across the country.

Since the COVID-19 pandemic began in the United States in March 2020, physicians and researchers have learned a great deal about the disease process and continue to recognize the persistent symptoms that many survivors may experience, with signs ranging from neurological to auto-immune, cardiac to lung health.

Vaccines begin at UAB

ON DEC. 15, UAB received 10,725 COVID-19 doses of the Pfizer/BioNTech COVID-19 vaccine. With that initial shipment, UAB vaccinated 7,507 hospital personnel (both UAB and other Jefferson County hospital personnel) and 1,609 clinical personnel, as well as 1,609 Emergency Medical Services (EMS) personnel from the seven-county region in a 40-mile radius.

Three days later, UAB administered its first vaccines to hospital personnel, and less than a month later, UAB was operating four vaccination sites at Margaret Cameron Spain Auditorium at UAB Hospital, UAB Hospital-Highlands, the Hoover Met and Parker High School in Birmingham. And in March 2021, UAB opened a fifth community vaccination site at AOH Cathedral of the Cross in Center Point.

At these sites, UAB has provided vaccinations

to ADPH-approved groups, including frontline health care employees from UAB and other hospitals, community health care personnel, EMS personnel, first responders, patients, those in the education sector, and other eligible community members.

"We continue to work extremely closely with the Jefferson County Department of Public Health to identify areas in our community where vaccines are needed, and Center Point and the northeastern side of the county is where the data showed we needed to go next," said Sarah Nafziger, M.D., vice president of Clinical Support Services at UAB. "We have said all along that we believe these vaccines are the ticket out of this pandemic. We are getting there. It will take some more time, but we are getting there."

Of the first- and second-dose vaccines UAB

has delivered since mid-December, roughly 21 percent of doses have been administered to individuals who self-identify as Black, 66 percent as white, 5 percent as Asian, and almost 3 percent Hispanic or Latino.

"When we brought the proposals to open these community vaccination sites, the leadership of the university and UAB Health System never questioned whether or not UAB should do it," Nafziger said. "They said, 'Absolutely, you do whatever is needed to partner with public health groups to make sure we get this done so we can end this pandemic.' I'm very grateful to our leadership team for allowing us to do this."

Since December 2020, UAB has provided vaccines to almost 200,000 Alabamians living in 62 counties.

THE MOMENT EVERYTHING CHANGED

MARCH 13. THE DAY UAB MOVED TO REMOTE instruction, asked most faculty to work from home and told students not to return to campus after Spring Break. It is a flash bulb memory, one of those events that are so powerful that it is like a camera bulb going off (for those who remember the cameras that were not built into your phone) that creates a mental photograph that is remembered for a long time. I left the plants behind (they didn't make it) and packed up a big pile of books and files I thought I'd need. Late in the day, I cleared off my desk, said my farewells, and drove through a campus that resembled a ghost town.

In those moments, I was worried about how we could support our faculty, staff and students as we responded to the pandemic. In retrospect, I know I never expected the pandemic to last beyond a month, and I had no idea at that point what I didn't know. There was little I could predict, but it has been clear that UAB faculty, staff and students are a part of reshaping higher education.

I am so impressed with the creativity and commitment our faculty have demonstrated throughout this experience. From hosting cooking nights over Zoom to teach students about Italian culture to quickly launching research projects to enable students to teach the community about COVID-19, our faculty have ensured students are engaged and are keeping on pace with their learning.

Some of our faculty relied on standard online delivery options but tweaked the way they discussed course information, while others built what resembled television studios in their basements. Their dedication and willingness to quickly make adjustments have provided our students with so much more than just learning in their particular courses. Our students have truly experienced what it means to be committed and resilient in their education.

Not only did our course offerings and research opportunities continue to adapt to the changing nature of the pandemic, our teams provided exceptional support to students dealing with challenges related to isolation and life changes. Our team mobilized to help UAB's more than 1,000 international students address complicated challenges and questions brought on by the pandemic. Because of reports of higher symptoms of depression and anxiety in our international student population, our university provided online forums and personalized programming to help the international students who were initially isolated in residence halls or apartments without the option to return home. Our teams understand that each student has a different circumstance coloring their response to events in the pandemic and tailored their support resources accordingly.

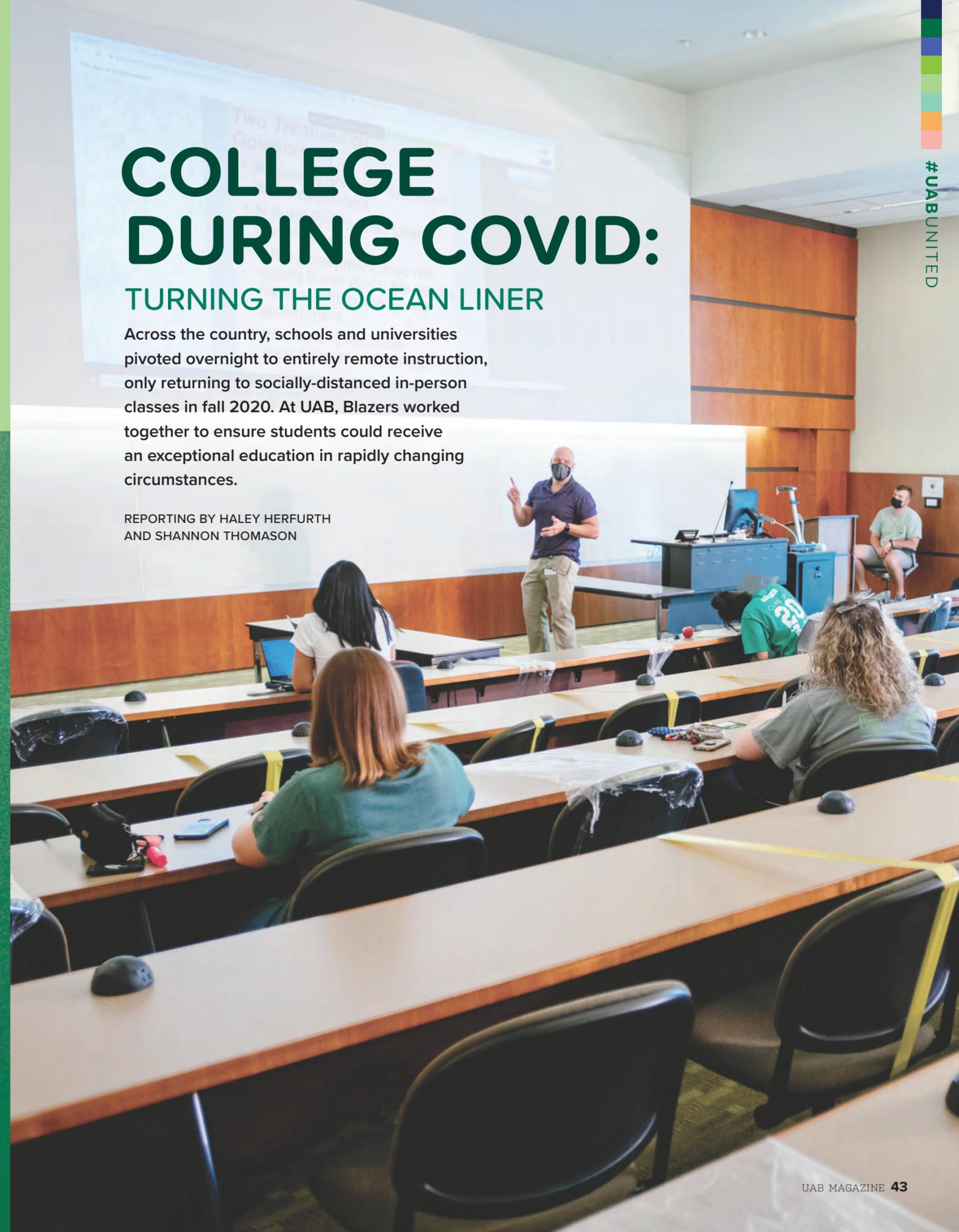
Looking out across our campus community, I can clearly see how each of us helped each other through these difficult circumstances. The way we each approached our part in keeping our campus healthy, safe and successful has provided all the more meaning to our university's story.

Dr. Pamela Benoit
PROVOST

COLLEGE DURING COVID: TURNING THE OCEAN LINER

Across the country, schools and universities pivoted overnight to entirely remote instruction, only returning to socially-distanced in-person classes in fall 2020. At UAB, Blazers worked together to ensure students could receive an exceptional education in rapidly changing circumstances.

REPORTING BY HALEY HERFURTH
AND SHANNON THOMASON



Cultures and Communities

WHAT DO YOU DO when you're supposed to study abroad in a country that has become a hotbed for an international pandemic? You improvise.

Assistant Professor Michele Bunn, Ph.D., faced this challenge teaching her course "Innovation and Entrepreneurship in a Global Environment" in the Collat School of Business. The study-abroad class, which spent two months examining Italian business and innovation, was to conclude with an eight-day study tour of Italy. At least that was the plan in January. In March, the university suspended all UAB Education Abroad programs, and Bunn had to pivot quickly and create new experiences.

"At that point, students may well have said, 'Well, I didn't get to go to Italy, so tell me what I have to do to finish this course and get it over?'" Bunn told the UAB Reporter in May 2020. "But then I asked, 'How do we make something positive come of this?'"

Bunn turned to several organizations for help providing new experiential activities that complement the course.

First, she reached out to Gerriann Fagan, organizational development manager in the Office of Human Resources, who leads professional development workshops for UAB employees. Fagan led a class session on emotional intelligence (EQ), a workshop they chose to teach students to be resilient when life disappoints. During the second interactive session, students met Rosemary Lanzi, president of the Italian American Society of Birmingham, and Darlene Negrotto, president and CEO of Vulcan Park and Museum. Using Zoom, Lanzi spoke with students about Birmingham's rich Italian history, and Negrotto shared a closer look at Italian sculptor Giuseppe Moretti, who created Vulcan, the iconic iron man overlooking Birmingham.

The students also connected with Italian pen pals of similar age and interests through Global Pen Friends, an online site that connects pen pals throughout the world. Many students said the experience was so enriching that they plan to continue writing their pen pals after the semester ends.

Finally, Bunn invited students to join her for an Italian dinner cook-along in place of the farewell dinner she hosts for the students each year. This time, of course, it was over Zoom. Bunn posted a list of ingredients and supplies,

and students joined her online as she and her husband walked them through creating a classic—spaghetti with marinara sauce.

"I really got a chuckle from seeing all the students in Zoom scurrying around in their kitchens with a random family member or friend passing by to say hello," Bunn said. "You could smell the sauce, and you could feel the resilience simmering."

PRIORITIZING INCLUSION

Professors of Foreign Languages and Literatures Lourdes Sánchez-López, Ph.D., and María Antonia Anderson de la Torre, Ph.D., took a break from transitioning their courses to remote instruction to provide ad-hoc translation services for University Relations so that relevant information at the initial uab.edu/coronavirus and later the UAB United website could be made available in Spanish, including FAQs, patient information and mental health resources; infographics also were translated into Spanish.

"I'm grateful for being able to help a little bit," Anderson de la Torre told the UAB Reporter in March 2020. "The real heroes are out there saving lives."

"There is no need to thank us," Sánchez-López agreed. "We are doing our job. We need to thank all the health care workers and scientists who are taking care of people. A lot of families do not speak English, so it is critical to make this information available to them — so the whole country wins."



The Virtual Classroom

THE UAB CENTER FOR Teaching and Learning helped faculty transition to remote instruction by offering Zoom workshops and creating a remote-work technology toolkit, and UAB eLearning offered comprehensive support to instructors, from basic course building and design to delivery.

"All you have to do is reach out to us," Pam Paustian, Ph.D., Associate Provost of Academic and Learning Technologies, told the UAB Reporter in March 2020. "Faculty are the subject matter experts. We're here to help with the rest."

During summer 2020, more than 150 classrooms at UAB were outfitted with cameras, microphones and other equipment to enable hybrid learning for the fall and spring semesters. While some students in each course attended in person, others attended remotely, watching live video from the classroom and interacting directly with the teacher and fellow students. The CTL offered hands-on experience with the new technology during both virtual sessions and in-person. The Lecture Capture site from eLearning also offered an overview of the process, including a checklist of what to do before, during and after classes.

Melissa Hawkins, international teaching and learning specialist at the CTL, also worked to help UAB's more than 1,000 international students who were facing their own questions and challenges, including isolation in their dorms or apartments and separation from key support networks. Staff at INTO UAB noted higher symptoms of depression and anxiety in international students, especially those from South Korea and China.

“All you have to do is reach out to us.”

—PAM PAUSTIAN, PH.D.



Libraries Remain Integral

EVEN DURING the COVID-19 pandemic, UAB Libraries still remained the heart of the university. Even while the physical locations remained closed, libraries stayed busier than ever—just in a flurry of ones and zeros, thanks to UAB's investment of more than \$2 million to transform the library system during the past several years, said Kasia Gonnerman, dean of UAB Libraries, who started at UAB April 1, 2020, in the midst of the pandemic.

"The libraries have continued to provide course-related research instruction, both synchronously and asynchronously," she continued.

From March 2020 to February 2021, more than 200 of UAB Libraries' unique library research guides were accessed 422,405 times, and 26 new research guides were added. The libraries filled 6,418-plus borrowing and

17,700-plus lending interlibrary loan requests and nearly 4,000 document-delivery requests through RapidILL. Librarians also answered more than 5,400 reference and research questions via their Chat with a Librarian feature, which is monitored live 55 hours per week—8 a.m.-6 p.m. weekdays and 1-6 p.m. Sunday. Librarians also answered more than 2,000 reference and research questions via email and Zoom, and the libraries expanded their services to include curbside pickup 10 a.m.-1 p.m. Tuesday and Thursday. UAB Libraries also suspended fines for patrons who were unable to return library items borrowed.

Librarians also helped instructors transition to remote instruction by creating tutorials, being embedded in Canvas or teaching in real-time via Zoom, and by working to identify and develop affordable instructional materials.

“The libraries have continued to provide course-related research instruction.”

—KASIA GONNERMAN

Engineering Solutions

FOR STUDENTS in the School of Engineering, the Capstone Senior Design course is a rite of passage. The two-semester course requires students to work in teams, calling on all of their classroom knowledge to design a viable product and build a working prototype. But when the unprecedented disruption of COVID-19 put an end to in-person collaborations just weeks before the projects were completed, design teams were unable to meet in person and building a working prototype became all but impossible.

Alan Eberhardt, Ph.D., director of the Capstone Senior Design Course in the Department of Biomedical Engineering, and Dale Feldman, Ph.D., who serves as a co-instructor, revised their grading rubric by removing the 30% prototype component and distributing those points among several other requirements, such as a final report containing an extensive Risk/Benefit analysis and a scientific poster.

“One of the strengths of this course is that students are building working prototypes for clients to address real-world challenges,” Eberhardt told the UAB Reporter in June 2020. “So that became one of the challenges. How do we address an impossible situation without letting students off the hook?”

In the end, Eberhardt said, some projects were better suited for these alternate circumstances than others. For example, one team had planned to create an “empathy app.” The final prototype was a web-based application designed to help people comprehend the challenges of living with hearing impairment.

“Designing a web-based application is not what most people think of as a typical biomedical engineering senior design project,” said student Paige Severino. She and team members Nicholas Castro, Elam Cutts and Garrett Wood developed a working prototype of their project — a web-based application for simulating auditory perception in individuals with impaired hearing — for the Alabama Department of Rehabilitation Services.

One of the objectives in every project is to learn to work within realistic design constraints, including budget, materials, time constraints, etc.” said Eberhardt. “So in that sense, it was interesting to see how teams attempted to adapt to the challenge. But that’s not to say this was a net positive.

“This semester was a challenge for everyone, and I’m proud of how this senior class responded. I hope it was a valuable experience,” he said.

“

One of the strengths of this course is that students are building working prototypes for clients to address real-world challenges.”

—ALAN EBERHARDT, PH.D.



Digital Defenses

THESIS AND DISSERTATION defenses in the Graduate School also took to the screen during the pandemic. Though some students were disappointed in the new inability to present in person, a virtual format offered benefits, according to David Schneider, Ph.D., associate dean for Graduate Biomedical Sciences in the Graduate School.

For thesis defenses, attendance is sometimes very low and variable between students, according to Schneider. “That is a good component of going virtual—it erases those boundaries,” he said. “We have a Polish student who gave a talk recently, and her mom and dad in Poland were able to attend by Zoom.”

The Graduate School also transitioned two of its premier science communication events, Discoveries in the Making and the Three Minute Thesis competition, to a virtual format, said Dean Lori McMahon, Ph.D. Discoveries in the Making gives graduate students a chance to present their work to the public. During the pandemic, the series shifted to Zoom from in-person sessions at a Birmingham pub, The Lumbar.

“We had a Discoveries in the Making presentation by a student who had done work in Antarctica,” McMahon said, “and for our session that evening we had five people in Antarctica who attended. We’ve also had audience members from Scotland and Germany. We never would have been able to reach those people before. Discoveries in the Making going virtual has really been fantastic. Attendance has been better than it was in person because it is easier to join from wherever you happen to be.”

Despite the Odds

STUDENT ACHIEVEMENT DIDN'T STOP when the pandemic began. College of Arts and Sciences and Honors College Student Zahrah Abdulrauf was named one of the 154 Schwarzman Scholars worldwide—and the first from UAB. The one-year master’s degree and leadership program at Tsinghua University in Beijing, China, incorporates rigorous and innovative study of global affairs and hands-on exploration of Chinese culture and commerce led by world-renowned leaders and a curriculum that equips scholars to navigate China’s role in the global economy and global affairs.

More than 3,600 candidates applied from around the world; approximately 400 candidates were interviewed, and only 154 Schwarzman Scholars were selected as part of the 2022 class.

“I’m excited about the opportunity to study at Tsinghua University next fall,” said Abdulrauf, who majors in cognitive science and minors in economics, philosophy and media studies—an individually designed course of study.

“Studying in Beijing as a Schwarzman Scholar will enable me to learn about the innovative economic development practices that have propelled China to the forefront of global innovation.”

As a UAB student, Abdulrauf has shared her



skillset locally and globally. She has served as a communications consultant for the City of Birmingham’s Department of Innovation and Economic Opportunity, and developed communications materials for donor and City Council meetings and large public outreach efforts. She also designed the materials for the Birmingham Promise workforce development program, an effort that raised more than \$10 million. She also interned virtually with Female Entrepreneurs Worldwide based in Hong Kong, and working remotely she assisted the program’s transition to a digital marketplace-based business model.

As a freelance designer since the age of 11, Abdulrauf uses her communication skills as a student leader on UAB’s campus. At the UAB Spark Lab, she spearheaded the planning and

launch of a student-run commercial creative services agency across four departments. Since 2018, she has been a Stanford University Innovation Fellow, serving as a conduit between UAB’s student body and Birmingham’s entrepreneurial ecosystem. Abdulrauf has been a Forbes Under 30 Scholar, UAB Undergraduate Student Innovator of the Year, UAB Presidential Summer Fellow and Rhodes Scholar finalist.

“The Schwarzman Scholars Program is highly competitive, and I am so proud of Zahrah,” said Pam Benoit, Ph.D., UAB senior vice president for Academic Affairs and provost. “I am grateful to the supportive team in our university’s National and International Fellowships and Scholarships office who help students navigate the awards process and help them find these life-changing experiences.”

Virtual Student Expo

THE UAB EXPO, which celebrates excellence in research, creative activity and scholarship by showcasing the academic endeavors of undergraduate students and helps them practice presentation skills, engage with peers, exchange research experience, and receive feedback from faculty and fellow students, was a virtual event in spring, summer and fall 2020 and will be virtual during this spring semester.

Presentations were varied: Students could record a video or present virtually via Zoom in a timed session.

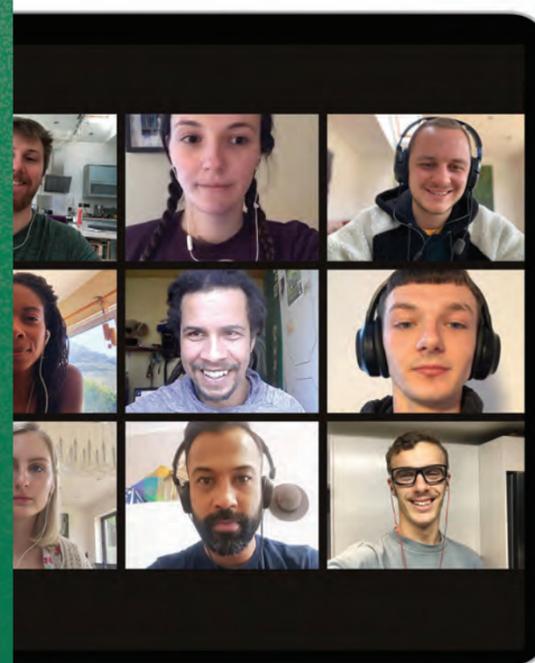
Gareth Jones, assistant director for Service Learning and Undergraduate Research, says there were few to no downsides to transitioning the Expo to a virtual format. Future Expos will forever include a virtual component given the opportunities it provides. Traditionally, the Expo was a one-day, in-person event, but the virtual format allowed for

a weeklong availability of presentations.

“The accessibility of a virtual Expo is the best thing about it,” Jones explained. “Anyone can present, and anyone can access. And expanding to one week allowed for community members, faculty, staff and colleagues to view presentations at any time, because they were all virtual—you could watch at 3 a.m. and leave a comment.”

More students also were able to participate in the Expo, Jones said. Before, if a student could not present during the single-day timeframe, they could not participate. Virtual presentations will enable more students to highlight their research work and learn new research presentation skills that make them more career-ready.

“We’re going to keep the virtual option for every Expo going forward so we can maximize opportunities for our students,” he continued.



A YEAR IN THE LIFE OF A PANDEMIC

I VIVIDLY REMEMBER MY LAST DINNER OUT before lockdown began—I had the snapper. It was March 3, 2020, and the Department of Microbiology was hosting our annual Bertram Marx Endowed Lecture. We invited one of the world’s foremost experts in viral immunology, Dr. Akiko Iwasaki, as our keynote lecturer, and despite the cancellation of flights from the East Coast, Dr. Iwasaki made it to Birmingham. Not surprisingly, the dinner conversation at Ocean restaurant revolved around coronaviruses, what we had learned (or not) from past viral outbreaks and how quickly a vaccine might be made. In the ensuing weeks, we, like the rest of the university and the country, entered the surreal land of Zoom and “remote” work—a difficult adjustment for the labs that were scrambling to redesign experiments that normally take months and now needed to be finished in days.

For a scientist who oversees an entire department of researchers who study viruses and bacteria and the immune response to those pathogens, it was gratifying to see how many basic scientists and clinical researchers across the campus immediately pivoted to take up the challenge of COVID-19 research. Some groups focused on determining how SARS-CoV-2 replicates and why virus variants are more infective or transmissible. Other labs focused on the damage inflicted on tissues and organs by the virus and the ensuing immune response. These studies, which involved working with SARS-CoV-2 isolates and infected animals, required working in strict biocontainment in the full “Contagion” garb. Still other labs participated in establishing a large clinical study to collect samples from more than 2,000 individuals who were hospitalized with severe COVID-19 disease. These data, when combined with the ongoing epidemiologic and clinical studies at UAB, are particularly important for our community that bears the brunt of comorbidities that contribute to poor outcomes.

A year in the life of a pandemic—what comes next? There is still so much that we don’t understand. How will the currently circulating and sure-to-come new viral variants influence our capacity to develop treatments for this infection? How long will it be before we need to update our vaccines to account for the changes in the virus, and how durable are these newer generation vaccines? What can we do in a practical sense to protect our most vulnerable citizens who for medical reasons can’t be vaccinated? As a society, we’ve once again received a calling card from the shape-shifting and ever-elusive microbial world. How do we use technology to better prepare for the next outbreak? When can I go into my lab without a mask and jostle in front of the microscope with my lab-mates to celebrate exciting (and slightly nerdy) data that moves us one tiny step closer to preventing and treating the next contagion that comes our way? When can I have snapper at Ocean again?

Dr. Frances Lund
CHARLES H. MCCAULEY PROFESSOR AND CHAIR,
DEPARTMENT OF MICROBIOLOGY

THE OTHER FRONT LINE: RESEARCH, INNOVATION AND ECONOMIC DEVELOPMENT

From vaccine development to studies on long COVID, from immunotherapies to an innovate statewide testing and technology platform, UAB researchers and administrators came together to face the coronavirus threat—and helped ensure the health of Alabama’s people and economy.

BY SAVANNAH KOPLON, JANE LONGSHORE, ADAM POPE,
BOB SHEPARD AND MATT WINDSOR



Green Means Go: How UAB Innovation Powered GuideSafe



IN A FRANKLY TERRIBLE 2020, GUIDESAFE WAS ONE OF THE FEW BRIGHT SPOTS.

GuideSafe is a platform consisting of large-scale COVID-19 testing plus technology-based tools all focused on helping people “safely get back to life,” according to its website. Its work has touched hundreds of thousands of people in Alabama and across the country, and been featured in the New York Times and Washington Post, among numerous other media outlets.

“This could only have happened at UAB,” said UAB President Ray Watts, M.D. “Our faculty and staff have worked together to accomplish something extraordinary that has had a lifesaving impact across our state and beyond.”

UAB’s can-do culture and refusal to abide by traditional disciplinary boundaries have always attracted big thinkers, Watts said, “and with our world-class facilities, we are able to give them the support they require to succeed.”

DOING GOOD AS A ‘TREMENDOUS DRIVING FORCE’

GuideSafe began in early March as a research project, HelpBeatCOVID19, created by faculty and staff in the School of Health Professions, College of Arts and Sciences, School of Medicine, School of Public Health, Information Technology, and other UAB units. It was designed to collect reports of symptoms from community participants in Alabama, but media coverage and social media posts quickly attracted users from across the country.

The response to the project was energizing, said Sue Feldman, Ph.D., professor in the Department of Health Services Administration in the School of Health Professions. Feldman, who directs UAB’s graduate programs in health informatics, has extensive experience in creating large-scale health data projects. When the pandemic began, she was building an opioid data collection system for the state of Alabama, and developing substance use, abuse and recovery information systems for use by peer specialists around the state as well.

Creating HelpBeatCOVID19 would have been impossible, Feldman said, without Mohanraj Thirumalai, Ph.D., assistant professor in the Health Services Administration department, who is director of information and communication technology for the UAB/Lakeshore Research Collaborative. Thirumalai and his team, which includes three full-time programmers, typically work on research projects using cutting-edge technologies to help people with disabilities and chronic conditions such as diabetes. “Our projects are by nature high-stakes,” Thirumalai said. “Over the past eight years, we have had more than \$50 million in telehealth grants.”

By comparison, this pilot project was simple, Thirumalai said. The heart of the project was a brief assessment tool asking users to check buttons if they had experienced any of various symptoms of COVID-19. “We had it up and running in a week,” Thirumalai said. “And within about 15 days, we were over 50,000 users.”

‘WE ALREADY HAD THESE RELATIONSHIPS IN PLACE’

The innovative project benefited from strong support by senior leaders. “We thought it sounded like a great idea, and it could evolve into some additional opportunities for research,” said Christopher Brown, Ph.D., vice president for Research. He helped expedite the Institutional Review Board meetings that are required for any studies involving human participants. Curt Carver, Ph.D., vice president of Information Technology and chief information officer, also

“**Once we started monitoring, we saw great improvement.”**

—KATIE CRENSHAW

threw his team’s support behind the project, “negotiating contracts and spinning up cloud servers and local servers,” Carver said.

Paul Erwin, M.D., dean of the School of Public Health, leveraged his contacts with public health officials to ensure support from the Alabama Department of Public Health and Jefferson County Health Department. “From the time that I started here at UAB, I have worked on building our relationships with [Health Officer] Dr. Mark Wilson at the Jefferson County Department of Health and [State Health Officer] Dr. Scott Harris at the Alabama Department of Public Health,” Erwin said. “So when COVID hit, we already had these relationships in place.”

FROM UAB AND THE UA SYSTEM TO STATEWIDE IMPACT

On April 14, University of Alabama System Chancellor Finis St. John appointed Selwyn Vickers, M.D., senior vice president and dean of the School of Medicine, as co-chair of a

task force to develop plans for the System’s three campuses to be the safest universities in America when on-campus instruction resumed.

Vickers had been part of regular briefings about the HelpBeatCOVID19 project, along with President Watts and Provost Pam Benoit. Even before he was named to lead the UA System task force, Vickers had asked Feldman if she could repurpose the work for use by UAB students and employees. “It became clear early on that HelpBeatCOVID19 could evolve into a screening tool that could be used across our university and system for reentry,” Vickers said.

The symptom tracker got support from the web and marketing teams under Rosie O’Beirne, UAB’s chief marketing officer. It also got a new name—UAB Healthcheck—and “by May 20 we went live at UAB” as the first wave of the university’s researchers came back to their labs after Memorial Day, Feldman said.

“We saw potential for UAB to take this project and use it to help us mitigate the spread of COVID-19 on our campuses,” said Erwin, who was serving on the health and safety task forces for the UA System and for UAB’s campus-specific planning. “There were a few tools in our toolbox to help us mitigate the spread: wearing masks, physical distancing, hand hygiene. Healthcheck became a critically important piece as well.”

NEW APPROACH TO EXPOSURE NOTIFICATION

By the time campus was being introduced to Healthcheck, Feldman was deeply involved in a related project: an app to anonymously notify users if they had been exposed to someone who later tested positive for COVID-19. Feldman connected again with IT’s Carver. “We started thinking about different options for contact tracing,” Feldman said.

The Alabama Department of Public Health was very supportive of the effort but was clear that the project couldn’t have any impact on the existing contact-tracing process.

In April 2020, after Google and Apple announced a partnership to create code that could be used to build notification apps, the tech giants were flooded with proposals from institutions who wanted to be among the first to deploy such an app. Carver, whose IT unit had a longstanding relationship with Apple, helped arrange a meeting. “They were skeptical,” he said. “But we told them, ‘UAB is the giant you don’t know about.’ They didn’t know how large our research endeavor was. But as we talked, they were Googling us and saw how our experts are constantly on CNN and Fox News and in the New York Times and Washington Post. They could see we were a national force and the conversation changed.”

As the effort to develop Alabama's exposure notification app with ADPH got started, "we partnered early on with Motion Mobs, a local company that had staff with skillsets to help us get this off the ground and speed up development," Carver said. "Time was of the essence, and it was clear this project had the potential to save lives."

The app is simple in its function and secure in its data exchange. The operating system software from Google and Apple uses low-energy Bluetooth, a short-range communications technology, to communicate with any nearby phones that also have the app downloaded. When two app-enabled phones meet, they exchange unique identifiers but without any information on a user's identity or location. If one of those users later tests positive for COVID-19, they are able to enter that in the app, which sends a notification to any other user who spent time in proximity to the diagnosed user over the past two weeks.

What became the GuideSafe Exposure Notification App handles this essential verification task automatically, thanks to clever code developed by UAB IT staff. There is now a patent pending on the technology, which has attracted attention from other states and entities around the country. In November 2020, the PathCheck Foundation, which was founded at the Massachusetts Institute of Technology and is the largest deployment of the Google/Apple exposure notification technology, partnered with UAB to include the anonymous and encrypted COVID-19 test verification technology in its own exposure notification app.

As the exposure notification project moved forward in early May, another part of the GuideSafe toolkit was born. "We thought, 'We need to have something that could let people into events,'" Feldman said. "We wanted something that you could wave and keep walking," Thirumalai said. "We came up with the idea of a red or green screen that was instantly recognizable." The GuideSafe Event Passport launched in July.

With Healthcheck, Event Passport and the Exposure Notification App in its arsenal, Vickers and the UA System task force felt they had what was necessary for in-person instruction and work to resume at scale on the System's campuses. Before they could bring tens of thousands of students and employees back to their institutions, however, the task force envisioned mass COVID testing on a scale that had not been attempted anywhere else in the country, Vickers said.

LARGEST-SCALE HIGHER ED TESTING INITIATIVE NATIONWIDE

Vickers and other UAB and UA System leaders worked with Gov. Kay Ivey and the Alabama Department of Public Health to establish a



public-private partnership for statewide higher education testing, supported by \$30 million of funding through the federal CARES Act. With that support, COVID-19 testing was provided free of charge for all students at Alabama colleges and universities prior to the fall 2020 return to campus, making it the largest-scale higher education testing initiative in the nation.

In the earliest days of the pandemic in March, with tests and test chemicals in short supply around the globe, the Department of Pathology, under the leadership of Chair George Netto, M.D., and Sixto Leal, M.D., Ph.D., director of the department's Fungal Reference Lab, developed its own COVID-19 assays using more readily accessible chemicals that allowed UAB Hospital to maintain vital testing of patients and staff. Even at \$20 million, the CARES Act funding supporting the Entry Testing initiative could not cover the costs of 200,000 normally priced kits.

The department also had explored and validated a strategy of pooled testing—batch testing of several samples at once, enabling all samples to pass if no virus was detected and only requiring individual testing if evidence of the virus was found. Pooled testing and in-house developed tests gave Netto and Leal the confidence that the department could handle tens of thousands of additional tests while maintaining uninterrupted service for UAB Hospital and other clinical needs. In time, Leal staffed up and was able to process tests 24/7 and turn results around in a 24- to 48-hour time frame.

GUIDESAFE PLATFORM DEBUTS

The CARES Act funding also provided funding to support the consolidation of each of these tools into a single GuideSafe multitool platform. "We are pleased to provide the GuideSafe platform



to all public colleges and universities across our state," said Chancellor St. John, when the platform was officially announced on Aug. 3, 2020. GuideSafe later added private colleges and universities to the platform as well.

As word of GuideSafe's capabilities spread, Feldman and Thirumalai were besieged with questions from universities and businesses in Alabama and beyond. "They couldn't handle all the demand, both in Alabama and out of state," O'Beirne said. "That's when UAB turned to its partner, Guideway."

Beginning in January 2021, Guideway assumed full day-to-day management of the GuideSafe system, including working with businesses and educational institutions who want to implement these tools.

"This is not the only innovation developed at UAB during the COVID-19 pandemic that is in the process of being translated from a research project into a business opportunity," added Kathy Nugent, Ph.D., Executive Director of the Bill Harbert Institute for Innovation and Entrepreneurship. "Other ongoing projects are seeking to commercialize innovative mask technology and a new kind of platform for testing antibodies."

LEADERSHIP AND INNOVATION

A crucial resource established in July 2020, UAB's Incident Command Committee was created "to bring together campus leaders with access to resources and people to address any areas where additional support may be needed," said committee chair Katie Crenshaw, J.D., UAB's chief risk and compliance officer, shown here in a Zoom meeting with Dean Lori McMahon,

Ph.D. As UAB prepared to re-open its campus for the fall semester, the group met weekly to monitor metrics from across campus, including compliance with Healthcheck, results of employee and student sentinel testing, and accommodations requests from students and employees. Much of these data were fed from unit-level metric dashboards. "When we started, the UAB Healthcheck requirement was just rolling out and did not yet appear to be a daily habit for employees and students on campus," Crenshaw says. "Once we started monitoring timeliness and following up with units where there seemed to be barriers, we saw great improvement."

"I've worked in a lot of places—and I don't think anywhere else would have had the expertise, know-how and determination to do this," said Brian Rivers of UAB IT. "This organization came together to do something no one had ever done before. Everyone was very supportive of pulling this together and making it happen. It was amazing to see; one of the highlights of my career, for sure."

"The spirit of collaboration that I have found here at UAB amazes me," Brown said. "As this project moved forward and grew to involve

more and more people, it was clear that it brought along opportunities for individual recognition and funding and other elements that can cause friction. But there was no parochialism or territorialism. Everyone had their eyes on why we were a part of this: for the public good. That is what I will remember."

"It is the UAB way," Watts said. "Whatever we do, we try to be as innovative as we can and make sure we reach as many people as we can."

“

This could only have happened at UAB.”

—RAY WATTS, M.D.





Clearly a better way:

SMART MASKS COULD REVOLUTIONIZE COVID-19 PROTECTION, DIAGNOSTICS

A TRANSPARENT FACEMASK designed by Rubin Pillay, Ph.D., chief innovation officer in the School of Medicine, and produced by Birmingham firm Fitz-Thors Engineering Inc. could revolutionize masking and monitoring for COVID-19 symptoms.

Unlike other clear masks, which still feature white or colored straps, Pillay's masks feature a clear plastic mouth covering and clear nose barriers, chin barriers and ergonomic looped arms that secure around a wearer's ear, allowing the wearer to easily lift the mask to eat or drink without removing it entirely.

Pillay started working on mask designs in spring 2020, soon after the pandemic began. "We followed the whole innovation process—we spoke to physicians, clinicians and the average layperson," he said. "It truly transforms masking. We wanted it to be fully transparent, functional and ergonomic."

The masks are designed to be modular: The basic version includes just the mask itself. For more protection in a health care setting, the wearer can attach N95 filter cushions. Another modification allows the wearer to add new mask

arms with sensors that monitor temperature and pulse for early detection of viral infections such as COVID-19. The modifications for the basic mask will be sold separately, Pillay says, so buyers can customize the mask for their own specific needs. "I always had this dream of a 'smart mask,'" said Pillay, who worked with UAB Department of Materials Science and Engineering Chair Brian Pillay, Ph.D., on later versions of the mask design.

The data gathered by the masks' sensors could transform the diagnostic process. "This is the equivalent of having a Fitbit around your head," Pillay said. "With the data we collect, people wouldn't need to queue for testing."

As mask production begins, Pillay says he hopes to begin distribution in schools and health care systems, with the goal of beginning commercial production soon after.

“

It truly transforms masking. We wanted it to be fully transparent, functional and ergonomic.”

—RUBIN PILLAY, PH.D.

Transferring Immunity:

UAB STUDIES TESTED DESPERATELY NEEDED THERAPIES

IT IS THE CALL NO ONE WANTS: On the other end of the line is a doctor telling you that you or a loved one has been diagnosed with COVID-19. What now?

For the first several months of the pandemic, there was not much that doctors could do for patients outside the hospital, said Turner Overton, M.D., director of UAB's outpatient COVID-19 clinic and professor in the Division of Infectious Diseases.

"We have all these people who are having symptoms, and we really have very little to offer them, unfortunately," Overton said. But three clinical trials at UAB starting in fall 2020—months before COVID-19 vaccines became available—made experimental therapies available to people in the first days after symptoms began.

CONVALESCENT PLASMA

To treat COVID-19, "we can either target the virus using antivirals, such as remdesivir, or we can use the immune system to target the virus," said Sonya Heath, M.D., professor in the Division of Infectious Diseases.

Two of the trials focused on convalescent plasma, in which "we are taking plasma—the liquid portion of the blood—from somebody who has recovered from the virus and transferring that immunity to someone actively infected with the virus," Heath said.

An outpatient study treated half of the patients enrolled with an intravenous infusion of plasma that had high antibody concentrations. The other half of study participants received a placebo. People who were close contacts of patients diagnosed with COVID-19, but not yet diagnosed themselves, were eligible to take part in a second study testing convalescent plasma therapy as prevention.

"We have some people who live in a household where they don't have multiple bathrooms and it is hard to quarantine away from elderly parents," Heath said. The goal of the prevention trial was "really to try to see if we can intervene on the severity of illness in their family."

MONOCLONAL ANTIBODIES

Instead of using antibodies from donors who have recovered from COVID-19, several pharmaceutical companies have identified very strong antibodies against the virus and are making them in their labs. The companies Regeneron and Eli Lilly have each developed their own synthetic antibodies, known as monoclonal antibodies. "The preliminary work from both

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If we can stop the virus in its tracks in the first three or four days then we can potentially block the consequences.”

—TURNER OVERTON, M.D.

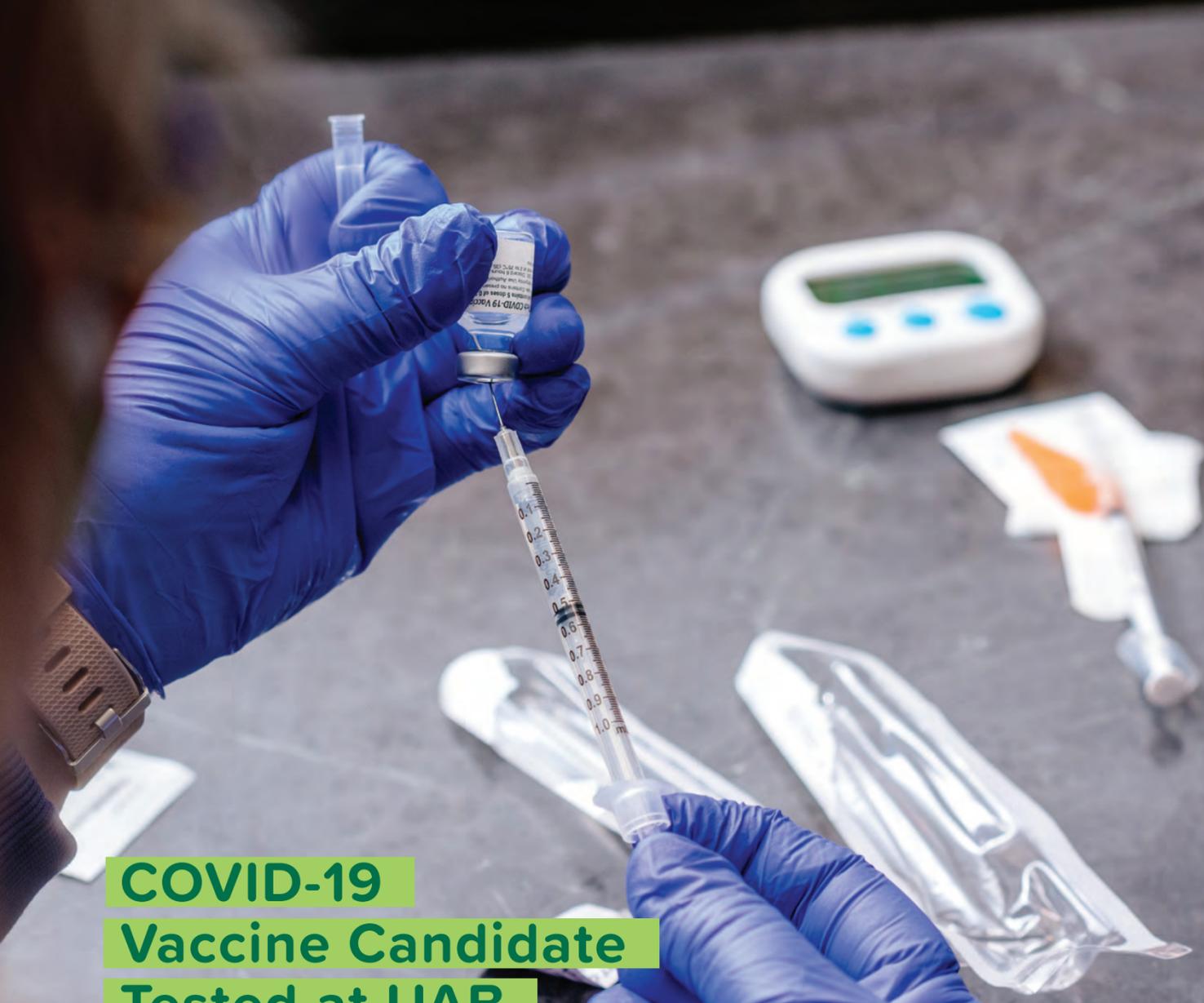
of these shows that they are effective," Overton said. "If we can get people these monoclonal antibodies early on in their illness, we can really mitigate the long-term effects of COVID-19. If we can stop the virus in its tracks in the first three or four days, then we can potentially block the consequences."

Regeneron's therapy "is a cocktail of antibodies—a combination of two different antibodies targeting proteins on the surface of the virus," Heath said. "If it can bind to the virus, it can help eliminate it and reduce the severity of the illness." Participants in the Regeneron Phase 1 outpatient trial at UAB were randomly chosen to receive a high dose of the antibody cocktail, a low dose of the antibody cocktail or a placebo. "It is a one-time infusion," Heath said. "There are significant reductions in the viral load with both the low-dose and the high-dose infusions."

A second trial, ACTIV-2, tested a monoclonal antibody developed by Eli Lilly. Participants received either a placebo "or the monoclonal antibody from Lilly that attaches to the virus and blocks it from infecting cells and causing disease," said Overton, who is principal investigator at UAB for the trial.

It's a proof of concept for vaccines. If the passive immunization strategy works with either convalescent plasma or with monoclonal antibodies, it really gives a lot of strength to pursuing effective vaccines," Overton said.





COVID-19 Vaccine Candidate Tested at UAB

LAST SPRING AND SUMMER, 24 researchers from six labs at UAB—all working under UAB COVID-19 safety protocols—and eight researchers at biopharmaceutical company Altimmune tested a potential single-dose, intranasal COVID-19 vaccine.

In February 2021, the Maryland-based Altimmune, which was originally spun off from UAB research in the late 1990s, announced that the United States Food and Drug Administration had cleared the company to launch its Phase 1 clinical trial of AdCOVID.

The UAB preclinical testing of AdCOVID was led by Fran Lund, Ph.D., chair of the UAB Department of Microbiology. The UAB researchers found potent serum neutralizing antibody responses, T cell responses and a robust induction in mucosal immunity in mice following a single intranasal dose of AdCOVID. “The goal,” Lund said at the time, “is to get the data to Altimmune as rapidly as possible, so they will use

the information gained from the preclinical study to design their clinical trial in people.”

The vaccine candidate has tantalizing promises, according to Altimmune. No need of refrigeration. Simple one-dose administration by a spray into the nose. The power to elicit mucosal immunity at the linings of the nose and lungs would protect not only against infection but also against transmission. Existing intramuscular COVID-19 vaccines are not known to elicit this kind of immunity.

Altimmune says it expects that these simple and convenient handling requirements, together with the potential ability to block SARS-CoV-2 transmission, could position AdCOVID as a leading intranasal COVID-19 vaccine.

“It’s not widely known or appreciated that nasal mucosal immunity may be essential in preventing the spread of the SARS-CoV-2 virus to other individuals by stopping replication and transmission of the virus at the site of

infection—the nose and respiratory tract,” Lund said. “Several recent studies have shown that, in the absence of mucosal immunity, the nasal cavity may become a reservoir for the coronavirus, particularly in children, potentially allowing for disease transmission even after an intramuscular vaccination.”

“It is critical that the biotechnology industry and academic institutions work together to prevent the further spread of COVID-19, and UAB is an ideal partner to support us in this effort,” said Vipin K. Garg, Ph.D., president and chief executive officer of Altimmune. “UAB has an impressive track record of cutting-edge research in virology and immunology, as well as in the clinical development of vaccines. In fact, Altimmune was founded through a technology license from UAB in 1997. We are excited to collaborate with UAB in our efforts, and we look forward to addressing this crisis together.”

Data Science Tackles COVID-19

CAN DATA SCIENCE help solve COVID-19 challenges? And what can you accomplish with 48 hours, a massive amount of data and freedom to explore fresh ideas? Judging by the entries in UAB’s COVID-19 Data Science Hackathon in June, the answers seem to be “yes” and “quite a bit.”

The event featured 38 participants on 10 teams from a range of disciplines that included computer science, biomedical informatics, engineering, clinical practice, biomedical sciences and health services.

And the teams tore into seriously ambitious projects. Nearly half of the group were students; the rest were faculty and staff from UAB and several other institutions nationwide.

A hackathon—a hacking marathon—is “an intensive collaboration on software development to advance knowledge and innovation,” said Amy Wang, M.D., associate professor of medicine and scientist in the UAB Informatics Institute, which sponsored the event along with the Center for Clinical and Translational Science and the ALMed Lab at UAB.

This spring, with COVID-19 affecting research

productivity across UAB, the Informatics Institute’s U-BRITE emerged as a digital platform in which investigators can regroup from their homes to solve important problems, said Jake Chen, Ph.D., professor of genetics, computer science and biomedical engineering at UAB and chief bioinformatics officer of the UAB Informatics Institute.

WIDE RANGE OF IDEAS

This time, participants did all their collaboration through Zoom and other digital tools in a “virtual hackathon.” But this didn’t appear to hamper anyone’s creativity or passion to work together. One team developed a route-finder, along the lines of Google Maps, that enables travelers to plan refueling and overnight stops so as to avoid counties with sizable COVID-19 outbreaks. Multiple groups used de-identified data from COVID-19 hospitalizations at UAB to gain insight on patients at severe risk of the disease. Others trained machine-learning models on national datasets to identify vulnerable populations and validate targets for drugs.

WINNING PROJECTS

Three winning projects were selected by a panel of nine judges.

First prize went to Curtis Hendrickson, a research associate with the Center for Clinical and Translational Science, whose Novel2Global project developed an automated pipeline to compare patient-specific viral genomes from patients at UAB Hospital with global reference strains.

Second prize was awarded to the COVID-19 SIMULATE team, which developed a network-based epidemiologic model to simulate transmission of COVID-19 across several levels, including families, counties and states.

Third prize went to the RICO (Risk of COvid) team, which adapted credit scorecard models used in the financial industry to create a functioning web app that advises users whether or not they should be tested for COVID-19 based on their symptoms.

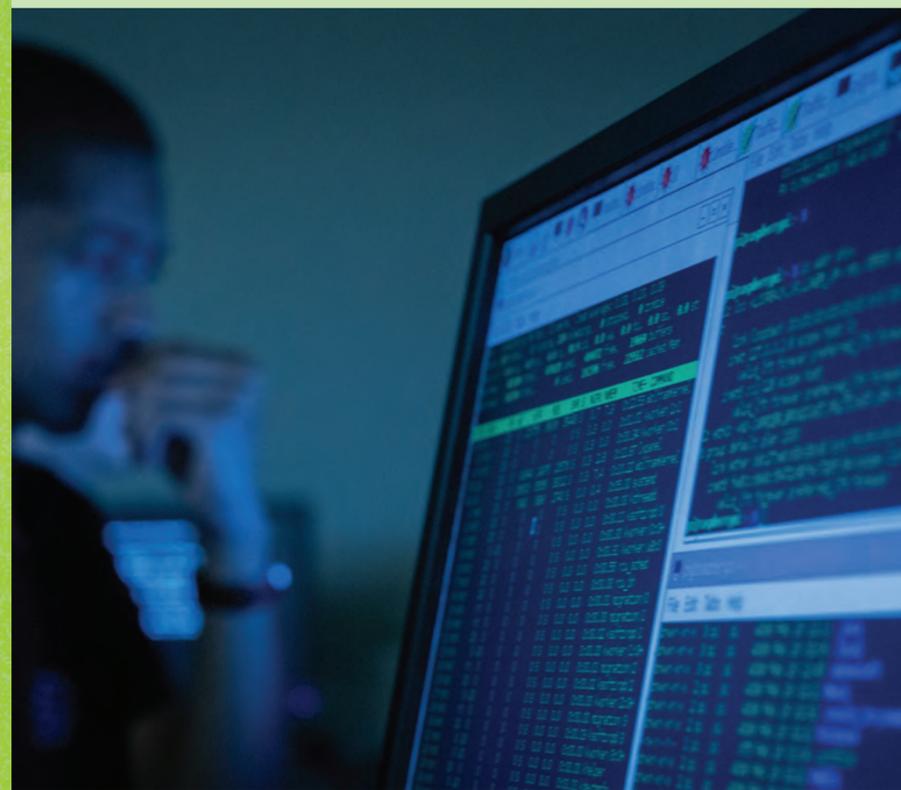
PROJECTS MOVING FORWARD

The hackathon is just the beginning for many of the projects presented.

Hendrickson’s idea for Novel2Global came from a project that he and others in the CCTS Informatics Group are working on with Sixto Leal, M.D., assistant professor in the Department of Pathology. That project, funded by the School of Medicine’s urgent COVID-19 research grants, will sequence the transcriptomes of patients with COVID-19 and the genomes of the SARS-CoV-2 viruses infecting them at the same time. That will allow Leal to “compare genes active in the patients with different outcomes, and the genomes of the virus, allowing us to look at both the host response and the virus genetics,” Hendrickson said.

NOT THE ONLY OPPORTUNITY

This isn’t the only opportunity to join the fight, Chen noted. The Informatics Institute and the CCTS are leading UAB’s participation in the NIH-sponsored National COVID Cohort Collaborative (N3C), which aims to build a centralized national data resource for the research community can use to study COVID-19 and identify potential treatments, according to the N3C website. “If you are interested in taking part, contact me, [Precision Medicine Institute director] Matt Might or [Informatics Institute director] Jim Cimino,” Chen said.





Confronting Health Disparities

SCHOOL OF MEDICINE DEAN LEADS EFFORT

Not only did the COVID-19 pandemic throw longstanding racial and socioeconomic health disparities in the United States into stark relief, it made them more deadly. Early in the crisis, it became clear that disproportionately high rates of chronic diseases like hypertension, asthma and diabetes among people of color—in large part the result of systemic barriers to health and health care—were dramatically affecting outcomes and mortality from COVID-19.

In Alabama, by the end of April, over 45 percent of COVID-19 deaths were among African Americans, in a state where the population is just 26 percent African American. As the Centers for Disease Control and Prevention (CDC) acknowledged, “There is increasing evidence that some racial and ethnic minority groups are being disproportionately affected by COVID-19. Inequities in the social determinants of health, such as poverty and health care access, affecting these groups are interrelated and influence a wide range of health and quality-of-life outcomes and risks.”

Along with a host of other faculty and leaders, School of Medicine Dean Selwyn Vickers, M.D., FACS, co-founder of UAB’s NIH-funded Minority Health and Health Disparities Research Center (MHRC), spoke out in editorials and interviews in a variety of national media, sounding the alarm as evidence of COVID-19’s disproportionately severe outcomes for minority and underserved communities compounded. Vickers, along with 14 African American medical school deans and health care leaders, contributed an Op-Ed to USA Today titled “Black medical leaders: Coronavirus magnifies racial inequities, with deadly consequences.” The Op-Ed appeared online on April 12 and in the April 13 print edition of the newspaper.

Vickers also contributed an op-ed to the Association of American Medical Colleges (AAMC) website titled, “Medical students need to learn about health disparities to combat future pandemics,” which appeared April 30. Based on that, Harvard Medical School’s Center for Primary Care requested that Vickers contribute to its blog, and his piece “Coronavirus Pandemic Highlights the Need for Health Disparities Training as a Fundamental Part of Medical Education” was posted June 3.

Beginning in the spring and continuing into the fall, Vickers appeared on a host of local news programs as well as CNN, MSNBC, and in a roundtable with policymakers and hospital and medical school leaders hosted by news website The Hill in August. Throughout these editorials and appearances, Vickers advocated that addressing health disparities will not only improve the health and well-being of traditionally underserved communities—and better prepare them to weather the next pandemic—but it will also improve health and health care for everyone.

NEW RESEARCH FUNDED BY \$12 MILLION GRANT

UAB has a wealth of expertise and experience studying the causes and effects of health disparities, so when the COVID-19 pandemic struck, our researchers pivoted to exploring how the pandemic was intersecting with and impacting health disparities.

When the pandemic began, the UAB Minority Health & Health Disparities Research Center (MHRC) leveraged its robust community engagement partnership network and Building Healthy Communities Coalitions across Alabama was critical.

In a series of virtual focus groups with five underserved communities across the state, the MHRC identified crucial concerns, including confusion about who was impacted and at risk for infection; worry over basic needs; and overeating, lack of exercise, increased alcohol consumption, and other risky behaviors. In addition, the center identified barriers including lack of transportation and lack of health insurance.

The CMTM was piloted in June and July. The MHRC held 33 testing sites in 18 communities and tested 1,434 people. Following the success of this community initiative, the MHRC applied for and received funding to expand the model in Jefferson County.

Based on this work, the MHRC was well-positioned when the NIH sought to launch the Community Engagement Alliance Against COVID-19 Disparities (CEAL) program, which focuses on Blacks/African Americans, Hispanics/Latinos, and American Indians.

CEAL is funded by a \$12 million award

“

We need urgent efforts to mitigate the systemic racial health disparities that have been heightened during the pandemic ...”

—VIBHU PARCHA, M.D.

to teams in 11 high-risk states. The CEAL teams promote and facilitate the inclusion and participation of underrepresented communities in vaccine and therapeutic clinical trials to prevent and treat the disease. “Building on existing partnerships within UAB, the goal of Alabama CEAL is to establish a research and community engagement infrastructure to identify contributing factors to the disproportionate burden of COVID-19 in vulnerable communities and establish effective, community-engaged strategies to enhance education, address misinformation, improve access and increase inclusion of underserved populations in COVID-19 research,” said MHRC Director Mona Fouad, M.D., lead principal investigator of UAB’s CEAL award.

ACCELERATING TESTING

In October, researchers from the UAB Center for AIDS Research (CFAR) were awarded a two-year, \$5 million award to be a site of the NIH’s Rapid Acceleration of Diagnostics (RADx) initiative, implementing the RADx Underserved Populations, or RADx-UP, program in local communities.

In collaboration with clinical and community partners, UAB investigators worked to conduct 36,000 COVID tests statewide, building upon lessons learned from existing HIV research in the state. Study findings will help guide public health messaging and provision of COVID-19 vaccines to rural communities.

“It is significant that UAB and the state of Alabama will be a part of this unprecedented national initiative, engaging hard-hit communities to expand the reach of testing to underserved and vulnerable rural populations,” said Michael Mugavero, M.D., MHSc, project

investigator and professor of medicine in the Division of Infectious Diseases.

Also in October, a study published in the Mayo Clinic Proceedings: Innovations, Quality & Outcomes by UAB researchers showed that Black individuals have a disproportionately higher COVID-19 mortality burden across all of the United States, which is driven by a high incidence of COVID-19 infection. They analyzed data from the CDC’s Behavioral Risk Factor Surveillance System survey and COVID-19 mortality data from state public health department databases.

(Read more about the MHRC’s testing efforts on page 62)

INTERVENTION MODEL

The Center for AIDS Research developed an intervention model around COVID-19 in vulnerable communities—the Community Mobile Testing Model (CMTM)—with three essential components:

1. COVID-19 community engagement and education
2. Mobile testing units serving walk-and drive-through services located in vulnerable communities
3. Patient navigators to guide individual participants through the testing process and follow-up

THE POWER OF TRUST AND INFORMATION

LIKE MANY PEOPLE, when I first heard about the novel coronavirus, I thought to myself, “This won’t touch us.” It wasn’t until a couple of weeks before the first confirmed case in Alabama that I realized the gravity of the situation.

A colleague sent me an article about the issues Italy was facing with the number of people who had COVID-19 versus the number of people they could accommodate in their hospitals. This situation forced health care workers to make decisions regarding whom they would help and who would be left to die.

More often than not, those left untreated were vulnerable community members—some of the same populations we serve daily.

The thought of having to decide who lived and who died was horrifying.

Soon after, the news showed pictures of people lining up in their cars for COVID-19 tests, which immediately made me question who was being tested locally. Dr. Bill Curry informed me that, to get a test, people had to have a car, a cellphone and a physician referral—barriers facing many people in underserved communities.

Fearful that what happened in Italy could happen here at home, Live HealthSmart Alabama, a program of the Minority Health & Health Disparities Research Center, sprang into action to bring COVID-19 testing to vulnerable communities in Jefferson County.

After being awarded the Grand Challenge in 2019, I never imagined the first-year of Live HealthSmart Alabama would play out as it did. Within the program’s design, there are three focus areas—physical activity, healthy eating, and prevention and wellness. While our plans for prevention and wellness originally involved check-ups and health care access, the communities’ immediate needs came first. And first, they needed us to help navigate them through COVID-19.

If you think back to this time, no one was talking about the health disparities that existed. At one point, a myth was circulating that African American populations might be immune to the virus, which turned out to be wildly untrue. The people in our communities had a lot of questions, and it was time they got answers.

To address these needs, we developed print and digital materials and then we quickly mobilized our resources to bring mobile testing to Birmingham’s underserved areas. In our 11 months of testing, we reached more than 6,000 people in their own community.

One of the blessings about my job is seeing relationships with the community develop over the past two decades. Having this established mutual trust and direct line of communication gave our team a platform in which we could listen and respond to the community’s needs. Without that, it would have been hard to pivot from a long-term focused program to emergency response. However, despite being physically distant, it was the community that held us together.

I learned a long time ago to never underestimate the community. Information is power, and if we bring that power to the people, they will make the right decision regarding their health.

Dr. Mona Fouad

PROFESSOR, SENIOR ASSOCIATE DEAN,
SCHOOL OF MEDICINE
Senior Scientist, Minority Health & Research Center



STAYING CONNECTED: ENGAGING THE COMMUNITY

UAB’s strategic pillar of “Community Engagement” is one of the broadest areas of the strategic plan. This year, our engagement was most impactful in a few key areas: providing COVID-19 testing for surrounding communities, delivering virtual arts programming and therapy, and providing care in the form of mental health tools and preschool services for students and employees.

REPORTING BY MATT WINDSOR AND SHANNON THOMASON



UAB's Grand Challenge Takes on COVID-19 Testing

THE COVID-19 PANDEMIC has brought many health disparities to light. As it spread across Alabama, it became evident that the people disproportionately affected by the virus—many of whom were African American—were also the ones with underlying health conditions.

Since the first confirmed case in Alabama, the CDC has recommended people take precautionary measures and practice social distancing. This is difficult to do in dense, under-resourced communities. Unlike high-income earners, low-income earners rarely receive paid time off, sick leave, the ability to work from home or a flexible schedule. Service-

sector employees must show up to get paid. Fear of medical bills is an immediate deterrent for anyone with symptoms needing medical assistance, and many in this position do not seek help.

However, Healthy Alabama 2030: Live HealthSmart found itself in a unique position to offer assistance in underserved communities, after decades of research, interventions and working side-by-side in those same communities.

Live HealthSmart Alabama—winner of the inaugural UAB Grand Challenge—was created to bring Alabama out of the bottom 10 in national

key health metric rankings by the year 2030. The project launched in 2019, as a program of the Minority Health & Health Disparities Research Center led by MHRC Director and Principal Investigator Dr. Mona Fouad.

Through changes to policies, neighborhoods, schools and workplaces, by factoring in wellness, prevention, nutrition and physical activity, LHSA wants to transform the health of Alabamians. The magnitude of this problem and its impact is staggering, but by expanding proven innovations and changing policies, the goal is to dramatically improve the health of all Alabamians.

The need for COVID-19 testing among those most vulnerable to the infection spurred MHRC and Live HealthSmart Alabama to move quickly and make testing more accessible, in addition to the services they were already offering to the community. On March 23, 2020, UAB established its downtown drive-through testing site on University Boulevard, near campus as well as the South Town public housing community.

In other parts of town, for-profit companies had begun drive-through testing at convenient locations in and around the city, many of them near high-income communities. This approach alienated many Birmingham residents who did not have access to a car or could not afford to pay out-of-pocket prices for testing.

A plan to expand the model of UAB's downtown testing facility to areas such as West Birmingham, Center Point, East Lake, Kingston and Titusville began to form in late March. Throughout April, Live HealthSmart Alabama, the MHRC, UAB Medicine and the Jefferson County Department of Health worked together to strategically select neighborhoods with the greatest chance of making accessible testing for everyone a reality. Live HealthSmart Alabama stripped away the medical jargon and created a simplified message for its target audience. Community engagement teams placed COVID-19 tips and testing information throughout the designated neighborhoods—meeting communities where they were with yard signs, flyers, radio and word-of-mouth through community leaders.

By late April, calls requesting appointments were coming into a dedicated call center and the first week booked full at more than 100 tests. Patients were called on by culturally appropriate and trained MHRC and LHSA navigators who have a longstanding relationship with the MHRC and its programs. These navigators

play a critical role in helping Live HealthSmart Alabama address the myths, misconceptions and fears these communities have toward testing and COVID-19.

Ready to make an impact, the MHRC and LHSA's testing sites launched on April 30, the first anniversary of the announcement that the MHRC was named the recipient of the inaugural Grand Challenge. Since the initial planning stage, all the way up to the day of testing, community partners have worked with the MHRC and LHSA to bring testing and better health to their communities. LHSA was awarded \$6.4 million in CARES Act funding from Jefferson County in August 2020. To date, drive-thru and/or walk-up testing has occurred in Central Park, near Bush Hills, Kingston, Center Point, East Lake, West Birmingham, Fairfield and Titusville.

For the residents of Titusville, the first community in the Birmingham area where former slaves were allowed to own property and one of the Live HealthSmart Alabama demonstration zones, the realities of low-income living are no different. Bishop Demetricus Roscoe from the Living Church Ministries reflected on growing up in the community and explained, "They [community members] were placed in apartments where they were afraid to go out their door ... so it's almost like you're stuck in a place and forgotten."

By bringing testing to places like Titusville, Bishop Roscoe is confident in the positive message this sends the community: "You are not forgotten. We know who you are." Roscoe added, "Even if we don't find anybody with the virus, we've done a service where the community feels like they haven't been walked away from—it's bigger than just testing."

“
We've done
a service [to]
the community.
It's bigger than
just testing.”

—DEMETRICUS ROSCOE



Childcare Support for Employees

MANY WORKING PARENTS have struggled to balance work with home life—and now have the added stress of educating their children virtually. In a survey conducted in July, nearly 1,000 UAB employees said they lacked resources for the care and education of their children that would enable them to perform their jobs.

UAB researchers looking at employee distress found that organizational efforts to reduce home and work stressors may have a significant impact on improving well-being. UAB leadership recognized this distress, particularly for working parents, and responded to challenges some employees faced as K-12 school districts adopted hybrid teaching plans for the fall term.

“UAB’s most important assets, now and always, are the people whose passion and dedication are essential to fulfilling our mission, and many of them have told us their most pressing concerns include the care, safety and education of their children,” President Ray Watts said. “Investing in solutions to help provide safe, flexible, supportive environments for their children is in the best interests of our employees and the university and the right thing to do while we navigate uncertain waters.”

Staff in the Office of the President; Planning and Population Health for UAB Medicine; and UAB’s Childcare Taskforce worked with senior leadership to quickly provide short-term relief for parents while school districts assessed and adapted their plans.

UAB and UAB Medicine subsidized more than 60 full-time slots in The McWane Center Fall Learning Lab, which supported the virtual, out-of-school learning needs of UAB employees and their children in kindergarten through sixth

grade. The nine-week program provided young students with a safe and engaging environment to complete their school-based virtual learning assignments paired with a fun, educational enrichment opportunity to help them explore science, technology, engineering and math. “The parents tell us how much it means to them that their children look forward to coming every day,” said Amy Templeton, president and CEO of The McWane Science Center.

Slots were prioritized for employees with financial constraints who are required to work on-site. Cost to an employee ranges from \$25-\$75 per week, per child; subsidies may also have been provided for other approved programs for children in grades K-8.

The virtual learning hub in The Hilton at UAB, established in September 2020, is for children of faculty and staff who may be required to work on campus periodically. The hub provides a supervised site that enables several hundred children in grades K-8 to work independently on assignments while their parents teach, perform lab duties and more. The drop-in study program is offered Monday through Friday from 8 a.m.-4 p.m.; shorter time slots can be reserved. Parents are asked to pay \$15 per child per day to help defray operational expenses, and financial assistance may be available for those who need it. Parents provide devices and masks for their children.

Employees can also work with managers to define alternative work schedules/assignments when possible. If needed, employees can consider an alternative work schedule, such as reduction to 32 hours per week, or a temporary leave of absence, if necessary.

Free Wi-Fi for the Campus and City

AS STUDENTS BEGAN to attend classes remotely, it became apparent that not everyone had the same access to the internet. UAB opened a parking lot on campus to provide “Drive-in Wi-Fi” for college and K-12 students who needed access to a Wi-Fi network. UAB Information Technology also launched a website, go.uab.edu/freewifi, highlighting free Wi-Fi access points in the Birmingham area.

“We want to do everything we can to ensure students at UAB and other students in our community have the resources they need to continue their studies during this uncertain time,” Curtis A. Carver Jr., Ph.D., chief information officer at UAB, said at the time. “Technology is the best way for us to connect right now, and our Drive-in Wi-Fi lot and the Wi-Fi map are two tools that can help reach students who need reliable Wi-Fi.”

Birmingham City Schools Superintendent Lisa Herring, Ph.D., said they were grateful for the partnership with UAB to offer the service to their scholars and their families. “This resource is helping to close the gap of internet access in students’ homes,” Herring said.

UAB IT partnered with the Alabama Community College System to develop a free Wi-Fi map, which also highlights Wi-Fi availability at community college campuses around the state. UAB students in Huntsville who needed access to Wi-Fi were able to use the network at UAB’s sister campus, the University of Alabama-Huntsville.

UAB also opened safe study spaces for students to use in between classes to maintain social distancing. These spaces follow safety protocols, including social distancing and masks being required. UAB IT expanded Wi-Fi capacity in those spaces to accommodate increased network use. All UAB requirements regarding safe entry through UAB Healthcheck and GuideSafe™ Event Passport are required to use these spaces.

Emphasis on Mental Health and Wellness

IN TIMES OF UNCERTAINTY, our everyday lives can become more stressful and overwhelming.

In July 2020, to reach those in need, UAB established the UAB CARES Suicide Prevention Initiative. The mission of UAB Cares is to support and assist everyone in the entire UAB community in finding the help they need and ensuring they know they matter. It was built by a task force of UAB graduate and undergraduate students, faculty, staff and administrators, appointed by President Ray Watts and senior leadership. The initiative includes resources for suicide education, prevention, intervention, response, follow-up and more.

“With the launch of UAB CARES, we are providing thoughtful and accessible resources to help anyone on our campus who is in need, and to help others recognize mental health concerns and appropriately intervene,” Watts said.

STUDENT-LED SUPPORT

A new UAB-created app helps students build a self-care plan that encourages healthy habits and easily access resources on mobile devices.

The B Well app originated from discussions with the Student Counseling Services Advisory Board and student government associations. Senior Alice Kim, a senior last semester, says she could sense many UAB quarantined students were struggling with isolation, and it was taking a toll on their mental health. Senior Tyler Huang, who was also a senior and president of the USGA last year, had been hearing similar concerns from students—from pandemic burnout and Zoom fatigue to anxiety about political unrest.

“They saw a need in their peers and worked together with partners across campus to bring their vision to life—a vision to help students be healthy and well,” said John Jones, Ph.D., vice president for Student Affairs.

“Most of us have experienced some sort of anxiety, loneliness or even depression related to being a student in a global pandemic,” Kim said. “I wanted to put UAB at the forefront of such comprehensive and accessible technology because we are big in

the mental health game—not just in this country, but internationally,” Kim said.

UAB is the first university in the United States to adopt the Okanagan Charter and become an internationally recognized Health Promoting University, part of a global community that aspires to transform health and sustainability and contribute to the well-being of people, places and the planet. The B Well app fits perfectly into that mission.

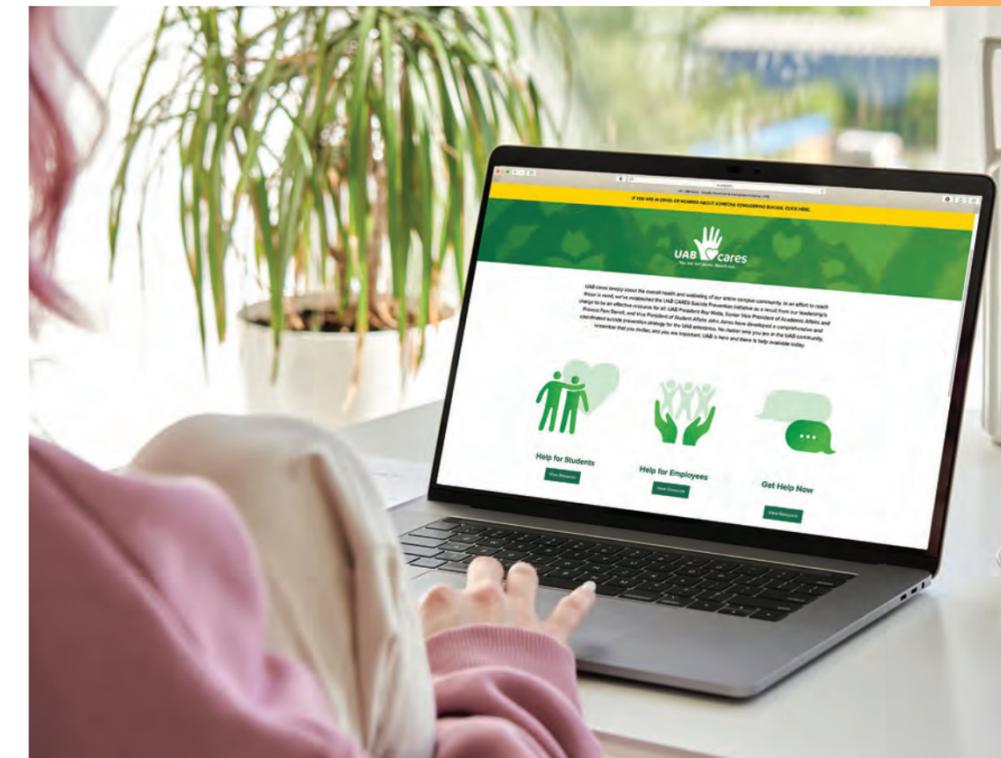
The students pitched the UAB-specific mental health wellness app concept to Angela Stowe, Ph.D., director of Student Counseling Services, along with others in Student Affairs. Doctoral student Meagan Jenkins also collaborated with input from graduate students.

The app can help students refocus on their mental health in achievable ways and is an easy, small step toward creating better habits during difficult times.



Created from the ground up by UAB IT, the mobile development team took the lead on app design, based on direct feedback from students. Faculty will be able to use the app in the coming months.

Students also led the way on their SHOW safety messaging campaign. SHOW stands for **S**taying 6 feet apart, **H**and washing, **O**wning responsibility and **W**earing a mask. Student leaders Tyler Huang, president of the Undergraduate Student Government Association, and Jazmine Benjamin, president of Graduate Student Government, led the campaign.





Keeping the Arts Alive

THE PANDEMIC MAY have paused attendance in person, but it has not stopped our need for art, inspiration and creativity in our lives.

UAB arts organizations and faculty, staff and students are pioneering new ways to provide enriching arts experiences, from physically distanced and streamed live performances and exhibitions to lessons, classes, gallery talks, virtual reality tours and more.

When the pandemic hit, UAB's Alys Stephens Performing Arts Center, Abroms-Engel Institute for the Visual Arts, ArtPlay and Institute for Arts in Medicine quickly shifted their programming for a virtual world. Much of their content offered a creative lifeline for all ages in a year when many people were sheltering at home. Most of what they produced is available on YouTube for audiences to continue to discover.

The Alys Stephens Center partnered with the city's favorite arts organizations for the free, sold-out and live-streamed Birmingham Arts Drive-in. Over two nights in July, performances were safely filmed inside the center's halls following COVID-19 guidelines, and then were debuted live on a big screen at a parking lot on the UAB campus. The ASC continues to present live drive-in concerts, live-streamed performances and interviews with artists to help satisfy audiences hungry for entertainment.

AEIVA collaborated with the School of Medicine and the Birmingham Civil Rights Institute for "Prescribing Art: How Observation Enhances Medicine"—an innovative, "first-of-its-kind" course that uses art to help medical students hone their observational skills in order to make more accurate diagnoses. Presented via Zoom in April 2020, in response to the pandemic, the course helps medical students improve observational skills in three areas, each fundamental to learn and challenged by the distancing of COVID-19. ArtNet highlighted the course, attracting interest from students and educators nationally and internationally.

ArtPlay's approach to virtual summer camps was so successful at engaging campers that it hosted a free virtual engagement workshop on best practices for teaching online to teachers and organizations from as far as Hawaii, Colorado, New York and Florida.

Arts and wellness videos and virtual platforms enabled the Institute for Arts in Medicine to engage with and provide social connection for nearly 41,000 people. AIM also provides packaged art kits, available by request for patients to work on at home or in the hospital.

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—GARY CHAPMAN, MFA

UAB Magic Camp was a collaboration between AIM, the UAB School of Health Professions' Department of Occupational Therapy, Hocus Focus™ and Children's of Alabama. Learning and performing magic tricks benefits children and adults with disabilities as it promotes motivation and improves physical, psychological, perceptual or social functions in those who participate. Because camp was held virtually, more children in other areas were able to participate and show off their newfound magic skills. The virtual Magic Camp will be held again this summer.

Works of art that reflect life during the pandemic, created by faculty and staff from the College of Arts and Sciences' Department of Art and Art History, were exhibited in Sustainability's Solar House in commemoration of the one-year anniversary of the novel coronavirus.

"While in general artists are comfortable with being alone in their studio for great stretches of time, the isolation that comes with a pandemic is having a profound impact on us all, and in ways we have not yet fully realized," said Professor of Painting Gary Chapman, MFA.



Remembering

WHILE THE NEWS LOOKS PROMISING on our emergence from the pandemic thanks to vaccines and ongoing adherence to public health guidelines, our grief remains real and palpable.

Grief is complicated and difficult in the best of times, and even more so in a pandemic.

We have lost count of the number of families this year who have not been able to be in the hospital room with their loved one due to visitation restrictions when a patient took their last breath.

Nurses, physicians, respiratory therapists, environmental service workers, chaplains and many others have stood in the gap for the family. Thank you, UAB employees, thank you.

Normally, we would have a public ritual following the death of a loved one that gives our grief process a starting point. We would have a time of "visitation" when friends would come by to shake our hand or offer a hug to say "I'm sorry." We would tell stories about relationships over a meal or have a funeral or memorial service together.

Showing up for one another in grief is more important than the actual words shared. And even in a pandemic, it still is.

I hope you will pause for 10 seconds of silence wherever you are, to give thanks for these patients, for all those who love them and for all of us who have cared for them.

Open our hearts to reach out to our neighbors who cannot feel sunshine on their face today.

Deepen our roots in all that gives us meaning and joy and purpose in life.

Help us to be grateful and trust that even crises have the potential to work for good if we are open to it.

Finally, help us to be anxious about nothing, while trusting you will give us what we need by using one another to meet those needs.

Help us to be in all our glory today.



Malcolm L. Marler, D.Min., BCC | Senior Director
UAB Pastoral Care



IN MEMORIAM: SGT PARNELL GUYTON

Officer Guyton served the UAB Police Department for 16 years before his death from COVID-19. Sergeant Guyton spent roughly three months at UAB Hospital before being discharged in June; he was readmitted in July and then tragically passed away.

At the time of his death, President Ray Watts and Police Chief Anthony Purcell said, "Our hearts are broken by the passing of UAB Police Sergeant Parnell Guyton. Countless people in the UAB family, the Birmingham community and beyond have followed his courageous fight. We thank everyone who has cared for, supported and prayed for Sergeant Guyton and his family and ask for continued prayers. His fighting spirit, bravery and love have inspired us and warmed our hearts, and now our hearts go out to his family, friends and colleagues, who will miss him dearly. If you knew Sergeant Guyton, you are fortunate and better for it. He was an exemplary officer and dear friend. Most importantly, he was a beloved husband and father, and our thoughts, prayers and support are with his family in this difficult time."

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UAB is a big deal. As the largest single employer in the state of Alabama, a fast-growing university and one of the largest public hospitals in the nation, we're used to being the biggest—and the best. Our recent Forbes ranking proves what we already know: If you believe in your mission and treat people with respect, you can achieve big things.