

UNIVERSITY OF PENNSYLVANIA Almanac

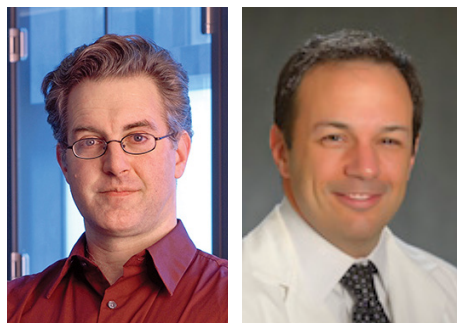
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Penn Physicist, Physician Team: \$2 Million NIH Grant to Develop Portable COVID-19 Detector for Use in Public Spaces

A team led by physicists at the University of Pennsylvania School of Arts and Sciences and physicians at the Perelman School of Medicine has been awarded a two-year, \$2 million grant by the National Institutes of Health (NIH) National Center for Advancing Translational Sciences for the development of a handheld device that can detect the signature “odor” of people with COVID-19, the illness caused by the coronavirus SARS-CoV-2.

Infections with the coronavirus are currently spreading at a rate of more than a million new recorded cases every three days, as the worldwide case total approaches 100 million. In the United States, more than 420,000 people have succumbed to COVID-19. Although vaccination campaigns have begun, the development of herd immunity and the quelling of the pandemic may take years, and in the meantime, there will be a pressing need for methods to detect people with COVID-19 in public spaces to better protect healthy individuals from exposure to the virus.

The Penn and Penn Medicine researchers envision their “sniffer” device as one such tool.



Charlie Johnson

Benjamin Abella

Preliminary tests using clothing from 30 people with or without COVID-19 indicate that it detects the chemical signature of a COVID-19-positive person with more than 90 percent sensitivity, and correctly detects COVID-19 negatives at a similar rate—with results being available in seconds.

“Our goal is a system that can be easily and cost-effectively deployed in workplaces, restau-

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Matthew McHugh: Director of Center for Health Outcomes and Policy Research

Matthew McHugh, the Independence Chair for Nursing Education and Professor of Nursing, has been appointed the Director for the University of Pennsylvania School of Nursing’s Center for Health Outcomes and Policy Research (CHOPR). The appointment took effect on January 1, 2021. CHOPR was established in 1989 by Dr. Linda Aiken as one of the first centers to scale up rigorous research on the impact of nursing on patient outcomes. It uses evidence to inform policy and produces the next generation of nurse scientists.



Matthew McHugh

“Dr. McHugh’s body of work has advanced the field of nursing outcomes and policy research by showing the value of investing in nursing to achieve a higher functioning health care system,” said Penn Nursing Dean Antonia Villarruel. “I know that Matt will bring a focused energy to this new role and will continue to advance research and training that will inform health care policies and practices now, and in the years, to come. We are grateful to Dr. Aiken, Founding Director of CHOPR, who has built a solid foundation in health outcomes research, locally and globally. I am confident that the im-

pact of CHOPR and Penn Nursing faculty and students, under Matt’s leadership, will continue to thrive.”

“I am delighted that Dr. McHugh is assuming the leadership of CHOPR. He is a rigorous researcher and a thoughtful scholar,” said Therese Richmond, Associate Dean for Research and Innovation. “I know that Dr. McHugh will be an effective leader who will build on the strong foundation of the work of CHOPR while growing this center in new and important directions.”

“I am honored to build on the tremendous impact that CHOPR has had under the direction of Dr. Linda Aiken over the past three decades,” said Dr. McHugh. “Our work is devoted to documenting the essential contributions of nurses to high quality healthcare and ensuring that policies and practices that affect how nurses deliver care are based on rigorous evidence. I am committed to working with our faculty, staff, fellows, students, colleagues, and the more than 70 nurse researchers around the world who trained at CHOPR to use state-of-the-art empirical approaches to answer how best to leverage nurses as a solution to our most pressing healthcare concerns.”

As principal investigator on multiple large-scale studies funded by NIH, AHRQ, and the Robert Wood Johnson Foundation, Dr. McHugh’s work has advanced the field of nursing outcomes and policy research by showing the value of investing in nursing to achieve a higher functioning health care system. Dr.

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\$6.3 Million Gift from Alumnus David S. Pottruck to Penn Athletics

On January 27, the University of Pennsylvania announced a \$6.3 million leadership gift from alumnus David S. Pottruck, C’70, WG’72, reinforcing his half-century of engagement with Penn Athletics. The majority of his commitment to the *Set The Future In Motion* campaign will establish an endowment in an area of passion for him, leadership development.



David Pottruck

Mr. Pottruck’s endowment gift to the Penn Athletics Wharton Leadership Academy will provide funding in perpetuity to a program that will shape Quaker student-athletes for generations to come. The Penn Athletics Wharton Leadership Academy currently falls under the purview of the Center for Student-Athlete Success (CSAS), which in recognition of Mr. Pottruck’s incredible generosity will be renamed the “Pottruck Center for Student-Athlete Success.” His daughter, Stephanie Pottruck Goldman, C’99, and son-in-law, Aaron Goldman, W’99, were inspired by his philanthropy and they too made a financial commitment to CSAS in honor of Mr. Pottruck, bringing the total to over \$7.1 million between the two gifts.

“I am extremely grateful for Dave Pottruck’s leadership and philanthropy,” said Penn President Amy Gutmann. “His generosity has spanned the decades and touched countless members of the Penn community. With this landmark gift, Dave is providing critical support for student-athletes that will benefit them in their athletic and academic endeavors, as well as far into their careers. The Pottruck Center for Student-Athlete Success is a testament to Dave’s visionary leadership and profound recognition in the importance of investing in future thought leaders. My thanks as well to Stephanie and Aaron for following Dave’s lead in this important area.”

Five million dollars of Mr. Pottruck’s gift will establish an endowment that will ensure a baseline of funding for the Penn Athletics Wharton Leadership Academy in perpetuity while en-

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University Council Meeting Coverage

The Council meeting on January 27, via Blue-Jeans, focused on the engagement and support of Penn's international students and scholars.

Amy Gadsden, Associate Vice Provost for Global Initiatives, presented on the unique challenges faced by international students during the COVID-19 pandemic, including dealing with travel bans, visa processing delays and suspensions, and changes in student exchange visitor program guidance. There was a significant impact on international student enrollment in fall 2020, with 1,076 new international students deferring immigration to spring 2021 or later.

Dr. Gadsden talked about the advocacy being undertaken for international students, as well as the upcoming deployment of [World@Penn](#), a new social media platform.

Michael Horowitz, director of Perry World House, presented on how the department adapted its programs and content during the pandemic and in the process gained a broader reach. He also announced the launch of [Global Career Month](#), which is a series of events focused on potential career tracks for Penn students in the international arena.

Dr. Horowitz discussed [Penn Pandemic Diary](#), an initiative that has given students a platform to tell their stories during the pandemic. Perry World House reached 14% of the class of 2024 with virtual preceptorial sessions and had four virtual summer interns in 2020. Soon, an Undergraduate Essay Prize will be announced.

President Amy Gutmann thanked international students and all those at Penn who support them. The next Council meeting will be on February 17 and will focus on the Campaign for Community and Penn Projects for Progress.

Statement from Steven J. Fluharty, Dean of the School of Arts and Sciences, On Recent Use of Nazi Symbolism

January 13, 2021,
Updated January 25, 2021

It was with great outrage and dismay that I learned of the use of a Nazi salute and expression by Robert Schuyler, a University of Pennsylvania anthropology professor and Penn Museum curator, in addressing a graduate student during a virtual conference last week of the Society for Historical Archaeology.

On behalf of Penn's School of Arts and Sciences, I strongly condemn this abhorrent conduct. Such behavior has no place in our academic discourse, which aims to celebrate the open exchange of ideas in an environment that promotes civility, respect, and inclusion. Nazi symbols are antithetical to our values as an institution. The fact that this behavior comes during a period of deep social division in our nation, when too many others are invoking such symbols in their expressions of hate, makes this incident even more painful for our community.

I reaffirm the School's commitment to being a welcoming home for all.

Update, January 25, 2021: As has been reported, the School has canceled the professor's scheduled courses for the spring semester. As of January 25, 2021, Professor Schuyler has retired from our faculty.

SENATE From the Senate Office

The following agenda is published in accordance with the Faculty Senate Rules. Any member of the standing faculty may attend SEC meetings and observe. Questions may be directed to Patrick Walsh, executive assistant to the Senate Office, either by telephone at (215) 898-6943 or by email at senate@pobox.upenn.edu

Faculty Senate Executive Committee Agenda Wednesday, February 10, 2021 3–5 p.m. EST

1. Finalize the Minutes of January 20, 2021, SEC Meeting
2. Chair's Report
3. Past Chair's Report
4. Update from the Office of the President Discussion with President Amy Gutmann
5. Moderated Discussion
6. New Business

Matthew McHugh: Director for Center for Health Outcomes and Policy Research

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McHugh has also carried out a number of studies evaluating the impact of nurse practitioner scope-of-practice restrictions and Medicaid reimbursement rates on access to care.

In addition to findings from direct evaluations of nurse staffing ratio laws, Dr. McHugh has been instrumental in Penn's Centers for Medicare and Medicaid Services (CMS) Graduate Nurse Education (GNE) Demonstration Project—a \$200 million Demonstration project under the Affordable Care Act, which provides reimbursement through the Hospital of the University of Pennsylvania or the cost of clinical training for advanced practice registered nursing students. Dr. McHugh also has a record of service on advisory panels and councils that inform quality measurement and evaluation for policy purposes.

Dr. McHugh has conducted a series of studies evaluating how nursing affects policy initiatives and outcomes central to health reform. For example, Dr. McHugh and colleagues have focused on an area that had been largely ignored in efforts to lower readmissions: the variation in nursing resources and work environments across hospitals. His work has shown that hospitals with better levels of nurse staffing are much less likely to be penalized under the Centers for Medicare and Medicaid Services Hospital Readmissions Reduction Program. His research has influenced policy and practice nationally and internationally, particularly around nurse staffing legislation, Magnet hospital credentialing, and hospital performance monitoring.

Dr. McHugh is a member of the National Academy of Medicine, a Fellow of the American Academy of Nursing, Senior Fellow of the Leonard Davis Institute of Health Economics, a Co-director of the T32 Program on Advanced Training in Nursing Outcomes Research funded by the National Institute of Nursing Research, Faculty Director of the Nursing and Health-care Management dual degree program at Penn Nursing/Wharton, a Fulbright Scholar, and a Robert Wood Johnson Foundation Nurse Faculty Scholar. In addition to serving on a number of advisory and expert workgroups, he also serves on the Pennsylvania Health Care Cost Containment Council (PHC4) and is Vice Chair of the PHC4 Data Systems Committee.

Message from the Director of African-American Resource Center in Response to MLK Symposium "Zoom Bombings"

January 26, 2021

Dear Community and supporters of the MLK Symposium on Social Change,

As is Penn's tradition, we began the University's Dr. Martin Luther King, Jr Symposium on Social Change last week with a Day of Service. This year's virtual programming was well attended, well organized, and informative. Unfortunately, some individuals took this opportunity to "zoom bomb" two of our programs with racist language and images. The seriousness of this incident prompted us to immediately file a report with the Division of Public Safety, who contacted Penn's Office of Information Security in ISC to conduct an investigation. Both the Division of Public Safety and the Office of Information Security have been very responsive to our concerns and needs.

These acts have in no way diminished our resolve to fight for social equity, justice, and to end racism. The values of the University of Pennsylvania and the mission of the African-American Resource Center (AARC) include constructively and proactively helping to create a teaching-learning community of real and harmonious diversity. The AARC is called to be a model for the academy and the society at large. We are committed to each member of our community. If you were impacted by these actions and need additional support, please contact aarc@upenn.edu.

To the cowards who worked under the cloak of a computer screen to spread hate-filled, racist messages: Your attempts have failed to scare or intimidate organizers and participants of our programs. Your ignorance lets us know we still have work to do. In 1963, at the Washington National Cathedral, Dr. King said, "Darkness cannot drive out darkness, only light can do that. Hate cannot drive out hate, only love can do that." We will continue to provide light and love to drive out your darkness and hate. Though loving in the face of hate can be difficult, we will continue to look for the best in and want the best for all of our community, including you. We will continue to grow and prosper because we are strong and determined. As ignorance is replaced with truth, more and more, people will know that we are one race and one people connected by the common goal and common purpose of making our beloved community better. As Dr. King said, "We may have all come on different ships, but we're in the same boat now."

Thank you to all who have offered encouragement and support! We look forward to the remainder of the symposium programs and to gathering with colleagues and friends.

—Valerie Dorsey Allen,
Director, African-American Resource Center

\$6.3 Million Gift from Alumnus David S. Pottruck to Penn Athletics Set The Future In Motion Campaign

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hancing the offerings of the Center for Student-Athlete Success. The positive impact that CSAS will have on Penn's student-athletes will forever positively impact the trajectory of their lives. Student-athletes will develop the mental, spiritual, and social skill sets that will ultimately position them to make significant contributions to the world long after graduation.

"The gift is a way for Penn Athletics to prioritize the importance of leadership education, while supplementing this important discipline with critical development areas such as civic engagement and academic support and vice versa," said Mr. Pottruck. "I'm thrilled that my philanthropic interest in Penn has been passed down a generation and has motivated Stephanie and Aaron to make a significant contribution to Penn Athletics. To know that our family name will forever be aligned with the shared areas of importance to Penn and the Pottrucks and Goldmans is extremely gratifying and humbling."

"Athletics has always been important to our family," Mrs. Goldman said. "We love the competition aspect, but we have always been strong believers in the skills that being part of a team and working toward a shared goal teaches young people. Aaron and I are thrilled make this gift in honor of my father to a dedicated area within Penn Athletics that will develop and nurture these important skills for generations of Penn student-athletes."

M. Grace Calhoun, the T. Gibbs Kane, Jr., W'69, Director of Athletics and Recreation, underscored the critical importance of investing in people and programs as it relates to the maturation of student-athletes. "Dave Pottruck has been as loyal a supporter as Penn Athletics has and as a result of his most recent gift, Penn will be better positioned to deliver on our promise of providing our student-athletes with an unrivaled academic and athletic experience, while developing them into our leaders of tomorrow," said Dr. Calhoun. "Dave's investment in the whole person is truly remarkable and catapults Penn Athletics toward being a national leader in this space. We are incredibly thankful to Dave, Stephanie and Aaron for their leadership and this transformational gift."

Mr. Pottruck is not only supporting broad-based programming for all Penn student-athletes, but also is focused on assisting the football and wrestling programs—two sports that had an incredible impact on him during his formative years at Penn. As an undergraduate, he was a member of the varsity football and wrestling teams and has made this gift to not only provide annual financial support to two programs close to his heart, but also to motivate others to join him to ensure that both teams have proper operational funding now and in the future. During this time of economic uncertainty, Mr. Pottruck's gift is a leadership statement centered on supporting our varsity programs when they need it the most.

In making this gift, Mr. Pottruck, a former Penn Trustee, emeritus member of the Division of Recreation and Intercollegiate Athletics Board of Advisors, and former Global Chief Executive Officer at Charles Schwab, is supporting an area that played a major role in his professional success. Mr. Pottruck credits his athletic experiences as providing him the personal infrastructure and skills to lead a global leader in fi-

From the Provost and EVP

A Message to Penn Faculty and Staff Concerning COVID-19 Vaccines

January 28, 2021

We deeply appreciate your continued commitment to keeping Penn a healthy and safe environment in which to live, learn, and work by following the public health guidance we have instituted for those on and off campus. Wearing masks, keeping physically distanced, and washing your hands remain the most critical tools to reduce the spread of COVID-19.

The FDA's emergency authorization of two COVID-19 vaccines (Pfizer-BioNTech and Moderna) provides another critical measure of protection against the pandemic. We recognize there are questions about how and when vaccines will be made available to the University community. We want to share both what we know and what remains in question.

We know clinical studies have demonstrated that the vaccines are safe and effective. We encourage you to review the helpful [FAQs from Penn Medicine](#) on vaccine safety. We are also very aware that guidance about and availability of vaccines in different areas are evolving. While this challenges our ability to plan ahead, we expect to receive more consistent information on vaccine distribution in the coming weeks.

Penn Medicine is currently vaccinating eligible University and health system individuals in line with the guidelines established by the [Philadelphia Department of Public Health](#) (PDPH). They have successfully offered vaccinations to health system and University employees who are at high risk for exposure to COVID-19 in clinical or lab settings (Phase 1a). University Human Resources is beginning to work with schools and administrative units to identify Penn employees who perform essential, frontline duties that place them at greater risk for exposure (Phase 1b). We do not yet know when we will be able to implement this phase. However, we are actively working on a plan to offer the opportunity to receive a vaccine and will keep you informed as these plans are finalized.

PDPH's current guidance is that higher education faculty and staff not covered in Phases 1a and 1b will be vaccinated during Phase 1c, as part of a cohort of other essential workers who have lower risk of exposure. Although we do not know when we will reach this phase, our goal is to offer the vaccine as broadly and equitably as possible to all University employees during this phase.

University employees and their families may also be eligible to receive a vaccine through other distribution channels, such as their healthcare provider or retail pharmacy, based upon other risk factors, including age and high-risk medical conditions. The City of Philadelphia just launched a [vaccine interest form](#) for Philadelphia residents. Employees living in [Delaware](#) or [New Jersey](#) should review state guidance. We encourage you to register for appropriate county and/or state government sites for notifications and to explore all options for you and your family in each phase of the rollout, given the supply limitations.

As more information and vaccine supply become available, we are committed to working to provide every University employee the opportunity to access a vaccine.

—Wendell Pritchett, Provost
—Craig Carnaroli, Executive Vice President

nance such as Charles Schwab. He understands the importance of giving back in an effort to help nurture the next generation of leaders.

"My years in business have repeatedly demonstrated to me how important it is to develop future leaders," Mr. Pottruck said. "Leadership is a quality that can, and should, be taught. The combined stamina, discipline and team spirit that Penn's athletes show so consistently demonstrates their enormous potential as world leaders. The Leadership Academy program will help them move seamlessly and successfully into the future."

"As a former wrestler at Penn myself, I have always admired Dave Pottruck as a leader and a mentor for my own development and to know that the lessons he has taught me over the years will be shared with all our student-athletes through our partnership with the McNulty Center at Wharton is incredibly exciting," said Matt Valenti, C'07, Associate Athletics Director for Student-Athlete Success. "Moreover, to have the physical office that I work in carry the Pottruck name going forward is not only personally gratifying but will also be motivating for our student-athletes for years to come."

Set The Future In Motion: The Final Year Of Game Onward is a \$150 million fundraising effort that has a focus on annual, endowment, and capital fundraising.

DPS Safety Advisory to the Penn Community

January 28, 2021

Philadelphia Police are investigating a number of gunpoint carjackings targeting delivery drivers and women in the West Philadelphia area over the past six weeks. While several arrests have been made, these incidents continue to occur. Three carjacking incidents have occurred in the [Penn Patrol Zone](#) in the past three weeks. Many victims are being followed by the perpetrator(s), often in another vehicle and often while the victim is parking their vehicle on the street or in a large parking lot. The perpetrator will then approach the victim as they are getting out of their vehicle. Please stay aware of your surroundings while parking and exiting your vehicle. If you feel that you are being followed, ensure that your car doors are locked, and call Penn Police at (215) 573-3333, or 911 if outside of the Penn patrol zone, or drive to the closest police station.

For more information, visit www.publicsafety.upenn.edu/notices/dps-safety-advisory-to-the-penn-community/

Honors & Other Things

Josiah Borden: Mazda Hero

Josiah Borden, a student in Penn Nursing's DNP Nurse Anesthesia program, has been named a "Mazda Hero." The Mazda Motor Corporation is celebrating the 100th anniversary of its founding in 1920 by naming 50 "Mazda Heroes," selfless individuals who have done heroic things for their communities, and is awarding each of them a 100th Anniversary Special Edition vehicle.

At the beginning of the pandemic, when there was uncertainty about the virus and its deadly impact, Mr. Borden took jobs in two different intensive care units located two hours apart, often working back-to-back shifts, while also continuing his studies at Penn. During this time, he contracted COVID-19 twice himself, and yet, after recovering each time, continued to dedicate himself to the cause. Moved by his story, Mazda selected Mr. Borden for this award and, to mark the occasion, sent a film crew along to capture the moment when his selection as one of the heroes would be revealed to him along with his new special edition vehicle.

"As a student who always seeks out opportunities to challenge himself, to make himself better, and to do whatever he can to add to the profession of nursing, Josiah is an incredible role model. Of course, as humble as he is, he does not see it that way," said Dawn Bent, Practice Assistant Professor and Administrator of the DNP Nurse Anesthesia program. "When students first arrive and begin the anesthesia program, we make sure they know that they represent themselves and their families first, and a close second is the University of Pennsylvania and the School of Nursing. He has proven to be an ambassador for the School, and I could not be more proud of him."

Vanessa Chan and Jennifer Wilcox: Department of Energy Appointments

The Biden-Harris Administration's Department of Energy (DOE) has appointed two members of the Penn Engineering faculty to senior leadership positions.

Vanessa Z. Chan, Jonathan and Linda Brassington Practice Professor of Innovation and Entrepreneurship, will serve as the DOE's Chief Commercialization Officer and Director of its Office of Technology Transitions.

Dr. Chan, who also serves as the Undergraduate Chair of the department of materials science and engineering, has experience helping large companies commercialize their technologies as well as developing academic curricula that helps engineering students maximize the social impact of their work. She is also the founder of Kinetic Creators, a "virtual entrepreneurial summer experience" for students around the world whose career-development internships were disrupted by the pandemic.

As the DOE's Chief Commercialization Officer, Dr. Chan will lead the department's tech transfer activities, ensuring taxpayer-funded

discoveries make their way out of labs and into the public.

Jennifer Wilcox, Presidential Distinguished Professor of Chemical Engineering and Energy Policy, will serve as the Principal Deputy Assistant Secretary for Fossil Energy in the DOE's Division of Fossil Energy.

Dr. Wilcox, who has appointments in the Kleinman Center for Energy Policy, based at the Stuart Weitzman School of Design and at the department of chemical and biomolecular engineering, is a globally recognized expert on carbon capture technology. Her research develops ways of preventing new carbon dioxide emissions, sequestering it at the source, removing it from the atmosphere, and safely sequestering this carbon for re-use or permanent storage. She recently co-edited the *Carbon Dioxide Removal Primer*, an open-source publication intended to get climate change leaders up to speed on these techniques.

At DOE, Dr. Wilcox's role will involve improving the nation's carbon management as it transitions to a clean-energy economy.

Alicia Chatterjee: PSCSW Award for Clinical Excellence

Alicia Chatterjee, PhD candidate and MSW graduate at Penn's School of Social Policy & Practice (SP2), won a Pennsylvania Society of Clinical Social Work (PSCSW) award.

The PSCSW Awards for Clinical Excellence were established by the Clinical Society to acknowledge the outstanding clinical work of students. The awards are presented annually to students who submit a case study paper for review by distinguished judges chosen from the membership of the Clinical Society. The awards program is open to all graduating Masters of Social Work students in Pennsylvania.

Ms. Chatterjee's paper, entitled, "College Counseling Social Work: A Case Study in Social Justice and Person-In-Environment Practice," overwhelmingly impressed the judges and ultimately earned her the award. The winners of the award receive a cash prize, as well as a one-year membership to the Clinical Society.

Ms. Chatterjee's areas of work include trauma-informed care, feminist and anti-racist practice, and embodiment-based healing modalities. Her research interests explore similar areas, including thinking about politicized healing work in queer communities and communities of color who have been impacted by intimate violence.

Sarah J. Jackson: McGannon Award

The McGannon Center at Fordham University announced that Professor Sarah J. Jackson has won the Donald McGannon Award for Social and Ethical Relevance in Communications Technology Research for her book *#HashtagActivism: Networks of Race & Gender Justice*. She shares the award with her co-authors Moya Bailey and Brooke Foucault Welles, both faculty of Northeastern University.

The McGannon Center is dedicated to furthering understanding of the ethical and social justice dimensions of media and communication technologies, particularly how such technologies affect the distribution of wealth, opportunities, and privileges within society. Its annual book award aims to promote research that uncovers the lived social impacts of communications technologies.

"We are thrilled to receive the McGannon Award for *#HashtagActivism*, and we extend our deepest appreciation to the award committee," says Dr. Jackson, Presidential Associate Professor and Co-Director of the Media, Inequality & Change Center. "The honor is quite special to us as so many books and scholars we admire have previously won the award. We will donate half of the award prize to The Free Black Women's Library."

The award committee emphasized that *#HashtagActivism* stood out from all other books considered for the award and highlighted the book's rigorous and interdisciplinary account of concerted and spontaneous online viral phenomena, and its explanation of the ways in which networks of Black and Brown people, women, and other historically subordinated groups have "birthed and nourished" counterpublics on social media and helped to mobilize progressive social change.

As part of celebrating *#HashtagActivism*, the McGannon Center will host a virtual event in March to recognize the authors and discuss their work.

Carl June, Michael Milone: Agilent Thought Leader Award

Carl H. June, the Richard W. Vague Professor in Immunotherapy in the department of Pathology and Laboratory Medicine and the director of the Center for Cellular Immunotherapies in the Abramson Cancer Center, and Michael Milone, an Associate Professor of Pathology and Laboratory Medicine and founding member of the Center for Cellular Immunotherapies, both received the Agilent Thought Leader Award in November 2020. The scientists were recognized for their joint contributions to the field of CAR T-cell mediated cancer immunotherapy, having co-developed Kymriah, the first cell and gene therapy product approved by the U.S. Food and Drug Administration. "Receiving this Agilent award will enable us to improve the generation and characterization of cell-based products and therapeutics," Dr. Milone said.



Jennifer Wilcox



Alicia Chatterjee



Vanessa Chan

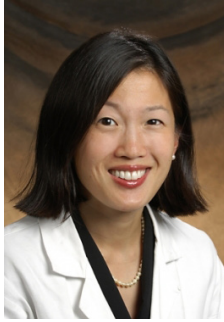


Sarah Jackson

Bonnie Ky: ECOG-ACRIN Young Investigator Award

Bonnie Ky, the Founders Associate Professor of Cardio-Oncology, Cardiovascular Medicine and Epidemiology, has received the 2020 ECOG-ACRIN Cancer Research Group Young Investigator Award, the Group's highest distinction.

The Young Investigator Award recognizes extraordinary scientific achievements and research leadership contributions made by investigators during the early years of their careers. A committee composed of previous recipients and ECOG-ACRIN scientific leaders selects one awardee annually. The award was established in 1992 and is funded by the ECOG Research and Education Foundation. Dr. Ky is honored as one of the most influential thought leaders in cardio-oncology, an emerging medical discipline.



Bonnie Ky

Kara Maxwell, Ravi Parikh: Prostate Cancer Foundation Awards

Kara Maxwell, an Assistant Professor of Medicine and Genetics in the Perelman School of Medicine at the University of Pennsylvania, received the Prostate Cancer Foundation's (PCF) 2020 Gary and Allison Lieberman—PCF VAlor Young Investigator Award, and Ravi Parikh, an Assistant Professor of Medical Ethics and Health Policy and Medicine at Penn, received PCF's 2020 David Yurman—PCF VAlor Young Investigator Award.

Drs. Maxwell and Parikh are also staff physicians at the Corporal Michael J. Crescenz VA Medical Center. Dr. Maxwell will further investigate the genetic mechanisms underlying the efficacy of treatments—including PARP inhibitors and checkpoint immunotherapy—for prostate cancer in Black men, who have a significantly higher chance of developing the disease and dying from it compared to men of European descent. The research will inform new clinical trials and the way Black patients, including the vulnerable veteran population with aggressive and lethal prostate cancer are treated clinically. Dr. Parikh will be developing



Kara Maxwell



Ravi Parikh

new clinical biomarker tests that can identify which patients undergoing hormonal therapy are at risk for developing bone fractures, and should be prescribed early bone maintenance therapies. This will significantly improve quality-of-life for patients with advanced prostate cancer, starting with the veteran population.

Seventeen Penn Medicine Staff: Cell Press Inspiring Black Scientists

Seventeen members of Penn Medicine's staff and faculty were featured in *Cell Press's* list of "1,000 Inspiring Black Scientists in America." The list was developed by the Community of Scholars, a group of Persons Excluded because of their Ethnicity or Race (PEER), recognizing individuals across the country who have made outstanding contributions to science and have demonstrated commitment to serving diverse student populations. By highlighting Black scientists, the Community of Scholars hopes to change the narrative of the definition of a scientist to be more representative of our larger society, while also inspiring the next generation of leaders. The list featured the following members of the Perelman School of Medicine community:

Azeez Adebimpe, senior research investigator in Psychiatry

Jamaal Benjamin, resident in Radiology

Donita C. Brady, Harrison McCrea Dickson and Clifford C. Baker Presidential Professor of Cancer Biology

Rotonya Carr, Assistant Professor of Medicine

Léolène J. Carrington, postdoctoral research fellow in Hematology/Oncology

Patrick W. Cherubin, postdoctoral research fellow in Microbiology

Daphney R. Chery, postdoctoral research fellow in Orthopaedic Surgery

Chantell S. Evans, postdoctoral research fellow in Physiology

Suean Fontenard, postdoctoral researcher in Cell & Developmental Biology

Roy H. Hamilton, Associate Professor of Neurology and Physical Medicine and Rehabilitation

Tiffany King, postdoctoral research fellow in Cellular Immunotherapy and E.E. Just Postgraduate Associate Fellow

Raina M. Merchant, Associate Professor of Emergency Medicine and Director of the Center for Digital Health

Natoya J. Peart, postdoctoral fellow in Medicine

Richard E. Phillips, Presidential Assistant Professor of Neurology

Avery D. Posey, Assistant Professor of Systems Pharmacology and Translational Therapeutics

Erle S. Robertson, Harry P. Schenk Professor of Otorhinolaryngology and Professor of Microbiology

Brittany Taylor, postdoctoral research fellow in Orthopaedic Surgery

Penn Center for Innovation Awards

The Fifth Annual Penn Center for Innovation's Celebration of Innovation was held on December 2, 2020. More than 130 people were in attendance, virtually, to hear from Keynote Speaker Jonathan A. Epstein, Executive Vice Dean and Chief Scientific Officer, Perelman

School of Medicine, and hear about the five special award winners. Dr. Epstein spoke about the way Penn Medicine researchers pivoted their work to tackle COVID, from vaccine development to patient care and diagnostic testing. Researchers including Drew Weissman, Cesar de la Fuente, James Wilson, and Ping Wang are all leveraging their work to help in the critical public health fight.

Award recipients at the event were:

Emerging Inventor of the Year: *Michel Koo*, professor in the department of orthodontics at Penn Dental Medicine, in recognition of his groundbreaking work developing novel approaches to eradicate biofilms (*Almanac January 19, 2021*).

Inventor of the Year: *Saar Gill*, Assistant Professor of Medicine at the Hospital of the University of Pennsylvania, in recognition of extraordinary innovations allowing expansion of cell therapy to new cell types, new indications and new methods of gene delivery.

Startup of the Year: *Cabaletta Bio*, a clinical-stage biotechnology company focused on T-cell therapies for B-cell-mediated autoimmune diseases, which in the past year expanded its research partnership with Penn to include three more diseases.

Partner of the Year: *Kairos Ventures*, a venture capital firm based in Beverly Hills, California, that is focused on scientific discoveries. In honor of a true innovation champion at Penn, the Partner of the Year Award was renamed for the late Paul D. Sehnert. Mr. Sehnert was the director of real estate development at Penn who helped bring the Pennovation Works campus to fruition. He lost his battle with cancer in 2019 (*Almanac May 28, 2019*).

Deal of the Year: *Exyn Technologies* in recognition of its groundbreaking partnership with Sandvik.

Lawrence Shulman: ACCC Annual Achievement Award

Lawrence N. Shulman, Professor of Medicine in the Perelman School of Medicine, deputy director for Clinical Services at the Abramson Cancer Center at the University of Pennsylvania, and director of the Center for Global Cancer Medicine, received the 2020 Annual Achievement Award from the Association of Community Cancer Centers.

Dr. Shulman was recognized not only for his esteemed work as a breast oncologist and oncology-practice thought leader, teacher, and mentor, but also for his generous approach that drives others in the oncology profession from around the world to seek his counsel, the ACCC announced. Dr. Shulman has a long history of work in low-resourced areas throughout the United States and internationally, including the promotion of early detection and establishment and maintenance of cancer treatment programs.



Lawrence Shulman

Penn Libraries Spring Services

2020 was a year of extraordinary change and disruption. In the midst of it all, Penn Libraries sought to adapt to the “new normal” created by COVID-19, developing innovative ways to serve students, faculty, researchers, and other members of the Penn community.

For staff members who work in Access Services—the department that looks after the circulating collections, helps students and researchers in Van Pelt-Dietrich Library Center, coordinates inter-library loans, and more—the goal remains to get library materials into the hands of library users—either literally or virtually. Over the course of the last 10 months, the Libraries has made a significant investment in order to purchase e-book collections and increase access to digital and video streaming resources. Librarians who once spent their time pulling books or helping students in person now scan articles and book chapters for digital delivery and answer questions that come via email or through the chat service.

The Libraries will also expand the [seat reservation service](#) that began as a pilot program in the fall. Open to all undergraduate, graduate, and professional students, the service allows those who are eligible to study in the Van Pelt-Dietrich Library Center while maintaining a safe, contact-free environment. Reservations are available Monday-Thursday 11 a.m.-7 p.m. and Friday 12 p.m.-5 p.m. Students can learn more and make a reservation [here](#).

Library users can request books from the Libraries’ circulating collections in two different ways. [PickUp@Penn](#) allows users to pick up books in person at Van Pelt-Dietrich Library, while [Books By Mail](#) ships requested books anywhere in the United States. Pick-up@Penn hours are Monday-Friday, 10 a.m.-2 p.m., and requested books are held for one week. Books by Mail requires advanced registration [here](#). Students can contact librarians with questions at vpircdck@pobox.upenn.edu



Photograph by Eric Sucar

Library patrons can request books and pick them up at the Van Pelt-Dietrich Library Center using [PickUp@Penn](#).

or ask general questions using [the Libraries chat service](#), Monday-Friday, 9 a.m.-5 p.m., or outside of those hours using the online form.

Librarians in the [Kislak Center for Special Collections, Rare Books, and Manuscripts](#), librarians are also continuing to find new ways to share the Penn Libraries’ special collections with people both inside and outside the Penn community. During “normal times,” hundreds of researchers visit the Kislak Center’s Charles K. MacDonald Reading Room every year. This year staff have developed innovative ways to help people conduct research from afar. Research requests would usually result in the scheduling of a time for the researcher to visit in person, but that is not possible because of COVID-19 restrictions. Instead, staff does the looking for them.

Many students appreciate the unique opportunity to see and touch Penn’s special col-

lections as part of their classes, and in the age of COVID, Kislak staff have also found new and creative ways to replicate these experiences virtually. Collaborations have already begun with instructors who are planning to integrate virtual visits in the spring semester. Anyone who wants to review collections items, consult with a Kislak Center curator about research, schedule a virtual class visit, or receive digital productions of research materials should visit the Kislak’s [Resources for Remote Learning](#).

Staff across the Libraries are eager to welcome students back in person as soon as it is safe to do so. Students are a vital part of the Penn Libraries community, both as users of library resources and as colleagues who keep services running and bring life to the stacks.

For more information, visit www.library.upenn.edu/blogs/libraries-news/ready-set-go-penn-libraries-prepares-new-semester

Penn Physicist, Physician Team: \$2 Million NIH Grant to Develop Portable COVID-19 Detector for Use in Public Spaces

(continued from page 1)

rants, retail stores, stadiums—anywhere—to help get the world back to something that resembles normal,” said project principal investigator A. T. Charlie Johnson, the Rebecca W. Bushnell Professor of Physics and Astronomy at SAS.

“We’re hoping to scale this up rapidly, and we think the technology could be useful not just against COVID-19 but also against future pandemic illnesses,” said co-investigator Benjamin Abella, a professor of Emergency Medicine at Penn Medicine.

The Penn academic research team is collaborating with VOC Health Inc. on this project to further develop the technology and potential product applications. “We’re pleased to collaborate with Dr. Johnson and his team to help develop the lab-bench device, systems and methods needed to make this technology more widely available. That is, small, durable, easy to operate and should be able to be mass produced quickly,” says Richard Postrel, CEO and Chief Innovation Officer of VOC Health.

Humans, like other animals, breathe out and emit from their skin various carbon-based chemical compounds that are byproducts of bodily processes and exist as gases at ordinary room temperatures. Some of these volatile organic compounds, or VOCs, are detectable

by the human nose as body odor. Other VOCs are not sensed by humans, although they may be detectable by other animals. In part due to reports of dogs, cats and other animals using their powerful senses of smell to detect diseases in humans, researchers in recent decades have been developing electronic sniffer devices that can accomplish similar feats. In principle, different diseases alter bodily processes in distinctive ways, resulting in distinctive VOC signatures that such sniffer devices could detect for diagnostic or mass screening purposes.

The sniffer device that will be prototyped and tested under the new grant uses a nano-sensor array that was developed in the Johnson lab and can detect VOCs in the air close to people or their clothing.

The team will collect T-shirts from people with and without COVID-19 and will use them to optimize the set of chemical sensors and train an AI algorithm to identify and recognize a COVID-19 VOC signature. This effort will involve multiple collaborators, including Kenneth G. Furtton, chemistry professor and Provost at Florida International University, whose lab will chemically analyze VOCs from the T-shirt samples to more precisely define the COVID-19 signature.

The researchers expect within a year to start

testing their prototype device on consenting patients in the emergency department at the Hospital of the University of Pennsylvania. By the end of the two-year grant period, they hope to be ready to apply for Food and Drug Administration clearance.

The team also includes Carrie Lynn Kovarik, Professor of Dermatology at the Perelman School of Medicine, Cynthia Otto, Professor at the School of Veterinary Medicine, Lyle H. Ungar, Professor of Computer and Information Science at the School of Engineering and Applied Science, and Ian Hunter, Chief Engineering Advisor at VOC Health.

PennO365 Two-Step Verification

HireIT clients will be required to use Two-Step Verification to protect their PennO365 email accounts and to access other PennO365 applications (Teams, OneDrive, etc.) If you have not already self-enrolled, visit the Two-Step Verification user enrollment guide at <https://www.isc.upenn.edu/how-to/penno365-two-step-verification#Self-enrollment-application>

Update

February AT PENN

EXHIBITS

3 *Virtual 12@12*; Lynn Smith Dolby, University Art Collection Manager, gives a 12-minute talk on the current Arthur Ross Gallery exhibit, *Many Voices, Many Rooms*; noon; info: <http://www.arthurrossgallery.org/events/event/1212-42/> (Arthur Ross Gallery).

FITNESS & LEARNING

4 *Confronting and Responding to Anti-Asian Racism*; exploring the roots of anti-Asian and anti-Asian American behavior and offering strategies and resources to respond to it; 3 p.m.; register: tinyurl.com/4xbtrt3v (Penn Global).

5 *Accessing and Using Aging Data at Penn*; information about three aging-related data sets housed at Penn; 2-4 p.m.; Zoom meeting; join: tinyurl.com/psc-aging-data-feb-5 (PSC).

Center for Undergraduate Research and Fellowships (CURF)

Online events; info and to register: <https://www.curf.upenn.edu/curf-events>

4 *Research Workshop for Students with Disabilities*; 8 p.m.

5 *R&F Month - Make the Most of Your Summer Through CURF Opportunities*; 3 p.m.

8 *Ask Me Anything: Research Peer Advisors Edition*; 5 p.m.

MEETINGS

8 *PPSA Board Meeting*; 1 p.m.; info: <https://ppsa.upenn.edu/> (PPSA).

SPECIAL EVENTS

4 *Fun @ Work Day*; Penn Nursing event featuring bingo; noon; Zoom meeting; register: <https://tinyurl.com/fun-at-work-feb-4> (Penn Nursing).

8 *CultureFest: The Masks Seen*; learn about the Dogon people of Mali's ceremonial production and use of masks throughout the Fêtes des Masques; 6 p.m.; online event; tickets: \$10; register: tinyurl.com/fetes-de-masques-feb-8 (Penn Museum). 📺

SPORTS

Penn Basketball Virtual Season

Re-broadcasts of classic Ivy League Championship games. Join: www.youtube.com/pennsportsnetwork

4 *Men's Basketball at Yale*; original broadcast March 3, 2006; 7 p.m.

TALKS

2 *Current Migration Patterns and Philadelphia Japanese Americans*; Hiro Nishikawa, Japanese American Citizens League; noon; online event; info: <https://asam.sas.upenn.edu/events> (Asian-American Studies).

Prediction, Power, and Policy: Ethical Dimensions of the Regulation of Clinical Prediction Models; Gary Weissman, medicine; noon; Zoom meeting; register: <https://zoom.us/j/95819586999> (Medical Ethics & Health Policy).

Assessing Immune Correlates of Protection in COVID-19 Vaccine Efficacy Trials; Peter Gilbert, Fred Hutchinson Cancer Research Center; 3:30 p.m.; BlueJeans meeting; join: <https://bluejeans.com/553472553> (CCEB).

Dissecting Chaos: An Interdisciplinary Look at the Attack on the U.S. Capitol; panel of speakers; 4 p.m.; online event; register: tinyurl.com/dissecting-chaos-feb-2 (Wharton; Law; ASC).

Stochastic Modeling of Reaction-Diffusion Processes in Biology; Hye-Won Kang, UMD Baltimore County; 4 p.m.; Zoom meeting; join: <https://tinyurl.com/kang-talk-feb-2> (Mathematics).

"Dare You Meet a Woman": Black Women, Abolitionism, and Protective Violence, 1850-1859; Kellie Carter Jackson, Wellesley; 4:30 p.m.; Zoom meeting; join: <https://upenn.zoom.us/j/97078227894> (History).

3 *Applying Design as an Elected Official*; Roberto Treviño, San Antonio, Texas councilmember; 10 a.m.; Zoom meeting; info: kmeeks@design.upenn.edu (Weitzman School).

Thomas Jesse Jones: Sociology, Philanthropy and the Education of Black Folk; Karida Brown, UCLA; noon; online event; info: <https://sociology.sas.upenn.edu/events> (Sociology).

Astronomy in the Era of Mega-Constellations of Low Earth Orbiting Satellites; Tony Tyson, UC Davis; 2 p.m.; online event; info: www.physics.upenn.edu/events/ (Physics & Astronomy).

Integrating Machine Learning and Multiscale Modeling in Biomedicine; Lu Lu, MIT; 3 p.m.; Zoom meeting; info: chebiom@seas.upenn.edu (CBE).

4 *Single Molecule Transcription Factor Dynamics During Zygotic Genome Activation*; Mustafa Mir, biology; 4 p.m.; Zoom meeting; join: tinyurl.com/mir-talk-feb-4 (Biology).

Stabilizing Inflammatory Programs in Type 2 Airway Disease; Nora Barrett, Brigham & Women's Hospital; 4 p.m.; BlueJeans meeting; join: <https://bluejeans.com/497920610> (Penn-CHOP Lung Biology Institute).

5 *Behind Activism: Feminist Digital Labor Against Technology-Facilitated Sexual Violence*; Jinsook Kim, ASC; noon; Zoom meeting; register: tinyurl.com/kim-talk-feb-5 (GSWS).

Conversation with Curlee Holton; Curlee Holton, UMD; noon; Zoom meeting; register: tinyurl.com/holton-talk-feb-5 (Arthur Ross Gallery).

Following the Money: Deepening our Understanding of the Black-White Wealth Gap; Ashleigh Cartwright and Annette Lareau, sociology; noon; online event; info: <https://sociology.sas.upenn.edu/events> (Sociology).

Penn Dental Medicine

Online events. Info and to register: <https://www.dental.upenn.edu/news-events/events/>

2 *The Importance of Integrated Treatment Planning*; Paresh Shah, University of Manitoba; 6 p.m.

Economics

Online events. Info and to register: <https://economics.sas.upenn.edu/events>

2 *Scoring Strategic Agents*; Ian Ball, Yale; 4 p.m.

8 *Inference for Ranks with Applications to Mobility across Neighborhoods and Academic Achievements across Countries*; Daniel Wilhelm, University College London; noon.

AT PENN Deadlines

The February AT PENN calendar is online and will be updated throughout the month. The deadline for submissions for the March AT PENN is February 8 at almanac@upenn.edu.

Almanac

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The University of Pennsylvania Police Department Community Crime Report

About the Crime Report: Below are the Crimes Against Persons or Crimes Against Society from the campus report for January 18-24, 2021. Also reported were 7 crimes against property (2 retail thefts, 2 thefts from building, 1 bike theft, and 2 other thefts). Full reports are available at: <https://almanac.upenn.edu/sections/crimes> Prior weeks' reports are also online. —Eds.

This summary is prepared by the Division of Public Safety and includes all criminal incidents reported and made known to the University Police Department between the dates of **January 18-24, 2021**. The University Police actively patrol from Market St to Baltimore Ave and from the Schuylkill River to 43rd St in conjunction with the Philadelphia Police. In this effort to provide you with a thorough and accurate report on public safety concerns, we hope that your increased awareness will lessen the opportunity for crime. For any concerns or suggestions regarding this report, please call the Division of Public Safety at (215) 898-4482.

01/18/21	1:42 PM	3643 Locust Walk	Offender harassed employee during video conference
01/18/21	6:38 PM	229 S 41st St	Offender fled property upon return of complainant
01/19/21	11:55 AM	3400 Civic Center Blvd	Complainant was struck by unknown male
01/19/21	12:50 PM	3000 Chestnut St	Postal worker assaulted
01/21/21	3:40 PM	3643 Locust Walk	Offender harassed employee during video conference

18th District

Below are the Crimes Against Persons from the 18th District: 8 crimes against persons (4 aggravated assaults, 2 robberies, 1 domestic assault, and 1 assault) with 1 arrest were reported for **January 18-24, 2021** by the 18th District covering the Schuylkill River to 49th Street & Market Street to Woodland Avenue.

01/18/21	10:48 AM	3000 Market St	Aggravated Assault
01/18/21	7:28 PM	229 S 41st St	Robbery
01/18/21	10:46 PM	4549 Spruce St	Aggravated Assault/Arrest
01/19/21	1:57 AM	4600 Locust St	Robbery
01/19/21	12:50 PM	3000 Chestnut St	Aggravated Assault
01/19/21	1:14 PM	3400 Civic Center Blvd	Assault
01/20/21	4:08 PM	S 47th & Chestnut Sts	Aggravated Assault
01/24/21	11:43 AM	4109 Walnut St	Domestic Assault

Commonly Used Blood Pressure Medications Safe for COVID-19 Patients

Medications to treat high blood pressure did not affect outcomes among patients hospitalized with COVID-19, found an international team led by researchers in the Perelman School of Medicine at the University of Pennsylvania. The study, published in *The Lancet Respiratory Medicine*, is the first randomized controlled trial to show there is no risk for patients continuing these medications while hospitalized for COVID-19.

As part of the REPLACE COVID trial, investigators examined whether ACE inhibitors (ACEIs) or Angiotensin Receptor Blockers (ARBs)—two classes of medications to treat high blood pressure—could help mitigate complications or lead to more severe symptoms. More than 49 million U.S. adults take medication to treat hypertension, and among those, about 83 percent (41 million) take an ACEI or ARB, according to the Centers for Disease Control and Prevention.

Early during the pandemic, a concern arose regarding the use of ACEIs or ARBs in the setting of COVID-19, since some studies had suggested that these medications could upregulate cellular receptors for the SARS-CoV-2 virus potentially aiding viral replication. However, it was also considered that some effects of these medications could be protective against the virus.

Currently, trials are underway to determine if use of these medications is effective for the treatment of COVID-19.

For more information, visit <https://tinyurl.com/studyBPmedications>

Dental Medicine Enhancing and Integrating Digital Dentistry

The School of Dental Medicine's Digital Innovation Initiative is aimed at fully integrating the latest in digital dental technologies at almost every stage of education and patient care. With state-of-the-art equipment, the new Digital Design and Milling Center and the Center for Virtual Treatment Planning, together with new staff and curriculum changes, open up possibilities for training students, conducting research and continuing education, and delivering seamless and cutting-edge patient care.

"The many types of digital technologies working together is the key to effective application and outcomes in patient care and education, and that is our goal," says Markus Blatz, Professor and Chair of Preventive and Restorative Sciences and Assistant Dean for Digital Innovation and Professional Development. Dr. Blatz has championed and leads the school's Digital Innovation Initiative.

"Scanning teeth with optical scanners and fabricating dental restorations with digital technologies has become very common. Now, we have additional technologies, from electronic health records to face scans, that help us right from the beginning, with diagnostics, treatment planning, and restoration design," he added. "All this information interconnects, making it much easier to include all dental specialties and even artificial intelligence tools in the treatment planning process. This, I think, is one of the big advantages of digital dentistry."

The Digital Design and Milling Center is focused on chairside CAD/CAM applications. While the facilities were temporarily closed due to the COVID-19 pandemic, they are now back up and running, welcoming students who work in a socially distanced fashion.

The Digital Design and Milling Center features 12 computers/design PCs loaded with three types of software for different applications: one for designing and milling single-unit restorations like inlays, crowns, and veneers; another for implant-related restorations and surgical planning; and a third laboratory-oriented program for digital wax-ups, which are planning models for restorations. Recently the school acquired new printers with 3D capabilities that can print up to 40 different materials. In addition, 10 high-speed milling machines line one wall of the Center to produce restorations, and eight ceramic furnaces are used to fire and finish them.

While many long-established private dental practices may not yet embrace digital dentistry, it's clear that it's the way of the future, and as part of the Digital Innovation Initiative, both the predoctoral and postdoctoral curriculum have been adjusted to incorporate experience with CAD/CAM technology. Even first- and second-year students are now learning to use intraoral scanners in the preclinical simulation labs, scanning mannequin mouths as they simulate procedures to begin refining their techniques before entering the clinic. By the time students reach their third and fourth years, they'll be ready to apply these techniques in patient care.

To ensure that Penn Dental Medicine's technological resources and techniques are the finest available, faculty and students are engaged in research projects to identify best practices and provide feedback to industry partners to continue refining their products. In the future, faculty envision every patient coming through admissions will be scanned. And though some may believe that a greater use of technology means less personal



Photograph by Eric Suvar

Students can practice and design interventions on the screen, saving time and resources. Research will inform advances in digital dental technology.

care, Dr. Blatz underscores the opposite is the case.

"Some people think that with CAD/CAM technologies, everyone is getting the same smile, but in fact we can individualize care like never before. And by using scan files of natural dentition to design and restore teeth and smiles, the outcomes look and function in a truly natural manner," he says. "With costs coming down and these technologies becoming more accessible, my hope is that ultimately, patients' access to high-quality oral health care and customized dental restorations that look nice, that are well-fitting, and that have quality materials will be greatly improved. That is the goal."

Adapted from a November 24, 2020, story by Katherine Unger Bailie in Penn Today. Read the full text at <https://penntoday.upenn.edu/news/embracing-digital-dentistry>

Mutations Commonly Linked to Breast Cancer Found to Pose No Increased Risk

Several genetic mutations previously linked to breast cancer and included on commercial genetic tests, including direct-to-consumer tests, were found not to increase a woman's risk of disease, according to a population study of more than 64,000 women published online on January 20, 2021 in the *New England Journal of Medicine* from several institutions, including Penn Medicine. The findings show that risks associated with mutations for women in the general population are often lower than previous estimates, and, importantly, provide new insights informing the debate over whom should be recommended for genetic testing.

Penn Medicine authors on the paper—which analyzed data from the CARRIERS study, or "CAnceR RiSk Estimates Related to Susceptibility"—include Katherine L. Nathanson, deputy director of the Abramson Cancer Center and the Pearl Basser Professor for BRCA-Related Research in the Perelman School of Medicine at the University of Pennsylvania, and Susan M. Domchek, executive director of the Basser Center for BRCA at the Abramson Cancer Center. Fergus J. Couch, of the Mayo Clinic, was the paper's senior author.

According to past estimates, seven to ten percent of women with breast cancer carry pathogenic variants in genes associated with an increased risk. However, that statistic is based largely on studies of high-risk women, including those with a family history or a young age at the time of their cancer diagnosis.

This study—the first to look at a large group of women of different ages from the general population—suggests that the frequency of pathogenic variants in genes associated with breast cancer risk among women in the general population is five percent. Further, of the 28 breast cancer genes studied, only 12 had clear evidence of associated cancer risk.

Recommendations for genetic screening vary, from testing all patients for genes associated with breast cancer to testing affected and unaffected women based on risk stratification. Many commercially available hereditary genetic tests also include a slew of genes that now appear, based off these findings, to not increase risk, which has the potential to lead to the delivery of misinformation, as well as affect treatment decisions.

"This multi-institutional, collaborative study shows us a clearer picture of risk and genetic drivers for women in the general population who don't fall under the high-risk category," Dr. Domchek said. "As discussions continue regarding the role of population screening, the CARRIERS data support careful gene selection."

For more information, visit <https://tinyurl.com/BCmutations>