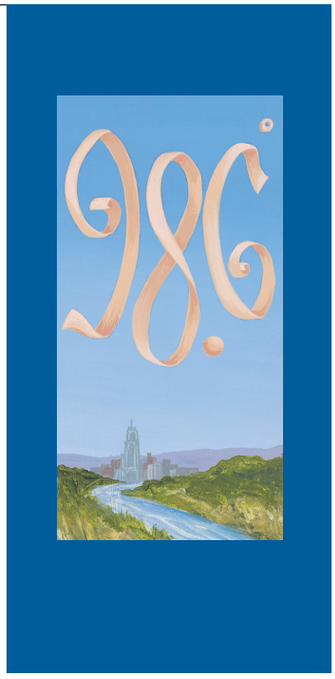
People and programs that keep the school healthy and vibrant



THE O'MALLEY RALLY

BY ALI GREENHOLT

Four students from the Class of 2016 received this year's Bert and Sally O'Malley Awards for Outstanding Medical Student Research. The O'Malley couple, Pitt alumni (MD '63 and BS in Education '59, respectively), established the award in 2009 for med students who carry out basic and clinical research.

Eric Etchill and mentor Matthew Neal, MD assistant professor of surgery, took a closer look at massive blood transfusions. Etchill reviewed literature on plasma-to-red-blood-cell ratios in transfusions and found that the high ratio used in trauma patients may not be beneficial for non-trauma patients.

Why do patients with human papillomavirus–related head and neck cancers respond better to chemotherapy and radiation than their HPV-negative counterparts? **Bhavana Chapman** and Pitt mentor Saleem Khan, PhD professor of microbiology and molecular genetics, found one possible reason: They identified a type of RNA expressed at higher rates in HPV-positive cancer patients that affects the migratory ability of the cells.

Having relatives with sickle cell disease has put both **Olubusola Oluwole**'s head and heart into improving quality of life for those with the disease. Oluwole and mentor Enrico Novelli, MD assistant professor of medicine, dug into poorly understood complications of the disease, namely the development of cognitive deficits that may be influenced by anemia or a patient's nutrition.

Brian Ahn and mentor Hideho Okada, now a professor of neurological surgery at UCSF, were curious about a clinical finding: People with asthma, eczema, and other allergic hypersensitivities are less prone to malignant brain tumors called gliomas—but chronic antihistamine use appears to reverse this relationship. Ahn tested the immune cell population of mice deficient in histamine and found that certain blood cells were inhibiting cancer-fighting cells. Their results also point to a histamine-producing enzyme called HDC as a potential biomarker for glioma survival in humans.

IN A HEARTBEAT

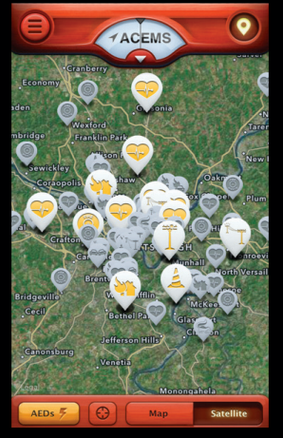
APP FOR LIFE

BY MICAELA FOX CORN

When someone goes down after a sudden cardiac arrest, it's only a matter of minutes before irreversible damage or death takes hold. Each minute without an appropriate intervention like CPR reduces the chance of survival by 7–10 percent. And there's no way to know when and where a sudden cardiac arrest will strike.

This public health issue inspired two Pitt emergency medicine experts to team up with City of Pittsburgh officials and the Henry L. Hillman Foundation to bring a game-changing mobile application to the region. Called PulsePoint, the app helps people respond during that small window of opportunity.

PulsePoint uses location-aware technology to notify ready and willing citizens—CPR trained or anyone inclined to help by following the app's instructions—about emergencies in their area. Any PulsePoint user within walking distance of a cardiac arrest will get the S.O.S. about as quickly as 911 operators do (the app's software is integrated with software at emergency call centers around the city). Users can then arrive on the scene, even before medics in some cases, to perform CPR, initiate hands-only chest compressions, or apply an automated external defibrillator (AED). The app also tells users where the nearest AED can be found. All this helps to improve bystander response and increases cardiac arrest survival rates.



You can download PulsePoint for free.

The trek to get PulsePoint to Pittsburgh began in 2015, when then–emergency medicine fellow Leonard Weiss joined forces with David Salcido, who had recently finished his Pitt PhD in epidemiology. Weiss had caught wind of the lifesaving app in other cities and wanted to bring it here, but he needed funding. Salcido, meanwhile, had been studying sudden cardiac arrest and the likelihood of re-arrest after resuscitation. As part of that work, Salcido had also established the Pittsburgh site of HeartMap, a national endeavor to identify and catalog the location of every AED in cities across America. Salcido compiled Pittsburgh's crowdsourced cartography into an online public database, resulting in an ongoing, centralized registry of the heart-jolting machines, which made them easier to maintain and study.

But just knowing where AEDs were wasn't enough to solve the survival problem of sudden cardiac arrest, and PulsePoint was an expensive pilot test for the city. So, Weiss (Res '15, Fel '16), now a clinical instructor in emergency medicine, and Salcido (MPH '08, PhD '14), a research assistant professor of emergency medicine, put their heads together.

Working with Allegheny County Executive Rich Fitzgerald, Councilman Daniel Gilman, and Mayor Bill Peduto, as well as Pitt's emergency medicine department, they secured $200,000 from the Henry L. Hillman Foundation—enough to buy the license for PulsePoint and support a larger umbrella effort to improve outcomes for out-of-hospital cardiac arrests called the Resuscitation Logistics and Informatics Venture, or ReLIVe. On July 7, the City of Pittsburgh officially launched the app.

As the app gains users, Salcido says, researchers can begin mining data for answers to key questions like, How can we optimize those first few critical moments following cardiac arrest? Are there enough AEDs in a particular area?

Ultimately, it will be up to good Samaritans to step in, Weiss says. Effective bystander intervention can triple a person's chances, and "anyone can help." ■