NOTE FROM THE QI DIRECTOR

Dear QI Community,

During this period of immense challenges as we grapple with the COVID-19 pandemic, I want to express my gratitude for your ongoing flexibility, resilience, and ingenuity. As we continue to work in the face of uncertainty about when life will return to some degree of normalcy, our commitment to the pursuit of research and innovation is a positive beacon for the future that gives me confidence in the ability of the QI community to not only make it through this unprecedented crisis but to also help others make it through as well.
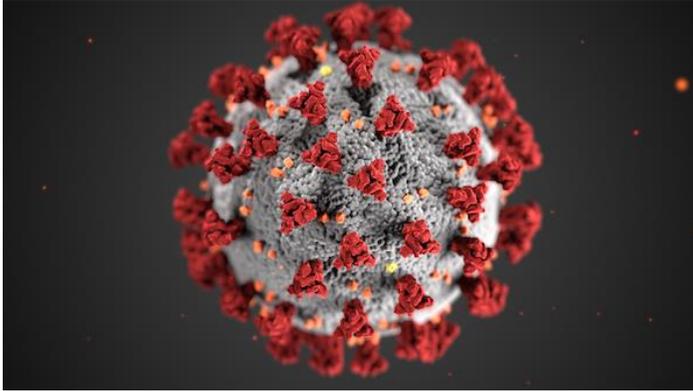
QI prides itself on its facilities and unique enabling technologies, but most of all, we pride ourselves on our people and their collaborative spirit. We are leaning heavily on that spirit as we team with various campus and community partners to tackle the urgent needs from the COVID-19 crisis. At the same time, we stand by to facilitate access to the special services the campus has activated to support all members of our community. I also want to share the creation and launch of a web portal to serve as a hub for all of QI's important work around COVID-19. Please find it here: **qi-responds.ucsd.edu**. As a reminder, you can find the university's resources for the UC San Diego community **here**.

I thank the QI community for its collective efforts and know that together we can make a difference during this most difficult of times.

Sincerely,
Ramesh Rao

LATEST STORIES FROM QI

QI Responds: New Web Portal

As the novel coronavirus continues to spread, QI is working with campus, industry, and community partners to bring a broad range of expertise — along with cutting-edge technology — to respond to the pandemic.

A one-stop hub for all the information and news related to QI's COVID-19 efforts is now available at: **qi-responds.ucsd.edu/**

Here to Help: QI Facilities Available for COVID-19 Research

Some of the research spaces in QI are continuing to operate in a limited capacity to address the rapidly evolving needs during this public health crisis, and QI research teams are ready to collaborate with new partners to meet demand and find new solutions.

QI's engineering support and 3D printing services, nanotechnology facilities, rapid prototyping and fabrication capabilities, and electronics design services are available upon request. Please contact us if you need assistance with any urgent COVID-19 projects: **qi-responds@eng.ucsd.edu**

We are carefully following instructions from California's governor and UC San Diego to apply staff limits (designated, essential staff only), social distancing and sanitation requirements in our research settings.

QI Lends its Prototyping and 3D Printing Capabilities for Critical Medical Supplies

Researchers and engineers at QI's Prototyping Lab are evaluating the use of 3D printing technologies and rapid prototyping techniques to create safe and effective medical equipment and gear, such as ventilator components and face shields. Teams are also exploring the possibility of using 3D printers to produce large quantities of the nasal swabs needed for COVID-19 testing. **Read more.**

QI's Startup Community Mobilizes

NEH: Digital Projects for the Public
Deadline: June 19, 2020 (applications become available April 30)
Funding: $30,000 up to $300,000

Companies that found their footing at the Qualcomm Institute Innovation Space (QIIS) are working to model disease outbreaks, increase access to offline education and facilitate research on COVID-19.
Read more.

QI Research Community Responds in Many Ways

QI researchers are responding to the COVID-19 pandemic from many different angles using QI's specialized facilities and cross-disciplinary research philosophy:

Earth 2.0 Brings a United Response to COVID-19
Earth2.0 / COVID-19 Rapid Response , an initiative at UC San Diego, supports clinicians and researchers who need help answering questions, performing tasks or locating resources in real-time, by engaging a local network of experts ranging from clinical researchers, to scientists, and engineers (faculty, staff and students) to help provide solutions.

Researchers and Doctors Team Up to Retrofit and 3D-print Ventilator Parts
The Prototyping Lab is supporting efforts by a team of UC San Diego engineers and physicians to potentially develop simple, ready-to-use ventilators by providing engineering design and fabrication support. QI Electrical Engineer Mark Stambaugh is working on the microcontroller and helping to adjust the stroke cycle and control the speed and volume of the compressions to help patients breathe. QI Mechanical Engineer Alex Grant is providing design support and guidance to allow the fabrication of components using the lab's laser cutter and other machine tools.
Read more .

Nanotechnology Researchers Evaluate the Effectiveness of Improvised Medical Masks
Nanotechnology researchers are evaluating the effectiveness of improvised medical masks using scanning electron microscope technology available at **Nano3**. Electron microscopes on-site can image structures whose dimensions are much smaller than the novel coronavirus, providing researchers a means to

accurately gauge the effectiveness of various personal protection equipment materials.

Noninvasive Spleen Ultrasound Treatment for COVID-19 Patients
Based on established results that show stimulation of the vagus nerve, the longest cranial nerve in the body, can produce anti-inflammatory effects that can help prevent sepsis-related mortality, QI researchers are developing and testing a new Focused Ultrasound Stimulation to the Spleen, or FUSS, treatment for COVID-19.

Folding SARS-CoV-2
The **Pacific Research Platform**, a National Science Foundation-supported project, has lent its distributed computing and storage powers to help in the fight against COVID-19. More than half of the distributed system's 600 GPUs have been made available to the global Folding@home effort to study the dynamics of how viral proteins interact with human receptors. The PRP's compute resources were also used in this work to **optimize microbiome tool for computer GPUs**, making microbiome analyses including COVID-19 research significantly faster.

NEWS AND ANNOUNCEMENTS FROM QI

Still Time to Submit New IDEAS! Deadline Extended to April 30
Proposals are still being accepted for the Initiative for Digital Exploration of Arts and Sciences (IDEAS) 2020-2021 Performance Season. Due to impacts from COVID-19, the submission deadline has been extended to **April 30**. Artists, scientists, musicians and technologists are invited to propose works that push the boundaries of their disciplines. **Read more.**
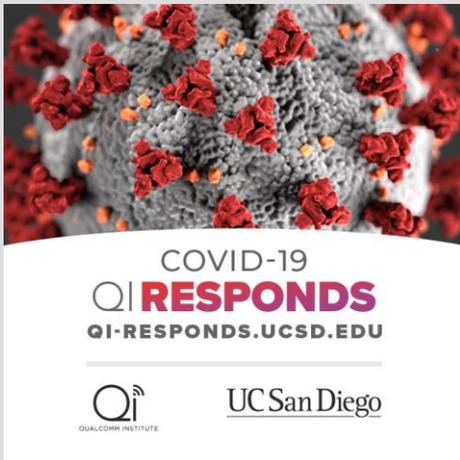
QI In the News: Eric Hekler in the *La Jolla Light*
Eric Hekler, a health psychologist and professor in the Department of Family Medicine & Public Health and the director of the Center for Wireless & Population Health Systems at QI, speaks to the *La Jolla Light* about how to stay sane in a pandemic. **Read the story.**

SOCIAL MEDIA SNAPSHOTS

As the tech field expands, how can #neurodiverse individuals contribute to a stronger, better workforce? QI's Leanne Chukoskie explains in a new op-ed: https://bit.ly/343J56k . #UCSanDiego #UCSD #autism #AutismSpectrumDisorder #qualcomminstitute #WorldAutismAwarenessDay

Twitter, 4/2/2020

We've launched a new portal - QI Responds - to serve as an information hub for all of QI's important work around COVID-19. Visit http://qi-responds.ucsd.edu/ to learn more. #Covid19 #qualcomminstitute #QiResponds UCSD #UCSanDiego #technology

Facebook, 4/14/2020