



Innovation Update

In this Issue:

1. Message from Desert Horse-Grant
 - a. 3 Major Categories of Innovation at UCLA Health
 - b. Partnerships with TDG
 - c. New Offering for Startups Affiliated with UCLA Startup In A Box from TDG
 - d. Telehealth - Video Visits for Patients
2. UCLA Health Innovation Spotlight
 - a. Immunotherapy
 - i. CAR T-Cell - FDA Approved - Cancer Therapy
 - ii. Cellular Therapy Clinical Trial
 - b. Pediatric Mental Health
3. UCLA Health MedTech related committees - helpful to know
4. UCLA Innovation Fund
 - a. TDG New Ventures - Staff Spotlight
 - b. Frequently Asked Questions by Faculty Entrepreneurs
5. LA BioStart Bioscience Entrepreneurs Boot Camp (Deadline: June 20, 2018)
6. Center for Accelerated Innovation Tech Grants and Pitch Day

1. Message from Desert Horse-Grant

Dear UCLA Health Community and Supporters,



A lot has been happening under the umbrella of innovation since our last newsletter in March. After a lengthy survey consisting of 250 meetings across the health system and DGSOM in an effort to identify and catalog the full breadth and depth of UCLA Health innovation activities, I have been able to group almost all of them into three major categories: **(1.) Patient and System Services** (see more below regarding innovations in this category in immunotherapy and pediatric mental health), a **(2.) Learning Health System**, or **(3.) Biomedical Breakthroughs**. We are working with our Communications team to summarize and/or highlight aspects of this survey of activities and produce a UCLA Health Innovation Website. While we await the creation of the website, if you are aware of inspiring innovation activities and have not been interviewed, please email dhorsegrant@mednet.ucla.edu.

On another innovation front, UCLA Health / David Geffen School of Medicine have been working closely with Amir Naiberg, the entire **Technology Development Group (TDG)**, and other UCLA schools to support innovation and commercialization opportunities. Together we hosted the 2nd year of the UCLA Innovation Fund – Biomedical Competition led by Dr. Thomas Lipkin. The UCLA Innovation Fund advances early-stage academic research making technologies more commercially attractive for licensing to an external party or to form the foundation of a startup company. This year over 75 therapeutics and MedTech applications from across-campus were received. After the applications have been reviewed, finalists will participate in a Pitch Day to leadership and outside advisors this fall. The TDG also presented the inaugural UCLA Innovation Fund - Computer Science Competition, led by Joel Kehle and Emily Loughran, the 6th annual MedTech Partnering Conference, led by Emily Loughran, and an inaugural UCLA Biomedical and Life Science Innovation Day led by Mark Wisniewski, to promote awareness of the growing biomedical – life science entrepreneurial ecosystem at UCLA and to foster partnerships with the pharmaceutical, biotechnology and life science industries. In the TDG annual newsletter, it was reported that UCLA is among the nation's leading universities supporting and creating startups. In FY2017, **UCLA formed 20 startups**, was granted 124 patents, and issued 147 licenses. "Licensing UCLA technology to startup companies enables UCLA to be a strong economic engine for the Los Angeles region, California, and beyond," (TDG Vol. 1 newsletter) with 152 California companies commercializing UCLA Discoveries. With the successful and newly focused collaborative efforts of TDG, it is going to be exciting to watch these numbers grow!

[More about UCLA Startups >](#)



I would also like to announce a new UCLA Health innovation offering that has come to fruition in the last few months. As many of you are aware, UCLA Health's mission is to deliver leading-edge patient care, research, and education. Our Vision is to "heal humankind, one patient at a time, by improving health, alleviating suffering, and delivering acts of kindness". As part of our greater innovation effort to support cutting-edge technologies to reach the marketplace and have an impact on patient's lives, UCLA Health is pleased to offer mentoring appointments to select UCLA-affiliated startups on their most pressing questions to better help them navigate health system / academic medical centers. This new offering will be housed under the larger **UCLA Startup in a Box** program, led by TDG member Dr. David Drasin (see link below). He and I will work closely together to personalize a mentorship consult with health system executives, applicable

faculty and staff for UCLA-affiliated startups. Possible topics may include questions regarding collaboration, policy, coverage analysis, value analysis, IS, purchasing or others as needed.

[More about UCLA Startup in a Box >](#)



Finally, innovative ideas can surface through many routes. Two retreats were held this spring that while not specifically focused on innovation brought forth new creative ideas. Dean of the David Geffen School of Medicine, Dr. Kelsey Martin, held a leadership retreat on the topic of Culture and Diversity Inclusion that included participants from DGSOM and the Health System to address the importance of building a strong, supportive and inspiring culture across UCLA Health and the power that comes from diversity in all dimensions. President of UCLA Health, Johnese Spisso, led a three-part health system strategy retreat, starting with the clinical chairs presenting to one another

on their departmental goals, recruitment and priorities. I had the pleasure of presenting on the Culture of Discovery and Innovation at UCLA Health and was able to spotlight the great work of our faculty, nurses, and staff all participating in our highly innovative community. In closing, I would like to thank the UCLA Connected Health group under Dr. Michael Pfeffer, UCLA Health CIO. His team was able to go live with **UCLA Telehealth** last week. Epic now has the capability of hosting **video visits**. These secure video appointments are currently being offered by some UCLA specialists for qualifying follow up visits. There is a way to scribe all notes, take secure pictures for the medical record and generate any applicable bills. I predict we will see a growing demand for telehealth, not just from patients but from our providers as well. I look forward to innovation helping to solve the growing needs of our patients and community

Please be in touch with any questions at dhorsegrant@mednet.ucla.edu.

Thank you,

Desert Horse-Grant
Senior Director, UCLA Health Research and Innovation
UCLA Health / DGSOM

2. UCLA Health Innovation Updates Category of “Patient and System Services”

At UCLA Health, we are proud of our patient-centered approach. Our faculty, staff and administrators continually seek new ways to improve patient care. We:

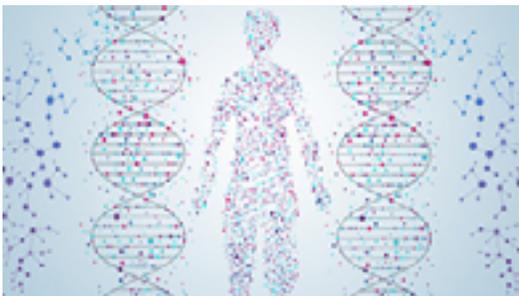
- Invest in novel tools and technologies to improve diagnosis and treatment.
- Embrace digital health technologies to improve patients’ access to quality care.
- Adopt programs to optimize patient well being.

Through it all, we regularly look for new ways to deliver better care for less cost and make care delivery both more compassionate and efficient. Below are a few innovative examples of our Patient and System Services offerings. If you would like your effort to be highlighted in a future newsletter, please be in touch at dhorsegrant@mednet.ucla.edu.

a. Immunotherapy

i. UCLA Health offers innovative CAR-T therapy

UCLA Health doctors and researchers at the David Geffen School of Medicine at UCLA have been pioneers in immunotherapy and continue to be at the forefront of cancer treatments and discoveries in [precision health](#). Chimeric antigen receptor (CAR) T-cell therapy is a specific type of immunotherapy that has recently been approved by the U.S. Food and Drug Administration (FDA). The FDA approved Yescarta (axicabtagene ciloleucel), a CAR-T therapy treatment for adults with certain types of lymphoma for whom other therapies have proved ineffective.



CAR T-cells are genetically altered immune cells designed to attack cancer cells. T cells (central components of the immune system) are taken from a patient’s bloodstream, modified to bind to a specific protein found on cancer cells and then placed back into the patient’s system, where the modified T cells can attack the cancer cells. The major difference to established treatments is that this approach enables a patient’s own immune system to fight his or her cancer cells.

UCLA Health is one of the first centers in the nation to offer this therapy and treated its first patient with the FDA approved product in February of 2018. A patient with stage 4 lymphoma came to UCLA for CAR T cell therapy after other treatments had failed. After therapy, he went into complete remission with no evidence of disease and is back to work, enjoying life with his family and eager to share his story. This therapy is a continuation of our experience using this treatment in clinical trials years prior to FDA-approval. [Read a very successful patient story from clinical trials here.](#)

For more information, please call one of the following numbers and let our UCLA Health System staff know that you are calling about CAR T-cell therapy:

Patients:

1-888-ONC-UCLA (888-662-8252)

Physicians:

1-844-4UCLADR (844-482-5237)

ii. Novel Lung Cancer Therapy

This year UCLA Health will offer lung cancer patients a groundbreaking novel therapy. Currently, many patients are diagnosed with advanced disease making it harder to respond to current therapies, and an alarming ~85% succumb to their disease within 5 years. UCLA Health wants to change this.



Due to outstanding research from faculty at the Jonsson Comprehensive Cancer Center and the [Eli and Edythe Broad Center of Regenerative Medicine and Stem Cell Research at UCLA](#), we have been awarded a \$12M grant from the California Institute for Regenerative Medicine (CIRM), to initiate a phase 1 clinical trial to test a novel cancer treatment for advanced-stage lung cancer. The treatment will combine an immunotherapy drug called pembrolizumab with injections of the patient's own genetically modified immune cells directly into lung cancer tumors. The new grant and effort is lead by Dr. Steven Dubinett, Chief of the Division of Pulmonary and Critical Care Medicine, in collaboration with Dr. Edward Garon of

the Division of Hematology/Oncology at the [UCLA David Geffen School of Medicine](#), the goal of the trial is to use this combined approach to activate a targeted and precise immune response against lung cancer. Dendritic cells utilized in the trial will be generated from blood cells drawn from each patient; this means that the cellular therapy will be perfectly matched to every patient.

Dendritic cells help a different category of immune cells – T cells – combat cancer as well as foreign invaders such as bacteria, viruses and toxins. But this natural immune response isn't typically enough to fight cancer on its own because T cells aren't able to get inside tumors. To address this challenge, the dendritic cells used in the trial, will be genetically modified (proprietary to UCLA), with a molecule called CCL21 (tested here in a previous clinical trial), which will attract T cells into the tumor.

The trial, also supported by the UCLA Broad Stem Cell Research Center, the CIRM-funded [UCLA-UCI Alpha Stem Cell Clinic](#), and the UCLA Clinical and Translational Science Institute, has received approval from the U.S. Food and Drug Administration to begin enrolling patients.

Patients

(310) 453-2183

benjaminjones@mednet.ucla.edu

b. Pediatric Mental Health Innovation Spotlight

Integrated Family-Centered Behavioral Health in Pediatric Settings: We have successfully implemented an innovative model to improve access to behavioral health treatment services for medically ill patients and their families.



Medical settings provide a unique opportunity to address behavioral health symptoms and improve treatment outcomes for children with chronic medical conditions and their families. By creating partnerships between pediatric care centers and behavioral health, UCLA Health serves families using innovative, science driven and family-centered approaches to promote resilience and address mental health issues in children and their families. This promotes a continuum of integrated care that supports our patients from pediatric inpatient, outpatient and specialty care behavioral healthcare, and includes in-home telehealth and mobile health platforms that reduce barriers to care and meet our patients and their families where they live.

UCLA Behavioral Health Check-up (BHC) Tool: The UCLA Division of Population Behavioral Health has created an innovative cloud based platform to facilitate behavioral health research, clinical assessment and outcomes monitoring to support evidence-based care for pediatric patients and their families. The platform allows UCLA physicians to select standardized measures to assess patient concern and strength; the patients are able to complete the assessment in real-time in the clinical setting on a laptop or tablet and real-time feedback is provided to clinicians through secure e-mail, which allows for immediate results. The BHC also increases patients' engagement in their behavioral healthcare by providing them a summary of their assessment scores and psychoeducation through individually tailored patient handouts. Currently, the BHC has been fully integrated into the electronic health record in order to be adopted by UCLA Health to improve depression screening and outcomes monitoring within the system's 320,000-member primary care population.

Virtual Home Visits: To further reduce barriers to accessing behavioral health services and resources (e.g. transportation costs, time, stigma) for children with chronic illness, we have developed a Tele-behavioral health model that supports patient and family well being. Currently, two pilot studies are underway at the Children's Heart Center to examine the impact of a telehealth platform to deliver support and training for pediatric cardiomyopathy and post-heart transplant patients. A telehealth platform allows for patient interactions between medical appointments and provides targeted skills training, including emotion regulation, communication, problem-solving, goal-setting and managing stress/trauma reminders.



Mobile App Tool: UCLA FOCUS On the Go!: The Families Overcoming Under Stress (FOCUS) resiliency training program at UCLA Health's Nathanson Family Resilience Center has developed and evaluated an educational gaming mobile app to support psychological resilience and positive parenting in families facing adversity. The FOCUS resiliency intervention is translated to an interactive gaming platform to practice child and family level skills, such as identifying emotions, solving problems, and communication. The platform also includes an educational section for parents including interactive activities, educational materials and videos, as well as a self-assessment tool with feedback for parents. The FOCUS Mobile application and its resources can

be accessed at any time and bring the skills taught in FOCUS to families where they live, work and play.

[FOCUS mobile app on iTunes >](#)

[FOCUS mobile app Android >](#)

Patients/Caregivers

info@nfrc.ucla.edu

310-825-7573

3. UCLA Health MedTech Committees

UCLA Mobile Health (mHealth) Advisory Group

Advisory to the IT Steering Committee, the Mobile Health (mHealth) Advisory Group addresses the growing business demand for mobile health solutions at UCLA. The scope of governance for this group is limited to mobile device and applications use within healthcare, medical education and patient related research at UCLA. They provide guidance and strategic support for operationalizing mHealth use by:

- UCLA providers, staff and medical students
- Patients receiving care by UCLA's hospitals and clinics
- UCLA patients participating in research projects

Contact: Deidre Keeves at dkeeves@mednet.ucla.edu

UCLA Health Value Analysis Committee

This multidisciplinary committee is charged with improving patient care and controlling product costs with an emphasis on the purchase and utilization of cost-effective, high quality products through an approved process of determining clinical efficacy, product evaluation and financial impact to the UCLA Health System.

Contact: Dr. Rick Harrison at rickharrison@mednet.ucla.edu

4. UCLA Innovation Fund

a. UCLA Technology Development Group (TDG) New Ventures - Staff Spotlight:



Thomas Lipkin, PhD
Director of Entrepreneurship & New Ventures

Thomas Lipkin joined UCLA TDG in 2012 and serves as Head of New Ventures. Dr. Lipkin and his team work to further the entrepreneurial environment at UCLA by sourcing and funding promising academic technologies through the UCLA Innovation Fund. Additional responsibilities include serving as a resource to faculty members, aiding existing UCLA startups in sourcing financing and talent, and helping secure additional funding for campus-wide startup initiatives. Dr. Lipkin also actively promotes UCLA's intellectual property assets and engages

with parties interested in further developing early-stage technologies in the life sciences, physical sciences, and internet technology space. Previously, Dr. Lipkin was with Osage University Partners, a venture capital fund that invests exclusively in university-based startup companies. Dr. Lipkin received his B.S. in Biology from Indiana University and his Ph.D. in Cell Biology and Pathology from Columbia University.



David Drasin, PhD
Principal, New Ventures

David Drasin joined UCLA TDG in August 2017 as part of the New Ventures team. His primary focus as New Ventures Principal is to facilitate the advancement of projects from early data to market, through the UCLA Innovation Fund. In addition, through the Startup in a Box program, David supports UCLA entrepreneurs as they establish and grow their ventures. Prior to joining the New Ventures team, David was a consultant specializing in biopharma commercial strategy across a broad range of therapeutic areas.

David received his B.S. from UCLA in Microbiology, Immunology and Molecular Genetics and his Ph.D. from the University of Colorado Anschutz Medical Campus in Molecular Biology, in addition to a postdoctoral training period at UCSF.



David Harrison, MD, MBA
Senior Associate, New Ventures

David Harrison joined UCLA TDG in September 2017 as a Senior Associate in the New Ventures group. In this role, he is responsible for advancing UCLA innovation with a focus on medical devices and digital health technologies. Dr. Harrison helps manage the UCLA Innovation Fund and works with entrepreneurs to develop their projects into startups or licensing opportunities. In addition to his role at TDG, Dr. Harrison is a practicing Emergency Medicine physician. He completed his residency at the LA County University of Southern California Medical Center where he served as Chief

Resident. Dr. Harrison earned a combined MD/MBA degree from Tufts University School of Medicine and a BA in Economics from Tufts University in Boston, MA.

b. Frequently Asked Questions by Faculty Entrepreneurs

Although this year's application process is now over, a number of faculty had questions about the UCLA Innovation Fund. Answers to frequently asked questions (eligibility, the role of intellectual property, process, funding, project management, etc.) can be found here:

[Frequently Asked Questions by Faculty Entrepreneurs >](#)

5. LA BioStart Bioscience Entrepreneurs Boot Camp

(July 16 - August 14)

Deadline for applications: June 20, 2018



Participate in this five-week, intensive training program pairing emerging bioscience entrepreneurs with industry experts and executives for training in business fundamentals, bioscience knowledge and leadership skills hosted by Cal State LA, the Biocom Institute and LACI. Upon successful completion of the [boot camp](#), participants will receive a year-long membership to the Biocom Institute. [Please apply here by June 20th.](#)

6. UC Center for Accelerated Innovation Tech Grants and Pitch Day

The UC CAI is a collaboration of five UC medical campuses to accelerate the transition of UC discoveries to benefit patients with heart, lung and blood diseases. It is administered from UCLA and supported by the National Heart, Lung, and Blood Institute, National Institute on Drug Abuse, and the CTSA's at UC Davis, Irvine, Los Angeles, San Diego and San Francisco. It is one of three such centers in the U.S.



UC CAI hosted a pitch day to provide an opportunity for two-way communication with CAI leadership and industry experts. Selected pre-applicants pitched their technology to outside industry experts, providing an opportunity for exposure and real-time feedback. The pitch day allows applicants to make business connections, write a more competitive

proposal and inform CAI leadership as to the nature, utility and commercial potential of their invention.

[More about Pitch Day >](#)

UC CAI anticipates awarding multiple Technology Development Grants worth \$200,000 each for development of drugs, devices (including wireless), diagnostics and tools that address heart, lung and blood diseases. Most technologies will be awarded \$200,000, however, technologies that would substantially benefit from up to \$400,000 may submit an application at both the \$200,000 and \$400,000 funding levels. The application submission period was this spring. The grant has been able to support a yearly competition. For those who missed it this year there will be updates to come.

https://ctsi.ucla.edu/cai/pages/funding_opportunity#fatab