

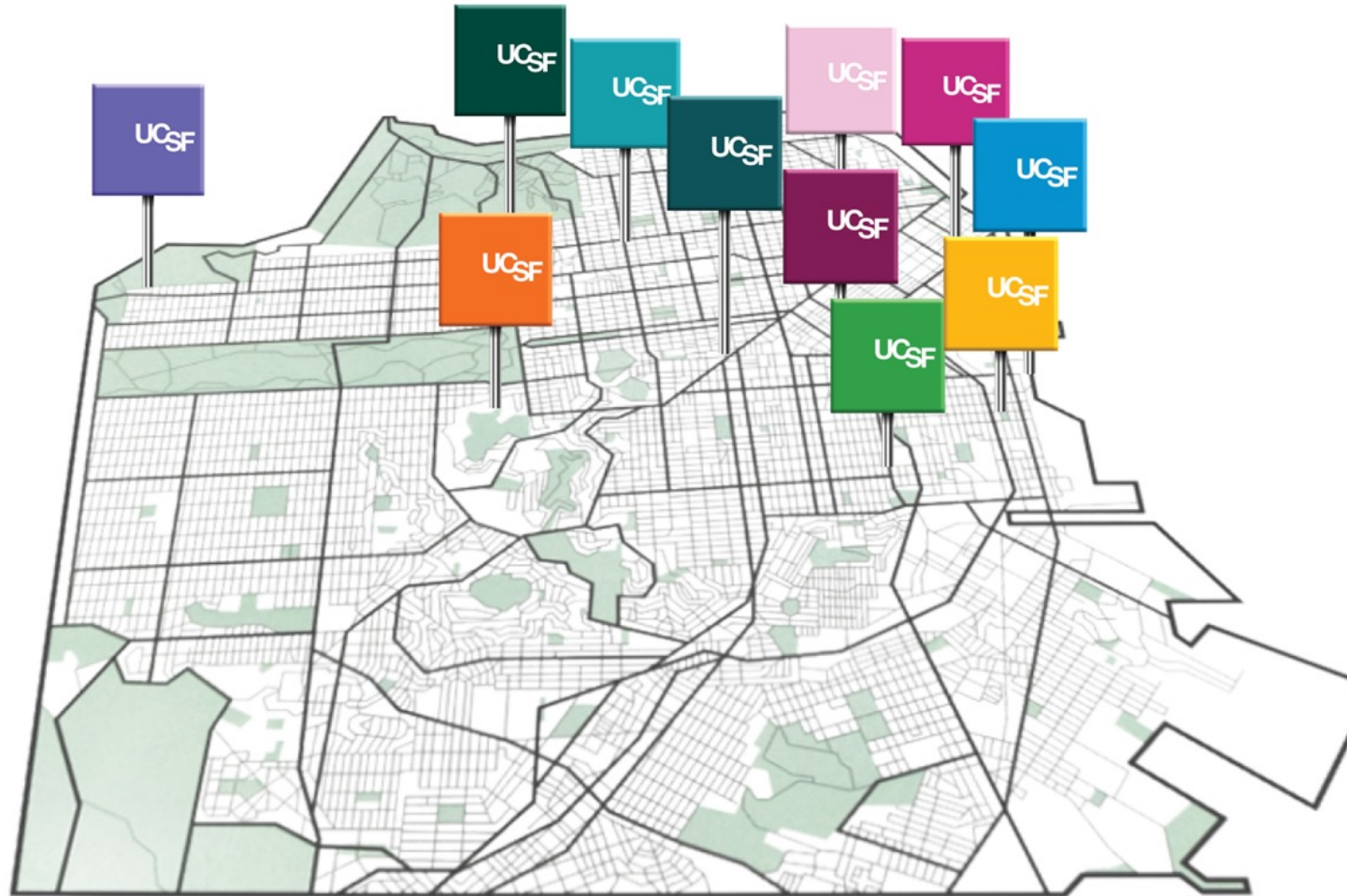
UCSF

University of California  
San Francisco

## UCSF is a purely a health sciences university

- 4 professional schools: medicine (MD), dentistry (DDS), nursing (RN) and pharmacy (PharmD)
- Graduate Division has 20 PhD programs and 12 Master's programs
- ~3000 faculty
- ~3000 students (professional and graduate)
- ~3000 trainees (residents and postdoctoral fellows)
- UCSF Health: 18,000 staff and physicians, 1,290 beds, admits 41,000 patients and has over 2.5 million outpatient visits per year, annual revenue of \$5B





## San Francisco Campuses and Clinics

### Parnassus Heights

- School of Medicine
- School of Pharmacy
- School of Dentistry
- School of Nursing

### Mission Bay

### Mount Zion

- Zuckerberg San Francisco General
- SF Veterans Affairs Medical Center
- Alliance Health Project
- Buchanan Dental Center
- Pritzker Psychiatry Building
- China Basin



Six Nobel Laureates



# Innovation Ecosystem at UCSF Mission Bay







## Sam Hawgood, MBBS

Chancellor, Office of the Chancellor  
Arthur and Toni Rembe Rock  
Distinguished Professor

## *UCSF Leading Health Care AI's Revolution*

*UCSF has several campus-wide AI  
initiatives to become **THE** AI-enabled  
academic life sciences university*





## Atul Butte, MD, PhD

Bakar Institute Director; Priscilla Chan &  
Mark Zuckerberg Distinguished Prof;  
Chief Data Scientist for UC Health

*“It’s fair to say UCSF has always been in the business of building tools that don’t exist today. It’s going to be no different for artificial intelligence.”*





**Catherine Lucey, MD, MACP**

Executive Vice Chancellor and Provost, UCSF

*“UCSF is a leading center of biomedical education, clinical and basic science research. We need to be thinking across all of our mission areas and schools to meet the health care challenges of our time.”*





# UCSF Innovation in Numbers



---

*200+ startups*

---

*\$594M raised in 2023*

---

*191 Licensing deals (2023)*

---

*2970 Patents*

---

*2133 Active Inventions*

---

*100+ Products to Market*

---

*\$50M+ in Licensing Revenue*

---

*\$823M in NIH funding*





# Industry Contracts Division

*Our experienced team  
provides comprehensive  
guidance during contract  
negotiation and throughout  
project lifecycles...  
allowing you to focus on  
what you do best*

*Groundbreaking Research*

Elevate your Research  
Collaborate with UCSF







## **We help with**

---

*Entrepreneurial Education*

---

*Technology Advancement*

---

*Transformational funding*

---

*Licensing*

---

*Strategic Partnerships*

---

*Startup Creation*

---







**Peter Kotsonis, PhD**

Interim Vice Chancellor of Business Development

*Dedicated to helping the UCSF community navigate the complexities of translational technology development by working up-close with our research faculty, promising students, and industry partners to really understand the science and how it can be applied to healing.*





**Peter Kotsonis, PhD**

Interim Vice Chancellor of  
Business Development

## *A partner of choice*

- *Identify and build strategic partnerships between UCSF and industry*
- *Develop contractual and business models*
- *Incentivized with a shared risk/reward structure*
- *Provide alliance management expertise*



# Strategic Alliances Team at UCSF



Jon Brown, PhD  
Alliance Development Manager



Amy Gryshuk, PhD  
Associate Director



Gabriela Fernández-Cuervo, PhD  
Alliance Development Manager



Olivia Roberson, PhD  
Senior Alliance Manager



Aleksandra Kijac, PhD  
Alliance Development Manager



Aenor Sawyer, MD  
Senior Alliance Development



Inder Takhar  
Project Coordinator



Sean Karlin  
Senior Brand and  
Communications





# Catalyzing Innovation at UCSF



Charles Hart, PhD  
Executive Director, Catalyst Program



Roopa Ramamoorthi, PhD  
Director, Catalyst Program &  
InVent Fund



Nathaniel Prorok, MHA  
Director, LaunchPad &  
Senior Program Manager, Catalyst



Sohela Shah  
Program Director  
Catalyst & Invent Fund

- *Seed funding up to \$100k through Catalyst Program*
  - *Up to \$1M per project through InVent Fund*
    - *Expert Industry Advisors*
    - *NewCo Mentorship and Guidance*
    - *'Entrepreneur in Residence' Program*





Todd Pazdera, PhD  
Director, Business Development,  
EOD & Licensing



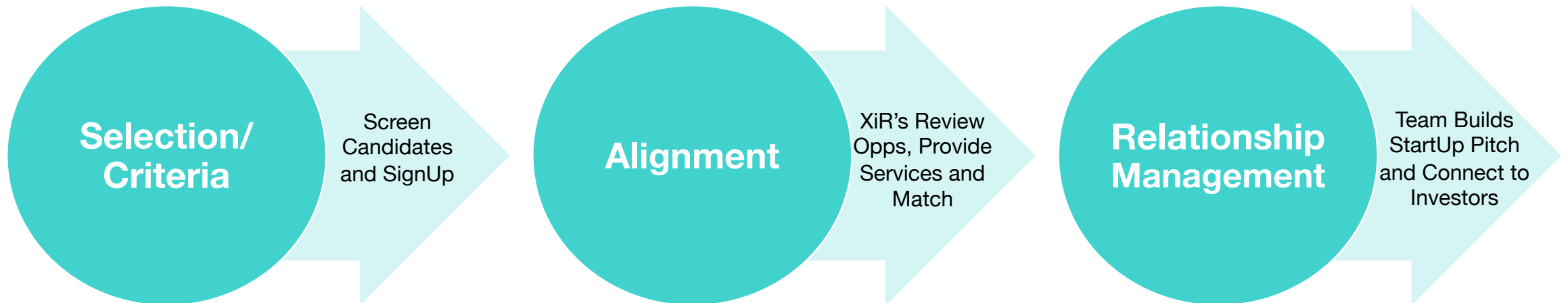
Gonzalo Barrera-Hernandez, PhD  
Director, Business Affairs &  
Strategic Partnerships



*Translating UCSF ideas into new companies and commercial products to benefit patients*

- *Evaluate and grow new ideas*
- *Assess market, develop business models*
- *Connect with industry and KOLs*
- *Build startups and pitch to investors*
- *Develop Intellectual Property Strategy*
- *Value technology*
- *Negotiate licensing deals*

## Executive in Residence (XiR) and Entrepreneur in Residence (EiR) Programs







## Stephanie Marrus, MBA, MA

Managing Director of Entrepreneurship  
Innovation Ventures

### *Exposing academics to entrepreneurial experience*

- *Exploring the commercial potential of your ideas*
- *Translating them into a business plan*
- *Connecting to accelerators and funding sources*
- *Global Startup Course in 36 countries*





**Pamela England, PhD**

UCSF Professor

## AUTOBAHN LABS

### *Drug Discovery Accelerator Bringing*

- *Expertise*
  - *Global drug discovery technology and capabilities*
  - *Financial capital*
- 
- *3 Options to license from UCSF*
  - *1 Licensed technology from UCSF*





**Jon Brown, PhD**

UCSF Business Development and Alliance Manager

**AUTOBAHN  
LABS**



**UCSF**





**Kole Roybal, PhD**

Director of UCSF PICI



*Cancer research and breakthrough  
immune therapies accelerator*

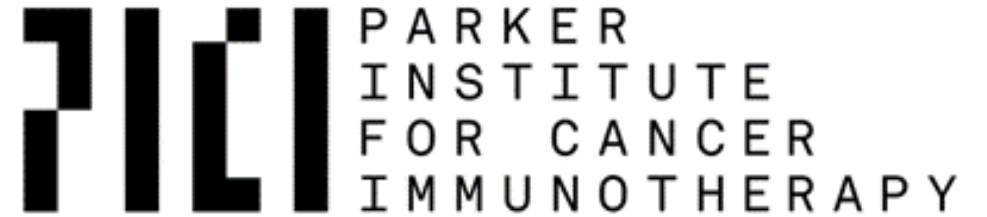
- *Brings top researchers together*
- *Provides resources*
- *Eliminates barriers*







**Olivia Roberson, PhD**  
UCSF Sr. Alliance and Business  
Development Manager



UCSF

University of California  
San Francisco



UNIVERSITY OF  
TORONTO



THE UNIVERSITY OF  
CHICAGO



Industry and Academia Collaboration focused on development of next-generation, recombinant antibody-based cancer therapies



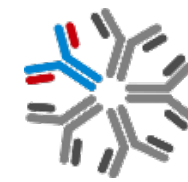


**Jim Wells, PhD**

UCSF Co-founder of RAN



&



Recombinant  
Antibody  
Network

*“This is a spectacular example of how industry and academia can work hand-in-hand to discover new medicines”*

Jim Wells, PhD  
UCSF RAN Lead

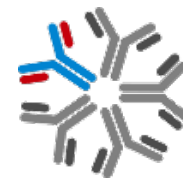






**Gabriela Fernández-Cuervo, PhD**

UCSF Alliance and Business Development Manager



Recombinant  
Antibody  
Network





**Max Krummel, PhD**  
UCSF Professor



*Accelerator for transformative  
immunotherapies*

- *Immunotherapy venture studio*
- *Focus on company creation*
- *Efficient validation and translation  
of early drug concepts*





**Aleksandra Kijac, PhD**  
UCSF Business Development and  
Strategic Alliance Manager







**Max Krummel, PhD**  
UCSF Professor



*Working toward new insights into  
autoimmune diseases*

- *Proteomic, transcriptomic, epigenomic and structural data*
- *Freshly collected tissue*
- *Matched peripheral blood samples*
- *Clinically well-annotated patients*





Gabriela Fernández-Cuervo, PhD

UCSF Alliance and Business Development Manager





**Haley Naik, MD, MHSc, FAAD**  
UCSF Co-founder

## HS PROGRESS

*The Hidradenitis Suppurativa  
PRospective Observational REgistry  
and bioSpecimen repoSitory*

- *Multicenter*
- *Longitudinal*

*Mission to improve the lives  
of people living with Hidradenitis Suppurativa*







**Peter Kotsonis, PhD**

UCSF Interim Vice Chancellor of Business Development

## HS PROGRESS

*Mission to improve the lives of people  
living with Hidradenitis Suppurativa*



UCSF

University of California  
San Francisco

Berkeley  
UNIVERSITY OF CALIFORNIA

W UNIVERSITY of  
WASHINGTON

## Weill Neurohub

*Accelerating the development of new  
treatments for neurological and  
psychiatric disease*

- *Seed funding for novel research ideas*
- *Interdisciplinary and collaborative projects*
- *Focus on near-term transformational potential*





**Stephen Hauser, MD**

Director of UCSF Weill Institute for Neuroscience

**Genentech**  
*A Member of the Roche Group*



**Weill Neurohub**

*Accelerating the development of  
new therapeutics*

- *Long-term research partnership*
- *Centered on brain diseases and disorders of the central nervous system (CNS)*





# Want to know more?



**Jon Brown, PhD**

UCSF Business Development and Alliance Manager

**Genentech**  
*A Member of the Roche Group*



**Weill Neurohub**





**Silvana Konermann**

Executive Director and Core  
Investigator



**Patrick Hsu**

Co-Founder and Core Investigator

## Arc Institute

*Nonprofit research organization*

- *Curiosity-driven and goal-oriented research with a focus on complex diseases, including neurodegeneration, cancer and immune dysfunction.*
- *Operates in collaboration with Stanford University, the University of California, Berkeley, and the University of California, San Francisco.*





**Amy Gryshuk, PhD**

Associate Director,  
Strategic Alliances  
UCSF Innovation Ventures



**Gemma Rooney, PhD**

Assistant Director, Strategic Partnerships  
& Licensing, UCSF Innovation Ventures



# Chan Zuckerberg Biohub Network

## Driving Disruptive Innovation



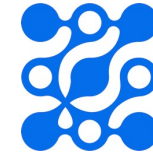
**Steve Quake, D.Phil.**

Head of Science,  
Chan Zuckerberg Initiative



**Joe Derisi, PhD**

President,  
CZ Biohub San Francisco



**CHAN ZUCKERBERG  
Biohub Network**

*Group of nonprofit research institutes  
bringing together scientists, engineers,  
and physicians*

- *Goal of pursuing grand scientific challenges over a 10-15 year timeframe.*
- *Focuses on understanding the mysteries of the cell and how cells interact within systems as well as developing new technologies leading to diagnostics and therapies.*







**Gemma Rooney, PhD**

Assistant Director, Strategic Partnerships &  
Licensing, UCSF Innovation Ventures



**CHAN ZUCKERBERG  
Biohub Network**



UCSF

University of California  
San Francisco

Berkeley  
UNIVERSITY OF CALIFORNIA



*The aim is to deepen our understanding of genetics, discover new targets, and create next-generation technologies at scale that will become future standard practice for the pharmaceutical industry.*





## *Next-generation CRISPR-based technologies at scale*

- *Develop and optimize new CRISPR technologies*
- *Invest in automation platforms for large-scale CRISPR screens*
- *Deepen our understanding of genetics and discover new targets*







**Amy Gryshuk, PhD**

UCSF LGR Alliance Manager

UCSF Associate Director, Innovation Ventures



University of California  
San Francisco



**Berkeley**  
UNIVERSITY OF CALIFORNIA

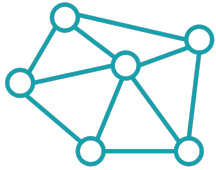




# About SOM Tech



**BROAD TECHNOLOGY EXPERTISE**



**DEEP KNOWLEDGE OF  
THE UCSF ECOSYSTEM**



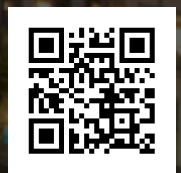
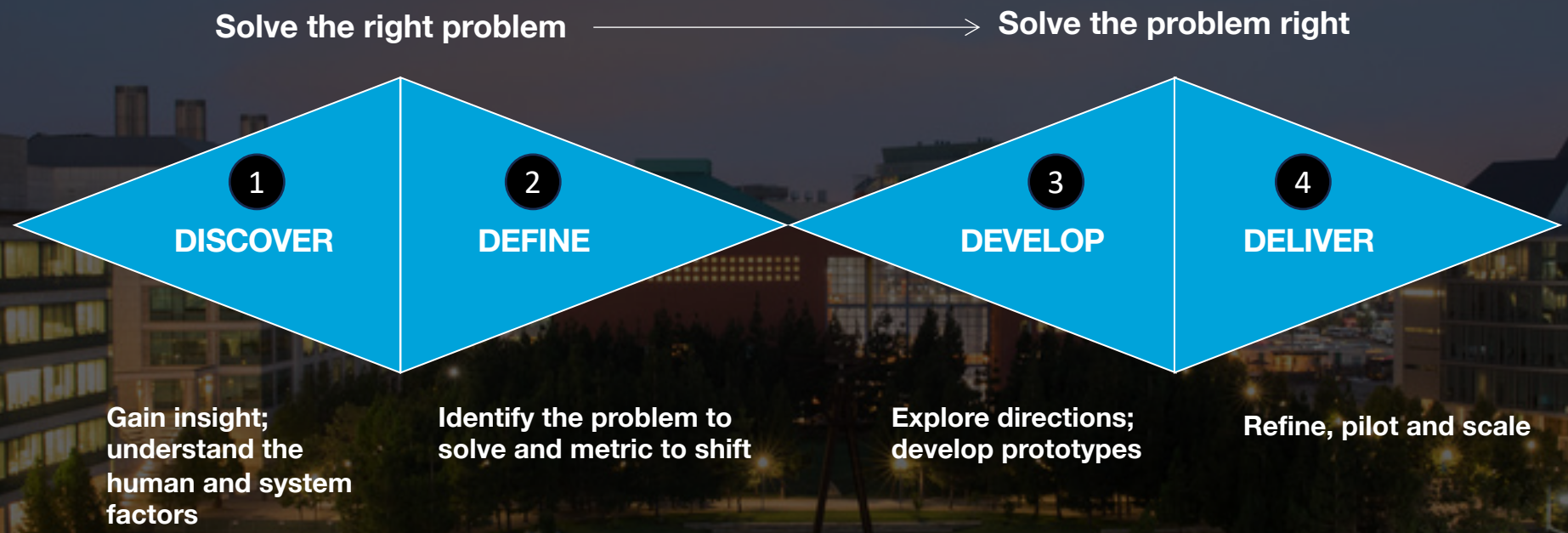
**HUMAN-CENTERED  
APPROACH**



SOM Tech provides leadership and advocacy across the School of Medicine's technology spectrum, from research to program incubation to data security.



# The **UCSF Clinical Innovation Center** aims to accelerate innovations to solve the most critical care delivery issues.



For more information



# Surgical Innovations

Departments of Surgery and  
Bioengineering & Therapeutic Sciences

---

## The Mission

To accelerate the translation of pioneering medical devices to improve patient care by lowering the barriers for surgeon-innovators. Focusing on value-based solutions with market viability, and Educating trainees in interdisciplinary collaboration and translation

## The Team



Hanmin Lee, MD  
Clinical Lead



Shuvo Roy, PhD  
Engineering Lead



Usha Thekkedath, MD  
Admin Director

## The Programs

- Weekly Innovators Forum
- Biodevice Innovation Fellowship Program
  - Two-year mentored research experience for surgical residents
- UCSF/UCB Masters of Translational Medicine
- Project Consultation for Faculty, Trainees, and UCSF-Affiliated Companies

**Learn More and Contact Us Here:**





# MASTER OF TRANSLATIONAL MEDICINE

Translating biomedical  
discoveries into  
clinical reality.

The MTM program is a joint  
program between UC Berkeley  
and UCSF.



Scan for more





# We empower #healthtech entrepreneurs to deliver the future of #patient care.

We make getting to market easier for entrepreneurs by offering insider knowledge, mentorship, connections and access to funding

**UCSF** Rosenman  
Institute

Learn More!





Join Our 8th Annual

# Rosenman Symposium

Innovating Healthcare  
Access: A New Era for  
the Future

Attend



Keynote speaker:

## Nick Kristof

Two-time Pulitzer  
Prize-Winning  
Journalist, Author,  
& Opinion  
Columnist for The  
New York Times



**UCSF** Rosenman  
Institute

**May 21-22, 2024 | Mission Bay**

# AW24

UCSF ALUMNI WEEKEND | APRIL 12-13, 2024

Celebrate with us at  
UCSF's Mission Bay campus

Join fellow UCSF alumni at Alumni Weekend 2024



Point your mobile device  
camera at the QR code to  
visit [alumni.ucsf.edu/aw](https://alumni.ucsf.edu/aw).

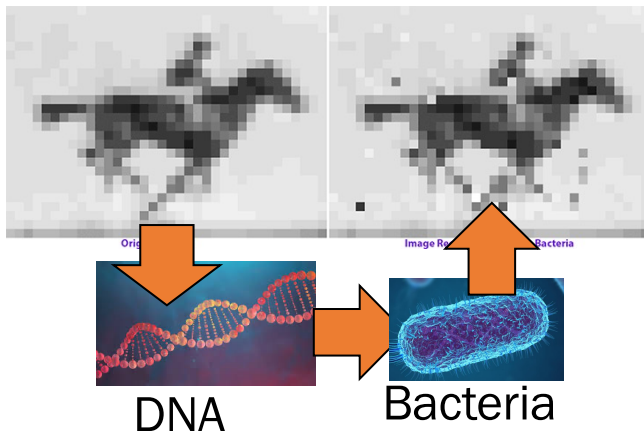


# Completing the Circle of Innovation: Biology for Engineering

Robotics for High  
Throughput Science



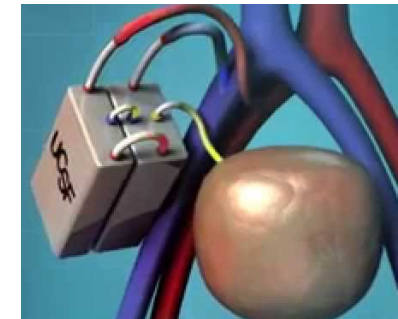
Recording Video in DNA



Engineering

Biology  
Health

Medical Implants

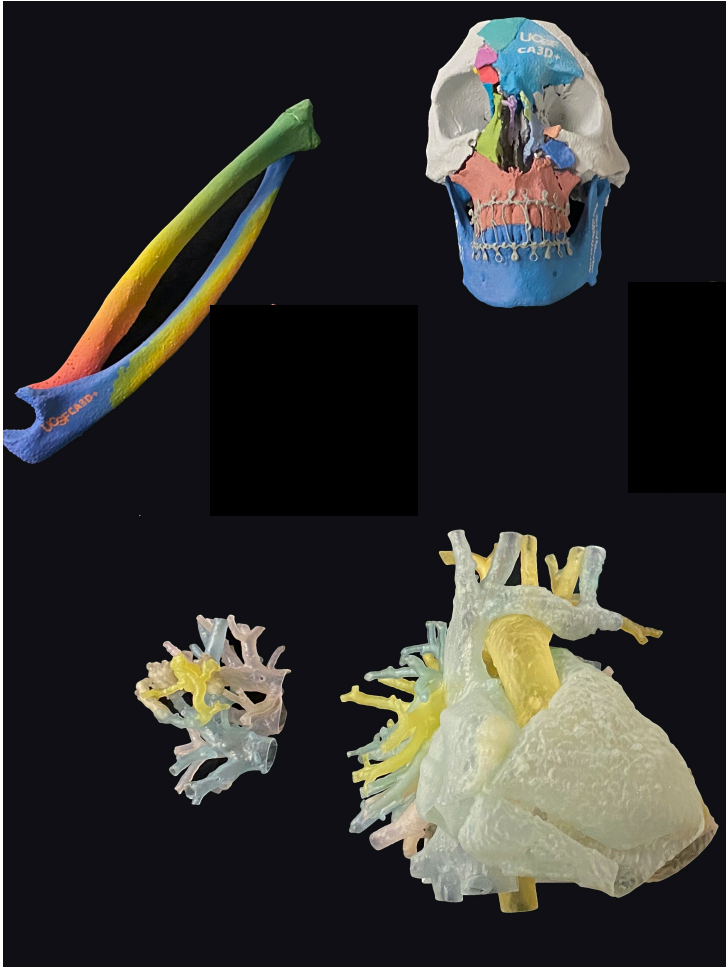


Living Building Materials

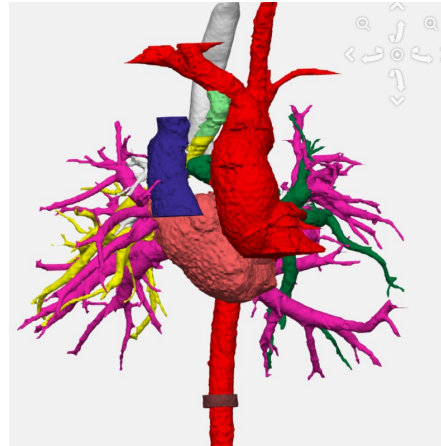




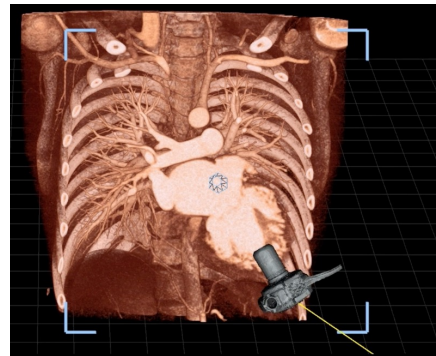
# UCSF Center for Advanced 3D+ Technologies (CA3D+)



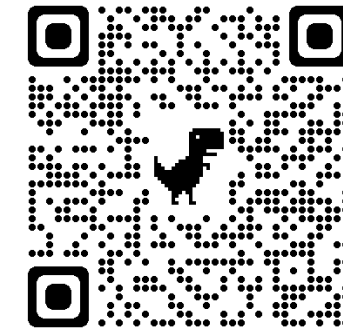
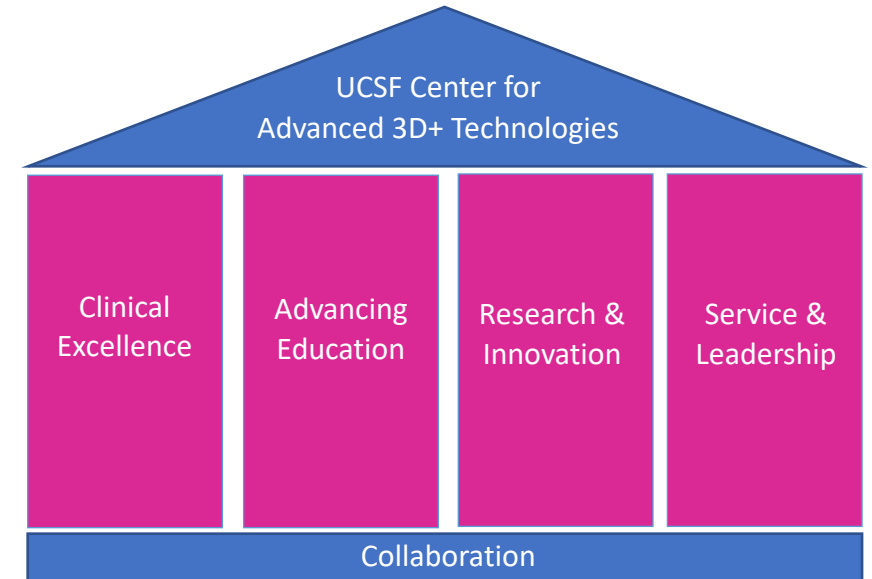
3D Printing



Virtual surgical  
planning



Advanced visualization  
Augmented/Virtual/Mixed Reality



<https://ca3dplus.ucsf.edu/>



## The Mission

To improve the health, safety, and quality of life of pediatric patients by accelerating high-value, high impact pediatric device solutions at all stages of the total product lifecycle towards commercialization.

## The Team @ UCSF



Hanmin Lee, MD  
Clinical Lead

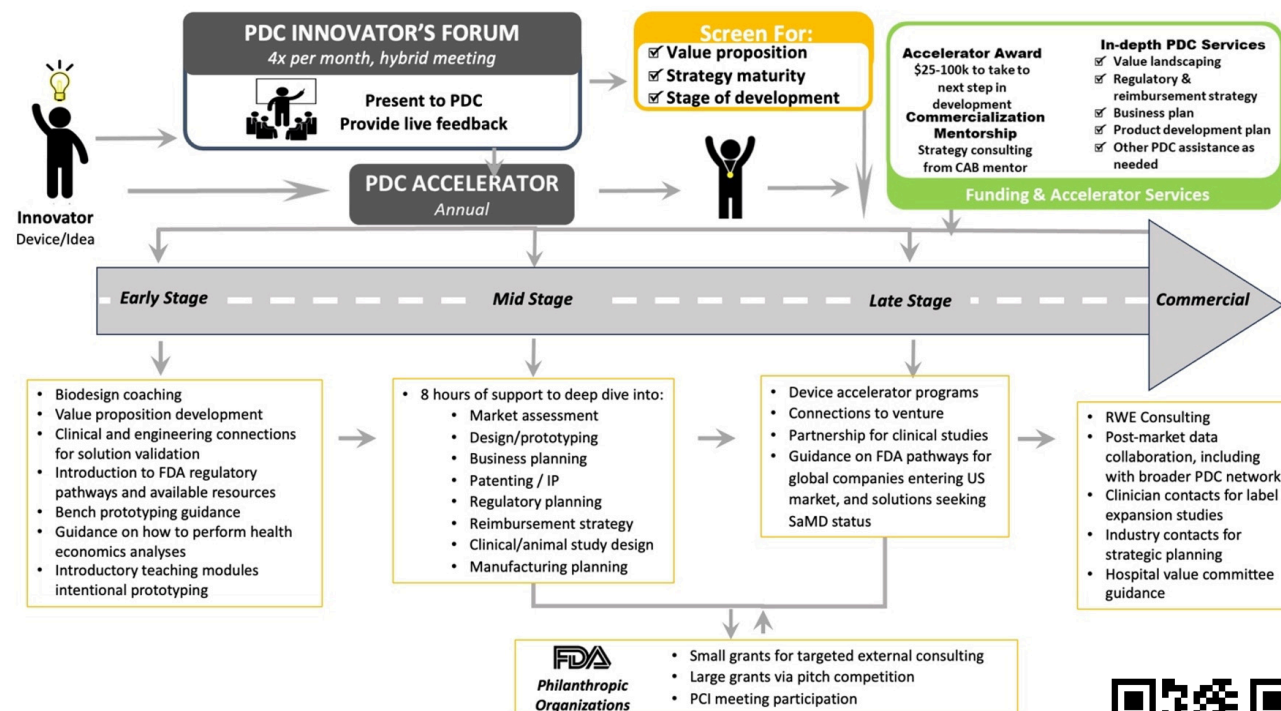


Shuvo Roy, PhD  
Engineering Lead



Usha Thekkedath, MD  
Admin Director

## The Process



Learn More and Contact Us Here:





John Fahy, MD, MS  
Co-founder, Aer  
Therapeutics  
UCSF Pulmonologist and  
Innovator

## PROBLEM:

- Between 30 and 50% of COPD patients with severe and very severe COPD suffer from airway obstruction caused by mucus plugs.
- Mucus plugs reduce lung function and diminish quality of life.
- There are no drugs approved to effectively liquify mucus plugs (mucolytics) in patients with COPD.

## SOLUTION:

- AER-01 is a novel inhaled best-in-class therapeutic candidate designed to improve lung health by liquifying mucus plugs.
- AER-01 is a thiol-modified carbohydrate (“thiol-saccharide”) which cleaves mucine disulfide bridges to liquefy (“lyse”) mucus plugs.



## TRACTION:

- >\$18M in NIH funding
- \$36M Series A

LEARN  
MORE:



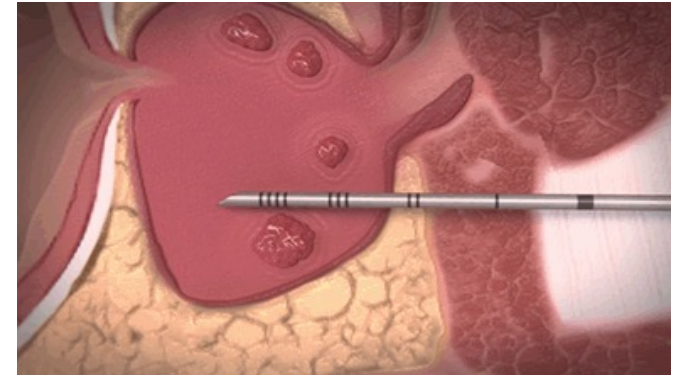
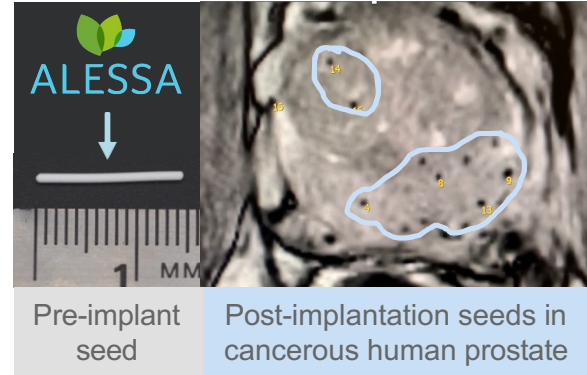




**Pamela Munster, MD**  
 CEO and Co-founder,  
 Alessa Therapeutics  
 UCSF Professor of  
 Medicine and Innovator

**PROBLEM:**

- Some 1 in 6 men will be afflicted with prostate cancer during their lifetimes, 30k will die every year.
- 12M men in the US seek treatment for benign prostate hyperplasia every year.
- Current therapies mainly centered around systemic testosterone ablation.



**SOLUTION:**

- Implant and delivery systems for localized, sustained drug delivery without systemic side effects.
- Focused on treatment of localized prostate cancer and BPH.
- Robust pipeline of target specific organ selective strategies.

**TRACTION:**

- Alessa Therapeutics continues patient Enrollment in Biolen®+RT Study with National Cancer Institute
- Alessa Therapeutics Announces Research Collaboration with Janssen
- Alessa about to start clinical trial with Enolen in Q1 2024

LEARN MORE:





### UCSF Co-founders

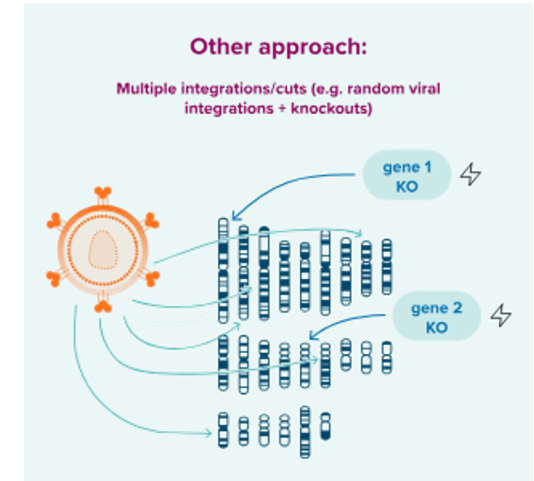
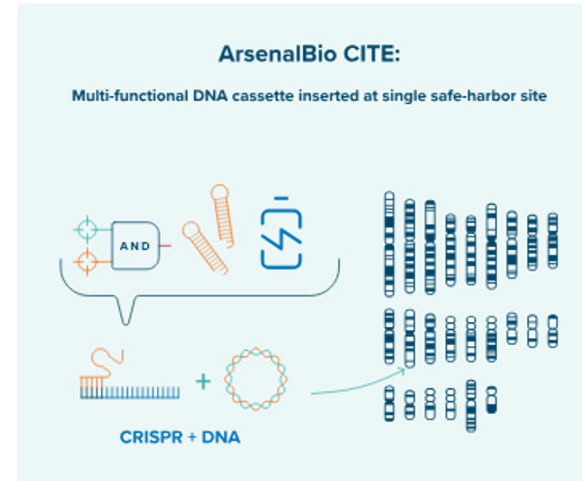


Alexander Marson,  
MD, PhD  
Co-founder, ArsenalBio  
UCSF Professor and Innovator

Kole Roybal, PhD  
Co-founder,  
ArsenalBio  
UCSF Professor and  
Innovator

### PROBLEM:

- Solid tumors are complex and refractory to most treatment regimens.



### SOLUTION:

- Deploying the combination of CITE editing, a toolkit of synthetic receptors for tumor recognition and a combination of T cell enhancements to improve therapeutic activity.

### TRACTION:

- Dose escalation underway with AB-1015 in Phase 1 clinical trial in ovarian cancer. Second program in kidney cancer, AB-2100, enrolling
- Collaborations with BMS and Genentech
- >\$500M in Equity Funding and Revenues





# BRAYVE™: *The Smartphone Technology Platform for Radiation Oncology*



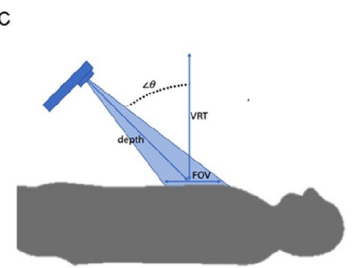
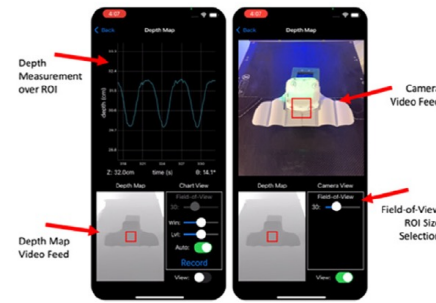
**Tomi F. Nano, PhD, DABR**  
Co-founder, Brayve™  
UCSF Assistant Professor of Radiation Oncology, Medical Physicist

**Dante Pl. Capaldi, PhD, DABR**  
Co-founder, Brayve™  
UCSF Assistant Professor of Radiation Oncology, Medical Physicist



## PROBLEM:

- Only 30% of clinics have access to surface breath-hold systems and patients have no effective way of practicing their breath-holds.
- This more than doubles the chances of cardiac toxicity during radiation treatment.



## SOLUTION:

- BRAYVE is a smartphone technology platform for radiation oncology and radiology that empowers clinics to more effectively treat cancer patients undergoing breath-hold, while also giving patients access to the worlds-first at-home device that will improve their breath-hold consistency.

## TRACTION:

- Provisional patent approved, full patent pending
- MVP 80% complete and technology validated against current systems

LEARN MORE:





Luke Gilbert, PhD  
Co-founder, Chroma  
Medicine  
UCSF Professor and  
Innovator

**PROBLEM:**

- To build single dose therapeutics that durably control expression of human genes.

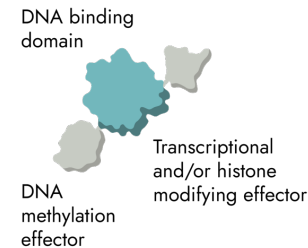
**SOLUTION:**

- Single-dose genomic medicines that harness epigenetics for durable and heritable gene silencing.
- A modular platform for epigenetic editing to address a wide range of complex diseases.

**TRACTION:**

- Chroma Medicine Presents Preclinical In Vivo Data Showing Durable Cholesterol Reduction with a PCSK9-Targeted Epigenetic Editor at the 2023 AHA Scientific Sessions
- >\$250M in Funding

**Chroma Epigenetic Editor**



**Gene Silencing**

Methylate to silence gene expression



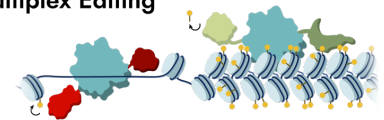
**Gene Activation**

Demethylate to activate gene expression



**Multiplex Editing**

Modify multiple genes simultaneously



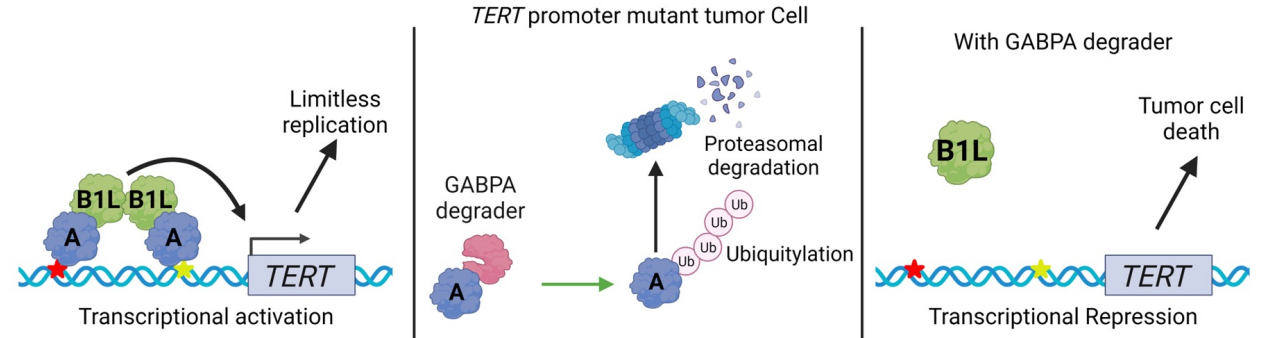




Joseph F. Costello, PhD  
 Co-founder, Curaidh Bio  
 UCSF Professor and Karen Osney Brownstein Endowed Chair in Molecular Neuro-Oncology

**PROBLEM:**

- Mutation in the TERT promoter enables unlimited cell proliferation for over 50 cancer types, including glioblastoma.
- The SOC for glioblastoma has remained unchanged for decades and the average survival rate is 15 months.



**SOLUTION:**

- GABP degrader reduces TERT expression in tumor cells harboring the TERT promoter mutation.
- Reduced TERT causes a shortening of telomeres in cancer cells and improves survival in an orthotopic xenograft mouse model of GBM.
- Replicating retroviral delivery system only infects dividing cells and will be used for cancer specific delivery of the degrader.

**TRACTION:**

- Provisional patent filed. Publication under revision at Nature Genetics.

LEARN MORE:



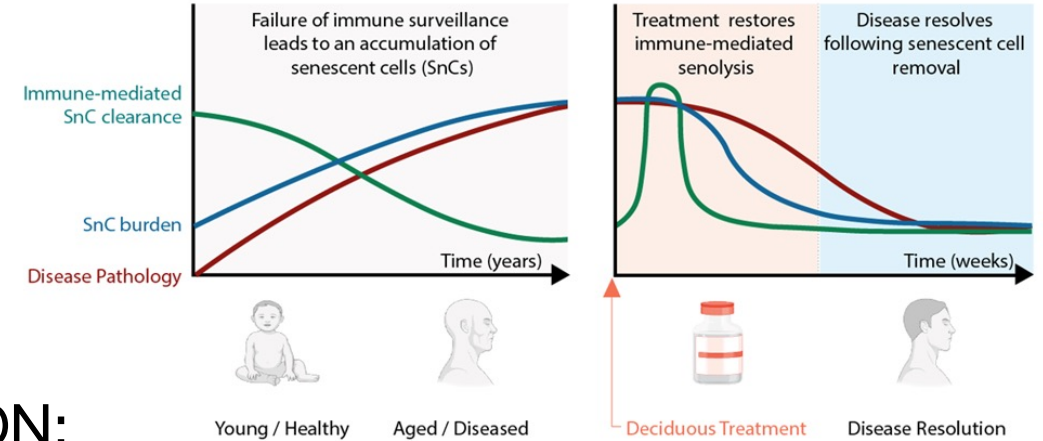




Anil Bhushan, PhD  
Scientific Co-founder,  
Deciduous Therapeutics  
UCSF Professor and  
Innovator

## PROBLEM:

- Killing pathologic senescent cells improves many preclinical age-related disease models.
- Identifying a target that is safe for systemic administration remains a challenge.



## SOLUTION:

- Deciduous eliminates senescent cells by re-activating the failed immune system's surveillance mechanism in diseased patients.
- A single systemic dose improves endpoints in a pulmonary fibrosis preclinical model, as well as a diet-induced obesity metabolic disease model in under two weeks.

## TRACTION:

- >\$18M in funding
- Mechanism discovery published in *Med* titled, "Invariant natural killer T cells coordinate removal of senescent cells"

LEARN  
MORE:



UCSF Co-founders



Joe DeRisi,  
PhD  
UCSF Professor



Michael Wilson,  
MD  
UCSF Professor



Charles Chiu,  
MD, PhD  
UCSF Professor

**PROBLEM:**

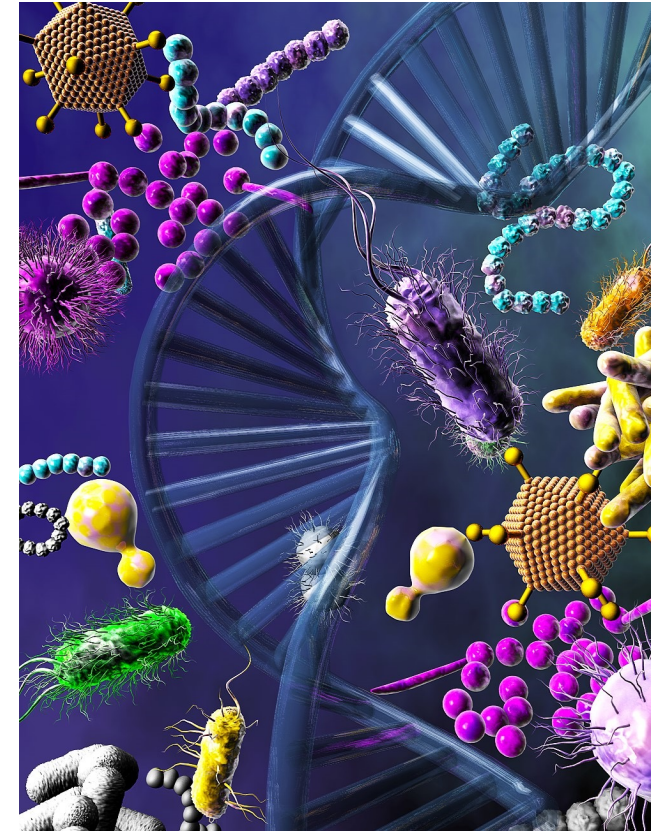
- 60% of Meningitis and Encephalitis (ME) cases are due to infection.
- 50% of ME cases are undiagnosed.
- Conventional testing is limited, targeting only a handful of suspected pathogens at a time and delaying effective treatment in critically ill patients.

**SOLUTION:**

- Agnostic, broad-based detection of pathogens that cause neurologic infections from cerebrospinal fluid.
- Proprietary bioinformatics analysis platform.

**TRACTION:**

- \$35M Series A funding
- Charles Chiu receives Research or Leadership in Clinical Microbiology Award from the American Society for Microbiology
- Delve partners with US CDC in a Nationwide Fungal Meningitis Outbreak Investigation



LEARN  
MORE:





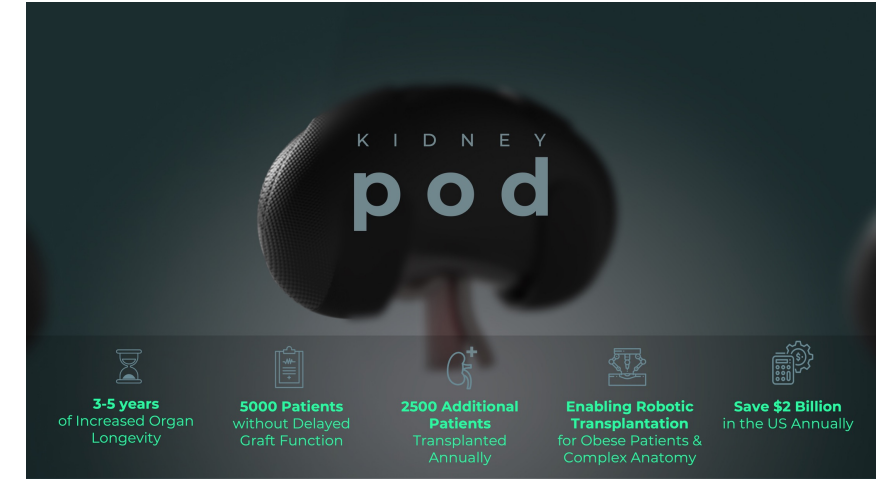
Keith Hansen, MD  
Co-founder and CEO, Diatiro  
UCSF General Surgery Resident and Innovator



Tom Sorrentino, MD  
Head of Clinical Development  
UCSF General Surgery Resident

**PROBLEM:**

- 30% of patients with a kidney transplant go back on dialysis after transplant.
- Thousands of marginal donor kidneys are discarded each year.
- **Warming injury to the kidney during sew-in** drives these poor outcomes, and the standard of care (ice and gauze) is **ineffective**.



**SOLUTION:**

- The Kidney Pod keeps the donated kidney at the optimal temperature during sew-in, **eliminating warming injury**.
- Gives surgeons the confidence to **Say Yes** to more marginal kidneys.
- Platform cooling technology applicable to cardiac surgery and all organ transplants.

**TRACTION:**

- \$1.6M in pre-seed funding (UCSF Catalyst, UCSF PDC Stanford Medicine Catalyst)
- National Kidney Foundation Innovation Fund Investment
- FDA Breakthrough Device Designation (2022)

LEARN MORE:







Adam Renslo, PhD  
Co-founder, Elgia Therapeutics  
UCSF Professor and Associate  
Dean for Entrepreneurship



Michelle Arkin, PhD  
Co-founder,  
Elgia Therapeutics  
UCSF Professor

### PROBLEM:

- Dramatic rise in the incident of chronic inflammatory diseases presents a global health burden.



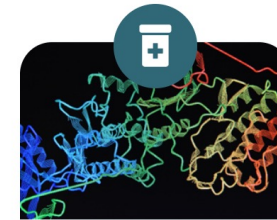
#### Extraordinary Biology Insight

Intersection of untapped biology, unique MOA, efficacy, and safety



#### Disease and Drug Discovery Depth

Exceptional foundation for drug discovery from combined experience of leadership



#### Highly Enabled Drug Development

Advanced chemical matter, SBDD and clinical know-how to move assets quickly



#### Expansive Pipeline Opportunities

Multiple clinical applications for metabolic, inflammatory and fibrotic diseases

### SOLUTION:

- Elgia Therapeutics targets caspase-1 for hidradenitis suppurativa as initial indication.
- Our novel active-site, targeted covalent and allosteric inhibitors disrupt key cellular processes involved in metabolic, inflammatory, and fibrotic diseases.

### TRACTION:

- ~\$5M in seed funding to date.







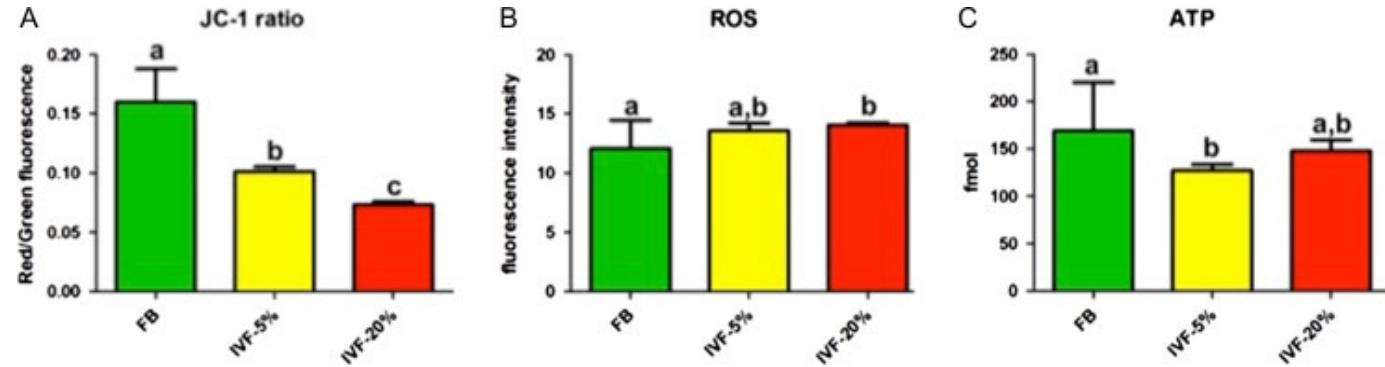
# Improving IVF Success with Advanced Embryo Selection Technology



Paolo Rinaudo, MD, PhD  
Cofounder, EmbryoDx Solutions  
Obstetrics/Gynecology and Reproductive Endocrinologist at UCSF

## PROBLEM:

- Inability to identify the healthiest embryos to transfer, leading to low success rates of IVF and need for multiple IVF cycles.



## SOLUTION:

- Novel biomarkers indicative of embryonic health, laying the foundation for a safe and reliable device tailored for embryo selection.
- State-of-the-art technology that has the potential to dramatically increase IVF success rates.

## STATUS:

- Spinning out

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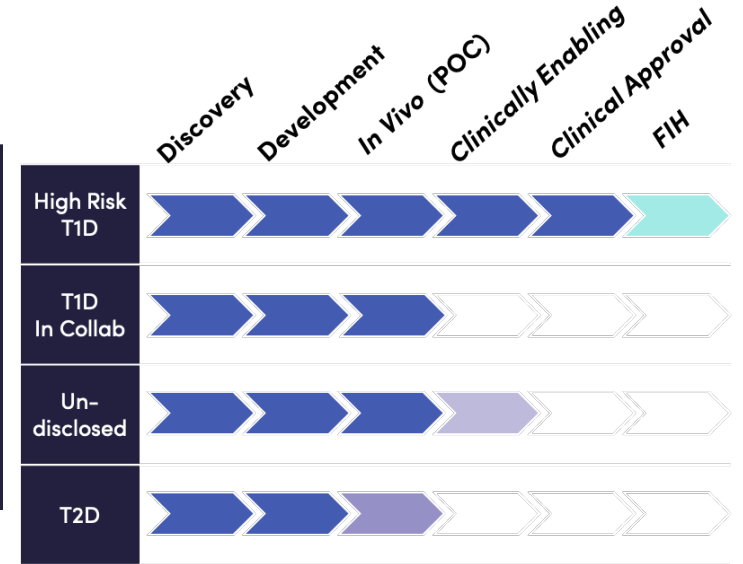




Crystal Nyitray, PhD  
Co-Founder Encellin  
Founder, Inventor  
UCSF, Sanofi, YCombinator

**PROBLEM:**

- Next generation therapies to help patients with chronic unmet clinical needs.
- Starting with endocrine disorders.



**SOLUTION:**

- Encapsulated Cell Replacement Therapy (EnCRT).
- Encellin’s EnCRT allows enclosed cells to function like smart molecular factories, releasing therapeutics when needed.

**TRACTION:**

- ~\$10M in funding 2023

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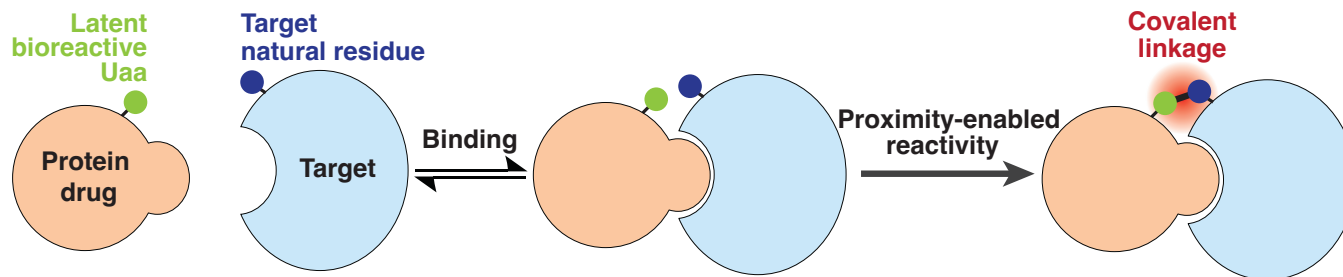




Lei Wang, PhD  
Inventor, Enlaza  
Therapeutics  
UCSF Professor and  
Innovator

### PROBLEM:

- Proteins bind target reversibly.
- Most therapeutics still suffer from low tumor retention and high off-target toxicity.



### SOLUTION:

- New generation of covalent ‘War-Lock<sup>TM</sup>’ biologics
- Proprietary unnatural amino acids.
- Protein drugs derived from the platform can be modified to incorporate various payloads, creating antibody-drug conjugates (ADCs) or radioligand therapies (RLTs) with specific target tissue delivery, without the need for half-life extension engineering.<sup>1</sup>

### TRACTION:

- \$61M in Funding

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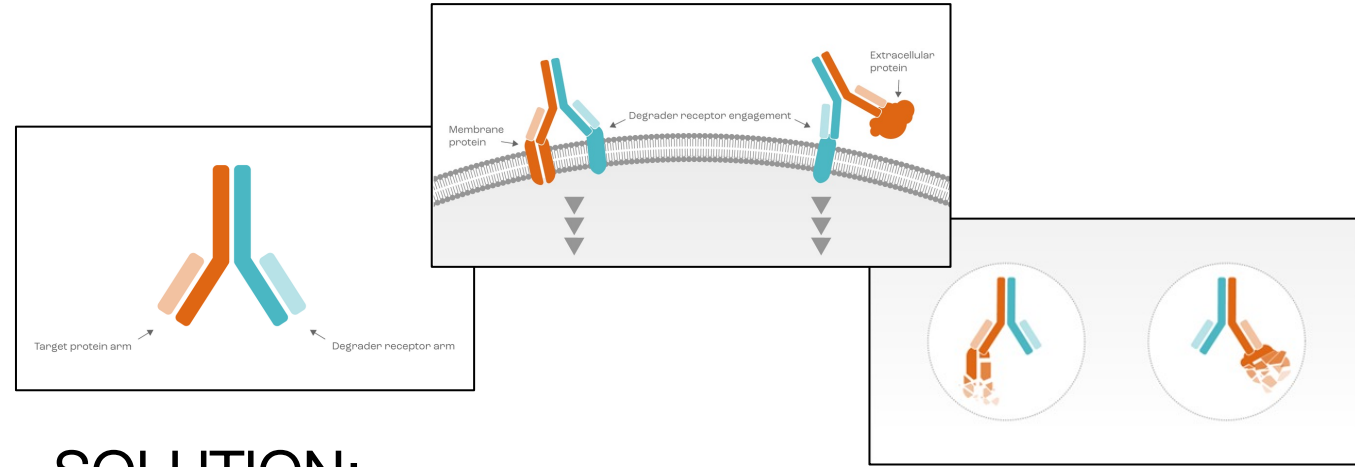




**Jim Wells, PhD**  
Co-Founder,  
EpiBiologics  
Director, Small Molecule  
Discovery Center (SMDC)  
Director, Antibiome Center  
UCSF Innovator

## PROBLEM:

- First generation protein degradation approaches target intracellular proteins only.
- 40% of the proteome is unaccounted for.
- Better targeted therapies are still needed.



## SOLUTION:

- EpiTAC platform enables the development of targeted therapies.
- Targeted degradation of disease-driving membrane and extracellular proteins.
- Solution has applications in cancer, immunology and neurological diseases.

## TRACTION:

- >\$70M in funding 2023

LEARN  
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**Scott C. Baraban, PhD**  
Co-founder, Epygenix  
Therapeutics  
Professor, William K. Bowes  
Jr. Endowed Chair in  
Neuroscience Research  
UCSF Innovator

## PROBLEM

- 30-40% of epilepsy is caused by genetic mutation.
- Most genetic epilepsies are pharmaco-resistant, emerge early in life & are life-threatening.
- Existing antiepileptic medications were not identified using genetic epilepsy models.



## SOLUTION

- ‘Aquarium-to-Bedside’ drug discovery using genetically modified zebrafish models in high-throughput phenotype-based drug screening.

## TRACTION

- >\$35M in seed funding
- Six drug candidates licensed from UCSF w/ method-of-use and formulation IP
- Compassionate-use and OLE data
- On-going ARGUS Phase 2 Potentially Pivotal Study of EPX-100 Treatment of Dravet Syndrome

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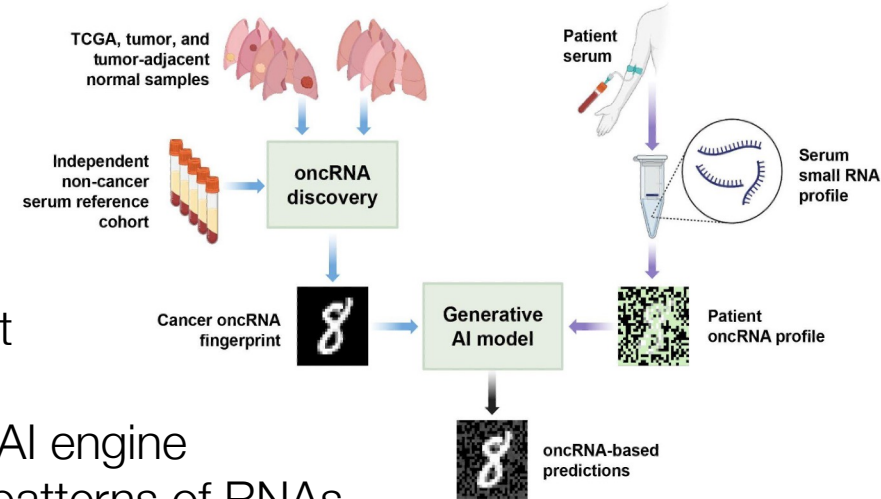
Hani Goodarzi, PhD  
 Co-founder & Scientific Advisor, Exai Bio  
 UCSF Associate Professor and Arc Institute Core Investigator

**PROBLEM:**

- Too often, cancer is detected too late. Liquid Biopsy holds the promise to improve cancer screening.
- Early progress has been made using DNA biomarkers in the blood, however early stage and small tumor detection remains challenging.

**SOLUTION:**

- Novel RNA biomarkers actively shed only by living cancer cells. Exai has amassed the largest cfRNA database.
- Highly sophisticated AI engine reveals cancer specific patterns of RNAs in blood.
- Exai's platform can be used across the cancer diagnostics continuum including screening, monitoring and therapy selection.
- Highly sensitive detection of earliest stages of cancer and the smallest tumors.



**TRACTION:**

- Exai launched in 2021 with a \$67.5M Series A funding
- Amassed the largest cfRNA dataset
- Presented data across 8 cancers

LEARN MORE:







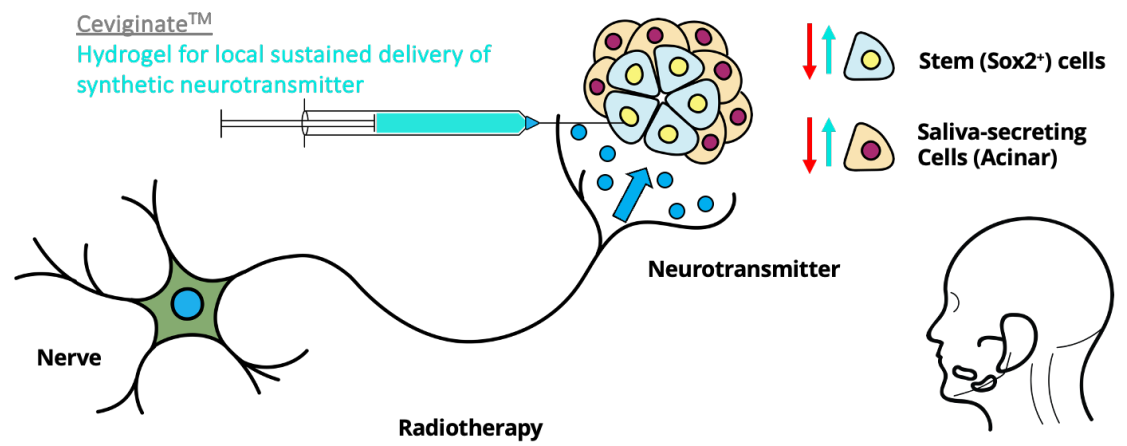
Sarah Knox, PhD  
Co-founder and CSO,  
Hydronovo  
UCSF Professor of Cell and  
Developmental Therapy



Chelsea Bahney, PhD  
Co-founder and  
CEO/COO, Hydronovo  
UCSF Associate Professor of  
Orthopedic Surgery

**PROBLEM:**

- No regenerative therapies are available to treat xerostomia, damage incurred to salivary glands in the course of radiation treatment for head and neck cancers.
- Preventative treatments show little benefit.



**SOLUTION:**

- An injectable neuromimetic hydrogel to regenerate radiotherapy-damaged salivary gland tissue through stimulation of resident stem cells to overcome xerostomia, or dry mouth.

**TRACTION:**

- ~\$6.3M in NON-DILUTIVE funding (NIH and CIRM)
- 505(b)2 Accelerated FDA pathway
- Pre-IND Submission Completed
- U.S. & International Patent Application filed

LEARN MORE:





Andrew Auerbach, MD  
Board Chair, Co-founder  
Professor of Medicine  
[andy@kuretic.com](mailto:andy@kuretic.com)

## PROBLEM:

- Health Systems face overwhelming risks in adopting new Digital Health tools
  - Costs ~\$80K + weeks for each vendor discovery and diligence
  - Onboarding takes forever
  - No performance monitoring

Novel platform to lower friction between health systems and digital health tool vendors, leading to faster adoption of tools with better outcomes

## SOLUTION:

- 100s of proprietary data points for each tool with pre-recorded demos and confidential peer feedback → select tools with confidence
- Automated checklists and workflow automation → speed up onboarding
- Performance monitoring → improve outcomes

## TRACTION:

- IP licensed from UC
- Signing up Beta customers



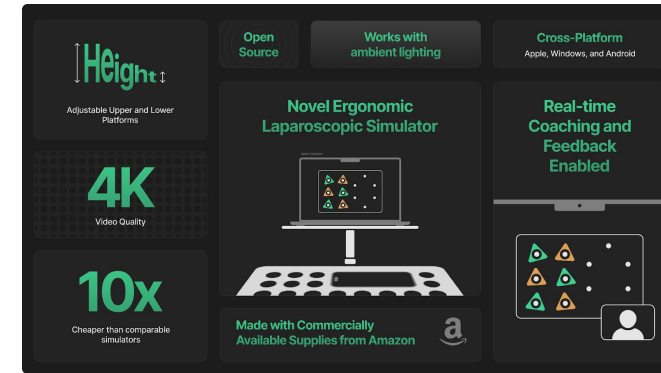
# A Novel Ergonomic Simulator for Laparoscopic Surgery



Tejas Sathe, MD  
Co-inventor  
UCSF Surgical Innovation  
Fellow and Innovator

## PROBLEM:

- 80% of surgeons report musculoskeletal pain due to surgeries.
- Current laparoscopic surgery simulators are either too expensive, non-portable, or non-ergonomic.
- Ergonomic simulation training remains inaccessible to most residents.



## SOLUTION:

- An affordable, high-fidelity and ergonomical simulator for laparoscopic surgery.
- Simulator utilize wireless video transmission through Apple's Continuity Camera technology that allows for real time broadcasting as the camera captures the working surface and displays real-time video on the laptop screen.
- Cost of materials <\$35 (not including laptop and iPhone).

## TRACTION:

- Prototype built and currently used by residents in their skills curriculum

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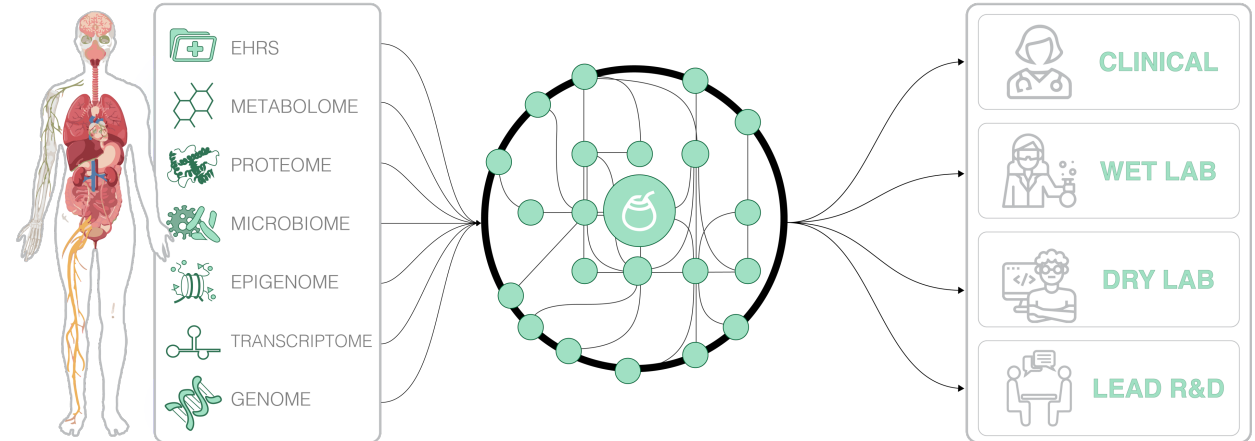
**Charlotte Nelson**  
Co-founder & CEO,  
Mate Bioservices  
UCSF BMI Alum

**Sergio Baranzini**  
Co-founder, Mate Bioservices  
UCSF Professor of Neurology



## PROBLEM:

- Biological complexity is resisted instead of embraced in biomedical research.
- Data and knowledge silos impede scientific breakthroughs.



## SOLUTION:

- Mate's core engine offers unparalleled data access - harmonized, normalized, & seamlessly packaged.
- Intuitive explainable AI interfaces for wet and dry lab scientists tackle months of research in minutes.

## TRACTION:

- Supported by the NSF Convergence Accelerator
- Leveraged by NASA, academic institutions, and pharma companies of all sizes, worldwide

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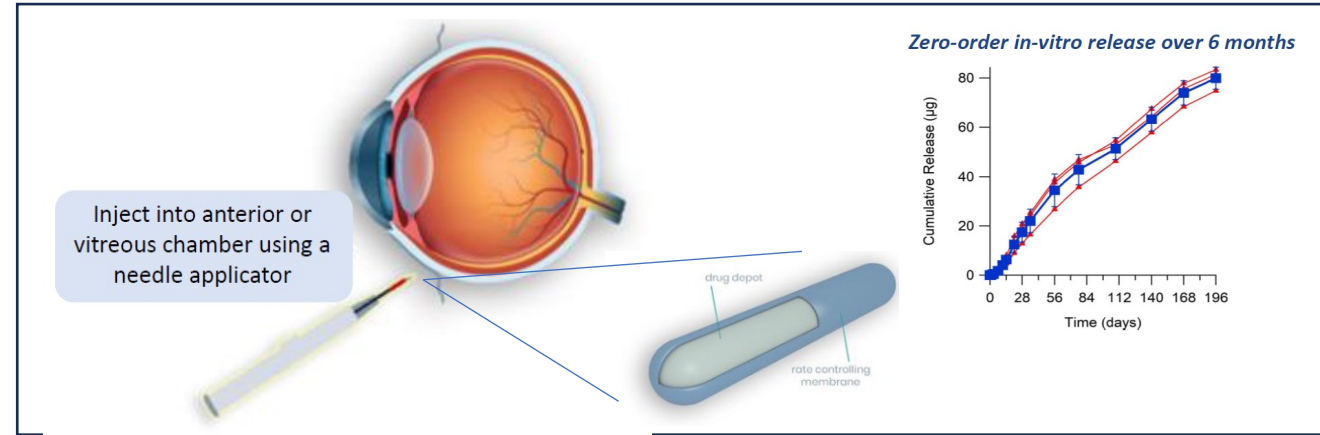




Robert Bhisitkul, MD,  
PhD  
Co-founder, Oculinea  
Inc  
UCSF Professor of  
Ophthalmology  
and Innovator

### PROBLEM:

- Adherence with medications is a fundamental problem in the care of glaucoma patients as 24–59% fail to receive the intended treatment.
- Non-adherence to therapy leads to irreversible loss of vision.



### SOLUTION:

- Long acting zero-order drug delivery of small molecules & biologics for 6-months or longer. Office based procedure: **Miniaturized Injectable Delivery System (MIDS)**.
- Transform treatment for glaucoma & retinal diseases with better clinical outcomes through patient compliance.

### TRACTION:

- Lead Program: Glaucoma MIDS at IND Enabling Stage
- Accelerated regulatory pathway: FDA's 505(b)(2)
- 12 Issued Patents (Domestic and International)
- Partnerships with major pharmaceutical companies

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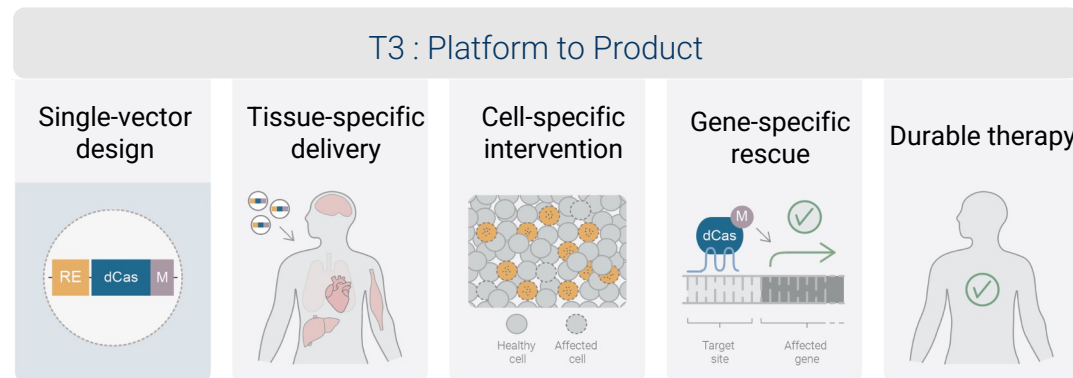
**Navneet Matharu, Ph.D.**  
Co-founder/CSO, Regel Tx  
UCSF Assistant (Adjunct)  
Professor  
IGI-WIES fellow

**Nadav Ahituv, Ph.D.**  
Co-founder Regel Tx  
UCSF Professor, Bioengineering  
Director, Institute for Human  
Genetics



## PROBLEM:

- Disease modifying therapies for haploinsufficient disorders are lacking.
- Approx 600 such disorders have high unmet need.
- Targeted genetic therapies are needed.



## SOLUTION:

- Clinical vector with a dCas module and an engineered enhancer.
- Targeted delivery with a one-time injection in the affected system.
- Restricts the intervention to the affected cells
- The dCas module normalizes the level of gene expression.

## TRACTION:

- Raised 6M seed + BD partnership
- 3 programs under a Research Collaboration and Option Agreement with Sarepta Therapeutics

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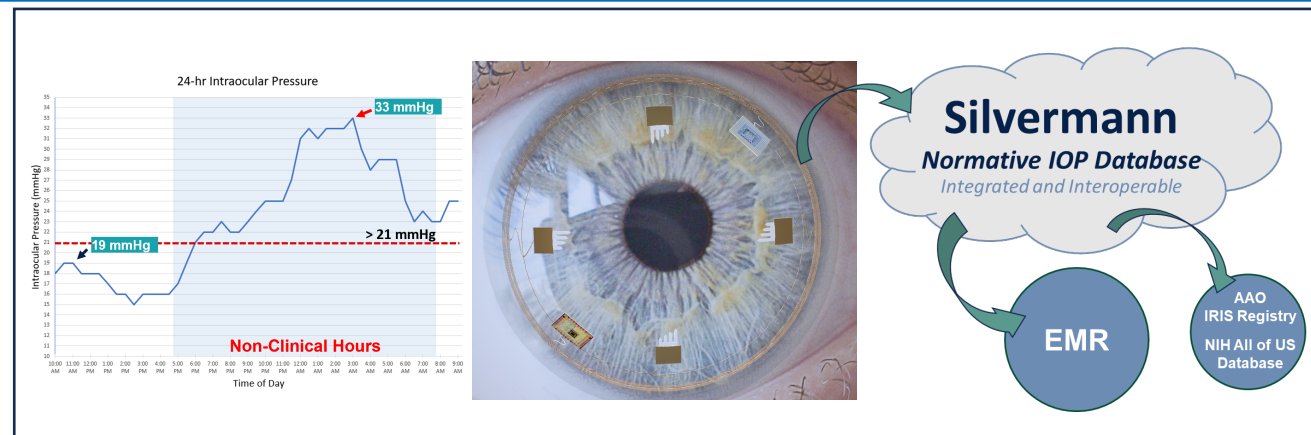




O'Rese J. Knight, MD  
Co-Founder, SalVista  
UCSF Associate Professor  
Ophthalmology  
and Innovator

### PROBLEM:

- Current methods to diagnose and manage glaucoma are inadequate and represent a significant burden on the healthcare system.
- 24-hr IOP monitoring demonstrated that nearly 80% of patients are under-treated.
- Current delays in diagnosis and under treatment yield unnecessary vision loss.



### SOLUTION:

- Mounting self-sensing cantilevers in soft contact lenses unlocks accurate and automated 24-hr IOP monitoring
- Normative database and algorithms enable better diagnosis and decision-making tools for treatment selection

### TRACTION:

- 3 patents filed or in process
- ~\$1M raised in non-dilutive funding
- Currently in discussions on FDA 510k De Novo

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**Nikole Kimes, PhD**  
Co-founder and CEO,  
Siolta Therapeutics  
UCSF Inventor & PhD  
Postdoc Alum

## PROBLEM:

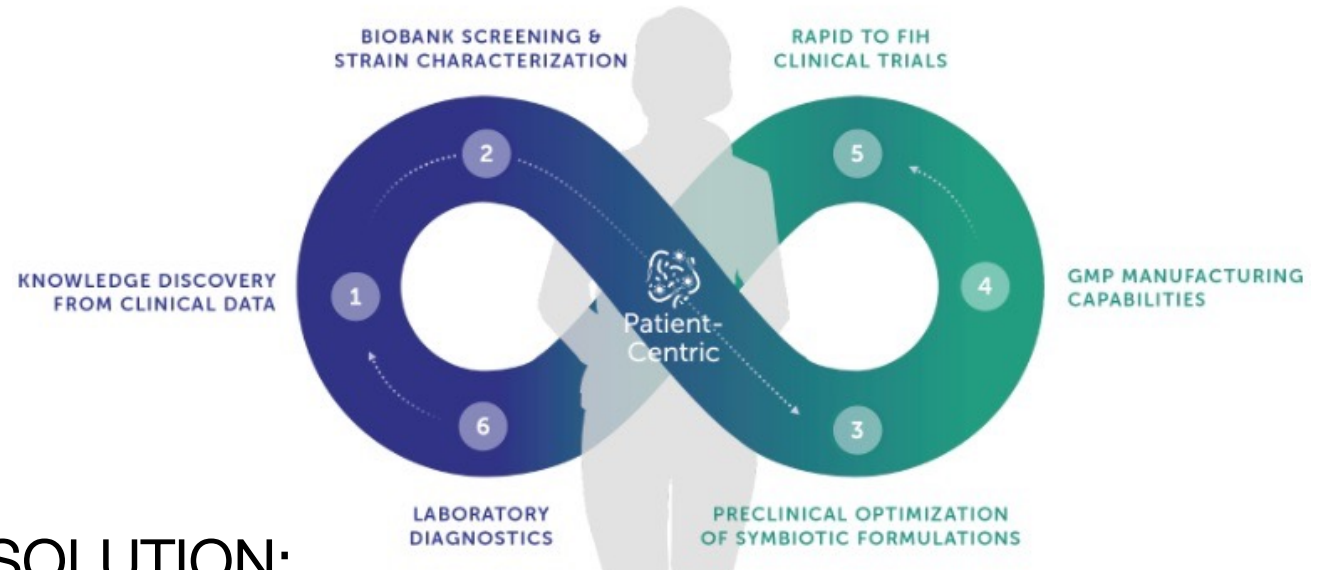
- Developing live biotherapeutics that target the core drivers of disease.
- Microbial therapeutics reseed the depleted gut microbiome to prevent and treat disease.

## SOLUTION:

- Patient-centric platform.
- Microbiome data analysis, machine learning, anaerobic microbiology.
- Optimizes multi-strain live biotherapeutics to prevent/treat disease.

## TRACTION:

- \$50M in funding
- Awarded multiple NIH grants





**Jesse Courtier, MD**  
Co-founder, Sira Medical  
UCSF Chief of Pediatric  
Radiology and Innovator

## PROBLEM:

- Surgeons have difficulty translating radiology information into real world patients for preoperative planning.

## SOLUTION:

- Augmented reality software to help with preoperative planning by providing patient-specific high fidelity 3D holograms.



## TRACTION:

- Nearly \$1M from grants, accelerators, and VC funding
- Completion of 5 pilots (presented/published)
- IP: developed proprietary software and model creation methods
- Member Microsoft Mixed Reality Partner Program
- Finalist UCSF Digital Health Award
- Recently submitted product for FDA 510k clearance

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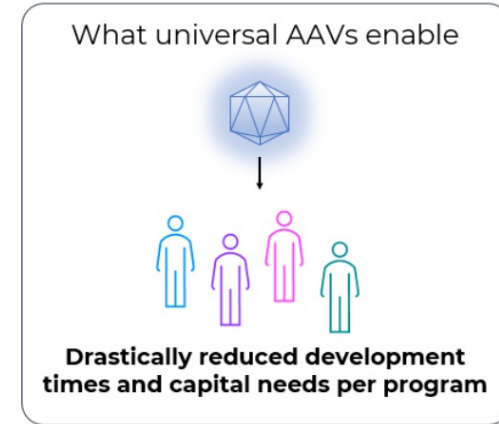
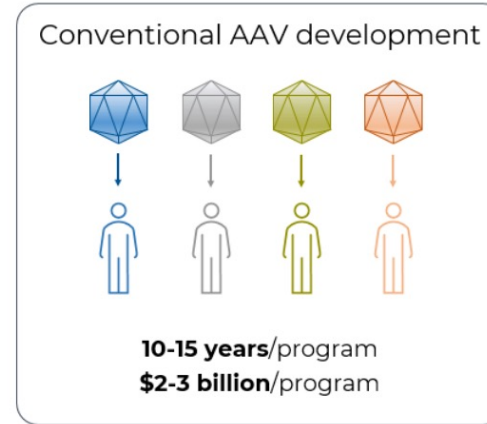
Nicole K. Paulk, PhD  
CEO, Founder, President  
Siren Biotechnology  
Prior UCSF Professor

## PROBLEM:

- No effective therapies for brain and eye cancers.

## TRACTION:

- Awarded \$4M in Grant Funding from the California Institute for Regenerative Medicine (CIRM)



## SOLUTION:

- Combining AAV gene therapy and cytokine immunotherapy into a single, reimagined modality that overcomes key challenges and redefines how we destroy tumor cells and elicit anti-tumor immunity
- The first AAV gene therapy that can be made once and used in numerous indications.
- Our universal design drastically reduces clinical development times, manufacturing timelines, and capital needs for each clinical trial.
- ‘Universal’ means countless solid tumor cancer patients regardless of tumor type or mutations may benefit from this breakthrough approach.

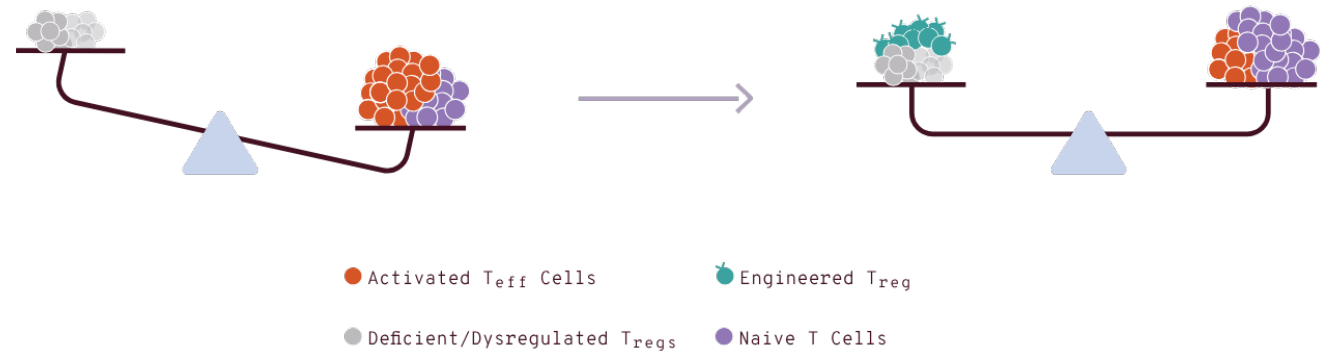




Jeffrey Bluestone, PhD  
 Co-founder, Sonoma  
 Biotherapeutics  
 CEO, President and Emeritus  
 UCSF Professor and  
 Innovator

## PROBLEM:

- There are many autoimmune diseases which together account for among the highest rate of medication expenditures in the US.
- RA alone contributes an estimated \$22.3B.



## SOLUTION:

- One time treatment focused on autoimmune and inflammatory diseases.
- A unique platform for engineering actual Treg cells and depletion and deactivated Teff cells at the site of disease.

## TRACTION:

- >\$400M in Funding
- Sonoma Biotherapeutics Presented Preclinical Data from Novel  $T_{reg}$  Therapy for Rheumatoid Arthritis at American College of Rheumatology Convergence 2023

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 MORE:







**Gilmer Valdes, PhD**  
**Co-Founder, Sparsa**  
 Associate Professor,  
 Department of Radiation  
 Oncology and Epidemiology  
 and Biostatistics

### PROBLEM:

- The computational burden of AI is increasing exponentially, impacting Energy consumption and compute costs.
- Such computational burden could also worsen the climate crisis.



**Foundation Models**  
 on Edge, Mobile



**AI Computing**  
 Alignment, Tuning, Inference



**Data Management**  
 Storage, Analysis

### SOLUTION:

- For any given computational budget, the SparsaAI™ algorithm delivers the optimal network architecture.
- Algorithm characterizes the optimal tradeoff between budget and architecture.

### STATUS:

- Spinning out

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 MORE:





**Ralph Gonzales, MD**  
Chief Innovation Officer  
UCSF Health  
UCSF Clinical Innovation  
Center

### PROBLEM:

- Timely and accurate data is a must to track, explore, and forecast clinical initiatives
- Current data collection tools may be cumbersome, delayed, or unavailable

**SOLUTION:** A self-service “value calculator” built in partnership with tag.bio analytics start-up



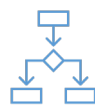
**Avoid waiting weeks for data requests:** Point-of-care use enables users to avoid waiting for data pulls



**Limitless potential to explore innovative solutions:** Platform draws directly from UCSF financial data



**Creative cohort comparisons:** Cohort feature allows inquiry of user-defined parameters



**Drive real-time decision making:** Queries return in seconds, allowing for rapid inquiry and iteration

### TRACTION:

- Using tag.bio platform, **\$3.7M** inpatient costs avoided in reducing short stay admissions from ED

## UCSF Co-founders



**Adam Renslo, PhD**  
Tatara Therapeutics  
UCSF Professor and  
Associate Dean for  
Entrepreneurship



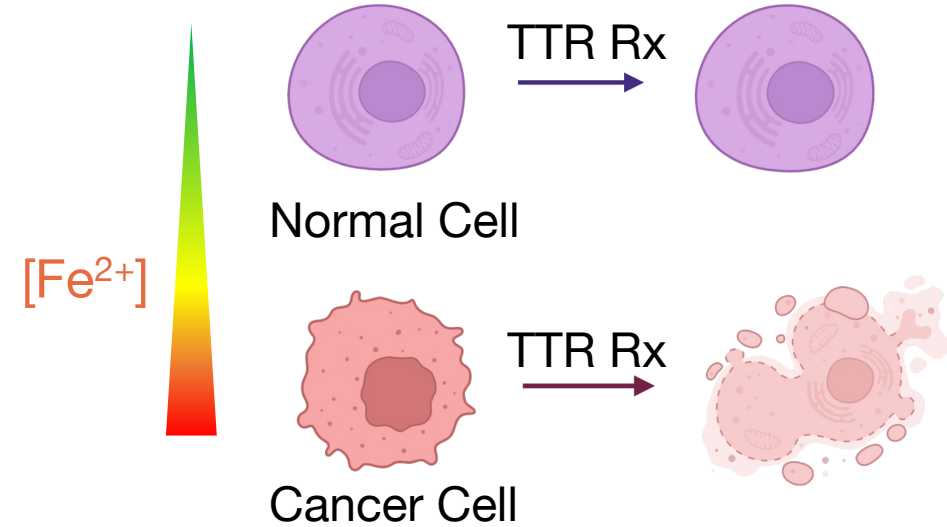
**Eric Collisson, PhD**  
Tatara Therapeutics  
UCSF Professor and  
Molecular Oncologist

## PROBLEM:

- Cancer therapeutics act systemically, with systemic toxicities that reduce therapeutic index and limit efficacy.

## SOLUTION:

Tumor-selective activation of therapeutics based on elevated tumoral labile iron levels



- TTR Rx activated by Fenton reaction with  $Fe^{2+}$
- Releases Tx molecule tailored to tumor type
- Exacerbates ROS stress and promotes ferroptosis
- *Spare normal cells*, increasing Tx index

## TRACTION:

- \$3M seed round in 2023
- *In vivo* active leads with differentiated PK
- Three patent families: US 11,014,955; 11,072,594; WO 2023/049829

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**Kyle Cromer, PhD**  
UCSF Innovator and  
Assistant Professor  
Dept. of Surgery & Dept. of  
Bioengineering &  
Therapeutic Sciences

## PROBLEM:

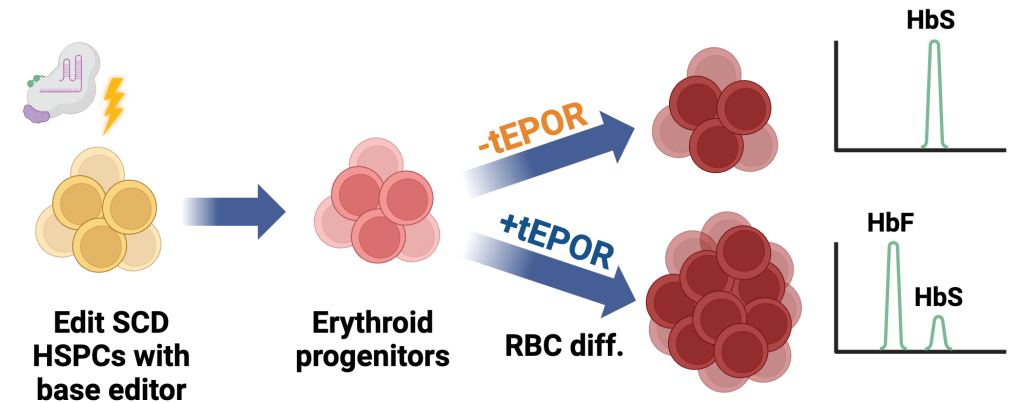
- 20% of sickle cell disease patients have a matched donor, yet <1% of patients in U.S. receive a bone marrow transplant indicating a major unmet medical need.
- *Ex vivo* CRISPR-mediated editing allows every to patient to have a “donor”, however myeloablation-associated mortality is a major barrier to safe correction of disease.
- *In vivo* editing has low delivery & editing frequencies.

## SOLUTION:

- Genome editing is used to introduce a naturally occurring truncated erythropoietin receptor (tEPOR).
- By increasing production of functional RBCs, this editing strategy *may compensate for low in vivo editing frequencies* in HSCs.
- This editing strategy *may eliminate the need for myeloablation*.

## TRACTION:

- Multiple patent disclosures filed to protect IP
- Work awarded American Society of Hematology Junior Faculty Scholar Award





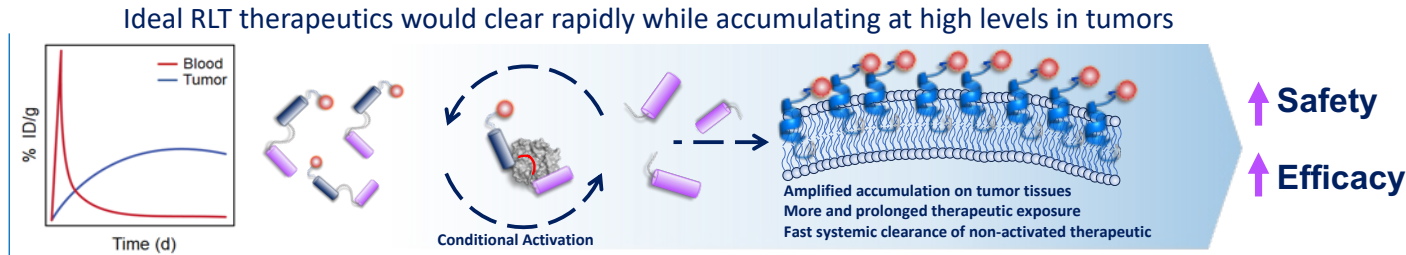


**Michael J Evans, PhD**  
Co-founder, TheraPaint  
Professor, Department of  
Radiology and Biomedical  
Imaging, UCSF

Charles S. Craik, PhD, Co-Founder  
Lawrence Fong, MD, Co-Founder

## PROBLEM:

- Current radioligand therapy (RLT) is limited by several factors leading to decreased efficacy and increased toxicity.
- Tumor responses are often transient and/or variable among patients.
- Improved and novel strategies for targeted radiotherapy are needed.



## SOLUTION:

- Catalytic & renewable activation leverages the "bystander effect" to address heterogeneity.
- Platform provides specificity and payload retention with increased efficacy and reduced toxicity.
- Broad applicability to target multiple diseases beyond oncology.

## TRACTION:

- Clinical data expected in 1H 2024
- Broad IP portfolio filed

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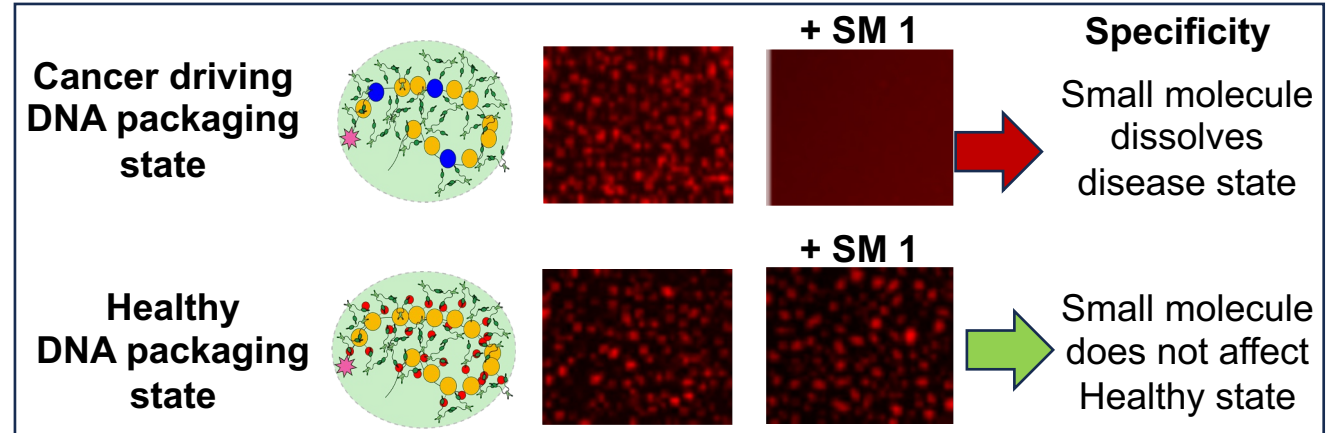
Geeta Narlikar, PhD  
Co-Founder, TippingPoint  
UCSF Professor, Member  
National Academy of Sciences



Laura Hsieh, PhD  
Co-Founder and CEO,  
TippingPoint Biosciences  
American Cancer Society Postdoc  
Fellow, UCSF

**PROBLEM:**

- Cancers arise from aberrant DNA packaging.
- Current therapeutics target *single* defective factors not the *entire* aberrantly packaged state.
- Approaches to target entire aberrantly packaged DNA states can broaden cancer treatment and reduce potential for resistance.



**SOLUTION:**

- TippingPoint’s platform synthetically generates disease and healthy DNA packaged states
- Readily scalable for small molecule screening
- Allows for the first time, drugging of entire disease driving DNA packaged states, with high specificity
- Applications in cancer and regenerative medicine

**TRACTION:**

- \$1M in pre-seed funding from MBC Biolabs, IndieBio (SOSV), ACS BrightEdge
- Won ONO Pharma Golden Ticket & Astellas Future Innovator Award

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Hala Borno, MD  
CEO & Co-founder, Trial Library  
UCSF Associate Professor  
Medical Oncologist

## PROBLEM:

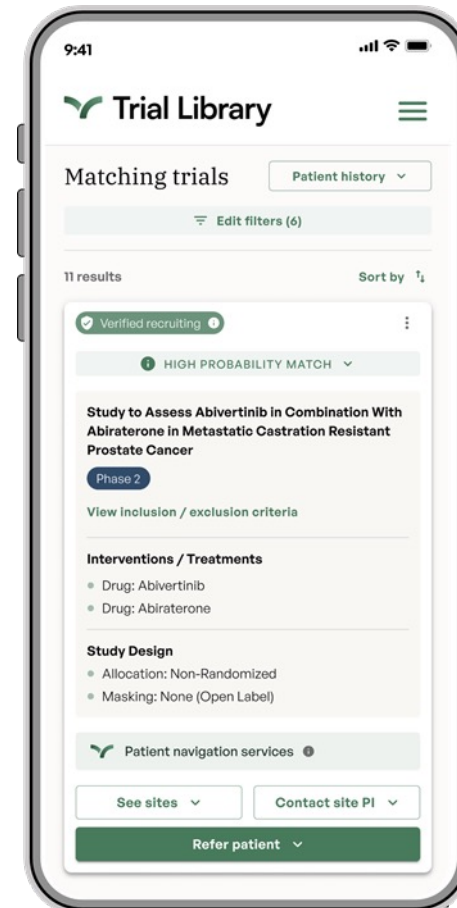
- Oncology clinical trial recruitment remains inefficient, with only 13% of US oncologists participating in research.
- Inequities persist and <7% eligible patients enroll on trials.

## SOLUTION:

- Trial Library's evidence-based, provider-facing software integrated is integrated with technology-enabled patient-centered services.

## TRACTION:

- Provider network includes >250 providers across >100 clinics in the US and is rapidly growing.
- Trial Library supports several large global biopharma trials and has become the preferred recruitment vendor for a large global biopharma partner.



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Lani Wu, PhD and  
Steven Altschuler, PhD  
Co-founders, Woodwinds  
Tx

Professor, Dept of Pharmaceutical  
Chemistry



Matthew Jacobson, PhD  
Co-founder, Woodwinds Tx

Professor, Dept of Pharmaceutical  
Chemistry

## PROBLEM:

- Drug discovery efforts for hypoxia indications have been challenging because of complex underlying mechanisms.
- Current standards of care in anemia in chronic kidney disease are effective but have significant safety concerns.

## SOLUTION:

- Combined AI-enabled *in vivo* and *in vitro* platform to uncover novel oxygen disease targets and therapies that fast-track adaptation.
- First clinical program: targeting anemia in CKD
- In vitro POC and pilot screen performed, and hits identified.
- Multiple promising oxygen disease targets discovered.

## TRACTION:

- \$14M in DARPA funding
- Published tool compound for anemia in CKD target increases EPO only during hypoxia







# AI Powered Clinical Decision Support for Rare and Genetic Disease



**Kat Schmolly, MD**  
Founder & CEO  
zebraMD  
Affiliate researcher at the  
UCSF Real World Evidence  
Lab  
UCSF Innovator

## PROBLEM:

- 1 in 10 people have a rare/genetic disease - 50% are children, 30% of them will die before their 5th birthday.
- Takes 12-15 years to get diagnosed
- It costs \$28k/year/patient **more** to manage an RG pt compared to an average chronic disease patient (heart disease, AD, etc).
- Lack of specialty access and knowledge of EBM care as major reasons.

## SOLUTION:

- An EMR integrated and solo standing app using EMR data + existing research to reduce diagnostic delays, give EBM management recs personalized to pt and department.
- Improves patient outcomes, reduces healthcare costs.

## TRACTION:

- UCSF Innovations Ventures company
- 3 patents with associated publications
- First pharma customer for \$100k/year
- Acceptance to Nucleate & Equalize



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# Precision Targeting of the Cancer Cell Surfaceome in Acute Myeloid Leukemia (AML) and Solid Tumors: Discovering New Cancer-Specific Targets



**Arun Wiita, MD, PhD**  
UCSF Associate Professor,  
Laboratory Medicine

## PROBLEM:

- AML is a common blood cancer with poor prognosis (30.5% 5-year survival).
- There is a lack of immunotherapy targets for AML that are highly cancer-specific (i.e. not also expressed on normal tissues) resulting in significant toxicity and disappointing clinical efficacy.

## SOLUTION:

- Proteomic platform for novel conformational cancer-specific target discovery in AML and solid tumors
- First-in-Class CAR-T therapy for acute myeloid leukemia (AML) or any other cancer harboring the active Integrin $\beta$ 2 targetable antigen
- Active Integrin $\beta$ 2 scFv's developed by the PIs can be used with other immunotherapy formats like ADCs, or other cells of immune system like NK cells and macrophages.
- Combination therapy with another non-toxic CART to combat AML heterogeneity.

## TRACTION:

- Anti-active Integrin $\beta$ 2 CAR-T cytotoxicity is highly specific for AML while not toxic to normal hematopoietic cells, both in vitro and in vivo, unlike other leading AML CAR-T targets (*Nature Cancer*, 2023)

