CIRM

CALIFORNIA'S STEM CELL AGENCY

CNS CONSORTIUM WORKSHOP

Virtual Workshop

Thursday, February 24, 2022
11:00 AM – 4:00 PM PT

Friday, February 25, 2022
9:00 AM – 3:00 PM PT

Meeting Background

CIRM's mission is to accelerate world class science to deliver transformative regenerative medicine treatments in an equitable manner to a diverse California and world.

As articulated in our new strategic plan, CIRM is committed to continue funding high-risk/high-reward research projects through our existing pillar programs, and to promote their success by **building infrastructure that organizes and democratizes data through knowledge networks and fosters shared usage of specialized technologies through competency hubs** (see pages 10-14 of the strategic plan).

The goal of the workshop is to gather feedback that will inform CIRM about potential opportunities for best approaches to achieving this goal.

While the discussions at the workshop will center on applications to the central nervous system as a use case, the outcomes will be implemented broadly across cell types and organs. In addition, the data infrastructure is intended to be a global resource that will facilitate data sharing and foster a culture of open science for all CIRM grantees (and the world).

Meeting Agenda: February 24, 2022

What are the opportunities to share resources and promote collaborative research?

11:00 – 11:25 AM **Introduction, Background, Purpose, and Goals for the Workshop**
Rosa Canet-Avilés, CIRM

Session I: Overview of CIRM-funded Research Resources

11:25 – 11:40 AM **Overview of CIRM-funded Research Resources**
Uta Grieshammer, CIRM

Case Studies

11:40 – 11:55 AM **Prop 71 Shared Labs**
David Schaffer, UC Berkeley

11:55 – 12:10 PM **CIRM hiPSC Repository: hiPSC-based Population Genetics**
Ralda Nehme and Sulagna Ghosh, Broad Institute

12:10 – 12:25 PM **CIRM hiPSC Repository: NAFLD Lines for Disease Modeling**
Jacquelyn Maher, UC San Francisco

12:25 – 12:40 PM **CIRM hiPSC Repository: Machine Learning & Engineered iPSCs for Unraveling the Complex Biology of CNS Disease**
Ajamete Kaykas, insitro

12:40 – 1:00 PM **CIRM Genomics Stem Cell Hub: Experimental-Computational Collaboration to Characterize Cortical Organoids**
Aparna Bhaduri, UC Los Angeles; and Max Haeussler, UC Santa Cruz

1:00 – 1:30 PM **BREAK**

Session II: Moderated Discussion – Building Shared Resources for Stem Cell-Based Modeling

1:30 – 1:45 PM **Summary of Pre-Workshop Survey Results**
Uta Grieshammer, CIRM

1:45 – 3:45 PM **Discussion**
Moderated by Uta Grieshammer, CIRM

3:45 – 4:00 PM **Summary and Closing Remarks for Day 1**
Rosa Canet-Avilés, CIRM

4:00 PM **ADJOURN FOR DAY**

Meeting Agenda: February 25, 2022

What is the best approach to promoting data sharing among California researchers?

9:00 – 9:20 AM	**Introduction to Data Infrastructure: Outcomes from September 2021 Expert Meeting** *Rosa Canet-Avilés, CIRM*

Session III: Data Infrastructure Overview and Examples

9:20 – 9:50 AM	**Collaborating in the Cloud: Data Biosphere Structure and Capabilities** *Benedict Paten, UC Santa Cruz; Brian O'Connor, Broad Institute/Sage Bionetworks; and Timothy Tickle, Broad Institute*
9:50 – 10:00 AM	**Data Biosphere Q&A**

User Experiences: Examples of Cloud Collaboration

10:00 – 10:30 AM	**Accelerating Medicines Partnership Parkinson's Disease (AMP PD)** *Matt Bookman, Verily; and David Craig, University of Southern California; Barry Landin, Technome*
10:30 – 10:45 AM	**Alzheimer's Disease Workbench (ADWB) – Data Initiative (ADDI)** *Patrick Brannelly, ADDI*
10:45 – 11:15 AM	**NHGRI Analysis Visualization and Informatics Lab-space (AnVIL)** *Ken Wiley, NHGRI/NIH; and Cornelis Blauwendraat, CARD, LNG, NIA/NIH;*
11:15 – 11:30 AM	**User Experiences Q&A**
11:30 – 11:40 AM	**BREAK**
Data Access 11:40 – 12:00 PM	**Data Use Oversight System (DUOS)** *Jonathan Lawson, Broad Institute*
12:00 – 12:10 PM	**Data Access Q&A**
12:10 – 12:40 PM	**LUNCH BREAK**

Session IV: Moderated Discussion – CIRM CNS Data Infrastructure

12:40 – 2:40 PM	**Discussion** *Moderated by Rosa Canet-Avilés, CIRM*
2:40 – 3:00 PM	**Summary and Closing Remarks** *Rosa Canet-Avilés, CIRM*
3:00 PM	**ADJOURN**

Discussants

Day 1: Building Shared Resources for Stem Cell-Based Modeling

David Amaral, UC Davis
Aileen Anderson, UC Irvine
Aparna Bhaduri, UC Los Angeles
Mathew Blurton-Jones, UC Irvine
Bruce Conklin, Gladstone Institutes
Steven Finkbeiner, Gladstone Institutes
Ru Gunawardane, Allen Institute for Cell Science
David Haussler, UC Santa Cruz
Ajamete Kaykas, insitro
Arnold Kriegstein, UC San Francisco
Stuart Lipton, Scripps Research
Jacquelyn Maher, UC San Francisco
Alysson Muotri, UC San Diego
Ruth O'Hara, Stanford University
David Panchision, NIMH/NIH
Sergiu Pasca, Stanford University
Viji Santhakumar, UC Riverside
David Schaffer, UC Berkeley
Ilyas Singeç, NCATS/NIH
George Slavich, UC Los Angeles
Michael Snyder, Stanford University
Clive Svendsen, Cedars-Sinai

Day 2: CIRM CNS Data Infrastructure

Anton Arkhipov, Allen Institute for Brain Science
Cornelis Blauwendraat, NIA/NIH
Matt Bookman, Verily
Jonah Cool, Chan Zuckerberg Initiative
David Craig, University of Southern California
Sonya B. Dumanis, ASAP
Steven Finkbeiner, Gladstone Institutes
David Glazer, Verily
David Haussler, UC Santa Cruz
Barry Landin, Technome
Jonathan Lawson, Broad Institute
Tetsuyuki Maruyama, ADDI
Brian O'Connor, Broad Institute/Sage Bionetworks
David Panchision, NIMH/NIH
Benedict Paten, UC Santa Cruz
Ekemini Riley, ASAP
Todd Sherer, Michael J. Fox Foundation
Michael Snyder, Stanford University
Leslie Thompson, UC Irvine
Timothy Tickle, Broad Institute
Kendall Van Keuren-Jensen, TGen
Ken Wiley, NHGRI/NIH

Speaker and Discussant Biographies

David Amaral

Professor of Psychiatry and Behavioral Sciences, UC Davis

Dr. David Amaral received his undergraduate education at Northwestern University and graduated with a degree in Psychology. He then moved to the University of Rochester where he received a joint PhD in Neuroscience and Psychology. He conducted postdoctoral research at the Department of Anatomy and Neurobiology at Washington University. He then moved to the Salk Institute for Biological Studies where he remained for 13 years. During this period, he was also an adjunct professor in the Department of Psychiatry at UC San Diego. Dr. Amaral joined UC Davis in 1995 as a Professor in the Department of Psychiatry and Behavioral Sciences and the Center for Neuroscience. He is also a staff scientist at the California National Primate Research Center. Dr. Amaral was named the Beneto Foundation Chair and Research Director of the MIND Institute in 1998. He also serves as Director of Autism BrainNet. Dr. Amaral started the Autism Phenome Project in 2006 with the collaboration of numerous MIND Institute faculty and staff, and the project has become the largest, single site, longitudinal analysis of young children with autism spectrum disorder.

Aileen Anderson

Director, Sue and Bill Gross Stem Cell Research Center, UC Irvine

Dr. Aileen Anderson obtained her BS in Engineering at the University of Illinois Urbana-Champaign and her PhD in Biology/Neuroscience at UC Irvine. After postdoctoral positions at UC Irvine and Harvard, she began her faculty position at UC Irvine in 2001. In addition to her laboratory at UC Irvine, Dr. Anderson is a part of the Christopher and Dana Reeve Foundation (CDRF) International Consortium on Spinal Cord Injury and Director of the CDRF Spinal Cord Injury Research Core Facility. Research in Dr. Anderson's laboratory is a combination of discovery biology and identifying translational neuroscience strategies for spinal cord injury and central nervous system disease.

Anton Arkhipov

Associate Investigator, Allen Institute for Brain Science

Dr. Anton Arkhipov joined the Allen Institute in 2013 as an assistant investigator in the Modeling, Analysis, and Theory group. He is leading efforts to carry out biophysically detailed simulations of individual neurons as well as large-scale neuronal circuits from the mouse visual system. The main focus of his research is on integration of experimental anatomical and physiological data to build sophisticated, highly realistic computational models of cortical circuitry, with the aim of elucidating mechanisms underlying processing of visual information in the cortex. Before joining the Allen Institute, he was a Postdoctoral Fellow at D. E. Shaw Research in New York City, where he used a specialized supercomputing architecture to perform computational studies of structure-function relationships in proteins, with the emphasis on cancer-associated cell-surface receptors. Dr. Arkhipov received his BS and MS in Physics from Moscow Institute of Physics and Technology and a PhD in Physics from the University of Illinois at Urbana-Champaign.

Aparna Bhaduri

Assistant Professor, UC Los Angeles

Dr. Aparna Bhaduri earned a BS in Biochemistry and Cell Biology and a BA in Political Science from Rice University in 2010. She completed her doctoral studies at Stanford University in Cancer Biology in 2016, where she focused on epithelial tissue differentiation and neoplasms. She was a postdoctoral scholar at UC San Francisco Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research in the lab of Dr. Arnold Kriegstein. As a postdoctoral scholar, she has used single-cell RNA sequencing to characterize cell types in the developing cortex across cortical areas, in human and non-human primates, and in glioblastoma. Because experimental manipulations of the developing human cortex will require in vitro models, she has been using similar approaches to compare cells types in organoid models and primary tissues. Dr. Bhaduri's long term interests to be pursued in her own independent laboratory at UC Los Angeles include understanding how stem cells during cortical development give rise to the human brain, and how aspects of these developmental programs can be hijacked in cancers such as glioblastoma. One aspect of normal development and cancer that particularly interests her is the role of metabolism in regulating cell fate and tissue homeostasis. In order to explore these questions, Dr. Bhaduri uses single-cell genomics, informatic analysis, and organoid models.

Cornelis Blauwendraat

Investigator, National Institute on Aging

Dr. Cornelis Blauwendraat received his MSc in biomedical sciences from VU University, Netherlands and his PhD in neuroscience from University of Tübingen, Germany. He spent the majority of his postdoctoral training performing genetic and genomic Parkinson's disease (PD) research at the National Institute on Aging under the supervision of Dr. Andrew Singleton. Currently, Dr. Blauwendraat is Stadtman Tenure Track Investigator at the National Institute on Aging, where his research focuses on dissecting the genetic architecture of PD and other neurodegenerative diseases using a wide variety of genomic methods and techniques. Additionally, he is involved in several large consortia including: International Parkinson Disease Genomics Consortium (IPDGC), Foundational Data Initiative for Parkinson's Disease (FOUNDIN-PD) and the Global Parkinson's Genetics Program (GP2).

Mathew Blurton-Jones

Associate Professor, UC Irvine

Dr. Mathew Blurton-Jones earned his PhD in Neurosciences at UC San Diego in 2002. His postdoctoral studies were pursued in the labs of Dr. Carl Cotman and Dr. Frank LaFerla at UC Irvine. As a postdoctoral fellow and then Assistant Researcher, Dr. Blurton-Jones studied the pathogenesis of Alzheimer disease (AD) and transgenic modeling of neurodegeneration, and began to examine the use of stem cells to treat AD. In July of 2011, Dr. Blurton-Jones joined the Department of Neurobiology and Behavior as an Assistant Professor and established his independent lab in the Sue and Bill Gross Stem Cell Center. His lab uses neural stem cells to understand and target the underlying molecular mechanisms that drive the development of Alzheimer's disease and Parkinson's disease.

Matt Bookman

Solutions Architect and Terra Solutions Team Lead, Verily

Mr. Matt Bookman is a Solutions Architect and Lead for the Terra Solutions Team at Verily Life Sciences. Starting in 2018, as co-chair of the AMP PD Data Working Group, he worked with collaborating scientists to process and organize clinical, genomic, and transcriptomic data, and make it available to qualified researchers on the Terra platform. Prior to working at Verily, Mr. Bookman joined the Google Genomics team as a Solutions Architect, using his background as a software engineer and education in computational biology to help partners build large research datasets on Google Cloud. Mr. Bookman received a BS in applied mathematics at UC Los Angeles and an MS in computer science and computational biology at Stanford University.

Patrick Brannelly

Director of Partnerships and Business Development, ADDI

As Director of Partnerships & Business Development for the Alzheimer's Disease Data Initiative (ADDI), Mr. Patrick Brannelly oversees strategic planning efforts, cultivates new partnerships, and guides complex negotiations on behalf of the organization. Prior to ADDI, Mr. Brannelly spent seven years at the Rainwater Charitable Foundation where he was the Managing Director of the Tau Consortium. The mission of the Tau Consortium is to accelerate the development of new treatments for Alzheimer's disease, frontotemporal dementia, and other neurological disorders through increased collaboration among academia, industry, and the philanthropic sector. In the decade prior to joining the Tau Consortium, Mr. Brannelly was the co-founder and CEO of NeoCORTA and the Director of Partnerships & Group Programs at Posit Science, both early stage brain health technology ventures. Earlier in his career, he served in the US and Europe as a management consultant in the pharmaceutical, energy, and technology sectors. He is a former Assistant Professor of entrepreneurship and strategy at CSU Fresno. A frequent member of boards and steering committees within the neuroscience community, he currently serves as a Board member of Stroke Onward and a Steering Committee member of the OECD's Neuroscience-inspired Policy Initiative. Mr. Brannelly holds a BA in Psychology from Harvard College and an MBA with Distinction from Harvard Business School.

Bruce R. Conklin

Senior Investigator, Gladstone Institutes

Dr. Bruce R. Conklin is a senior investigator at Gladstone Institutes. He is also a professor in the Departments of Medicine, Cellular and Molecular Pharmacology, and Ophthalmology at UC San Francisco, as well as the deputy director of the Innovative Genomics Institute. Dr. Conklin earned a bachelor's degree in public health from UC Berkeley and completed his medical training at the Case Western Reserve University School of Medicine. During medical school, he spent 2 years as a Howard Hughes Medical Institute Research Scholar in the lab of Nobel laureate Dr. Julius Axelrod at the National Institute of Mental Health. Dr. Conklin completed his residency in internal medicine at Johns Hopkins Hospital and did his postdoctoral training in molecular pharmacology with Dr. Henry Bourne at UC San Francisco.

Jonah Cool

Science Program Officer, Chan Zuckerberg Institute

Dr. Jonah Cool is a cell biologist and geneticist by training, and is currently a program manager at the Chan Zuckerberg Initiative, where he leads the organization's efforts to support the international Human Cell Atlas consortium. He was an American Heart Association fellow while completing his PhD at Duke Medical Center, with a focus on the role of vascularization during cell differentiation and organ morphogenesis, and was subsequently a Ruth Kirchstein Fellow at the Salk Institute studying nuclear organization during stem cell differentiation. Dr. Cool previously worked in intellectual property litigation, as well as ran an industry research group working toward therapeutic application of 3D bioprinted human tissue. He has a deep love of cell biology and, in particular, the origins of cellular heterogeneity and how diverse cells assemble into complex tissues.

David Craig

Professor and Co-Director, USC Institute for Translational Genomics

Dr. David Craig serves as Vice-Chair of University of Southern California (USC)'s new Department of Translational Genomics within the USC Keck School of Medicine. Dr. Craig's expertise is in genomics, bioinformatics, and data analysis of high-throughput genomics data. His laboratory consists of both a wet-lab and dry-lab. Within his group, lab personnel have the opportunity to either specialize or become dual trained in bioinformatics and molecular biology. His group pioneered cost-effective GWAS methods leading to genetic associations reported in Science, Nature Genetics, and New England Journal of Medicine. In the past 8 years, his group has published and collaborated on over 60 NGS publications balanced between the wet- and dry-labs. During this time, Dr. Craig has served in several international genomics projects including as PI on a U01 responsible for developing bioinformatic pipelines for the Phase I and Phase II portions of the 1000 Genomes Project.

Sonya B. Dumanis

Executive Vice President, Coalition for Aligning Science

Dr. Sonya Dumanis is the Executive Vice President of the Coalition for Aligning Science and Deputy Director of Aligning Science Across Parkinson's, a flagship initiative under the Coalitions' management. Previously, Dr. Dumanis was the Vice President of Research and Innovation at the Epilepsy Foundation. While there, she oversaw the growth of the Epilepsy Therapy Project, an entrepreneurship incubator providing seed funding and mentorship to epilepsy startups; launched the Epilepsy Innovation Institute, an innovation incubator tackling high risk projects in the epilepsy space; and supported early career research development through the Next Generation Programs. Prior to joining the Epilepsy Foundation, she worked at the Milken Institute Center for Strategic Philanthropy, tasked with identifying key philanthropic opportunities poised to have a transformative impact on the state of research and developing research programs. Dr. Dumanis completed her postdoctoral training at both the Johns Hopkins University and the Max-Delbrück Center in Berlin, Germany. She earned her PhD in neuroscience from Georgetown University. She has authored numerous scientific articles and received a number of honors, including an Alexander von Humboldt Postdoctoral Research Fellowship, a National Science Foundation fellowship, a national research service award from the National Institutes of Health, the Harold N Glassman Award for best science dissertation at Georgetown University, and the Mark A. Smith prize from the Journal of Neurochemistry. Dr. Dumanis has demonstrated a strong commitment to science outreach, developing several educational initiatives such as the Georgetown Medical Center Graduate Student Research Grants program and the Epilepsy Foundation / Danny Did startup accelerator course.

Steven Finkbeiner

Senior Investigator, Gladstone Institutes

Dr. Steven Finkbeiner is the director of the Center for Systems and Therapeutics and a senior investigator at Gladstone Institutes. In 2009, with support from Bay Area philanthropists, he established the Taube/Koret Center for Neurodegenerative Disease Research at Gladstone to accelerate the development of drug therapies for patients suffering from conditions such as Huntington's disease. Dr. Finkbeiner is also the director of the Hellman Family Foundation Alzheimer's Disease Research Program and an investigator in the Roddenberry Stem Cell Center at Gladstone. In addition, he is a professor of neurology and physiology at UC San Francisco. Dr. Finkbeiner earned a bachelor's degree from Wheaton College, and earned both an MD and a PhD in neuroscience from Yale University. He completed an internship in internal medicine and chief residency in neurology at UC San Francisco, followed by a research fellowship at Harvard Medical School. Dr. Finkbeiner's expertise encompasses neurodegenerative and psychiatric diseases, iPS cell modeling, human genetics, robotics, imaging, computational methods, and artificial intelligence.

Sulagna Ghosh

Computational Biologist, Broad Institute

Dr. Sulagna (Dia) Ghosh is biologist turned data scientist with 9+ years of expertise in analysis related to the fields of neurobiology, cellular models, and genetics – passionate about innovative, data-driven approaches geared towards understanding disease biology and improving healthcare. Dr. Ghosh earned a BS in cell biology and molecular genetics from the University of Maryland and a PhD in neurobiology and neurosciences from Scripps Research in the laboratory of Dr. Kristen Baldwin.

David Glazer

Engineering Director and Terra CTO, Verily Life Sciences

Mr. David Glazer is an engineering director, and the Terra CTO, at Verily Life Sciences, where he helps life science organizations use cloud computing to accelerate and scale their work with big data. He is a PI for the Data and Research Center, and a member of the Steering Committee, of the NIH All of Us Research Program, and serves on the NIH Advisory Committee to the Director. He is co-chair of the Cloud Workstream, and a member of the Steering Committee, of the Global Alliance for Genomics and Health (GA4GH). He previously worked at Google, where he founded the Google Genomics team, and led a variety of platform, product, and infrastructure teams. Prior to joining Google in 2006, he successfully started two companies: Eloquent in 1995 (IPO 2000), which used rich media to power business communications, and Verity in 1988 (IPO 1995), which did full-text search. Mr. Glazer grew up in Massachusetts, where he earned a BS in physics from MIT.

Ru Gunawardane

Executive Director, Allen Institute for Cell Science

Dr. Ruwanthi (Ru) Gunawardane was named the Executive Director of the Allen Institute for Cell Science in December 2020. Dr. Gunawardane joined the Allen institute after spending 5 years at Amgen, where she worked on assay development for multiple drug targets spanning oncology, inflammation, and cardiovascular diseases. As a group and project leader, she worked in multidisciplinary teams to screen for novel therapeutics, characterize lead candidates, and advance the early drug discovery pipeline. She also contributed to the rapid development of cutting-edge technologies to streamline the drug discovery process by facilitating both internal and external collaborations. Dr. Gunawardane obtained her PhD in Biology from Johns Hopkins University, where she studied the role of gamma tubulin complexes in microtubule nucleation in the Drosophila and Xenopus model systems. She went on to do her postdoctoral work with Joan Brugge at Harvard Medical School, where she performed screens to identify novel genes that induce cell migration and invasion in mammary epithelial cells. She conducted some of these studies using 3D tissue culture model systems to better understand the role of these proteins during breast cancer progression. The genes identified from the screens were shared with the academic community through the Cell Migration Consortium.

Maximilian Haeussler

Associate Research Scientist, UC Santa Cruz

Dr. Maximilian (Max) Haeussler earned a PhD at Université Paris-Sud and completed postdoctoral training at the University of Manchester. Dr. Haeussler also did postdoctoral work on text-mining for the UC Santa Cruz Genome Browser. He is now a staff scientist and co-PI of the UC Santa Cruz Genome Browser.

David Haussler

Scientific Director, UC Santa Cruz Genomics Institute

Dr. David Haussler's work explores the crossroads of molecular biology, mathematics, and computer science. His research has helped revolutionize the field of genomics with the introduction of advanced statistical and algorithmic methods. On July 7, 2000, Dr. Haussler and UC Santa Cruz Genome Bioinformatics Group launched the first working draft of the human genome on the internet, guaranteeing that our genetic code would remain in the public domain forever. They subsequently developed the UC Santa Cruz Genome Browser, a free, interactive web-based "microscope" that allows you to view any aspect of the human genome at any scale. The Browser supports scientific research worldwide and has served more than five billion to date. Since that time, Dr. Haussler's team of computer science researchers became part of a wider initiative called the UC Santa Cruz Genomics Institute. He continues his work as the Genomics Institute's scientific director and is a Distinguished Professor of Biomolecular Engineering. Additionally, he is Scientific Co-Director of the California Institute for Quantitative Biosciences (QB3) at UC Santa Cruz and a co-founder of both the Genome 10K Project (G10K) and the Global Alliance for Genomics and Health (GA4GH).

Ajamete Kaykas

Chief Exploration Officer and Head of Neuroscience, insitro

As Chief Exploration Officer & Head of Neuroscience at insitro, Dr. Ajamete (Aj) Kaykas is responsible for producing high-quality data sets to use in for machine learning-based target and drug discovery. He leads insitro's wet-lab activities which consists of functional genomics, disease modeling, phenotyping, automation, and process engineering. Dr. Kaykas has spent over 28 years in both industry and academia, working in the areas of proteomics, genomics, and stem cell biology. Before joining insitro, he led the early target discovery team at Novartis Institutes for Biomedical Research in the Neuroscience unit. His team efforts have led to the discovery of multiple new disease targets and the development of better predictive preclinical models. Dr. Kaykas conducted his postdoc with Dr. Randy Moon at the University of Washington/Howard Hughes Medical Institute. While in Dr. Moon's lab, he conducted one of the first ever genome-wide RNAi screens and studied the role of Wnt-signaling in human disease and stem cell biology. He did his graduate work at the University of Wisconsin-Madison in Dr. Bill Sugden's lab, where he studied virology, immunology, and oncology.

Arnold Kriegstein

Professor, UC San Francisco

Dr. Arnold Kriegstein received his BA from Yale University and his MD and PhD degrees from New York University in 1977. He subsequently completed residency training in Neurology at the Brigham and Women's Hospital, Children's Hospital, and Beth Israel Hospital in Boston. He has held academic appointments at Stanford University, Yale University, and Columbia University. In 2004, he joined the Neurology Department at UC San Francisco and became the John Bowes Distinguished Professor in Stem Cell and Tissue Biology. He is the Founding Director of the Eli and Edythe Broad Center of Regeneration Medicine and Stem Cell Research at UC San Francisco. Dr. Kriegstein's research focuses on the way in which neural stem and progenitor cells in the embryonic brain produce neurons, and ways in which this information can be used for cell-based therapies to treat diseases of the nervous system. He is a co-founder of Neurona Therapeutics, which is beginning a clinical trial using cell therapy to treat epilepsy.

Barry Landin

Solutions Architect, Technome

Mr. Barry Landin is a Solutions Architect and Entrepreneur, leading engineering and execution for information systems and scientific data management teams of the DoD, NIH, and NGOs since 2000. Mr. Landin has helped many large scale research programs build teams and technical solutions by applying specialized expertise in harmonized interoperable data sharing systems in the cloud. Mr. Landin founded Technome in 2017 to accelerate strategic planning, solutions architecture, and data preparation for research data sharing programs including Answer ALS and AMP PD.

Jonathan Lawson

Senior Software Product Manager and Data Access Committee Vice Chair, Broad Institute

Mr. Jonathan Lawson is a senior software product manager and Vice Chair of the Data Access Committee and the Broad Institute of MIT and Harvard. MR. Lawson earned a BA and BS from Miami University and holds professional certificates from Carnegie Mellon University, Stanford University School of Engineering, and MIT.

Stuart Lipton

Professor, Scripps Research

Dr. Stuart Lipton is best known for first describing the mechanism of action and contributing to the clinical development of the FDA-approved Alzheimer's drug, memantine and for discovering the posttranslational redox modification known as protein S-nitrosylation. Recently, Dr. Lipton and colleagues combined memantine with S-nitrosylation chemistry to produce a new drug called NitroSynapsin, which displays disease-modifying activity in animal models of Alzheimer's disease, both protecting synapses and improving neurobehavioral deficits. Ongoing research in Dr. Lipton's lab is focused on 2D hiPSC-derived cultures and 3D cerebral organoid models of neurodegenerative and neurodevelopmental disease and aberrant redox/S-nitrosylation pathways leading to synaptic damage. Using these approaches, the Lipton group is developing novel drugs to combat Alzheimer's disease, Parkinson's disease, vascular dementia, and other neurodegenerative disorders, as well as autism spectrum disorder and intellectual and developmental disabilities. A plethora of techniques are employed, including chemical biology, molecular biology, patch-clamp electrophysiology, calcium imaging, and neurobehavioral paradigms.

Jacquelyn Maher

Professor, UC San Francisco

Dr. Jacquelyn Maher is Chief of the Division of Gastroenterology at San Francisco General Hospital and Director of the UC San Francisco Liver Center. Research in her laboratory focuses on the pathogenesis of nonalcoholic fatty liver disease (NAFLD). Her studies in mice have implicated dietary sugar as an important inducer of fatty liver disease, through conversion to toxic saturated fatty acids. Ongoing work in her group concentrates on the mechanism by which metabolic stresses kill liver cells. She is also using iPSCs from patients with NAFLD to study the disorder directly in humans. Her research team has recently found that NAFLD iPSCs, when converted in the laboratory to hepatocytes (iPSC-Heps), display characteristics of NAFLD. The group is currently expanding their work with NAFLD iPSC-Heps to encompass larger populations from a variety of ethnic backgrounds.

Tetsuyuki Maruyama

Executive Director, ADDI

As Executive Director of the Alzheimer's Disease Data Initiative (ADDI), Dr. Tetsuyuki (Tetsu) Maruyama has the pleasure of working with an exceptional team to enable data relevant to Alzheimer's and related dementias to reach their full potential. Prior to joining ADDI, Dr. Maruyama was the Chief Scientific Officer at the Dementia Discovery Fund, a unique venture capital fund focusing a total investment of $350 million on creating new treatment paradigms for dementia. Before that he was head of Drug Discovery for Takeda Pharmaceuticals in Japan and led the GSK Centre for Cognitive and Neurodegenerative Disorders in Singapore. He began his industry career at Merck Sharp and Dohme's Neuroscience Research Center in the UK, after 15 years as an academic neuroscientist at Cardiff University and the University of Minnesota. Dr. Maruyama has contributed to the promotion of open science, having been Chairperson of the Board of the Structural Genomics Consortium from 2016 through 2020, and a member of the Board of Directors of Sage Bionetworks. He is currently on the Board of Directors or Scientific Advisory Board of a number of privately held biotech companies and is a member of the World Dementia Council. Dr. Maruyama earned his PhD in Behavioral Neuroscience from Stanford University and completed post-doctoral research in Neurophysiology at Yale University.

Alysson Muotri

Professor, UC San Diego

Dr. Alysson Muotri is a professor in the Departments of Pediatrics and Cellular and Molecular Medicine at UC San Diego. Dr. Muotri earned a BSc in Biological Sciences from the State University of Campinas in 1995 and a PhD in Genetics in 2001 from University of Sao Paulo, in Brazil. He moved to the Salk Institute as Pew Latin America Fellow in 2002 for a postdoctoral training in the fields of neuroscience and stem cell biology. He has been a Professor at the School of Medicine, UC San Diego since late 2008. He is currently a Director of the UC San Diego Stem Cell Program. His research focuses on modeling social neurological conditions, such as autism, and brain evolution using human cerebral organoids. He has received several awards, including the prestigious NIH Director's New Innovator Award, NARSAD, Emerald Foundation Young Investigator Award, Tokyo Surugadai Award, Rock Star of Innovation, and NIH-EUREKA.

Ralda Nehme

Group Leader, Stanley Center, Broad Institute

Dr. Ralda Nehme is a group leader at the Stanley Center. Dr. Nehme and her group investigate the genetic, cellular, and molecular mechanisms underlying neurodevelopmental and psychiatric diseases using human stem cell models. Dr. Nehme completed her PhD in the lab of Barbara Conradt at Dartmouth College, where she studied neuronal development in C. elegans. She then pursued her postdoctoral studies in the lab of Dr. Kevin Eggan at Harvard University, where she became interested in modeling psychiatric disease, and developed efficient methods to generate neurons from human stem cells.

Brian O'Connor

Principal Investigator, Data Sciences Platform, Broad Institute

Dr. Brian O'Connor joined the Broad in March of 2020 as a Principal Investigator in the Data Sciences Platform (DSP). He works on a wide variety of cloud compute and interoperability projects in the DSP including Terra, NCI's Cancer Data Aggregator, and NHGRI's AnVIL. Previously, he held the position of Director of the Computational Genomics Platform group at the UC Santa Cruz Genomics Institute. There he focused on the development and deployment of large-scale, cloud-based systems for analyzing genomic data. These included Dockstore, a platform for sharing tools and workflows; Redwood, a cloud data storage system; and Boardwalk, a web-based portal for data exploration. Prior to his role at UC Santa Cruz, Dr. O'Connor worked at the Ontario Institute for Cancer Research (OICR) where his previous projects included leading the technical implementation of cloud-based analysis systems for the PanCancer Analysis of Whole Genomes (PCAWG) effort, creating the Dockstore project, and managing the development of the International Cancer Genome Consortium's Data Portal. Dr. O'Connor is also the co-chair of the Global Alliance for Genomics and Health (GA4GH) Cloud Work Stream where he works on cloud standards for the genomics community.

Ruth O'Hara

Senior Associate Dean for Research, Stanford University School of Medicine

Dr. Ruth O'Hara is a professor of Psychiatry and Behavioral Sciences and the Senior Associate Dean for Research at Stanford University School of Medicine. The core of Dr. O'Hara's research is to investigate how cognitive information processing deficits subserve affective symptoms in psychiatric disorders and interact with key brain networks integral to these disorders. Dr. O'Hara's research has played a key role in shifting the paradigm to defining, assessing, and targeting psychiatric disorders more fully based on their cognitive information processing deficits and underlying neurocircuitry. Dr. O'Hara has implemented a translational interdisciplinary program that encompasses cellular models, brain (sleep, neuroimaging), and behavioral assays of affective and cognitive information processing systems in psychiatric disorders.

David M. Panchision

Chief, Developmental & Genomic Neuroscience Research Branch, National Institute of Mental Health

Dr. David Panchision is the Chief of the Developmental & Genomic Neuroscience Research Branch and its component Stem Cell Assay Program at the National Institute of Mental Health. Dr. Panchision coordinates funding initiatives to develop iPSC-based assays into validated platforms for identifying disease mechanisms, novel targets, and therapeutics to treat mental illness. He also co-leads the NIH BRAIN Initiative team overseeing the Cell Census Network and development of novel tools to study cells and circuits. Prior to joining NIMH in 2008, he was Assistant Professor at Children's National Medical Center and George Washington University in Washington, DC, where his research focused on the interaction between morphogen and oxygen response signaling in both normal neural stem cells and patient-derived brain cancer stem cells. Dr. Panchision earned a BS in Biology from the College of William and Mary and a PhD in Pharmacology and Toxicology from Virginia Commonwealth University School of Medicine.

Sergiu Pasca

Associate Professor, Stanford University

Dr. Sergiu Pasca is an associate professor and the Uytengsu Family Director of the Stanford Brain Organogenesis Program. Dr. Pasca earned an MD from the Hatieganu School of Medicine in Romania and completed postdoctoral training at Stanford University School of Medicine.

Benedict Paten

Associate Director, UC Santa Cruz Genomics Institute

Dr. Benedict Paten is an associate professor in the Department of Biomolecular Engineering at UC Santa Cruz and an associate director of the UC Santa Cruz Genomics Institute. He oversees the Computational Genomics Lab and Computational Genomics Platform groups at UC Santa Cruz, which together are broadly focused on computational genomics, creating algorithms, software, and services addressing biomolecular challenges. He has a PhD from the University of Cambridge and the European Molecular Biology Laboratory in computational biology.

Ekemini Riley

Managing Director, Aligning Science Across Parkinson's

Dr. Ekemini Riley is the Managing Director of Aligning Science Across Parkinson's (ASAP), a research funding initiative that coordinates targeted basic research and resources to uncover the roots of Parkinson's disease. Prior to ASAP, Dr. Riley was a director at the Milken Institute Center for Strategic Philanthropy where she helped to shape and co-direct the center's medical research practice. She designed and facilitated several multi-sector think tank sessions to inform the strategic deployment of philanthropic capital, crafted research programs, and seeded multi-funder collaboration. She led the development and launch of ASAP as well as the Gilbert Family Foundation's Gene Therapy and Vision Restoration Initiatives. Her work also laid the foundation for Play It Forward Pittsburgh, an organ donation awareness campaign in Pittsburgh. Dr. Riley completed her BA in Natural Sciences from the Johns Hopkins University and PhD in Molecular Medicine from the University of Maryland School of Medicine. Her doctoral research focused on gene regulation of an internal blood clotting and tumor suppressor protein.

Viji Santhakumar

Associate Professor, UC Riverside

Dr. Viji Santhakumar, earned her MBBS in India and PhD in neuroscience at UC Irvine. Following postdoctoral research at UC Los Angeles, she was a faculty at Rutgers Biomedical and Health Sciences before moving to UC Riverside. Her research interests are in the areas of physiological mechanisms of pathology in traumatic brain injury and epilepsy with a focus on inhibitory circuits, synaptic physiology and network computational analysis. Her lab is pursuing novel directions examining the role of neuro-immune interactions and neurogenesis in development of neurocognitive dysfunction after brain injury.

David Schaffer

Director, UC Berkeley Stem Cell Center and QB3-Berkeley

Dr. David Schaffer is a Professor of Chemical and Biomolecular Engineering, Bioengineering, and Neuroscience at UC Berkeley, where he also serves as the Director of the Berkeley Stem Cell Center and the Director of QB3-Berkeley. He graduated from Stanford University with a BS degree in Chemical Engineering in 1993. Afterward, he attended Massachusetts Institute of Technology and earned his PhD also in Chemical Engineering in 1998 with Dr. Doug Lauffenburger, while minoring in Molecular and Cell Biology. Finally, he conducted a postdoctoral fellowship in the laboratory of Dr. Fred Gage at the Salk Institute for Biological Studies before moving to UC Berkeley in 1999. At Berkeley, Dr. Schaffer applies engineering principles to enhance stem cell and gene therapy approaches for neuroregeneration. This work includes mechanistic investigation of stem cell control, as well as molecular evolution and engineering of viral gene delivery vehicles.

Todd Sherer

Executive Vice President, Research Strategy, Michael J. Fox Foundation

Dr. Todd Sherer is Executive Vice President, Research Strategy of The Michael J. Fox Foundation for Parkinson's Research (MJFF). Formally trained as a neuroscientist, he is deeply focused on the organization's research strategy, charting a course for the coming era of Parkinson’s discovery and drug development. Dr. Sherer’s role includes contributing to key research initiatives such as MJFF’s relaunched landmark clinical study, the Parkinson’s Progression Markers Initiative, and collaborating with MJFF’s ever-increasing roster of partners in biopharma and government. Dr. Sherer's work with the Foundation began in 2003, when, as a postdoctoral fellow at Emory University, he was awarded MJFF funding to investigate the role of environmental factors in Parkinson's disease. Currently, he serves on the coordinating committee for the Morris K. Udall Centers of Excellence in Parkinson's Disease Research supported by the National Institute of Neurological Disorders and Stroke and is on the steering committee of the Accelerated Medicines Program – Parkinson’s disease coordinated by the Foundation for NIH. Additionally, Dr. Sherer was selected to serve as a council member for the FasterCures' TRAIN (The Research Acceleration and Innovation Network) program. He earned his PhD in Neuroscience from the University of Virginia in Charlottesville and holds a BS in Psychology from Duke University.

Ilyas Singeç

Director, Stem Cell Translation Laboratory, National Center for Advancing Translational Sciences

Dr. Ilyas Singeç joined NCATS in 2015 as the director of Stem Cell Translation Laboratory (SCTL) in the Division of Preclinical Innovation. Dr. Singeç translates stem cell discoveries into clinical applications, focusing on the development of new assays, drugs, and cell therapies. Prior to joining NCATS, Dr. Singeç carried out postdoctoral work first at the National Institute of Neurological Disorders and Stroke and then at the Sanford Burnham Prebys Medical Discovery Institute, where he also served as staff scientist and director of cell reprogramming. Most recently, Dr. Singeç worked in the pharmaceutical and entrepreneurial industries. Dr. Singeç earned his MD and PhD in Germany at the Universities of Bonn and Freiburg, completing his residency in clinical neuropathology and neuroanatomy in Freiburg.

George M. Slavich

Professor, UC Los Angeles

Dr. George M. Slavich is a leading authority in the conceptualization, assessment, and management of life stress, and in psychological and biological mechanisms linking stress with poor mental and physical health. He developed the first online system for assessing lifetime stressor exposure; formulated the first fully integrated, multi-level theory of depression; and is helping pioneer a new field of research called human social genomics, which is revealing how social experiences reach deep inside the body to affect the human genome. Dr. Slavich completed undergraduate and graduate coursework in psychology and communication at Stanford University and received his PhD in clinical psychology from the University of Oregon. After graduate school, he was a clinical psychology intern at McLean Hospital in Boston and a clinical fellow in the Department of Psychiatry at Harvard Medical School. He subsequently completed three years of NIMH-supported postdoctoral training in psychoneuroimmunology at UC San Francisco and UC Los Angeles. He is presently a Professor in the Department of Psychiatry and Biobehavioral Sciences, Division of Population Behavioral Health, at UC Los Angeles; Founding Director of the UC Los Angeles Laboratory for Stress Assessment and Research; an Investigator at the One Mind Center for Cognitive Neuroscience; and a Research Scientist at the Semel Institute for Neuroscience and Human Behavior.

Michael Snyder

Director, Center for Genomics and Personalized Medicine, Stanford

Dr. Michael Snyder's lab was the first to perform a large-scale functional genomics project in any organism and has developed many technologies in genomics and proteomics. These include the development of proteome chips, high resolution tiling arrays for the entire human genome, methods for global mapping of transcription factor binding sites (ChIP-chip now replaced by ChIP-seq), paired end sequencing for mapping of structural variation in eukaryotes, and de novo genome sequencing of genomes using high throughput technologies and RNA-Seq. Dr. Snyder earned a BA in Chemistry and Biology from the University of Rochester and a PhD from the California Institute of Technology.

Clive Svendsen

Executive Director, Board of Governors Regenerative Medicine Institute, Cedars-Sinai

Dr. Clive Svendsen did his predoctoral training at Harvard University. He received his PhD from the University of Cambridge in England, where he subsequently became a Wellcome Fellow and established a laboratory focusing on stem cell research. He then moved to the University of Wisconsin in 2000 as Professor of Neurology and Anatomy and founded their Stem Cell and Regenerative Medicine Center. In 2010, he moved to Los Angeles and founded the Cedars-Sinai Board of Governors Regenerative Medicine Institute (RMI), which currently has 23 faculty members and over 120 staff. A main focus of the Institute is to both model and treat various human diseases with the use of iPSCs. At the heart of the RMI is the Cedars-Sinai Biomanufacturing Center, which manufactures iPSCs and other cell types for research purposes and clinical trials. Additionally, Dr. Svendsen maintains a large lab that focuses on modeling neurodegenerative diseases including spinal muscular atrophy and amyotrophic lateral sclerosis (ALS), as well as Huntington's, Parkinson's and Alzheimer's disease. Using "organ on chip" technology that combines stem cells and engineering, Dr. Svendsen is creating multicellular human systems for research and drug development.

Leslie M. Thompson

Professor, UC Irvine

Dr. Leslie M. Thompson completed her PhD in 1989 at UC Irvine and became a faculty member in 2000. Dr. Thompson has studied Huntington's disease (HD) for most of her scientific career and was a member of the international consortium that identified the causative gene for HD in 1993 while a postdoctoral fellow in the UC Irvine laboratory of Dr. John Wasmuth. She also co-identified the mutation causing achondroplasia, the most common genetic form of short-limbed dwarfism in 1994. Dr. Thompson was one of the founders of the HD patient clinic at UC Irvine, is a member of the Huntington Study Group Scientific Affairs Committee and Enroll-HD Clinical Trial Committee, which are each involved in HD clinical trials, is part of the UC Irvine HDSA Center of Excellence, and is very active in the HD community. Dr. Thompson is a member of the Hereditary Disease Foundation HD Cure Committee, HD CARE Scientific Advisory Board (SAB), Huntington's Disease Society of America SAB Chair and member board of trustees and is founding Co-Editor in Chief of the Journal of Huntington's Disease. She also is a member of Scientific Advisory Panels for neural stem cell therapy programs in Italy and Spain and on the SAB for Target ALS and the ALS Packard Center at Johns Hopkins University.

Timothy Tickle

Head of Scientific Partnerships, Data Sciences Platform, Broad Institute

Dr. Timothy Tickle earned a PhD in Bioinformatics and Computational Biology from the University of North Carolina at Charlotte studying the microenvironment of Ovarian Serous Tumors. Later, he received his Postdoctoral Fellowship from the Harvard T. H. Chan School of Public Health while applying metagenomics to IBD, T2D, and other human diseases. Dr. Tickle focuses on the application of genomics to human health and strives to lead the development of analytical solutions and infrastructure to reduce barriers and build community in science. He leads teams that create and operate scalable data centers, develop and maintain cloud-native pipelines, and grow curated portals around scientific communities. These resources are developed openly to be leveraged by the entire scientific community. Dr. Tickle currently serves as the Head of Scientific Partnerships for the Data Sciences Platform at the Broad Institute of MIT and Harvard.

Kendall Van Keuren-Jensen

Professor, TGen

Dr. Kendall Van Keuren-Jensen received her PhD from Stony Brook University at Cold Spring Harbor Laboratory, where she studied the role of activity-regulated genes in synaptic transmission and neuronal morphology. Following her PhD, she was a postdoctoral fellow at Harvard Medical School for a short time before coming to TGen. She also has a Master's degree in Pharmacology and Toxicology from the University of Kansas, and she double majored in Biology and Anthropology at Boston University. Dr, Van Keuren-Jensen's lab examines the RNA cargo of extracellular vesicles using several different sequencing platforms (Illumina, Oxford Nanopore, 10x Genomics) and a diverse set of bioinformatics tools for analysis.

Ken Wiley, Jr.

Program Director, Division of Genomic Medicine, National Human Genome Research Institute

Dr. Ken Wiley joined the Division of Genomic Medicine (DGM) as a program director in 2014. He is responsible for managing a portfolio of extramural grants and contracts related to pharmacogenomics, epigenomics and clinical informatics. He works on the following projects at the DGM: the Human Heredity and Health in Africa (H3Africa) Initiative; the Electronic Medical Records and Genomics (eMERGE) Network; the Catalog of Published Genome Wide Association Studies; and the Online Mendelian Inheritance in Man (OMIM) database. Prior to joining the DGM, Dr. Wiley leveraged his expertise in pharmacology and informatics to assist the U.S. Food and Drug Administration, Booz Allen Hamilton and Harvard University. Dr. Wiley received his PhD in pharmacology in 2004 from Meharry Medical College, in collaboration with the University of Iowa.

CIRM Board Members

Judith C. Gasson

Senior Associate Dean for Research, David Geffen School of Medicine, UC Los Angeles

Dr. Judith C. Gasson became the director of UC Los Angeles' Jonsson Comprehensive Cancer Center (JCCC) in 1995. She is a molecular biologist and is responsible for one of only 41 institutions designated as comprehensive cancer centers by the National Cancer Institute. Dr. Gasson earned her doctorate degree in physiology at the University of Colorado in 1979. She did her postdoctoral work at the Salk Institute studying glucocorticoid hormones. In 1983, she left the Salk Institute to join UC Los Angeles. She is currently Professor of Medicine (Hematology-Oncology) and Biological Chemistry. Under her leadership, the JCCC has become a recognized international pioneer in "translating" laboratory discoveries into more effective new therapies for cancer patients everywhere. She has also served as the President of the Jonsson Cancer Center Foundation. In 2012, Dr. Gasson was appointed Senior Associate Dean for Research at the David Geffen School of Medicine.

Lawrence S.B. Goldstein

Distinguished Professor, UC San Diego

Dr. Lawrence S.B. Goldstein is a cell biologist, geneticist, and neuroscientist recognized for his work on molecular motors and the role of molecular transport pathways in neurodegenerative disease. Dr. Goldstein was born in Buffalo, New York and grew up in Thousand Oaks, California. He graduated from UC San Diego with a degree in Biology in 1976 and from the University of Washington with a PhD in Genetics in 1980. He was a postdoctoral fellow in Cell Biology at University of Colorado Boulder and MIT. He joined the faculty in Cell and Developmental Biology at Harvard University in 1984 where he was promoted to Full Professor with tenure in 1990. He returned to UC San Diego and the Howard Hughes Medical Institute in 1993. He is currently a Professor of Cellular and Molecular Medicine and of Neurosciences at UC San Diego. In collaboration with faculty and administrative colleagues, he launched the UC San Diego Stem Cell program, the Sanford Consortium for Regenerative Medicine, and the Sanford Stem Cell Clinical Center. He has received the Public Service Award from the American Society for Cell Biology and has had a Public Policy Fellowship named for him by the International Society for Stem Cell Research. He is a member of the American Academy of Arts and Sciences and the National Academy of Sciences.

David Higgins

Patient Advocate, Michael J. Fox Foundation

Dr. David Higgins earned his PhD in molecular biology and genetics from the University of Rochester in New York, followed by a postdoctoral fellowship at the National Cancer Institute before moving to San Diego in 1990. He has held positions at several biotech companies including Invitrogen, Chiron, Idun Pharmaceuticals and Oxford BioMedica. He has served as an Adjunct Associate Professor of Biology at SDSU and as an Instructor in the biotech technician-training program at SD City College. Dr. Higgins currently serves as the Parkinson's Patient Advocate member of the governing Board of CIRM. He is Coordinator of the UC San Diego Parkinson's Disease Support Group Network. For Dr. Higgins, Parkinson's disease is a family legacy. His maternal grandmother suffered from PD - and she participated in the earliest levadopa clinical trials in the late 1960's. In early 2014 his mother died with Lewy Body Dementia. His maternal uncle and great uncle also suffered PD. In December 2011 - almost 10 years ago – Higgins was diagnosed with PD himself. Soon thereafter In 2012, Higgins and a small group of people with Parkinson's started a self-run, no cost, open to everyone, peer support group. In 2016, after membership had grown from the original 6 or 7 to several 100, they joined forces with UC San Diego and became part of the UC San Diego Parkinson's and Movement Disorder Center. Now, in 2021, they serve more than 400 people, mostly in Central and Southern San Diego County. Dr. Higgins has become an advocate for people with Parkinson's disease and their caregivers/care partners. He uses his personal experiences to guide this advocacy work, focused on improving quality of life issues through education, support, training, networking and increased research funding leading ultimately to a cure.

Pat Levitt

Director, Saban Research Institute, Children's Hospital Los Angeles

Dr. Pat Levitt is Chief Scientific Officer, Vice President and Director of the Saban Research Institute, Children's Hospital Los Angeles (CHLA). He holds the Simms/Mann Chair, Developmental Neurogenetics at CHLA and W.M. Keck Provost Professor, Neurogenetics, Keck School of Medicine, University of Southern California. Dr. Levitt served as Chairman of the Department of Neurobiology at the University of Pittsburgh School of Medicine and the Director of the Vanderbilt Kennedy Center for Research on Human Development. Dr. Levitt was appointed to the U.S. National Advisory Mental Health Council for the National Institute of Mental Health. Dr. Levitt is an elected member of the National Academy of Medicine, and an elected fellow of the American Association for the Advancement of Science and the Dana Alliance for Brain Initiatives. He is a senior fellow at the Center on the Developing Child at Harvard University, and serves as Co-Scientific Director of the National Scientific Council on the Developing Child, a policy council focused on communicating science to assist policy makers, service providers and business leaders in making decisions regarding investments in child brain and physical health programs.

David W. Martin

CEO, AvidBiotics

Dr. David Martin is co-founder, chairman and CEO of AvidBiotics, a privately held biotechnology company in South San Francisco. In 1969, after 3 years at NIH, he joined the faculty of UC San Francisco in the departments of Medicine and Biochemistry. He became a professor in both departments and an Investigator of the Howard Hughes Medical Institute, until he joined Genentech in 1982 as the first VP of research and development. He subsequently became Executive VP of R&D at the newly formed joint venture between DuPont and Merck in 1991, returning to California in 1994, where he joined Chiron as president of Chiron Therapeutics. Dr. Martin co-founded Eos Biotechnology in 1996, became Chairman & CEO of Gangagen in 2003, and co-founded AvidBiotics Corp. in 2005. He served as a board director of Cubist Pharmaceuticals for 12 years and of Varian Associates and Varian Medical Systems for 17 years, the last 10 as lead director. Dr. Martin was raised in Florida, attended MIT, and received his MD and post graduate medical training at Duke University Medical School.

Jonathan Thomas

Chairman, Independent Citizens' Oversight Committee

Dr. Jon Thomas is a Co-Founding Partner at Saybrook Capital ("Saybrook"), an investment banking and private equity firm based in Santa Monica, California. Long interested in the biological sciences, Dr. Thomas majored in Biology and History at Yale, where he graduated summa cum laude. As a George C. Marshall Scholar at Oxford, he then earned a PhD with a medical focus in Commonwealth History. He subsequently returned to Yale for a JD at the Yale Law School. While there, Dr. Thomas retained an involvement with biology by teaching courses on the legal implications of genetic engineering and the impact of disease on history. Dr. Thomas has a long-standing commitment to patient advocacy. He spent more than 15 years on the Board of the Crippled Children's Society of Southern California and served as chair for four years. The organization, now called AbilityFirst, assists children with spinal cord injuries and mental disabilities that could be targets of stem cell therapies. Dr. Thomas is an Honorary member of the AbilityFirst Board.

Art Torres

Vice Chair, CIRM

Senator Art Torres (Ret.) was unanimously elected statutory Vice Chair of the Independent Citizens Oversight Committee, the governing Board of the California Institute of Regenerative Medicine (CIRM). He is also Chair of the Governance Committee. He is a colon cancer and osteoarthritis survivor. Between 1996 and 2009, Sen. Torres served as the Chair of the California Democratic Party. He previously served twenty years in the California Legislature, eight as a member of the State Assembly and twelve as a State Senator. Sen. Torres chaired the Senate Insurance Committee, Senate Toxics Committee, the Assembly Health Committee, and the Senate Joint Committee on Science and Technology. He is currently on the Board and Vice Chairman of "One Legacy," an organ transplant foundation in the US headquartered in Los Angeles. He was appointed by the California State Senate to the board of Covered California and also serves as a member of the Board of Trustees of the UC Santa Cruz Foundation. Sen. Torres authored the California Clean Water Drinking Act, Proposition 65, and created the sole toxic reporting repository that helps scientists determine environmental and health impacts “a data source that really no one else has on the planet.” On November 18th, 2010 he was sworn in by then Mayor Gavin Newsom, to a four-year term on San Francisco’s Public Utilities Commission and later elected as its President before stepping down. Sen. Torres holds a Bachelor's Degree from UC Santa Cruz and a JD from UC Davis School of Law. He also served as a John F. Kennedy teaching fellow at Harvard University's John F. Kennedy School of Government.

Keith R. Yamamoto

Vice Chancellor for Science Policy and Strategy, UC San Francisco

Dr. Keith R. Yamamoto is Vice Chancellor for Science Policy and Strategy, Director of Precision Medicine, and professor of cellular and molecular pharmacology at UC San Francisco. After earning his PhD from Princeton University, Yamamoto joined the UC San Francisco faculty in 1976, where he has been an international leader in the investigation of transcriptional regulation by nuclear receptors. He has led or served on numerous national committees focused on public and scientific policy, public understanding and support of biological research, and science education, including the Coalition for the Life Sciences, National Research Council Governing Board Executive Committee (EC), National Academy of Medicine’s EC and Council, National Academy of Sciences Division of Earth and Life Studies Advisory Committee, Board of Directors and EC of Research!America, and Advisory Board for Lawrence Berkeley National Laboratory. As Chair of the NAS Board on Life Sciences, he created the study committee that produced “Toward Precision Medicine: Building a Knowledge Network for Biomedical Research and a New Taxonomy of Disease,” and he has helped to lead efforts in the White House, in Congress, in Sacramento, and at UC San Francisco to implement it. He has chaired or served on many committees that oversee training and the biomedical workforce, research funding, and the process of peer review and the policies that govern it at NIH. Dr. Yamamoto was elected to the National Academy of Sciences, the National Academy of Medicine, the American Academy of Arts and Sciences, and the American Academy of Microbiology, and is a fellow of the American Association for the Advancement of Science.

CIRM Staff

Maria T. Millan

President and CEO, CIRM

Dr. Maria T. Millan is a physician-scientist who has devoted her career to treating and developing innovative solutions for children and adults with debilitating and life-threatening conditions. After receiving her undergraduate degree from Duke University where she first entered the arena of immunology research, she returned to her home in New Jersey where she obtained her MD and then went on to complete her surgical training and post-doctoral research in Boston at Harvard Medical School – Beth Israel Deaconess Medical Center. After a transplant surgery fellowship at Stanford University School of Medicine, she began her academic career with a busy pediatric and adult transplant surgery practice focused on technical advancements and optimization of patient outcomes, including the treatment of rare fatal diseases. In parallel, she continued her bench research at Stanford and was promoted within 5 years to Associate Professor and the Director of the Pediatric Organ Transplant Program. She served on multiple leadership teams including the Faculty Senate and the Dean's faculty committee at Stanford University School of Medicine and served on the Children's Hospital operations committee and currently serves on the editorial board for Stem Cell Translational Medicine and multiple non-profit boards advancing initiatives in health and in growing the healthcare industry ecosystem in California and beyond. In July 2017, Dr. Millan took on the role as President and CEO of CIRM, and she was formally appointed by CIRM's Board in September 2017. Under her leadership, CIRM continues to drive the mission of accelerating stem cell treatments to patients with unmet medical needs, is on track to achieve its 5-year strategic plan, has now funded a 64 clinical trials and is continuing to grow this robust portfolio of high-quality programs by the month.

Rosa Canet-Avilés

Vice President of Scientific Programs, CIRM

Dr. Rosa Canet-Avilés is the Vice President of Scientific Programs at CIRM and leads a team that actively works towards identifying the most promising basic and early-stage research in stem cells and other areas related to regenerative medicine and enabling their success. Under her leadership, the Scientific Programs team manages a portfolio of hundreds of active programs that include basic mechanistic research, discovery, exploratory research, and identification of potential candidates for translational development. Dr. Canet-Avilés is also responsible for the internal and external collaborative networks and consortia that will result from the early-stage scientific programs managed by this group. Together with the rest of the leadership team, Dr. Canet-Avilés is responsible for the strategic alignment and connectivity with other CIRM programs (e.g., clinical networks, knowledge and data networks, registries, educational and communication portals) with the ultimate goal of translating all these efforts into cures. Dr. Canet-Avilés earned her PhD degree in neuroscience from the School of Medicine at Leeds University, UK. She also holds a BS in organic chemistry from the Central University of Barcelona.

Uta Grieshammer

Senior Science Officer, Discovery Program, CIRM

Dr. Uta Grieshammer returned to CIRM in 2021 as Senior Science Officer in CIRM's Scientific Programs team. Dr. Grieshammer was previously at CIRM from 2007 to 2015 and managed the programs that created both CIRM's Genomics Initiative and iPSC repository. In 2015, she became the Scientific Program Director of the California Initiative to Advance Precision Medicine, where she created and managed the application and peer review process for precision medicine projects. Most recently, she was a Program Officer at the University of California Office of the President's (UCOP) Tobacco Related Disease Research Program, where she focused on lung disease and the neuroscience of nicotine addiction. She also led the development of a scholarship program to attract students from diverse backgrounds to pursue a career in science. Dr. Grieshammer earned her PhD degree in biochemistry from Boston University and has research expertise in molecular and cellular mechanisms of embryonic development.

Mitra Hooshmand

Senior Science Officer, Special Projects and Initiatives, CIRM

Dr. Mitra Hooshmand joined CIRM after more than five years of leadership experience at Americans for Cures, a stem cell advocacy group. During this time, she mobilized hundreds of stakeholders, from scientists to national and local patient advocacy organizations, to generate support for CIRM's mission. Dr. Hooshmand has a PhD in Anatomy and Biology from UC Irvine. She also worked as a Project Scientist at the Sue and Bill Gross Stem Cell Research Center at UC Irvine, where she conducted and published academic and industry-partnered research in studies investigating the therapeutic benefit of human neural stem cell transplantation in preclinical models of spinal cord injury and aging.

Shyam Patel

Director of Business Development, CIRM

Dr. Shyam Patel is Director of Business Development and is responsible for managing CIRM's Industry Alliance Program and strategic partnerships. Dr. Patel's team engages with the biotech industry to create visibility for CIRM's mission and to facilitate industry partnership and commercialization opportunities for CIRM's portfolio. Dr. Patel led the expansion of CIRM's Industry Alliance Program to establish a collaborative network of venture investors, biotech companies and large biopharma partners. He also manages CIRM's partnerships, including the Cure Sickle Cell partnership with NHLBI, iPSC repository partnership with Fujifilm CDI, and data sharing collaboration with Chan Zuckerberg Initiative. Dr. Patel received a BS in Bioengineering from UC Berkeley and a PhD in Bioengineering from UCs Berkeley & San Francisco.