

STEM CELL

M E E T I N G O N T H E M E S A

5th Annual Stem Cell Meeting on the Mesa

Tuesday, December 7th, 2010
Salk Institute for Biological Studies
Frederic de Hoffmann Auditorium
La Jolla, California

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The Sanford Consortium for Regenerative Medicine combines the intellectual resources of four of the world’s leading biomedical research institutions (UC San Diego, Salk Institute for Biological Studies, Sanford-Burnham Medical Research Institute and The Scripps Research Institute) to pursue collaborative research projects that advance the search for breakthrough cures. The Sanford Consortium unites San Diego’s brightest researchers to work side by side to harness the regenerative power of stem cells to diagnose, treat and cure degenerative diseases and injuries. The Sanford Consortium integrates the collective knowledge of these foremost biomedical research institutions, with the support of surrounding industry and local community, to create a global resource for stem cell research.

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8:15am	<p>Welcome Remarks</p> <p>Roger Bingham, Co-Founder and Director, The Science Network; Computational Neurobiology Laboratory, Salk Institute for Biological Studies</p> <p>Paul Pickering, Ph.D., General Manager, Cell Therapy Systems, Life Technologies</p> <p>Alan Trounson, Ph.D., President, California Institute for Regenerative Medicine</p>
8:30am	<p>Keynote Presentation: "How do Eggs and Oocytes Reprogram Somatic Nuclei?"</p> <p>Sir John Gurdon, Group Leader and Emeritus Professor, University of Cambridge, Wellcome Trust and Cancer Research UK Gurdon Institute</p>
9:00am	<p>Panel I: Disease in a Dish – Will it translate?</p> <p>Panel Chair: Evan Snyder, M.D., Ph.D., Professor and Director, Stem Cells and Regenerative Biology Program, Sanford-Burnham Medical Research Institute</p> <p>Panelists:</p> <p>Fred "Rusty" Gage, Ph.D., Professor and Vi & John Adler Chair for Research on Age-Related Neurodegenerative Diseases, Laboratory of Genetics, Salk Institute for Biological Studies</p> <p>Mason Israel, Graduate Student in Biomedical Sciences Program, Larry Goldstein Lab, UC San Diego</p> <p>Jeff Price, M.D., Ph.D., Associate Professor, Sanford-Burnham Medical Research Institute; CEO, Vala Sciences</p> <p>Ilyas Singec, M.D., Ph.D., Staff Fellow and Director for Cell Reprogramming, Stem Cell Center, Evan Snyder Lab, Sanford-Burnham Medical Research Institute</p>
10:30 – 11:00am	Break
11:00am	<p>Panel II: Cancer and Stem Cell Degenerative Disorders – Are there common themes?</p> <p>Panel Chair: Catriona Jamieson, M.D., Ph.D., Director, Stem Cell Research Program, Moores UC San Diego Cancer Center</p> <p>Panelists:</p> <p>Alysson Muotri, Ph.D., Assistant Professor, Pediatrics/Cellular & Molecular Medicine, UC San Diego</p> <p>Tannishtha Reya, Ph.D., Professor of Pharmacology, Department of Pharmacology, UC San Diego</p> <p>Inder Verma, Ph.D., Professor, Irwin and Joan Jacobs Chair in Exemplary Life Science, Laboratory of Genetics, Salk Institute for Biological Studies</p>
12:30 – 1:30pm	Lunch and Poster Session
1:30pm	<p>Panel III: Patient Advocacy 2.0 – Can they participate?</p> <p>Panel Chair: Duane Roth, CEO, CONNECT</p> <p>Panelists:</p> <p>Dani Grady, Principal, Thriving Concepts</p> <p>Michael Kalichman, Ph.D., Director, Research Ethics Program, UC San Diego</p> <p>Lorraine Stiehl, California Institute for Regenerative Medicine Advocacy Coordinator, StiehlWorks</p>





2:30pm	<p>Panel IV: Differentiation of Human Embryonic and Induced Pluripotent Stem Cells - Can it be controlled?</p> <p>Panel Chair: Jeanne Loring, Ph.D., Professor and Director, Center for Regenerative Medicine, The Scripps Research Institute</p> <p>Panelists:</p> <p>Juan Carlos Izpisua Belmonte, Ph.D., Professor, Gene Expression Laboratory, Salk Institute for Biological Studies</p> <p>Louise Laurent, M.D., Ph.D., Assistant Professor, Department of Reproductive Medicine, UC San Diego</p> <p>Alex Meissner, Ph.D., Assistant Professor, Department of Stem Cell and Regenerative Biology, Harvard University</p> <p>Peter Schultz, Ph.D., Professor, Department of Chemistry, The Scripps Research Institute</p>
4:00 – 4:15pm	Break
4:15pm	<p>Welcome Remarks & Keynote Introduction</p> <p>Laurakay Bruhn, Ph.D., Section Manager, Biology-Chemistry Group and Program Manager for Genomics and Protein Sciences in the Molecular Tools Lab, Agilent Laboratories</p> <p>Roger Bingham, Co-Founder and Director, The Science Network; Computational Neurobiology Laboratory, Salk Institute for Biological Studies</p>
4:20pm	<p>Keynote Presentation: “A Genomic Based Future”</p> <p>J. Craig Venter, Founder, Chairman and President, J. Craig Venter Institute; Founder and CEO, Synthetic Genomics, Inc.</p>
5:00pm	Networking Reception & Poster Session

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Roger Bingham, Co-Founder and Director, The Science Network; Computational Neurobiology Laboratory, Salk Institute for Biological Studies

Roger Bingham is co-founder and director of The Science Network (www.thesciencenetwork.org), a member of the Computational Neurobiology Laboratory at the Salk Institute for Biological Studies, the Institute for Neural Computation at UC San Diego, and the Executive Committee of the Temporal Dynamics of Learning Center (TDLC), an NSF Science of Learning Center. He is also a member of the Board of Advisors of *Scientific American* magazine. A co-author of *The Origin of Minds: Evolution, Uniqueness, and the New Science of the Self*, Bingham

has also received many honors for his communication of science - including the National Magazine Award and seven Los Angeles Emmy awards.



Paul Pickering, Ph.D., General Manager, Cell Therapy Systems, Life Technologies

Paul Pickering serves as the General Manager of the Cell Therapy Systems business unit at Life Technologies and has previously served in a variety of leadership capacities within both Life Technologies and its predecessor, Invitrogen, in marketing, product development, and commercial capacities in the core research, applied and bioproduction markets. Pickering launched the Cell Therapy Systems business unit in 2008 in response to cell therapy developers' needs for integrated solutions to overcome the technical, regulatory, and operational challenges associated with commercializing cell-based therapies. Today the business supports over 100

commercial cell therapy developers around the world in this capacity. Prior to joining Life Technologies, Pickering held a number of leadership positions, including Chief Operating Officer of immunotherapy biotech Virionyx, and Vice President R&D of lithium ion battery materials developer Pacific Lithium. Paul received Masters and Ph.D. degrees in Chemical Engineering from the Universities of Birmingham and Bath, respectively, and received his M.B.A. from Harvard Business School.



Alan Trounson, Ph.D., President, California Institute for Regenerative Medicine

Alan Trounson is President of the California Institute for Regenerative Medicine in San Francisco, California.

Prior to joining CIRM in January 2008, Trounson was Professor of Stem Cell Sciences and Director of the Monash Immunology and Stem Cell Laboratories at Monash University, where he retains the title of Emeritus Professor.

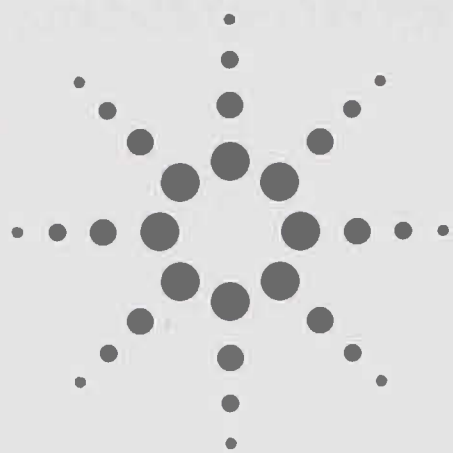
Dr. Trounson founded the National Biotechnology Centre of Excellence - 'Australian Stem Cell Centre'. He has been a pioneer of human in vitro fertilisation (IVF) and associated reproductive technologies; the diagnosis of inherited genetic disease in pre-implantation embryos; and the discovery and production of human embryonic stem cells and of their ability to be directed into neurones, prostate tissue and respiratory tissue.



Laurakay Bruhn, Ph.D., Section Manager, Biology-Chemistry Group and Program Manager for Genomics and Protein Sciences in the Molecular Tools Lab, Agilent Laboratories

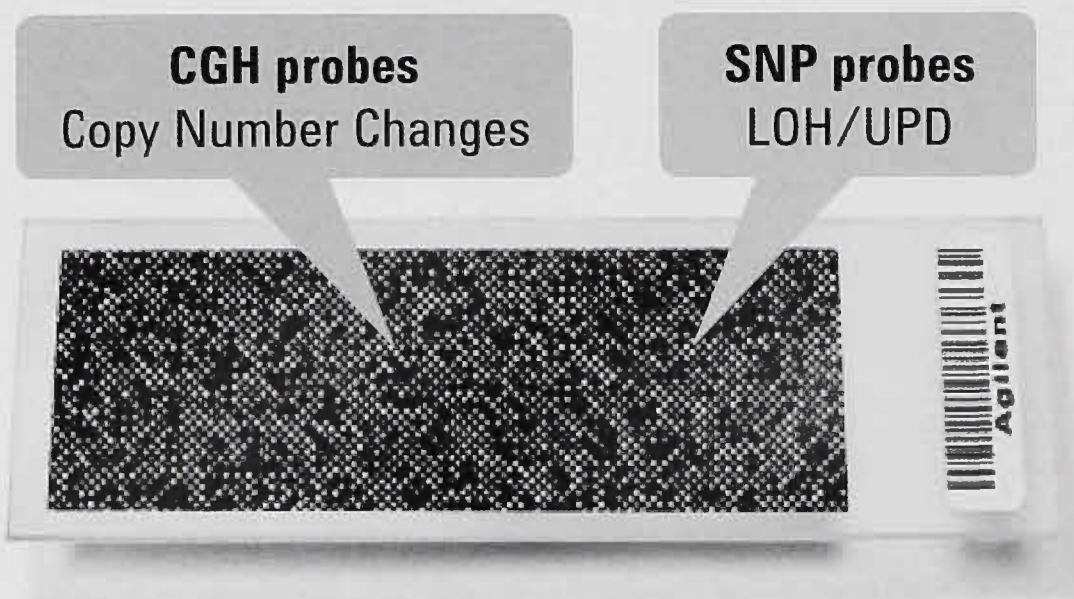
Laurakay Bruhn has been working at HP/Agilent Labs since 1996. She is currently Section Manager of the Biology-Chemistry Group and Program Manager for Genomics and Protein Sciences in the Molecular Tools Lab of Agilent Laboratories. Bruhn has more than 10 years of experience leading inter-disciplinary teams of chemists, biochemists, molecular and cellular biologists, and computational biologists innovating leading edge measurement technologies for biomedical research and clinical diagnostic applications. She has a Ph.D. in Biology from University of Oregon and

did her postdoctoral work at UC San Francisco focussing on combinatorial protein interactions involved in gene regulation.



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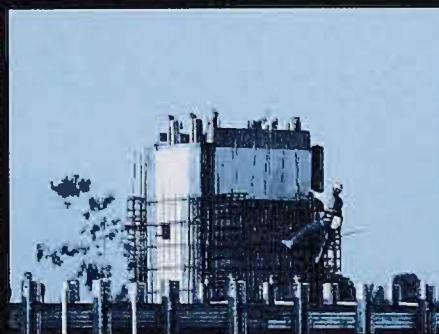
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Lankford-Phelps Consortium, LLC is a partnership between Lankford & Associates, Inc. and Phelps Development, LLC. Together, our firms are working hard to develop, design and construct the Sanford Consortium for Regenerative Medicine stem cell research laboratory. The building's spectacular location is amidst the thriving Torrey Pines science mesa and will engage and catalyze the entire science community. The Sanford Consortium facility will achieve its sophisticated biomedical research objectives by incorporating design features such as horizontally and vertically open laboratories and strategically placed informal and formal meeting and education spaces intended to maximize collaborative interactions.

We are proud to be the developers and facilitators of such an exciting and important project.



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Sir John Gurdon, Ph.D., Group Leader and Emeritus Professor, University of Cambridge, Wellcome Trust & Cancer Research UK Gurdon Institute

John Gurdon was a Zoology undergraduate at Oxford University and returned after a postdoc year at CalTech, as Lecturer in Embryology. In 1971 he joined the MRC molecular biology lab in Cambridge to continue his work on Amphibian developmental biology. In 1983 as John Humphrey Plummer Professor of Cell Biology at the University of Cambridge, he co-founded a research institute of developmental and cancer biology (now named the Gurdon Institute) with Professor Laskey, acting as Chairman until 2002. His career has concentrated on nuclear transplantation in the frog and experiments to discover the value of mRNA microinjection, mechanisms of response to morphogen gradients and recently, mechanisms of nuclear reprogramming by *Xenopus* oocytes and eggs. Gurdon attended Master of Magdalene College Cambridge from 1995-2002, and he has received various recognitions, including the 2009 Lasker Award for Basic Medical Science.



J. Craig Venter, Ph.D., Founder, Chairman and President, J. Craig Venter Institute; Founder and CEO, Synthetic Genomics, Inc.

J. Craig Venter is Founder, Chairman and President of the J. Craig Venter Institute (JCVI), a not-for-profit, research organization with approximately 400 scientists and staff dedicated to human, microbial, plant, synthetic and environmental genomic research, the exploration of social and ethical issues in genomics; and seeking alternative energy solutions through genomics. Dr. Venter is also Founder and CEO of Synthetic Genomics, Inc., a privately held company dedicated to commercializing genomic-driven solutions to address global energy and environmental challenges.

Venter has been a driving force in genomics for several decades. The many discoveries and breakthroughs by him and his teams include: Expressed Sequence Tags (ESTs) used to rapidly discover new genes, the first complete genome of a living organism, the first draft of the human genome in 2001, the first complete diploid human genome in 2007, more than 40 million new genes from his Sorcerer II Global Expedition and groundbreaking advances in creating the first synthetic genome.

Venter is a member of the National Academy of Sciences. He is also the recipient of numerous honorary degrees, public honors and scientific awards, including the 2008 National Medal of Science by President Obama.



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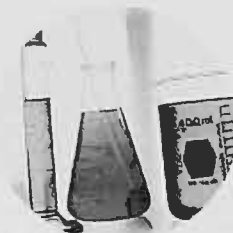


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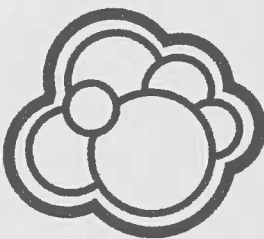
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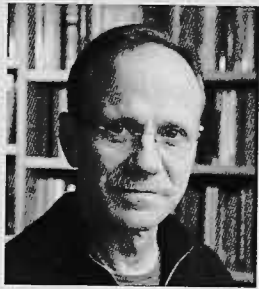
Chair:



Evan Snyder, M.D., Ph.D., Professor and Director, Stem Cells and Regenerative Biology Program, Sanford-Burnham Medical Research Institute

Evan Snyder earned his M.D. and his Ph.D. in neuroscience from the University of Pennsylvania in 1980. He completed residencies in pediatrics and neurology at Children's Hospital-Boston, Harvard Medical School and postdoctoral research at Harvard Medical School. In 1992, Snyder was appointed an instructor in neurology at Harvard Medical School and was promoted to assistant professor in 1996. He is regarded as one of the fathers of the stem cell field, having identified over two decades ago that cells that came to be called stem cells were a source of neural plasticity. Snyder was the first to demonstrate that non-hematopoietic stem cells could mediate cell and gene replacement; home to injury; and perform protective, trophic, pro-regenerative, and anti-inflammatory actions. He was the first to isolate human neural stem cells. In 2003, after 23 years at Harvard, Snyder was recruited to Sanford-Burnham Medical Research Institute as professor and director of the Stem Cells and Regeneration program.

Panelists:



Fred "Rusty" Gage, Ph.D., Professor and Vi and John Adler Chair for Research on Age-Related Neurodegenerative Diseases, Laboratory of Genetics, Salk Institute for Biological Studies

Fred Gage is the head of the Laboratory of Genetics at the Salk Institute for Biological Studies, which he joined in 1995, and Vi and John Adler Chair for Research on Age-Related Neurodegenerative Diseases and an Adjunct Professor in the Department of Neurosciences, UC San Diego. He received his Ph.D. in 1976 from The Johns Hopkins University. Gage's work concentrates on the adult central nervous system and unexpected plasticity and adaptability to environmental stimulation that remains throughout the life of all mammals. In addition, his studies focus on the cellular, molecular and environmental influences that regulate neurogenesis in the adult. He serves on many health related boards, and was President of the Society for Neuroscience and is President-Elect of the International Society for Stem Cell Research. Gage is a Fellow of the American Association for the Advancement of Science, a Member of the National Academy of Sciences and the Institute of Medicine, a Member of the American Academy of Arts and Sciences, an Associate Member of the European Molecular Biology Organization, and a Member of the American Philosophical Society.



Mason Israel, Graduate Student in Biomedical Sciences Program, Larry Goldstein Lab, UC San Diego

Mason Israel is a Ph.D. student at UC San Diego in the laboratory of Lawrence Goldstein. His thesis research focuses on modeling Alzheimer's disease with human induced pluripotent stem cells. Israel was raised in East Hampton, New York, and received his undergraduate education from Brown University. At Brown, Israel performed his undergraduate thesis research in the laboratory of Michael McKeown. After Brown, Israel began working with stem cells in the laboratory of Hans-Willem Snoeck at the Mount Sinai School of Medicine, where he researched aging of the hematopoietic stem cell pool in mice.



Jeff Price, M.D., Ph.D., Associate Professor, Sanford-Burnham Medical Research Institute; CEO, Vala Sciences

Jeff Price received his M.D. from Loma Linda University in 1985 and his Ph.D. in Bioengineering from UC San Diego in 1990. His primary research is on the creation of automated high throughput microscopy systems and applications that include high content screening and digital pathology/histocytometry. Price's technology transfer efforts in these areas have yielded 16 base patents and patent applications, and include the founding of Q3DM, Inc., in 1998 and Vala Sciences, Inc., in 2004. In 2004, he moved from UC San Diego to become Associate Professor in the Signal Transduction and Stem Cells and Regeneration Research Programs at Sanford-Burnham Medical Research Institute. His current research interests are focused on extension of automated microscopy to living cells, 3-D cytometry and multiplexed spatial biomarker patterns in cancer pathology.



Ilyas Singec, M.D., Ph.D., Staff Fellow and Director for Cell Reprogramming, Stem Cell Center, Evan Snyder Lab, Sanford-Burnham Medical Research Institute

Ilyas Singec, a native of Turkey and Germany, completed his training and doctoral thesis (summa cum laude) in Neurobiology and Clinical Neuropathology at the University of Freiburg, Germany. During his postdoctoral work at the National Institutes of Health (NINDS, Ron McKay) and at the Sanford-Burnham Medical Research Institute (SBMRI, Evan Snyder) he delineated the molecular mechanisms of early neural fate choice in human pluripotent stem cells. Singec has established robust and routine nuclear reprogramming of somatic cells at SBMRI. Since January 2008, he has independently generated and characterized more than 50 iPS cell lines from normal individuals and patients with various genetic diseases (e.g. Bipolar Disorder, Rett Syndrome, Spinal Muscular Atrophy). His current work focuses on various fundamental aspects of human neural development using a variety of methods (genomic, epigenomic, proteomic), analysis of critical cell signaling pathways and disease modeling relevant to translational studies.



Chair:



Catriona Jamieson, M.D., Ph.D., Director, Stem Cell Research Program, Moores UC San Diego Cancer Center

Catriona Jamieson is the Director of the Stem Cell Research Program at the Moores UC San Diego Cancer Center, a hematologist-oncologist and stem cell biologist. She became an Instructor in Hematology at Stanford in 2003, following a post-doctoral stem cell biology research fellowship in the laboratory of Dr. Irving L. Weissman, and joined the UC San Diego faculty of medicine in November 2005. At UC San Diego, Jamieson has continued to build on her national and international reputation for her translational research on stem cells and cancer, particularly in the area of hematologic malignancies. She was the first recipient of a CIRM grant to derive and characterize cancer stem cells from embryonic stem cells; has received a number of awards and honors, including the Forbeck Scholar Award; has numerous patents and publications; and served as Vice-Chair (2009) and will be the Chair of the Stem Cells and Cancer Gordon Conference (2011). Jamieson received her BSc in Biology (Genetics) from the University of British Columbia and her Ph.D. in Microbiology and M.D. After completing a residency program in Internal Medicine, she trained at Stanford University Medical Center in bone marrow transplantation and hematology.

Panelists:



Alysso Muotri, Ph.D., Assistant Professor, Pediatrics/Cellular and Molecular Medicine, UC San Diego

Alysso Muotri earned a BSc in Biological Sciences from the State University of Campinas in 1995 and a Ph.D. in Genetics in 2001 from University of Sao Paulo, Brazil. He moved to the Salk Institute for Biological Studies as Pew Latin America Fellow in 2002 for a postdoctoral training with Dr. Fred Gage on the fields of neuroscience and stem cell biology. He then became an Assistant Professor at UC San Diego in 2008. Muotri's research focuses on human brain development and evolution, exploring mobile elements as generators of neuronal diversity. Muotri's lab is also interested on modeling neurological diseases, such as Autism Spectrum Disorders, using human induced pluripotent stem cells.



Tannishtha Reya, Ph.D., Professor of Pharmacology, Department of Pharmacology, UC San Diego

Tannishtha Reya is an Associate Professor of Pharmacology and Cancer Biology and Co-director of the Stem Cell and Regenerative Medicine Program at Duke University, an incoming Professor at the UC San Diego Department of Pharmacology and an Adjunct Professor at the Sanford-Burnham Medical Research Institute. Reya obtained her bachelor's degree from Williams College, and her Ph.D. from the University of Pennsylvania. Reya subsequently completed postdoctoral training at UC San Francisco and Stanford University. Her work has provided insight into the signals that control stem cell growth and how the same signals are subverted to fuel cancer growth. Her awards include the Leukemia and Lymphoma Society Scholar Award, the Presidential Early Career Award for Scientists and Engineers and the Pioneer Award.



Inder Verma, Ph.D., Professor, Irwin and Joan Jacobs Chair in Exemplary Life Science, Laboratory of Genetics, Salk Institute for Biological Studies

Inder Verma is a Professor in the Laboratory of Genetics and American Cancer Society Professor of Molecular Biology at the Salk Institute for Biological Studies. Verma also holds the title of Irwin and Joan Jacobs Chair in Exemplary Life Science and is one of the world's leading authorities on the development of viruses for gene therapy vectors. He uses genetically engineered viruses to insert new genes into cells that can then be returned to the body, where they produce the essential protein whose absence causes disease.

Verma received his Ph.D. degree from Weizmann Institute of Science in Rehovot, Israel, in 1971. He continued his postdoctoral training with David Baltimore at the Massachusetts Institute of Technology in 1974 and has been a part of the Salk Institute for Biological Sciences since 1974. His honors include American Cancer Society Professorship (1990); membership, Third World Academy of Sciences (1995), National Academy of Sciences in India (1997), National Academy of Sciences in USA (1997) and Institute of Medicine (1999); Fellow of the American Academy of Arts and Sciences (2000); Associate Member of EMBO (1998); and winner of the Vilcek Foundation Prize (2008), ASGT Outstanding Achievement Award (2009) Spector Prize (2010) and Pasarow Award in Cancer Research (2010).





Chair:



Duane Roth, CEO, CONNECT

Duane Roth is Chief Executive Officer and member of the Board of CONNECT. CONNECT is the globally recognized nonprofit organization dedicated to creating and sustaining the growth of innovative technology and life science businesses in San Diego. CONNECT has been directly involved with over 2,000 companies since its inception in 1985 and these companies have secured over \$10 billion in funding. Prior to joining CONNECT Roth founded Alliance Pharmaceutical Corp., where he serves as Chairman of the Board. Prior to Alliance, he held senior management positions at Johnson & Johnson and Wyeth operating companies. He has served as a member of the Board of Directors and executive committees of the Biotechnology Industry Organization (BIO), the California Healthcare Institute (CHI) and BIOCOM (past Chair). Roth was appointed to the oversight board of the California Institute of Regenerative Medicine (CIRM) by Governor Arnold Schwarzenegger in 2006 and was elected Vice Chairman in 2009.

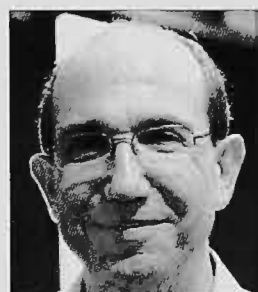
Panelists:



Dani Grady, Principal, Thriving Concepts

Dani Grady has been an activist in cancer survivorship issues for the past 23 years. She began her career as Founder and Executive Director of the Thrivers' Network at the UC San Diego Cancer Center, where she trained cancer survivors to serve as mentors and advocates for newly diagnosed patients. While in this position, she initiated the successful effort to establish a fund for treatment for underserved women. Grady co-founded Cancer Survivorship: San Diego!, an umbrella organization bringing together patients, families, physicians and institutions to educate the public and improve patient care. In 1998, she undertook a bicycle tour from San Diego to the The March in Washington, DC, with rallies at 25 cancer centers, and successfully advocated for increased funding for cancer research and Medicare coverage for clinical trials.

Grady then led successful efforts to allocate \$1 million of SD County's Tobacco Industry Settlement to establish the San Diego County Cancer Navigator Program and to establish San Diego's Richard and Annette Bloch Cancer Survivors' Park. Grady has served on numerous boards including NCCS, the Review Board for UC San Diego / VA Medical Center and the Sanford-Burnham Medical Research Institute. She has given over 250 media interviews, appearing on the NBC Nightly News, 20/20 and the Discovery Channel.



Michael Kalichman, Ph.D., Director, Research Ethics Program, UC San Diego

Kalichman is the Founding Director of the UC San Diego Research Ethics Program. With Francis Macrina of Virginia Commonwealth University, he has taught numerous courses for instructors of research ethics courses. He is Project Director for a Web-based resource for instructors of courses in the responsible conduct of research, and directs NIH-funded projects to assess the effectiveness of teaching research ethics and the standards of conduct in research. Kalichman is also the Founding and Past President for the Responsible Conduct of Research Education Consortium (RCREC), which is now part of the Association for Practical and Professional Ethics. He is a Co-Founder and Director of the Center for Ethics in Science and Technology for the San Diego region and Founding Director of the San Diego Research Ethics Consortium.



Lorraine Stiehl, California Institute for Regenerative Medicine Advocacy Coordinator, StiehlWorks

Lorraine was recently named Advocacy Coordinator for the California Institute for Regenerative Medicine (CIRM). She is helping to educate, excite and empower stem cell advocates and strengthen the linkage between advocates and the scientific community – a role for which she is well-prepared having partnered with over 70 patient groups across the state during the Prop 71 campaign.

As a nonprofit professional for 25 years, Stiehl has provided marketing, fundraising, strategic planning and advocacy support to dozens of voluntary health agencies including the Juvenile Diabetes Research Foundation (JDRF), the Lymphoma Research Foundation; and Lifesharing, San Diego's Organ Procurement Organization. While working for JDRF; she opened 17 new markets in 14 states. During her tenure she was named Executive Director of the Year and Staff Member of the Year. After leaving her staff role at JDRF in 2001, Lorraine became active as a volunteer and currently serves as JDRF National Volunteer Chair for Grassroots Advocacy. By successfully leading a team of 16 regional volunteers, 150 volunteer state leaders and 80,000 volunteer advocates, she was recently named Volunteer of the Year. Besides her contract role with CIRM through her family's consulting business, StiehlWorks, Stiehl works part-time for the Diabetes Center at UC San Francisco.

Chair:



Jeanne Loring, Ph.D., Professor and Director, Center for Regenerative Medicine, The Scripps Research Institute

Jeanne Loring is a Professor and the founding Director of the Center for Regenerative Medicine at The Scripps Research Institute in La Jolla, California. Before joining Scripps, she was at the Sanford-Burnham Medical Research Institute as co-director of one of the first NIH-supported human embryonic stem cell centers. Earlier in her career, Loring held research and management positions at biotechnology companies including GenPharm International and Incyte Genomics, and was the founder of a human embryonic stem cell (hESC)-based company. Loring was Director of two of the first NIH Human Embryonic Stem Cell Training Courses and now directs one of the largest stem cell training programs in the country. She authored *Human Stem Cell Manual: A Laboratory Guide*; Elsevier/Academic Press and is featured in a video presentation on the growth of "Stem Cell Tourism," the dubious practice of offering unproven stem cell therapies to desperate victims of incurable disease. She is also a member of the Bill and Melinda Gates Foundation Regulatory and Ethics Board and the Board of the University of Massachusetts Stem Cell Bank and Registry.

Panelists:



Juan Carlos Izpisua Belmonte, Ph.D., Professor, Gene Expression Laboratory, Salk Institute for Biological Studies

Juan Carlos Izpisua Belmonte, is a Professor in the Gene Expression Laboratory at the Salk Institute for Biological Studies. His studies focus on how genes and molecules orchestrate the development of an embryo. His lab's research has helped to discover some of the molecules that instruct embryonic stem cells to give rise to specific cell types during embryo development, and how these cells interact with one another to form tissues and organs with proper morphology and function. In addition to improving our knowledge on early human development, the research activities of Belmonte's laboratory are relevant to understanding the causes that underlie human birth defects, as well as to the future development of regenerative medicine. Belmonte received his B.A. at the University of Valencia; his Ph.D. at the Universities of Bologna, Italy and Valencia, Spain; and was a Postdoctoral Fellow at the University of Marburg, The European Molecular Biology Laboratories at Heidelberg in Germany and UC Los Angeles.



Louise Laurent, M.D., Ph.D., Assistant Professor, Department of Reproductive Medicine, UC San Diego

Louise Laurent is an Assistant Professor in Reproductive Medicine at the UC San Diego and a recipient of a training fellowship from the California Institute for Regenerative Medicine, a fellowship from the NIH Reproductive Scientist Development Program and a fellowship from the NIH/NICHD Women's Reproductive Health Research Career Development Program. She received her residency training in Obstetrics and Gynecology at UC San Diego. As a student in the laboratory of Vikas P. Sukatme, M.D., Ph.D., at the University of Chicago, she cloned and characterized EGR1, a zinc finger transcription factor. Laurent's graduate research as a MSTP student at UC San Francisco included a large scale mutagenesis and molecular tracking strategy to define the regions of the HIV genome necessary for viral replication. As a clinical fellow at The Scripps Research Institute, she worked to delineate the expression of miRNAs in human embryonic stem cells. Her current research focuses on applying genomic and epigenomic methods to understanding the molecular regulation of pluripotency and differentiation, optimizing the preclinical and clinical utility of human pluripotent stem cells and identifying the molecular basis of placental dysfunction in human pregnancy.



Alex Meissner, Ph.D., Assistant Professor, Department of Stem Cell and Regenerative Biology, Harvard University

Alex Meissner undertook both his graduate and postdoctoral training at the Whitehead Institute for Biomedical Research in Cambridge, Massachusetts. He is currently an Assistant Professor in the department of stem cell and regenerative biology at Harvard University and Principal Faculty Member of the Harvard Stem Cell Institute. Research in the Meissner Laboratory focuses on how stem cells achieve and maintain pluripotency and the role that epigenetic modifications play in this process. Meissner sits on the editorial board of the Journal for Stem Cell Research and was recently named a Pew Scholar in the Biomedical Sciences.



Peter Schultz, Ph.D., Professor, Department of Chemistry, The Scripps Research Institute

Peter Schultz received his Ph.D. from Caltech in 1984, and after his postdoctoral work at MIT, moved to UC Berkeley, where he was a Professor of Chemistry, a Principal Investigator at the Lawrence Berkeley National Laboratory and an Investigator in the Howard Hughes Medical Institute. He moved to The Scripps Research Institute in 1999 where he is currently a Professor of Chemistry. Schultz's contributions to science include: (1) the discovery of catalytic antibodies, and their use to study fundamental mechanisms of biological catalysis and the evolution of binding and catalytic function; (2) the development and application of methods to add new building blocks (beyond the common 20 amino acids) to the genetic codes of prokaryotic and eukaryotic organisms; and (3) the development and application of molecular diversity technologies to problems in chemistry, biology and medicine, including the generation of combinatorial materials libraries and the use of chemical, genomic and protein libraries to identify and characterize molecules and genes related to regenerative medicine and orphan and neglected diseases. Schultz established the Genomics Institute of the Novartis Research Foundation in 1999 in La Jolla (and served as its Director until 2010), which develops and applies state-of-the-art high throughput chemical, proteomics, genomics and informatics technologies to the identification of novel genes and biological processes, as well as the development of new human therapeutics for cancer, immune, metabolic, cardiovascular and infectious disease.



1. Controlling Stem Cell Fate on Micropatterns with Varying Extracellular Matrix Stiffness
Yu Suk Choi, UC San Diego Department of Bioengineering
2. Expansion and Differentiation of Human Pluripotent Stem Cells in Polymer-Coated Microcarrier Culture
Eric Wai Keung Chu, UC San Diego Department of Bioengineering
3. Synthetic Matrices for Long-Term Expansion of Pluripotent Human Embryonic Stem Cells
Chien-Wen, Chang, UC San Diego Department of Bioengineering
4. Identification of Micro RNAs Involved in Cardiac Specification in mESCs
Alexandre Colas, Sanford-Burnham Medical Research Institute
5. Effect of Rotenone, Paraquat and Maneb on Dopaminergic Neurons Derived from Human Embryonic Stem Cells
Encarnacion Maria Navarro-Peran, Sanford-Burnham Medical Research Institute
6. Modeling Schizophrenia Using hiPSC-derived Neurons
Kristen Brennand, Salk Institute for Biological Studies
7. In Vitro Human Model of Inflammation in Parkinson's Disease
Leah Boyer, UC San Diego Biomedical PhD Program, Salk Institute for Biological Studies
8. Genetic Variance of PICALM in iPSC-Derived Neurons of Sporadic Alzheimer's Disease Patients
Sol Reyna, UC San Diego
9. Patient-Specific Pluripotent Stem Cells for Modeling Placental Development and Pathology In Vitro
Stephen Sullivan, UC San Diego Department of Pathology
10. Differentiation of Human Embryonic Stem Cells Into Hepatocytes: Study of Mechanisms Involved in Cells Fate Determination
Thomas Touboul, The Scripps Research Institute
11. Generation of Induced Pluripotent Stem Cells from Endangered Species, "Mandrillus leucophaeus" and "Ceratotherium"
Inbar Friedrich Ben-Nun, The Scripps Research Institute
12. Imaging of Epigenetic Landscapes in Human Pluripotent Stem Cells
Mats Nilbratt, Sanford-Burnham Medical Research Institute
13. Genome-scale Microarray Analysis of DNA Methylation in Human Pluripotent and Non-Pluripotent Cells
Gulsah Altun, The Scripps Research Institute
14. Gene Targeting in Human Pluripotent Stem Cells
Anna McCann, The Scripps Research Institute, California Polytechnic State University, CIRM Bridges Program
15. Somatic Coding Mutations in Human Induced Pluripotent Stem Cells
Athurva Gore, UC San Diego Department of Bioengineering
16. An iPSC Model of SORL1 Variants in Sporadic Alzheimer's Disease
Jessica Young, UC San Diego
17. Hotspots of Aberrant Epigenomic Reprogramming in Human Induced Pluripotent Stem Cells
Ryan Lister, Genomic Analysis Laboratory, Salk Institute for Biological Studies
18. WNT/ β -catenin Independent Signaling in Proliferation and Differentiation of Human Pluripotent Stem Cells
Matthieu Bauer, UC San Diego



19. Ethnically Diverse Induced Pluripotent Stem Cells for Pharmacogenomics
Eyitayo Fakunle, The Scripps Research Institute
20. Multi Parameter Semi Quantitative Analysis of Neural Differentiation of Pluripotent Stem Cells by Flow Cytometry
Christian Carson, BD Biosciences
21. Modeling Raphenspinal Projection Neurons Using Human Embryonic Stem Cells
Sandra Klein, UC San Diego Department of Neuroscience
22. Modeling Human Neurogenesis Using Microcephaly Patient-Derived iPSCs
Bethany Sotak, UC San Diego Department of Neuroscience
23. Remyelination of Regenerating Axons After Spinal Cord Injury by Grafting Oligodendrocyte Precursor Cells
Verena Haringer, UC San Diego
24. Pancreatic β -Cell Neogenesis by Direct Conversion from Mature β -Cells
Chen-ho Chung, Sanford Children's Health Research Center, Sanford-Burnham Medical Research Institute, Mackay Memorial Hospital, Taiwan
25. Encapsulated Pancreatic Endocrine Progenitors Derived from hES Cells Mature into Fully Functional β -Cells In Vivo
Kaitlyn Kirk, UC San Diego Department of Pediatrics, Sanford-Burnham Medical Research Institute
26. E47 Induces Growth Arrest and Downregulation of the Cancer Stem Cell Marker CD44 in Pancreatic Cancer
Ashley Russell, UC San Diego, Sanford-Burnham Medical Research Institute, California Polytechnic State University
27. The Role of the Wnt/ β -Catenin Pathway in Regulating Differentiation of Human Embryonic Stem Cells Towards Pancreatic Endoderm
Nathan Kumar, UC San Diego Department of Bioengineering
28. Reprogramming of Fibroblasts Using Transcription Factors or MicroRNAs for Autologous Cell Replacement Therapy for Juvenile Diabetes
Xiaoyan Liao, UC San Diego
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Jesse Dixon, Ludwig Institute for Cancer Research, UC San Diego
30. Phenotypic Properties of Human Embryonic Stem Cells
Ibon Garitaonandia, Department of Chemical Physiology, Center for Regenerative Medicine, The Scripps Research Institute
31. Genome-Scale Analysis of Somatic L1 and Alu Integration
Apuã Paquola, UC San Diego
32. Endogenous Retroviruses and Extra-Embryonic Cell Fate are Coordinately Regulated by KDM1A/ LSD1
Wesley Gifford, Salk Institute for Biological Studies
33. The Role of Insulin-like Growth Factor 2 mRNA Binding Protein 1 [Igf2bp1/IMP1] in Pluripotent Stem Cells
Anne Conway, Biomedical Sciences Graduate Program, UC San Diego, Salk Institute for Biological Studies
34. A Machine Learning Predictive Tool for Signaling Pathways in Cancer
Frank Wadleigh, Nova Scientia, Inc.
35. The Pan-Bcl-2 Family Inhibitor BI-97C1 Targets Bone Marrow Niche Blast Crisis Chronic Myeloid Leukemia Stem Cells but Sparing Normal Cord Blood Progenitor Cells
Daniel Goff, Moores UC San Diego Cancer Center



36. Role of RBPjk Transcription Factor in Adult Heart Repair After Myocardial Infarction Injury
Maria Cecilia Scimia, UC San Diego
37. Robust Generation of Multipotent Hemangioblasts from Human ES/iPS Cells under Chemically Defined Conditions
Leo Kurian, Salk Institute for Biological Studies
38. Growing Hair from Human Embryonic Stem Cells
Ksenia Gnedeva, Sanford-Burnham Medical Research Institute, Koltzov Institute of Developmental Biology
39. Directed Differentiation of Lung Progenitor Cells
Asaf Presente, Howard Hughes Medical Institute, Department of Cellular & Molecular Medicine, UC San Diego School of Medicine; Department of Medicine
40. Regulation of Myeloid Leukemia by the Cell Fate Determinant Musashi
Takahiro Ito, UC San Diego
41. ASC-101: Technology for Enhanced Homing of Stem Cells to Target Tissue with Therapeutic and Regenerative Potential
Leonard Miller, America Stem Cell, Inc.

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Roger Bingham, Co-founder, The Science Network; Computational Neurobiology Laboratory,
Salk Institute for Biological Studies

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Louis Coffman, Vice President, Sanford Consortium for Regenerative Medicine

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Bethany Kraynack, Director, Education Programs, CONNECT

Jeanne Loring, Ph.D., Professor and Director, Center for Regenerative Medicine, The Scripps Research Institute

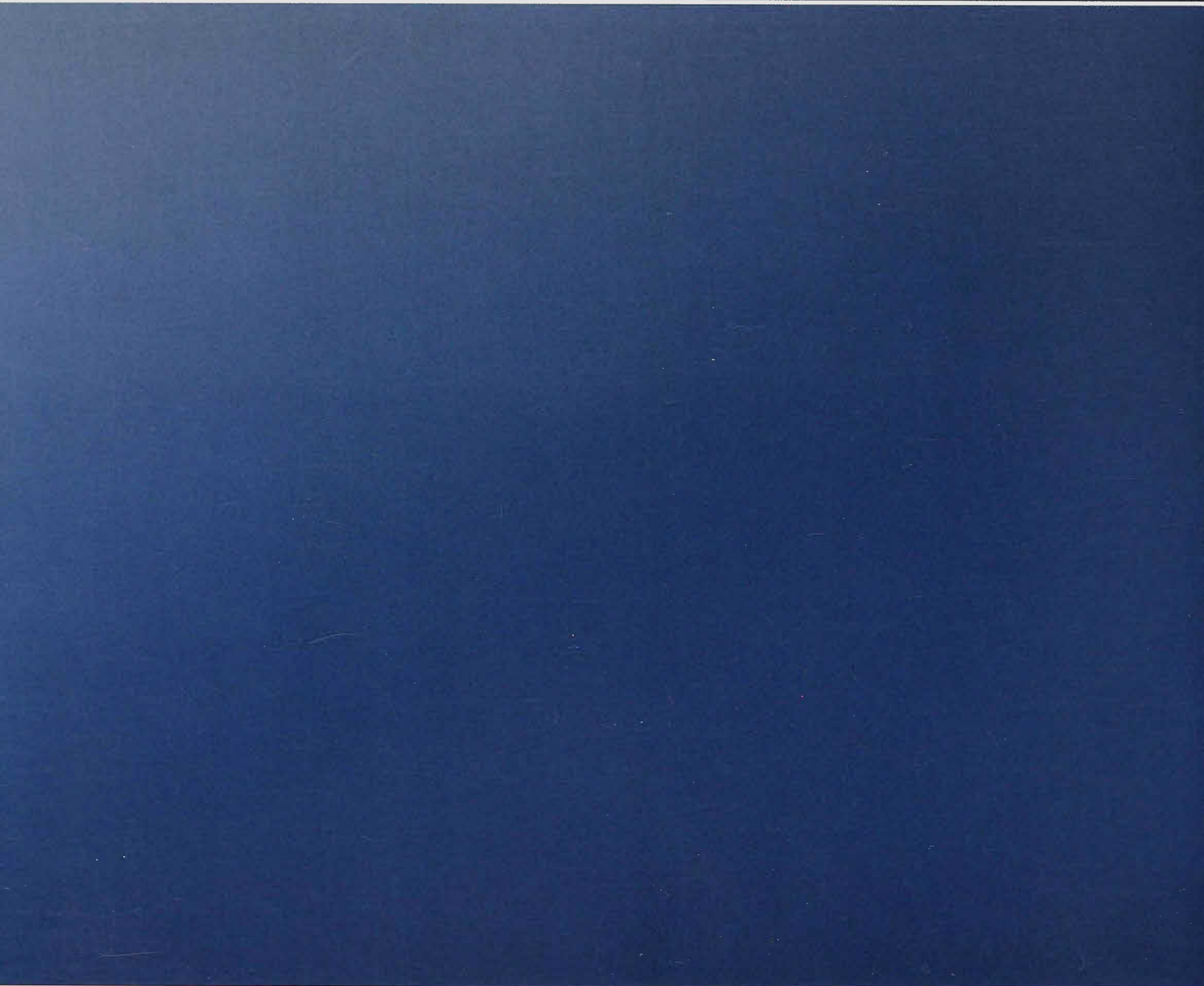
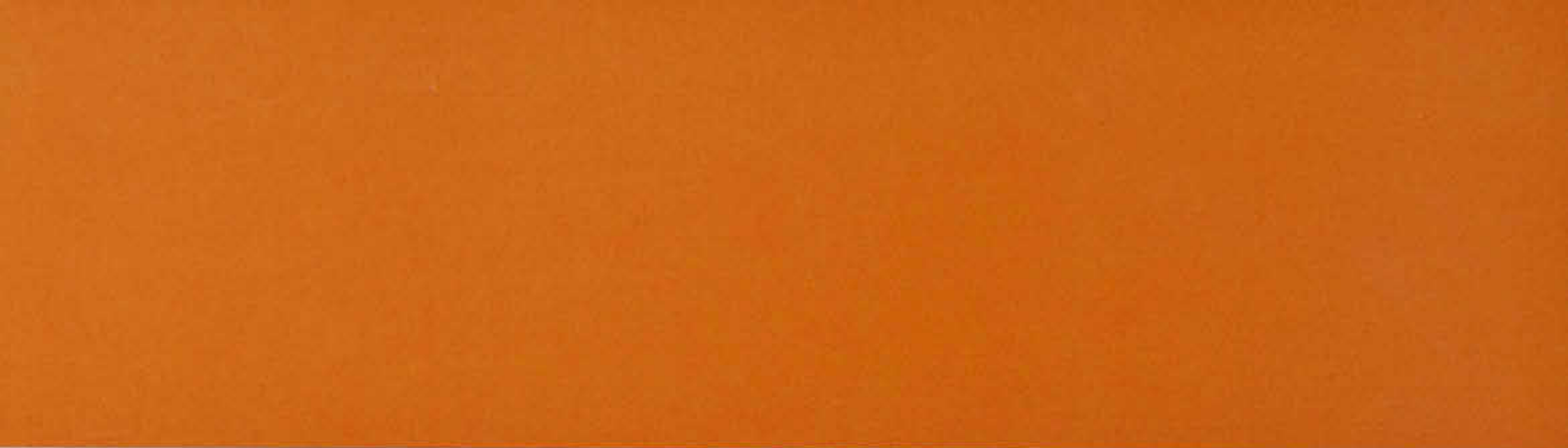
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Duane Roth, CEO, CONNECT

Evan Snyder, M.D., Ph.D., Professor and Director, Stem Cells and Regenerative Biology Program, Sanford-Burnham
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Gene Yeo, Ph.D., Assistant Professor, Department of Cellular and Molecular Medicine, UC San Diego

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