CIRM
CALIFORNIA'S STEM CELL AGENCY

Nominations for Appointment to the Grants Working Group (GWG)

Reappointment of Scientific Members to the Grants Working Group

Grants Working Group Members originally appointed in 2008-11 have terms that are now expiring or just expired. We are seeking the reappointment of the individuals listed in the table below. Their updated biographies follow. In accordance with the rules set forth by Proposition 71, reappointments should be staggered into thirds, each with a 2, 4, or 6-year term.

Proposed Reappointments to GWG

Last	First	Term	Expertise
Bhatia	Mick	2	Somatic & Pluripotent Stem Cell Development; Hematopoiesis
Freeman	Thomas	4	Neural Transplantation; Spine Surgery
Mitalipov	Shoukhrat	6	Gamete, Embryo, & Stem Cell Biology; Pluripotency
Myers	Richard	2	Genomic and Genetic Analysis of Human Traits and Disease
Noble	Mark	6	Cellular Approaches to Treating Neurologic Disease & Injury; Neurobiology
Ochoa	Ricardo	4	Regulatory Affairs; Pharmacology & Toxicology
Sagen	Jacqueline	4	Neural Transplantation; Axonal Regrowth; Chronic Pain Syndromes

Mick Bhatia, PhD
Dr. Mick Bhatia is a senior scientist and Scientific Director of McMaster's Stem Cell and Cancer Research Institute (SCC-RI), appointed Chair in Stem Cell and Cancer Biology, and Professor in the Faculty of Health Sciences at McMaster. Dr. Bhatia received his B.Sc. (Honors) in Molecular Biology at McMaster University, Hamilton; and his Ph.D. in Human Biology at the University of Guelph, Canada.

Dr. Bhatia is a recognized leader in the field of human hematopoietic stem cell biology and pluripotent stem cells. His studies also focus on human cancer and using human stem cells to

understand how cancer begins, and how new treatments can be developed using both cell autonomous and non-cell autonomous approaches. Dr. Bhatia's research program sets out to understand the molecular mechanisms which orchestrate somatic and pluripotent human stem cell development and fate changes, and how this biology can better elucidated using chemical genomic methods that may be helpful for clinical target and drug discovery.

Dr. Bhatia has been honored with the Canada Research Chair in Stem Cell Biology and Regenerative Medicine (Tier 2), Canada's Top 40 Under 40, the Krembil Foundation Research Chair in Stem Cell Biology and Regenerative Medicine, Michael G. DeGroote Chair in Stem Cell and Cancer Biology, Canada Research Chair in Human Stem Cell Biology (Tier 1), University of Guelph 2008 Alumni Medal of Achievement, Canadian Society for Biochemistry, Molecular and Cellular Biology (CSBMCB) Scientist Award and the Canadian Recipient of the Queen Elizabeth II Diamond Jubilee Medal. His work has been published in journals including Nature, Science, Nature Medicine, Nature Cell Biology, Nature Biotechnology and serves as a consultant to the private sector (Pharma and Biotech) as well government agencies in relation to stem cell based applications and policy.

Thomas Freeman, MD, FAANS, FACS
Dr. Freeman is the Director of Clinical Research for the University of South Florida Department of Neurosurgery "Center of Excellence for Aging and Brain Repair". He received his M.D. from Johns Hopkins University, completed his Internship at Columbia Presbyterian Medical Center, and his Residency at New York University Medical Center.

Dr. Freeman research interests are in cellular therapies for treatment of neurodegenerative disorders and other neurological injuries such as stroke and spinal cord injuries. He has worked collaboratively with several other renowned physicians providing the most recent advances in the study of Parkinson's disease. His most current research study is "Lewy body-like pathology in long-term embryonic nigral transplants", currently in press at *Nature Medicine*.

Dr. Freeman's clinical specialty is complex spine surgery. He utilizes both standard as well as innovative minimally invasive techniques to fix complex spine problems in the least invasive manner possible. He is Board certified by the American Board of Neurological Surgery and licenced in the State of Florida.

Shoukhrat Mitalipov, PhD
Shoukhrat Mitalipov, directs the OHSU Center for Embryonic and Gene Therapy. He is a professor at Oregon National Primate Research Center with appointments at Biomedical Engineering, Obstetrics and Gynecology, and Pediatrics and the Knight Cardiovascular Institute in the OHSU School of Medicine. He received his PhD in developmental and stem cell biology from the Research Center for Medical Genetics, at the Russian Academy of Medical Sciences in Moscow.

The main focus of Dr. Mitalipov's lab is to understand the mechanisms of genetic and epigenetic reprogramming of aged somatic cells to the totipotent and pluripotent states following somatic cell nuclear transfer. He is particularly interested in the role of mitochondria and mitochondrial (mt)DNA in reprogramming and resetting the developmental program in experimental pluripotent stem cells derived from aged somatic cells. They are also investigating novel germ-line gene therapy approaches for the treatment of inherited human diseases.

Dr. Mitalipov has been a member of several NIH study sections, including Complex Human Genetics (ZRG1), and Cellular, Molecular and Integrative Reproduction Study Section (CMIR), and is a current member of the OHSU Oregon Embryonic Stem Cell Research Oversight Committee. He is the recipient of many awards, including the 2010 Women's Health Research Award from the OHSU Center for Women's Health, and the 2010 Discovery Award from the Medical Research Foundation of Oregon.

Richard M. Myers, PhD
Dr. Myers joined the HudsonAlpha Institute for Biotechnology in 2008 as president and science director. Dr. Myers supplies the strategic oversight for the research enterprise at the Institute including sustaining a large, active laboratory. A native of Selma and Tuscaloosa, Ala., and the son of a pharmacist, Myers brings 35 years experience in genetics and genomics to his position.

Dr. Myers received his BS in biochemistry from The University of Alabama in 1977 and his PhD in biochemistry from the University of California at Berkeley in 1982. He completed his postdoctoral training at Harvard University. He joined the faculty of the University of California, San Francisco, Medical Center in 1986 and moved to Stanford University in 1993, where he served as professor and chair in the department of genetics. Under Myers' direction, the Stanford Human Genome Center contributed more than 10 percent of the data in the public Human Genome Project's efforts to sequence the human genome.

The Myers Lab, in collaborative relationships with other researchers at HudsonAlpha and elsewhere, studies the human genome with the goal of understanding how allelic variation and gene expression changes contribute to human traits, including diseases, behaviors and other phenotypes. His group uses high-throughput genomic methods – including DNA sequencing, genotyping, chromatin immunoprecipitation, mRNA expression profiling, transcriptional promoter and DNA methylation measurements – as well as computational and statistical tools to identify, characterize and understand the functional elements encoded in our genomes and how they work together at the molecular level in normal and pathological conditions. The lab sequences whole genomes, whole exomes and targeted regions of the genome with ultrahigh-throughput DNA sequencing technologies to identify DNA sequence variants relevant to clinical and basic biological problems. Researchers in the Myers Lab integrates these functional genomics, epigenetic and genetic data to understand how genomes are involved in cancer, brain disorders, ALS, children born with developmental disorders, autoimmune diseases and other traits.

Mark Noble, MD
Mark Noble is a professor in the departments of Biomedical Genetics and Neurobiology & Anatomy at the University of Rochester, and is director of the University of Rochester Stem Cell and Regenerative Medicine Institute. He is also a professor of cellular and developmental biology at University College London, co-director of the New York State Center of Research Excellence for Spinal Injury Research. Dr. Noble earned his BA in biology and philosophy from Franklin & Marshall College, and his PhD from Stanford University.

Dr. Noble's lab is focused on aspects of stem cell biology that are relevant to developing a mature field of stem cell medicine, and in identifying opportunities for bridge building that also extend the fields of stem cell biology and stem cell medicine into new territories. Dr. Noble

holds nearly a dozen patents, and has served as a consultant to multiple biotechnology and pharmaceutical companies. He is a frequent invited lecturer, and has published extensively in peer-reviewed journals.

Dr. Noble has served the editorial boards of several professional journals, including *Developmental Neuroscience*, *Experimental Neurology*, and *Current Stem Cell Research & Therapy* and is co-author of over 150 scientific publications. He is an inventor on 15 filed or pending patents and has consulted for multiple pharmaceutical and biotechnology companies. He also was a member of the founding scientific advisory board of Acorda Therapeutics, Inc., a biotechnology company focused on the treatment of neurological disease.

Ricardo Ochoa, DVM, PhD
Dr. Ricardo Ochoa was born, raised and educated in Colombia, South America. He obtained his Doctor of Veterinary Medicine from the National University of Colombia in Bogota. Thereafter he entered the service of the agricultural research institute of Colombia (ICA) before traveling to the USA to start his Ph.D. studies at the New York State School of Veterinary Medicine at Cornell University in Ithaca, NY where he graduated with a major in Veterinary Pathology. He returned to his native Colombia and became the director general for research in Veterinary medicine and diagnostic centers for the country. After five years in this position he returned to the USA and joined the Louisiana State University School of Veterinary Medicine in Baton Rouge, LA where he was an Associate Professor. During his stay at LSU, he prepared and passed the certifying examination to become admitted to the American College of Veterinary Pathologists. After that, he joined industry as a Toxicologist/Pathologist at The Upjohn Company in Kalamzoo, MI.

After 10 years in Kalamazoo, he joined Pfizer Inc. in Groton, CT, and headed the pathology group within the Drug Safety Evaluation section during the 16 years of tenure there. He worked actively to increase the quantity and quality of the safety data in the early candidate phase of compound discovery, and focused on the areas of risk management and mechanistic toxicologic pathology. In 2006 he retired from this position and joined the Neurogen Corp, in Branford, CT for nearly two years as Vice President of Pre-Clinical Safety. In June 2008 he started Pre--Clinical Safety Inc., where he is president today and actively consulting in drug safety issues. He joined the Roundtable of Toxicology Consultants in August 2008 and was elected to the International Academy of Toxicologic Pathology in 2011.

Dr. Ochoa has extensive experience in the areas of Toxicology and Pathology, with special emphasis in issue resolution and risk management. He was councilor and then president of the Society of Toxicology Pathology as well as councilor for the American College of Veterinary Pathologists. Between 2010 and 2014 he was a member of the Scientific Advisory Committee on Alternative Toxicological Methods of the NIEHS. He also served for five years in the strategic planning committee of the local hospital in New London, CT. He is also a member of the American College of Toxicology. He was also president of the board of the local United Way and Casa de la Comunidad in the New London (CT) County.

Jacqueline Sagen, PhD, MBA
Dr. Sagen is Professor of Neurosurgery at The Miami Project to Cure Paralysis, University of Miami Miller School of Medicine. She has led a cutting-edge research program exploring the use of cell transplantation in restoring function and improving therapeutic options in the injured or

diseased nervous system for over 25 years. She received an undergraduate degree in Neuroscience from Northwestern University and her Ph.D. in Pharmacology from the University of Illinois. Due to her interest in translating promising novel cell-based therapies towards clinical implementation, Dr. Sagen also pursued an M.B.A. in Entrepreneurship and held a previous position as Associate Director at CytoTherapeutics, Inc., a biotechnology company targeting cellular transplantation therapies.

Dr. Sagen's current research is focused on neural transplantation and gene therapy strategies to alleviate debilitating consequences following injury to the nervous system, including spinal cord injury, traumatic brain injuries, and peripheral nerve injuries. A particularly disabling consequence of injury to the nervous system is the emergence of chronic pain, which is notoriously difficult to manage using currently available treatments and significantly reduces the quality of life and productivity of afflicted patients. Cellular transplantation or direct gene therapy can provide a sustained and continually renewable source of analgesic agents at restricted CNS sites, reducing or eliminating the need for repeated opioid medications or other polypharmacy regimens and their attendant off-target side effects. Earlier work in Dr. Sagen's lab led to initial clinical trials for cancer pain management using donor-derived adrenal chromaffin cells, with promising outcomes. However, the large-scale feasibility of this approach may be limited by availability of donor tissue, immunological concerns, and scalable cell potency. Thus, more recent work has been identifying both improved delivery strategies and improved analgesic peptides with distinct targets to enhance potency of engineered genes and transplantable cells. In order to accomplish this, embryonic neural stem cells as well as autologous adult cell sources are being evaluated in chronic pain models. The isolation and characterization of novel mammalian and non-mammalian peptides are being developed and combined for more potent and synergistic effects. In addition, these interventions are being integrated with locomotor training and exercise, in order to provide a more complete recovery following injury to the nervous system. With the emergence of a multitude of potential stem cell sources, and safer and more efficient viral vectors, translatable long-term therapies for nervous system disorders are now within our reach.

Dr. Sagen has received numerous research grants and awards from the National Institutes of Health (NIH), the Department of Defense (DoD), Veteran's Administration (VA), philanthropic foundations, and private sector biotechnology companies, and has continued to serve on advisory and review panels for NIH, DoD, VA, private foundations, University scientific awards programs, and other research funding agencies. She is an active member of the American Society for Neural Therapy and Repair and the International Neural Transplantation and Repair societies, and serves as faculty representative to the Federal Demonstration Partnership. Dr. Sagen also strongly believes in the importance of educating and inspiring the next generation of scientists, and is involved in university-based and community-wide education and training mentorship programs for students ranging from high school through post-doctoral levels.