

**CIRM Scientific and Medical Research Funding Working Group:
Biographical information of candidates nominated to serve as
Alternate Scientific Members of the Working Group**

1. Judy Anderson, PhD

Dr. Judy Anderson is a full Professor and Acting Head of the Department of Biological Sciences at the University of Manitoba. She received her PhD at the University of Manitoba in 1985, and did postdoctoral work at the University of British Columbia. She has extensive administrative experience since joining the faculty at the University of Manitoba in 1988, and serves on the Board of Governors and the Senate of the University.

The pathophysiology of muscular dystrophy and the process of satellite cell activation and muscle regeneration in cell-based and animal models of disease are the core of study in Dr. Anderson's laboratory. Her research focuses on the mdx mouse, a genetic model of X-linked dystrophin deficiency which causes Duchenne Muscular Dystrophy (DMD) in humans. The lab also conducts clinical rehabilitation and assessment studies in humans. Recent studies have identified metabolic parameters of treatment effects during the repair process in muscle using proton nuclear magnetic resonance (H-NMR) spectroscopy in vivo and in vitro, and have correlated animal studies with human work. Her lab has filed patents and is engaged in testing of potential therapeutics.

Finally, Dr. Anderson is Principal Investigator and Project Co-Lead for the Manitoba Initiative: Interprofessional Education for Collaborative Patient-Centered Practice, funded by Health Canada (2006-2008). The project aims to design, implement and sustain interprofessional educational experiences around issues of patient care, quality of care and access to high quality care in the relevant health-profession educational programs at the University of Manitoba.

2. Jonathan M. Auerbach, PhD

Dr. Johnathan M. Auerbach is the founder, President and Chief Operating Officer of GlobalStem Inc., a biotechnology company that develops, manufactures, and distributes human and mouse stem cell research products and services worldwide. He received his PhD in 1997 from the Weizmann Institute of Science in Israel, and completed a PhD at NINDS. He was a Senior Scientist at Neuralstem, Inc. in Gaithersburg, MD, and in 2002 became Director of the National Stem Cell Resource and Stem Cell Center at ATCC. He founded GlobalStem in 2006. He currently serves in two roles at the International Society for Stem Cell Research (ISSCR), as the Chairman of the Standards Committee and as a member of the Task Force to establish international guidelines for hESC research.

Dr. Auerbach has extensive experience with the cultivation and study of human embryonic stem cells (hESC) and other stem cells.

3. Barbara Boyan,

Dr. Barbara Boyan is a professor in the Wallace H. Coulter Department of Biomedical Engineering at Georgia Tech and Emory University, where she holds the Price Gilbert,

Jr. Chair in Tissue Engineering. She is also an adjunct professor in the Departments of Orthopaedics and Cell Biology at Emory University Medical School, as well as the Schools of Biology and Materials Science and Engineering at the Georgia Institute of Technology, and she has an adjunct professorship in Periodontics at the University of Texas Health Science Center at San Antonio. Dr. Boyan is a Georgia Research Alliance Eminent Scholar and Deputy Director of Research at the Georgia Tech-Emory Center for the Engineering of Living Tissue as well as Director of Children's Healthcare of Atlanta's Laboratory for Craniofacial Plastic Surgery Research. She received her PhD in Comparative Biochemistry and Physiology from Rice University in 1975, and then completed postdoctoral work at the Dental Science Institute at the University of Texas Health Science Center in Houston. She was named Assistant Professor at the UT Health Science Center in 1977, and promoted to full Professor in 1988. Dr. Boyan was appointed Director for Research at Georgia Institute for Technology in 2002, and adjunct Professor at Emory in 2003.

Dr. Boyan's research program is focused on bone and cartilage cell biology in the fields of orthopaedics, plastic and reconstructive surgery, and oral health. In 1993, she co-founded OsteoBiologics, Inc. (San Antonio, Texas) to develop tissue engineered medical products for treatment of bone and cartilage defects. The first generation of these products is now approved for use clinically both in the US and Europe. Dr. Boyan is also co-founder of Biomedical Development Corporation in San Antonio, Texas and Orthonics, Inc., SpherIngenics, Inc., and DentiCure, Inc., in Atlanta. Dr. Boyan co-chairs the Preclinical Assessments subcommittee of the Tissue Engineered Medical Products F04 Division of ASTM. She has served as chair of the Orthopaedic Device Panel of the United States Food and Drug Administration and presently serves on the CMS (Center for Medicare and Medicaid Services) medical device panel, as well as on the National Materials Advisory Board for the National Academies in the United States. The author of more than 340 peer-reviewed papers, reviews, and book chapters, Dr. Boyan holds eight U.S. and international patents, with additional patents pending. She received the 2002 Clemson Award for Contributions to the Literature from the Society for Biomaterials for her research into cell response to material surfaces such as those used in implants and tissue engineering. In 2008, she was named Alumni of the Year for Rice University. Dr. Boyan is a Fellow of the American Association for the Advancement of Science and the American Institute for Medical and Biological Engineering. She is a member of the American Academy of Orthopaedic Surgeons and serves as a consultant to the AAOS Biological Implants Committee. She is a former president of the American Association for Dental Research. Dr. Boyan presently serves on the Board of Directors of ArthroCare, Inc., which is a publicly traded medical device company, as well as on the Boards of Carticept Medical, Inc. and SpherIngenics, Inc., both of which are based in Atlanta, GA.

4. Jose Cibelli, DVM PhD

Dr. Cibelli heads the Cellular Reprogramming Laboratory in the Departments of Animal Science and Physiology at Michigan State University, and is also Associate Scientific Director of the Program for Cell Therapy and Regenerative Medicine of Andalucía in Seville, Spain. He serves on several international committees on stem cells and ethics, including the Scientific and Medical Accountability Standards Working Group of CIRM. From October 1999 until December 2002 he was the vice president for research of Advanced Cell Technology, a stem cell company in Worcester, Massachusetts.

Dr. Cibelli's lab was one of the pioneers in the area of cloning with transgenic somatic cells for the production of animals and embryonic stem cells. His work focuses on understanding the molecular events that lead to the transformation of a somatic nucleus into an embryonic/pluripotent one. His group identifies regulatory genes and gene products that govern the state of pluripotency, using this knowledge to generate human isogenic pluripotent stem cells and improve the efficiency of somatic cell nuclear transfer.

5. Gary Gibbons, MD

Dr. Gary H. Gibbons is the Director of the Morehouse Cardiovascular Research Institute, an NIH-NHLBI sponsored Research Center of Excellence. He is also an attending cardiologist in the Division of Cardiology at the Morehouse School of Medicine. Dr. Gibbons earned his undergraduate degree from Princeton University and graduated magna cum laude from Harvard Medical School in 1984. He completed his residency and cardiology fellowship at the Harvard-affiliated Brigham & Women's Hospital in Boston. He was an Assistant Professor at Stanford Medical School and at Harvard Medical School before moving to Morehouse in 1999.

Dr. Gibbons directs NIH-funded research in the fields of vascular biology and the pathogenesis of vascular diseases. The innovations derived from his research resulted in the receipt of several US patents. His bibliography lists over 70 reviews and original reports in the fields of vascular biology, gene therapy, hypertension, atherosclerosis and cardiovascular medicine

6. Brian Harfe, PhD

Dr. Brian Harfe is an Assistant Professor of Molecular Genetics and Microbiology at the University of Florida College of Medicine. He received a PhD at the John Hopkins School of Medicine in 1998, where he worked with Dr. Andrew Fire (recently awarded a Nobel prize for his work on RNA interference). He did postdoctoral work at Emory University and at Harvard University before accepting his current position at the University of Florida in 2003.

Dr. Harfe's research focuses on the role of microRNAs in embryonic development. His lab studies digit formation in the developing limb, and the role of Bone Morphogenic Proteins (Bmps), microRNAs and Dicer in this process. He is also investigating the molecular signaling pathways required for disk formation using a mouse model system, and has begun to purify a potential disk stem cell population.

7. John Hassell, PhD

Dr. John A. Hassell is a Professor in the Department of Biochemistry and Biomedical Sciences, and Director of the Centre for Functional Genomics at McMaster University in Hamilton, Ontario, Canada. Dr. Hassell received his Ph.D. in Molecular Biology from the University of Connecticut; his Ph.D. thesis research was centered on understanding the differences in gene expression between normal cells and their cancer cell counterparts. He completed his postdoctoral studies at the Cold Spring Harbor Laboratory with Dr. Joe Sambrook. Dr. Hassell was one of several postdoctoral fellows who co-discovered RNA splicing, a discovery that led to a Nobel prize to Dr. Richard Roberts of the Cold Spring

Harbor Laboratory. Dr Hassell moved to Canada in late 1977 and spent 9 years as an Assistant and Associate Professor at McGill University before moving to McMaster University in 1988 as the first Director of the Institute for Molecular Biology and Biotechnology, a position he held for 12 years.

Dr. Hassell's current research programs are centered on the role of transcription factors in breast cancer, breast cancer stem cells, and mammary gland development. His laboratory discovered a key new transcription factor, Pea3, and showed that this transcription factor is overexpressed in human and mouse breast tumors and is required for the progression of breast cancer. More recently his laboratory has identified breast cancer stem cells in mouse breast tumors and is identifying biomarkers and molecular therapeutic targets in these cells. In addition, Dr. Hassell has defined condition to propagate mammary epithelial stem/progenitor cells and breast cancer stem cells in vitro under conditions that preserves their phenotype. The availability of these cell cultures has afforded him the opportunity to perform high-throughput phenotypic screens to identify compounds that selectively kill breast cancer stem cells. A screen of 30,000 compounds led to the discovery of cancer-cell specific lead compounds are currently being developed in collaboration with medicinal chemists at McMaster University.

Dr. Hassell has over 70 publications in high-profile journals and maintains a well-funded research program. He has served as a member and chair of numerous grant review committees and study sections of the Canadian Institutes for Health Research, National Institutes of Health, and the National Cancer Institute of Canada. He also has served on various advisory boards and is currently a member of the Research Advisory Committee of the Canadian Breast Cancer Research Alliance. Dr. Hassell is also a key member of the Stem Cell Network, a Canadian National Centre of Excellence, and is the Project Director of a collaborative research program to identify new therapeutic agents that target cancer stem cells, which involves Canada's leading cancer stem cell investigators. Dr. Hassell currently is spearheading the search for funding a Cancer Stem Cell Consortium, a collaborative group of internationally renowned cancer stem cell researchers in Canada and California, under the auspices of the Canada-California Strategic Innovation Partnership.

8. John Lake, MD.

Dr. John Richard Lake is Professor of Medicine and Surgery and director of both the Division of Gastroenterology and the Liver Transplantation Program at the University of Minnesota, and is Executive Medical Director of the Solid Organ Transplantation Program. He received his MD at the University of Minnesota in 1979, and completed his Internship, Residency and Clinical and Research Fellowships at the University of California, San Francisco. In 1986, Dr. Lake was appointed Assistant Professor of Medicine in Residence in the Division of Gastroenterology at UCSF, and subsequently became the Medical Director of the Liver Transplant Program there. In 1998 he joined the faculty at the University of Minnesota.

Dr. Lake is an internationally known transplant hepatologist and active member of nine medical societies. In 1999, Dr. Lake was the first transplant hepatologist to serve as president of the American Society of Transplantation, and he currently serves on the board of United Network for Organ Sharing (UNOS). He is an associate for the American Journal of Transplantation and Transplantation Proceedings. He has been an ad hoc reviewer, a guest editor, on the editorial board, or an associate editor for nearly

20 publications. He has also volunteered on 25 community or national committees related to transplant. Finally, Dr. Lake has been listed as “one of the best doctors in the U.S.” by Modern Medicine Magazine.

Dr. Lake has published extensively, with over 135 scientific papers, 15 reviews, and 20 book chapters. His research interests include post-transplant hepatitis C and outcome predictors for liver transplant results. He also works to develop new immuno-suppressive agents.

9. Grace Pavlath, PhD

Grace K. Pavlath is Professor of Pharmacology at Emory University. She received her Ph.D. in Pharmacology from Stanford University in 1985, and subsequently completed postdoctoral training at Stanford University and the University of Arizona before joining the faculty of Emory University as an Assistant Professor in 1994. She has held continuous research support from NIH since 1995 and currently holds 2 R01 grants as well as a grant from the Muscular Dystrophy Association. She has served on numerous NIH study sections, including Skeletal Muscle Biology (SMB, 2001-2003; chair of SMB from 2002-2003) and Skeletal Muscle and Exercise Physiology (2007- current). She is currently a member of the NIAMS Board of Scientific Councilors (2005-2010). She has been elected to organize two international skeletal muscle meetings since 2001.

Dr. Pavlath’s research focus is the cellular and molecular regulation of skeletal muscle growth and repair with an emphasis on satellite cell biology. She uses both in vitro and in vivo models in her internationally known research. She is a member of the American Society for Cell Biology, American Physiological Society and Society of Regenerative Medicine and Stem Cell Biology. She reviews manuscripts for the top cell and molecular biology journals, and is a past member of the editorial board of the Journal of Applied Physiology.

10. Pamela A. Raymond, PhD

Dr. Pamela Raymond is the Stephen S. Easter Collegiate Professor of Molecular, Cellular and Developmental Biology in the College of Literature, Science and the Arts at the University of Michigan, and is a Senior Fellow of the Michigan Society of Fellows. She received her B.S., M.S. and Ph.D. degrees from the University of Michigan and completed postdoctoral work with Dr. Bernard Agranoff. She has held academic appointments at Harvard Medical School and the University of Michigan Medical School, and has been a visiting Professor at the University of Lausanne, Switzerland, the University of Utah, and the University of California, San Francisco. From 1997-2002, she was Associate Provost for Faculty and Academic Affairs at the University of Michigan. Professor Raymond will begin a five-year term as Chair of the Department of Molecular, Cellular and Developmental Biology at Emory in July 2008.

Professor Raymond has served on numerous federal scientific review panels, has organized or co-organized several sessions at international scientific meetings including ICER (1996, 2000, 2006), ARVO Ethics Symposium (2006), and the Gordon Research Conference on Visual System Development (2004, 2006), and served as Co-PI on the University of Michigan’s NSF ADVANCE Institutional Transformation Award (2002-2006), the goal of which is to increase the number of women faculty in science and engineering.

Professor Raymond's research has enhanced our understanding of the cellular and molecular basis of extrinsic and intrinsic signals that regulate retinal neurogenesis and that control neuronal specificity during development and regeneration. She has championed the teleost fish retina as a unique animal model in which to discover endogenous mechanisms of postnatal neurogenesis, neuronal regeneration and the functional integration of new neurons into differentiated retina. Understanding the biological mechanisms that control the proliferation and differentiation of retinal stem cells in zebrafish will have important value for the future development of therapeutic retinal transplantation in patients with retinal degenerative diseases or retinal injuries.

11. Mauricio Rojas, MD

Dr. Mauricio Rojas is an Assistant Professor of the Division of Pulmonary, Allergy and Critical Care Medicine at Emory University, and is a Scholar of the McKelvey Lung Transplantation Center. He received an MD from the Universidad Nacional of Colombia Medical School in Bogota, Colombia. He was a Research Trainee and Research Associate at the National Institute of Immunology in Colombia, and completed postdoctoral training as a Fellow in the Department of Microbiology and Immunology at Vanderbilt University. He was named a Junior Faculty in the Division of Rheumatology and Clinical Immunology, and in 2002 moved to Emory as an Assistant Professor.

Dr. Rojas is a member of several scientific organizations, including the American Association for the Advancement of Science, the New York Academy of Sciences, the American Association of Immunologists, and the International Society of Stem Cell Research. He serves on the planning committee in charge of the selection and design of all stem cell sessions at the Respiratory and Cell and Molecular Biology Assembly of the American Thoracic Society. He is profoundly interested in teaching, and in addition to organizing courses he is part of the education committee of the Division of Pulmonary, Allergy, and Critical Care Medicine at Emory.

Dr. Rojas' research is aimed at finding the role of Mesenchymal Stem Cells in lung repair after injury. He conducts clinically-oriented research on pulmonary fibrosis, ventilator-induced mechanical injury, post-radiation lung injury, and acute lung injury. His lab demonstrated that mesenchymal stem cells decrease both the systemic and local inflammatory responses induced by endotoxin in acute lung injury. These effects do not require either lung engraftment or differentiation of the stem cells and are due at least in part to the production of stem cell chemoattractants by the lungs and to humoral and physical interactions between stem cells and lung cells. Recently, his lab initiated a new area of research in aging, to determine the effect of aging in the recruitment of stem cells into the injured organ and the ability of senescent stem cells to respond to the different signals involved in the recruitment and differentiation of these cells.

12. Josh Rubin, MD PhD

Dr. Josh Rubin is an Assistant Professor of Pediatrics in the Department of Hematology and Oncology and the Department of Developmental Biology and Genetics at Washington University in St. Louis. Dr. Rubin received MD and PhD from Albert Einstein College of Medicine 1994, completed a residency at the Harvard-affiliated Children's Hospital, and then a fellowship in Hematology/Oncology and postdoctoral work at Children's Hospital and the Dana Farber Cancer Institute.

Dr. Rubin's lab studies the biology and treatment of pediatric brain tumors. His work focuses on identifying molecules that regulate the movement, proliferation and survival of neural progenitor cells, such as the chemokine CXCL12 (SDF-1a) and its receptor CXCR4. Dr. Rubin found that these molecules are critical both during normal cerebellar development and for growth of medulloblastoma (a neuronal tumor that is the most common brain tumor of childhood) and glioblastoma multiforme (a malignant astrocytic tumor). These observations serve as the basis for a wide range of research regarding the role of CXCR4 in tumorigenesis in the CNS and the nature of the intracellular signals that support these functions. Dr. Rubin's lab is using this data to design a clinical trial of CXCR4 antagonist therapy for brain tumors.