

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

**Dr. Michael Boulton, Ph.D.**

Dr. Boulton is Professor in the Department of Anatomy and Cell Biology at the University of Florida. He received his B.S. degree in Microbiology with Chemistry at the University of Reading, and his Ph.D. from Polytechnic of Central London. He has recently moved to the University of Florida from the University of Texas Medical Branch where he was Director of the AMD Center. Dr. Boulton has a distinguished international record for his investigations into the pathophysiology of the retina.

His research group has two main research areas: age-related changes in the retina and retinal neovascularization. Dr Boulton has a large number of research projects in progress which include nanotechnology to eliminate lipofuscin from the aged eye; investigating the contribution of mitochondrial dysfunction and autophagy dysregulation to age-related macular degeneration; hematopoietic stem cell repair of the damaged retina; targeting  $\gamma$ -secretase in the regulation of angiogenesis; investigating the role of bone marrow-derived progenitor cells in vascular repair; and developing new strategies for the regulation of angiogenesis.

Dr. Boulton has over 200 publications and has a long history of research support including two current RO1's. He has given over 40 plenary lectures at international conferences. He currently sits on a number of review committees and is a scientific advisor to a number of other agencies. Dr Boulton is on the editorial board of five international journals and plays a major role in the organization and development of a number of professional societies. He has also made a significant contribution to teaching graduate and undergraduate students and has played a major part in the organization and development of graduate education.

**Dr. Anne Cooke, Ph.D.**

Dr. Cooke is Professor in the Division of Immunology and the Department of Pathology at King's College in Cambridge. She earned her B.S. degree in Biochemistry at the University of Glasgow and her Ph.D. at the University of Sussex. Dr. Cooke is a Fellow of the Academy of Medical Sciences and an Honorary Fellow of University College London.

Throughout her research career, Dr. Cooke has been interested in the processes that lead to breakdown in self-tolerance and result in autoimmune pathology. Her research is currently focused on analyzing the etiology of Type 1 diabetes and devising strategies to prevent and treat this autoimmune disease. Her lab has largely used the non obese diabetic mouse for studies; this encompass analyzing the immunological basis for the breakdown of self tolerance, developing strategies to

restore tolerance, and investigating ways of restoring the destroyed beta cell mass. With regard to restoring beta cell mass, her lab is exploring both endogenous and exogenous sources of stem cells that have the potential to differentiate into beta cells.

Dr. Cooke has served on a range of UK grant committees including Medical Research Council (MRC), Arthritis and Rheumatism Council, Diabetes UK, Action Research, Leukemia Research Fund, and a Government Independent Review Panel. Internationally, she has also have served on the Finnish Academy of Sciences Grant panels and the Hong Kong University Grants Committee. Currently, Dr. Cooke serves on one of the Arthritis and Rheumatism Council committees and on the Hong Kong University Grants Committee. She also reviews for a range of organizations both nationally and internationally including the Wellcome Trust, MRC, French National Institute for Health and Medical Research (INSERM), French National Research Agency (ANR), Swedish Research Council, Juvenile Diabetes Research Fund (JDRF), National Institutes of Health (NIH), and the Australian National Health and Medical Research Council (NHMRC). Her reviewing tasks have also included site visits of various academic units both in the UK and in France.

**Dr. Alan W. Flake, M.D.**

Dr. Flake is the Ruth and Tristram C. Colket, Jr. Chair in Pediatric Surgery, Director of the Children's Center for Fetal Research, and Pediatric Surgery Training Program Director at The Children's Hospital of Philadelphia. He is also Professor of Surgery and Obstetrics and Gynecology at the University of Pennsylvania. Dr. Flake earned his B.S. degree at the University of Arkansas and received his M.D. from the University of Arkansas for Medical Sciences, Little Rock. He subsequently completed a General Surgery residency program and Research Fellowship in Fetal Biology and Therapy at the University of California, San Francisco. He then went on to complete a pediatric surgery fellowship at the Children's Hospital Medical Center in Cincinnati, Ohio.

Dr Flake has led a National Institutes of Health (NIH) funded research laboratory directed toward surgical correction of fetal anomalies and fetal stem cell and gene therapy for the past 18 years. He is Program Director for an NIH sponsored institutional training grant entitled "Fetal Biology and Therapy". Clinically, Dr. Flake actively participates as a Fetal Surgeon in the Fetal Diagnosis and Treatment Program at the Children's Hospital of Philadelphia with interests in fetal diagnosis and therapy, *in utero* stem cell transplantation and gene therapy, and minimally invasive neonatal and pediatric surgery.

Dr. Flake has published extensively with authorship of over 230 peer-reviewed publications and over 100 review articles and book chapters. He is an associate editor of "Experimental Hematology" and on the editorial board of numerous other

hematology or stem cell related journals and is a frequent invited member of NIH study sections.

**Dr. Marc Jenkins, Ph.D.**

Dr. Jenkins is Distinguished McKnight University Professor in the Department of Microbiology and Associate Director of the Center for Immunology at the University of Minnesota. He received his B.S. degree in Microbiology from the University of Minnesota and his Ph.D. in Microbiology and Immunology from Northwestern University. Following his postdoctoral training in the laboratory of Dr. Ronald Schwartz in the Laboratory of Immunology at the National Institutes of Health, Dr. Jenkins joined the Microbiology Department at the University of Minnesota as Assistant Professor.

Dr. Jenkins and his colleagues investigate CD4+ helper T and B cell activation *in vivo* at a level that can only be achieved by directly tracking antigen-specific cells. Using gene-targeted recipients or antibody blocking approaches, they identify molecules that are critical for *in vivo* T and B cell signal transduction proliferation, lymphokine production, survival, and differentiation. The goal is to achieve a basic understanding of these processes so that they can be manipulated to improve vaccines and prevent autoimmunity.

Dr. Jenkins' research is well supported through funding from the National Institutes of Health (NIH) including a National Institute of Allergy and Infectious Disease (NIAID) Merit Award. He is active in professional societies and is frequently honored with invitations as a Distinguished and keynote lecturer. Dr. Jenkins is a referee for high impact peer-reviewed journals including Nature, Science, Proceedings of the National Academy of Sciences USA, Immunity, Journal of Experimental Medicine, and the Journal of Immunology and is a current and past editor at several immunology journals. He has participated extensively in NIH review and is currently on the National Cancer Institute (NCI) Board of Scientific Counselors. In 2002, Dr. Jenkins received the American Association of Immunologists-Huang Foundation Meritorious Career Award and in 2004 was elected to the Academy for Excellence in Health Research.

**Dr. William Matsui, M.D.**

Dr. Matsui is an Associate Professor of Oncology at the Sidney Kimmel Comprehensive Cancer Center, Johns Hopkins University School of Medicine. He received his undergraduate degree in biochemistry from Harvard College and his M.D. from the University of California, San Francisco. He completed his internship and residency in internal medicine at the University of Washington in Seattle and fellowship training in medical oncology at Johns Hopkins University. At the completion of his fellowship in 2002, he joined the faculty as an assistant professor

at the Sidney Kimmel Comprehensive Cancer Center and was subsequently promoted to the rank of associate professor in 2008.

Dr. Matsui's current research is focused on normal and cancer stem cell biology. His laboratory identified tumor-initiating cells in the plasma cell malignancy multiple myeloma in 2004. He has subsequently found that these cells share several cellular processes with normal stem cells that regulate self-renewal and drug resistance. Recently, his laboratory has expanded these studies to human pancreatic cancers and normal hematopoiesis. Dr. Matsui clinically specializes in caring for adults with hematologic malignancies and in bone marrow transplantation. In addition to his basic studies, his lab also focuses on translational research and the development of novel therapies that target cancer stem cells in hematologic malignancies. More than a dozen clinical trials have been initiated based on his lab's preclinical work.

Dr. Matsui is Diplomate, Internal Medicine and Diplomate, Oncology, American Board of Internal Medicine. He has been awarded the George Santos Research Award from the Leukemia and Lymphoma Society, the Clinician Scientist Award from Johns Hopkins University, and teaching awards from the Departments of Oncology and Medicine. He has participated in peer review for the National Institutes of Health as well as national and international funding agencies and has sat on the editorial board or participated in peer review for numerous scientific journals.

**Dr. James E. Schwob, M.D., Ph.D.**

Dr. Schwob is George A. Bates Professor of Histology, Professor in the Department of Neuroscience, and Professor and Chair of Anatomy and Cellular Biology at Tufts University School of Medicine. He received his B.S. degree from the University of Iowa and his M.D. and his Ph.D. in neural sciences from Washington University. Following an internship, residency, and postdoctoral fellowship at Washington University School of Medicine and Barnes Hospital, Dr. Schwob was Assistant Professor at SUNY Health Science Center, Syracuse; ultimately he became Professor and Chair of the Department of Cell and Developmental Biology prior to departing for Tufts University School of Medicine.

Dr. Schwob's laboratory studies the development and regeneration of the primary olfactory projection as a model for the processes of neural recovery after injury and the assembly of the nervous system during embryogenesis. For the past 15 years, he has been particularly focused on identifying and characterizing the nature of the neuropotent tissue stem cells responsible for ongoing neurogenesis and recovery after injury. Currently, Dr. Schwob is implementing transgenic and FACS strategies to purify the putative stem cell population he has identified for the purposes of expression profiling and *in vitro* and *in vivo* CFU assays. A further near-term goal is to use the purified stem cells to generate the specialized glia of the olfactory nerve;

these are able to facilitate anatomical and functional recovery after spinal cord injury when transplanted into the damaged cord.

In addition to his own funded laboratory, as Chair Dr. Schwob is ultimately responsible for the activities of a Department numbering over 70 faculty, staff, and students. Now in his 10th year as Chair, the Department has seen a substantial increase in National Institute of Health (NIH) and other extramural funding (more than doubled) during his tenure. The Department's new recruits (a mix of junior and established investigators) work in the broadly defined area of Developmental Biology with a particular emphasis on cellular differentiation; this is highly relevant to translational efforts in Regenerative Medicine, one of the cross-cutting elements in his department's Research Strategic Plan (for whose development Dr. Schwob served as co-Chair). The Department has also been successful in fulfilling extensive educational responsibilities in the Schools of Medicine, Dental Medicine, and Graduate Biomedical Sciences at a widely recognized level of excellence.

**Dr. Herman Waldmann, F.R.S., Ph.D., MB. BChir., M.A., D.Sc**

Dr. Waldmann is Professor of Pathology and Head of the Sir William Dunn School of Pathology at the University of Oxford. He received his B.A. and graduate degrees from the University of Cambridge. At the University of Cambridge he began his scientific career in the Department of Pathology and became Head of the Immunology Division and was named Kay Kendall Chair in Therapeutic Immunology.

Since 1980, Dr. Waldmann has been funded by a Medical Research Council (MRC) Programme Grant to study mechanisms of transplantation tolerance and strategies to achieve this both experimentally and clinically. He is best known for his work on therapeutic monoclonal antibodies including the development monoclonal antibodies to treat chronic lymphocytic leukemia and the use of short-term antibody blockade in transplantation tolerance. His mechanistic studies of tolerance uncovered a role for regulatory T-cells in infectious tolerance, and the strategies emerging from his laboratory since that time have been based on the use of therapeutic antibodies to enhance regulation over conventional T-cell immunity.

In order to apply antibodies clinically, Dr. Waldmann developed the first academic antibody therapeutic manufacturing facility. He and his team were able to apply clinical-grade antibodies in a wide range of probing therapeutic studies that enabled them to develop a series of humanized antibodies (CD52, CD3, CD4 and others) which have since been transferred to the pharmaceutical industry.

His team's work since 1971 has resulted in more than 500 publications; the majority is directed to therapeutic antibodies and their mechanisms of action. These contributions led to his election to the Royal Society in 1990. Professor Waldmann is the recipient of the Jose Carreras Medal of the European Hematology Society,

Juvenile Diabetes Research Foundation Excellence in Clinical Research Award, University of Iowa Distinguished Professor Lecture, Thomas E. Starzl Prize in Surgery and Immunology, Scrip Lifetime Achievement award, and an Honorary Doctorate (D.Sc.) from the University of Cambridge.

**Dr. Hartmut Wekerle, M.D.**

Dr. Wekerle is Professor and Director of Neuroimmunology at the Max Planck Institute of Neurobiology and is a Member of the German Academy of Natural Scientists. He was a Postdoctoral Fellow at the Weizmann Institute of Science in Israel, a Senior Scientist at Max-Planck-Institute of Immunology, and was the Head of Clinical Research Unit for Multiple Sclerosis at the Max-Planck-Society. From 1999 to 2002, he was the Chairman (Dean) of Biological-Medical Section in the Max-Planck-Society.

Professor Wekerle is one of the world's leading experimental neuroimmunologists. He has made an overwhelming number of contributions to sciences that not only provided a better understanding but also shaped our concepts of the immunopathogenesis of inflammatory CNS diseases. His scientific work is outstanding for its creativity, originality, and continuing productivity.

The Scientific prizes and awards he received include: Jung Prize for Science and Research; Duchenne Prize; Käte Hammersen Prize; Zülch-Prize; Charcot Award, International Federation of MS Societies; Louis D Award, Grand Prix des Academies des Sciences, Paris; Honorary Professor, University of Munich; and Betty and David Koetser Award. Dr. Wekerle is an Advisory Board member of several national and international research institutions, including MS societies and a member of the editorial boards of numerous international scientific journals.

**Dr. Theresa L. Whiteside, Ph.D.**

Dr. Whiteside is Professor of Pathology, Immunology, and Otolaryngology at the University of Pittsburgh School of Medicine and the Director of the Immunologic Monitoring and Cellular Products Laboratory at the University of Pittsburgh Cancer Institute. She received a B.S. degree in Botany and a M.A. and a Ph.D. degree in Microbiology from Columbia University. Dr. Whiteside is also a diplomate of the American Board of Medical Laboratory Immunology. Following a post-doctoral fellowship and an Associate Research Scientist and Lecturer position at the New York University School of Medicine, she moved to the College of Physicians and Surgeons at Columbia University where she was a Special Fellow of the National Institutes of Health (NIH). Dr. Whiteside was then named Assistant Professor of Pathology and Associate Director of Clinical Immunopathology Laboratory at the University of Pittsburgh School of Medicine; there she rose through the faculty ranks to her current position.

Dr. Whiteside's research interests are in tumor immunology and immunotherapy with special focus on mechanisms of tumor-induced immunosuppression, cytokine networks, development of anticancer vaccines, immunology of human head and neck cancer, and the role of natural immunity in the control of cancer progression. She is a recognized expert in immune monitoring of patients with cancer. She has authored 469 peer-reviewed publications in scientific journals and 115 chapters and review articles. She is the author of a book on human tumor-infiltrating lymphocytes and co-editor of several scientific books. Over the years, she has trained over 83 post-doctoral fellows from the United States and abroad.

Dr. Whiteside has been active in national professional organizations including the following: American Association for Cancer Research (AACR) Membership Committee; AACR Program Committee; Vice President, then President of the Association of Medical Laboratory Immunologists (AMLI); and the American Society for Microbiology (ASM) Division V: Clin Diag Immunol, Chair. She has served on numerous NIH and Department of Defense (DOD) study sections. She is a member of the Board of Scientific Counselors for the National Institute of Dental and Craniofacial Research (NIDCR). She is a member of several editorial boards including: Cellular Immunol; Clinical Immunol Immunopath; Cancer Immunol Immunother; Clinical Cancer Res; Cancer-Therapy; Curr Cancer Therapy Rev; J Immunol Meth; Curr Immunol Rev; Cancer Microenvironment; Open Cancer Journal; Open Cancer Letters; Open Cancer Review; and European Archives of Oto-Rino-Laryngology.