

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

**Anthony P. Hollander, Ph.D.**

Dr. Hollander is the Arthritis Research UK Professor of Rheumatology and Tissue Engineering and Head of The Department of Cellular and Molecular Medicine at the University of Bristol. He received his B.Sc. in Pharmacology with Honors from the University of Bath and his Ph.D. in Pathology from the University of Bristol. Dr. Hollander has served in numerous capacities at the University of Bristol, including the Dean of Undergraduate Studies (Medicine & Dentistry); the Chair of Medical Education Reform Committee; Head of Research, Department of Clinical Science at North Bristol; and the Chair of Safety Committee, Department of Clinical Science at North Bristol. Dr. Hollander has been working in the field of cartilage biology and arthritis research for two decades. Three of those years were spent at the internationally recognized cartilage laboratory at McGill University in Montreal.

Dr. Hollander has many years experience in cartilage biology and his research is particularly focused on osteoarthritis. More recently he has focused on tissue engineering and stem cell biology for cartilage repair. He also has a more general expertise in the wider fields of stem cells and tissue engineering. His work includes studies on the regulation of stem cell differentiation for cartilage repair, and Dr. Hollander has pioneered the development of new assays and methodological approaches for the measurement of repair tissue quality in very small biopsies of cartilage from patients with knee injuries. In 2008, Professor Hollander and a team of scientists and surgeons successfully created and then transplanted the first tissue-engineered trachea (windpipe) using a patient's own stem cells. The bioengineered trachea immediately provided the patient with a normally functioning airway, thereby saving her life.

Dr. Hollander has received funding in excess of £5 million of peer-reviewed funding over the past 10 years from The UK government, medical charities, the EU framework programs and from biotechnology companies. He has been the named inventor on several patents. He is co-founder and Scientific Director of a University of Bristol spin-out company, Azellon Cell Therapeutics. Dr. Hollander is Secretary General of The International Cartilage Repair Society and from September 2010 he will be vice president/president-elect of the Society. He is Associate Editor of a leading journal, Osteoarthritis and Cartilage. He is an editorial board member for several other journals. Dr. Hollander has extensive experience working with the media through interviews with International newspapers, television and radio. He has also contributed to a number of live radio programs, discussing stem cells and their potential in medicine.

**Anne Rosser, M.D. Ph.D.**

Dr. Rosser is Chair of Clinical Neuroscience, co-director of the Cardiff Brain Repair Group (BRG) in Cardiff, an honorary consultant neurologist at the University of Wales Hospital, and the clinical lead for the South Wales Huntington's disease service. She earned her first class honors M.D. with a third year speciality in neuroanatomy in the accelerated preclinical course at Cambridge University. Before continuing her medical training, Dr. Rosser received a Ph.D. in

systems neuroscience studying neuroendocrine olfactory reflex under the supervision of Professor Barry Keverne. Following her Ph.D., Dr. Rosser trained in medicine at Cambridge and London and then in neurology at the National Hospital for Neurology, Queen Square, London, and in Cambridge. Dr. Rosser then secured a Medical Research Council Clinician Scientist Fellowship to work at the Brain Repair Centre in Cambridge University where she established a stem cell group focusing on fetal neural progenitor cells and took the lead for the Cambridge Huntington's disease (HD) clinic where she was the co-PI on an MRC-supported study of Neural Transplantation in HD. In 2001, she moved to Cardiff, initially on a Lister Institute Clinician Scientist Fellowship.

Dr. Rosser cares for HD patients at all stages of disease, ranging from asymptomatic to end-stage and undertakes a regular movement disorder clinic. The BRG is a group of approximately 30 post-docs, research associates, clinician researchers and technicians. Under Dr. Rosser's direction, the group is seeking to develop new strategies for therapy in neurodegeneration (in particular, HD, Parkinson's disease (PD), and stroke) based on a multidisciplinary approach in several converging areas. The laboratory encompasses research ranging from basic cell and molecular biology and cell culture to whole animal behavior in models of neurological disease. The BRG has a strong translational reputation and direct access to patient cohorts through Dr. Rosser's HD clinics and through collaboration with other specialist clinics in Cardiff, such as the regional young PD and multiple sclerosis clinics. A particular interest of the BRG is CNS reconstruction by cell replacement therapy. The group has a long history of experimental and, more recently, clinical involvement using primary fetal CNS cells. The next stage for CNS circuit reconstruction will be the use of renewable cell sources. Dr. Rosser's group studies human fetal CNS progenitors, human ES cells, and more recently human IPS cells with a view to eventual human application.

Dr. Rosser has been the clinical lead for the South Wales Huntington's disease clinic for the last ten years and has developed the clinic as a multidisciplinary joint research and clinical management service. The clinic supports numerous clinical studies, and she is PI on studies ranging from large observational studies such as Registry (European HD network - EHDN) and PREDICT (University of Iowa) to interventional drug studies. Dr. Rosser is currently engaged in a number of Cardiff-based studies including an interventional study of physical exercise in HD and a neural transplantation study. In addition to cell replacement in HD, Dr. Rosser is part of the new 'Transneuro' study of neural transplantation in PD, for which her team will be responsible for cell delivery. Her associated HD clinical activities include being the chair of the EHDN scientific advisory committee, the EHDN lead for the English-speaking network, the Chair of the UK HD network, and Associate director for the Dementia and Neurodegenerative Research Network (DeNDRoN). Dr. Rosser is also actively involved in teaching and education in the area of neurodegeneration and the training of physicians in the administration of clinical assessment of HD for research purposes. In 2004, Dr. Rosser was elected as a Fellow of the Royal College of Physicians.

**Clifford J. Steer, M.D.**

Dr. Steer is Professor of Medicine and Genetics, Cell Biology and Development; Member, Graduate School Faculty in Molecular, Cellular, Developmental Biology, and Genetics; Member, Institute of Human Genetics; Member, Cancer Center; and Director, Molecular Gastroenterology Program at the University of Minnesota. He is also the Director of the International Biomedical

Research (IMER) Program. Dr. Steer completed his B.S. Degree, his M.D., and his residency training in internal medicine at the University of Minnesota. Dr. Steer moved to the National Institutes of Health (NIH) where he was a staff member of the Laboratory of Biochemistry and Metabolism in the National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases (NIADDK). In his 14 years at NIH, he trained as a hepatologist and developed skills in basic science research. His major interests at NIH included intracellular trafficking of proteins, carbohydrate receptors, and the clathrin/coated pit endocytic pathway.

Dr. Steer's laboratory is involved in three major areas of research. First, he is applying the *Sleeping Beauty* transposon gene vector to a variety of different animal disease models, including liver, bone marrow and brain disorders, including several projects involving *ex vivo* gene therapy of somatic cells. Secondly, his laboratory has discovered that ursodeoxycholic acid (UDCA), a hydrophilic bile acid, is a potent anti-apoptotic agent and has characterized the effects and mechanism by which UDCA, and its conjugates, exerts its effects. Dr. Steer has used UDCA as a therapeutic agent to treat transgenic models of Huntington's disease, head trauma, acute stroke, spinal cord injury, Parkinson's disease, myocardial infarction, retinitis pigmentosa, and acute renal failure. Lastly, Dr. Steer is characterizing the role of microRNAs (miRNAs) in gene regulation for several target organs and stem cell populations. He has identified miRNAs that may be involved in the progression of colon tissue from polyp to cancer and studies are ongoing to identify specific miRNAs as biomarkers for colon cancer in blood. The laboratory is also elucidating the role of genomic methylation in the control of miRNA biogenesis, has identified a subset of miRNAs in mitochondria that may act as a rheostat for the control of apoptosis, cell proliferation and differentiation, and is studying mechanisms involved in the uncoupling of protein and transcript in regenerating liver after partial hepatectomy.

Dr. Steer's honors and awards include: Phi Beta Kappa, Magna Cum Laude, University of Minnesota; Holloman Award in Biotechnology; American Society for Clinical Investigation; Associate Editor, Hepatology (2001-06); and Thorne Stroke Award. Dr. Steer has participated in more than 50 study sections, many of which he was Chair, including the NIH Gene and Drug Delivery Systems Study Section; the GI Cell and Molecular Biology Study Section; and the Hepatobiliary Pathophysiology Study Section. He is on the Editorial Boards of *Gene Vaccines and Therapy*; *Hepatic Medicine: Evidence and Research*; and *Liver Transplantation*. He has published more than 200 articles, and his laboratory has been featured globally in newspapers, including Time magazine, for Dr. Steer's work in gene therapy and the use of bile acids in the treatment of neurodegenerative disorders. At the University of Minnesota, Dr. Steer serves on the President's Distinguished Faculty Mentor Program; Gastroenterology Executive Committee; Department of Medicine Research Advisory Committee; the Senate Judicial Committee (co-Chair); Department of Medicine Promotion and Tenure Committee; Senior Member, Graduate Faculty, Integrative Biology and Physiology; Senior Member, Graduate Faculty, Comparative and Molecular Biosciences, College of Veterinary Medicine; and Biomedical Engineering Institute, Executive Committee, Neural Tissue Engineering and Devices.