Invited Speaker Biographies

Peter Andrews

Peter Andrews obtained a BSc in Biochemistry from the University of Leeds in 1971, and a D.Phil. in Genetics from the University of Oxford in 1975. Following postdoctoral research at the Institut Pasteur in Paris and the Sloan Kettering Institute in New York, he was a research scientist on the staff of the Wistar Institute in Philadelphia from 1978 to 1992 where he characterised the properties of human embryonal carcinoma (EC) cells, the malignant counterparts of human embryonic stem (ES) cells including a pluripotent human EC cell line, NTERA2. In 1992 Peter Andrews was appointed to the Arthur Jackson Chair of Biomedical Research in the University of Sheffield. His research focuses on the biology of pluripotent human stem cells, and particularly their mechanisms of fate determination, notably to neural crest derivatives, as well as their susceptibility to genetic change upon long term culture.

Mónica Bettencourt Dias

Mónica Bettencourt Dias is a Group Leader at Instituto Gulbenkian de Ciencia (IGC, Portugal) since 2006, and director of this Institute since 2018. Her laboratory at IGC studies centriole and cilia biogenesis, stability and function using a variety of model organisms and patient samples, and combining genetic, cellular, biochemical and bioinformatic approaches. She is interested in how general properties of those structures are established and have evolved. She studied Biochemistry at the Faculty of Sciences in Lisbon and did her PhD at University College London (UK) with Jeremy Brockes, on heart regeneration in salamanders, within the context of the Gulbenkian graduate programme. She then moved to the University of Cambridge (UK) to do postdoctoral research on cell cycle regulation with David Glover. At the same time she did a 2-year diploma course on science communication at the Birkbeck College in London (UK). She is a member of EMBO YIP and EMBO, having had a Starting and a Consolidator ERC.

Mina Bissell

MINA J. BISSELL, PhD MINA J. BISSELL, is Distinguished Senior Scientist, (the highest rank bestowed at Lawrence Berkeley National Laboratory (LBNL) and serves as Senior Advisor to the Laboratory Director on biology. She is Faculty of four Graduate Groups in UC Berkeley: Comparative Biochemistry, Endocrinology, Molecular Toxicology, and Bioengineering (UCSF/UCB joint program). She has challenged several established paradigms, and pioneered the field of tumor microenvironment. Her body of work has provided the foundation for the current recognition of the pivotal role that extracellular matrix (ECM) signaling plays in regulation of gene expression in both normal and malignant cells. Her laboratory pioneered the use of 3D organoids and techniques that allowed her to prove her signature phrase that “after conception, phenotype is dominant over genotype.” Bissell earned her undergraduate degree in chemistry from Harvard College where she received the medal of American Institute of Chemistry. She received her doctorate in microbiology and molecular genetics from Harvard Medical School, won an American Cancer Society fellowship for her postdoctoral studies, and soon after joined LBNL. She was the founding Director of the Cell and Molecular Biology Division and later the Associate Laboratory Director for all Life Sciences at Berkeley Lab where she recruited outstanding scientists and developed a strong program in cell and molecular biology of normal mammary gland and breast cancer. Bissell has published more than 400 publications and is one of the most sought-after speakers in the field in both U.S. and abroad. She has received numerous honors and awards including U.S. Department of Energy’s E.O. Lawrence Award, AACR’s G.H.A. Clowes Memorial Award, the Pezcoller Foundation-AACR International Award, Susan G. Komen Foundation’s Brinker Award, BCRF Foundation’s Jill Rose Award, Berkeley Lab’s inaugural Lifetime Achievement Prize, American Cancer Society’s Medal of Honor, MD Anderson Cancer Center’s highest honor – the Ernst W. Bertner Award, the Honorary Medal from the Signaling

Societies in Germany, ASCB's highest honor – the E.B. Wilson Medal, and the 2017 AACR Award for Lifetime Achievement in Cancer Research and received the 2019 Weizmann Women & Science Award from the Weizmann Institute of Science in Israel and the American Philosophical Society (APS) Jonathan E. Rhoads Gold Medal for Distinguished Service to Medicine. Bissell is an inspiring mentor and in her honor, the University of Porto, Portugal established the Mina J. Bissell Medal which is given every three years to a person who has dramatically changed a field. She is the recipient of Honorary Doctorates from Pierre & Marie Curie University in Paris, France and University of Copenhagen in Denmark and from the Elmezzi Graduate School of Molecular Medicine in New York, NY. Bissell is an elected Fellow of the National Academy of Sciences (NAS), National Academy of Medicine (NAM), American Philosophical Society (APS) as well as the European Molecular Biology Organization (EMBO) and also sits on many national and international scientific boards and continues to engage in full-time research, as well as other scientific activities.

Jez Carlton

Jeremy obtained a B.A. in Natural Sciences from Cambridge University and a PhD from the University of Bristol, working in the lab of Professor Pete Cullen. During this time, he examined membrane trafficking pathways regulated by the phosphoinositide-binding family of Sorting Nexins. After his PhD, he moved to the laboratory of Prof Juan Martin-Serrano in the Infectious Diseases department of King's College London to examine how the ESCRT-machinery is hijacked by HIV-1 to allow its release from infected cells. Here, he described a novel and unexpected role for the ESCRT-machinery in cytokinesis and characterised the involvement of ESCRT-III proteins in an Aurora-B regulated abscission checkpoint. After his postdoc, Jeremy moved to establish a laboratory in the Division of Cancer Studies at King's College London as a Wellcome Trust Research Career Development Fellow. here he continued to focus on membrane trafficking machineries and discovered a new role for the ESCRT-machinery in rebuilding the nuclear envelope during cell division. In 2017 he was awarded a Wellcome Trust Senior Fellowship and EMBO Young Investigator awards and was seconded from King's to the Francis Crick Institute, where he continues his studies on membrane remodelling during cell division.

Guillaume Charras

2007-2013 Lecturer UCL 2013-2016 Reader UCL 2016-present Professor UCL

Elaine Emmerson

Elaine graduated from The University of Liverpool in 2004 with a B.Sc. (Hons) in Genetics. Following that she worked as a research technician at the University of Manchester before beginning a Ph.D. in wound healing in 2006, receiving her doctorate in 2010. Following this, Elaine worked for two years as a post-doctoral research associate, investigating the effect of ageing on cutaneous wound healing and how estrogen therapy elicits positive effects in postmenopausal women. In 2013 Elaine moved to the University of California San Francisco to begin a Postdoctoral Research Fellow position. During this time she investigated the interaction between nerves and stem cells during organ development, using the mouse salivary gland as a model organ. Following this Elaine took the knowledge she had learned from her developmental studies and applied it to better understand regeneration of the adult salivary gland. In 2017 she was awarded an independent research position within The MRC Centre for Regenerative Medicine at The University of Edinburgh to study salivary gland regeneration following head and neck radiotherapy. In February 2018 she was awarded a UK Regenerative Medicine Platform Innovation Award to develop therapeutics to regenerate injured salivary gland in head and neck cancer patients.

Yasuyuki Fujita

1, Apr, 1993 -- 31, Mar, 1994 Ph.D. student Kyoto University (Japan), (Prof. Tohru Kita) 1, Apr, 1994 -- 30, Mar, 1997 Ph.D. student Osaka Univ. (Japan), (Prof. Yoshimi Takai) 1, Apr, 1997 -- 6, Jun, 1997 Post-doc Osaka Univ. (Japan), (Prof.. Yoshimi Takai) 6, Jun, 1997 – 30, Sep, 2002 Post-doc Max-Delbrück-Center for Molecular Medicine (Germany) (Prof. Walter Birchmeier) 1, Oct, 2002 – 31, Mar, 2011 Group leader MRC, LMCB, Cell Biology Unit, University College London 1, Apr, 2010 –at present Professor Hokkaido University, Institute for Genetic Medicine Division of Molecular Oncology

Aga Gambus

Throughout my career my research has focused on understanding the biochemistry of DNA replication and its importance for genome maintenance. During my PhD work in Prof Karim Labib laboratory, Manchester, I made fundamental findings defining the organization of the budding yeast replication machinery at DNA replication forks. I identified a Replisome Progression Complex built around replicative helicase and regulating its function. Subsequently, I was awarded the Cancer Research UK Pontecorvo Award for best PhD thesis, and the Paterson Institute for Cancer Research Michael Dexter Young Investigator Award. These accolades helped me to secure a Wellcome Trust Sir Henry Wellcome Postdoctoral Fellowship, and were my first steps to becoming an independent researcher. My first postdoctoral position allowed me to characterize a role of replisome component Ctf4 as a linker between the helicase and Polymerase alpha (4). During my postdoctoral research in Prof Julian Blow's laboratory, Dundee, I studied eukaryotic DNA replication using Xenopus laevis egg extract model system. I have shown that, in agreement with data from the budding yeast, the inactive core of the vertebrate replicative helicase (Mcm2-7 complex) is loaded onto origins of replication in the form of double hexamers (5). More importantly this finding helped to explain one of the fundamental rules of DNA replication - the way in which a bidirectional pair of forks is initiated from the origin. Finally, I shown that Mcm8 and Mcm9 replication factors form a stable complex in Xenopus egg extract with function in DNA damage processing (6,7). My independent work has been focused on understanding the role of small protein posttranslational modifications, ubiquitin and SUMO, in the regulation of DNA replication. The findings from my laboratory have shed light on the mechanism of replisome disassembly upon eukaryotic replication fork termination. During fork termination, the Mcm7 component of the replicative helicase becomes ubiquitylated by CRL2LRR1ubiquitin ligase, which allows it to be recognized by p97/Cdc48 segregase and thus removed from chromatin. This work has been published in Science and Nature Cell Biology and provided a needed breakthrough in the field (8-10). Indeed, one of the expert referees stated that he/she believes "this (Science) paper will be a landmark in the DNA replication field". This publication has since been previewed in two journals and was recommended for Faculty 1000Prime. In 2015, as a result of this work, I was awarded the British Association for Cancer Research (BACR) / AstraZeneca Young Scientist Frank Rose Award and the Lister Institute for Preventive Medicine Research Award. We have now also shown existence of the back-up pathway in mitosis, which can unload any replisomes left on chromatin before cell division (under review)(11).

Jesus Gil

Jesus Gil obtained his PhD, in 2000 at the UAM in Madrid, Spain. He worked asa postdoc with David Beach at UCL, Gordon Peters' group at the CRUK London Research Institute, and Scott Lowe at Cold Spring Harbor, New York. Since Nov. 2005 he leads the Cell Proliferation Group at the MRC LMS. In 2008, Jesús was named an EMBO Young Investigator. He got tenured in 2010 and in 2011 obtained the EACR Cancer researcher Award 'highly commended'. Since 2013 he is a Professor at Imperial College where it heads the Department of Molecular Sciences at the Institute of Clinical Sciences. His main research interest is understanding the molecular mechanism regulating senescence and their pathophysiological implications. Specifically, his laboratory studies epigenetic mechanisms controlling senescence, the senescence- associated secretory phenotype (SASP) and investigates ways to target senescence for therapeutic benefit.

Stephen Goff

Stephen P. Goff, PhD Dr. Stephen P. Goff is currently Higgins Professor of Biochemistry at the Columbia University Medical Center and an Investigator of the Howard Hughes Medical Institute. He has been a faculty member at Columbia in the Department of Biochemistry and Molecular Biophysics since 1981, and with a joint appointment in the Department of Microbiology and Immunology since 1987. Goff's current work is centered on the study of the retrovirus life cycle and the host restriction systems that inhibit virus replication. His lab has identified and characterized many cellular genes that play major roles in the life cycle of these viruses. Goff received his A.B. degree in Biophysics Summa Cum Laude from Amherst College in 1973. His graduate work with Dr. Paul Berg at Stanford University focused on the genetic analysis of the replication of simian virus 40 (SV40) and on the use of SV40 as a viral vector for the expression of foreign DNAs in mammalian cells. He then did

postdoctoral work with Dr. David Baltimore at MIT on the replication of the murine leukemia viruses as a Jane Coffin Childs fellow. Goff was a Searle Scholar and has received two MERIT awards from the NIH. He served on the Molecular Biology study section of the NIH, was selected as co-organizer of the Cold Spring RNA Tumor Virus meeting for 1988 and 1994, and co-chairman of the Animal Cells and Viruses Gordon Conference for 1989. Goff has been elected to membership in the National Academy of Science, the Institute of Medicine, the American Academy of Arts and Sciences, and the American Academy of Microbiology, and is a fellow of the American Association for the Advancement of Science. He received an honorary Doctor of Science degree from Amherst College in 1997, and was the inaugural recipient of the Retrovirus Prize. He has mentored over 35 graduate students and 35 postdoctoral fellows in his laboratories at Columbia. He has served as a reviewing editor for the journals Science, Cell, Journal of Virology, and Virology and reviews submissions for these and many other journals. He has authored or coauthored over 300 publications on viral replication and oncogenesis.

Karen Guillemin

Karen Guillemin is a Philip H. Knight Chair and Professor of Biology in the Institute of Molecular Biology at the University of Oregon and the founding Director of the Microbial Ecology and Theory of Animals (META) Center for Systems Biology. Guillemin received her bachelor's degree in Biochemical Sciences from Harvard College and her Ph.D. from the Department of Biochemistry at Stanford University, where she worked with Dr. Mark Krasnow studying organ development in Drosophila. She continued her postdoctoral training at Stanford in the Department of Microbiology and Immunology, studying bacterial-host interactions with Dr. Stanley Falkow. In her own laboratory at the University of Oregon she has combined her interests in animal development and bacterial-host interactions to study how resident microbes promote normal development and under certain circumstances, pathology. She has pioneered the use of gnotobiotic zebrafish to study host-microbe interactions in a vertebrate and to investigate how host-microbe systems assembly, function, and evolve.

Volker Haucke

BIOGRAPHICAL SKETCH - Volker Haucke POSITION TITLE: Full Professor of Molecular Pharmacology, Director, Leibniz Forschungsinstitut für Molekulare Pharmakologie (FMP), Berlin, Germany EDUCATION/TRAINING INSTITUTION AND LOCATIONDEGREE Completion DateFIELD OF STUDY Freie Universität Berlin (Germany) & Biozentrum, University of Basel (Switzerland) Diploma02/1994Biochemistry & Molecular Biology Biozentrum, University of Basel (Switzerland)Ph.D.03/1997Biochemistry Yale University School of Medicine & HHMI, New Haven, CT (USA)Postdoctoral04/2000Cell Biology & Molecular Neuroscience University of Goettingen Medical School (Germany)Habilitation06/2003Biochemistry A. Personal Statement The focus of research in the Haucke laboratory is the dissection of the molecular mechanisms of endocytosis and endolysosomal membrane dynamics and its role in cell signaling and neurotransmission. The laboratory uses a wide range of technologies that include biochemical and molecular biological approaches in vitro, chemical biology and screening technology, super-resolution and electron microscopy as well as genetic manipulations at the organismic level in vivo. The overarching goal of these studies is to provide a mechanistic understanding of exo-endocytosis and endolysosomal function and its regulation by proteins and lipids and to use this know-how to develop novel strategies for acute chemical and pharmacological interference. Recent highlights of research include: • Discovery of phosphatidylinositol 3,4-bisphosphate (PI(3,4)P2) synthesized by class II phosphatidylinositol-3-kinase as a novel repressor of mTORC1 signaling at late endosomes/ lysosomes in serum-starved cells (Marat, Wallroth et al., Science 2017 link to pubmed abstract) and a spatiotemporal regulator of endocytosis (Posor et al., Nature 2013 link to pubmed abstract) • Discovery of a mechanism for phosphoinositide conversion at endosomes to enable exit from the endosomal system, suggesting that defective phosphoinositide conversion at endosomes underlies X-linked centronuclear myopathy (Ketel et al., Nature 2016 link to pubmed abstract). • Membrane retrieval at synapses occurs on multiple timescales and is mediated by formin-dependent actin assembly (Soykan et al., Neuron 2017 link to abstract), while clathrin and its major endocytic adaptor AP-2 regenerate synaptic vesicles from internal endosome-like vacuoles (Kononenko et al., Neuron 2014; Kononenko & Haucke, Neuron 2015 link to pubmed abstracts). • Endocytic adaptors (e.g.

AP180) limit diffusional spread of newly exocytosed synaptic vesicle proteins (Gimber et al., Nat. Commun. 2015 link to pubmed abstract) and chaperone their sorting to recycling vesicle membranes (Koo et al., Neuron 2015 link to pubmed abstractlink to video abstract); Kononenko et al., Proc. Natl. Acad. Sci. USA2013 link to pubmed abstract; Diril et al., Dev. Cell 2006 link to pubmed abstract) to maintain neurotransmission in vivo. • Identification of dGIT/ GIT1, a protein mutated in attention deficit hyperactivity syndrome (ADHS), as the first molecular link between the active zone cytomatrix for exocytosis and the endocytic machinery, thereby coupling neurotransmitter release to synaptic vesicle reformation (Podufall et al., Cell Reports 2014 link to pubmed abstract; Haucke et al., Nat Rev Neurosci. 2011 link to pubmed abstract). • Development of the first small molecule inhibitors of clathrin function (von Kleist et al., Cell 2011 link to pubmed abstract) B. Positions and Honors Positions and Employment 2012- Full Professor of Molecular Pharmacology (S-W3), Freie Universität Berlin & Director of the Leibniz-Forschungsinstitut für Molekulare Pharmakologie 2005-2011 Full Professor of Biochemistry (W3), FU Berlin, Institute of Chemistry & Biochemistry, Department of Membrane Biochemistry 2003-2005 2000-2003 Professor of Biochemistry (C3), FU Berlin, Institute of Chemistry & Biochemistry, Department of Membrane Biochemistry Assistant Professor/ Head of Independent DFG Junior Research Group, University of Göttingen Professional Memberships Member, American Society for Biochemistry and Molecular Biology (ASBMB) Member, American Society for Cell Biology Member, Society for Neuroscience (SfN) Member, German Society for Biochemistry and Molecular Biology (GBM) Member, German Society for Cell Biology (DGZ) Member, Study Section, "Biochemistry“ of the German Funding Agency (DFG) (2008-2016) Honors and Awards 2017 2017 2017 2014 2003 1998 - 1999 1997 - 1998 1995 1994-1997Elected Member of the Berlin-Brandenburg Academy of Sciences (BBAW) Elected Member of The German National Academy of Sciences, Leopoldina Avanti Award of the American Society for Biochem. & Mol. Biology (ASBMB)) Elected Member of the European Molecular Biology Organization (EMBO) Young Investigator Award (YIP), European Molecular Biology Organization (EMBO) Long-Term Fellowship Award, Human Frontier Science Program Long-Term Fellowship Award, European Molecular Biology Organization Short-Term Fellowship Award, European Molecular Biology Organization Boehringer Ingelheim Fellow 1993-1994 1990-1994Dr. Carl-Duisberg-Foundation Scholar Scholarship Holder of the Studienstiftung des deutschen Volkes C. Contribution to Science Complete List of Published Work: http://www.ncbi.nlm.nih.gov/pubmed/?term=haucke-v Coordinating functions and editorial work since 2015 since 2012 2007-2012 since 2005 since 2015 since 2006 since 2007 since 2011 2008-2010Scientific Advisory Board of open access platform Matters Editorial Board Member, EMBO Reports Editorial Board Member, The Journal of Biological Chemistry Editorial Board Member, Biology of the Cell Member, Scientific Advisory Board of Matters, digital science publishing platform Member, Faculty of 1000, Neuronal Signaling Member & Principal Investigator, NeuroCure Cluster of Excellence Founding-Chair (now vice-chair) & Member, SFB 958 "Scaffolding of Membranes" Chair, SFB 449 "Structure and Function of Membrane Integral Receptors" D. Ten Selected Publications (out of about >170 listed in Pubmed) 1.Marat, A.L., Wallroth, A., Lo, W., Müller, R., Norata, G.D., Falsaca, M., Schultz, C., Haucke, V. (2017) mTORC1 activity repression by late endosomal phosphatidylinositol 3,4-bisphosphate. Science, 356, 968-972 (see commentary by Raiborg & Stenmark (2017) EMBO J. [doi: 10.15252/embj.201797469]) 2.Soykan, T., Kaempf, N., Sakaba, T., Vollweiter, D., Goerdeler, F., Puchkov, D., Kononenko, N.L., Haucke, V. (2017) Synaptic vesicle endocytosis occurs on multipletimescales and is mediated by formin-dependent actin assembly. Neuron, 93, 854-866 3. Ketel, K., Krauss, M., Nicot, A.S., Puchkov, D., Wieffer, M., Müller, R., Subramanian, D., Schultz, C., Laporte, J., Haucke, V. (2016) A phosphoinositide conversion mechanism for exit from endosomes. Nature, 529, 408-412 (see commentary by Balla (2016) Nature [doi: 10.1038/nature16868]) 4. Koo, S.Y., Kochlamazashvili, G., Rost, B., Puchkov, D., Gimber, N., Lehmann, M., Tadeus, G., Schmoranzer, J., Rosenmund, C., Haucke, V.#, Maritzen, T.# (2015) Vesicular synaptobrevin/VAMP2 levels guarded by AP180 control efficient neurotransmission. Neuron, 88, 330-344 (#co-corresponding authors, both from Haucke lab) 5.Gimber, N., Tadeus, G., Maritzen, T., Schmoranzer, J., Haucke, V. (2015) Diffusional spread and confinement of newly exocytosed synaptic vesicle proteins. Nature Communications, 6, 8392 [DOI: 10.1038/ncomms9392] 6.Kononenko, N.L., Puchkov, D., Classen, G.A., Walter, A., Pechstein, A., Sawade, L., Kaempf, N., Trimbuch, T., Lorenz, D., Rosenmund, C., Maritzen, M., Haucke, V. (2014) Clathrin/ AP-2 mediate synaptic vesicle reformation from endosome-like vacuoles but are not essential for membrane retrieval at central synapses. Neuron, 82, 981-988 7. Posor, Y., Eichhorn-Grünig, M., Puchkov, D.,

Schöneberg, J., Ullrich, A., Lampe, A., Müller, R., Zarbakhsh, Gulluni, F., Hirsch, E., Krauss, M., Schultz, C., Schmoranzer, J., ,Noe, F., Haucke, V. (2013) Spatiotemporal Control of Endocytosis by Phosphatidylinositol 3,4-Bisphosphate. Nature, 499, 233-237 (see commentary by Schmid & Mettlen (2013) Nature [doi: 10.1038/nature12408]) 8. Haucke, V., Neher, E., Sigrist, S.J. (2011) Protein scaffolds in the coupling of synaptic exocytosis and endocytosis. Nat Rev Neurosci., 12, 125-136 9. von Kleist, L., Stahlschmidt, W., Bulut, H., Gromova, K., Puchkov, D., Robertson, M., MacGregor, K.A., Tomlin, N., Pechstein, A., Chau, N., Chircop, M., Sakoff, J., von Kries, J., Saenger, W., Kräusslich, H.-G., Shupliakov, O., Robinson, P., McCluskey, A., Haucke, V. (2011) Role of the clathrin terminal domain in regulating coated pit dynamics revealed by small molecule inhibition. Cell, 146, 471-484 10. Faelber, K., Posor, Y., Gao, S., Held, M., Roske, Y., Schulze, D., Haucke, V., Noe, F., Daumke, O. (2011) Crystal structure of nucleotide-free dynamin. Nature, 477, 556-560

Eva Hoffmann

Eva R Hoffmann is professor of genomics and reproductive health at Center for Chromosome Stability, University of Copenhagen, Denmark. Her lab focuses on understanding the mechanisms mediating genome diversification, the causes of chromosome instability in the human germline and the impact on pregnancy loss and infertility. She serves on the board of ReproUnion, a clinical consortium across Denmark and Sweden and on is a member of the International Consortium for Human Aneuploidies. Her lab is currently funded by the Novo Nordisk Foundation and the ERC.

Anna Huttenlocher

Vilas Distinguished Professor, Department of Medical Microbiology and Immunology University of Wisconsin-Madison

Henrik Jönsson

Henrik received his masters (1997) and PhD (2002) degrees in Theoretical Physics from Lund University, Sweden, where he worked in the Complex Systems group. He continued with post-doctoral work at Division of Biology, California Institute of Technology. He became Assistant Professor in 2008 at the Computational Biology and Biological Physics group at Lund University, and joined SLCU as a group leader in September 2011. Since 2014, Henrik is Professor of Computational Morphodynamics and Associate Director at SLCU. Henrik is an and academic editor for PLoS ONE, Journal of Theoretical Biology an in silico Plants.

Madeline Lancaster

Dr Madeline Lancaster is a Group Leader in the Cell Biology Division of the Medical Research Council (MRC) Laboratory of Molecular Biology, part of the Cambridge Biomedical Campus in Cambridge, UK where her lab focuses on human brain development using a new model system, called cerebral organoids. Madeline studied biochemistry at Occidental College, Los Angeles, USA, before completing a PhD in 2010 in biomedical sciences at the University of California, San Diego, USA. She then joined the Institute of Molecular Biotechnology of the Austrian Academy of Sciences (IMBA) in Vienna, Austria as a postdoctoral researcher, before joining the LMB in 2015.

Ilaria Malanchi

Ilaria Malanchi obtained her Master degree at the University of Siena after two years spent at the research centre of Chiron Vaccine, (later Novartis Vaccine and now GSK, Siena, Italy). She obtained her PhD from Heidelberg University (Germany) working in the laboratory of Dr Tommasino at the DKFZ. As Dr Tommasino moved his laboratory to France in 2003, she spent one year at the IARC (WHO, Lyon, France). Her long-standing interest in the complex cancer cellular interaction in vivo began when she moved to the newly opened Joerg Huelsken lab at the ISREC, Lausanne, Switzerland, (now part of the Federal Swiss University (EPFL)), to start her postdoc in 2004. During these Postdoc years she began to investigate the importance of tumour microenvironment during metastatic progression. Building on this expertise in mouse tumour models, Ilaria set up her laboratory at the Cancer Research UK London Research Institute in 2011 (now part of the Francis Crick Institute) and has since focused the scope of investigation on the interaction between cancer

cells and the surrounding tissue during tumorigenesis and metastatic progression. Ilaria was awarded tenure and promoted to Senior Group Leader at the Francis Crick Institute in 2018.

Juan Pedro Martinez-Barbera

Prof. Juan Pedro Martinez-Barbera trained as a veterinary surgeon (University of Cordoba, Spain) and obtained his PhD in Biochemistry and Molecular Biology at the University of Cadiz (Spain) in 1995. His postdoctoral career started at Lund University (Sweden) in 1996, where he focused on the field of embryology. A year later, he moved to the National Institute for Medical Research (London, UK) to continue his interest on brain and pituitary development through the generation and analyses of several mouse models. In 2000, he moved to King's College London as a senior postdoctoral researcher, where he consolidated his expertise on brain development and ES cell targeting technology. Finally, in 2003, he initiated his independent career at the Institute of Child Health (ICH; University College London, UK) He is currently the Head of the Developmental Biology and Cancer Research Programme at Great Ormond Street Institute of Child Health. His research aims to reveal the mechanisms underlying normal development and the pathology associated to the forebrain and pituitary gland in mice and humans, with a particular focus on paediatric brain tumours. Combining murine and human studies his research has advanced the understanding of the biology of these tumours and identified cellular senescence as a tumour-inducing mechanism. Additionally, novel targetable pathways have been identified and are currently being tested in preclinical and clinical studies.

Pleasantine Mill

Bio: Dr Mill received her BSc degree in Microbiology and Immunology from McGill University, Canada. She then went on to do a PhD in Medical and Molecular Genetics with Prof Chi-chung Hui at the University of Toronto, Canada. Her work focused on dissecting the roles of the GLI transcription factors in Hedgehog signaling in skin development and tumorigenesis using knock-out and transgenic mouse models. Upon completion of her PhD, Pleasantine received a Canadian NSERC Post-doctoral Fellowship to continue her work in Developmental Genetics with Prof Ian Jackson at the MRC Human Genetics Unit in Edinburgh driving a mouse mutagenesis project to identify genes controlling neural crest development. As a Caledonian Research Fellow, Pleasantine focused on characterizing several novel mutant mouse lines that exhibited hallmarks of deregulated developmental signaling through defects in cilia structure and/or function. In 2014, appointed as MRC Programme Leader Track, she set up her own cilia-centric research programme using genetics, including siRNA cell-based screens, gene editing and reporter mouse mutants, to functionally dissect novel genes critical to ciliogenesis, particularly those implicated in human disease. More recently, her lab's interests have expanded on developing genetics as possible therapeutic strategies using somatic genome editing for a subset of ciliopathies, which exhibit high genetically heterogeneity and affect accessible tissues, including retinitis pigmentosa and primary ciliary dyskinesia. In 2018, she became a full MRC Programme Leader.

Denise Montell

Professor Denise Montell earned her B. A. degree in Biochemistry and Cell Biology from the University of California, San Diego and completed her Ph.D. in Neurosciences at Stanford University. She pursued postdoctoral research at the Carnegie Institution and was hired as an Assistant Professor of Biological Chemistry at the Johns Hopkins School of Medicine and rose through the ranks to Full Professor. In 2006 She became the Founding Director of the Center for Cell Dynamics at the Johns Hopkins School of Medicine. In 2013 she returned to her roots at the University of California, where she is now the Robert and Patricia Duggan Professor of Molecular, Cellular, and Developmental Biology at UCSB. Professor Montell is an internationally recognized scientist who has garnered numerous awards for her research including the Lucille P. Markey Scholar Award, the American Cancer Society Research Scholar Award, the W. M. Keck Foundation Award, and the NIH Director's Pioneer Award. She is best known for her work studying fundamental cellular behaviors such as cell movement and survival as they relate to normal organ development and repair as well as diseases such as cancer. Professor Montell has served on national advisory boards including those of

the National Institute for General Medical Sciences, the American Cancer Society, and the American Society for Cell Biology.

David Pellman

David Pellman is the Margaret M. Dyson Professor of Pediatric Oncology at the Dana-Farber Cancer Institute, a Professor of Cell Biology at Harvard Medical School, an Investigator of the Howard Hughes Medical Institute, and the Associate Director for Basic Science at the Dana-Farber/Harvard Cancer Center. He received his undergraduate and medical degrees from the University of Chicago. During medical school, he trained with Dr. Hidesaburo Hanafusa at the Rockefeller University. His internship, residency and fellowship in pediatric oncology were at Children's Hospital and the Dana-Farber Cancer Institute. His postdoctoral fellowship was with Dr. Gerald Fink was at the Whitehead Institute and the Massachusetts Institute of Technology. Dr. Pellman has received the Damon Runyon Scholar Award, the Stohlman Scholar Award from the Leukemia and Lymphoma Society of America, the E. Mead Johnson Award and an NIH MERIT Award. He has been elected to the Association of American Physicians and is a fellow of the American Association for the Advancement of Science. The laboratory has made contributions to understanding mechanisms of cell division and how cell division errors alter genome structure. Dr. Pellman's accomplishments include: (1) the co-discovery of formin-dependent actin assembly and a mechanism for positioning mitotic spindles within asymmetrically dividing cells; (2) discoveries showing that whole genome duplication alters cell physiology, can promote evolutionary adaptation, and can drive tumor development; 3) the discovery of a mechanism explaining chromothripsis, a recently discovered mutational process that generates rapid karyotype evolution in cancer and congenital disease.

Eugenia Piddini

Originally trained in Cell Biology at the University of Palermo, Italy, Eugenia did a PhD in the lab of Carlos Dotti at the European Molecular Biology Laboratory (EMBL) in Heidelberg, Germany, where she studied the regulation of cell shape by microtubule motors and Rho-like GTP-ases. In 2002, Eugenia started post-doctoral work in the lab of Jean-Paul Vincent at the National Institute for Medical Research in London. Through that work Eugenia became interested in understanding how cells coordinate death and survival within tissues and this led her to work on Cell Competition, which has been the focus of Eugenia's research since. Eugenia started her group in 2010 at the Gurdon Institute, University of Cambridge, where she was a Royal Society University Research Fellow. In 2017 she moved to the University of Bristol where she now is Professor of Cell Biology and Wellcome Trust Senior Research Fellow.

Jeff Pollard

Professor Jeffrey W. Pollard is Director of the Medical Research Council Centre for Reproductive Health and Professor of Resilience Biology at the University of Edinburgh. He holds a Royal Society Wolfson Research Merit Award and is a Wellcome Trust Senior Investigator. Professor Pollard received his PhD at Imperial Cancer Research Fund (now CRUK) in London, UK, followed by a post-doc at the Ontario Cancer Institute in Toronto before taking a Lectureship at King's College University of London. Thereafter he was at the Albert Einstein College of Medicine in New York for over 24 years finally as the Louis Goldstein Swann Chair in Women's Health, Deputy Director of the Cancer Center and Director of the Center for the Study of Reproductive Biology and Women's Health. In 2013 he moved to the University of Edinburgh. His research was the first to show that macrophages promote tumour progression to malignancy and to enhance metastasis. He has shown these activities are due to the enhancement of the angiogenic switch, promotion of tumour cell invasion and intravasation as well as at the metastatic site enhancement of tumour cell extravasation, survival and persistent growth. He has identified many reciprocal signalling pathways between tumour cells and macrophages including the mechanism of monocyte recruitment to the metastatic site via the chemokines CCL2 and CCL3 as well as roles for VEGFR1 and CSF1R signalling in macrophages. His work iponeeried the understanding of the roles for macrophages in regulating development, for example in branching morphogenesis. For his studies he was elected as a Fellow of the American Association for the Advancement of Sciences (AAAS) in 2011, Fellow of the Royal Society of Edinburgh in 2015 and Fellow of the Academy of Medical Sciences in 2016. He has received several

awards most notably the American Cancer Society “Medal of Honor for Basic Science Research” for his studies in tumour immunology.

Adrienne Roeder

Associate Professor Weill Institute for Cell and Molecular Biology and School of Integrative Plant Sciences, Section of Plant Biology Cornell University Background: B.S. in Biological Science from Stanford University 1999 Ph.D. in Biology from University of California, San Diego 2005 Postdoctoral scholar at Caltech 2005-2011 Assistant Professor Cornell University 2011-2017

Shankar Srinivas

Shankar completed a BSc in Nizam College in Hyderabad, India. He then joined the group of Frank Costantini in Columbia University, New York, where he received a PhD for work on the molecular genetics of kidney development. Following this, he moved to the NIMR in Mill Hill, London, where he worked as a HFSPO fellow in the groups of Rosa Beddington and Jim Smith on how the anterior-posterior axis is established. Here, he developed time-lapse microscopy approaches to study early post-implantation mouse embryos, with which he characterised the active migration of cells of the Anterior Visceral Endoderm, a process essential for the correct orientation of the anterior posterior axis of the embryo. In 2004 Shankar started his independent group at the University of Oxford as a Wellcome Trust Career Development Fellow and as Zeitlyn Fellow and Tutor in Medicine at Jesus College. In 2016 he became Professor of Developmental Biology. He is currently a Wellcome Senior Investigator. The research in Shankar’s group focuses on two main areas. The first is to understand how the coordinated cell movements that shape the early mammalian embryo prior to and during gastrulation are controlled. The second is to understand how the heart forms and starts to beat. Shankar’s group takes a multidisciplinary and collaborative approach to address these questions, using techniques spanning molecular genetics, lightsheet and confocal time-lapse imaging, single cell approaches, proteomics and embryo explant culture. Shankar is also passionate about science outreach. His group participates regularly in science festival, for which they have developed 3D printed models of developing embryos and a virtual reality based embryo and microscopy image volume explorer.

Claudio Stern

Claudio Stern was born in Uruguay, and moved to the UK where he took a BSc in Biological Sciences and PhD at Sussex, followed by postdoc at UCL. After a year as Demonstrator in Cambridge he was University Lecturer in Oxford (1985-1994), then Chair of Genetics and Development at Columbia University, New York. He returned to UCL in 2001 as “J Z Young Professor” and Head (until 2011) of the Department of Anatomy (now “Cell and Developmental Biology”). Claudio Stern has been elected a Fellow of the Royal Society, Academy of Medical Sciences, Latin-American Academy of Sciences, Foreign Honorary Member of the American Academy of Arts and Sciences and member of EMBO and was awarded the Waddington Medal from the BSDB and the Harrison Medal of the Interational Society for Developmental Biology, of which he was also president from 2010-2013. Claudio Stern’s research focuses on the processes that establish cell diversity and pattern in the early embryo, particularly to understand how complexity is set up and how the “programme” for development is encoded in the genome, working on several early developmental processes, mainly using chick embryos, more recently enriched by human genetics.

Aurelio Telleman

Aurelio Teleman is Head of Division at the German Cancer Research Center (DKFZ) and Professor at the University of Heidelberg. His lab studies the regulation of cell and tissue growth. Work in the lab covers two aspects of signaling required by cells to grow 1) signaling pathways that are activated non-autonomously by ligands such as growth hormones and morphogens, and 2) nutrient availability which is sensed in part cell autonomously. The lab uses Drosophila to uncover novel basic biology, and then translates the findings into humans via cell culture and clinical studies. Aurelio was born in the United States, went to school in the USA, Italy, and France. He did his university studies at Harvard, and his PhD as a collaboration between the European Molecular Biology Laboratory

(Heidelberg) and Imperial College (London). He studied in the labs of Richard Losick and Steve Cohen.

Xavier Trepat

Xavier Trepat was trained in Physics and Engineering at the University of Barcelona. In 2004 he obtained his PhD from the Medical School at the University of Barcelona. He then joined the Program in Molecular and Integrative Physiological Sciences at Harvard University as a postdoctoral researcher. In January 2011 he became an ICREA Research Professor at the Institute for Bioengineering of Catalonia (IBEC). Trepat's research aims to understand how cells and tissues grow, move, invade and regenerate in a variety of processes in health and disease. To achieve this, he has developed and patented different technologies to measure cellular properties at the micro- and nanoscales. He has then applied these technologies to identify fundamental mechanisms in cell biology and biophysics.

Stephen West

Stephen West received his PhD in biochemistry from Newcastle University, England, before joining the Department of Therapeutic Radiology at Yale in 1978. There, he was one of the early pioneers in the field of DNA repair. Steve moved back to the UK in 1985 and his laboratory is now part of The Francis Crick Institute, the largest research institute in Europe. Steve's work has focused on the mechanisms of DNA repair by homologous recombination, and the links between repair defects, genome instability and cancer. In his early work, Steve identified RecA, and showed how it promotes DNA strand exchange. He discovered the first cellular Holliday junction resolvase (E. coli RuvC), the bacterial branch migration complex (RuvAB), and the mammalian Holliday junction resolvases SMX and GEN1. His work currently revolves around the molecular functions of the BRCA2 tumour suppressor, and the roles and interplay of various nucleases that process recombination intermediates in human cells. Steve has received numerous awards for his scientific achievements, including the Louis-Jeantet Prize for Medicine (2007), the Novartis Medal from the Biochemical Society (2008), the GlaxoSmithKline Medal of the Royal Society (2010), the Genetics Medal (2012) and the Lifetime Achievement Award for Cancer Research (2018). Steve is a Fellow of the Royal Society and a Foreign Associate of the National Academy of Sciences (USA).