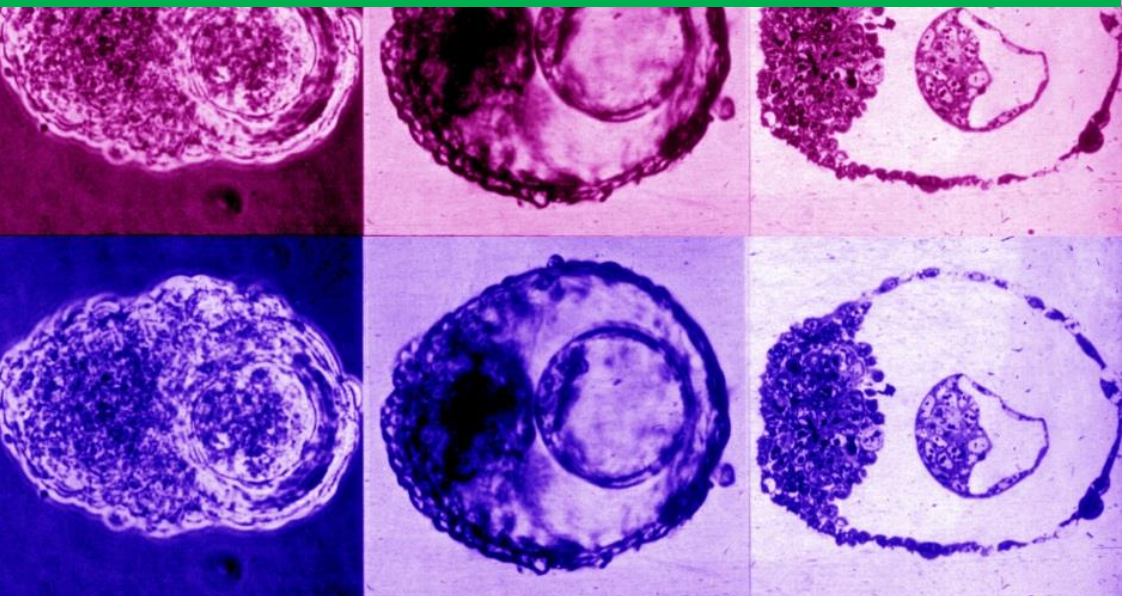


# IVF Histories and Cultures Workshop 3

22-23rd June 2015, Christ's College  
Cambridge



## Monday June 22nd 2015

Plumb Auditorium, Christ's College

12:00 – 12:45pm	Lunch and Registration
12:45 – 1:30pm	Opening Remarks & Workshop Introduction
1:30 - 3:00pm	Panel 1 Staging Embryos Presenters: Roger Gosden, Kay Elder Chair: Susan Squier
3:00 – 3:30pm	Tea & Coffee
3:30-4:30pm	Panel 2 Cellular Time Presenter: Merete Lie Discussant: Manuela Perrotta Chair: Carrie Frieze
4:30 – 5:00pm	Break
5:00 - 6:30pm	Plenary 1: Nick Hopwood (The Yusuf Hamied Theatre) Chair: Martin Johnson
6:30 – 7:00pm	Reception
7:00 – 9:00pm	Dinner

## Tuesday June 23rd 2015

Plumb Auditorium, Christ's College

9:30 – 11:00am	Panel 3, Time Lapses Presenters: Gaëlle Recher, Simon Fishel Discussant: Andrew Webster Chair: Bob Moor
11:00 – 11:30pm	Tea & Coffee
11:30 - 1:00pm	Panel 4, Freeze Frames Presenter: Lucy van de Wiel Discussant: Suzanne Anker Chair: Gina Glover
1:00 – 2:00pm	Lunch
2:00-3:30pm	'Biological Clocks' Small Group Discussions and Feedback
3:30 – 4:00pm	Break
4:00 - 5:30pm	Plenary 2: Hannah Landecker (The Yusuf Hamied Theatre)
5:30 – 6:00pm	Closing Reception

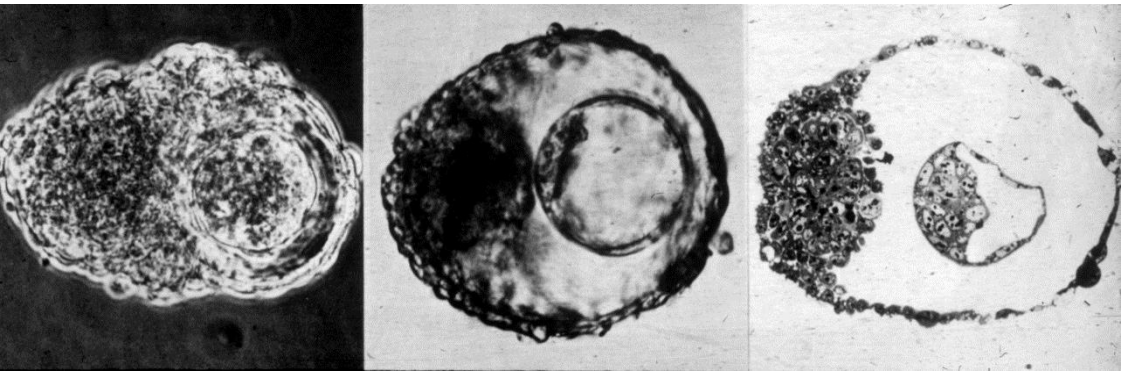


## Welcome

### ‘Time Lines, Time Lapses’

In this, our third ESRC-funded workshop, we will be considering the question of embryonic development as a visual and serial sequence, with particular reference to the recent introduction of time lapse imagery into clinical IVF. Described as one of the most significant technological improvements to modern IVF, time lapse imagery is also a technique that has a long history in the context of basic experimental science. In this workshop, which will include two public lectures, we will be looking both forward and back at images of embryonic development and their key importance to IVF histories and cultures. Among the changing temporalities we will consider are both those of embryological development and technological change. These are brought together in the context of IVF with implications this workshop will explore from an interdisciplinary vantage point.

Sarah Franklin, Martin Johnson, Katie Dow, and Nick Hopwood



## About the IVF Histories and Cultures Project (IVFHCP)

This collaborative research initiative began in 2005 as an investigation into the active culture of mammalian developmental biology in the UK after World War 2. This field has yielded some of the most important biomedical innovations of the late twentieth century, including in-vitro fertilisation (IVF), preimplantation genetic diagnosis (PGD), embryonic stem cell derivation, [not uniquely from mammals, of course:] cloning, cryopreservation, chimeras, imprinting, epigenetics and regenerative medicine. We have been interested in how and why such a productive research area developed. Through an initial set of broadly focussed interviews conducted by Martin Johnson and Sarah Franklin with 'key players' in both basic science and also policy formation (now deposited in the British Library), we have concentrated increasingly on the recent history of IVF.

Our first conference was held in 2009 at Christ's College, Cambridge. On the 40<sup>th</sup> anniversary of the first generally accepted fertilization of a human egg *in vitro*, '40 Years of IVF' brought together an interdisciplinary group of scholars to explore the wider social significance of the rapid expansion of IVF. Our first research paper, examining 'Why the Medical Research Council Refused Robert Edwards and Patrick Steptoe Support for Research on Human Conception in 1971', was published in *Human Reproduction* in July 2010, shortly before the award to Edwards of the Nobel Prize for Physiology or Medicine in December of that year. A second conference, 'Futures in Reproduction', was held in December 2012 to commemorate and further

Edwards' concerns with basic science and reproductive biomedicine, as well as ethics, law and social policy.

Edwards' death in April 2013 was seen by many to mark a watershed in the history of IVF, and it is this history our project continues to explore through a number of interlinked initiatives including a British Academy-funded research project into 'IVF Histories' and an ESRC funded seminar series exploring 'IVF Histories and Cultures'. These are complemented by research being conducted by Martin Johnson and Kay Elder into the early years of IVF in Oldham and Cambridge, research on the history of feminist activism and scholarship concerning new reproductive technologies by Sarah Franklin, and research on representations of IVF in the media and parliamentary debate by Katie Dow. Together with Nick Hopwood, we are continuing to explore the many intersections and implosions thrown up by IVF histories and cultures, including the expansive visual culture of IVF, and its interface with the broadcast media, as well as the interfacing of IVF technology with both agricultural and clinical applications, leading to its emergence as an iconic translational technology.

Throughout our research, we have been grateful to the Wellcome Trust for many sources of support, including two Medical Humanities Research Resources grants and both a Strategic Award (Hopwood) and a Senior Investigator Award (Franklin). With these, and other, resources, we are continuing to conduct interviews, visit and catalogue archives, collect new archival materials and assist with their deposition, publish new articles, organise conferences, workshops and seminars, and build links with cognate researchers around the world. We have also benefited from the support of the British Library, the British Academy, the National Archive, the MRC, the ESRC, the RCOG, the London School of Economics, and both Christ's and Churchill Colleges at Cambridge.



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CAMBRIDGE

## British Library Interview Collection: Stage One Interviewees

John Biggers, Graham Cannon, Bruce Cattnach, Jenny Croft, Roy Cunningham, Frank Dobson, Kay Elder, Richard Gardner, Malcolm Godfrey, Chris Graham, Alan Handyside, Brigid Hogan, Martin Johnson, Mary Lyon, Anne McLaren, John Modle, Marilyn Monk, Virginia Papaioannou, Marcus Pembrey, Ralph Robinson, Roger Short, Duncan Thomas, Mary Warnock.

### Archives

We have assisted in the deposit of material to the British Library (McLaren and Monk), LSE archives (PROGRESS and Braude), and Churchill College (Edwards). We are continuing to identify and collect archival material for deposit, as well as searching and identifying relevant material in numerous existing archives including: the National Archive at Kew (MRC papers), the Department of Health Repository (Warnock papers), the LSE (HFEA debate), Bourn Hall and the University of Cambridge.

#### Further information:

- '40 Years of IVF: 14<sup>th</sup> February 1969 – 2009'

[http://www.pdn.cam.ac.uk/40yearsivf/commemorative\\_programme.pdf](http://www.pdn.cam.ac.uk/40yearsivf/commemorative_programme.pdf)

- 'Why the Medical Research Council Refused Robert Edwards and Patrick Steptoe Support for Research on Human Conception in 1971' *Human Reproduction* 25:9:2157-2174 by Martin Johnson, Sarah Franklin, Matthew Cottingham and Nick Hopwood)

<http://humrep.oxfordjournals.org/content/25/9/2157.full>

- 'Futures in Reproduction' Conference: 15-16 December 2012

<http://www.pdn.cam.ac.uk/futuresinreproduction/speakers.html>

- Biological Relatives: IVF, stem cells and the future of kinship, by Sarah Franklin

<http://oopen.org/search?keyword=biological+relatives>



## IVF HISTORIES AND CULTURES SEMINAR

### PARTICIPANT BIOGRAPHIES

(in alphabetical order)



**Suzanne Anker** is a visual artist and theorist working at the intersection of art and the biological sciences. She works in a variety of mediums ranging from digital sculpture and installation to large-scale photography to growing plants with LED lights. Her work has been shown both nationally and internationally in museums and galleries including the Walker Art Center, the Smithsonian Institute, the Phillips Collection, P.S.1 Museum, the JP Getty Museum, the Medizinhistorisches Museum der Charite in Berlin, the Center for

Cultural Inquiry in Berlin, the Pera Museum in Istanbul, the Museum of Modern Art in Japan, and the International Biennial of Contemporary Art of Cartagena de Indias, Colombia. Her books include *The Molecular Gaze: Art in the Genetic Age*, co-authored with the late sociologist Dorothy Nelkin, published in 2004 by Cold Spring Harbor Laboratory Press, *Visual Culture and Bioscience*, co-published by University of Maryland and the National Academy of Sciences in Washington, D.C. Her writings have appeared in *Art and America*, *Seed Magazine*, *Nature Reviews Genetics*, *Art Journal*, *Tema Celeste* and *M/E/A/N/I/N/G*. Her work has been the subject of reviews and articles in the *New York Times*, *Artforum*, *Art in America*, *Flash Art*, and *Nature*. She has hosted twenty episodes of the Bio Blurb show, an Internet radio program originally on WPS1 Art Radio, in collaboration with MoMA in



NYC, now archived on Alana Heiss' Art On Air. She has been a speaker at Harvard University, Cambridge University, Yale University, the London School of Economics, the Max-Planck Institute, University of Leiden, the Hamburger Bahnhof Museum in Berlin, the Courtauld Institute of Art in London, Banff Art Center and many others. Chairing SVA's Fine Arts Department in NYC since 2005, Ms. Anker continues to interweave traditional and experimental media in her department's new digital initiative and the Nature and Technology BioArt Lab.

[bioart.sva.edu](http://bioart.sva.edu)

[www.suzanneanker.com](http://www.suzanneanker.com)



**Katie Dow** - My main research interest is the ethical dilemmas and questions provoked by reproduction and assisted reproductive technologies. As a research associate in ReproSoc, I am working on a research project on representations of IVF in the British media, focusing particularly on news and television media in the key period of the 1970s and 80s,

surrounding the birth of Louise Brown and the development of the Warnock Report. I am also writing a book called *Making a Good Life*, based on the ethnographic research I carried out for my PhD, which looks at middle class British people's ideas about the ethics of reproduction and assisted reproductive technologies. In the book, which is under contract with Princeton University Press, I trace the connections between how people think about the ethics of reproduction in their everyday lives, in a context of anxieties about environmental crisis and destruction of the natural world, intense public scrutiny of parenting and reproduction and the rise of biotechnology. I have also recently co-edited a special issue of *Ethnos: Journal of Anthropology* on the contemporary relationship between nature and ethics, which develops my key theoretical interests.



**Kay Elder** joined Bourn Hall in 1984 as Clinical Assistant to Patrick Steptoe, directing the Out-Patient Department from 1985-1987. Her scientific background as a research scientist at Imperial Cancer Research Fund prior to a medical degree at Cambridge University naturally led her to Bob Edwards and the IVF laboratory, where she worked as a senior embryologist from 1987. A programme of Continuing

Education for IVF doctors, scientists and nurses was established in 1989, which she directed for 16 years. During this period she also helped to set up and run two Master's degree programmes in Clinical Embryology, and she continues to mentor and tutor postgraduate students of Clinical Embryology at the University of Leeds. In her current role as Senior Research Scientist at Bourn Hall she co-ordinates research collaborations with the MRC Laboratory of Molecular Biology in Cambridge and the National Institute for Medical Research, now part of the new Francis Crick institute in London.



**Simon Fishel** is the CEO of the CARE Fertility Group – the UK's largest independent provider of fertility services. He began his research career at the University of Cambridge in 1975 with Bob Edwards, who was responsible with Patrick Steptoe for the birth of the first IVF baby in 1978. Simon joined Patrick and Bob at Bourn Hall as Deputy Scientific Director when it opened in 1980. He was part of the “original”

team of four (the other member being John Webster). Also in 1980 he was awarded the prestigious Beit Memorial Fellowship and appointed a Research Fellow at Churchill College, and on the same night as Bob Edwards he was appointed a Fellow of the same college. He has published over 200 papers and three books and his pioneering work in the field of IVF has

resulted in many honorary awards from countries such as Japan, Austria, Italy, South Africa and the US, amongst others. In 1992 he founded the world first degree course in IVF and he has advised several international Government committees reviewing policy and legislation on IVF, including advisors to the Vatican. In 1997 he was awarded a Personal Professional Chair in Human Reproduction, is an elected Fellow of the Society of Biology and in 2009 was honoured by the Liverpool John Moores University with their highest award of 'University Fellow' for "outstanding contribution to science and to humanity". Simon's interests span all elements of Human Reproduction, fertility and embryology and IVF technologies in particular.



**Sarah Franklin** is the Director of the Reproductive Sociology Research Group (ReproSoc) at Cambridge, which she founded in 2012. She is the Principle Investigator on the British Academy and the Economic and Social Research Council grants funding the IVF Histories and Cultures Project, and she holds a Wellcome Trust Senior Investigator Award to research the history of UK IVF as a case study in biomedical translation.

Originally trained in social anthropology and gender studies, Professor Franklin has substantially contributed to the social and cultural analysis of new reproductive technologies through a series of studies of IVF, PGD, cloning, and stem cell derivation. Her books include *Embodied Progress: a cultural account of assisted conception* (1997), *Dolly Mixtures: the remaking of genealogy* (2007) and *Biological Relatives: IVF, stem cells and the future of kinship* (2013). She is a co-editor with Martin Johnson of the new Elsevier journal, *Reproductive Biomedicine and Society* (RBMS) and a Fellow of Christ's College, where she chairs the Anne McLaren Trust. Franklin holds the Chair of Sociology at Cambridge, to which she was appointed in 2011.



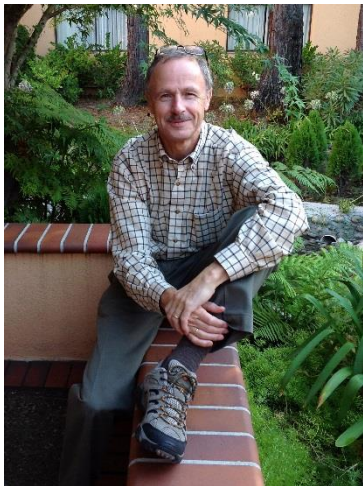
**Carrie Friese's** research is in medical sociology and science and technology studies, with a focus on reproduction across humans and animals. Her initial research in this area focused on the use of assisted reproductive technologies for human reproduction in the context of infertility, with a particular focus on ageing and motherhood. She then explored the development of interspecies nuclear transfer (aka cloning) for endangered species preservation in zoos. Here she asked

how notions of nature are being innovated in and through biotechnological development. Based on this research, she has also written and given talks on the ethics of de-extinction. Carrie has received a Wellcome Trust New Investigator Award for a new research project, entitled *Care as Science: The Role of Animal Husbandry in Translational Medicine*. This five year project (2015-2019) uses quantitative and qualitative research methods in a field analysis of in vivo science and translational medicine within the UK. It asks why an increasing number of scientists understand quality animal care as a scientific priority in the current socio-historical moment, and how this shapes and reshapes their scientific practices.



**Gina Glover** is a recipient of the Royal Photographic Society's Hood Medal, and twice winner of the Medical Research Council's Visions of Science Award. Her work ranges from playful explorations of the biomedical sciences, long term studies of way in which the landscape has been altered by human conflict, to social-psychological explorations of the

landscape. Glover's biomedical studies are exhibited in around 20 hospitals, clinics and private collections in Britain and worldwide, including the Gregor Mendel Institute, Austria. Her latest book, *The Metabolic Landscape*, features nuclear power in France, hydroelectric power in Wales, coastal erosion in England, coal mining in the Arctic, fracking in the USA and glacier melting in Greenland. It was published by Black Dog Publishing in June 2014. Gina Glover is a member of the ReproSoc Advisory Board.



**Roger Gosden, PhD, DSc** After graduate research and a fellowship supervised by Robert Edwards in Cambridge, he moved to Edinburgh University Medical School in 1976 where he taught physiology and established his first research team. He was appointed professor and research director in reproductive biology at Leeds University in 1994, to McGill University in 1999, and to the Howard and Georgeanna Jones Professorship of Reproductive Medicine at Eastern Virginia Medical School in 2001. His last full-time appointment was at Weill

Cornell Medical College in New York City, where the faculty included his wife, Lucinda Veeck Gosden, who was the Laboratory Director for America's first IVF baby. Oocyte development and fertility preservation have been the main focus of his research endeavors at home and for visiting professorships on three continents. He has been a book and journal editor, a conference organizer, and a consultant to industry and governments. In retirement from academia, he is pursuing a second career as an author, publisher and Virginia Master Naturalist based in Williamsburg.



**Zeynep Gurtin** has been a Research Associate in ReproSoc since 2012.

Her interests concern the social and ethical issues surrounding the globalization of assisted reproductive technologies. Her work specializes in three areas: IVF in the Middle East, egg-donation and egg-sharing, and "reproductive tourism". Her PhD thesis, "The ART of Making Babies", provides an analysis of the cultural constructions

of in vitro fertilization (IVF) in Turkey, combining archival analysis or media and regulatory materials with ethnographic research and in-depth interviews with IVF patients and practitioners.



**Nick Hopwood** is a Reader in the Department of History and Philosophy of Science, University of Cambridge, where he teaches history of science and medicine and runs the Wellcome Trust-funded 'Generation to Reproduction' programme that is reassessing the history of reproduction from antiquity to the present day. Trained in developmental biology, he is the author of *Embryos in Wax* (2002) and *Haeckel's*

*Embryos: Images, Evolution and Fraud* (2015), co-editor of *Models: The Third Dimension of Science* (2004), and co-curator of the online exhibition Making Visible Embryos ([www.hps.cam.ac.uk/visibleembryos](http://www.hps.cam.ac.uk/visibleembryos)). He is currently writing a history of visualizing human embryos, co-editing a book for CUP on *Reproduction: Antiquity to the Present Day* and working, with Martin Johnson and Sarah Franklin, on the history of IVF.





**Karen Jent** is a PhD student in ReproSoc whose project is an ethnography of regenerative medicine in Scotland and explores stem cell therapeutic development and the laboratory-based regrowth of tissues and organoids for the aging body. The project further examines technologies of translation that combine fundamental biology, clinical medicine and society. She received her M.A. (2013) and B.A. (2010) from the Department of Social and Cultural Anthropology at the University of Zurich. Funded by the Wellcome Trust and the Wenner Gren Foundation for Anthropological research, Karen's research concerns include questions of health and disease, knowledge and expertise, science and technology, aging and rejuvenation, biological matter and the body, gender and feminist theory.



**Martin Johnson** FRCOG, FMedSci, FRS is an Editor of RBM Online and Emeritus Professor of Reproductive Sciences in the Department of Physiology, Development and Neuroscience at the University of Cambridge. He was, with Richard Gardner, Bob Edwards' first graduate student (1966-1969), and opened the Nobel Symposium on Bob's work in Stockholm, 2010. He is author of *Essential Reproduction* (seventh edition, Wiley Blackwell, January 2013), co-editor of *Sexuality Repositioned* (2004), *Death Rites and Rights* (2007) and *Birth Rites and Rights* (2011), and has authored over 270 papers on reproductive and developmental science, history, ethics, law and medical education. He



was chair of the British Society for Developmental Biology (1984-89); the first CIBA Foundation Public Debate Annual Lecturer on “Human Embryo Research”, Swansea (1990); a member of the Human Fertilisation and Embryology Authority (1993–1999); treasurer and founding scientific member of the Cambridge Socio-legal group (2000-2014); and specialist scientific advisor to the Joint Lords and Commons Committee scrutinizing the Draft Human Embryos and Tissue Bill (2007). He is Fellow and Tutor at Christ’s College, where he was previously Vice Master and President.



**Janelle Lamoreaux** is a Wellcome Trust funded Research Associate in ReproSoc who specializes in the anthropology of science, technology and medicine with an emphasis on reproduction, kinship, and gender. As a recent graduate of the University of California and San Francisco's Joint Program in Medical Anthropology, her dissertation investigates the relationship between reproductive and environmental health in China, especially as it relates to male infertility. When not rambling around

Cambridgeshire or tending to her garden, Janelle is working on a book manuscript currently titled *Infertile Futures: Producing and Reproducing the Chinese Environment*.



**Hannah Landecker** holds a joint appointment in life and social sciences at the University of California Los Angeles, as an Associate Professor in the Department of Sociology and Acting Director of the Institute for Society and Genetics. She holds a PhD in Science and Technology Studies from

MIT, and worked in the fields of history of science and cultural anthropology before moving to UCLA in 2008. Her published work includes *Culturing Life: How Cells Became Technologies* (Harvard UP 2007), contributions to the literature on science and visualization centered on the use of film technologies in biology, and recently, antibiotic resistance and epigenetics. Her current ethnographic and historical work is focused on the intersections of metabolism, chromatin and society, which forms the basis of her current book project, *American Metabolism*.



**Merete Lie** is a social anthropologist and Professor at Norwegian University of Science and Technology (NTNU), Department of Interdisciplinary Studies of Culture. Her field of research is gender, science and technology; including globalization, ICT, ART and bioethics. She is at present leader of the research projects 'Inside Out' and 'Reproductive Relations: the

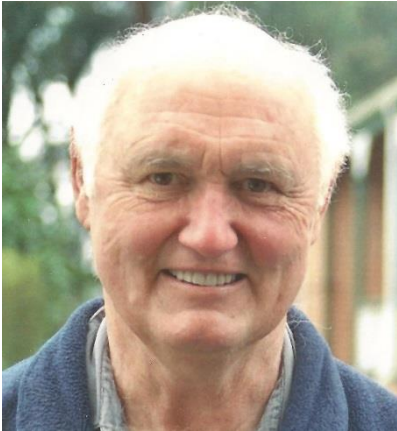
*production of gendered meaning in the field of reproduction*' (supported by Research Council Norway). She has edited/co-edited *Making technology our own? Domesticating technology into everyday life* (Scandinavian University Press 1996); *He, She and IT Revisited: new perspectives on gender in the information society* (Gyldendal Academic 2003); and *The Social Meaning of Children and Fertility Change in Europe* (Routledge 2013).

Merete Lie is head of the Centre for Gender Research at NTNU and leader of the National Research School in Gender Studies.



**Marilyn Monk** is a research scientist in the fields of molecular biology, early development and cancer. She is Emeritus Professor of Molecular Embryology at University College London, and Honorary Professor at Melbourne and Monash Universities, Australia. Her research began with bacteria - the study of DNA replication and repair, isolation of transmissible elements (plasmids), and

induction of bacteriophage lambda. This was followed by a move to cell signalling in the cellular slime mould, *Dictyostelium*, to define the parameters of aggregation of fields of single amoebae into a multicellular organism. With another career change in the early 70's, she refined her molecular techniques to enable studies of gene expression and its regulation in mouse early development. Her work resulted in several paradigm shifts – notably the discovery of the late origin of the germ line (disproving Weissman's doctrine of continuity of the germ line for mammals) and, following an early demonstration of epigenetic regulation of gene expression by methylation of the DNA base cytosine, the discovery of deprogramming and reprogramming in early development. Her group developed a wide range of single cell molecular techniques to study gene expression, gene modification and gene mutation at the sensitivity of the single cell. These techniques were applied in pioneering experiments to demonstrate the feasibility of pre-implantation diagnosis of genetic disease. In subsequent work, she hypothesised that deprogramming may also be an initiating event in tumour formation and, together with Cathy Holding, isolated embryonic genes that were re-expressed in cancers. Embryo/cancer genes, not expressed in normal tissues, might lead to a prophylactic vaccine to prevent cancer with ageing.



**Robert Moor** was awarded his doctoral degree by the University of Cambridge for studies on the maternal recognition of pregnancy. Much of his subsequent research has centred around the oocyte, the regulation of meiosis and the nature of the ovarian environment in which the egg develops. It was through this work that he became involved in IVF during its formative stages. His present interests are focused

on two sets of signals; those that regulate stem cell function and others that control the masking and subsequent recruitment of stored mRNAs in mammalian oocytes. He is a member of the ReproSoc Advisory Board.



**Dmitriy Myelnikov** completed his PhD in 2015 titled "Transforming Mice: Technique and communication in the making of transgenic animals, 1974–1987". His interests lie in the history and sociology of post-war biomedical sciences, human-animal interactions and science-media relations. He is soon to undertake a postdoc at the University of Edinburgh titled "Historicising Dolly: An Edinburgh-centred case study on the origins of animal biotechnology".



**Jesse Olszynko-Gryn** is a Wellcome Trust-funded Research Associate in the Department of History and Philosophy of Science, University of Cambridge. I am currently writing a book on the history of pregnancy testing in Britain. The first in-depth account of pregnancy testing for any period or country, it places the business of laboratory and home diagnostics more centrally in our

historical understanding of modern medicine and motherhood. I am also organising a workshop on "reproduction and film" with Caitjan Gainty (KCL) and Patrick Ellis (Berkeley), and writing an article with Ellis on overpopulation in science fiction cinema. Previously, I have published on laparoscopy as a technology of population control and (with George Weisz) on epidemiologic transition theory.



**Manuela Perrotta** is a Lecturer in Technology and Organisation at Queen Mary, University of London. Her research work is at the interface between Organization Studies on the one hand and Science and Technology Studies on the other. Her main

research interests concern the relation among learning, work and innovation in organizations. Her forthcoming research focuses on the study of techno-organizational innovations, especially in the fields of healthcare and biotechnologies. In the last years she has published in Italian and international journals such as "Organization", "Management Learning", "Society and Business Review", "Rassegna Italiana di Sociologia", "Studi Organizzativi". She is currently on the Editorial Board of *Tecnoscienza – Italian Journal of Science and Technology Studies*.



## **Gaëlle Recher**

I study molecular, cellular and tissue organization and rearrangements involved in morphogenetic processes with multiscale and multimodal approaches using, among other techniques, 3D+time multiphoton imaging. In 2006 I completed my Masters degree in Neuroscience at the University Pierre & Marie Curie in Paris. Following this I undertook my PhD from 2006 to 2010 at the University of Rennes under the supervision of Professor François Tiaho. I studied the fine molecular organization of myosin thick filaments within the skeletal muscle sarcomere by characterizing and quantifying the “Second Harmonic Generation” (SHG) signal emitted by the myosin helix. We proved this method is extremely sensitive to detect subtle changes in thick filaments alignment in the sarcomere prior to more severe damages, notably in muscular dystrophies. In 2011 I joined Nadine Peyri  ras CNRS lab in Gif-sur-Yvette. I studied cell and tissue morphodynamics during early zebrafish larva brain segmentation and established the lineage of neural progenitors that colonize the optic tectum. Last year (2014) I joined Professor Magdalena Zernicka-Goetz’s group at Cambridge to investigate the role of intracellular signaling in cell organization during pre- to post-implantation development of the mouse embryo and to establish two-photon imaging and 4D analyses of morphogenesis.



**Susan Merrill Squier** is Brill Professor of Women's, Gender and Sexuality Studies and English at Penn State University, where she also served as Acting Director of the STS Program. She is the author or editor of nine books, including *Graphic Medicine Manifesto* (2015), *Babies in Bottles: Twentieth-Century Visions of Reproductive Technology* (1984), *Liminal Lives: Imagining the Human at the Frontiers of Biomedicine* (2004) and *Poultry Science, Chicken Culture: A Partial Alphabet* (2011). She has been

scholar in residence at the Max Planck Institute for the History of Science, Berlin (2015), the Zentrum für Literatur-und Kulturforschung (2014), The Bellagio Study and Conference Center (2001), Visiting Distinguished Fellow, LaTrobe University, Melbourne, Australia, and Fulbright Senior Research Scholar, Melbourne, Australia. She is Advisory Board Member of SymbioticA Biological Arts (Perth) and of SLSA. She is a section editor of *Reproductive BioMedicine and Society*, and a member of the editorial boards of *Configurations*, *Literature and Medicine*, *Journal of the Medical Humanities*. Her co-edited special issue of *Configurations: A Journal of Literature, Science and Technology* on "Graphic Medicine" was published by Johns Hopkins University Press in 2014, and she is co-editor of the book series Graphic Medicine at Penn State University Press. She serves as co-organizer of the international series of annual conferences on comics and medicine, which have taken place in London, Chicago, Toronto, Brighton UK, Baltimore MD, and—in July 2015--Riverside, California. She is currently finishing a book provisionally entitled *Epigenetic Landscapes*.





**Charis Thompson** joined the Department of Sociology, LSE from the University of California, Berkeley where she was Professor of Gender & Women's Studies and a former Director of the Science, Technology, and Society Center. Before moving to Berkeley, she was in the History of Science Department at Harvard University. She is the author of *Making Parents: The Ontological Choreography of Reproductive Technologies*, which won the 2007 Rachel Carson Award from

the Society for the Social Study of Science, and of *Good Science: The Ethical Choreography of Stem Cell Research* (MIT Press 2013). She is currently conducting a comparative research project on Science Elites in the US and UK. She is a recipient of UC Berkeley's Social Science Distinguished Teaching Award. She received her PhD from the Sociology (Science Studies) program at UC San Diego, and her BA in Philosophy, Psychology, and Physiology at Oxford University.



**Lucy van de Wiel** is a funded PhD candidate at the Amsterdam School of Cultural Analysis, University of Amsterdam, under the supervision of Prof. dr. Mieke Bal, Prof. dr. José van Dijck and dr. Esther Peeren. Her research focuses on the changing understandings of ageing and the reproductive body as displayed in public, political and medical discourses surrounding oocyte cryopreservation.

Lucy van de Wiel holds a BA (English Language and Culture, *cum laude*)

and Research MA (Cultural Analysis, cum laude) from the University of Amsterdam. She pursued postgraduate studies as a HSP and Fulbright grantee in Rhetorics at the University of California, Berkeley and was Graduate Research Assistant of Professor Judith Butler. Lucy did an internship at UNESCO, Paris, worked for the executive boards of the UvA, VU and has been a 3-year member of the accreditation committee of research masters for the Royal Dutch Academy of Arts and Sciences (KNAW). Prior to the start of the PhD project, she graduated with distinction in the MA Film Curating at the London Film School and London Consortium, University of London. Lucy will be joining ReproSoc as a Wellcome-funded Research Associate in November 2015.



**Andrew Webster** is Director of the Science and Technology Studies Unit (SATSU), at the University of York. He was founding Director of SATSU in 1988. He was Director of the £5m ESRC/MRC Innovative Health Technologies Programme, is member of various national Boards and Committees (including the UK Stem Cell Bank Steering Committee and the Regenerative Medicine Expert Group) and was Specialist Advisor to the House of Commons Health Select Committee. He was national co-ordinator the ESRC's £3.5m Stem Cells Initiative (2005-9)

and is PI on a £1.5m ESRC-funded project on regenerative medicine, 'REGenableMED'. He is Co-Editor of the Health Technology and Society Series published by Palgrave Macmillan. His recent books include *The Global Dynamics of Regenerative Medicine* (2013). He was elected a Fellow of the

Academy of Social Sciences in 2006. He was Head of the Department of Sociology 2005-9 and Dean of Social Sciences, 2009-13 at York.

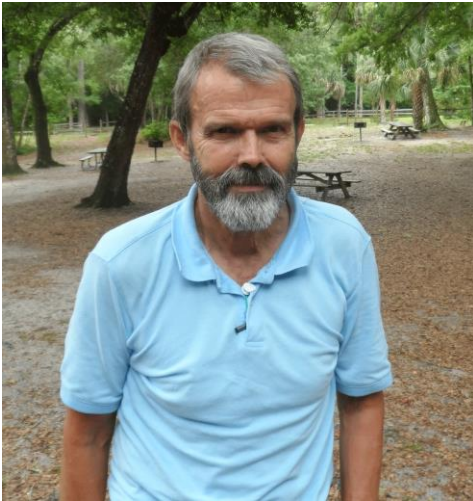


### **David Whittingham**

Emeritus Professor of Embryology St George's, University of London. Former Director of the MRC Experimental Embryology Unit and Professor Reproductive Physiology, Medical School University of Hawaii. His initial studies were on the nutrient requirements of the early mammalian embryo and the problems of the so-called "2-cell block" experienced by mouse embryos grown *in vitro*. He found

that pyruvate was the only extracellular energy source able to support maturation of the mouse oocyte and development of the zygote through the first cleavage division. Much of this early work contributed to the development of suitable media for oocyte maturation, IVF, embryo culture, transfer and storage in the human and other mammals. He achieved the first successful fertilization of mouse oocytes *in vitro* and the birth of live young. At the time it was only the second mammal in which IVF and the birth of live young had been obtained. Interest in low temperature storage of embryos led to the first successful preservation of mouse embryos. The basic technique has been adapted and used successfully for a variety of mammals including domestic livestock and the human. Some other achievements in gamete and embryo storage were vitrification of oocytes and embryos, freeze-drying of sperm and cryopreservation of primate and rodent ovarian tissue. He also contributed to our knowledge of the activation of the mammalian egg at fertilization through studies of parthenogenesis and fertilization. Together with his student Roy

Cuthbertson they discovered the unique pattern of  $\text{Ca}^{2+}$  oscillatory activity initiated in the mammalian oocyte by the fertilizing spermatozoon. Subsequently his colleague Karl Swann showed that a protein isolated from sperm triggers this unique pattern of oscillatory activity. In the 1980s colleagues in his Unit were responsible for producing the first animal model with a pre-selected genetic modification - the HPRT-deficient mouse model of Lesch-Nyhan syndrome - from a spontaneous mutation in a mouse embryonic stem cell line. With this model he showed together with Alan Handyside and Marilyn Monk the feasibility of diagnosing an inherited defect in an embryo before implantation. David is a member of the ReproSoc Advisory Board.



### **Steen Malte Willadsen**

Born in 1943 in Copenhagen. Married since 1985. Two children. Graduated from the Royal Veterinary College in Copenhagen 1969. After one and a half years in general practice, three years as a research student at the Royal Veterinary College. Major themes: In Vitro Maturation of Bovine Oocytes, and Bovine Leucocyte

Histocompatibility Antigens. Research scientist at the Animal Research Station, Cambridge, 1973-85. Main themes: Embryo Freezing (with a view to long term storage and long distance transport of livestock embryos, Blastomere Separation & Aggregation (with a view to production of genetically identical animals and chimaeras), and Nuclear Transfer Involving Eggs and Embryos (with a view to cloning of livestock embryos and animals). From 1985 to 1992, cattle embryo cloning ventures in Texas and subsequently Alberta. Between 1994 and 2008, experimental embryology

in the mouse and human in New York and New Jersey, and, in the nineties, clinical human embryology in Orlando. Main themes: Egg activation, Parthenogenesis, Embryo Fragmentation, Nucleus and Spindle Manipulation, Nucleus/Cytoplasm Transfer within and between Species, Alternative Approaches to Fertilization, Intra- and Inter-species Chimaerism, and Instrumentation and Procedures of Relevance in Embryo Culture and -Manipulation. Since 2008: cooling of heels and reflection in Orlando, Florida.

# Generation to Reproduction

Cambridge historians of medicine and biology are using a Wellcome strategic award to take a concerted approach to the history of reproduction. The cross-disciplinary group of researchers will offer fresh perspectives on issues ranging from ancient fertility rites to IVF. Building on a lively field of historical investigation, this will provide a fresh basis for policy and public debate.

‘Generation’ and ‘reproduction’ are at the heart of ‘life-cycle’ medicine. They involve

- theories of sex and gender;
- entities such as seeds, germs, embryos, monsters and clones;
- concerns about creation, evolution, degeneration and regeneration;
- investments in maternity, paternity and heredity;
- practices of fertility control, potency and childbirth; and
- health relations between citizen and state, individual and population.

‘Generation to reproduction’ thematizes gradual, long-term shifts and modern transformations. Within an all-encompassing process of ‘generation’, the human acquisition of a rational soul was the crucial event. In the era of revolutions around 1800 this gave way to the more narrowly framed ‘reproduction’. Reproduction became an object of scientific knowledge, a target of medical and agricultural intervention, and a project for pressure-groups and states seeking to improve the quantity and quality of populations. Since World War II, scientific, social and ethical innovation has been particularly dramatic. But the term ‘generation’ has not disappeared; it has rather acquired new meanings, from ‘F1’ to ‘generation X’.



The Reproductive Sociology Research Group was established in October 2012 to develop and support funded research on the technological transformation of reproduction and related forms of social and cultural change. Led by Sarah Franklin, ReproSoc is designed to add a sociological perspective to the wider context of reproductive studies at Cambridge, and to extend the focus on reproduction established by the Cambridge Interdisciplinary Reproduction Forum (CIRF), the Generation to Reproduction Programme led by Nick Hopwood, and the Centre for Family Research directed by Susan Golombok. ReproSoc is based in the Department of Sociology and has funding from the Wellcome Trust, British Academy, ESRC, ERC and Office of the Vice Chancellor. The group currently consists of 15 members who meet regularly throughout the year to share and develop research in progress. Our five postdocs are Zeynep Gurtin, Katie Dow, Janelle Lamoreaux and Marcin Smietana. Our Research Administrator is Rhiannon Williams, and Martin Johnson is a Consultant to the research group. Six PhD students are linked to ReproSoc: Robert Pralat, Katie Hammond, Melisa Trujillo, Dilar Dirik, and Karen Jent. The group also hosts a Visiting Scholars programme, an MPhil student programme, and Affiliated Scholars from within and outside Cambridge. Our research covers a broad range of topics from cross-border reproductive care, the history of IVF, reproduction and the environment, infertility and toxicology in China, gay men's use of surrogacy, non-heterosexual parenting aspirations, regenerative medicine, the IVF-stem cell interface, and IVF in Turkey. By developing new sociological approaches to the intersection of reproduction and technology, our aim is to develop more generalizable claims about, for example, changing definitions of nature and ethics, the biologization of technology, translational biomedicine, and the political economy of reproduction. Our work thus contributes to sociology and anthropology,



science and technology studies, social and oral history, feminist and queer theory, and the social study of biomedicine, bioscience and biotechnology, as well as other fields. We run a programme of visiting speakers, public lectures, workshops, conferences and other events that are open to the public and we welcome enquiries about us and our work via our webpage, which offers many resources related to the study of reproduction, technology and society. You can follow us on Twitter and Facebook, or join our mailing list for updates and announcements. We are committed to making outreach not only part of what we do, but part of how we learn, so we look forward to hearing from you and hope you visit us soon. Sign up for our newsletter to keep in touch with ReproSoc as we continue to grow and change.

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Christ's College Cambridge



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