



ICGEB International Centre for Genetic
Engineering and Biotechnology

Meetings and Courses 2022

ICGEB Workshop

Genome editing to generate cellular and animal models of human diseases

13-16 September 2022 | Cape Town, SOUTH AFRICA

Organizer:

Frank Brombacher, ICGEB Cape Town, South Africa

Co-organizers:

Reto Guler, ICGEB Cape Town / University of Cape Town (UCT), South Africa

Bert Mohr, University of Cape Town (UCT), South Africa

Luiz Zerbini, Director, ICGEB Cape Town, South Africa

Marcello Raspa, CNR and EMMA Infrafrontiers, Rome, Italy

Serena Zacchigna, ICGEB, Trieste, Italy

Andrés Muro, ICGEB, Trieste, Italy

Tuesday 13 September 2022

9h30 - 9h45	Prof. Frank Brombacher, ICGEB Cape Town, South Africa	Opening remarks
9h45 - 10h00	A/Prof. Reto Guler, ICGEB Cape Town and UCT, Cape Town, South Africa	Opening remarks
10h00 - 10h15	Coffee / Tea break	
10h15- 12h15	Munadia Ansarie, ICGEB Cape Town, South Africa Mrs. Zarinah Sunday, ICGEB Cape Town, South Africa	PCR Intro & Basic principles PCR set-up Agarose gel casting
12h15 - 12h45	Lunch	
13h00 -13h05	Dr. Marcello Raspa, CNR, Rome Italy Dr. Andrés Muro ICGEB Trieste, Italy Prof. Serena Zacchigna, ICGEB Trieste, Italy	Opening remarks

13h05 -13h40	Dr. Steve Brown, FRS FMedSci Director, MRC Harwell Institute, Mammalian Genetics Unit Harwell Campus, UK	Deciphering the genetic bases for disease: The International Mouse Phenotyping Consortium and the generation of a comprehensive catalogue of mammalian gene function
13h40 - 14h15	Prof. Wolfgang Wurst, Director Institute of Developmental Genetics Helmholtz Zentrum München (IDG), Germany	CRISPRa to reprogram astrocytes into neurons <i>in vivo</i>
14h15 -14h50	Dr. Lluís Montoliu, Deputy Director, National Centre for Biotechnology (CNB-CSIC) and Center for Biomedical Network Research on Rare Diseases (CIBERER-ISCI11), Madrid, Spain	How novel genome-edited mouse models have been instrumental in biomedicine
14h50 -15h00	Dr. Marcello Raspa, CNR, Rome Italy Dr. Andrés Muro ICGEB Trieste, Italy Prof. Serena Zacchigna, ICGEB Trieste, Italy	Conclusions
15h00 - 15h15	Tea / Coffee break	
15h15 -16h00	Munadia Ansarie, ICGEB Cape Town, South Africa Mrs. Zarinah Sunday, ICGEB Cape Town, South Africa	Gel electrophoresis Basic Principles Load & run gels
16h00 - 16h30	Ms. Kerith Coulson, UCT Research Animal Facility, Cape Town, South Africa Dr. John Chipangura, UCT Research Animal Facility, Cape Town, South Africa	Welcome & Introduction Animal course aims, program outline UCT Research Animal Facility A resource for Africa
16h30 - 17h00	Munadia Ansarie, ICGEB Cape Town, South Africa Mrs. Zarinah Sunday, ICGEB Cape Town, South Africa	Gel imaging

Wednesday 14 September 2022

9h15 - 10h00	Dr. Bert Mohr, Director UCT Research Animal Facility, Cape Town, South Africa	The Use of Animals for Scientific Purposes Animal ethics- Moral Concepts & Ethical Principles
10h00 - 10h15	Coffee / Tea break	
10h15 - 11h00	Dr. Bert Mohr, Director UCT Research Animal Facility, Cape Town, South Africa	Genetics & Health Status
11h00 - 11h30	Dr. Bert Mohr, UCT Research Animal Facility, Cape Town, South Africa	Endpoints in Animal Studies
11h30 - 12h15	Dr. John Chipangura, UCT Research Animal Facility, Cape Town, South Africa	Ethics in methods of collecting specimens from animals
12h15 - 12h45	Lunch	
13h00 -13h05	Dr. Marcello Raspa, CNR, Rome Italy Dr. Andrés Muro ICGEB Trieste, Italy Prof. Serena Zacchigna, ICGEB Trieste, Italy	Opening remarks
13h05 -13h40	Dr. Yann Herault - Institut de Génétique et de Biologie Moléculaire et Cellulaire, IGBMC, Department of Translational Medicine and Neurogenetics	How research in model organisms shed some light on the pathophysiology of Down syndrome
13h40 - 14h15	Dr. Andrés Muro, Mouse Molecular Genetics, ICGEB, Trieste, Italy	Developing liver-specific gene therapy approaches using genetically modified mouse models: from the bench to the bedside
14h15 -14h50	Prof. Serena Zacchigna, Head, Cardiovascular Biology, ICGEB and University of Trieste ICGEB, Trieste, Italy	Mouse models of cardiovascular diseases
14h50 -15h00	Dr. Marcello Raspa, CNR, Rome Italy Dr. Andrés Muro ICGEB Trieste, Italy Prof. Serena Zacchigna, ICGEB Trieste, Italy	Conclusions
15h00 - 15h15	Tea / Coffee break	

15h15 -15h30	Mr. Igshaan Small, UCT Research Animal Facility, Cape Town, South Africa	Principles of handling rodents
15h30-17h15	Mr. Rodney Lucas, UCT Research Animal Facility, Cape Town, South Africa	Mice: Allocation of animals Welfare assessment criteria Handling, restraint, weighing Sexing, procedures, Welfare monitoring: Macro & Microenvironment and record keeping

Thursday 15 September 2022

9h15 - 10h00	Sr. Janet McCallum, UCT Research Animal Facility, Cape Town, South Africa	Welfare Monitoring and Severity Classification
10h00 - 10h15	Coffee / Tea break	
10h15 - 11h00	Dr. Tashie Makwavarara, UCT Research Animal Facility, Cape Town, South Africa	Basic & Applied Biology, Breeding Programs
11h00 - 11h30	Ms. Busi Mogodi, UCT Research Animal Facility, Cape Town, South Africa	Animal Housing & Care
11h30 - 12h15	Ms. Kerith Coulson, UCT Research Animal Facility, Cape Town, South Africa	Environment & Facility Management
12h15 - 12h45	Lunch	
13h00 -13h05	Dr. Marcello Raspa, CNR, Rome Italy Dr. Andrés Muro ICGEB Trieste, Italy Prof. Serena Zacchigna, ICGEB Trieste, Italy	Opening remarks
13h05 -13h40	Dr. Neil Humphreys, EMBL, Rome	TBC
13h40 - 14h15	Dr. Rob Taft, The Jackson Laboratory, Maine	Beyond breeding - ARTs for Colony Management
14h15 -14h50	Prof. Kent Lloyd, UC Davis, California	Embryo manipulation via multiple assisted reproductive technologies
14h50 -15h00	Dr. Marcello Raspa, CNR, Rome Italy Dr. Andrés Muro ICGEB Trieste, Italy Prof. Serena Zacchigna, ICGEB Trieste, Italy	Conclusions
15h00 - 15h15	Coffee / Tea break	

15h15 -15h30	Mr. Rodney Lucas, UCT Research Animal Facility, Cape Town, South Africa	Practical Animal Welfare Monitoring
15h30 -17h15	Sr. Janet McCallum, UCT Research Animal Facility, Cape Town, South Africa	Rats: Allocation of animals Welfare assessment criteria Handling, restraint, weighing Sexing, procedures, Welfare monitoring: Macro & Microenvironment and record keeping
19h00	Social Dinner	

Friday 16 September 2022

10h30 - 11h15	Mr. Jabu Magagula, UCT Research Animal Facility, Cape Town, South Africa	Quality Assurance in the Animal Research Environment
11h15 - 11h30	Coffee / Tea break	
11h30 - 12h30	Mr. Jabu Magagula, UCT Research Animal Facility, Cape Town, South Africa	UCT Research Animal Facility Tour
12h30 - 12h45	Prof. Frank Brombacher, ICGEB, Cape Town, South Africa A/Prof. Reto Guler, ICGEB Cape Town and UCT, Cape Town, South Africa	Closing remarks
12h45 - 13h30	Lunch	
14h00 - 17h00	City Sightseeing Tour Bus	