TUESDAY 19 November

08.00    Bus departure from city centre

08.30-09.30  Workshop Registration
            Congress Centre, AREA Science Park, Padriciano
            Campus - Building 'C1'

09.30-10.00  Welcome address

SESSION 1. GENOME EDITING: what it is and what it can do
This session will illustrate the GENOME EDITING approach, with a particular focus on:

• How is genome editing impacting basic and applied research?
• Why has genome editing been defined as a disruptive technology?
• What are the current and foreseeable applications?

10.00-10.30  Anna Cereseto, University of Trento, Italy    Life science in the CRISPR era

10.30-11.15  Oral contributions from participants (2)

10.30       Bibiana Iraki                          Communicating Gene Editing: Models that Work

10.45       Tanushri Kaul                         Developing glyphosate resistant crop lines use
            CRISPR-Cas9 system

11.15-11.45  Coffee break
SESSION 2. GENOME EDITING IN PRACTICE
This session will deal with general applications of genome editing (thus covering all organisms) and, in comparison with other established genetic modification techniques, a number of topics that are of critical importance with respect to their safe use will be highlighted. In particular, discussions will focus on:

- Predictability of the intended change
- Stability of the change
- Multiple edits
- Detection, identification, quantification and traceability of changes
- Unintended changes and effects
- Biosafety aspects, including those derived from DIY applications, environmental escape and dual use

11.45-13.15  Julia Jansing, Maastricht University, The Netherlands  Current technical limitations and future developments in plant genome editing
Nils Rostoks, University of Latvia  Considerations for the risk assessment of genome-edited organisms
Jana Murovec, University of Ljubljana, Slovenia  DNA-free genome editing of higher plants

13.15-14.45  Lunch break

14.45-15.45  Marcello Raspa, EMMA Monterotondo, Italy  Genome editing in animals
Andres Muro, ICGEB Trieste, Italy  Therapeutic genome editing in animal models

15.45-16.15  Coffee break

SESSION 3. BEYOND GENOME EDITING
The session will discuss the most recent uses of genome editing, other than applications for DNA editing.

- CRISPR as diagnostic tool for detection and traceability
- Further evolution to be expected in genome editing technologies

16.15-17.15  Roberto Galizi, Imperial College London, UK  Engineering genetic tools to fight malaria
Jessica Uwanibe, ACEGID, Redeemer's University, Nigeria  CRISPR as diagnostic tool

17.15-18.15  Oral contributions from participants (4)
Tesfaye Disassa Bitema  Two Decades of Agricultural Biotechnology Research and Development in Ethiopia
Natalya Permyakova  Inactivation of the gfp gene by RGEN in Arabidopsis thaliana suspension cell culture
Wilton Mwema Mbinda  Genome editing in finger millet blast resistance
Weerasak Pitaksaringkarn  Developments of qualitative multiplex real-time PCR for screening GM plant

18.30  Bus to city centre
SESIION 4. THE SPECIAL CASE OF APPLICATIONS OF GENOME EDITING IN HUMANS

The session will deal with applications of genome editing in humans, with a special focus on:

- What are the current and foreseeable applications in humans?
- Ethical aspects

09.00-10.00  
Mauro Giacca, King’s College London and ICGEB  
Alessandra Recchia, University of Modena and Reggio Emilia, Italy

10.00-10.30  
Coffee break

SESSION 5. CURRENT LEGISLATIONS AND REGULATORY FRAMEWORKS

This session will discuss the fundamentals of regulatory frameworks in different countries, as a basis for authorised access and use of the technology:

- What is the current situation in relation to legislation overseeing the use of genome editing?
- What are the most relevant policy challenges?

10.30-12.30  
Rishi Kumar Tyagi, Asia-Pacific Consortium on Agricultural Biotechnology and Bioresources, Thailand

Michael Morrison, HeLEX - Centre for Health, Law and Emerging Technologies, University of Oxford

Patrick Rüdelsheim, PERSEUS bvba, Belgium

Michele Garfinkel, EMBO

12.30  
GROUP PHOTO

12.45-14.00  
Lunch break

14.00-15.00  
Contributions from participants (4)

Reham Dawood  
Saumya Shah

Andres Gatica-Arias

Theophilus Mwendwa Mutui

15.00-16.30  
Coffee break with posters

16.30-17.30  
Conclusions and recommendations (results of the questionnaire)
End of the workshop
17.30  Get together
19.00  Bus to city centre

THURSDAY 21 November

08.30  Bus departure from city centre
09.00-09.30 Practical Course Registration  ICGEB Foyer, 'W' Building

Genome editing in practice – Workshop theoretical and practical sessions
(Admission to the practical session limited to 20 selected participants)

GENOME EDITING IN BACTERIA AND PLANTS  ICGEB Seminar Room, 'W' Building
09.30-10.30  Guido Grandi, University of Trento, Italy  Synthetic biology of bacterial outer membrane vesicles (OMVs) for the development of vaccines against infectious diseases and cancer
10.30-11.00 Coffee break  ICGEB Foyer
11.00-11.45 Jana Murovec  Current techniques for genome editing in plants
11.45-12.30 Andres Muro, ICGEB Trieste, Italy  Genome editing applied to biomedical research
12.30-13.30 Discussion
Introduction to the Practical Session
13.30-14.30 Lunch break  Cafeteria, Ground Floor, 'C' Building

PRACTICAL SESSION
14.30-17.30 Admission reserved to 20 selected participants  ICGEB Teaching Lab, 'F2' Building
17.30  Bus to city centre

FRIDAY 22 November

08.30  Bus departure from city centre

PRACTICAL SESSION
09.00-11.00 Admission reserved to 20 selected participants  ICGEB Teaching Lab
11.00-11.30 Coffee break  ICGEB Foyer
11.30-13.30 Admission reserved to 20 selected participants  ICGEB Teaching Lab
13.30-14.30 Lunch break  Cafeteria, Ground Floor, 'C' Building
14.30-16.00 Admission reserved to 20 selected participants  ICGEB Teaching Lab
16.00  End of the practical sessions and bus to city centre