



## **ISBR Symposium in Ghent, Belgium**

### **Workshop 2: Ethics and Evolution (4 November 2025 – 14:00-17:00)**

#### **Organisers:**

René Custers (Vlaams Instituut voor Biotechnologie, VIB, Belgium)

Detlef Bartsch (Federal Office for Consumer Protection and Food Safety, BVL, Germany)

#### **Outline:**

Our abilities to intervene in the genetic material of organisms have gradually grown and have gained additional momentum with the introduction of technologies such as CRISPR and now also artificial intelligence. This enables us to develop organisms with certain characteristics more precisely. Until now, GMOs have almost all been introduced into heavily managed environments such as agricultural cropland. These GMOs have not been introduced with the intention to have effects outside agricultural fields, on the contrary. And the risk assessments for those GMOs were heavily focused on preventing undesired effects outside agricultural fields. But now with the advent of these new techniques, organisms may be proposed and developed with the goal to introduce them to have intended effects on the natural environment, including potentially on biodiversity and evolution. Currently, most focus is mitigating diseases that are transmitted by for instance insects. Other proposals are aimed at benefits for the environment e.g. protecting endangered species and environmental remediation. But such interventions might have lasting effects on the environment and could in some cases lead to the establishment of engineered organisms in the environment. These developments raise intricate questions concerning ethics and sustainability. Biodiversity is declining and the amounts of natural habitats are decreasing. The workshop aims to address this question: Given the crisis for biodiversity, should we be engineering organisms for the natural environment and what is ethical and what is sustainable in this context?

Key issues and further questions are:

- What is “Evolution”?
- Humans playing God?
- Humans and Nature – anthropocentric or nature focus
- Societal values and biodiversity conservation
- Concepts of “Evolutionary integrity”
- Intrinsic value (“Eigenvalue”) of Nature
- What is “Environmental damage” in relation to evolution?

# Workshop schedule

## **Part 1: Setting the Scene**

14h00 – 15h30

Short introduction to the workshop (5')

*Detlef Bartsch*

### **1.1 Introductory talks (15' per talk)**

- A. Evolution - Considerations of ecological thinking to risk assessments  
Michael Bonsall, University of Oxford, United Kingdom
- B. Human intervention – Ethical considerations  
Benedikt Schmidt, Theology, Humboldt University, Berlin, Germany
- C. Philosophical aspects for gene drive applications  
Rachel A. Ankeny FAHA FASSA, Philosophy Group (CPT), Wageningen University, The Netherlands

### **1.2 Panel Discussion with Speakers and additional Panel Experts (40')**

#### Additional Panel Experts

- a) Kevin Esvelt, MIT Media Lab, USA
- b) Jeantine Lunshof – TBC

Moderation of the panel discussion : René Custers

### **Short break (5')**

## **Part 2: World Café (1.5 h)**

Interactive Session with workshop participants

Short introduction on how the world café will work (5')

*Detlef Bartsch*

### **2.1 Table Rounds (45')**

Table A: Consensus arguments for “ethical acceptance” of evolutionary change

Moderator : Detlef Bartsch

Table B: Consensus arguments for “ethical unacceptance” of evolutionary change – René Custers

Table C: Best practice for decision making – Oana Dima

### **2.2 Wrap up of the Results**

### **2.3 Final discussion and Summary by the Organisers**