## MODERN SCIENTIFIC **APPROACHES**



Inimal Technologies

**Organoids** 

Mini organs grown from human cells



Organ-on-a-chip

Organ cultures interconnected via simulated blood stream



**3D Bioprinting** 

**Printing 3-dimensional** tissue models



In silico approaches

Computer-based techniques and mathematical modelling



## **Simulators**

Simulation of living systems by mechanical engineering



**Epidemiological Studies** 

High-throughput analyses of human data



The NAT database (Non-Animal Technologies) is a project of Doctors Against Animal Experiments (DAAE) and gives an overview about animal-free research technologies that are developed all over the world.

- · Freely available at www.nat-database.org
- · Available in English and German
- Contains more than 2,100 entries and is continuously updated
- · Free full text search or search by keywords
- Filter options such as research area (e.g. oncology, toxicology, drug development) or research model (e.g. organ-on-a-chip, in silico)
- Includes validated methods regulatory accepted by ECVAM or OECD
- · Targeting scientists, students, regulators and politicians
- The NAT database won two awards: the international Lush Prize and the Lower Saxony Animal Welfare Prize.

Entries contain a short abstract of the respective technology as well as information on contact persons including affiliations and references such as peer-reviewed publications or press releases from universities and research institutes. Commercially available technologies and research models such as microphysiological systems or advanced human cell culture models are also included.

## Imprint:

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