Toward an Evidence-based toxicology

Thomas Hartung

Doerenkamp-Zbinden Professor and Chair for Evidence-based Toxicology,

Director, Center for Alternatives to Animal Testing (CAAT)

Johns Hopkins University, Baltimore, US

& Professor of pharmacology and toxicology, University of Konstanz, Germany

R22 harmful if swallowed

(LD_{50} = 200mg/kg in rats)

R 36 irritant to eyes

R 37 respiratory irritant

R 38 irritant to skin

Not carcinogenic,
but co-carcinogen (promotor)

Unclear mutagenicity

Embryonic malformations in
cat, dog, rat, mice, rabbit, monkey

Unlikely to be brought to the market today

Actual use of aspirin

- **> one million billion doses taken**
- **50,000 tons produced and 35,000 tons consumed per year**
- **>23,000 scientific papers on aspirin**
- **74 percent of the US population regards Aspirin as the eighth wonder of the world**
- **840 million $ sales per year (35-40% in US)**
- **Britons: average 70 per person per year**
- **Even used for pre-eclampsia in pregnancy**

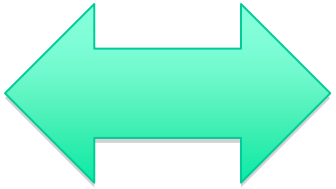
CAAT

Promoting alternatives to animal testing because these are not always fit for purpose

Product safety

Agent discovery

Basic Research



Animal suffering

Quality of prediction

Through-put

EU REACH feasibility

picture
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Originally expected:

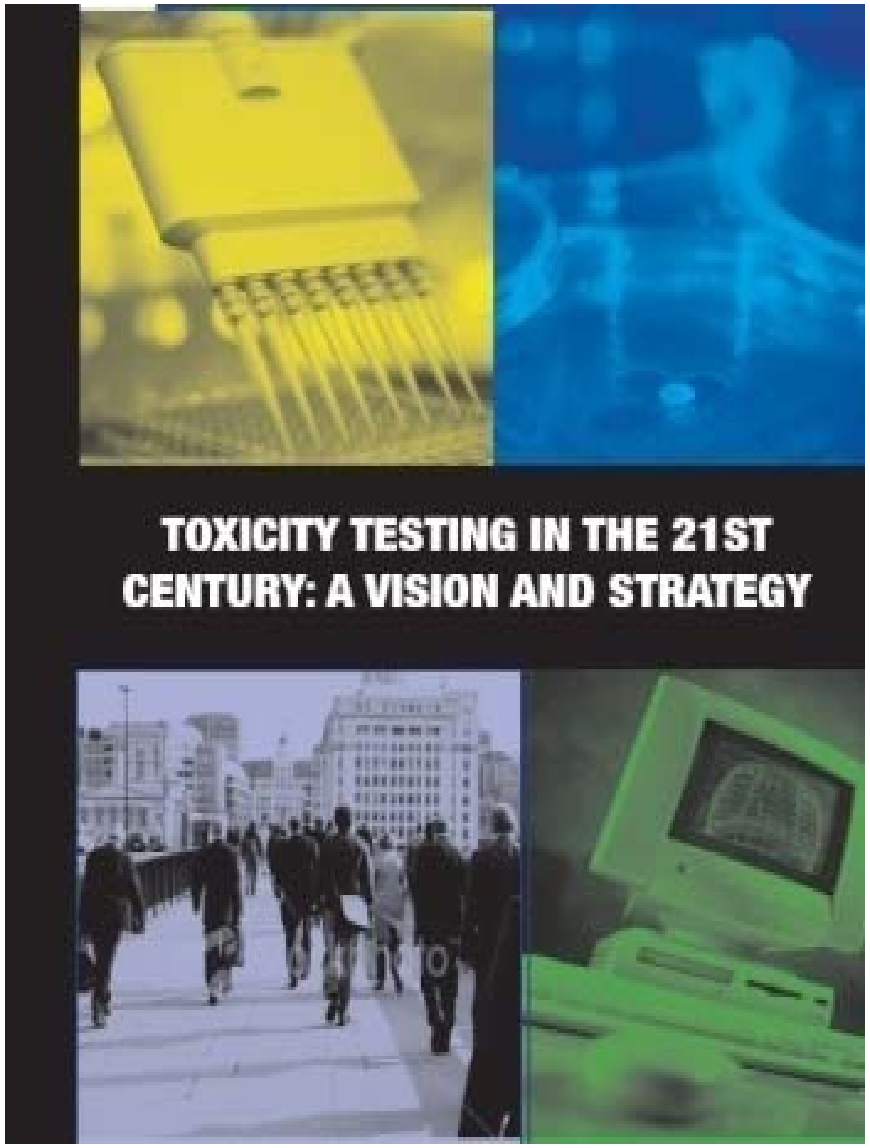
- 180.000 pre-registrations by about 27.000 companies
- 30.000 substances

State of the play 12’08:

- > 2,7 million pre-registrations by about 65.000 companies
- 144.000 substances

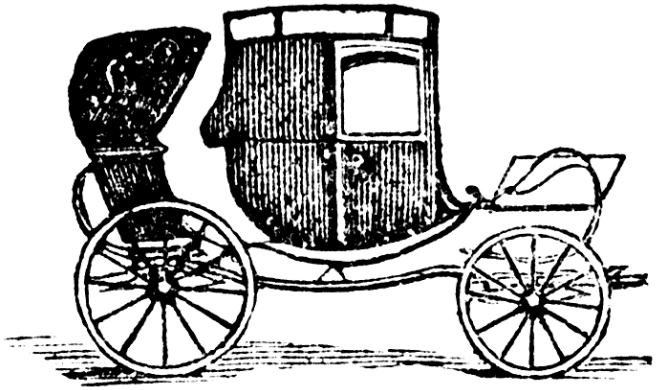
The economic side

- Consumer product industry world-wide is regulated by animal tests, which cost 0.05% of turnover
- Test are critical for agent discovery, liability and as trade barriers
- The shortcomings of tests have economical consequences
- Several economic forces urge for change



The NAS vision from 2007

- An atmosphere of departure in toxicology
- Lessons learned from alternative methods and their validation
- New technologies from biotech and (bio-)informatics revolution
- Conceptual steering needed
- Role of Evidence-based Toxicology

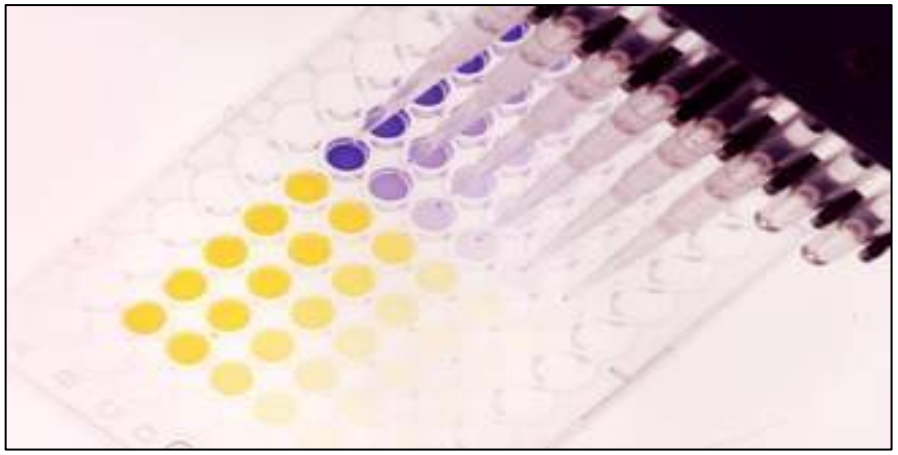


Evolution: Replace parts and pieces one by one

or

Revolution: Construct something new

A unique opportunity for a global project



- **Linking with similar projects in Europe (InnoMed, ASAT, FP7 projects, ECVAM, COLIPA, Dutch toxicogenomics centre)**
- **Chemical effector pathways of cells:**

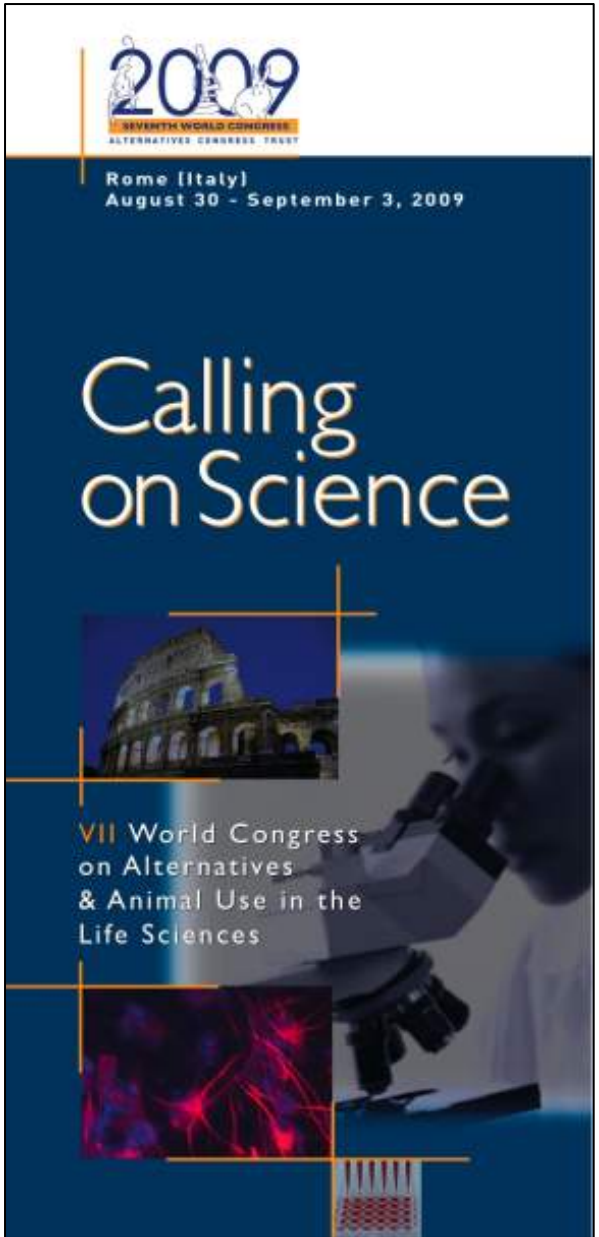
  - tools for molecular biology

  - drug-able pathways

  - pathways of toxicity

Nothing is as strong as an idea whose time has come.

Victor Hugo



World Conference in Rome, Italy

30 August – 3 September 2009

www.aimgroup.eu/2009/WC7