

First SEURAT-1 Stakeholder Event showcases latest success stories in non-animal methods for human safety assessment of chemicals

Industry committed to continue its investment in research and development to make animal-free toxicology a reality

SEURAT-1 is currently the largest European research initiative that aims to fundamentally change the way we assess the safety of chemicals. The goal is to move away from safety assessment relying on animal experiments towards a paradigm based on using mechanistic understanding of toxicology to intelligently integrate leading edge computational and *in vitro* tools into systems that support predictive safety assessment.

On 5 September 2013 in a dedicated workshop in Brussels, **SEURAT-1** presented to stakeholders its latest scientific achievements delivered midway through its 5 years programme. The 50 participants, representing industry, policy makers, regulators and animal welfare groups appreciated the presentations that explained in a practical and accessible manner how new insights into mechanistic toxicology are being translated into solutions for safety assessment. Highlights included microfluidic bioreactors (so called "organ on a chip") for long-term cultivation and analysis of human cells, toxicity assays based on human stem cells produced by reprogramming adult cells, and computational models for predicting safety thresholds.

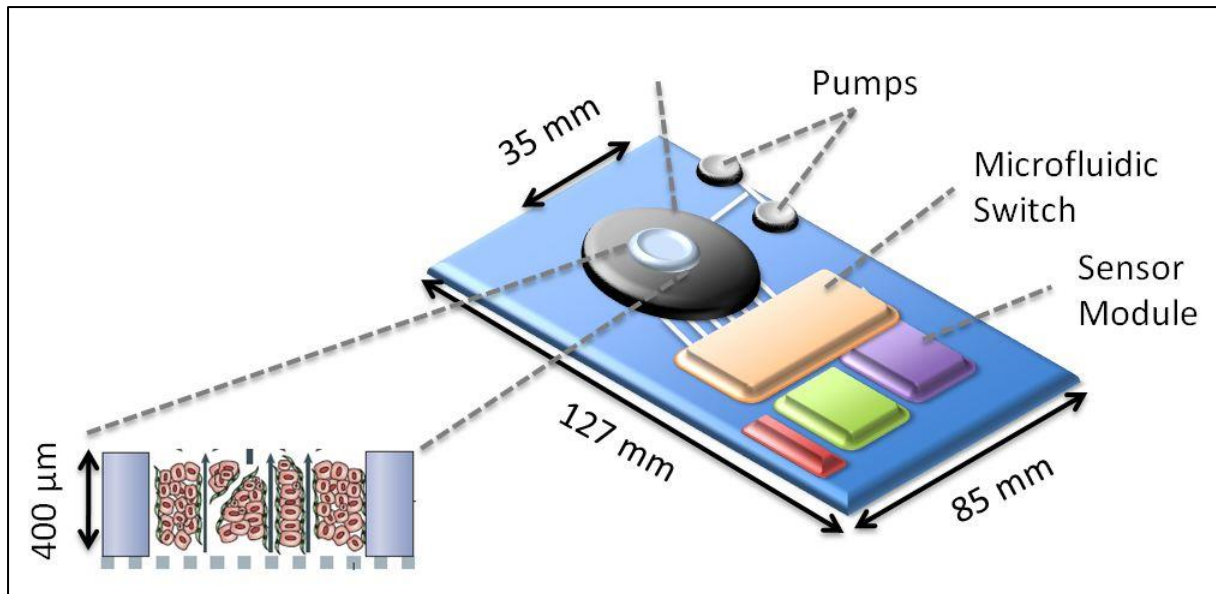
The lively discussion that followed these presentations underlined:

- the strong interest of industry in this research work and its willingness to continue its investment in research and innovation enabling ultimately to deploy new safety assessment solutions in various industry sectors (pharma, cosmetics, food, ...)
- the need to inform and involve the regulators on a much larger scale to make them aware of the changes on the horizon in the field of alternative animal-free human safety assessment methods
- the willingness of other private and public research initiatives in this field to cooperate and exchange knowledge, avoiding the duplication of effort and supporting faster progress
- the impact of the revolutionary concepts promoted by **SEURAT-1** (and others), not only on safety assessment, but also for protection of human health in general, by prevention of e.g. diseases triggered by environmental factors
- the need for a global research strategy allowing to identify the next steps of the required long term research and innovation effort

SEURAT-1 has developed such a global research strategy and published it in its Annual Reports, the volume 3 of which was presented during this stakeholder event. This report also provides a comprehensive overview of the research programme and includes articles from international experts who provide their opinion on the state-of-play in regulatory safety assessment and the challenges and opportunities that lie ahead. The **SEURAT-1** Annual Reports are publically available on <http://www.seurat-1.eu>. A hardcopy of Annual Report volume 3 can also be ordered free of charge on this website.

The European Partnership for Alternative Approaches to Animal Testing (EPAA), with a vision of replacement, reduction and refinement (3Rs) of animal use for meeting regulatory requirements through better and more predictive science, joined forces with **SEURAT-1** to organize this stakeholder event thereby ensuring broad dissemination through its extensive member-network.

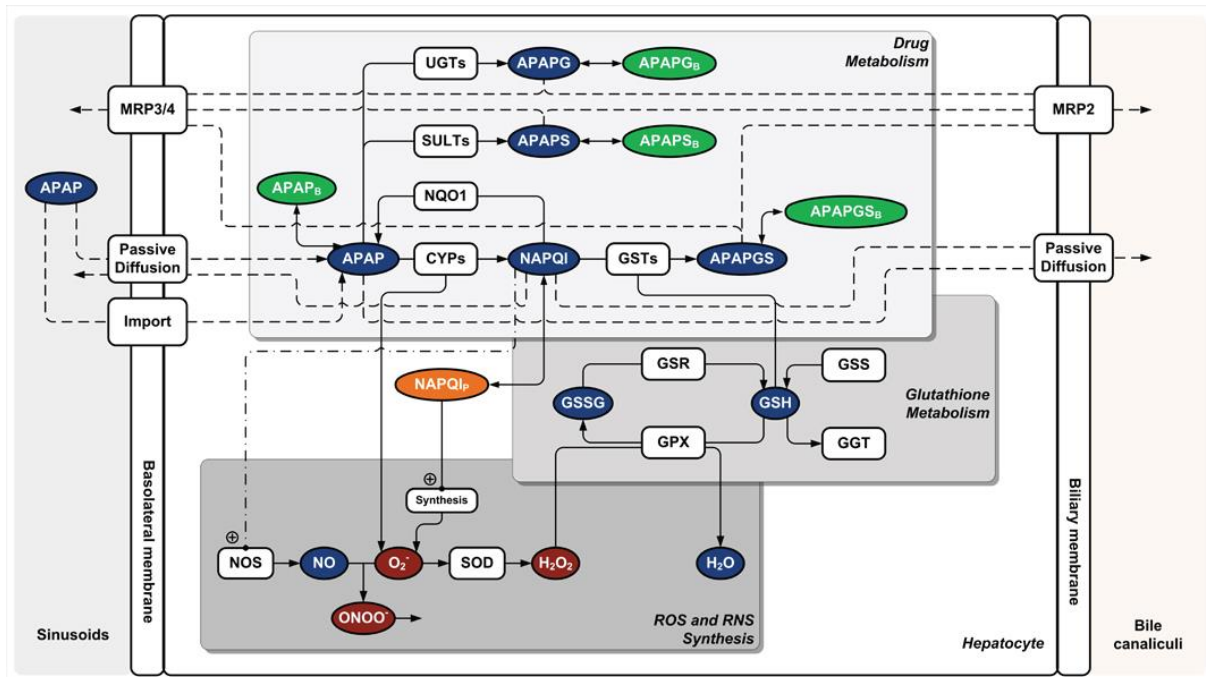
SEURAT-1 - Safety Evaluation Ultimately Replacing Animal Testing - launched in 2011, is a 50 million Public-Private research partnership, which is co-funded equally by the European Commission's Directorate General for Research and Innovation through its FP7 HEALTH research programme, and Cosmetics Europe, the industry personal care association. The consortium comprises over 70 European research partners, working together towards the reduction and replacement of animals used for repeated dose systemic toxicity testing.



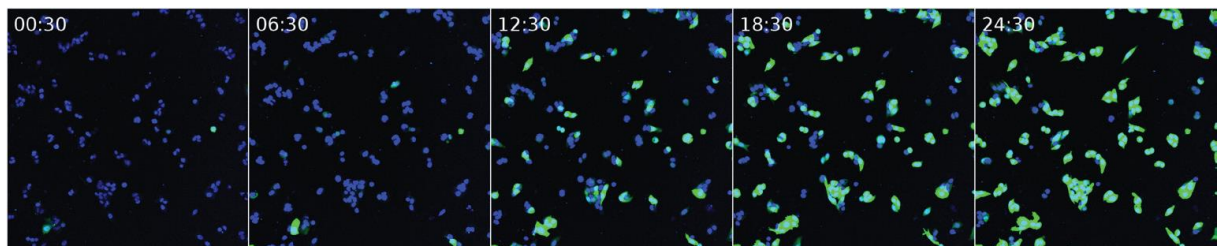
*Prototype of a microfluidic bioreactor used for “organ-on-a-chip” culture. A few square cm suffice to simulate a human liver which is then used to study a test compounds’ toxicity. Courtesy of Dr. Yaakov Nahmias, HeMiBio project within **SEURAT-1**.*



This robot is able to produce billions of cells derived from reprogrammed human cells ; a capacity of producing such cells in large quantities is a prerequisite for animal free human safety assessment solutions, Source: I-stem (Inserm U861)



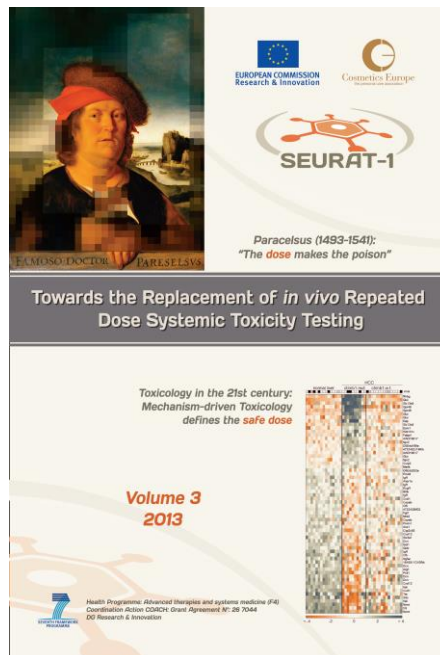
Computer modelling is a key technology to enable the implementation animal free human safety assessment solutions



Reporter cells: these cells used for human safety assessment have been engineered in such a way that they appear fluorescent green when they are exposed to a toxic substance



The SEURAT-1 stakeholder event attracted 50 participants representing the industry, policy makers, regulators, and animal welfare groups. Source: Sara Vinklatova, ARTTIC



The SEURAT-1 Annual Report vol.3 was published on 5 September 2013. It can be downloaded free of charge from <http://www.seurat-1.eu>.

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