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CELLTOX 1991-2011 “Twenty years of in vitro toxicology: Achievements and future challenges”

*Rome, Istituto Superiore di Sanità
October 19-21, 2011*

FINAL PROGRAM

Wednesday, October 19

12.00 Participant registration

13.30 Welcome address

L. Musmeci

Director of the Department of Environment and Primary Prevention

I. De Angelis

CELLTOX Past President

Opening lecture

Chairs: **L. Golzio - Y. Sambuy**

14.00 *Progress and future challenges with alternative methods to allow safety assessment without animal testing*

C. Westmoreland

Session 1

PREDICTIVE TOXICOLOGY

14.30 *A framework for risk assessment without animal testing: the role of kinetics*

E. Testai

Selected oral presentations

15.00 *Assessment of acute, long-term and chronic respiratory toxicity using a long shelf-life 3D model of the human airway epithelium (MucilAir™)*

S. Constant, S. Huang, L. Wiszniewski

15.15 *In vitro blood-brain barrier models adapted to toxicological screening*

M. Culot, A. da Costa, J. Hachani, C. Landry, R. Cecchelli

15.30 *Importance of the tissue-specific 3D microenvironment in developing in vitro models for chondrotoxicity assessment*

N.Steimberg, J. Boniotti, G. Zarattini, P. Barone, U.E. Pazzaglia, G. Mazzoleni

15.45 Coffee break and poster viewing

Session 2

INTEGRATED IN VITRO/IN SILICO APPROACHES

16.15 *Integration of in silico and in vitro approaches in tiered testing strategies*

J.G.M. Bessems

Selected oral presentations

16.45 *Towards a conversion of morphological features into statistical descriptors in Balb/c 3T3 cell transformation assay*

C. Urani, R. Corvi, C. Procaccianti, F.M. Stefanini

17.00 *Effects of time culture and prototypical CYP3A inducers on CYP2B22, CYP2C, CYP3A28 and nuclear receptors mRNAs in cryopreserved pig hepatocytes*

V. Zancanella, M. Giantin, R. M. Lopparelli, A. Granato, C. Baratto, M. T. Vilei, M. Muraca, M. Dacasto

17.15 *Pandora's Tox: multiple mechanisms of toxicity in one assay for early de-risking of drug discovery programs*

H. Luithardt, S. Thomas, C. Strock, J. Gilbert, P. Metcalfe, H. Gill, K. Tsaionun

Thursday, October 20

Chairs: S. Gemma – C. Urani

Session 3

STEM CELLS IN ALTERNATIVE METHODS

9.00 *Stem cells in alternative methods*

M. Emgard

Selected oral presentations

9.30 *Testing neurodevelopmental toxicity on differentiating human embryonic stem cells*

A.C. Feutz, O. Sterthaus, C. De Geyter

9.45 *Neurogenic-committed human pre-adipocytes: a novel in vitro model for evaluation the toxicity of xenobiotics/pollutants*

C. Scanarotti, C. Guida, R. Coradeghini, M.A. Pronzato, A.M. Bassi

10.00 *Towards the use of organotypic microtissues from primary hepatocytes and stem cells for early toxicology assessment*

S. Stroebel, S. Messner, J. Lichtenberg, W. Moritz, J.M. Kelm

10.15 Coffee break and poster viewing

Session 4

ENVIRONMENTAL TOXICOLOGY

11.00 *Ambient particles in in vitro toxicology: sources, components and mechanisms involved*

P.E. Schwarze

Selected oral presentations

11.30 *Usefulness of in vitro bioassay in photodegradation studies of AhR-active pollutants*

P. Macíková, J. Ospalík, J.P. Giesy, M. Bittner

11.45 *In vitro* enzymatic bioassay for the evaluation of the toxicity of aqueous matrices

M.G. Lionetto, E. Erroi, T. Schettino

12.00 *Paradoxical effects of environmental concentrations of organochlorines, Lindane and Chlordecone, on cellular energy pathways in HepG2 cells*

M.A. Benarbia, S. Faure, C. Jaques, E. Lauret, G. Simard, R. Andriantsitohaina, Y. Malthiery

12.15 *Fumonisin B1- induced influence on functional parameters of human intestinal cell lines in relation to differentiation stage*

F. Minervini, A. Garbetta, I. D'Antuono, A. Cardinali, L. Debellis, A. Visconti

12.30 Lunch and poster viewing

Session 5

NANOTOXICOLOGY

Chairs: I. De Angelis – P. Prieto

14.00 *Nanotoxicology: relating physicochemical characteristics of nanomaterials to biological effects.*

V. Stone

Selected oral presentations

14.30 *Nanotubes of the aluminosilicate Imogolite exhibit mild toxicity for macrophages and airways epithelial cells*

O. Bussolati, BM. Rotoli, B. Bonelli, C. Zanzottera, E. Garrone, I. Fenoglio, M. Ghiazza, E. Bergamaschi, B. Fubini

14.45 *Characterization and investigation of cytotoxic and genotoxic effects of Zinc oxide nanoparticles in a human intestinal cell line (Caco-2)*

A. Zijno, B. De Berardis, F. Barone, C. Andreoli, M.T. Russo, P. Degan, F. Franchini, G. Guidetti, C. Uboldi, J. Ponti, F. Rossi, I. De Angelis

15.00 *Effects of Nickel oxide nanoparticles on human lung epithelial cells*

M. Camatini, L. Capasso, P. Mantecca, M. Gualtieri

15.15 *Assessment of the in vitro toxicological profile of amorphous silica nanoparticles and study of their intracellular fate*

C. Uboldi, G. Giudetti, F. Broggi, J. Ponti, D. Gilliland, F. Rossi

15.30 Coffee break and poster viewing

16.00 **ROUND TABLE** *The 3Rs today: from basic research to regulatory tests*

Chair: **A. Stamatii**

Invited participants:

L. Costa, T. Hartung, J. Kreysa, G. Schoeters, F. Zucco

17.30 CELLTOX - ASSEMBLEA GENERALE

20.00 Social Dinner

Friday, October 21

Chairs: **F. Caloni – M. Meloni**

Session 6

REPRODUCTIVE TOXICOLOGY

9.00 *Development of a battery of alternative tests for reproductive toxicity*

G. Lazzari

Selected oral presentations

9.30 *The interference of pollutants with the biosynthesis of active androgens and estrogens in fish*

D. Fernandes, C. Porte

9.45 *The herbicide Glufosinate Ammonium is a weak androgen-like compound as emerged by a novel in vitro approach to identify chemicals with a prostate-mediated effect on male reproduction*

S. Lorenzetti, I. Altieri, D. Marcoccia, L. Narciso

10.00 *Antiestrogenic, antiandrogenic and dioxin-like activities of night and day air samples from Banja Luka region*

J. Novák, M. Cvešperová, J.P. Giesy, J. Klánová

10.15 Coffee break and poster viewing

Session 7

MULTILEVEL APPROACHES IN TOXICOLOGY

10.45 *Toxicology Model Building and Biomarker Discovery based on –Omics datasets*

J. Borlak

Selected oral presentations

11.15 *Novel multicompartmental bioreactor systems for probing multiple pathway toxicity and drug development*

A. Ahluwalia

11.30 *Gene expression in human cell models applied for safety assessment of chemicals*

N. Lambrechts, S. Remy, H. Witters, R. Van Den Heuvel, G. Schoeters, I. Nelissen, J. Hooyberghs

11.45 *Co-culture of intestinal and hepatic cells as a model to study absorption, metabolism and toxicity of dietary retinoids*

C. Rossi, B. Guantario, D. Bellovino, S. Ferruzza, M.L. Scarino, C. Guguen-Guillouzo, Y. Sambuy

12.00 Closing Remarks

M. Meloni

CELLTOX President

INVITED SPEAKERS

Jos G.M. Bessems	RIVM, National Institute for Public Health and Environment, Utrecht, The Netherlands
Jurgen Borlak	Fraunhofer Institute for Toxicology and Experimental Medicine, Hannover, Germany
Lucio Costa	Faculty of Medicine and Surgery, University of Parma, Parma, Italy
Mia Engard	CELLARTIS, Göteborg, Sweden
Thomas Hartung	Center for Alternatives to Animal Testing (CAAT) Europe, Konstanz, Germany
Giovanna Lazzari	AVANTEA – Cremona, Italy
Joachim Kreysa	European Centre for the Validation of Alternative Methods (ECVAM), Institute for Health and Consumer Protection (IHCP), Joint Research Centre, Ispra, Italy
Greet Schoeters	University of Antwerp, Antwerp, Belgium
P. E. Schwarze	Norwegian Institute of Public Health, Oslo, Norway
Vicki Stone	Centre for Nano Safety, Edinburgh, UK
Emanuela Testai	Istituto Superiore di Sanità, Rome, Italy
Carl Westmoreland	Unilever's Safety & Environmental Assurance Centre, Sharnbrook, UK
Flavia Zucco	Consiglio Nazionale delle Ricerche, Rome, Italy

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