IPTC 2019

12th International Particle Toxicology Conference

11 – 13 September 2019 · Salzburg · Austria

http://iptc2019.eu

PROGRAMME

GENERAL INFORMATION

ORGANISER

DECHEMA e.V.
Theodor-Heuss-Allee 25
60486 Frankfurt am Main
Germany

CONTACT

Matthias Neumann
Phone: +49 (0)69 7564-254
Fax: +49 (0)69 7564-176
E-mail: matthias.neumann@dechema.de

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Wednesday, 11 September 2019

08:00 REGISTRATION

09:00 **Opening**
A. Duschl[1]; F. Ferreira-Briza[1]; [1] University of Salzburg, Salzburg/A

FIBRES

Chair: C. Poland[1]; M. MacFarlane[2]; [1]University of Edinburgh, Edinburgh/UK; [2]University of Cambridge, Leicester/UK

09:15 **Surfaces of particles and fibres: Their role in assessing exposure and toxicity**
M. Gulumian[1]; [1] National Institute for Occupational Health, Johannesburg/ZA

09:50 **Occupational exposure to inhaled nanoparticles: Are young workers being left in the dust?**
H. Graczyk[1]; M. Riediker[2]; [1] University of Lausanne, Epalinges/D; [2] SCOEH: Swiss Centre for Occupational and Environmental Health, Winterthur/CH

10:10 **Long-Fibre Carbon Nanotubes Induce Sporadic Pleural Mesothelioma Recapitulating Human Disease: a role for epigenetic mechanisms in disease development**
J. Zacarias Cabeza[1]; T. Chernova[1]; S. Galavotti[1]; P. Cauchy[2]; X. Sun[1]; A. Craxton[1]; F. Murphy[1]; I. Powley[1]; S. Grosso[1]; J. Bennett[3]; A. Nakas[3]; P. Greaves[4]; K. Donaldson[5]; C. Poland[5]; A. Willis[1]; A. Willis[1]; M. MacFarlane[1]; [1] MRC Toxicology Unit/University of Cambridge, Leicester/UK; [2] Max Planck Institute of Immunology and Epigenetics, Freiburg/D; [3] UHL NHS Trust, Glenfield Hospital, Leicester/UK; [4] Department of Cancer Studies, University of Leicester/UK; [5] MRC/University of Edinburgh, Centre for Inflammation Research, Edingburgh/UK

10:30 **Delayed Concentrating of Monodispersed Single-Walled Carbon Nanotubes in Cultured Cells**
M. Umezawa[1]; S. Sekiyama[1]; Y. Iizumi[2]; T. Ube[1]; T. Okazaki[2]; M. Kamimura[1]; K. Soga[1]; [1] Tokyo University of Science, Katsushika, Tokyo/J; [2] National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Ibaraki/J

10:50 Coffee break

IN VITRO METHODS FOR RANKING & DOSIMETRY

Chair: D. Boraschi[1]; S. Dekkers[2]; [1]CNR - National Research Council of Italy, Napoli/I; [2]The Dutch National Institute for Public Health and the Environment (RIVM), Bilthoven/NL

11:20 **An in-depth multi-omics analysis of NM exposure: a promising tool to support nanomaterial grouping**
A. Bannuscher[1]; I. Kratochvil[2]; R. Hubaux[3]; F. Chainiaux[4]; J. Laloy[5]; M. Stan[6]; A. Dinischiotu[6]; A. Bahl[1]; K. Schubert[2]; M. von Bergen[2]; A. Luch[1]; A. Haase[1]; [1] German Federal Institute for Risk Assessment (BfR), Department of Chemical and Product Safety, Berlin/D; [2] Helmholtz Centre for Environmental Research GmbH (UFZ), Department of Molecular Systems Biology, Leipzig/D; [3] StratiCELL SA, Les Isnes/B; [4] University of Namur, URBC-Narilis, Namur/B; [5] University of Namur, Department of Pharmacy, Namur/B; [6] University of Bucharest, Department of Biochemistry and Molecular Biology, Bucharest/RO

11:40 **Nanoparticle Dosimetry and Particokinetics: Delivered Dose Prediction in vitro – not without Consideration of Effective Density**
S. Hofer[1]; N. Hofstätter[1]; M. Geppert[1]; R. Mills-Goodlet[1]; M. Schenk[2]; N. Hüsing[2]; A. Duschl[1]; M. Himly[1]; [1] Department of Biosciences, University of Salzburg, Salzburg/A; [2] Department of Chemistry and Physics of Materials, University of Salzburg, Salzburg/A

12:00 **Ensembles, comparison and ranking of nanoparticles toxicity classifiers: a hands-on paradigm on the S2NANO database.**
I. Furxhi[1]; [1] University of Limerick, Limerick/IRL

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12:15 Lunch break

OUTDOOR

Chair: R. Schins[1]; A. Elder[2]; [1]IUF - Leibniz Research Institute for Environmental Medicine, Düsseldorf/D; [2]University of Rochester, Rochester, NY/USA

13:15 **Adverse systemic effects due to exposure to fine and ultrafine particulate matter: target beyond the lung**
A. De Vizcaya-Ruiz[1]; [1] Centro de Investigacion y de Estudios Avanzados del IPN, Mexico City/MEX

13:50 **Shipping-related particulate matter air pollution – source-specific effects on bronchial epithelial cells**
M. Loxham[1]; N. Easton[1]; M. Cooper[1]; S. Bray[1]; F. Bulot[1]; S. Cox[1]; J. Whiteside[1]; D. Teagle[1]; S. Johnston[1]; D. Davies[1]; G. Foster[1]; [1] University of Southampton, Southampton/UK

14:10 **Human Case Study to Assess Risks for Alzheimer's: Ambient Aerosol Nanoparticles as Trojan Horse for Heavy Metal Transport to the CNS?**
U. Graham[1]; [1] University of Kentucky / NIOSH, Lexington/USA

14:30 **Novel mitochondrial targets of PM in human olfactory mucosa**
S. Chew[1]; R. Lampinen[1]; L. Saveleva[1]; P. Korhonen[1]; N. Mikhailov[1]; A. Mackay-Sim[2]; T. Malm[1]; A. White[3]; P. Jalava[1]; K. Kanninen[1]; [1] University of Eastern Finland, Kuopio/FIN; [2] Griffith University, Nathan/AUS; [3] QIMR Berghofer Medical Research Institute, Herston/AUS

14:50 **Effects of short-term exposures to ultrafine particles nearby an international airport in healthy subjects**
F. Cassee[1]; [1] National Institute for Public Health and the Environment, Bilthoven/NL

15:10 Coffee break

DOSIMETRY AND SYSTEMIC EFFECTS

Chair: P. Demokritou[1]; L. Goulart[2]; [1]Harvard T. H. Chan School of Public Health, Boston/USA; [2]Federal University of Uberlandia, Uberlandia, MG/BR

15:30 **Quantification of tissue bioaccumulation of titanium dioxide nanoparticles after oral delivery in rats, using a radiotracer approach, neutron activation analysis and mass spectroscopy**
P. Callaghan[1]; [1] ANSTO - Australia's Nuclear Science and Technology Organisation, Lucas Heights/AUS

15:50 **Delivery, Deposition and Biokinetics of Particles in Murine Lungs: New Insights for Instillation and Inhalation from Novel Imaging Tools**
L. Yang[1]; R. Gradl[2]; A. Feuchtinger[3]; K. Morgan[2]; M. Dierolf[2]; D. Kutschke[3]; T. Stöger[1]; A. Walch[3]; F. Pfeiffer[2]; O. Schmid[4]; [1] Helmholtz Zentrum München GmbH, Neuherberg/D; [2] TU München, Munich/D; [3] Helmholtz Zentrum München, Munich/D; [4] Helmholtz Center Munich, Neuherberg/D

16:10 **Maternal exposure to nanoparticles induces endoplasmic reticulum stress with accumulation of misfolded proteins in brain perivascular regions**
A. Onoda[1]; T. Kawasaki[2]; K. Tsukiyama[3]; K. Takeda[4]; M. Umezawa[5]; [1] Nagoya University Hospital, Nagoya, Aichi/J; [2] Tokyo University of Science, Noda, Chiba/J; [3] Tokyo University of Science, Shinjuku, Tokyo/J; [4] Sanyo-Onoda University, Sanyo-Onoda, Yamaguchi/J; [5] Tokyo University of Science, Katsushika, Tokyo/J

16:30 **Effects of maternal AU-NP exposure by inhalation om foeto-placental developement and placental function, in a rabbit model**
D. Rousseau-Ralliard[1]; V. Fessard[2]; J. Boere[3]; P. Fokkens[3]; M. Dahirel[1]; C. Richard[1]; L. Jouneau[1]; C. Archilla[1]; L. Gaté[4]; S. Huet[2]; L. Meslier[2]; N. Fournier[5]; M. Aubrière[1]; V. Gelin[1]; M. Lallemand[1]; J. Aïoun[1]; V. Duranthon[1]; D. Laloë[6]; P. Chavatte-Palmer[1]; F. Jaffrézic[6]; F. Cassee[3]; A. Couturier-Tarrade[1]; [1] UMR BDR, INRA, ENVA, Université Paris Saclay, Jouy en Josas/F; [2] ANSES, Laboratoire de Fougères, BioAgroPolis, Fougères/F; [3] The Dutch National Institute for Public Health and the Environment (RIVM), Bilthoven/NL; [4] INRS, Département Toxicologie et Biométrologie, Vandoeuvre/F; [5] AP-HP, Laboratoire de Biochimie, UF Cardio-Vasculaire, Paris/F; [6] UMR GABI, INRA, Université Paris Saclay, Jouy en Josas/F

16:50 **An insight into hepatic nanotoxicology**
A. Kermanizadeh[1]; W. Moritz[2]; V. Stone[1]; [1] Heriot-Watt University, Edinburgh/UK; [2] Insphero AG, Schlieren/CH

17:10 **POSTER SESSION**

19:30 **WELCOME RECEPTION with chamber concert at Schloss Mirabell**

Thursday, 12 September 2019

08:30 REGISTRATION

INHALATION TOXICOLOGY

Chair: R. Duffin[1]; D. Lison[2]; [1]MRC/University of Edinburgh, Edinburgh/UK; [2]Université Catholique de Louvain, Brussels/B

09:00 **Pulmonary-derived circulating factors promote cerebrovascular inflammatory mechanisms following inhalation of particles and gases**
M. Campen[1]; [1] University of New Mexico, Albuquerque, NM/USA

09:35 **Toxicity of environmentally relevant iron oxide particles**
R. Smith[1]; C. Guo[1]; R. Weber[2]; A. Buckley[1]; M. Leonard[1]; S. Robertson[1]; M. Viant[2]; [1] Public Health England, Oxfordshire/UK; [2] The University of Birmingham, Birmingham/UK

09:55 **Early-life Exposure to Ultrafine and Fine Atmospheric Particulates Exacerbates Asthma Development in Mature Mice**
C. Chen[1]; M. Mei[2]; [1] National Center for Nanoscience and Technology, Beijing/CN; [2] CAS Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, Beijing Key Laboratory of Ambient Particles Health Effects and Prevention Techniques, National Center for Nanoscience and Technology, Beijing 100190, China, Beijing/CN

10:15 **Health effects associated with exposure to air pollution inside diesel-powered passenger trains**
M. Andersen[1]; A. Saber[1]; M. Frederiksen[1]; R. Wils[2]; S. Johannesson[3]; A. Fonseca[1]; P. Clausen[1]; M. Roursgaard[2]; K. Loeschner[4]; I. Koponen[1]; S. Loft[2]; P. Møller[2]; U. Vogel[1]; [1] The National Research Centre for the Working Environment, Copenhagen/DK; [2] University of Copenhagen, Department of Public Health, Copenhagen/DK; [3] University of Gothenburg, Department of Occupational and Environmental Medicine, Gothenburg/S; [4] Technical University of Denmark, National Food Institute, Lyngby/DK

10:30 Coffee break

INHALATION TOXICOLOGY

Chair: R. Duffin[1]; D. Lison[2]; [1]MRC/University of Edinburgh, Edinburgh/UK; [2]Université Catholique de Louvain, Brussels/B

11:00 **The significance of shape on particle-cell interactions in the lung**
T. Stöger[1]; [1] Helmholtz Zentrum München GmbH, Neuherberg/D

11:20 **Toxicity of fine particulates collected inside and outside of occupied residences in southern Sweden**
N. Jacobsen[1]; [1] The National Research Center for the Working Environment, Copenhagen OE/DK

11:40 **7. Toxicity and cellular uptake of smoke particles generated from residential coal burning braziers on bronchial epithelial cells**
M. Masekameni[1]; M. Gulumian[2]; M. Gulumian[2]; [1] University of the Witwatersrand, Boksburg/ZA; [2] National Institute for Occupational Health, Johannesburg/ZA

12:00 **Effects and lung burdens after long-term unhalation of nanoparticles in rats - Ceria and Bariumsulfate**
L. Ma-Hock[1]; S. Groeters[1]; B. van Ravenzwaay[1]; H. Ernst[2]; D. Schaudien[2]; R. Landsiedel[3]; [1] BASF SE, Ludwigshafen am Rhein/D; [2] Fraunhofer Institut für Toxikologie und Experimentelle Medizin ITEM, Hannover/D; [3] BAS SE, Ludwigshafen am Rhein/D

12:00 **Dietary Omega-3 Fatty Acid Treatment of Silica-Triggered Autoimmunity in Lupus-Prone Mice**
J. Harkema[1]; [1] Michigan State University/College of Veterinary Medicine, East Lansing MI/USA

12:40 Lunch break

Thursday, 12 September 2019

ORAL UPTAKE AND EXPOSURE

Chair: D. Winkler[1]; H. Chuang[2]; [1]Aldi, Elwood/AUS; [2]Taipei Medical University, Taipei/RC

13:40 **Risks and benefits of oral particle exposure**
J. Powell[1]; [1] University of Cambridge, Cambridge/UK

14:15 **Evaluation of Dietary E171, a Food Grade TiO2, on the Rat Intestine**
S. Cohen[1]; [1] University of Nebraska Medical Center, Omaha/USA

14:35 **Evaluation of Dietary E171, a Food Grade TiO2, on the Immune System**
N. Kaminski[1]; [1] Michigan State University, East Lansing, Michigan/USA

14:55 **Repeated oral administration of silica and silver nanomaterials can disturb gut microbiota in rats**
R. Landsiedel[1]; D. Hahn[2]; R. Buesen[1]; S. Rehm[3]; W. Wohlleben[1]; S. Ritz[2]; J. Schnekenburger[4]; [1] BASF SE Ludwigshafen, Ludwigshafen/D; [2] Westfälische Wilhelms-Universität Münster, Biomedical Technology Center, Münster/D; [3] HB Technologies AG, Tübingen/D; [4] Westfälische Wilhelms-Universität Münster, Münster/D

15:15 Coffee break

CARDIOVASCULAR AND NEUROLOGICAL EFFECTS

Chair: G. Oberdörster[1]; A. De Vizcaya-Ruiz[2]; [1]University of Rochester, Rochester NY/USA; [2]Centro de Investigacion y de Estudios Avanzados del IPN, Mexico City/MEX

15:50 **Cardiovascular and metabolic effects of diesel exhaust particles: a role for the gut microbiota?**
S. van den Brule[1]; M. Rappe[1]; S. Ibouraadaten[1]; M. Palmai-Pallag[1]; C. Dessy[1]; C. Bouzin[1]; J. Ambroise[1]; D. Lison[1]; [1] Université Catholique de Louvain, Brussels/B

16:10 **The acute cardiovascular and nervous impacts of cooking emitted ultrafine particles on human subjects**
M. Amouei Torkmahalleh[1]; M. Naseri[2]; R. Gabdrashova[3]; S. Nurzhan[2]; Z. Bekezhankyzy[2]; A. Gimnkhan[2]; M. Malekipirbazari[4]; M. Jozizadeh[5]; M. Tabesh[2]; H. Farrokhi[5]; R. Khanbabaei[6]; H. Mehri-Dehnavi,[7]; F. Cassee[8]; [1] Nazarbayev University, Astana/KZ; [2] Nazarbayev University, Nur-Sultan/KZ; [3] Nazarbayev University,, Nur-Sultan,/KZ; [4] Bilkent University, Ankara/TR; [5] Babol Noshirvani University of Technology, Babol/IR; [6] Noshirvani University of Technology, Babol/IR; [7] Iran, Babol/IR; [8] National Institute for Public Health and the Environment, Bilthoven/NL

16:30 **Evaluation of the neurotoxic effects of engineered nanoparticles in C57BL/6J mice in 28 day oral exposure studies**
A. Sofranko[1]; T. Wahle[1]; H. Heusinkveld[2]; B. Stahlmecke[3]; D. Pijnenburg[4]; C. Albrecht[1]; R. Schins[1]; [1] IUF - Leibniz Research Institute for Environmental Medicine, Düsseldorf/D; [2] National Institute for Public Health and the Environment & Utrecht University - Institute for Risk Assessment Studies, Utrecht/NL; [3] Institute for Energy and Environmental Technology e.V. (IUTA), Duisburg/D; [4] PamGene International B.V., ,s-Hertogenbosch/NL

16:50 **Inhaled Nanoparticles Accumulate At Sites Of Vascular Disease**
M. Miller[1]; J. Raftis[1]; J. Langrish[1]; S. McLean[1]; P. Samutrtai[1]; S. Connell[1]; S. Wilson[1]; A. Vesey[1]; P. Fokkens[2]; J. Boere[2]; P. Krystek[3]; C. Campbell[1]; P. Hadoke[1]; K. Donaldson[1]; F. Cassee[2]; D. Newby[1]; R. Duffin[1]; N. Mills[1]; [1] University of Edinburgh, Edinburgh/UK; [2] National Institute for Public Health and the Environment, Bilthoven/NL; [3] VU University Amsterdam, Amsterdam/NL

17:10 – 17:30 **Nano encapsulation: benefits for food, nutrition, agriculture, but what about potential adverse effects?**
P. Demokritou[1]; [1] Harvard T. H. Chan School of Public Health, Boston/USA

19:00 **CONFERENCE DINNER AT PITTERKELLER – Salzburg's most authentic beer cellar** (19:00 – 23:00)
(separate registration necessary)

LECTURE PROGRAMME

Friday, 13 September 2019

08:00 REGISTRATION

RISK ASSESSMENT & PREDICTIVITY OF IN VITRO ASSAYS

Chair: A. Haase[1]; M. Clift[2]; [1]German Federal Institute for Risk Assessment (BfR), Department of Chemical and Product Safety, Berlin/D; [2]Swansea University, Swansea/UK

08:30 **Understanding Toxicological Risks of Dermal Exposure to Engineered Nanomaterials: Is there Anything More to Study?**
K. Ng[1]; [1] Nanyang Technological University, Singapore/SGP

09:05 **Human alveolar lung cell models to assess long-term effects of particle aerosols**
H. Barosova[1]; A. Maione[2]; M. Sharma[3]; A. Clippinger[3]; P. Hayden[2]; A. Petri-Fink[1]; B. Rothen-Rutishauser[1]; [1] Adolphe Merkle Institute, University of Fribourg, Fribourg/CH; [2] MatTek Corporation, Ashland/USA; [3] PETA International Science Consortium Ltd., London/UK

09:25 **Development of an Integrated Approach to Testing and Assessment for grouping High Aspect Ratio Nanomaterials within The EU Project GRACIOUS**
F. Murphy[1]; H. Johnston[1]; H. Braakhuis[2]; L. Ma-Hock[3]; S. Dekkers[2]; E. Bleeker[2]; T. Fernandes[1]; V. Stone[1]; [1] Heriot-Watt University, Edinburgh/UK; [2] The Dutch National Institute for Public Health and the Environment (RIVM), Bilthoven/NL; [3] BASF, Ludwigshafen am Rhein/D

09:45 **Integrated Approach to Testing and Assessment of Intravenously Injected Nano-Biomaterials in BIORIMA**
L. Powell[1]; T. Fernandes[1]; A. Costa[2]; B. Stahlmecke[3]; H. Sarimveis[4]; A. Prina-Mello[5]; D. Hristozovf[6]; V. Stone[1]; [1] Heriot Watt University, Edinburgh/UK; [2] National Research Council of Italy, Institute of Membrane Technology, Faenza/I; [3] University of Duisburg-Essen; Institute of Energy and Environmental Technology (IUTA), Duisburg/D; [4] National Technical University of Athens, Greece, Athens/GR; [5] Trinity College Dublin, Dublin/IRL; [6] University Ca' Foscari, Venice/I

10:05 **Lecture from the International Young Scientist Forum (IYSF)**

10:15 Coffee break

DEBATE

Chair: O. Schmid[1]; F. Cassee[2]; [1]Helmholtz Zentrum München GmbH, Neuherberg/D; [2]National Institute for Public Health and the Environment, Bilthoven/NL

10:45 **The poorly soluble persistent particles and lung overload: debate: what the experts believe**
P. Borm[1]; [1] Nanoconsult, Meerssen/NL

11:05 **A pathologists perspective on lung particle overload**
J. Harkema[1]; [1] Michigan State University/College of Veterinary Medicine, Okemos, MI/USA

11:10 **The chronic inhalation assay may be better than its reputation**
U. Vogel[1]; [1] National Research Centre for the Working Environment, Copenhagen/DK

11:15 **PSLT study design, where we've gone wrong and how to do right**
R. Landsiedel[1]; [1] BASF SE, Ludwigshafen am Rhein/D

11:20 **The poorly soluble persistent particles and lung overload: debate: what the experts believe**
K. Driscoll[1]; [1] Rutgers University, Newark/USA

11:25 **Discussion and debate**

12:00 **AWARD AND CLOSING CEREMONY**

POSTER PROGRAMME

EFFECTS OF PARTICLES BEYOND THE PORT OF ENTRY

P 01.01 **Results and objectives of the SolNanoTOX project**
H. Sieg[1]; L. Böhmert[1]; A. Braeuning[1]; A. Lampen[1]; [1] German Federal Institute for Risk Assessment (BfR), Berlin/D

P 01.02 **Effects of microscaled and nanoscaled plastic particles on the intestinal barrier in vivo and in vitro**
V. Stock[1]; L. Boehmert[1]; E. Lisicki[1]; J. Cara-Carmona[1]; L. Pack[1]; D. Lichtenstein[1]; L. Voss[1]; C. Henderson[2]; E. Zabinsky[3]; H. Sieg[1]; A. Braeuning[1]; A. Lampen[1]; [1] German Federal Institute for Risk Assessment, Berlin/D; [2] University of Dundee, Dundee/UK; [3] University of Tübingen, Tübingen/D

P 01.03 **Hepatic toxicology following very low dose three-week repeated exposure of panel of nanomaterials utilising multi-cellular primary 3D liver microtissue - assessing the suitability of the test system as an in vivo surrogate?**
A. Kermanizadeh[1]; W. Moritz[2]; V. Stone[1]; [1] Heriot-Watt University, Edinburgh/UK; [2] Insphero AG, Schlieren/CH

P 01.04 **Pulmonary-derived circulating factors promote cerebrovascular inflammatory mechanisms following inhalation of particles and gases**
M. Campen[1]; [1] University of New Mexico, Albuquerque, NM/USA

P 01.05 **Exposure to TiO_2 nanoparticles by inhalation induces perturbations of gene expression profiles in lungs in young and elderly rats**
S. Valentino[1]; C. Seidel[1]; S. Sebillaud[1]; M. Lorcin[1]; M. Chalansonnet[1]; F. Cosnier[1]; L. Gaté[1]; [1] INRS, Institut National de Recherche et de Sécurité, VANDOEUVRE LES NANCY/F

P 01.06 **Effect of particulate pollutants in lipid droplet generation and insulin resistance in lung cells**
J. Jimenez Chavez[1]; A. Solorio-Rodriguez[1]; M. Uribe-Ramirez[1]; A. De Vizcaya-Ruiz[1]; [1] Centro de Investigacion y Estudios Avanzados del IPN, Ciudad de Mexico/MEX

P 01.07 **Inflammatory macrophages and carbon nanoparticles-induced systemic insulin resistance in Wistar rats**
S. Kulwong[1]; M. Lin[1]; M. Liu[1]; C. Chang[1]; [1] National Cheng Kung University, Tainan/RC

P 01.08 **Nanoceria distribution and effects in Th1- and Th2-prone mice**
R. Yokel[1]; M. Tseng[2]; D. Butterfield[1]; M. Hancock[1]; E. Grulke[1]; J. Unrine[1]; A. Stromberg[1]; A. Dozier[3]; U. Graham[1]; [1] University of Kentucky, Lexington/USA; [2] University of Louisville, Louisville/USA; [3] CDC, NIOSH, Cincinnati/USA

P 01.09 **Effect of subchronic ultrafine carbon black inhalation on cardiovascular response and system metabolic changes**
C. Chou[1]; [1] National Cheng Kung University, Tainan/RC

RISK ASSESSMENT & PREDICTIVITY OF IN VITRO ASSAYS

P 02.01 **In vitro assessment of the toxicity of gold nanoparticles**
M. Vetten[1]; M. Gulumian[1]; [1] National Institute for Occupational Health, Johannesburg/ZA

P 02.02 **Microplastics in Food Products: Oral Uptake, Toxicology and Risk Assessment**
H. Sieg[1]; [1] German Federal Institute for Risk Assessment, Berlin/D

P 02.03 **Characterization and occupational exposure assessment of nano-objects and their agglomerates (NOAA's) in research and industrial settings in South Africa**
J. Sethowa[1]; [1] National Institute for Occupational H, Roodeport/ZA

P 02.04 **Dissolution of citrate stabilized, PEG coated COOH, NH_2 and OH functionalized gold nanoparticles in simulated biological and environmental fluids**
O. Mbanga[1]; [1] University of the Witwatersrand, Johannesburg/ZA

P 02.05 **Oral exposure to ZnO nanoparticles – artificial digestion and food simulants**
L. Voss[1]; P. Saloga[2]; L. Böhmert[1]; A. Braeuning[1]; V. Stock[1]; A. Thuenemann[2]; A. Lampen[1]; H. Sieg[1]; [1] German Federal Institute for Risk Assessment, Berlin/D; [2] German Federal Institute for Materials Research and Testing, Berlin/D

P 02.06 **Evaluating toxicity of chemicals leached from microplastics using the FET test**
G. Gimiliani[1]; A. Cavalcante[1]; A. Lugão[1]; D. Abessa[2]; M. Pires[1]; [1] Nuclear and Energy Research Institute - IPEN, São Paulo/BR; [2] São Paulo State University - UNESP, São Vicente/BR

P 02.07 **Combining air-liquid interface exposure and gene expression profiling to elucidate the toxicological potential of nanoparticles**
M. Hufnagel[1]; J. Wall[1]; S. Schoch[1]; B. Strauch[1]; A. Hartwig[1]; [1] Karlsruhe Institute of Technology (KIT), Karlsruhe/D

P 02.08 **Meta-analysis of in vitro genotoxicity studies as a tool to identify the most appropriate nanomaterial test systems**
D. Hahn[1]; K. Eder[1]; R. Schmidt[2]; E. Bormann[2]; J. Schnekenburger[3]; [1] Westfälische Wilhelms-Universität Münster, Biomedical Technology Center, Münster/D; [2] Westfälische Wilhelms-Universität Münster, Institute of Biostatistics and Clinical Research, Münster/D; [3] Westfälische Wilhelms-Universität Münster, Münster/D

P 02.09 **Quantitative phase contrast imaging pushes the limits in nanotoxicity in vitro testing: label-free detection of nanosilver cytotoxicity**
S. Mues[1]; I. Lilie[2]; H. Schönherr[2]; B. Kemper[1]; J. Schnekenburger[3]; [1] Westfälische Wilhelms-Universität Münster, Biomedical Technology Center, Münster/D; [2] University of Siegen, Siegen/D; [3] Westfälische Wilhelms-Universität Münster, Münster/D

P 02.10 **Formation of the Protein Corona in the Rat Lung Studied with Paramagnetic SiO_2 Nanoparticles**
M. Wiemann[1]; A. Vennemann[1]; [1] IBE R&D Institute for Lung Health gGmbH, Münster/D

P 02.11 **Quantitative Elemental Bioimaging of Silver Nanoparticles in the Rat Lung**
M. Wiemann[1]; A. Vennemann[1]; O. Reifschneider[2]; F. Blaske[2]; M. Sperling[2]; U. Karst[2]; [1] IBE R&D Institute for Lung Health gGmbH, Münster/D; [2] Institute of Analytical Chemistry, University of Münster, Münster/D

P 02.12 **Investigation of gold nanoparticle distribution in spleen tissue by means of LA-ICP-MS and LA-sp-ICP-MS**
M. Wiemann[1]; I. Nordhorn[2]; A. Behrens[2]; J. Fuchs[2]; A. Vennemann[1]; M. Sperling[2]; U. Karst[2]; [1] IBE R&D Institute for Lung Health gGmbH, Münster/D; [2] Institute of Analytical Chemistry, University of Münster, Münster/D

P 02.13 **Minimum requirements of the study design of toxicokinetic studies**
S. Dekkers[1]; R. Smith[2]; A. Oomen[1]; E. Bleeker[1]; M. Groenewold[1]; M. Gonzalez[3]; [1] The Dutch National Institute for Public Health and the Environment (RIVM), Bilthoven/NL; [2] Public Health England (PHE), London/UK; [3] Organisation for Economic Co-operation and Development (OECD), Paris/F

P 02.14 **Long-term, repeated exposure of an intestinal triple culture to digested and undigested engineered nanomaterials**
A. Kämpfer[1]; M. Busch[1]; G. Bredeck[1]; V. Büttner[1]; C. Albrecht[1]; R. Schins[1]; [1] IUF - Leibniz Research Institute for Environmental Medicine, Düsseldorf/D

P 02.15 **Equivalent In Vivo and In Vitro Doses: Unraveling the Effects of Particle Distribution, Dose Rate and Inter-Model Susceptibility**
O. Schmid[1]; S. Nahle[2]; C. Voss[3]; Y. Ding[3]; F. COSNIER[4]; S. Valentino[4]; C. SEIDEL[4]; O. Joubert[2]; T. Stöger[5]; U. Vogel[6]; L. Gaté[7]; [1] Helmholtz Center Munich, Neuherberg/D; [2] Université de Lorraine, Lorraine/F; [3] Institute of Lung Biology and Disease, Helmholtz Zentrum München, Munich/D; [4] INRS, Institut National de Recherche et de Sécurité, VANDOEUVRE LES NANCY/F; [5] Helmholtz Zentrum München GmbH, Neuherberg/D; [6] National Research Centre for the Working Environment, Copenhagen/DK; [7] INRS, Institut National de Recherche et de Sécurité, Vandoeuvre-lès-nancy/F

P 02.16 **Zebrafish: Alternative method of assessment of nanotoxicology**
A. Kuchinski Cavalcante[1]; J. Batista[1]; J. da Silva Maziero[1]; S. Ota Rogero[1]; J. Rogero[1]; R. Bonne Hernández[2]; W. Viveiros[3]; B. Ventura Fernandes[4]; K. Katti[5]; A. Lugão[1]; [1] Nuclear and Energy Research Institute - IPEN/CNEN/USP, São Paulo/BR; [2] Federal University of São Paulo, São Paulo/BR; [3] Environmental Company of the State of São Paulo, São Paulo/BR; [4] University of São Paulo, São Paulo/BR; [5] University of Missouri-Columbia, Columbia/USA

P 02.17 **Comparison of molecular signature of exposure to TiO2 and multiwalled carbon nanotubes in human lung cells in vitro**
S. Zienolddiny[1]; M. Alswady-Hoff[1]; M. Paz[1]; J. Samulin-Erdem[1]; S. Phuyal[1]; [1] National Institute for Occupational Health, Oslo/N

P 02.18 **The GRACIOUS draft Framework for the Grouping of Nanomaterials to support risk assessment and safe(r) by design**
V. Stone[1]; E. Bleeker[2]; T. Fernandes[3]; J. Friesl[4]; D. Hristozov[5]; N. Jeliazkova[6]; H. Johnston[3]; F. von der Kammer[7]; A. Oomen[2]; H. Rauscher[8]; D. Spurgeon[9]; C. Svendsen[9]; S. Vázquez-Campos; A. Vichez; W. Wohlleben; [1] Heriot-Watt University, Edinburgh/UK; [2] The Dutch National Institute for Public Health and the Environment (RIVM), Bilthoven/NL; [3] Heriot Watt University, Edinburgh/UK; [4] Yordas, Lancaster/UK; [5] Green Decisions, Venice/I; [6] Ideaconsult Ltd, Sofia/BG; [7] University of Vienna, Vienna/A; [8] European Commission, Joint Research Centre (JRC), Ispra/I; [9] UKRI NERC, Swindon/UK; LEITAT, Barcelona/E; BASF, Ludwigshafen am Rhein/D

P 02.19 **Optimization and validation of VITROCELL® 24/48 in vitro inhalation exposure system**
E. Frijns[1]; J. Van Laer[1]; A. Jacobs[1]; K. Hollanders[1]; S. Vercauteren[1]; S. Verstraelen[1]; [1] VITO - Flemish Institute for Technological Research, Mol/B

P 02.20 **Investigations of health hazards caused by plastic nanoparticles in an in vitro 3D-triple-culture model of the human intestine**
M. Busch[1]; A. Kämpfer[1]; C. Albrecht[1]; R. Schins[1]; [1] IUF - Leibniz Research Institute for Environmental Medicine, Düsseldorf/D

P 02.21 **Using Nrf2/Antioxidant Response Element-Dependent Signaling To Assess The Toxicity Potential Of Fly Ash Particles**
X. Wang[1]; [1] Zhejiang University, Hangzhou/CN

P 02.22 **A dynamic in vitro model approach towards deducing the hazard of long-term nanomaterial exposure to the alveolar epithelial barrier**
K. Meldrum[1]; S. Mitchell[1]; G. Jenkins[1]; S. Doak[1]; M. Clift[1]; [1] In Vitro Toxicology Group, Swansea University Medical School, Swansea/UK

P 02.23 **A comparison of acellular methods for assessing reactive oxygen species produced by nanomaterials – contributions to a testing strategy for grouping approaches**
M. Boyles[1]; F. Murphy[2]; A. Giusti[3]; J. Keller[4]; N. Raun Jacobsen[5]; H. Braakhuis[6]; V. Stone[2]; W. Wohlleben[4]; [1] IOM, Edinburgh/UK; [2] HWU, Edinburgh/UK; [3] BfR, Berlin/D; [4] BASF SE, Ludwigshafen am Rhein/D; [5] NRCWE, Copenhagen/DK; [6] RIVM, Bilthoven/NL

P 02.24 **Genotoxocity of silver and selenium nanoparticles on human epithelial cells**
E. Galić[1]; K. Ilić[2]; M. Milić[2]; S. Hartl[3]; C. Tetyczka[3]; T. Vinković[1]; E. Roblegg[3]; I. Vinković Vrček[2]; I. Pavičić[2]; [1] J. J. Strossmayer University of Osijek, Osijek/HR; [2] Institute for Medical Research and Occupational Health, Zagreb/HR; [3] University of Graz, Institute of Pharmaceutical Sciences, Graz/A

ADVERSE OUTCOME PATHWAYS AND PARTICLE TOXICOLOGY

P 03.01 **By nanoparticle exposure triggered MAPK signaling contributes to gammaherpesvirus reactivation**
L. Han[1]; [1] Helmholtz Zentrum München - German Research Center for Environmental Health (GmbH), Neuherberg, Germany/D

P 03.02 **Toxicity of Carbon Black Particles in Lung Cells *in vitro***
C. Ng[1]; [1] NUS Environmental Research Institute, Singapore/SGP

P 03.03 **Reactivation of latent virus infection – a link between the acute inflammatory response to air pollutants and chronic lung disease in a mouse model**
V. Häfner[1]; [1] Helmholtz Zentrum München, Deutsches Forschungszentrum für Gesundheit und Umwelt (GmbH), Neuherberg/D

P 03.04 **Development a new health metric for ambient fine particles by considering their differential toxicities**
M. Park[1]; H. Joo[2]; K. Lee[1]; M. Jang[3]; S. Kim[1]; I. Kim[1]; L. Borlaza[1]; H. Lim[1]; H. Shin[1]; K. Chung[1]; Y. Choi[4]; S. Park[1]; M. Bae[5]; J. Lee[6]; H. Song[1]; K. Park[1]; [1] Gwangju Insititute of Science and Technology GIST, Gwangju/ROK; [2] Gwangju Institute of Science and Technology and Anyang University, Gwangju/Anyang/ROK; [3] University of Florida, Florida/ROK; [4] Gachon University Graduate School of Medicine, Incheon/ROK; [5] Mokpo National University, Mokpo/ROK; [6] Ewha Womans University, Seoul/ROK

ADVERSE OUTCOME PATHWAYS AND PARTICLE TOXICOLOGY

P 04.01 **Lung-Specific Regulation of Angiotensin System by Chronic Exposure of Particulate Matter**
H. Chuang[1]; Y. Chen[1]; J. Chen[2]; T. Hsiao[3]; T. Cheng[4]; [1] Taipei Medical University, Taipei/RC; [2] Institute of Biomedical Engineering & Nanomedicine, National Health Research Institutes, Miaoli/RC; [3] Graduate Institute of Environmental Engineering, National Taiwan University, Taipei/RC; [4] Institute of Occupational Medicine and Industrial Hygiene, College of Public Health, National Taiwan University, Taipei/RC

P 04.02 **Evaluation of toxicity in vitro and in vivo of gold nanoparticles for cancer theranostic**
J. Batista[1]; A. Kuchinski Cavalcante[1]; S. Ota Rogero[1]; J. da Silva Maziero[1]; J. Rogero[1]; A. Moreira Fonseca[2]; W. Viveiros[3]; K. Vijayavani Katti[4]; A. Benévolo Lugão[1]; [1] Nuclear and Energy Research Institute - IPEN/CNEN/USP-SP, São Paulo/BR; [2] Virtual University of the State of São Paulo, São Paulo/BR; [3] Environmental Company of the State of São Paulo, São Paulo/BR; [4] University of Missouri-Columbia, Missouri/USA

P 04.03 **Intravital microscopy to elucidate nanoparticle dynamics and effects on immune cell trafficking in the murine lung**
Q. Liu[1]; T. Stöger[2]; M. Rehberg[3]; [1] Helmholtz Centre Munich, Neuherberg/D; [2] Helmholtz Center Munich, Neuherberg/D; [3] Helmholtz Centre Munich, München/D

P 04.04 **Development of an Integrated Approach to Testing and Assessment (IATA) for Inhaled Particles within The EU Project GRACIOUS**
L. Ma-Hock[1]; H. Braakhuis[2]; S. Dekkers[2]; F. Murphy[3]; J. Keller[1]; R. Landsiedel[1]; [1] BASF SE, Ludwigshafen/D; [2] The Dutch National Institute for Public Health and the Environment (RIVM), Bilthoven/NL; [3] Heriot Watt University, Edinburgh/UK

P 04.05 **Long-Fibre Carbon Nanotube- and Asbestos-induced Pleural Disease is not accelerated by loss of a single copy of the Tumour Suppressor NF2/Merlin**
A. Craxton[1]; S. Galavotti[1]; T. Chernova[1]; J. Zacarias Cabeza[1]; X. Sun[1]; C. Ficken[1]; P. Greaves[2]; K. Donaldson[3]; C. Poland[3]; A. Willis[1]; M. MacFarlane[1]; [1] University of Cambridge, Leicester/UK; [2] University of Leicester, Leicester/UK; [3] University of Edinburgh, Edinburgh/UK

P 04.06 **Cytotoxic effects of PM1 in respiratory and cardiovascular systems**
F. Zhang[1]; W. Ding[1]; G. Tian[1]; J. Wang[1]; l. Liu[1]; [1] University of Chinese Academy of Sciences, Beijing/CN

P 04.07 **Roles of dysregulation of lipid metabolism in the development of lung cancer induced by PAHs exposure in air particles**
Q. Luo[1]; [1] China, Shenzhen/CN

P 04.08 **Cell cycle arrest, senescence, and loss of gap junctional communication induced by carbon nanoparticles in lung epithelium**
T. Spannbrucker[1]; [1] IUF - Leibniz Research Institute for Environmental Medicine, Duesseldorf/D

P 04.09 **Sex-related in vivo response to silver nanoparticles after subacute oral exposure**
R. Barbir[1]; W. Goessler[2]; M. Čurlin[3]; S. Dabelić[4]; V. Micek[1]; I. Pavičić[1]; I. Vinković Vrček[1]; [1] Institute for Medical Research and Occupational Health, Zagreb/HR; [2] University of Graz, Institute of Chemistry, Graz/A; [3] University of Zagreb, School of Medicine, Zagreb/HR; [4] University of Zagreb, Faculty of Pharmacy and Biochemistry, Zagreb/HR

P 04.10 **Nanoparticles trigger membrane-dependent signalling pathways via caveolin-1 in lung epithelial cells**
K. Unfried[1] ; [1] IUF - Leibniz-Institut für umweltmedizinische Forschung, Düsseldorf/D

CENTRAL AND PERIPHERAL NERVOUS SYSTEM TOXICITY

P 05.01 **Neurotoxicity induced by repeated oropharyngeal aspiration of diesel exhaust particles in mice**
T. Cheng[1]; H. Chuang[2]; T. Chen[3]; L. Lee[1]; H. Chen[1]; [1] College of Public Health, National Taiwan University, Taipei/RC; [2] Medical College, Taipei Medical University, Taipei/RC; [3] NTU Hospital, National Taiwan University, Taipei/RC

DERMAL EFFECTS OF PARTICLE EXPOSURES

P 06.01 **Cytotoxicity and gene expression profiling of CuO nanoparticles compared to water soluble CuCl2 in skin cells**
R. Neuberger[1]; P. Schumacher[1]; A. Hartwig[1]; [1] Karlsruhe Insitute of Technology (KIT), Karlsruhe/D

P 06.02 **Interactions of TiO_2 nanoparticles with ingredients from modern lifestyle products and their effects on human skin cells**
M. Geppert[1]; A. Schwarz[1]; L. Stangassinger[1]; L. Wienerroither[1]; S. Ess[1]; A. Duschl[1]; M. Himly[1]; [1] Department of Biosciences, University of Salzburg, Salzburg/A

WEAR, TEAR AND CONSTRUCTION PARTICLES

P 07.01 **Multimodal optical detection and toxicity testing of microplastics in the environment**
B. Kemper[1]; A. Barroso Pena[1]; L. Hülsmann[1]; S. Ketelhut[1]; K. Mittmann[2]; S. Graß[3]; J. Reiber[3]; J. Schnekenburger[4]; [1] Westfälische Wilhelms-Universität Münster, Biomedical Technology Center, Münster/D; [2] FH Münster/Steinfurt, Steinfurt/D; [3] WESSLING GmbH, Altenberge/D; [4] Westfälische Wilhelms-Universität Münster, Münster/D

P 07.02 **Stone quarry particles of different composition induce differential cytokine expression in HBEC3-KT and THP-1 cells**
V. Grytting[1]; M. Refsnes[1]; J. Øvrevik[1]; M. Låg[1]; [1] Norwegian Institute of Public Health, Oslo/N

MODELING AND COMPUTATIONAL TOXICOLOGY FOR PARTICLE TOXICOLOGY

P 08.01 **Evaluation of protein adsorption energy using predicted protein 3D structure**
S. Alsharif[1]; [1] UCD, Dublin/IRL

P 08.02 **Toxicokinetic and toxicodynamic effects of long-term inhalation exposures to iron oxide (Fe_2O_3), nickel oxide (NiO) and amorphous silica (SiO_2) nano-scale particles as revealed in experiments on rats with multicompartmental mathematical modeling: common patterns and specific peculiarities**
S. Klinova[1]; M. Sutunkova[1]; S. Solovyeva[1]; L. Konysheva[1]; L. Privalova[1]; B. Katsnelson[1]; [1] Yekaterinburg Medical Research Center for Prophylaxis and Health Protection in Industrial Workers, Yekaterinburg/RUS

GRAPHENE AND CARBON NANOTUBES

P 09.01 **Lung deposition and retention of multiwall carbon nanotubes (MWCNTs) in Sprague-Dawley rats after 28-day inhalation exposure and 28-day post-exposure**
I. Yu[1]; J. Kim[2]; M. Jo[1]; Y. Kim[1]; J. Shin[3]; B. Kim[3]; H. Kim[2]; K. Ahn[4]; S. Oh[2]; [1] HCTm, Icheon/ROK; [2] Hoseo University, Asan/ROK; [3] KCOMWEL, Incheon/ROK; [4] Hanyang University, Ansan/ROK

P 09.02 **Impact of carbon nanoparticles shape on the depletion of resident lung macrophages**
C. Ballester-López[1]; C. Voss[1]; Y. Ding[1]; O. Schmid[1]; T. Stöger[1]; [1] Institute of Lung Biology and Disease, Helmholtz Zentrum München, Munich/D

P 09.03 **ICONS - INTEGRATED TESTING STRATEGY FOR MECHANISTICALLY ASSESSING THE RESPIRATORY TOXICITY OF FUNCTIONALIZED MWCNT**
O. Creutzenberg[1]; D. Lison[2]; S. van den Brule[2]; S. Simon[3]; J. Bonner[4]; C. Ziemann[1]; [1] Fraunhofer Institute for Toxicology and Experimental Medicine ITEM, Hannover/D; [2] Université Catholique de Louvain (LTAP), Louvain/B; [3] Babes-Bolyai University (BBU), Cluj/RO; [4] North Carolina State University (NCSU), Raleigh/USA

P 09.04 **The interaction of carbon nanomaterials and intestinal tract**
X. Cui[1]; C. Chen[2]; [1] CAS Key Laboratory for Biomedical Effects of Nanomaterials and Nanosafety, National Center for Nanoscience and Technology, Beijing/CN; [2] National Center for Nanoscience and Technology of China, Beijing/CN

P 09.05 **Environmental fate of graphene oxide in aquatic environment – complete mitigation of acute toxicity against planktonic and benthic crustaceans by algae**
T. Malina[1]; E. Marsalkova[2]; K. Hola[1]; R. Zboril[1]; B. Marsalek[2]; [1] Faculty of Science, Palacký University, Olomouc, Olomouc/CZ; [2] Institute of Botany, Czech Academy of Sciences, Brno/CZ

P 09.06 **Understanding Carbon-Based Nanomaterials (CBN) Immunological and Toxicological Mechanisms of Disease in vitro**
H. Risby[1]; A. Tarat[2]; S. Doak[1]; M. Clift[1]; [1] In Vitro Toxicology Group, Swansea University Medical School, Swansea/UK; [2] Perpetuus Advanced Materials, Swansea/UK

P 09.07 **Estimating Workers' Exposure Levels at a Carbon-Based Nanomaterials Manufacturing Facility Over a 12-Month Period**
H. Risby[1]; A. Tarat[2]; S. Doak[1]; M. Clift[1]; [1] In Vitro Toxicology Group, Swansea University Medical School, Swansea/UK; [2] Perpetuus Advanced Materials, Swansea/UK

ADVANCED MATERIALS

P 10.01 **Biocompatibility of diagnostic particles and nanostructures**
E. Gudilin[1]; [1] Moscow State University, Moscow/RUS

P 10.02 **Toxicity of metal and metal oxide nanoparticles to model microorganisms**
I. Rezić[1]; [1] Univerversity of Zagreb, Zagreb/HR

POSTER PROGRAMME

P 10.03 **Maghemite nanoparticles stabilize protein corona formed with transferrin presenting different iron-saturation levels**
U. Martens[1]; D. Talbot[2]; A. Abou-Hassan[2]; M. Delcea[1]; [1] Institute for Biochemistry/ University of Greifswald, Greifswald/D; [2] Sorbonne Université, CNRS, Physicochimie des Electrolytes et Nanosystèmes InterfaciauX, Paris/F

P 10.04 **Functionalized gold nanoparticle as drug delivery vehicles in biomedical applications**
N. Sibuyi[1]; A. Wusu[2]; N. Thovhogi[2]; M. Onani[2]; M. Meyer[2]; A. Madiehe[2]; [1] Universrsity of the Western Cape, South Africa/ZA; [2] University of the Western Cape, Cape Town/ZA

OCCUPATIONAL PARTICLES

P 11.01 **Impact of nanocomposite combustion-generated aerosols on genomic stability**
J. Wall[1]; M. Hufnagel[1]; N. Teuscher[2]; M. Mackert[2]; S. Mülhopt[2]; A. Hartwig[1]; [1] Karlsruhe Insitute of Technology (KIT), Institute of Applied Biosciences, Karlsruhe/D; [2] Karlsruhe Insitute of Technology (KIT), Institute of Technical Chemistry, Karlsruhe/D

P 11.02 **Surface silanol pattern: a new key descriptor of silica pathogenicity**
C. Pavan[1]; R. Leinardi[2]; R. Santalucia[3]; M. Fabbiani[3]; Y. Yakoub[1]; F. Uwambayinema[1]; V. Sironval[1]; L. Pastero[4]; M. Tomatis[2]; G. Martra[3]; F. Turci[2]; B. Fubini[2]; D. Lison[1]; [1] Louvain Centre for Toxicology and Applied Pharmacology (LTAP), Université Catholique de Louvain, Brussels/B; [2] Dept. of Chemistry and "G. Scansetti" Interdepartmental Centre, University of Turin, Turin/I; [3] Dept. of Chemistry and NIS Centre of Excellence, University of Turin, Turin/I; [4] Dept. of Earth Sciences and „G. Scansetti" Interdepartmental Centre, University of Turin, Turin/I

P 11.03 **The modulatory role of macrophages in pro-inflammatory responses of crystalline silica and diesel exhaust particles in a**
M. Låg[1]; T. Skuland[2]; A. Gutleb[3]; J. Øvrevik[4]; J. Holme[1]; M. Refsnes[1]; [1] Norwegian Institute of Public Health, Oslo/N; [2] Norwegian Institute of Public Health, Oslo/PAL; [3] 2Luxembourg Institute of Science and Technology (LIST), Environmental Research and Innovation (ERIN) Department, Belvaux/L; [4] Norwegian Institute of Public Health, Oslo/PK

OUTDOOR AIR PARTICLES

P 13.01 **Using the Mobile Air Research Lab to for in vivo assessment of Metal Contaminated Wind-Blown Particulates from Abandoned Uranium Mines within U.S. American Indian Tribal Lands**
J. Begay[1]; B. Sanchez[1]; A. Wheeler[1]; F. Baldwin, Jr.[2]; S. Lucas[1]; G. Herbert[1]; Y. Ordonez[1]; C. Shuey[3]; J. Harkema[4]; J. Wagner[4]; M. Morishita[4]; B. Bleske[1]; M. Campen[1]; [1] University of New Mexico, Albuquerque/USA; [2] Dine College, Tsaile/USA; [3] Southwest Research Information Center, Albuquerque/USA; [4] Michigan State University, East Lansing/USA

P 13.02 **Short-term exposure to ultrafine particles near an international airport in healthy subjects**
F. Cassee[1]; [1] National Institute for Public Health and the Environment, Bilthoven/NL

P 13.03 **Distinguishing the sources of fine/ultrafine particles in the environment by stable isotopic fingerprinting**
Q. Liu[1]; D. Lu[2]; X. Yang[2]; G. Jiang[2]; [1] Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Haidian District/CN; [2] Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing/CN

CARCINOGENICITY: SHORT-TERM, LONG-TERM AND LONGLATENCY MECHANISMS

P 14.01 **Ontology of peritoneal macrophage regeneration is a possible determinant of the mesotheliomagenic response to carbon nanotubes in rats**
F. Huaux[1]; M. Orsi[1]; H. Kiyambu[1]; C. Chafik Al Hatem[1]; M. Palmai-Pallag[1]; D. Brusa[2]; D. Lison[1]; [1] Louvain Centre for Toxicology and Applied Pharmacology (LTAP), Université catholique de Louvain, Brussels/B; [2] Institut de Recherche Expérimentale et Clinique, UCLouvain, Brussels/B

IN UTERO EXPOSURES TO PARTICLES

P 15.01 **Oxidative stress mediates developmental neurotoxicity of carbon black nanoparticle in mouse and chicken embryo models**
M. Umezawa[1]; A. Onoda[2]; D. Samak[3]; H. Shaheen[3]; K. Takeda[4]; Y. El-Sayed[3]; [1] Tokyo University of Science, Katsushika, Tokyo/J; [2] Nagoya University Hospital, Nagoya/J; [3] Damanhour University, Damanhour/ET; [4] Sanyo-Onoda City University, Sanyo-Onoda/J

OPEN TOPIC

P 16.01 **Lung retention and particokinetics of silver and gold nanoparticles in rats following subacute co-exposure via inhalation**
I. Yu[1]; J. Kim[2]; H. Kim[3]; J. Park[4]; K. Ahn[5]; M. Gulumian[6]; G. Oberdörster[7]; [1] HCTm, Icheon/ROK; [2] Hoseo University, Asan/ROK; [3] Hoseo University, Asan/KS; [4] Chung-Ang University, Seoul/ROK; [5] Hanyang University, Ansan/ROK; [6] South Africa NIOH, Johannesburg/ZA; [7] University of Rochester, Rochester/USA

P 16.02 **Toxicokinetic study on Silver nanoparticle after subacute inhalation exposure and post-exposure observation period**
I. Yu[1]; M. Jo[1]; J. Kim[2]; Y. Kim[1]; H. Kim[2]; S. Oh[2]; H. Eun[3]; H. Kim[1]; K. Ahn[3]; J. Lee[4]; E. Fasutman[4]; M. Gulumian[5]; B. Kelman[6]; [1] HCTm, Icheon/ROK; [2] Hoseo University, Asan/ROK; [3] Hanyang University, Ansan/ROK; [4] University of Washington, Seattle/USA; [5] South Africa NIOH, Johannesburg/ZA; [6] Veritox, Redmond/USA

POSTER PROGRAMME

P 16.03 **Monitoring the bioeffects of allergen-NP conjugates in submersed culture vs. air-liquid interface: a study on the hAELVi cell line**
R. Mills-Goodlet[1]; M. Schenck[2]; A. Chary[3]; M. Geppert[1]; T. Serchi[3]; A. Gutleb[3]; N. Hüsing[2]; M. Himly[1]; A. Duschl[1]; [1] Department of Biosciences, University of Salzburg, Salzburg/A; [2] Department of Chemistry and Physics of Materials, University of Salzburg, Salzburg/A; [3] Luxembourg Institute of Science and Technology (LIST), Environmental Research and Innovation (ERIN) Department, Belvaux/L

P 16.04 **DaNa2.0 Knowledge Base – Informing the public with quality-approved information on Safety of Nanomaterials**
C. Marquardt[1]; N. Bohmer[2]; C. Steinbach[2]; N. Möller[2]; K. Nau[1]; H. Krug[3]; D. Kühnel[4]; A. Mattern[4]; [1] Karlsruhe Institute of Technology (KIT), Institute for Automation and Applied Informatics (IAI), Eggenstein-Leopoldshafen/D; [2] DECHEMA e.V., Frankfurt a. M./D; [3] NanoCASE GmbH, Engelburg/CH; [4] Helmholtz-Centre for Environmental Research (UFZ), Department Bioanalytical Ecotoxicology, Leipzig/D

P 16.05 **The SILIFE project: Production, toxicity screening and industrial application of quartz species with reduced lung toxicity**
C. Ziemann[1]; E. Monfort[2]; M. Ibáñez[2]; A. López-Lilao[2]; G. Bonvicini[3]; O. Creutzenberg[1]; [1] Fraunhofer Institute for Toxicology and Experimental Medicine ITEM, Hannover/D; [2] Instituto de Tecnología Cerámica (ITC), Universitat Jaume I, Castellón/E; [3] Centro Ceramico di Bologna (CCB), Bologna/I

P 16.06 **REFINE project establishing a regulatory science framework supporting the risk-benefit assessment of nanobiomaterial-based medical products and medical devices**
A. Prina-Mello[1]; M. Siccardi[2]; L. Pizzol[3]; K. Weltring[4]; S. Baconnier[5]; P. Boisseau[5]; [1] Trinity College Dublin, The University of Dublin, Dublin/IRL; [2] University of Liverpool, Liverpool/UK; [3] GreenDecision Srl, Marghera/I; [4] Gesellschaft für Bioanalytik Münster e. V., Münster/D; [5] CEA, Grenoble/F

P 16.07 **Exploring the use of in vitro and zebrafish embryo models as alternatives to rodent testing for assessing neutrophil responses to nanomaterials**
S. Gillies[1]; R. Verdon[2]; T. Henry[2]; V. Stone[2]; H. Johnston[2]; L. Powell[3]; [1] Heriot-Watt University, Edinburgh/UK; [2] Heriot Watt University, Edinburgh/UK; [3] Heriot Watt University, Scotland/UK

ORGANISER

DECHEMA e.V.
Theodor-Heuss-Allee 25
60486 Frankfurt am Main
Germany

Matthias Neumann
Phone: +49 (0)69 7564-254
Fax: +49 (0)69 7564-176
E-mail: matthias.neumann@dechema.de