Sunday 8th September 2013

Drinks Reception and Registration

18:30 – 20:00 **Lowry Art Gallery**

Monday 9th September 2013

Registration 08:30 – 09:00

Opening session

09:00 - 09:45 Quays theatre Chair: Prof. Maurizio Manno, Chair of ICOH's SCOT

Opening of the ninth International Symposium on Biological Monitoring by representatives of ICOH's scientific committees on Occupational Toxicology, Toxicology of Metals and Rural Health: Agriculture, Pesticides and Organic Dusts.

Keynote:

09:45 - 10:20 Quays theatre Chair: Michael Bader, BASF

K.1 The IARC Monographs Program: the increasing use of mechanistic data in cancer hazard identification.
Kurt Straif
International Agency for Research on Cancer, Lyon, France

Coffee 10:20 – 10:45

Parallel Session 1: Adduct biomarkers

10:45 – 12:15 Quays theatre Chair: Claude Viau, ex University of Montreal

1.1 Biomarkers of Polycyclic Aromatic Hydrocarbon Exposure in Coke Oven Workers: relationship between PAH internal dose markers and target organ DNA adduct levels
Glenn Talaska[1], Jeff Thoroman[1], Brenda Schuman[1], Heiko Kafferlein[2]
[1]University of Cincinnati, Cincinnati, USA, [2]Inst. For Prevention of Workplace Disease, Ruhr University Bochum, Bochum, Germany

1.2 Amino acid adducts in urine as a new type of biomarkers of alkylating agents
Jaroslav Mráz[1], Igor Linhart[2], Dušková Šárka[1], Iveta Hanzlíková[1], Ludmila Dabrowská[1]
[1]National Institute of Public Health, Prague, Czech Republic, [2]Institute of Chemical Technology, Prague, Czech Republic

1.3 Suitability of N,N-dimethylformamide derived hemoglobin adduct as long-term biomarker
Thomas Göen, Elisabeth Eckert, Sonja Kilo, Hans Drexler
Institute and Outpatient Clinic of Occupational, Social and Environmental Medicine, Erlangen, Germany

1.4 Biomonitoring of 4,4'-methylenediphenyl diisocyanate (MDI) with new specific biomarker MDA-Val-Hyd
Gabriele Leng, Wolfgang Gries
Currenta GmbH & Co.OHG, Leverkusen, Germany

Parallel Session 2: New and emerging hazards

10:45 – 12:15 Compass room Chair: Holger Koch, Ruhr University

2.1 Testing for new emerging contaminants in biomonitoring studies: How confident are we?
Alain LeBlanc, Pierre Dumas
Centre de toxicologie / INSPQ, Sainte-Foy, Quebec, Canada

2.2 Background levels of metals in urine samples to assist with exposure assessments.
Jackie Morton, Liz Leese, Emma Tan, John Cocker
Health & Safety Laboratory, Buxton, UK

2.3 Perfluorinated compounds: advantages and disadvantages of biomarker versus dose in epidemiological research.
Tony Fletcher[1], Debapriya Mondal[2]
[1]London School of Hygiene and Tropical Medicine, London, UK, [2]University of Salford, Salford, UK

2.4 Blood and exhaled air can be used for biomonitoring of hydrofluorocarbons in humans.
Lena Ernstgård, Bengt Sjögren, Gunnar Johanson
Karolinska Institutet, Stockholm, Sweden

Lunch 12:15 – 13:00

Poster session

13:00 - 13:30

All posters should be displayed for the duration of the conference. Authors of the following posters will be available to discuss their work during this session.

Biological Effect Monitoring

P.16 Relationship between exposure to low level VOCs and oxidative stress
Massimiliano Mascelloni[1], Marcus S. Cooke[2], Silvia Fustinoni[3], Rosa Mercadante[3], Elisa Polledri[3], Luca Olgiati[3], Laura Campo[3], Roy M. Harrison[1], Juana Maria Delgado-Saborit[1]
[1]University of Birmingham, Birmingham, UK, [2]University of Leicester, Leicester, UK, [3]University of Milano, Milano, Italy

P.19 Effect biomarkers in a UK study of workers exposed to silica.
Howard Mason[1], Ian Smith[1], Nick Warren[1], David Fishwick[1,2]
[1]Health and Safety Laboratory, Buxton, UK, [2]Royal Hallamshire Hospital, Sheffield, UK

P.31 MicroRNAs as biomarkers in arsenic exposure
Elena Sturchio[1], Teresa Colombo[2], Nicoletta Carucci[2], Claudia Meconi[1], Priscilla Boccia[1], Giuseppe Macino[2], Claudio Minoia[3]
[1]Italian Workers' Compensation Authority (INAIL), Department for Production Plants and Anthropic Settlements, Rome, Italy, [2]University of Rome "La Sapienza" - BCE, Rome, Italy, [3]Laboratory for Environmental and Toxicological Measurements, IRCCS Pavia, S. Maugeri Foundation, Pavia, Italy

P.32 GENETIC BIOMARKERS IN THE DETOXIFICATION OF STYRENE OXIDE. APPLICATION TO BIOLOGICAL MONITORING OF OCCUPATIONAL EXPOSURE TO STYRENE.
María José Prieto Castelló[1,4], Antonio Cardona Llorens[1,4], Dolores Marhuenda Amorós[1,4], José María Roel Valdés[2,1], Andrés Corno Caparros[3,1]
[1]Miguel Hernandez University, San Juan (Alicante), Spain, [2]INVASSAT, Alicante, Spain, [3]ANCOR Laboratory, Alicante, Spain, [4]Professional School of Occupational Medicine, Alicante, Spain

P.37 METHODOLOGICAL SAMPLING APPROACH TO THE USE OF GENETIC BIOMARKERS IN THE RISK ASSESSMENT OF OCCUPATIONAL EXPOSURE TO SOLVENTS
Dolores Marhuenda Amorós[1,3], María José Prieto Castelló[1,3], Antonio Cardona

Llorens[1,3], José María Roel Valdés[2,1]
[1]Miguel Hernandez University, San Juan de Alicante, Spain, [2]INVASSAT, Alicante, Spain, [3]Professional School of Occupational Medicine, San Juan de Alicante, Spain

P.38 CYP2E1 PHENOTYPE AND EVALUATION OF GENETIC DAMAGE IN FOOTWEAR WORKERS EXPOSED TO TOLUENE
María José Prieto Castelló[1,3], Dolores Marhuenda Amorós[1,3], Antonio Cardona Llorens[1,3], José María Roel Valdés[2,1]
[1]Miguel Hernández University, San Juan de Alicante, Spain, [2]INVASSAT, Alicante, Spain, [3]Professional School of Occupational Medicine, San Juan de Alicante, Spain

Interpretation of results

P.46 Towards Reference Values Biomarkers of Oxidative Stress in Exhaled Breath Condensate
Roberta Andreoli[1,2], Matteo Goldoni[1,2], Rossella Alinovi[2], Daniela Pigini[1], Silvana Pinelli[2], Massimo Corradi[2], Antonio Mutti[2]
[1]INAIL, Research Center at the University of Parma, Parma, Italy, [2]Department of Clinical and Experimental Medicine, University of Parma, Parma, Italy

P.02 Evaluation of the current biological exposure index of toluene in Korea
Mi-young Lee[1], Yong Lim Won[1], Hochun Choi[1,2]
[1]KOSHA, Incheon, Republic of Korea, [2]KIHA, Seoul, Republic of Korea

P.06 Biomonitoring of Employees Occupationally Exposed to Bisphenol A - A Comparison with Environmental and Occupational Assessment Values
Sandra Brill[1]
[1]BASF SE, Occupational Medicine & Health Protection, 67056 Ludwigshafen, Germany, [2]BASF SE, Production, 67056 Ludwigshafen, Germany

P.12 Biomonitoring as an early warning of increased exposure to toxic substances in humans
Natalia Kotova, Stina Wallin, Eva Warensjö Lemming, Ingalill Gadhasson, Sanna Lignell, Anders Glynn, Per Ola Darnerud
The Swedish National Food Agency, Uppsala, Sweden

P.28 Can Occupational Biological Limit value be recommended for Acrylamide?
Mounia El Yamani[1], Nolwenn Noisel[3], Marie-Laure Cointot[2]
[1]Institut de veille sanitaire, Saint Maurice, France, [2]Angence Française de sécurité sanitaire de l'alimentation l'environnement et le travail, Maisons Alfort, France, [3]Université Montréal, Montreal, Canada

P.51 Case Study: Conveying Biomonitoring Results in a Multi-Ethnic Community Study Through Collaborative Educational Protocols
Sharyle Patton[1,2]
[1]Commonweal, Bolinas, California, USA, [2]Silent Spring Institute, Boston, Massachusetts, USA

Practicalities

P.10 Quantification of cyclosiloxanes in exhaled air by thermal-desorption gas chromatography mass spectrometry.
Gwendolyn Beckmann, Jacqueline Biesterbos, Paul Scheepers
Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands

P.17 Background Levels of Environmental Chemicals in Blood Collection and Storage Supplies for Alberta Biomonitoring Program Studies
Amy MacDonald[1], Detlef Birkholz[2], Stephan Gabos[3], Weiping Zhang[4], David Kinniburgh[1,5]
[1]Alberta Centre for Toxicology, Calgary, Alberta, Canada, [2]ALS Environmental, Edmonton, Alberta, Canada, [3]Office of the Chief Medical Officer of Health, Alberta Health, Edmonton, Alberta, Canada, [4]Health Protection, Alberta Health, Edmonton, Alberta, Canada, [5]Department of Physiology & Pharmacology, University of Calgary, Calgary, Alberta, Canada

P.23 An inter-laboratory comparison for the analyses of pyrethroid metabolites in urine with respect to the comparability of exposure levels in national population studies
Thomas Göen[1], Jun Ueyama[2], Michihiro Kamijima[2], Ulrike Fiddicke[3], Marike Kolossa-Gehring[3]
[1]Institute and Outpatient Clinic of Occupational, Social and Environmental Medicine, Erlangen, Germany, [2]Department of Occupational and Environmental Health, Nagoya, Japan, [3]Federal Environmental Agency (UBA), Dessau-Roßlau/Berlin, Germany

P.36 BIOETHICS OF BIOLOGICAL MONITORING IN THE WORKPLACE: MEDICAL ACTIVITY AND TOXIC RISK PREVENTION
Antonio Cardona Llorens[1,2], Dolores Marhuenda Amorós[1,2], María José Prieto Castelló[1,2]
[1]Miguel Hernandez University, San Juan de Alicante, Spain, [2]Professional School of Occupational Medicine, San Juan de Alicante, Spain

Public health

P.04 ~~Worrying exposure to trace elements in the population of Kinshasa, Democratic Republic of Congo (DRC)~~
~~*Joel Tuakuila[1,2], Dominique Lison[2], Anne-Catherine Lantin[2], François Mbuyi[1], Gladys Deumer[2], Vincent Haufroid[2], Perrine Hoet[2]*~~
~~*[1]Université of Kinshasa, Kinshasa, The Democratic Congo, [2]Université catholique de Louvain, Bruxelles, Belgium*~~ ~~**Withdrawn**~~

P.07 ~~Urinary levels of cadmium and cotinine of general population in Slovenia~~
~~*Darja Mazej, Janja Snoj Tratnik, Milena Horvat*~~
~~*Jožef Stefan Institute, Ljubljana, Slovenia*~~ ~~**Withdrawn**~~

P.08 ~~Selected results of human biomonitoring studies in Slovenia - Cd, Pb, As and Se in blood~~
~~*Darja Mazej[1], Janja Snoj Tratnik[1], Milena Horvat[1], Mladen Krsnik[2], Joško Osredkar[2], Lijana Kononenko[3]*~~
~~*[1]Jožef Stefan Institute, Ljubljana, Slovenia, [2]University Medical center, Ljubljana, Slovenia, [3]Ministry of Heath, Chemical Office of the Republic of Slovenia, Ljubljana, Slovenia*~~ ~~**Withdrawn**~~

P.14 Biomarkers of manganese exposure and neuropsychological deficits in adults environmentally exposed
Gustavo F.S. Viana[1], Chrissie F. Carvalho[2], Lorena Nunes[1], Diego Andrade[1], Caroline M. Baptiste[2], Jonatas R. Bessa[2], Junia R. Dutra[1], Neander Abreu[2], José A. Menezes-Filho[1]
[1]Federal University of Bahia, Salvador, Bahia, Brazil, [2]Institute of Psychology, Federal Universty of Bahia, Salvador, Bahia, Brazil

P.15 Manganese biological monitoring by noninvasive biomarkers in adults living near an alloy-plant
Gustavo F.S. Viana[1], Nathália R. Santos[1], Vanesca L. Silva[1], Lorena Nunes[1], Sérgio S. Prado[1], Chrissie F. Carvalho[2], Juliana L.G. Rodrigues[1], Neander Abreu[2], José A. Menezes-Filho[1]
[1]Federal University of Bahia, Salvador, Bahia, Brazil, [2]Institute of Psychology, Federal University of Bahia, Salvador, Bahia, Brazil

P.21 Occupational PCB exposure in Finland: results of biomonitoring in 2002-2012
Simo Porras[1], Tuula Karttunen[1], Markus Sillanpää[2], Tiina Santonen[1]
[1]Finnish Institute of Occupational Health (FIOH), Helsinki, Finland, [2]Finnish Environment Institute (SYKE), Helsinki, Finland

P.30 ~~REFERENCE VALUES FOR SELECTED ORGANOCHLORINATED COMPOUNDS IN SERUM BY USING TRIPLE QUADRUPOLE GC-MS/MS~~
~~*Roberta Turci, Finozzi Enrico, Minoia Claudio*~~
~~*Salvatore Maugeri Foundation, Pavia, Italy*~~ ~~**Withdrawn**~~

P.34 Internal dose of metals in Italian urban adolescents.
Anna Pino[1], Beatrice Bocca[1], Antonio Amato[2], Alessandro Alimonti[1]
[1]Italian National Institute of Health, Rome, Italy, [2]National Association against Microcytemia, Rome, Italy

P.42 ~~Human biomonitoring studies in Slovenia - mercury~~
~~*Janja Snoj Tratnik[1], Darja Mazej[1], Ana Miklavčič[1], Joško Osredkar[2], Mladen Krsnik[2], Lijana Kononenko[3], Majda Pavlin[1], Alfred B. Kobal[4], Milena Horvat[1]*~~
~~*[1]Jožef Stefan Institute, Ljubljana, Slovenia, [2]University Medical Center, Ljubljana, Slovenia, [3]Ministry of Heath, Chemical Office of the Republic of Slovenia, Ljubljana, Slovenia, [4]Mercury Mine Idrija, Idrija, Slovenia*~~ ***Withdrawn***

Parallel Session 3: Effect Biomarkers

13:30 - 15:00 Quays theatre **Chair: Maurizio Manno, Università degli Studi di Napoli Federico II**

3.1 GENOTOXIC EFFECTS OF OCCUPATIONAL AND ENVIRONMENTAL EXPOSURE TO LOW CONCENTRATIONS OF BENZENE
Piero Lovreglio[1], Francesca Maffei[2], Mariella Carrieri[3], Maria Nicolà D'Errico[1], Ignazio Drago[1], Patrizia Hrelia[2], Giovanni Battista Bartolucci[3], Leonardo Soleo[1]
[1]University of Bari, Bari, Italy, [2]Department of Pharmacology, University of Bologna, Bologna, Italy, [3]Department of Molecular Medicine, Section of Occupational Medicine, University of Padova, Padova, Italy

3.2 Influence of genetic polymorphism on t,t-MA/SPMA ratio in 301 benzene exposed subjects
Damiano Carbonari, Anna Rita Proietto, Giovanna Tranfo, Enrico Paci, Maddalena Papacchini, Antonella Mansi
INAIL Research, Monteporzio Catone (Rome), Italy

3.3 Clara cell protein in serum or urine as biomarker for airway effects -aspects on variability
Lars Barregard, Ghofran Jasem
University of Gothenburg, Gothenburg, Sweden

3.4 Association of Past Diseases with Levels of Cadmium and Tubular Dysfunction Markers
Masayuki Ikeda, Jiro Moriguchi, Sonoko Sakuragi, Fumiko Ohashi
Kyoto Industrial Health Association, Kyoto, Japan

Parallel Session 4: Occupational exposures 1

13:30 - 15:00 Compass room **Chair: Florence Pilliere, INRS**

4.1 Occupational exposure to cytotoxic drugs. French survey from 13 hospitals and about 300 health-care workers.
Sophie Ndaw, Alain Robert, Flavien Denis, Philippe Marsan
INRS, Vandoeuvre, France

4.2 Results and implications of a longitudinal biomonitoring study on mercury exposure
Michael Bader[1], Sandra Brill[1], Axel Schlieter[1], Christoph Uebler[2], Josef Guth[2]
[1]BASF SE, Ludwigshafen, Germany, [2]BASF SE, Electrolysis I, Ludwigshafen, Germany

4.3 Results of a large Italian survey of biomonitoring of carcinogenic risk factors in secondary metallurgical plants.
Giuseppe De Palma, Pietro Apostoli
University of Brescia, Brescia, Italy

4.4 Determinants of exposure to chromium, nickel and manganese during gas metal arc welding (GMAW)
Renaud Persoons[1,2], Damien ARNOUX[3], Damien BARBEAU[1,2], Sarah MONTLEVIER[1,2], Anne MAITRE[1,2]

[1]Joseph Fourier University, Grenoble, France, [2]Grenoble teaching hospital, Occupational and Environmental Toxicology Laboratory, Grenoble, France, [3]Drôme des Collines Occupational Health Department, Valence, France

Coffee 15:00 – 15:30

Parallel Session 5: Maternal and children's exposures

15:30 - 17:00 Quays theatre Chair: Kate Jones, HSL

5.1 Cell Proliferation of umbilical cord blood cells as a biomarker of environmental exposures
Lena Novack[1], Ester Manor[2,1], Elena Gurevich[1], Maayan Yitshak-Sade[1], Daniella Landau[2,1], Batia Sarov[1], Relli Hershkovitz[2], Isabella Karakis[3,1]
[1]Ben-Gurion University, Beer-Sheva, Israel, [2]Soroka University Hospital, Beer-Sheva, Israel, [3]Ministry of Health, Jerusalem, Israel

5.2 Phthalates metabolites in amniotic fluid and maternal urine samples
Giovanna Tranfo[1], Enrico Paci[1], Daniela Pigini[1], Silvia Capanna[1], Sergio Iavicoli[1], Maria Cristina Muzi[2], Gianfranco Gelli[2]
[1]INAIL Research, Monteporzio Catone, Italy, [2]UOSA of Medical Genetics, Woman's Health Center S.Anna, Rome, Italy

5.3 Biomonitoring for HCHs, DDTs and PBDEs in breast milk in Shenzhen, China
JianQing Zhang, YouSheng Jiang, RongJie Shi, Jian Zhou
Shenzhen Center for Disease Control & Prevention, Shenzhen, Guangdong, China

5.4 High levels of manganese exposure and neurobehavioral effects on children
José A. Menezes-Filho[1], Chrissie F. Carvalho[2], Gustavo F.S. Viana[1], Juliana L.G. Rodrigues[1], Júnia R. Dutra[1], Gustavo Siquara[2], Nenader Abreu[2]
[1]Federal University of Bahia, Salvador, Bahia, Brazil, [2]Institute of Psychology, Federal University of Bahia, Salvador, Bahia, Brazil

Parallel Session 6: New biomarkers

15:30 - 17:00 Compass room Chair: Thomas Göen, University of Erlangen-Nuremberg

6.1 DNA Methylation Modifies Urine Biomarker Levels in 1,6-Hexamethylene Diisocyanate (HDI) Exposed Workers
Leena Nylander-french[1], Michael Wu[2], Jayne Boyer[1], Alison Sanders[1], John French[3], Rebecca Fry[1]
[1]University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA, [2]Department of Biostatistics, Gillings School of Global Publich Health, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA, [3]National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, USA

6.2 Quantification of the mercapturic acids of acrylonitrile and its genotoxic metabolite cyanoethylene-epoxide in a pilot human biomonitoring study
Thomas Schettgen, Jens Bertram, Thomas Kraus
RWTH Aachen, Aachen, Germany

6.3 Identification and quantification of tebuconazole urinary metabolites in agriculture workers
Silvia Fustinoni[1], Rosa Mercadante[1], Elisa Polledri[1], Samuele Scurati[2], Federico Maria Rubino[3], Stefan Mandic-Rajcevic[3], Claudio Colosio[3], Angelo Moretto[4]
[1]University of Milan, Milano, Italy, [2]AB Sciex Italia, Brugherio, Italy, [3]Dipartimento di Scienze della Salute, Università degli Studi di Milano, Milano, Italy, [4]4Dipartimento di

Scienze Biomediche e Cliniche "L. Sacco" Università degli Studi di Milano e Centro Internazionale per gli Antiparassitari e la Prevenzione Sanitaria Azienda Ospedaliera "Luigi Sacco", Milano, Italy

6.4 Determination of Bis(2-propylheptyl)phthalate (DPHP) exposure in the general population

Gabriele Leng[1], Wolfgang Gries[1], Holger Koch[1]
[1]Currenta GmbH & Co.OHG, 51368 Leverkusen, Germany, [2]Institute for Prevention and Occupational Medicine of the German Social Accident Insurance – Institute for the Ruhr-Universität Bochum (IPA), 44789 Bochum, Germany

Keynote:

17:00 - 17:35 Quays theatre Chair: Heiko Kaefferlein, Ruhr University

K.2 Importance of toxicokinetics in understanding and interpreting biological monitoring results

Michèle Bouchard
University of Montreal, Montreal, Quebec, Canada

SCOT Business Meeting

17:45 - 18:30 Compass Room Chair: Maurizio Manno, Chair of SCOT

Initial part of the meeting open to all interested parties. Followed by a closed meeting of SCOT members only.

Tuesday 10th September 2013

Keynote:

09:00 - 09:35 **Quays theatre** **Chair: Glenn Talasaka, University of Cincinnati**

K.3 State of the art in exposome research.
Paolo Vineis
Imperial College London, London, UK

Parallel Short Oral Session A: Public health

09:35 - 10:20 **Quays theatre** **Chair: Craig Sams, HSL**

A.1 Measuring community exposures to solvent vapours from groundwater solvent plumes
Richard Oliver, Kateryna Babina, John Edwards
Flinders University, Adelaide, Australia

A.2 ~~Phthalate, bisphenol A, triclosan and parabene exposure of general population in Slovenia~~
~~*Janja Snoj Tratnik, Darja Mazej, Tina Kosjek, Ester Heath, Milena Horvat*~~
~~*Jožef Stefan Institute, Ljubljana, Slovenia*~~ ***Withdrawn***

Pesticide biomonitoring in residents living near agricultural land: Overview of study methodology
Karen Galea[1], L MacCalman[1], K Jones[2], J Cocker[2], P Teedon[3], JW Cherrie[1] and M van Tongeren[1]
[1]Centre for Human Exposure Science, IOM, Edinburgh, [2]HSL, Buxton, [3]Glasgow Caledonian University.

A.3 Urinary nicotine metabolites: usefulness as biomarkers of smoking status
Ilse Van Overmeire[1], Anca Elena Gurzau[2], Fátima Reis Reis[3], Gudrun Koppen[4], Milena Horvat[6], Ioana-Rodica Lupsa[2], Sónia Namorado[3], Dominique Aerts[5], Darja Mazej[6], Pedro Aguiar[3], Janja Snoj Tratnik[6], Joris Van Loco[1], Koen De Cremer[1]
[1]Scientific Institute of Public Health, Brussels, Belgium, [2]Environmental Health Center, Cluj-Napoca, Romania, [3]Institute of Preventive Medicine, Lisbon Faculty of Medicine, lisbon, Portugal, [4]Flemish Institute of Technological Research, Environmental Risk and Health unit, Mol, Belgium, [5]Federal Public Service Health, Food chain safety and Environment, Brussels, Belgium, [6]Jozef Stefan Institute, Ljubljana, Slovenia

Parallel Short Oral Session B: New biomarkers

09:35 - 10:20 **Compass room** **Chair: Jan Urbanus, Shell**

B.1 Fire Fighters' multiple exposure to perfluoroalkyl acids and 2-butoxyethanol present in AFFFs
Juha Laitinen[1], Jani Koponen[2], Janne Koikkalainen[3], Hannu Kiviranta[2]
[1]Finnish Institute of Occupational Health, Kuopio, Finland, [2]National Institute for Health and Welfare, Kuopio, Finland, [3]University of Eastern Finland, Kuopio, Finland

B.2 Internal exposure to perfluoroalkyl compounds in a French population of fish consumers
Sébastien Denys, Virginie Desvignes, Camille Bellet, Oumar Moussa, Sandrine Fraize-Frontier, Jean-Luc Volatier
Agency for Food, Environmental and Occupational Health and Safety (ANSES), Maisons-Alfort, France

B.3 Mercapturic Acids Derived from 2- and 3-Nitrobenzanthrone
Igor Linhart[1], Jaroslav Mráz[2], Iveta Hanzlíková[2], Emil Frantík[2]
[1]Institute of Chemical Technology, Prague, Czech Republic, [2]National Institute of Public Health, Prague, Czech Republic

Coffee 10:20 – 10:45

Parallel Session 7: Interpretation of population surveys

10:45 - 12:15 **Quays theatre** **Chair: Silvia Fustinoni, University of Milan**

7.1 Interpreting Population Level Biomonitoring Data in a Risk-Based Context: A Canadian Perspective
Annie St-Amand[1], Kate Werry[1], Andy Nong[1], Sean Hays[2], Lesa Aylward[2]
[1]Health Canada, Ottawa, Ontario, Canada, [2]Summit Toxicology LLP, Lyons, CO, USA

7.2 Trends of chemical exposure in Finland in recent years based on biomonitoring results
Mirja Kiilunen
Finnish Institute of Occupational Health, Helsinki, Finland

7.3 Interpreting biomarker data from the COPHES-DEMOCOPHES twin projects: Using lifestyle and environmental data to understand biomarker differences among countries
Roel Smolders[1], Elly Den Hond[1], Eva Govarts[1], Gudrun Koppen[1], Hanny Willems[1], Reinhard Joas[2], Ludwine Casteleyn[3], Anke Joas[2], Pierre Biot[4], Dominique Aerts[4], Angerer Juergen[5], Marika Berglund[6], Louis Bloemen[7], Argelia Castaño[8], Milena Cerna[9], Pierre Crettaz[10], Marta Esteban[8], Karen Exley[11], Eleonora Fabianova[12], Ulrike Fiddicke[13], Marc Fischer[14], Arno Christian Gutleb[15], Adamos Hadjipanayis[16], Katarina Halzlova[12], Milena Horvat[17], Marek Jakubowski[18], Andromachi Katsonouri[19], Lisbeth Knudsen[20], Holger Koch[5], Marike Kolossa-Gehring[13], Andrea Krskova[9], Andrea Lehmann[10], Danuta Ligocka[18], Ioana-Rodica Lupsa[21], Darja Mazej[17], Maurice Mulcahy[22], Sónia Namorado[23], Jeanette Nielsen[20], Fátima M. Reis[23], Peter Rudnai[24], Gerda Schwedler[13], Ovnair Sepai[11], Janja Tratnik Snoj[17], Greet Schoeters[1]
[1]VITO, Mol, Belgium, [2]BiPRO, München, Germany, [3]KULeuven, Leuven, Belgium, [4]FPS Health, Food chain safety and Environment, Brussels, Belgium, [5]Ruhr Universitat Bochum, Bochum, Germany, [6]Karolinska Institutet, Stockholm, Sweden, [7]Environmental Health Sciences International, Hulst, The Netherlands, [8]Instituto de Salud Carlos III, Madrid, Spain, [9]National Institute of Public Health, Prague, Czech Republic, [10]Federal Office of Public Health (FOPH), Bern, Switzerland, [11]Health Protection Agency, Chilton, UK, [12]Urad Verejneho Zdravotnictva Slovenskej Republiky, Banska Bystrica, Slovakia, [13]Umweltbundesamt (UBA), Berlin, Germany, [14]Laboratoire Nationale de Santé, Luxembourg, Luxembourg, [15]Centre de Recherche Public – Gabriel Lippmann, Belvaux, Luxembourg, [16]Larnaca Hospital, Larnaca, Cyprus, [17]Jožef Stefan Institute, Ljubljana, Slovenia, [18]Nofer Institute of Occupational Medicine, Lodz, Poland, [19]State General Laboratory, Nicosia, Cyprus, [20]Kobenhavns Universitet, Kobenhavn, Denmark, [21]Environmental Health Center, Cluj-Napoca, Romania, [22]Health Service Executive, Galway, Ireland, [23]Faculdade de Medicina de Lisboa, Lisboa, Portugal, [24]National Institute of Environmental Health, Budapest, Hungary

7.4 Benchmark Dose for cadmium (Cd) among general Japanese populations
Masayuki Ikeda[1], Sonoko Sakuragi[1], Ken Takahashi[2], Tsutomu Hoshuyama[2], Jiro Moriguchi[1], Fumiko Ohashi[1]

[1]Kyoto Industrial Health Association, Kyoto, Japan, [2]University of Occupational and Environmental Health, Kitakyushu, Japan

Parallel Session 8: Occupational exposures 2

10:45 - 12:15 **Compass room** **Chair: Nancy Hopf, Institute for Work and Health, Switzerland**

8.1 Towards a biological monitoring guidance value for acrylamide
Craig Sams[1], Kate Jones[1], Nicholas Warren[1], John Cocker[1], Sarah Bell[2], Peter Bull[2], Michael Cain[2]
[1]Health & Safety Laboratory, Buxton, UK, [2]BASF Performance Products plc, Bradford, UK

8.2 Circulating mitochondrial DNA as an effect-biomarker after exposure to halo-alkane based pesticides
Lygia Therese Budnik[1], Stefan Kloth[1], Xaver Baur[2,4], Alexandra Preisser[1], Heidi Scharzenbach[3]
[1]Institute for Occupational and Maritime Medicine, Hamburg, Germany, [2]Institute for Occupational Medicine, Campus Benjamin Franklin, Charité-School of Medicine, Berlin, Germany, [3]Department of Tumor Biology, School of Medicine, University of Hamburg, Hamburg, Germany, [4]Norwegian Center of Maritime Medicine, Haukeland University Hospital, Bergen, Norway

8.3 Human Biomonitoring of N-methyl- and N-ethyl-2-pyrrolidone in automobile industry workers and non-exposed controls
Stephan Koslitz, Tobias Weiss, Swetlana Meier, Birgit K. Schindler, Holger M. Koch, Thomas Bruening, Heiko U. Kaefferlein
Institute of the Ruhr-University Bochum (IPA), Bochum, Germany

8.4 Occupational exposure to Polycyclic Aromatic Hydrocarbons (PAHs) during bitumen application
Anne Maitre[1,2], Damien Barbeau[1,2], Tu N'Guyen[1,2], Marie Marques[1], Renaud Persoons[1,2]
[1]Joseph Fourier University, Grenoble, France, [2]Grenoble teaching Hospital, Occupational and Environmental Toxicology Laboratory, Grenoble, France

Lunch 12:15 – 13:00

Poster session

13:00 - 13:30

All posters should be displayed for the duration of the conference. Authors of the following posters will be available to discuss their work during this session.

Experimental studies

P.26 Methamidophos volunteer study to define expected urine levels after ingestion of the Acceptable Daily Intake.
Fiona Garner, Kate Jones
Health & Safety Laboratory, Buxton, UK

P.45 Urinary excretion of 2-ethoxyacetic acid after exposure to 2-ethoxyethanol in volunteers
Ilona Šperlingová, Vladimír Stránský, Ludmila Dabrowská, Šárka Dušková, Monika Tvrdíková, Jaroslav Mráz
National Institute of Public Health, Prague, Czech Republic

P.48 Time profiles of permethrin metabolites in orally exposed volunteers
Mylène Ratelle, Michèle Bouchard, Jonathan Coté
University of Montreal, Montreal, Quebec, Canada

P.56 Manganese: A Potential Reprotoxicant or Not?
Doreen McGough[1], Lynne Jardine[1,2], Marie Maher[1,3]
[1]International Manganese Institute, Paris, France, [2]Charles River Ltd, Edinburgh, UK, [3]Intertek Pharmaceutical Services, Manchester, UK

New approaches and new analytical techniques

P.11 Human metabolism and renal elimination of selenium according to the absorbed species
Thomas Jäger, Hans Drexler, Thomas Göen
Institute and Out-Patient Clinic for Occupational, Social and Environmental Medicine, Erlangen, Germany

P.20 Design of Environmental Health Biomonitoring Physical Activity and Nutrition Survey called "Esteban"
Clémence Fillol, Amivi Oleko, Emmanuelle Szego, Juliette Contrerès, Christelle Lemoisson, Corinne Delamaire
Institut de veille sanitaire, Saint-Maurice, France

P.43 Specific and sensitive quantification of seven metabolites of synthetic pyrethroids in human urine using GC/MS/MS
Thomas Schettgen, Petra Dewes, Thomas Kraus
RWTH Aachen, Institute of Occupational and Social Medicine, Aachen, Germany

P.13 The development of a "point of care" test (POCT) for benzene biomonitoring.
Lathan Ball[1], Karen Whiting[2], Amanda Harris[2], John Cocker[3], Kate Jones[3]
[1]Biomark Limited, Cardiff, UK, [2]BBInternational, Cardiff, UK, [3]Health and Safety Laboratory, Buxton, UK

P.25 Investigation of saliva as an alternative to blood samples for the biological monitoring of inorganic lead
James Staff[1], Jackie Morton[1], Kate Jones[1], Erica Guice[2], Thom McCormick[2]
[1]Health & Safety Laboratory, Buxton, UK, [2]Coventry Diagnostics LLC, Troy, Michigan, USA

P.40 Simultaneous screening of sixteen biomarkers of occupational exposure in urine
Lucie Rimnácová[1], Petr Šimek[1], Jaroslav Mráz[2]
[1]Biology Centre, Czech Academy of Sciences, Ceské Budejovice, Czech Republic, [2]National Institute of Public Health, Prague, Czech Republic

P.47 Automated Preparation of Blood, Urine and Serum Samples for ICPMS Analysis - Offline and/or Inline
Paul Watson[1], Paul Field[2]
[1]Elemental Scientific, Warrington, UK, [2]Elemental Scientific, Omaha, NE, USA

P.52 Smell test as effect biomarker for the occupational exposure to organic solvents
Rossana Claudia Bonanni[1], Giovanna Tranfo[1], Maria Pia Gatto[1], Andrea Gordiani[1], Nunziata L'Episcopo[1], Patrizia Garofani[2], Monica Gherardi[1]
[1]INAIL Research, Monteporzio Catone (Rome), Italy, [2]AUSL Umbria 1, Perugia, Italy

P.57 Application of a high sensitivity quadrupole ICP-MS for the ultra-trace determination of Be in urine.
Jackie Morton[1], Simon Nelms[2], Elizabeth Leese[1]
[1]HSL, Buxton, UK, [2]Thermo Fisher Scientific, Hemel Hempstead, UK

New biomarkers, new and emerging hazards

P.05 French survey of occupational exposure to mycotoxins. Biomarkers and airborne contamination measurements.
Alain Robert, Sophie Ndaw, Flavien Denis
INRS, Vandoeuvre, France

P.39 Isotriamine, a Biomarker of Isocyanurate Exposure in Automotive Spray Painters
Zachary Robbins, Wanda Bodnar, Avram Gold, Zhenfa Zhang, Leena Nylander-french
Department of Environmental Sciences and Engieering, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, USA

P.01 Biological monitoring of workers exposed to indium compounds in Korea
Yong Lim Won, Gwang Yong Yi, Mi-young Lee
Occupational Safety and Health Research Institute, Incheon, Republic of Korea

P.09 Sensitive monitoring of monoterpene metabolites in human urine for biomonitoring studies
Lukas Schmidt, Hans Drexler, Thomas Göen
Institute and Out-Patient Clinic of Occupational, Social and Environmental Medicine, Erlangen, Bavaria, Germany

Occupational exposures

P.03 Biological monitoring of occupational exposure to di(2-ethylhexyl) phthalate (DEHP) related to the use of vinyl gloves
René Gaudin
INRS, Vandoeuvre, France

P.18 The relationship between exposure to benzene and the excretion of urinary t,t-muconic acid in petrochemical factory turnaround process workers
Jaehoon ROH, Seung Min LEE, Jong Uk WON, Chi Nyon KIM, Woo Jin JUNG
Yonsei University, Seoul, Republic of Korea

P.22 Maintenance workers' multiple exposure to metals in biomass-fired power plants
Mika Jumpponen[1], Pirjo Heikkinen[1], Hannu Rönkkömäki[0,2], Juha Laitinen[1]
[1]Finnish Institute of Occupational Health, Kuopio, Finland, [2]Finnish Institute of Occupational Health, Helsinki, Finland

P.24 Biomarkers of sevoflurane exposure in operating room personnel: a still open debate
Maria Luisa Scapellato[1], Mariella Carrieri[2], Isabella Maccà[1], Giovanna Tranfo[3], Fabiola Salamon[2], Giovanni Battista Bartolucci[2]
[1]University Hospital of Padova, Padova, Italy, [2]Department of Molecular Medicine – University of Padova, Padova, Italy, [3]INAIL-Research, Department of Occupational Medicine, Roma, Italy

P.33 Biomonitoring of occupational exposure to PAHs and benzene at vehicle repair shops
Renaud Persoons[1,2], Emily BOUKARI[3], Damien BARBEAU[1,2], Claire HERVE[1,2], Marie MARQUES[1], Anne MAITRE[1,2]
[1]Joseph Fourier University, Grenoble, France, [2]Grenoble teaching Hospital, Occupational and Environmental Toxicology Laboratory, Grenoble, France, [3]Association Santé Travail InterEntreprises du Littoral (ASTIL62), Boulogne, France

P.41 Feasibility study to centralize French occupational blood lead levels
Juliette Chatelot, Marie Houot, Mounia El Yamani, Ellen Imbernon

Department of occupational health - French Institute for Public Health Surveillance (InVS), Saint-Maurice, France

P.44 Bioaccessibility of vanadium, chromium, nickel and titanium present in welding aerosols
Balázs Berlinger[1], Yngvar Thomassen[1], Maxim Chashchin[2], Valery Chashchin[2], Dag G Ellingsen[1]
[1]National Institute of Occupational Health, Oslo, Norway, [2]Northwest Public Health Research Centre, St. Petersburg, Russia

P.49 Plasma and urine manganese as short-term biomarkers of exposure
Marissa Baker[1], Noah Seixas[1], Chris Simpson[1], Jackie Morton[2], John Cocker[2]
[1]University of Washington, Seattle, WA, USA, [2]Health and Safety Laboratory, Buxton, UK

P.50 Hair as a biomarker for welder's exposure to manganese
Boris Reiss, Marissa Baker, Chris Simpson, Noah Seixas
University of Washington, Seattle, WA, USA

P.53 Validation of analytical method for biological monitoring of benzene exposure
Mi-young Lee
KOSHA, Incheon, Republic of Korea

P.54 Occupational exposure to low-doses of styrene and biological monitoring: state of the art and future prospects
Maria Pia Gatto[1], Monica Gherardi[1], Lory Santarelli[2], Elisabetta Strafella[2], Giovanna Tranfo[1]
[1]INAIL Research, Monteporzio Catone, Italy, [2]Marche Polytecnic University PhD School in Science of Safety and Health at the Work Place, Ancona, Italy

P.55 Handling of mercury containing medical devices and related issues among nurses in a tertiary care paediatric hospital in Sri Lanka.
Sameera Senanayake[1], Nalika Gunawardena[2]
[1]Ministry of Health, Colombo, Sri Lanka, [2]Faculty of Medicine, Colombo, Sri Lanka

Parallel Session 9: Derivation of guidance values

13:30 - 15:00 **Quays theatre** **Chair: Henri Heussen, Arbo Unie**

9.1 Updated proposal for biological limit value of 1-hydroxypyrene in urine
Frans Jongeneelen
IndusTox Consult, Nijmegen, The Netherlands

9.2 Occupational exposure limit values for cadmium: the challenge of an integrated approach considering biomarkers and airborne concentrations
Marie-Laure Cointot[1], Mounia El Yamani[1], Dominique Brunet[1], Claude Viau[2], Billy Amzal[3]
[1]Agency for Food, Environmental and Occupational Health and Safety (ANSES), Maisons-Alfort, France, [2]Head of the ANSES Biological Exposure Indices scientific committee, Maisons-Alfort, France, [3]Member of the Anses Occupational Exposure Limits scientific committee, Maisons-Alfort, France

9.3 A perspective on biological monitoring guidance values
John Cocker
Health & Safety Laboratory, Buxton, UK

9.4 A quantitative determination of provisional Biological Exposure Indexes (BEI) for pesticides
Federico Maria Rubino[1], Stefan Mandic-Rajcevic[1,2], Giorgio Vianello[2], Eugenio Ariano[3], Claudio Colosio[1,2]

[1]*University of Milan, Milano, Italy,* [2]*International Centre for Rural Health – WHO Collaborating Centre, via S. Vigilio, 43 Milano, Italy,* [3]*LOcal Health Unit of Lodi, Piazza Ospitale, 10, I-26900 Lodi, Italy*

Parallel Session 10: Dermal exposures

13:30 - 15:00 **Compass room** **Chair: Paul Scheepers, Radboud University**

10.1 Skin permeation and metabolism of di(2-ethylhexyl) phthalate (DEHP)
Nancy B. Hopf[1], Aurelie Berthet[1], David Vernez[1], Emilie Langard[2], Philip Spring[3], Rene Gaudin[2]
[1]Institute for Work and Health (IST), Lausanne, Vaud, Switzerland, [2]Institut National de Recherche et de Sécurité, Vandoeuvre Cedex, France, [3]Centre Hopitalier Universitaire Vaudois, Lausanne, Vaud, Switzerland

10.2 ~~The association between urinary N-methylformamide and dermal N,N-dimethylformamide assessed by the tape-stripping method~~
~~*Yun Kyung Chung[1,2], Kyong Sok Shin[1], Mi-young Lee[1]*~~
~~*[1]Occupational Safety and Health Agency, Incheon, Republic of Korea,*~~
~~*[2]Hallym University Sacred Heart Hospital, Anyang, Republic of Korea*~~

Withdrawn

10.3 Biomonitoring of dermal exposure to cyclosiloxanes from consumer products using end-exhaled air
Jacqueline Biesterbos, Gwendolyn Beckmann, Paul Scheepers
Radboud University Medical Centre, Nijmegen, The Netherlands

10.4 Uptake and elimination of permethrin related to the use of permethrin treated clothing for forestry workers
Bernd Rossbach, Adrian Niemietz, Peter Kegel, Stephan Letzel
University Medical Center of the Johannes Gutenberg University, Mainz, Germany

Coffee 15:00 – 15:30

Parallel Session 11: Toxicokinetics

15:30 - 17:00 **Quays theatre** **Chair: Lars Barregard, University of Gothenburg**

11.1 Metabolism of N-ethyl-2-pyrrolidone (NEP) - validation of biomarkers in urine for exposure assessment
Holger M Koch[1], Stephan Koslitz[1], Michael Bader[1,2], Tobias Weiss[1], Heiko U Käfferlein[1], Thomas Brüning[1]
[1]Institute of the Ruhr-University Bochum (IPA), Bochum, Germany, [2]BASF SE, Occupational Medicine & Health Protection, Ludwigshafen, Germany

11.2 BIOMONITORING SHORT AND LONG TERM TERBUTHYLAZINE EXPOSURE BY HAIR AND URINE SPECIMENS
Rosa Mercadante, Elisa Polledri, Pier Alberto Bertazzi, Silvia Fustinoni
University of Milan, Milano, Italy

11.3 Inter- and intra-individual variability in biomarker values over a continuous six-day sampling period
Roel Smolders[1], Nick Warren[2], Kevin McNally[2], John Cocker[2], Kate Jones[2], Sean Hays[3], Lesa Aylward[3], Chris Kirman[3], Len Levy[4], Ruth Bevan[4], Holger Koch[5]
[1]VITO, Mol, Belgium, [2]Health & Safety Laboratory (HSL), Buxton, Derbyshire, UK, [3]Summit Toxicology, Allenspark, CO, USA, [4]Institute of Environment and Health, Cranfield University, Cranfield, Bedfordshire, UK,

[5]*Institute for Prevention and Occupational Medicine, Ruhr-Universität Bochum, Bochum, Germany*

11.4 Elimination and biological half-time of cadmium in kidney
Gerd Sallsten[1], Magnus Akerstrom[1], Thomas Lundh[2], Lars Barregard[1]
[1]Sahlgrenska University Hospital and Academy, Gothenburg, Sweden, [2]Department of Occcupational and Environmental Medicine, Lund University Hospitla and Academy, Lund, Sweden

Parallel Session 12: Population surveys

15:30 - 17:00 **Compass room** **Chair: John Cocker, HSL**

12.1 Overview of Biomonitoring Initiatives Under the Government of Canada's Chemicals Management Plan
Julie Yome, Tye Arbuckle, Shawn Donaldson, Maria Ooi, Douglas Haines
Health Canada, Ottawa, Ontario, Canada

12.2 Bisphenol A and Organophosphate Exposure in the Israeli Population: Sources and Risk Factors
Judith Spungen[1], Tamar Berman[1], Rebecca Goldsmith[1], Thomas Goen[2], Lena Novack[3], Hagai Levine[4], Yona Amitai[5], Tami Shohat[6], Itamar Grotto[1]
[1]Public Health Services, Jerusalem, Israel, [2]Institute and Outpatient Clinic for Occupational, Social and Environmental Medicine, University Erlangen-Nuremberg, Erlangen, Germany, [3]Ben Gurion University, Beer Sheva, Israel, [4]Hebrew University-Hadassah, Jerusalem, Israel, [5]Bar Ilan University, Ramat Gan, Israel, [6]Centers for Disease Control, Ministry of Health, Israel, Tel Hashomer, Israel

12.3 Mercury and cadmium levels in Belgian children and their mothers
Catherine Pirard[1], Koen De Cremer[2], Ilse Van Overmeire[2], Gudrun Koppen[3], Marie-Christine Dewolf[4], Els Van De Mieroop[5], Dominique Aerts[6], Pierre Biot[6], Joris Van Loco[2], Corinne Charlier[1]
[1]University of Liège, Lège, Belgium, [2]Scientific Institute of Public Health, Brussels, Belgium, [3]Flemish Institute of Technological Research, Environmental Risk and Health unit, Mol, Belgium, [4]Provincial Institute for Hygiene and Bacteriology (IPHB), Mons, Belgium, [5]Provincial Institute for Hygiene (PIH), Antwerp, Belgium, [6]Federal Public Service Health, Food chain safety and Environment, Brussels, Belgium

12.4 Exposure to PAHs in subjects living in the vicinity of a solid waste incinerator
Laura Campo[1], Silvia Fustinoni[1], Laura Erspamer[2], Andrea Ranzi[2], Giulia Gatti[3], Petra Elisabeth Bechtold[3], Carlo Alberto Goldoni[3], PierAlberto Bertazzi[1], Paolo Lauriola[2]
[1]University of Milan, Milan, Italy, [2]Environmental Health Reference Centre, Regional Agency for Environmental Prevention of Emilia-Romagna, Modena, Italy, [3]Department of Public Health, Local Health Unit, Modena, Italy

Keynote:

17:00 - 17:35 **Quays theatre** **Chair: Jackie Morton, HSL**

K.4 Human Biomonitoring in mercury and lead contaminated hot spots in Africa and Asia.
Stephan Bose-O'Reilly
University Hospital Munich, Munich, Germany

Conference Dinner – Sponsored by Thermo Fisher Scientific

10/09/13 19:30 - 23:00 Manchester Town Hall

Wednesday 11th September 2013

Parallel Session 13: Incident exposures

09:00 - 10:30 Quays theatre Chair: Roel Smolders, VITO

13.1 Biological Monitoring of Industrial Cleaners after a Large Scale Chemical Incident- a Complex (Mixture) Case Study
Henri Heussen, Jolanda Willems
Arbo Unie, Harderwijk, The Netherlands

13.2 Biomonitoring after chemical incidents and during maintenance works: a versatile tool for exposure analysis and assessment in the chemical industry
Michael Bader, Stefan Lang, Christoph Oberlinner
BASF SE, 67056 Ludwigshafen, Germany

13.3 Implementation of a guidance for human biomonitoring following chemical incidents
Paul T.J. Scheepers[1], Rob B.M. Anzion[1], Gwendolyn Beckmann[1], Henk Jans[1,2], Janine Oosting[1]
[1]Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands, [2]Regional Health Service Brabant and Zeeland, Tilburg, The Netherlands

13.4 Are aircrews exposed to neurotoxic o-tricresyl phosphate during fume events?
Tobias Weiss[1], Birgit K. Schindler[1], Stephan Koslitz[1], Horst Christoph Broding[1], Jürgen Bünger[1], Christian Felten[2], Jörg Hedtmann[2], Holger M. Koch[1], Thomas Brüning[1]
[1]Institute of the Ruhr-University Bochum (IPA), Bochum, Germany, [2]BG Verkehr, Hamburg, Germany

Parallel Session 14: New approaches and new analytical techniques

09:00 - 10:30 Compass room Chair: Jackie Morton, HSL

14.1 Arsenic Speciation in Urine using micro liquid chromatography-ICP-MS for Routine Biological Monitoring
Liz Leese[1,2], Jackie Morton[1], Vikki Carolan[2]
[1]Health & Safety Laboratory, Buxton, UK, [2]Sheffield Hallam University, Sheffield, UK

14.2 Benefits of ICP-qqq-MS in MS/MS mode for challenging clinical trace element applications
Raimund Wahlen, Glenn Woods
Agilent Technologies, Cheadle, UK

14.3 A simple and cost-effective benzene biomonitoring test kit.
Lathan Ball[1], John Cocker[2], Kate Jones[2]
[1]Biomark Limited, Cardiff, UK, [2]Health and Safety Laboratory, Buxton, UK

14.4 Biological Monitoring of Exposure to Carbamate Fungicides:determination of ethylene- and propylenethiourea by UHPLC-ESI-MS/MS
Cristina Sottani[1], Davide Gatti[3], Enrico Finozzi[1], Claudio Colosio[2], Claudio Minoia[1]
[1]S. Maugeri Foundation, Pavia, Italy, [2]Department of Health Sciences of the University of Milan, Milan, Italy, [3]Ecotoxicology Department, Pavia, Italy

Coffee 10:30 – 11:00

Discussion: How to promote the use of BM – sponsored by CEFIC LRI

11:00 - 13:00 Compass room Chair: Larry Lowry, University of Texas

Discussion session, in "world cafe" format, on the promotion of biological monitoring

in various arena including Industry, Scientific committees and guidance and the Developing World.

Closing session

13:00 - 13:30 Compass room **Chair: Prof. Maurizio Manno**

Lunch and Close

13:30 -

Additional Workshop: INTEGRA project

14:30 - 16:30 Compass room **Chair: Roel Smolders, VITO**

After lunch on Wednesday 11th September, we will be holding a workshop on a CEFIC LRI project that is currently on-going. The workshop will focus on the identification of user requirements that will drive the technical specifications of the developed methodology and the respective computational platform. If you are interested in participating in this workshop, please register your interest at http://www.surveymonkey.com/s/28TTBB2.

INTEGRA (Integrated External and Internal Exposure to Chemicals)

The **objective** of **INTEGRA** is to bring together all available information within a coherent methodological framework for assessing the source-to-dose continuum for the entire life cycle of substances covering an extensive chemical space. Hence, the major component of INTEGRA will be a **unified computational platform** that integrates environmental fate, exposure and internal dose dynamically in time. In this way, the platform will be able to differentiate between biomonitoring data corresponding to steady exposure patterns as opposed to acute, one-off exposures. The platform will be largely validated using human biomonitoring data from Europe and the USA. The INTEGRA computational platform will be based on the existing platform developed in the frame of the LRI-B4 INTERA and LRI-B5 TAGS projects extending it to incorporate several **advances**:

1. Incorporation of ART (and its dermal exposure-integrated version, DART) for assessing occupational exposure, coupled to a generic PK model for linking exposure to internal dosimetry and estimating total body burden
2. Refinement of the TAGS multimedia model to account for multi-scale interactions affecting the environmental transport and fate of chemicals
3. Refinement of the TAGS/INTERA micro-environmental modeling for improved personal exposure assessment.
4. Refinement of the TAGS/INTERA generic PBTK model so as to incorporate life stage changes and physiological and metabolic efficiency change over an individual's lifetime (from conception till 80 years of age). The model will be able to cover perinatal exposure including exposure routes such as lactation, being practically a mother-fetus interaction model.
5. Inverse modeling for exposure reconstruction and HBM data assimilation.