PROGRAM

Monday, September 7, 2009

7:00 PM Reception and registration

Tuesday, September 8, 2009

Platform Session 1: Introduction to the symposium
Co-chairs: H. Greim, Technical University of Munich
H. Bolt, University of Dortmund

8:00AM Greetings and welcome. H. Greim

8:20 A century of research on the hematotoxic effects of benzene; aims of the symposium. R. Snyder, Rutgers The State University of New Jersey and EOHSI.

8:40 Interpreting available data and identifying critical data gaps for benzene risk assessment. Contribution of the IPCS/ILSI framework for "Mode of Action/Human Relevance. B. Meek, University of Ottawa.

Platform Session 2: Bone marrow and leukemia
Co-chairs: R. Larson, University of Chicago
M. Trush, Johns Hopkins University School of Public Health.

9:00 Regulation of hematopoiesis by bone marrow stem cells. C. Peschel, Technical University of Munich

9:30 Regulation of hematopoiesis by the bone marrow environment. R. Oostendorp, Technical University of Munich

10:00 Break

Poster Session 1
Co-chairs: D. Kaden, Health Effects Institute
S. Gross, University of Colorado

Platform Session 1 (continued)

10:30 WHO classification of hematopoietic neoplasms. J. Vardiman, University of Chicago.

11:00 Integrating WHO 2001-2008 criteria for the diagnosis of hematopoietic neoplasms: impact on benzene epidemiology. R. Irons, Fudan University of Shanghai.

11:30 Incidence and susceptibility to t-AML. G. Leone, Catholic University of Rome.

12:00 Implications of latency period between benzene exposure and risk of leukemia. G. Triebig, University of Heidelberg

12:30 Chromosome pathways, genetic changes, cooperating mutations, and candidate genes in primary and therapy related MDS and AML. M. Le Beau, University of Chicago.

1:00 Lunch

Poster session 1 (continued)

Platform Session 2 (continued)

2:00 MicroRNA, epigenetics, and copy number changes: New levels of gene regulation in AML. R. Larson, University of Chicago.

2:30 Epigenetic changes in therapy-related MDS/AML. M.T. Voso, Catholic University of Rome

Platform Session 3: Recent studies and re-evaluation of data on the epidemiology of benzene-induced diseases.
Co-chairs: E. Taioli, SUNY, Downstate Medical Center
P. Boogaard, Shell Health

3:00 A pooled analysis of case controlled studies on benzene exposure in petroleum workers. D. Glass, Monash University Australia.

3:30 Break

Poster Session 1 (continued)

4:00 Benzene as a cause of myeloproliferative disorders. B.D. Goldstein, University of Pittsburgh.

4:30 Shanghai Health Study: Case control studies.

4:30-4:50 Acute myeloid leukemia. O. Wong, Applied Health Sciences.

4:50-5:10 Lymphoid neoplasms. Hua Fu, Fudan University

5:10- 6:00 Poster session 1 (continued)

Wednesday, September 9, 2009

Platform Session 3 (continued)

8:00 a.m. Effects of benzene exposure and SNPs in peripheral blood of workers in Shanghai. R. Schnatter, Exxon Biomedical Sciences.

8:30 Benzene and childhood leukemia. D. Pyatt, Summit Toxicology.

Platform Session 4: Mechanistic studies: Reactive metabolites and reactive oxygen species.
Co-chairs: F. Oesch, University Mainz,
D. Schrenk, University Kaiserslautern

9:00 Fate of benzene oxide. T. Monks, University of Arizona

9:30 Elevated expression of CYP4F3 in peripheral white blood cells of benzene-poisoned patients and HL-60 cells exposed to benzene metabolites. Yongyi Bi, Wuhan University, China

10:00 Break

10:30 Modeling the formation and reactions of benzene metabolites. B.T. Golding, University of Newcastle Upon Tyne.

11:00 Benzene metabolites block gap junction intercellular communication. E, Rivedal, Norwegian Radium Hospital, Oslo

11:30 Biological activity of hydroquinone thiol conjugates. S. Lau, University of Arizona.

12:00 Modulation of ROS in myeloid cells, M. Trush, Johns Hopkins University

12:30 Systems biology of benzene exposure. L. Zhang, University of California, Berkeley.

1:00 Lunch and excursion

Thursday, September 10, 2009

Platform Session 5: Mechanistic studies: Transgenics and signal transduction.
Co-chairs: H. Autrup, University of Aarhus
A. Boobis, Imperial College, London

8:00 a.m. Genetic susceptibility to benzene toxicity in multiple mouse models of human disease. J. French, National Institute of Environmental Health Sciences,

8:30 Hematopoietic neoplastic diseases in C3H/He and C57BL/6 mice after benzene exposure. Differences observed using microarrays. T. Inoue, National Institute of Safety and Health, Tokyo.

9:00 The Ah receptor has an important roe to play in the regulation of hematopoiesis. T. Gasiewicz, University of Rochester.

9:30 Benzene-induced toxicity is based on the AhR-mediated hematopoietic stem cells. Y. Hirabayashi, National Institute of Safety and Health, Tokyo.

10:00 Break

Poster Session 2
Co-chairs: D. Pyatt, Summit Toxicology
C. Weisel, EOHSI and UMDNJ

Platform Session 5 (continued)

10:30 Benzene-initiated oxidative stress: effects on embryonic signaling pathways. L. Winn, Queens University, Canada

11:00 Metabolic factors in susceptibility to benzene toxicity. D. Ross, University of Colorado

11:30 Volunteer presentation to be selected

Platform Session 6: Mechanistic studies: DNA repair and chromosome damage
Co-chairs: S. Kyrtopoulos, National Helenic Research Foundation, Athens
M. Ruchirawat, Chulaborn Research Institute, Bangkok.

12:00 The role of DNA repair in chemical carcinogenesis with special emphasis on benzene. A. Hartwig, Berlin Institute of Technology.

12:30 DNA repair and t-AML. P. Karran, Cancer Research, London

1:00 Lunch

Poster Session 2 (continued)

2:00 Topoisomerase II, chromosome damage and leukemia. D. Eastmond, University of California, Riverside.

2:30 Effects of benzene metabolites on chromosomes. M. Gartenberg, UMDNJ

[APG]

Platform Session 7: Exposure science and biomarkers
Co-chairs: P. Lioy, UMDNJ
P. Farmer, University of Leicester.

3:00 Implications of exposure science and application to risk assessment. P. Lioy, EOHSI and UMDNJ.

3:30 Measuring benzene exposure. C. Weisel, EOHSI and UMDNJ.

4:00 Break

Poster session 2 (continued)

Platform Session 7 (continued)

4:30 Co-exposure studies of benzene with other hydrocarbons. M. Bird, ExxonMobil Biomedical Sciences.

5:00-6:00 Poster session 2 (continued)

Friday, September 11, 2009

Platform Session 7. (continued)

8:00 Exposure assessment and biomarkers of benzene in China. S. Rappaport, University of California, Berkeley.

8:30 Biomarkers as probes: application on benzene toxicity., R. Albertini, University of Vermont

9:00 Benzene exposure in Thailand. M. Ruchirawat, Chulaborn Research Institute Bangkok

Platform Session 8. Mode of action and risk assessment
Co-chairs: B. Sanawane, USEPA
E. Dybing, Norwegian Institute of Public Health

9:30 Implication of recent data on benzene risk assessment. Weight of evidence for Mode of Action. Human relevance and dose-response; critical data gaps. J. Klaunig, University of Indiana.

10:00 The vanishing zero revisited: thresholds in the age of genomics. M.A. Gallo, EOHSI and UMDNJ.

10:30 Panel Discussion:
Moderator: B. Meek, University of Ottawa

Questions to the panel:

a. What are the implications of recent data in relation to the weight of evidence for mode(s) of action of benzene-induced bone marrow damage and resulting risk?

b. What are the critical data gaps in consideration of mode of action/human relevance?

Panel: R. Albertini, H. Bolt, A. Boobis, D. Eastmond, B. Goldstein, L. Ziesse.

11:30 Summary of the panel discussion and comments on how the MOA approach can enhance future research on benzene. J. Klaunig.

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12:00 Close of symposium. H. Greim