MOPC04 Human exposure to plasticizer chemicals - correlation between indirect and biomonitoring exposure estimates in a Norwegian human cohort. G. Giovanoulis, IVL Swedish Environmental Research Institute Ltd / IVL Swedish Environmental Institute; A. Alves, Flemish Institute for Technological Research VITO NV; T.T. Bui, IVL Swedish Environmental Research Institute Ltd / Natural Resources Environmental Effects; A. Palm Cousins, IVL Swedish Environmental Research Institute Ltd; J.A. Magnér, IVL Swedish Environmetal Research Institute Ltd / IVL Swedish Environmental Institute; A. Covaci, University of Antwerp, Toxicological Center / Toxicological Center Dept of Pharmaceutical Sciences; S. Voorspoels, Flemish Institute for Technological Research VITO NV; C.A. de Wit, Stockholm University / Department of Environmental Science and Analytical Chemistry ACES. Plasticizers used as additives in numerous consumer products have a continuous release into the environment (pseudo-persistent), leading to consecutive human exposure which might cause adverse health effects (e.g. endocrine disruption). Indoor air quality and house dust may have significant impact on human health because people spend most of their time indoors, where the concentrations of plasticizers are comparatively high. Inhalation and dermal exposure through air, transdermal exposure through dust adhered to the skin, oral exposure through dust ingestion (hand to mouth contact) and diet have been considered as major exposure pathways. On the other hand, daily intake of plasticizers can also be determined through analysis of urinary metabolites. In the present study, indoor stationary air, personal ambient air and house dust (floor and elevated surfaces) samples were collected, extracted using solid phase extraction (SPE) and/or microwave assisted extraction and analyzed by GC-MS/MS. Based on the resulting concentrations of the diesters in these external media, we calculated the daily human intake rates for the Norwegian cohort, and compare them with reference tolerable daily intakes (TDI) for each analyte. Alternatively, the human biomonitoring approach allowed us to assess to which extent plasticizers entered the bodies of 61 adults living and working in the Oslo area (Norway). Finger nails and three intraday urine spots were collected from each participant in order to monitor their internal concentration. The analysis of nine phthalate metabolites, together with two DINCH metabolites in urine and nails was performed by LC-MS/MS and used to back-calculate the initial total exposure to the parent compounds. Among phase I metabolites, high levels of the monoesters of DEP and DnBP were observed in nails (median concentrations of MEP 31.2 ng/g and MnBP 21.4 ng/g), while in urine the median concentrations of the more specific biomarkers of secondary metabolic oxidation for DEHP were OH-MEHP 4.5 µg/L and 5-oxo-MEHP 4.7 µg/L, and for DINCH were cis-OH-MINCH 0.5 µg/L and cis-cx-MINCH 0.5 µg/L. The correlation of indirect exposure estimates and human biomonitoring exposure estimations is under investigation.