TH099 Perfluoroalkylated acids (PFAAs) in soil and invertebrates (Isopoda) near a fluorochemical plant in Flanders, Belgium. T. Groffen, Systemic Physiological and Ecotoxicological Research (SPHERE), University of Antwerp / Biology; M. Eens, University of Antwerp / Department of Biology; L. Bervoets, University of Antwerp / Department of Biology (SPHERE Research Group). Perfluoroalkylated acids (PFAAs) have been produced for over five decades. Due to their hydrophobic and lipophobic character they are suitable for a wide range of applications. However, PFAAs may enter the environment, accumulate in wildlife and may cause detrimental effects. The widespread use of PFAAs has resulted in a global presence. Therefore the major global manufacturer, 3M, phased out the production of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) in 2002. Nevertheless, these compounds are still detected in high concentrations in the environment and biota. Especially the fluorochemical plant has been characterized as a PFAAs hotspot for environmental contamination. In the present study we measured the concentration of 12 PFAAs (8 perfluoroalkyl carboxylic acids (PFCAs) and 4 perfluoroalkyl sulfonic acids (PFSAs) in soil and isopods collected at a fluorochemical plant in Antwerp, Belgium. In addition, samples from four other areas were collected, representing a gradient in distance from the pollution source. We tested for both correlations between soil properties (e.g., total organic carbon (TOC) and PFAAs concentrations in soil, as well as correlations between PFAAs concentrations in soil and invertebrates. In the soil, PFBA, PFOS and PFOA were the only compounds that were detected at all sites. Soil concentrations of all other compounds, with exception of PFDoA and PFBS, were < LOQ in all sites except for the plant site. Median concentrations of 606 ng/g ww for PFOS and 8 ng/g ww for PFOA were detected in soil at the plant site, which are high compared to what has been reported in previous studies conducted in the area. Furthermore, these concentrations decreased significantly with distance from the plant. However, concentrations did not differ between the three locations that were situated farthest away from the plant. No significant differences in TOC were observed among the studied sites, but TOC was positively correlated with multiple PFAAs, including PFOS and PFOA. At this moment (November 2017), isopods have not been tested for PFAAs concentrations yet, but based on the soil concentrations and concentrations detected in previous studies near the fluorochemical plant in Antwerp, we expect high concentrations of multiple PFAAs. The outcome of the present study will be used in further monitoring studies on the effects of soil type on PFAAs bioavailability to invertebrates, as well as effects of PFAAs on multiple biomarkers.