MO017 Temperature-dependent effects of metal mixtures: behavioral changes in a freshwater invertebrate M. Van Ginneken, University of Antwerp, Dept. Biology / Biology (SPHERE); R. Blust, University of Antwerp; L. Bervoets, University of Antwerp / Biology. Since current environmental quality standards (EQS) are mainly based on standard toxicity tests, an accurate extrapolation from laboratory to field data is vital. However, in those standard tests, organisms are exposed to a single stressor under favorable conditions, which is not a realistic representation of the natural environment. There is increasing recognition that the combined effects of multiple stressors cannot be disregarded. Because of global warming's impact on the aquatic ecosystems, research that focuses on the combined effects of elevated temperatures and chemicals has received much attention. Yet, very few papers describe the effects of temperature on the uptake of toxicant mixtures. As animals are exposed to numerous chemicals simultaneously in nature, performing toxicity tests with both these mixtures as well as a temperature factor creates a more sensible experimental set-up. The present study investigated the sublethal effects of exposure to metal mixtures of Cd, Cu and Pb at two different temperatures (15 °C and 20 °C) on the freshwater ectotherm *Asellus aquaticus* (Isopoda). As metal concentrations, we chose the EQS, 10xEQS and 100xEQS, for Cd: 0.15, 1.5 and 15 $\mu g.L^{-1}$; for Cu: 7, 70 and 700 $\mu g.L^{-1}$; and for Pb: 7.2, 72 and 720 $\mu g.L^{-1}$. At the end of this 10-day laboratory experiment, we determined the uptake rate, respiration, growth rate and, as behavioral endpoints, activity and feeding rate. We hypothesized that an increased temperature would cause a higher respiration and thus metal uptake, which would lead to a decreased growth rate, activity and feeding rate. Behavioral changes as these could significantly affect the ecosystem by, for example, altering predator-prey interactions. By performing more realistic multiple stressor toxicity tests, chances of over- or underestimating the impact of metal exposure in nature will greatly diminish.