

#### **WE147 Emerging chemicals in birds of prey from Spain and**

**Norway: exposure and effects** V. Jaspers, Norwegian University of Science & Technology / Biology; M.E. Løseth, N. Briels, Norwegian University of Science and Technology / Biology; I. Eulaers, Aarhus University DMU / Biosciences; C. Sonne, Aarhus University DMU / Biosciences Department; T. Nygard, J. Bustnes, Norwegian Institute for Nature Research; P. Gómez-Ramírez, University of Murcia / Sociosanitary Sciences; J. Martínez, University of Murcia; T. Johnsen, Norwegian Institute for Nature Research; G. Poma, University of Antwerp, Toxicological Center / Toxicological Center; G. Malarvannan, University of Antwerp / Toxicological Center Dept of Pharmaceutical Sciences; A. Covaci, University of Antwerp, Toxicological Center / Toxicological Center Dept of Pharmaceutical Sciences; D. Herzke, NILU - Norwegian Institute for Air Research / MILK. In 2014, the international research project NewRaptor was launched (funded by the Norwegian Research Council and the Norwegian University of Science and Technology). In this project, we investigate the exposure and effects of emerging chemicals in birds of prey from three regions (Murcia, southern Spain; Trøndelag, mid Norway; Troms, northern Norway). The goshawk (*Accipiter gentilis*) was studied in all three regions, while the marine white-tailed eagle (*Haliaeetus albicilla*) only in the two Norwegian locations. Both blood and body feathers were obtained from the chicks in the nest when they were 3-7 weeks old. The chemicals of interest include novel brominated flame retardants (nBFRs), organophosphate flame retardants (OPFRs) and per- and polyfluoroalkyl substances (PFASs). In addition, metals and legacy chemicals, i.e. persistent organic pollutants (POPs), were analysed as well. The objectives of the NewRaptor project are to evaluate the exposure of these two bird species to both emerging and legacy compounds in relation to habitat and dietary preferences (using stable isotope analysis), differences in latitude, and to evaluate the interactive effects of the pollutant mixtures on different biochemical, immunological and endocrine parameters. The first results of the sampling campaign in 2015 indicate that the PFAS exposure in goshawks from Murcia are lower than in Norwegian chicks, with up to 10 times higher values in Norway: e.g. linear PFOS < LOD-3.1 ng/ml in Murcia; 4.9-30 ng/ml in Trøndelag; 0.72-24 ng/ml in Troms). Regarding the white-tailed eagle, linear and branched PFOS were the most prominent PFAS (linPFOS: 6.0-32 ng/ml in Trøndelag;