

The purpose of this stay was to study the gene expression and phylogeny of progesterin receptors in the European eel. With this aim, the gene expression of 2 nuclear and 5 membrane progesterin receptors from male and female silver eels was analysed. Fish with average body weights of  $118.0 \pm 14.67$  and  $632.0 \pm 46.46$  g, male and female respectively, were sacrificed in order to evaluate the progesterin receptor gene expression in the following tissues: gonad, liver, pectoral fin, anterior kidney, posterior kidney, heart, olfactory bulbs, telencephalon, mesencephalon/diencephalon, cerebellum, medulla oblongata, pituitary and gills. RNA was extracted using the traditional phenol/chloroform method. DNase digestion and RNA CleanUp were performed according to the manufacturer's instructions. First-strand cDNA was synthesized from 1  $\mu$ g of total RNA, using random hexamer primers and superscript III reverse transcriptase. qPCR assays were performed using SYBR Green. After an initial activation step (95 °C for 10 min), 42 PCR cycles were performed at the following cycling conditions: 95 °C for 10 s, 60 °C for 10 s, and 72 °C for 7 s. The gene expression of progesterin receptors were well represented along BPG (Brain-Pituitary-Gonad) axis. In addition, other tissues outside the BPG axis showed also a high expression, for example: pgr1 (kidney, muscle) or pgr2 (gill). The deduced amino acid sequences from available teleost progesterin receptor genes in addition to at least one representative species from the other vertebrate classes were aligned, and PHYML analysis was carried out using the Seaview 4.2.12 molecular phylogeny software package. Phylogenetic analysis of the PGR family revealed that the nuclear PGR formed a monophyletic group, as well as the membrane PGRa and membrane PGRg did. This topic is related to working group 3: "*Basic and applied research on gametes and biochemistry and physiology, including OMICS*" of COST action FA1205.

Both institutions, NMBU and UPV, are partners in the European project H2020-MSCA-ITN-2014: *Improved production strategies for endangered freshwater species. (SEP-210139056)*. This stay contributed to reinforce our collaboration.

### **Confirmation by the host institution of the successful execution of the STSM**

Dr. Finn-Arne Weltzien, Senior Researcher of Norwegian University of Life Sciences in Oslo certifies that Dr. David Sánchez Peñaranda visited us as a guest researcher from 26th January to 1st February, 2015, thanks to a grant awarded by Short Term Scientific Mission, COST Action FA1205.



Signed: Finn-Arne Weltzien



Signed: David S. Peñaranda