

## Abstract Hermann (20.06.)

The welfare of cultured fish has become a great concern during the last years: Besides a consumer demand for an ethically inoffensive production of fish, poor welfare is of economical importance, too. Stress, caused by unfavorable rearing conditions, triggers allostasis, a energy costly response of the organism to preserve homeostasis. Especially when chronic, Stress is believed to suppress the immune system and to have a negative impact of economically important attributes like growth, taste or nutritional value of the fish. This is also relevant for turbot (*Psetta maxima*), a highly valuable species which is produced in several European countries, Chile and China. The Grow-out practices for turbot, as well as the geographical location and design of the rearing facilities, are highly diverse. This creates a need to identify unsuitable conditions and to develop a reliable method to detect them.

This project aims to establish a real-time PCR assay to detect stress on the molecular level, thereby focusing on expression profiles of Heat Shock Proteins (70 kDa and 90 kDa). In addition, the impact of different diets, rearing methods and water parameters are examined and evaluated according to their potential to cause stress and therefore impair welfare.