



Ágnes Ösz

# Department of Aquaculture

- \* Located in Gödöllő
- \* Szent István University
- \* cca. 40 Researchers, BSc, MSc, PhD students



# Our main working fields

- \* Pond and intensive aquaculture research
  - \* Genetics, marker-assisted breeding
  - \* Cryopreservation of different fish sperm
  - \* Nutrition technologies, fatty acid analysis
- \* Environmental toxicology
  - \* Toxicity tests and stress research on aquatic organisms (zebrafish recirculation system)
  - \* Histology
  - \* Water quality testing at aquaculture farms
- \* Conservation of endangered fish species
  - \* European eel, crucian carp (*Carassius carassius*), loach (*Misgurnus fossilis*), mudminnow (*Umbra krameri*)



# Education

- \* Szent István University since 2006
  - \* Environmental and Agricultural Engineering in bachelor and master level
  - \* Histology and toxicology of zebrafish
  - \* The antibiotic resistance of bacteria isolated from surface waters
- \* Doctoral research since 2012
- \* Dr. Ákos Horváth, Dr. Balázs Kovács
  - \* Analysis of the domesticated and wild brown trout (*Salmo trutta m. fario*) populations in Hungary with different genetic markers
  - \* Others: Gene expression analyses of zebrafish, genotyping of various broodstocks
  - \* Scholarships in UK and Singapore



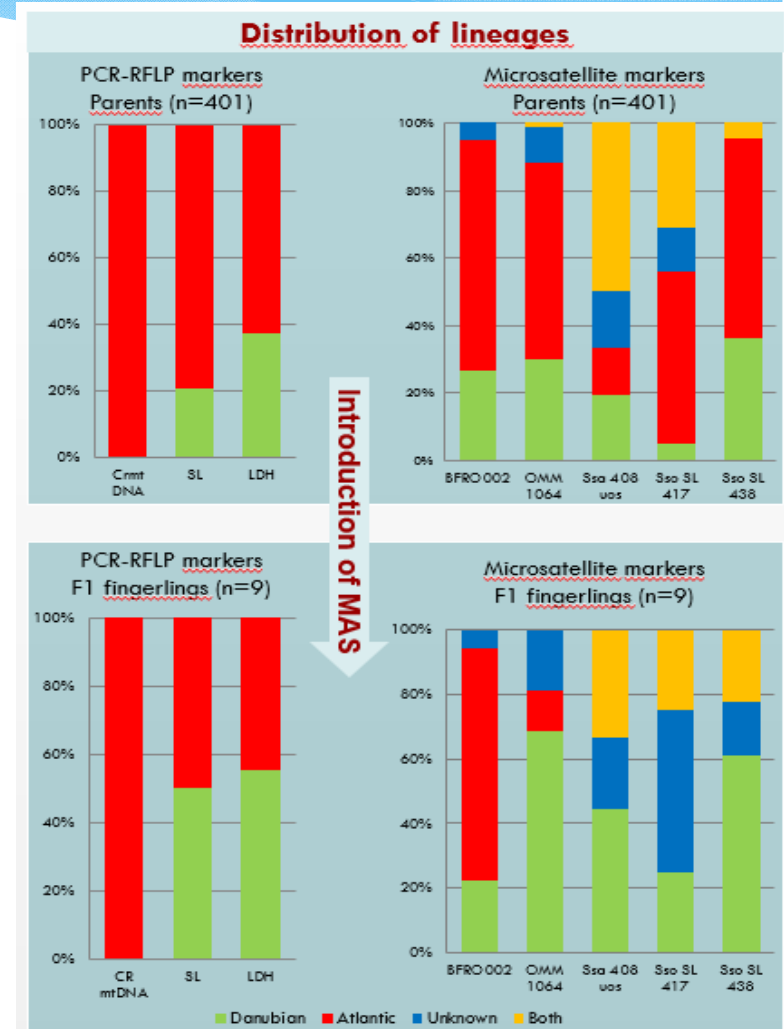
# Research project

- \* Five European lineages of brown trout, related to basins
- \* Few mountain streams (6 sampled) and two broodstocks in Hungary
- \* 888 sampled fishes, 725 tagged
- \* SNP, microstaellites, Sanger sequencing
- \* Marker-assisted breeding system
- \* Population genetic analysis
- \* Investigate the genetic background



# Results

- \* Effects of Atlantic lineage in Danube basin
- \* Indicator of the stocking of non-native populations
- \* Effective and successful usage of these loci to identify the lineages
- \* Most of the populations are healthy according to population genetics
- \* Successfully introduced MAS



# Thank you for attention!



<http://fishreprodsziu.blogspot.com/>

<http://mkk.szie.hu/dep/halt/>