

## Scientific CV

### Contact Information

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### Research Interests

Quantitative genetics and statistical methodology: Better understanding of the genetic architecture of traits of economic interest in animal breeding. QTL mapping as well as mapping of genes responsible for inbreeding depression and heterosis. Statistical methodologies applied in genomic selection and selection signature work. Set up of simple breeding programs in developing countries.

### Personal Details

Date of Birth:	January 6, 1960
Place of Birth:	Bad Aussee
Nationality:	Austria

### Higher Education including obtained degrees

1991	Habilitation in Animal Breeding and Population Genetics at University of Natural Resources and Life Sciences ( <i>Assoc. Prof.</i> )
1988	Degree <i>Dr. rer.nat.tech.</i> , University of Natural Resources and Life Sciences (BOKU)
1984 – 1988	Dissertation at University of Natural Resources and Life Sciences
1983	Degree <i>Dipl.-Ing.</i> (BOKU, Vienna.)
1978 – 1983	Study of Agricultural Sciences (BOKU, Vienna)

### Appointments

2000-present	Full Professor of Animal Breeding and Population Genetics at BOKU
1991--2000	Associate Professor at the Division of Livestock Sciences, BOKU
1984-1991	Lecturer at the Division of Livestock Sciences, BOKU

### Work experience abroad

09.2006 – 07.2006	Visiting professor at University of Sydney, Australia.
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- 11.1991 – 03.1992 Visiting fellow at University of New South Wales, Sydney, Australia and University of New England, Armidale, Australia.
- 04.1988 –03.1989 Post-Doc. at University of New South Wales, Sydney, Australia.

#### Professional Memberships

European Association of Animal Production (EAAP); Genetics commission  
 ÖNGENE; Austrian Organization for Conservation of Endangered Livestock Breeds;  
 President  
 ZAR; Association of Austrian Cattle Breeders; Chair of breeding committee  
 Journal of Animal Breeding and Genetics; Member of Editorial Board

#### Key International collaborations

Prof. Ino Curik	University of Zagreb	Croatia	Mapping inbreeding depression
Dr. Vincent Ducrocq	INRA	France	Survival analysis
Dr. Curt Van Tassel, Dr. Tad Sonstegard	USDA, ARS	U.S.A.	Analysis of sequence data
Prof. Fernando Garcia	Sao Paulo University	Brazil	Selection signatures and genomic selection
Dr. Marcos Vinicius	EMBRAPA	Brazil	Genomic signals of crossbreeding
Prof. Theo Meuwissen	Norwegian University of Life Sciences	Norway	Genomic selection

#### Publications of the last 5 years, 10 most relevant papers bold (since 2009)

- Getachew, T., Gizaw, S., Wurzinger, M., Haile, A., Rischkowsky, B., Okeyo, A.M., Sölkner, J., Mészáros, G.: Survival analysis of genetic and non-genetic factors influencing ewe longevity and lamb survival of Ethiopian sheep breeds. *Livestock Science*, 176, 2015, 22–32. doi: <http://dx.doi.org/10.1016/j.livsci.2015.03.021>
- Mészáros, G., Boison, S.A., Ferenčaković, Pérez O'Brien, A.M., Garcia, J.F. Utsunomiya, Y.T., da Silva, M.V.B., Curik, I., Sölkner, J.: Genomic analysis for managing small and endangered populations: a case study in Tyrol Grey cattle. *Frontiers in Genetics*, 6:173. doi: 10.3389/fgene.2015.00173
- Smetko, A., Soudre, A., Silbermayr, K., Mueller, S., Brem, G., Hanotte, O., Boettcher, P., Sttella, A., Mészáros, G., Wurzinger, M., Mueller, M., Burgstaller, J., Sölkner., J.: Trypanosomosis: Potential driver of selection in African cattle. *Frontiers in Genetics, Livestock Genomics*, 6:137. doi: 10.3389/fgene.2015.00137
- Baumung, R., Farkas, J., Boichard, D., Mészáros, G., Sölkner, J., Curik, I.: GRain: A Computer Program to Calculate Ancestral and Partial Inbreeding Coefficients using a Gene Dropping Approach. *Journal of Animal Breeding and Genetics*, 2015, 132:100–108. doi:10.1111/jbg.12145
- Perez O'Brien, A.M., Höller, D., Boison, S.A. Milanese, M., Bomba, L., Utsunomiya, Y.T., Carvalheiro, R., Neves, H.H.R., da Silva, M.V.B., VanTassell, C.P., Sonstegard, T.S., Mészáros, G., Ajmone-Marsan, P., Garcia, J.F., Sölkner, J.: Low levels of taurine introgression in the current Brazilian Nelore and Gir indicine cattle populations. *Genetics, Selection, Evolution*, 2015, 47:31. DOI 10.1186/s12711-015-0109-5
- Mészáros, G., Petautschnig, E., Schwarzenbacher, H., Sölkner, J.: Genomic regions influencing coat color saturation and facial markings in Fleckvieh cattle, *Animal Genetics*, 2015, 46(1): 65-68. doi: 10.1111/age.12249
- Gebre, KT; Wurzinger, M; Gizaw, S; Haile, A; Rischkowsky, B; Sölkner, J; ,Effect of genetic improvement of body weight on herd dynamics and profitability of

- Ethiopian meat sheep: A dynamic simulation model, *Small Ruminant Research*, 117, 1, 15-24, 2014, Elsevier
- Neves, Haroldo HR; Carvalheiro, Roberto; O'Brien, Ana M Pérez; Utsunomiya, Yuri T; do Carmo, Adriana S; Schenkel, Flávio S; Sölkner, Johann; McEwan, John C; Van Tassell, Curtis P; Cole, John B; ,Accuracy of genomic predictions in *Bos indicus* (Nellore) cattle, *Genetics Selection Evolution*, 46, 1, 17, 2014, BioMed Central Ltd
- Utsunomiya, Yuri T; Carmo, Adriana S; Neves, Haroldo HR; Carvalheiro, Roberto; Matos, Márcia C; Zavarez, Ludmilla B; Ito, Pier KRK; O'Brien, Ana M Pérez; Sölkner, Johann; Porto-Neto, Laercio R; ,Genome-wide mapping of loci explaining variance in scrotal circumference in Nellore cattle, *PLoS one*, 9, 2, e88561, 2014, Public Library of Science
- Perez O'Brien, Ana M.; Utsunomiya, Yuri T; Mészáros, Gábor; Bickhart, Derek M; Liu, George E; Van Tassell, Curtis P; Sonstegard, Tad S; Da Silva, Marcos VB; Garcia, J Fernando; Sölkner, Johann; ,Assessing signatures of selection through variation in linkage disequilibrium between taurine and indicine cattle, *Genetics Selection Evolution*, 46, 1, 19, 2014, BioMed Central**
- Mészáros, Gábor; Eaglen, Sophie; Waldmann, Patrik; Sölkner, Johann; ,A Genome Wide Association Study for Longevity in Cattle, *Open Journal of Genetics*, 2014, , 2014, Scientific Research Publishing
- Seltenhammer, Monika H; Sundström, Elisabeth; Meisslitzer-Ruppitsch, Claudia; Cejka, Petra; Kosiuk, Jędrzej; Neumüller, Josef; Almeder, Marlene; Majdic, Otto; Steinberger, Peter; Losert, Udo M; ,Establishment and characterization of a primary and a metastatic melanoma cell line from Grey horses, *In Vitro Cellular & Developmental Biology-Animal*, 50, 1, 56-65, 2014, Springer
- Ferencakovic, Maja; Sölkner, Johann; Curik, Ino; ,Estimating autozygosity from high-throughput information: effects of SNP density and genotyping errors, *Genetics Selection Evolution*, 45, 1, 42, 2013, BioMed Central Ltd**
- Weinwurm, S; Sölkner, J; Waldmann, P; ,The Effect of Linkage Disequilibrium on Bayesian Genome-wide Association Methods, *J Biomet Biostat*, 4, 180, 2, 2013,
- Waldmann, P., Mészáros, G., Gredler, B., Fuerst, C., Sölkner, J., 2013. ,Evaluation of the lasso and the elastic net in genome-wide association studies, *Frontiers in Genetics*, 2013, 4: 270.
- Gizaw, S., Getachew, T., Haile, A., Rischkowsky, B., Sölkner, J., Tibbo, M., 2013. Optimization of selection for growth in Menz sheep while minimizing inbreeding depression in fitness traits. *Genetics Selection Evolution* 45, 20.
- Utsunomiya, Y.T., do Carmo, A.S., Carvalheiro, R., Neves, H.H.R., Matos, M.C., Zavarez, L.B., Sölkner, J., McEwan, J.C., Cole, J.B., Van Tassell, C.B., Schenkel, F.S., da Silva, M.V.B.G. Porto Neto, L.R., Sonstegard, T.S., Garcia, J.F., 2013. Genome-wide association study for birth weight in Nellore cattle points to previously described orthologous genes affecting human and bovine height. *BMC Genetics* 14, 52.**
- Utsunomiya, Y.T., Pérez O'Brien, A.M., Sonstegard, T.S. Van Tassell, C.P., do Carmo, A.S., Mészáros, G., Sölkner, J., Garcia, J.F., 2013. Detecting Loci under Recent Positive Selection in Dairy and Beef Cattle by Combining Different Genome-Wide Scan Methods. *PLoS one* 8, e64280 (corresponding author).**
- Curik, I., Druml, T., Seltenhammer, M.H., Sundström, E., Pielberg, G.R., Andersson, L., Sölkner, J., 2013. Complex Inheritance of Melanoma and Pigmentation of Coat and Skin in Grey Horses. *PLoS genetics* 9, e1003248.**
- Soudré, A., Ouédraogo-Koné, S., Wurzinger, M., Müller, S., Hanotte, O., Ouedraogo, A. G., Sölkner, J. 2013. Trypanosomiasis: a priority disease in tsetse-challenged areas of Burkina Faso. *Tropical animal health and production* 45, 497-503
- G Mészáros, J Sölkner, V Ducrocq, 2013. The Survival Kit: Software to analyze survival data including possibly correlated random effects. *Computer methods and programs in biomedicine* 110, 503-510.**

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- Wurzinger, M., Okeyo, A.M., Semambo, D., Sölkner, J., 2009. The sedentarisation process of the Bahima in Uganda: An emic view.African Journal of Agricultural Research, 4, 1154-1158.
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