

# Max Perutz Labs Group Leader

## Joachim HERMISSON

Joachim studied Physics and Philosophy in Tübingen and Göttingen and did a PhD on Quantum Phase Transitions before he switched to model Real Life. He worked with Günter Wagner at Yale and started his own group in Munich in 2002 with the help of an Emmy Noether research grant by the German Science Foundation (DFG). In October 2007, he started his position as a Professor of Mathematics and Biosciences at the University of Vienna.

Joachim's work is on theoretical population genetics where he combines molecular and phenotypic approaches. He is particularly interested in the evolutionary conditions for adaptation and speciation. Recent projects range from the evolution of assortative mating under frequency-dependent disruptive selection to the study of selective sweeps and the footprint of selection in molecular adaptation. A special research focus is on the effects of gene-gene and gene-environment interactions on genetic variation and the adaptive process (epistasis and evolvability) and on the evolution of the genotype-phenotype map (robustness, canalization, and modularity).

### Education

2006 Habilitation, Evolutionary Biology, Ludwig-Maximilian University Munich  
1999 Dr. rer. nat., Theoretical Physics, summa cum laude, University of Tübingen  
1995 Diploma, Physics, University of Göttingen  
1990 - 1995 Studies in Physics and Philosophy, Universities of Tübingen and Göttingen

### Academic and Research Appointments

Oct. 2007 - Professor, Vienna Science Chair for Mathematics and Biosciences  
2002 - 2007 Research Group Leader, Emmy Noether excellence program, Biology, Ludwig-Maximilian University Munich  
2000 - 2002 Postdoctoral Fellow, Department of Ecology and Evolutionary Biology, Yale University (PI: G.P. Wagner)  
1999 - 2000 Postdoctoral Fellow, Theoretical Physics, University of Tübingen (PI: M. Baake)

### Honors, Awards, and Grants

2006 WWTF grant for Vienna Science Chair  
2006 Graduate Program Award, VolkswagenStiftung Innovative teaching competition, grant for a Master- and PhD program in evolution, ecology, and systematics  
2002 - 2007 Emmy Noether group leader fellowship, DFG excellence program, includes funding of a research group (2 Postdocs, 2 PhD students)  
2002 Workshop grant (with G.P. Wagner), Packard Foundation travel and accommodation for 19 participants, Santa Fe Institute, NM  
2000 - 2002 Emmy Noether postdoctoral fellowship, DFG excellence program  
1999 Doctoral Prize, best PhD in Physics in 1998/99, University of Tübingen  
1996 - 1998 PhD scholarship, Studienstiftung des Deutschen Volkes  
1993 - 1996 Scholarship, Studienstiftung des Deutschen Volkes

### **Research Interests**

Theoretical population genetics, mathematical biology, molecular evolution and adaptation, coalescent theory, gene interactions (epistasis), theory of speciation, evolution of the genotype-phenotype map, robustness/canalization, evolvability.

### **Teaching Experience**

Lectures:

Mathematics for Biologists (1st year) 2003/04, 2004/05;

Evolution (graduate, general introduction) 2004/05

Statistics for Ecologists and Evolutionists (lecture and computer practical) 2003, 2004, 2005

Scientific Presentation (lecture and practical course) 2006/07

Population genetics (introduction, lecture and practical course) 2008

Seminar:

Theory in Ecology and Evolution (graduate level) 2005, 2005/06

Coalescent Theory (graduate summer course) 2006

Tutorials:

Analysis I (1st year mathematics) 1995, 1996;

Mathematical Methods in the Sciences (3rd year physics) 1994/95

### **Other Experience**

April 2002 Organizer of the workshop on Detection and Evolution of Genetic Robustness, Santa Fe Institute, Santa Fe, NM, USA

2006 - 2007 Chair of the Munich Graduate Program for Evolution, Ecology, and Systematics

April 2008 Co-organizer of the workshop on Mathematical Biology, Erwin Schrödinger Institute (ESI), Vienna, Austria

Referee for: National Science Foundation USA, Austrian Science Foundation (FWF), Acta Biotheoretica, American Naturalist, BMC Evolutionary Biology, Evolution, Genetics, Heredity, Journal of Mathematical Biology, Journal of Physics A, Journal of Theoretical Biology, Molecular Biology and Evolution, Molecular Ecology, Nature, PLoS Biology, PLoS Genetics, PLoS One, Proceedings of the Royal Society, Proceedings of the National Academy of Sciences (USA), Physica E, Physical Review E, Physical Review Letters, Science, Theoretical Population Biology