CURRICULUM VITAE
9/2021

PERSONAL DETAILS

Name	Tuomas Hämälä
Nationality	Finland
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Public profiles	Google Scholar, ResearchGate
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EMPLOYMENT

Starting 4/2022	University of Nottingham, UK **Marie Skłodowska-Curie postdoctoral fellow** Supervisor: Levi Yant
9/2021 – present	University of Oulu, Finland **Academy of Finland postdoctoral fellow**
8/2018 – 7/2021	University of Minnesota Twin Cities, USA **Postdoctoral associate** Supervisor: Peter Tiffin

EDUCATION

1/2014 – 7/2018	University of Oulu, Finland **PhD** in population and evolutionary genetics Thesis title: “Ecological genomics in *Arabidopsis lyrata*: local adaptation, phenotypic differentiation, and reproductive isolation” Supervisor: Outi Savolainen
9/2011 – 12/2013	University of Oulu, Finland **MSc** in genetics
9/2008 – 5/2011	University of Oulu, Finland **BSc** in bioscience

PUBLICATIONS

*equal contribution, #corresponding author

9. **Hämälä T***,#, Wafula EK*, Guiltinan MJ, Ralph PE, dePamphilis CW & Tiffin P# (2021). Genomic structural variants constrain and facilitate adaptation in natural populations of *Theobroma cacao*, the chocolate tree. *PNAS* 118: e2102914118.

8. Takou M, **Hämälä T**, Koch E, Steige KA, Dittberner H, Yant L, Genete M, Sunyaev S, Castric V, Vekemans X, Savolainen O & de Meaux J# (2021). Maintenance of adaptive

dynamics and no detectable load in a range-edge out-crossing plant population. *Molecular Biology and Evolution* 38: 1820-1836.

7. **Hämälä T**[#] & Tiffin P (2020). Biased gene conversion constrains adaptation in *Arabidopsis thaliana*. *Genetics* 215: 831-846.
6. **Hämälä T**[*,#], Gorton AJ*, Moeller AD & Tiffin P[#] (2020). Pleiotropy facilitates local adaptation to distant optima in common ragweed (*Ambrosia artemisiifolia*). *PLOS Genetics* 16: e1008707.
5. **Hämälä T**[#], Guiltinan MG, Marden JH, Maximova S, dePamphilis C & Tiffin P[#] (2020). Gene expression modularity reveals footprints of polygenic adaptation in *Theobroma cacao*. *Molecular Biology and Evolution* 1: 110-123.
4. **Hämälä T**[#] & Savolainen O[#] (2019). Genomic patterns of local adaptation under gene flow in *Arabidopsis lyrata*. *Molecular Biology and Evolution* 36: 2557-2571.
3. Mattila TM*, Laenen B*, Horvath R, **Hämälä T**, Savolainen O & Slotte T[#] (2019). Impact of demography on linked selection in two outcrossing Brassicaceae species. *Ecology and Evolution* 9: 9532-9545.
2. **Hämälä T**[#], Mattila TM & Savolainen O (2018). Local adaptation and ecological differentiation under selection, migration, and drift in *Arabidopsis lyrata*. *Evolution* 72: 1373-1386.
1. **Hämälä T**[#], Mattila TM, Leinonen PH, Kuittinen H & Savolainen O (2017). Role of seed germination in adaptation and reproductive isolation in *Arabidopsis lyrata*. *Molecular Ecology* 26: 3484–3496.

FUNDING

2021 European Commission, Marie Skłodowska-Curie individual fellowship – 213,000€

2021 Academy of Finland, postdoctoral fellowship – 330,000€ (accepted in part)

2019 MPGI, travel grant – $800

2018 Emil Aaltonen foundation, travel grant – 3000€

2018 SMBE, young investigator travel award – $2000

2017 Emil Aaltonen foundation, research fellowship – 13,350€

2017 UniOGS, travel grant – 1500€

2015 Population genetics doctoral program, travel grant – 500€

SKILLS AND EXPERTISE

Population genetics: local adaptation, polygenic adaptation, structural variants, genome evolution, speciation

Bioinformatics: >8 years of experience with high-performance computing and next-generation sequence analysis; familiar with both model (whole-genome and transcriptome) and non-model (transcriptome and RAD-Seq) organism; extensive experience with individual-based simulations (coalescent and forward-in-time); fluent in programming language C

Statistics: fluent in R; regression analysis (e.g. linear mixed models, model selection); machine-learning (e.g. random forest, neural networks); data visualization

Field and laboratory experiments: designed and maintained large-scale reciprocal transplant, common garden, and growth-room experiments

TEACHING AND MENTORING EXPERIENCE

2015 – 2016 Master's thesis supervision
Margarita Takou, ecology and population genetics

2013 – 2016 Practical trainee supervision
Petri Vänni, Weixuan Ning, Elina Haataja, Margarita Takou, Rami-Petteri Apuli, Paul DuBray, Toni Jenfors

2014 Teaching assistant
Basics in genetics, 15 h

SELECTED PRESENTATIONS

11/2020 Invited talk, University of Oulu, Finland
What can the genetic and genomic architecture of adaptation tell about evolution?

1/2020 Oral presentation, PAG, San Diego, California
Gene expression modularity reveals footprints of polygenic adaptation in *Theobroma cacao*

8/2019 Poster presentation, ESEB, Turku, Finland
Gene expression modularity reveals footprints of polygenic adaptation in *Theobroma cacao*

8/2018 Oral presentation, Midwest PopGen meeting, Saint Paul, Minnesota
Local adaptation under gene flow: Recombination, conditional neutrality and genetic trade-off shape genomic patterns in *Arabidopsis lyrata*

7/2018 Poster presentation, SMBE, Yokohama, Japan
Local adaptation under gene flow: Recombination, conditional neutrality and genetic trade-off shape genomic patterns in *Arabidopsis lyrata*

2/2018 Oral presentation, Arabis symposium, Cologne, Germany
Genomic patterns of local adaptation under gene flow in *Arabidopsis lyrata*

7/2017 Oral presentation, SMBE, Austin, Texas
Transcriptomics and epigenetics in locally adapted *Arabidopsis lyrata*

8/2015 Poster presentation, ESEB, Lausanne, Switzerland
Effects of genetic divergence on hybrid germination between subspecies of *Arabidopsis lyrata*

REFERENCES

Peter Tiffin (postdoctoral supervisor)
Professor at University of Minnesota Twin Cities, USA, ptiffin@umn.edu

Outi Savolainen (PhD supervisor)
Emerita professor at University of Oulu, Finland, outi.savolainen@oulu.fi

OTHER

Journal referee (Publons):
eLife, Evolution, Evolutionary Applications, Evolutionary Ecology, Frontiers in Plant Science, G3: Genes | Genomes | Genetics, Molecular Biology and Evolution, Molecular Ecology, New Phytologist, PLOS Genetics, PNAS

Programs and scripts written for NGS data analysis: GitHub