

CURRICULUM VITAE  
8/2022

PERSONAL DETAILS

Name	Tuomas Hämälä
Nationality	Finland
Email address	tuomas.hamala@gmail.com
Public profiles	<a href="#">Google Scholar</a> , <a href="#">ResearchGate</a>
ORCID iD	<a href="#">0000-0001-8306-3397</a>
Webpage	<a href="#">thamala.github.io</a>

EMPLOYMENT

4/2022 – present	University of Nottingham, UK <b>Marie Skłodowska-Curie individual fellow</b> Supervisor: Levi Yant
9/2021 – 3/2022	University of Oulu, Finland <b>Academy of Finland postdoctoral fellow</b>
8/2018 – 7/2021	University of Minnesota Twin Cities, USA <b>Postdoctoral associate</b> Supervisor: Peter Tiffin

EDUCATION

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

## PUBLICATIONS

\*equal contribution, #corresponding author

11. Epstein B, Burghardt L, Heath K, Grillo M, Kostanecki A, **Hämälä T**, Young N & Tiffin P<sup>#</sup> (2022). Combining GWAS and population genomic analyses to characterize coevolution in a legume-rhizobia symbiosis. *Molecular Ecology* in press.
10. **Hämälä T**<sup>#</sup>, Ning W, Kuittinen H, Aryamanesh N\* & Savolainen O\* (2022). Environmental response in gene expression and DNA methylation reveals factors influencing the adaptive potential of *Arabidopsis lyrata*. *bioRxiv* preprint: 485516.
9. **Hämälä T**<sup>\*,#</sup>, Wafula EK\*, Guiltinan MJ, Ralph PE, dePamphilis CW & Tiffin P<sup>#</sup> (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<sup>#</sup> (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**<sup>#</sup> & Tiffin P (2020). Biased gene conversion constrains adaptation in *Arabidopsis thaliana*. *Genetics* 215: 831–846.
6. **Hämälä T**<sup>\*,#</sup>, Gorton AJ\*, Moeller AD & Tiffin P<sup>#</sup> (2020). Pleiotropy facilitates local adaptation to distant optima in common ragweed (*Ambrosia artemisiifolia*). *PLOS Genetics* 16: e1008707.
5. **Hämälä T**<sup>#</sup>, Guiltinan MG, Marden JH, Maximova S, dePamphilis C & Tiffin P<sup>#</sup> (2020). Gene expression modularity reveals footprints of polygenic adaptation in *Theobroma cacao*. *Molecular Biology and Evolution* 1: 110–123.
4. **Hämälä T**<sup>#</sup> & Savolainen O<sup>#</sup> (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<sup>#</sup> (2019). Impact of demography on linked selection in two outcrossing Brassicaceae species. *Ecology and Evolution* 9: 9532–9545.
2. **Hämälä T**<sup>#</sup>, 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**<sup>#</sup>, 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€                       |
| 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 PGDP, 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, transcriptome, assemblies) and non-model (transcriptome, 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

8/2022 Oral presentation, ESEB, Prague, Czech Republic

1/2022 Oral presentation, PopGroup55, Online

11/2021 Invited online talk, Agricultural Genomics Institute at Shenzhen, China

11/2020 Invited online talk, University of Oulu, Finland

1/2020 Oral presentation, PAG, San Diego, California

8/2019 Poster presentation, ESEB, Turku, Finland

8/2018 Oral presentation, Midwest PopGen meeting, Saint Paul, Minnesota

7/2018 Poster presentation, SBE, Yokohama, Japan

2/2018 Oral presentation, Arabis symposium, Cologne, Germany

7/2017 Oral presentation, SBE, Austin, Texas

8/2015 Poster presentation, ESEB, Lausanne, Switzerland

## REFERENCES

Levi Yant (postdoctoral supervisor)

Professor at University of Nottingham, UK, [levi.yant@nottingham.ac.uk](mailto:levi.yant@nottingham.ac.uk)

Peter Tiffin (postdoctoral supervisor)

Professor at University of Minnesota Twin Cities, USA, [ptiffin@umn.edu](mailto:ptiffin@umn.edu)

Outi Savolainen (PhD supervisor)

Emerita professor at University of Oulu, Finland, [outi.savolainen@oulu.fi](mailto: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, Molecular Ecology Resources, New Phytologist, PLOS Genetics, PNAS

Programs and scripts written for NGS data analysis: [GitHub](#)