

Jouni Laakso
Docentavtal
Forskningsprogrammet för organism- och evolutionsbiologi
E-post: jouni.laakso@helsinki.fi



Publikationer

Dual-stressor selection alters eco-evolutionary dynamics in experimental communities

Hiltunen, T., Cairns, J., Frickel, J., Jalasvuori, M., Laakso, J., Kaitala, V., Kuenzel, S., Karakoc, E. & Becks, L., dec 2018, I : *Nature Ecology & Evolution*. 2, 12, s. 1974-1981 8 s.

Outside-host phage therapy as a biological control against environmental infectious diseases

Merikanto, I., Laakso, J. T. & Kaitala, V., 8 jun 2018, I : *Theoretical Biology and Medical Modelling*. 15, 11 s., 7.

Adaptation to fluctuations in temperature by nine species of bacteria

Saarinen, K., Laakso, J., Lindström, L. & Ketola, T., mar 2018, I : *Ecology and Evolution*. 8, 5, s. 2901-2910 10 s.

Outside-host predation as a biological control against an environmental opportunist disease

Merikanto, I., Laakso, J. T. & Kaitala, V., 10 mar 2017, I : *Ecological Modelling*. 347, s. 85-93 9 s.

A mechanistic underpinning for sigmoid dose-dependent infection

Anttila, J. V., Mikonranta, L., Ketona, T., Kaitala, V. T., Laakso, J. T. & Ruokolainen, L., 2017, I : *Oikos*. 126, s. 910-916

Evolutionary contribution to coexistence of competitors in microbial food webs

Hiltunen, T., Kaitala, V., Laakso, J. & Becks, L., 2017, I : *Proceedings of the Royal Society B. Biological Sciences*. 284, 1864, 8 s., 20170415.

Population Dynamics, Invasion, and Biological Control of Environmentally Growing Opportunistic Pathogens

Kaitala, V., Ruokolainen, L., Holt, R. D., Blackburn, J. K., Merikanto, I., Anttila, J. & Laakso, J., 2017, *Modeling the Transmission and Prevention of Infectious Disease*. Hurst, C. J. (red.). 1. p. red. Springer, s. 213-245 33 s. (*Advances in Environmental Microbiology*; nr. 4).

Environmental variation enables invasions of environmental opportunist pathogens

Anttila, J. V., Laakso, J. T., Kaitala, V. T. & Ruokolainen, L., aug 2016, I : *Oikos*. 125, 8, s. 1144-1152 9 s.

Different food sources elicit fast changes to bacterial virulence

Ketola, T., Mikonranta, L., Laakso, J. & Mappes, J., 1 jan 2016, I : *Biology Letters*. 12, 1, 4 s., 20150660.

Within-host evolution decreases virulence in an opportunistic bacterial pathogen

Mikonranta, L., Mappes, J., Laakso, J. & Ketola, T., 19 aug 2015, I : *BMC Evolutionary Biology*. 15, 8 s., 165.

Protist predation can select for bacteria with lowered susceptibility to infection by lytic phages

Örmälä-Odegrip, A-M., Ojala, V., Hiltunen, T., Zhang, J., Bamford, J. K. H. & Laakso, J., 7 maj 2015, I : *BMC Evolutionary Biology*. 15, 7 s., 81.

Environmental variation generates environmental opportunist pathogen outbreaks

Anttila, J. V., Kaitala, V. T., Laakso, J. T. & Ruokolainen, L., 2015, I : *PLoS One*. 10, 12, 15 s., e0145511.

Association of colony morphotypes with virulence, growth and resistance against protozoan predation in the fish pathogen *Flavobacterium columnare*

Zhang, J., Laakso, J., Mappes, J., Laanto, E., Ketola, T., Bamford, J. K. H., Kunttu, H. & Sundberg, L-R., sep 2014, I : FEMS Microbiology Ecology. 89, 3, s. 553-562 10 s.

Determining the impact of initial age structure on the recovery of a healthy over-harvested population

Isomaa, M., Kaitala, V. & Laakso, J., 24 aug 2014, I : Ecological Modelling. 286, s. 45-52 8 s.

Association of colony morphotype on virulence, growth and resistance against protozoan predation in the fish pathogen *Flavobacterium columnare*

Zhang, J., Laakso, J., Mappes, J., Laanto, E., Ketola, T., Bamford, J., Kunttu, H. & Sundberg, L-R., 2014, I : FEMS Microbiology Ecology. 89, s. 553-562 10 s.

Coincidental Loss of Bacterial Virulence in Multi-Enemy Microbial Communities

Zhang, J., Ketola, T., Örmälä, A-M., Mappes, J. & Laakso, J., 2014, I : PLoS One. 9, 11, 11 s., 111871.

Invasion Ability and Disease Dynamics of Environmentally Growing Opportunistic Pathogens under Outside-Host Competition

Merikanto, I., Laakso, J. T. & Kaitala, V., 2014, I : PLoS One. 9, 11, 21 s., 113436.

Precautionary management of Baltic Sea cod (*Gadus morhua callarias*) under different environmental noise and harvesting strategies

Isomaa, M., Kaitala, V. & Laakso, J., 2014, I : Boreal Environment Research. 19, 1, s. 39-50 12 s.

Top-down effects of a lytic bacteriophage and protozoa on bacteria in aqueous and biofilm phases

Zhang, J., Örmälä-Odegrip, A-M., Mappes, J. & Laakso, J., 2014, I : Ecology and Evolution. 4, 23, s. 4444-4453 10 s.

Resource Availability and Competition Shape the Evolution of Survival and Growth Ability in a Bacterial Community

Pekkonen, M., Ketola, T. & Laakso, J., 30 sep 2013, I : PLoS One. 8, 9, s. e76471 12 s., e76471.

Baltic cod (*Gadus morhua callarias*) recovery potential under different environment and fishery scenarios

Isomaa, M., Kaitala, V. & Laakso, J., 24 sep 2013, I : Ecological Modelling. 266, s. 118-125 8 s.

Fluctuating temperature leads to evolution of thermal generalism and preadaptation to novel environments

Ketola, T., Mikonranta, L., Zhang, J., Saarinen, K., Örmälä, A-M., Friman, V-P., Mappes, J. & Laakso, J., 2013, I : Evolution. 67, 10, s. 2936-2944 9 s.

Loss of competition in the outside host environment generates outbreaks of environmental opportunist pathogens

Anttila, J., Ruokolainen, L., Kaitala, V. & Laakso, J., 2013, I : PLoS One. 8, 8, 9 s., e71621.

The relative importance of competition and predation in environment characterized by resource pulses - an experimental test with a microbial community

Hiltunen, T. & Laakso, J., 2013, I : BMC Ecology. 13, 8 s., 29.

Temporal changes in species interactions in simple aquatic bacterial communities

Pekkonen, M. & Laakso, J., 17 sep 2012, I : BMC Ecology. 12, 18, 11 s.

Females prefer bold males; An analysis of boldness, mate choice and bacterial resistance in the field cricket *Gryllus integer*

Kortet, R., Niemelä, P. T., Vainikka, A. & Laakso, J., 2012, I : Ecological Parasitology and Immunology. 1, 235580, 6 s.

Interactive effects between diet and genotypes of host and pathogen define the severity of infection

Zhang, J., Friman, V-P., Laakso, J. & Mappes, J., 2012, I : Ecology and Evolution. 2, 9, s. 2347-2356 10 s.

Life history trade-offs and relaxed selection can decrease bacterial virulence in environmental reservoirs

Mikonranta, L., Friman, V-P. & Laakso, J., 2012, I : PLoS One. 7, 8, s. e43801 9 s.

Outside-host growth of pathogens attenuates epidemiological outbreaks

Merikanto, I., Laakso, J. & Kaitala, V., 2012, I : PLoS One. 7, 11, s. e50158 8 s.

Phage-driven loss of virulence in a fish pathogenic bacterium

Laanto, E., Bamford, J., Laakso, J. & Sundberg, L-R., 2012, I : PLoS One. 7, 12, s. e53157 8 s.

Predation and resource fluctuations drive eco-evolutionary dynamics of a bacterial community

Hiltunen, T., Friman, V-P., Kaitala, V., Mappes, J. & Laakso, J., 2012, I : Acta Oecologica. 38, s. 77-83 7 s.

Species dynamics alter community diversity–biomass stability relationships

Fowler, M., Laakso, J., Kaitala, V., Ruokolainen, L. & Ranta, E., 2012, I : Ecology Letters. 15, 12, s. 1387–1396 10 s.

Pulsed-resource dynamics increase the asymmetry of antagonistic coevolution between a predatory protist and a prey bacterium

Friman, V-P., Laakso, J., Koivu-Orava, M. & Hiltunen, T., dec 2011, I : Journal of Evolutionary Biology. 24, 12, s. 2563-2573 11 s.

Pulsed-resource dynamics constrain the evolution of predator–prey interactions

Laakso, J. & Friman, V-P., mar 2011, I : American Naturalist. 177, 3, s. 334-345 12 s.

High temperature and bacteriophages can indirectly select for bacterial pathogenicity in environmental reservoirs

Friman, V-P., Hiltunen, T., Jalasvuori, M., Lindstedt, C., Laanto, E., Örmälä, A-M., Laakso, J., Mappes, J. & Bamford, J., 2011, I : PLoS One. 6, 3, s. e17651 7 s.

Increased survival during famine improves fitness of bacteria in a pulsed-resource environment

Pekkonen, M., Korhonen, J. & Laakso, J. T., 2011, I : Evolutionary Ecology Research. 13, 1, s. 1-18 18 s.

Predation on multiple trophic levels shapes the evolution of pathogen virulence

Friman, V-P., Lindstedt, C., Hiltunen, T., Laakso, J. & Mappes, J., 2009, I : PLoS One. 4, 8, s. e6761 1 s.

Availability of prey resources drives evolution of predator-prey interaction

Friman, V-P., Hiltunen, T., Laakso, J. & Kaitala, V., 2008, I : Proceedings of the Royal Society B. Biological Sciences. 275, 1643, s. 1625-1633 9 s.

Detecting compensatory dynamics in competitive communities under environmental forcing

Ranta, E., Kaitala, V., Fowler, M. S., Laakso, J., Ruokolainen, L. & O'Hara, R., 2008, I : Oikos. 117, 12, s. 1907-1911 5 s.

Temporal variability in detritus resource maintains diversity of bacterial communities

Hiltunen, T., Laakso, J. T., Kaitala, V., Suomalainen, L-R. & Pekkonen, M. H., 2008, I : Acta Oecologica. 33, 3, s. 291-299

The structure and strength of environmental variation modulate covariance patterns: a reply to Houlahan et al. 2008

Ranta, E., Kaitala, V., Fowler, M., Laakso, J., Ruokolainen, L. & O'Hara, R., 2008, I : Oikos. 117, 12, s. 1914 1 s.

Interactions between environmental variability and immigration rate control patterns of species diversity

Hiltunen, T., Laakso, J. & Kaitala, V., 2006, I : Ecological Modelling. 194, s. 125-131 7 s.

Population dynamic consequences of adaptive growth rate in fluctuating environment

Laakso, J., Kaitala, V. & Ranta, E., 2006, I : Ecological Modelling. 194, s. 132-140 9 s.

Non-linear biological responses to environmental noise affect population extinction risk

Laakso, J., Kaitala, V. & Ranta, E., jan 2004, I : Oikos. 104, 1, s. 142-148 7 s.

Evolution of Hsp90 expression in *Tetrahymena thermophila* (Protozoa, Ciliata) populations exposed to thermally variable environments

Ketola, T., Laakso, J., Kaitala, V. & Airaksinen, S., 2004, I : Evolution. 58, s. 741-748 8 s.

Nonlinear biological responses to disturbance affect population extinction risk

Laakso, J., Kaitala, V. & Ranta, E., 2004, I : Oikos. 104, s. 142-148

Environmental noise and population dynamics of the ciliated protozoa *Tetrahymena thermophila* in aquatic microcosms

Laakso, J., Loytynoja, K. & Kaitala, V., sep 2003, I : Oikos. 102, 3, s. 663-671 9 s.

Nonlinear biological responses to disturbance: consequences on population dynamics

Laakso, J., Kaitala, V. & Ranta, E., 2003, I : Ecological Modelling. 162, s. 247-258

The ecology of recovery

Gardmark, A., Enberg, K., Ripa, J., Laakso, J. & Kaitala, V., 2003, I : Annales Zoologici Fennici. 40, 2, s. 131-144 14 s.

How does environmental variation translate into biological processes?

Laakso, J., Kaitala, V. & Ranta, E., jan 2001, I : Oikos. 92, 1, s. 119-122 4 s.

Visibility of the environmental noise modulating population dynamics

Ranta, E., Lundberg, P., Kaitala, V. & Laakso, J., 22 sep 2000, I : Proceedings of the Royal Society B. Biological Sciences. 267, 1455, s. 1851-1856 6 s.

Impacts of wood ants (*Formica aquilonia* Yarr.) on the invertebrate food web of the boreal forest floor

Laakso, J. & Setälä, H., 2000, I : Annales Zoologici Fennici. 37, 2, s. 93-100 8 s.

Sensitivity of primary production to changes in the architecture of belowground food webs

Laakso, J. & Setälä, H., okt 1999, I : Oikos. 87, 1, s. 57-64 8 s.

Population- and ecosystem-level effects of predation on microbial-feeding nematodes

Laakso, J. & Setälä, H., aug 1999, I : Oecologia. 120, 2, s. 279-286 8 s.

Short-term effects of wood ants (*Formica aquilonia* Yarr.) on soil animal community structure

Laakso, J., mar 1999, I : Soil Biology & Biochemistry. 31, 3, s. 337-343 7 s.

Plant effects on the soil community: A microcosm experiment

Katajisto, J., Huhta, T. & Laakso, J., 1999, I : European Journal of Soil Biology. 35, 1, s. 17-21 5 s.

Composition and trophic structure of detrital food web in ant nest mounds of *Formica aquilonia* and in the surrounding forest soil

Laakso, J. & Setälä, H., mar 1998, I : Oikos. 81, 2, s. 266-278 13 s.

Nest mounds of red wood ants (*Formica aquilonia*): hot spots for litter-dwelling earthworms

Laakso, J. & Setälä, H., aug 1997, I : Oecologia. 111, 4, s. 565-569 5 s.

Impact of soil faunal structure on decomposition and N-mineralisation in relation to temperature and moisture in forest soil

Sulkava, P., Huhta, V. & Laakso, J., 1996, I : Pedobiologia. 40, s. 505-513 9 s.

!!Projects

The Centre of Excellence in Biological Interactions (BIOINT)

Sundström, L., Kokko, H., Bos, N., Freitak, D., Salmela, H., Helanterä, H., Johansson, H., Laakso, J., Seppä, P., Lindström, S., Morandin, C., Paviola, J., Pekkonen, M., Pulliainen, U., Ozan, M., Schultner, E., Stucki, D., Wolf, J., Galarza, J., Kulmuni, J., Hakala, S. M. & Dhaygude, K.
01/01/2012 → 31/12/2017

Aktiviteter

Finnish Plant Science days

Jouni Laakso (Närvarande)
25 maj 2016 → 26 maj 2016

Pre-examination of PhD thesis

Jouni Laakso (Förhandsgranskare)
feb 2016

Swiss National Science Foundation (Extern organisation)

Jouni Laakso (Assessment)
jan 2016

Is silver birch growth and nitrogen allocation affected by kin recognition?

Jouni Laakso (Bihandledare)
jun 2015 → ...

Is silver birch herbivory affected by kin recognition?

Jouni Laakso (Bihandledare)
jun 2015 → ...

Trends in Microbiology (Tidskrift)

Jouni Laakso (Referentgranskare)
2015 → ...

LUOVA (Extern organisation)

Jouni Laakso (Expert)
sep 2014 → ...

BMC Microbiology (Tidskrift)

Jouni Laakso (Referentgranskare)
2014 → ...

PLoS One (Tidskrift)

Jouni Laakso (Referentgranskare)
2014 → ...

Disturbance, generalism and invasiveness: Experimental evolution tests with bacteria

Jouni Laakso (Bihandledare)
1 jan 2012 → 8 jan 2016

PhD thesis supervision

Jouni Laakso (Handledare)
jan 2012 → 29 apr 2016

Microbial Ecology (Tidskrift)

Jouni Laakso (Referentgranskare)

2012 → ...

Ministry of Education (Extern organisation)

Jouni Laakso (Expert)

2012

Modelling ecological and evolutionary dynamics of opportunist pathogens

Jouni Laakso (Handledare)

2012 → 29 apr 2016

Mathematical models of environmental opportunist pathogen dynamics

Jouni Laakso (Handledare)

apr 2011 → 29 maj 2015

Ecological interactions in the evolution of virulence and in disease dynamics among opportunistic pathogens

Jouni Laakso (Handledare)

jan 2011 → jan 2012

Modelling ecological and evolutionary dynamics of opportunist pathogens and their parasitic phages

Jouni Laakso (Bihandledare)

2011 → ...

Longitudinal monitoring of parasites in individual wild primates

Jouni Laakso (Medlem i avhandlingskommitté)

aug 2010 → mar 2015

Pathogen-host interactions between an environmentally transmitted bacterium *Serratia marcescens* and its insect hosts

Jouni Laakso (Bihandledare)

jun 2010 → feb 2015

Phage-bacteria antagonistic coevolution is influenced by protozoan predation

Jouni Laakso (Bihandledare)

maj 2010 → nov 2011

An invasive ectoparasite of cervids, the deer ked: dispersion, cold tolerance and predation

Jouni Laakso (Medlem i avhandlingskommitté)

2010 → 2012

Effects of ecological factors on dominance and immune defence in crayfish

Jouni Laakso (Medlem i avhandlingskommitté)

2010 → 2015

Host-pathogen interaction: *Flavobacterium columnare* and its bacteriophages

Jouni Laakso (Medlem i avhandlingskommitté)

2010 → 2013

Journal of Theoretical Biology (Tidskrift)

Jouni Laakso (Referentgranskare)

2010 → ...

Implications of bacterial viruses on pathogenic bacteria: from natural microbial communities to therapeutic applications

Jouni Laakso (Handledare)

aug 2009 → 10 apr 2015

Evolutionary consequences of environmental variability and genetic stress

Jouni Laakso (Post doc mentor)

1 jan 2009 → 31 dec 2011

Predation-induced changes in *Serratia marcescens* virulence

Jouni Laakso (Bihandledare)

dec 2008 → jun 2010

Impact of biotic and abiotic factors on bacterial virulence

Jouni Laakso (Handledare)

apr 2008 → apr 2013

Ohjaaja väitöskirjassa: Impact of biotic and abiotic factors on bacterial virulence

Jouni Laakso (Handledare)

apr 2008 → 6 apr 2013

Evolution of competitive interactions in periodic environment

Jouni Laakso (Handledare)

2007 → apr 2009

Evolution of competitive interactions in fluctuating environments

Jouni Laakso (Handledare)

2005 → 2013

Temporally fluctuating resource availability and evolution of predator-prey interactions

Jouni Laakso (Bihandledare)

2005 → 2010