

Curriculum Vitae - Oskar Franklin

Personal Information

Date of birth: July 27, 1969 in Uppsala, Sweden
 Citizenship: Sweden



Contact Information

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Positions

2004/06 – 2014	Scientist/Research scholar, International Institute for Applied Systems Analysis (IIASA), Austria, Ecosystem Services and Management Program (current position)
2009/01 –2009/04	Visiting scientist, University of New South Wales, BEES, Sydney, Australia
2006/11 –2007/03	Visiting scientist, University of New South Wales, BEES, Sydney, Australia
1997/01 –2003/09	Ph.D. student, Department of Ecology and Environmental Research, Swedish University of Agricultural Sciences, Sweden
1995/09 -1996/12	Radiation protection officer, Swedish Radiation Protection Institute SSI. Supervision and regulation of environmental issues and emissions from nuclear power plants
1994/10 -1994/12	Researcher/MSc student, CSIRO division of Applied Physics, Australia. Thesis project on computer simulation of blood cell aggregation

Education and degrees

2003/09/26	Ph.D. in Systems Ecology. Thesis: <i>Plant and Forest Dynamics in Response to Nitrogen Availability</i> . Supervisor: Prof. Göran I. Ågren, Department of Ecology and Environmental Research, Swedish University of Agricultural Sciences. Extra curricular courses in: popular science writing, web design and project management
1996	M.Sc. Physics Engineering, Uppsala University +1 year at University of Melbourne + 3 months thesis work at CSIRO in Sydney, Australia.
1989 -1995	University courses in Biology, Chemistry, Psychology (3 year-credits in total)

Other scholarly activities

2009 - 2013	Supervisor of 3 postdocs at IIASA: Christina Kaiser (Austria) 2 years project, Marianne Hall (Sweden) 2 years project, Tobias Eriksson (Sweden) 1 year project
2005 - 2013	Supervisor of 10 Ph.D. students from 7 different countries in the IIASA YSSP program, of which one, Per Bodin (Sweden), received the Peccei Award for best YSSP project 2006 based on external review
1997 – 2003	Teaching in university courses in technical ecology, basic ecology, global environmental problems at the Swedish University of Agricultural Sciences.
1999 – 2001	Secretary and Website manager of Ultuna forestry PhD student union, Uppsala, Sweden

Prizes and Awards

2006	Prize for best oral presentation at the ESF-JSPS Frontier Science Conference for Young Researchers on Climate Change 2006 in Stockholm. Presentation title: <i>Forest production and carbon storage-potentials of European forestry</i>
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Recent invited lectures and talks

2013/01	Invited presentation at University of Natural Resources and Life Sciences, Vienna, Austria. Title: <i>Modeling carbon allocation in trees</i>
2012/11	Invited presentation at Umeå University, Sweden. Title: <i>Economics for plants and fungi</i>
2012/05	Invited presentation at 2 nd International Enzymes in the Environment RCN Workshop: Incorporating Enzymes and Microbial Physiology into Biogeochemical Models. Title: <i>Extracellular enzyme production from a rational microbe's perspective</i>
2010	2 Invited presentations for TERRABITES -COST ES0805 – WG-3 (Modelling plant ecology), 2010 06 23 in Varna: <i>Evolving traits - an alternative to PFTs</i> and in Madrid 2010 11 17: <i>How important is plasticity, and how can it be modeled?</i>
2009	Invited talk at Max Planck Institute for Biogeochemistry in Jena, Germany, 2009 09 10. Title: <i>Optimization models for forests, plants and microbes</i>
2009	Oral presentation at American Geophysical Union fall meeting 2009, San Francisco 2009-12-14. Title: <i>Optimality principle integrates plant responses to elevated CO₂ and soil nitrogen availability</i>
2009	Colloquial talk at Macquarie University, Australia, 2009 01 14. Title: <i>Optimal plants and forests</i>

Recent grants and projects

2013/07 -2015/06	Precision forestry for the future: enhanced forest management by optimized tree selection in thinning operations (partner). Funded by FORMAS, Sweden. Budget: € 478300
2011/01 -2014/12	Modeling plant-soil interactions and the consequences for forest nutrient and carbon fluxes (Project leader) within the program Nitrogen-Carbon Interactions in boreal Forests (NiCaF), lead by the Swedish University of Agricultural Sciences (PI). Budget: € 282 000
2010/05 -2012/12	Modeling of forest structure to understand the interactions among productivity, disturbance, biodiversity and climate change GGI, Greenhouse Gas Initiative –IIASA, Austria (PI, Project leader). Budget: € 68 200.
2007/04 -2010/04	MICDIF - Linking microbial diversity and ecosystem functions across scales and interfaces, project part: Ecological Modeling. FWF Project S 10008-B17, Austria
2008/06 -2009/12	CC-TAME- Climate Change – Terrestrial Adaptation and Mitigation in Europe, FP7 grant 212535, EU
2009/01-2009/04	Explaining forest responses to rising carbon dioxide concentrations at stand scale using a new, simple model of plant carbon economy, DP0881765. Australian Research Council (ARC)

Publication list - Oskar Franklin

Publications in international peer-reviewed journals

- Jonas M, Ometto JP, Batistella M, **Franklin O**, Hall M, Lapola DM, Moran EF, Tramberend S, Queiroz BL, Schaffartzik A, Shvidenko A, Nilsson SB & Nobre CA. (2014) Sustaining ecosystem services: Overcoming the dilemma posed by local actions and planetary boundaries. *Earth's Future* 2:2013EF000224.
- Franklin O**, Näsholm T, Högberg P & Högberg MN (2014) Forests trapped in nitrogen limitation: an ecological market perspective on ectomycorrhizal symbiosis. *New Phytologist* 203, 657-666
- Lindh M, Zhang L, Falster D, **Franklin O** & Brännström Å. (2014) Plant diversity and drought: the role of deep roots. *Ecological Modelling* 290, 85-93
- Kaiser C, Richter A, **Franklin O**, Dieckmann U (2014) Microbial community dynamics alleviate stoichiometric constraints during litter decay. *Ecology Letters* 17, 680-690
- McCallum I, **Franklin O**, Moltchanova E, Merbold L, Schmulius C, Shvidenko A, Schepaschenko D, Fritz S (2013) Improved light and temperature responses for light-use-efficiency-based GPP models. *Biogeosciences*, 10, 6577-6590
- Näsholm T, Högberg P, **Franklin O**, Metcalfe D, Keel SG, Campbell C, Hurry V, Linder S & Högberg MN (2013) Are ectomycorrhizal fungi alleviating or aggravating nitrogen limitation of tree growth in boreal forests? *New Phytologist*, 198, 214-221
- Hall M, Medlyn BE, Abramowitz G, **Franklin O**, Råntfors M, Linder S, & Wallin G (2013) Which are the most important parameters for modelling carbon assimilation in boreal Norway spruce under elevated [CO₂] and temperature conditions? *Tree Physiology* 33, 1156-1176
- Bodin P. & **Franklin O**. (2012). Efficient modeling of sun/shade canopy radiation dynamics explicitly accounting for scattering. *Geoscientific Model Development*, 5, 535-541
- Franklin O.**, Johansson J., Dewar R.C., Dieckmann U., McMurtrie R.E., Brännström Å., & Dybzinski R. (2012). Modeling carbon allocation in trees - a search for principles. *Tree Physiology*, 32, 648-666
- Franklin O.**, Moltchanova E., Obersteiner M., Kraxner F., Seidl R., Böttcher H.& Rokityanskiy D. (2012). Large scale forest modeling- deducing productivity and stand density from inventory data. International Journal of Forestry Research. *International Journal of Forestry Research*, Article ID 934974
- Bodin P. & **Franklin O**. (2011). An improved sun/shade canopy radiation model. *Geosci. Model Dev. Discuss.*, 4, 1793-1808
- Franklin O.**, Hall E.K., Kaiser C., Battin T.J. & Richter A. (2011). Optimization of biomass composition explains microbial growth-stoichiometry relationships. *American Naturalist*, 177, e29-e42
- Hall E., Maixner F., **Franklin O.**, Daims H., Richter A. & Battin T. (2010). Linking microbial and ecosystem ecology using ecological stoichiometry: A Synthesis of conceptual and empirical approaches. *Ecosystems*, 14, 261-273
- Leduc S., Lundgren J., **Franklin O**. & Dotzauer E. (2010) Location of a biomass based methanol production plant: A dynamic problem in northern Sweden. *Applied Energy*, 87, 68-75
- Franklin O.**, Aoki K. & Seidl R. (2009) A generic model of thinning and stand density effects on forest growth, mortality and net increment. *Annals of Forest Science*, 66, 815
- Franklin O.**, McMurtrie R.E., Iversen C.M., Crous K.Y., Finzi A.C., Tissue D.T., Ellsworth D.S., Oren R. & Norby R.J. (2009). Forest fine-root production and nitrogen use under elevated CO₂: Contrasting responses in evergreen and deciduous trees explained by a common principle. *Global Change Biology*, 15, 132-144

- Dewar R.C., **Franklin O.**, Mäkelä A., Mcmurtrie R.E. & Valentine H.T. (2009). Optimal Function Explains Forest Responses to Global Change. *BioScience*, 59, 127-139
- Franklin O.** (2007). Optimal nitrogen allocation controls tree responses to elevated CO₂. *New Phytologist*, 174, 811-822
- Ågren G.I. & **Franklin O.** (2003). Root : shoot ratios, optimization and nitrogen productivity. *Annals of Botany*, 92, 795-800
- Franklin O.**, Högberg P., Ekblad A. & Ågren G.I. (2003). Pine forest floor carbon accumulation in response to N and PK additions: Bomb C-14 modelling and respiration studies. *Ecosystems*, 6, 644-658
- Franklin O.** & Ågren G.I. (2002). Leaf senescence and resorption as mechanisms of maximizing photosynthetic production during canopy development at N limitation. *Functional Ecology*, 16, 727-733

Other publications

- Schneider U.A., Balkovic J., De Cara S., **Franklin O.**, Fritz S., Havlik P., Huck I., Jantke K., Kallio A.M.I., Kraxner F., Moiseyev A., Obersteiner M., Ramos C.I., Schleupner C., Schmid E., Schwab D. & Skalsky R. (2008). The European Forest and Agricultural Sector Optimization Model - EUFASOM Working Paper FNU-156. In. Hamburg University and Centre for Marine and Atmospheric Science, Hamburg, Germany
- Franklin O.** (2006). Modeling Forest Production and Carbon Storage Potentials in Response to Management in the European Union 2005 – 2050. In: *INSEA EU FP 6, 2006, Project SSPI-CT-2003/503614* (ed. Obersteiner M). EU
- Koca D., Smith B., Bergh J., Nilsson U., **Franklin O.**, Obersteiner M. & Sykes M.T. (2006). Increased accuracy in climate impact studies by incorporating forest management practices within a process-based regional ecosystem modelling framework. In: *Meddelanden fran Lunds Universitets Geografiska Institutioner, Avhandlingar*, pp. 77-89
- Franklin O.** (2003). Plant and Forest Dynamics in Response to Nitrogen Availability. *Doctoral thesis, Silvestria 285*, Swedish University of Agricultural Sciences
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