

Curriculum Vitae - Oskar Franklin

Personal Information

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



Contact Information

Work address: International Institute for Applied Systems Analysis (IIASA), Schlossplatz 1, A-2361 Laxenburg, Austria
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Positions

2004/06 – 2011 Scientist/Research scholar, International Institute for Applied Systems Analysis (IIASA), Austria, Ecosystem Services and Management program and Greenhouse Gas Initiative project (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. Research, studies and teaching in theoretical ecosystems ecology
 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 Reseacher/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: *Plant and Forest Dynamics in Response to Nitrogen Availability*. 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 - 2012 Supervisor of postdoc. Marianne Hall (Sweden)
 2005 -2007 Supervisor of 6 Ph.D. students at IIASA: Deniz Koca (Sweden/Turkey), Leiming Zhang (China), Georg Kindermann (Austria), Jin Huang (USA), Per Bodin (Sweden; received the Peccei Award for best YSSP project 2006 based on external review), Marianne Hall (Sweden)
 1997 – 2003 Teaching, university courses in technical ecology, basic ecology, global environmental problems
 1997, 1998, 2003. Sesam-supervisor, (Literature thesis project for undergraduate students at the Swedish University of Agricultural Sciences)
 1997 Forest teaching for high school teachers
 1999 – 2001 Secretary and Website manager of Ultuna forestry PhD student union, Uppsala, Sweden.

Other skills

Languages: English, German, Swedish, Computer programming (MathCad, C, C++, Fortran, JavaScript). Web publishing and design

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: *Forest production and carbon storage-potentials of European forestry*

Recent invited lectures and talks

2010 2 Invited presentations for TERRABITES -COST ES0805 – WG-3 (Modelling plant ecology), 2010 06 23 in Varna: *Evolving traits - an alternative to PFTs* and in Madrid 2010 11 17: *How important is plasticity, and how can it be modeled?*

2009 Talk at Max Planck Institute for Biogeochemistry in Jena, Germany, 2009 09 10. Title: *Optimization models for forests, plants and microbes*

2009 Oral presentation at American Geophysical Union fall meeting 2009, San Francisco 2009-12-14. Title: *Optimality principle integrates plant responses to elevated CO₂ and soil nitrogen availability*

2009 Colloquial talk at Macquarie University, Australia, 2009 01 14. Title: *Optimal plants and forests*

Recent grants

2010/05 -2011/08 Modeling of forest structure to understand the interactions among productivity, disturbance, biodiversity and climate change GGI, Greenhouse Gas Initiative –IIASA, Austria (Project leader).

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)

2006/11-1007/03 Hawkesbury forest experiment: Impacts of precipitation and CO₂ on trees, Australian Greenhouse Office; US Department of Energy Office of Science, Biological and Environmental Research Program; TERACC (NSF Grant no. 0090238)

2004/01 -2006/09 INSEA- Integrated Sink Enhancement Assessment, grant SSPI551 CT-2003/503614, EU.

Publication List - Oskar Franklin

Publications in international peer-reviewed journals

- 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

Manuscripts under review or revision

- Bodin P. & Franklin O. (2011) An improved sun/shade canopy radiation model. *in review*
- Franklin, O., Moltchanova E., Obersteiner M., Kraxner F., Seidl R., Böttcher H. & Rokityanskiy D. (2011). Large scale forest modeling- deducing productivity and stand density from inventory data. *International Journal of Forestry Research*. *in review*

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., Schlepner 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.