

Research projects

Research funding available in 2015-2020 for Research area (RA) of Forests, Global Change and Bioeconomy

Horizon 2020 - European Commission

Horizon 2020 EU projects:

1. Models and decision Support tools for integrated Forest policy development under global change and associated Risk and Uncertainty (SuFoRun). Consortium led by Dr Jordi Garcia-Gonzalo, Centre Tecnològic Forestal de Catalunya CTFC. School of Forest Sciences, UEF is partner (team leader prof. Heli Peltola, prof. Timo Pukkala involved). 2016-2020, 135 000 € for UEF, European Commission, the H2020-MSCA-RISE-2015.

Marie Curie Post Doc scholarship (for working abroad):

1. Classification of Forest Structural Types with LiDAR Remote Sensing Applied to Study Tree Size - Density Scaling Theories, Dr Ruben Valbuena, School of Forest Sciences, UEF. 2016-2018, 195 000 € (to be working 2 years at the Univ. of Cambridge). European Commission, H2020 — H2020-MSCA-IF-2014, Marie Skłodowska-Curie Individual Fellowships (Post Doc).

Academy of Finland (SA)

Ongoing SA research projects:

1. Modelling the vegetation dynamics of northern peatlands with implications for carbon biogeochemistry under changing climate, led by Prof. Eeva-Stiina Tuittila, School of Forest Sciences, UEF. Total SA funding 587 268 € in 2015-2019.
2. Resolving deep divergences and rapid radiations in the Hymenoptera: the next generation, led by Nyman Tommi. Total SA funding 508 317 € in 2016-2020.
3. Sustainable, climate neutral and resource-efficient forest-based bioeconomy (FORBIO), consortium and team 1 led by prof. Heli Peltola (others profs. involved: Jyrki Kangas (vice-leader), Timo Pukkala, Matti Maltamo, and tenure track ass. prof. Petteri Packalen); other partners: UEF/Dept. of Chemistry, FMI, LUKE, EFI and SYKE. 2015-2017 (1. period), 740 159 € (Team 1) of 3.22 milj. €, and 1.1.2018-30.4.2021 (2. period), 2 878 720 € (711 845 € for UEF-F), Strategic Research Council, Academy of Finland (PIHI 2015-2020).
4. Volatile-mediated plant communication in wild and cultivated plants: Understanding mechanisms of change in a polluted atmosphere, led by associate prof. James Blande, 01.09.2017-31.08.2021, 529 720 €, Academy of Finland
5. Direct and value-based trade-offs for ecosystem goods and services in multi-objective management of boreal forests under changing climate (OPTIMAM), funded by the Academy of Finland (SA), 2018-2022, 499 896 €, and led by Prof. Heli Peltola.

Previous SA research projects:

1. Molecular responses of birch and aspen to altered humidity (proj. 250636), led by Prof. Elina Oksanen, Department of Environmental and Biological Sciences, UEF. Total SA funding 552781 € in 2011-2015.
2. Adaptation of forest management to climate change: uncertainties, impacts and risks to forests and forestry in Finland (ADAPT, proj. 14907), consortium project with Finnish Meteorological Institute, led by Prof. Heli Peltola, School of Forest Sciences, UEF. Total SA funding for UEF 490 486 € in 2012-2016.
3. Sensitivity of carbon sequestration and biomass production to the foreseen climate change, climatic variability and weather extremes: comparative analyses on desert and boreal forest ecosystems (EXTREME, proj. 14921)", consortium project with Beijing Forestry University funded by SA and NSFC, led by Prof. Heli Peltola, School of Forest Sciences, UEF. Total SA funding for UEF 536 752 € in 2013-2016.

4. Four-dimensional Remote Sensing - Standardizing Airborne Laser Scanning Data Through Space and Time (ALS4D), consortium and team 1 led by track tenure ass. prof. Petteri Packalen, 2016-2017, 182 432€ of 359 414 €, Academy of Finland.
5. Interactions between divergent climate change factors and fungal endophytes in *Populus tremula* genders: Mining of novel mechanisms, led by Prof. Riitta Julkunen-Tiitto, Department of Environmental and Biological Sciences, UEF. Total SA funding 889011 € in 2013-2017.
6. Protective functions of plant semi-volatiles and their degradation products on plant surfaces, led by Prof. Jarmo Holopainen, Department of Environmental and Biological Sciences, UEF. Total SA funding 580 083 € in 2014-2018.
7. Towards more efficient Arctic research using dominant *Betula* species, spectromics and genomics, funded by SA, consortium project with University of Helsinki and LUKE led by Prof. Elina Oksanen, Department of Environmental and Biological Sciences, UEF. Total SA funding 458 709 € for UEF in 2015-2018.

Ongoing SA Academy Research Fellow projects:

1. Anne Kasurinen, 425 005 €, 2013-2018. Related project "Nitrogen uptake and assimilation in mycorrhizal Scots pine systems under climate warming, moderate N enrichment and herbivory stress", Department of Environmental and Biological Sciences, UEF, 287 952 € in 2013-2016.

Previous SA Academy Research Fellow projects:

1. James Blande, 391 475 €, 2011-2016. Related project "Plant-to-plant signalling by volatiles: the mechanisms and the environment" Department of Environmental and Biological Sciences, UEF, 262 588 € in 2014-2016 (and 444 975 € in 2011-2014).

Ongoing SA Post Doc funding:

1. Lauri Korhonen, Laser-based reference data for global vegetation monitoring [SatLaser] 246 468 € in 2015-2018.

Previous SA Research infrastructure fundings:

1. NaPPI-National Plant Phenotyping Infrastructure, FIRI 2013-research infrastructure, led by prof. Elina Oksanen, Department of Environmental and Biological Sciences, UEF. Total SA funding 328 572 € in 2014-2015.
2. Research infrastructure funded by Academy of Finland: Integrated Atmospheric and Earth System Science Research Infrastructure (INAR RI)" FIRI 2013 research infrastructure, led by prof. Markku

Kulmala, HY. Funding for UEF/prof. Eeva-Stiina Tuittila 27 000 € in 2015, and 32 236 € for prof. Jarmo Holopainen in 2015.

Ministry of Agriculture and Forestry

1. Terrain mobility estimation, led by prof. Timo Tokola, School of Forest Sciences, 1.3.2017-31.12.2018.2018, 50 000 €, Ministry of Agriculture and Forestry.
2. Enhancing efficiency and quality of forest operations by benefitting information related working conditions (Metsäoperaatioiden tehostaminen ja laadun parantaminen olosuhdetiedon hyödyntämisen avulla), coordinator LUKE; UEF, School of Forest Sciences partner (team lead by prof. Timo Tokola), 2016-2018, 100 000 € UEF (total budget 800 000 €).
3. Developing new modern monitoring methodologies for forest regeneration stands (Taimikoiden tiedonkeruun kehittäminen), coordinator UEF, School of Forest Sciences (team lead by prof. Timo Tokola), 2016-2018, 65 716 € UEF (total budget 400 000 €).
4. The measurement and estimation of timber quality attributes (Puuston laatutunnusten mittausta ja estimointi), coordinator HY, School of Forest Sciences partner (team lead by Dr. Jari Vauhkonen until Dec 31 2016, thereafter by Prof. Matti Maltamo), 2016-2018, 62 507 € for UEF (total budget 520 000 €).
5. Improved tree species discrimination with multispectral airborne lidar sensor (Monikanavaisella laserkeilausinstrumentilla parempaa puulajierottelua), coordinator Suomen Metsäkeskus, School of Forest Sciences partner (team lead by tenure track Ass. Prof. Petteri Packalen), 2016-2018, 150 000 € UEF (total budget 150 000 €).
6. High density airborne lidar data improves performance of area based inventory (Tiheäpulsisesta laserkeilausaineistosta parempaa tarkkuutta alueperusteisessa inventoinnissa), coordinator Suomen Metsäkeskus, School of Forest Sciences partner (team lead by tenure track Ass. Prof. Petteri Packalen), 2016-2018, 140 000 € UEF (total budget 140 000 €).
7. Comparative test to predict species specific diameter distributions and distributions in forest information systems (Puulajeittaisten läpimittajakaumien vertailutesti ja runkolukusarjat metsätietojärjestelmässä), coordinator Suomen Metsäkeskus, School of Forest Sciences partner (team lead by Prof. Matti Maltamo), 2016-2018, 140 000 € UEF.
8. Cost benefit analysis of remote sensing based forest inventory data (Metsävaratiedon tuottamisen kustannus-hyötyanalyysi), coordinator LUKE, School of Forest Sciences partner (team lead by tenure track Ass. Prof. Petteri Packalen), 2017-2018, 141 992 € UEF (total budget 630 260 €).

TEKES

Previous projects

1. Nanotech-driven bio-preservation of wood (Nanoteknisesti biosuojattu kestopuu, SafeWood). Consortium and team 1 lead by tenure track Ass. Prof. Antti Haapala UEF, School of Forest Sciences, 2016-2017, 287 000 € for UEF (research partners come from Natural Resources Institute Finland and University of Oulu with total project budget of 550 000 €). Financed by ERDF funds under Tekes INKA program.
2. Forest Bigdata, Digile, Fibic sub-project on Improving the accuracy of remote sensing based stand level tree sortiment estimation by tree species, led by Timo Tokola, 70 000 € in 2015.

Foundations (2015-2021)

1. Nessling foundation, project funding for Dr Matti Koivula 50000 € in 2015-2016 (Does uneven-age management support the diversity of forest-specialist species better than the classic even-age management).
2. Koneen säätiö, Post Doc scholarship for Dr Ashraful Alam, 31200 € in 2015 and 32400 € in 2016 (Effects of intensive forest management and harvesting on regional level forest biomass production and climate change mitigation potential in Finland).
3. Koneen säätiö, PhD scholarship for Aino Hämäläinen, 27600 € in 2015 (Energiapuun korjuun vaikutukset metsälajistoon: epifyyttijäkälät kannoilla ja hakkuutähteillä).
4. Fortum Foudation, PhD scholarship for Tarit Baul, 21600 € in 2015 (Climate benefits of carbon sequestration and material substitution by forest energy biomass and harvested wood products).
5. Finnish Cultural Foundation, PhD scholarship for Minna Kosonen, 21000 € in 2015 (Role of tannins in woody species).
6. Finnish Cultural Foundation, PhD scholarship for Paula Thitz, 12000 € in 2015 (Tannins in species interactions).
7. Finnish Cultural Foundation, PhD scholarship for Norul Sobyj, 12000 € in 2015 (Role of tannins in woody species).
8. Finnish Cultural Foundation, Post doc scholarship for Anneli Salonen, 43000 € in 2015 (Nordic unifloral honeys and their bioactivity).
9. Finnish Cultural Foundation, PhD scholarship for Aino Korrensalo, 24000 € in 2015 (Kasvillisuuden rooli boreaalisen suoekosysteemin hiilenkierron temporaalisessa ja spatiaalisessa vaihtelussa).
10. Finnish Cultural Foundation, PhD scholarship for Parvez Rana, 21000 € in 2015 (ALS based mapping in sub-tropics).
11. Jenni ja Antti Wihuri Foundation, PhD scholarship for Paula Thitz, 21000 € in 2015 (Tannins in species interactions).
12. Heikki Väänänen fund", PhD scholarship for Eino Levkoev, 6000 € in 2015 (Future tailored wood for Bioeconomy based on provenance hybridization of Norway spruce).
13. Heikki Väänänen fund", PhD scholarship for Parvathy Venugopal, 5500 € in 2015 (Differences in wood phenolic chemistry between kelo, other natural wood types and woods from different silvicultural interventions).
14. Niemi foundation, PhD scholarship for Inka Pippuri, 12 000 € in 2015 (Airborne laser scanning based forest inventory for forest management by applying novel metrics and multiple data source).

15. Alfred Kordelin Foundation, PhD scholarship for Markus Melin 12 000 € in 2015 (Laserkeilauksen käyttö hirven elinympäristöjen kartoituksessa ja mallintamisessa sekä hirvituhoalueiden ennustamisessa).
16. NUST University Pakistan Phd scholarship for Syed Adnan, 5 000 € in 2015.
17. Finnish Cultural Foundation, PhD scholarship for Rajendra Ghimire, 12000 € in 2015 (Significance of biotic stresses on climate change responsive VOC emissions from conifers).
18. The Foundations' Professor Pool (Maj ja Tor Nesslingin foundation), research scholarship for Prof. Jari Kouki, 27 000 € (+ travel grant 5 000 €), in 2016-2017.
19. Coordination of the Bioeconomy Policy of UEF and a 5-years professorship in the field of forest bioeconomy. 2016-2021, 1.155 milj. €. Project leader prof. Jyrki Kangas, the School of Forest Sciences, UEF. Saastamoisen säätiö.
20. Applying airborne radar and DEM-derived attributes to calibration of existing individual-tree growth models. Cheikh Mohamedou, 24 000 € for PhD work, Finnish Cultural Foundation, central funds.
21. Climate benefits of carbon sequestration and material substitution by forest energy biomass and harvested wood products. Tarit Baul, 10 056 € for PhD work. The Finnish Society of Forest Science.
22. Climate benefits of carbon sequestration and material substitution by forest energy biomass and harvested wood products. Tarit Baul, 16 000 €, 8 months for PhD work, Finnish Cultural Foundation, North Karelia regional fund.
23. Silver birch photosynthesis in a changing climate, Antti Tenkanen, 24 000€ for PhD work, 2016-2017, Finnish Cultural Foundation, North Karelia Regional fund.
24. Biological and biomedical spectral imaging, Elina Oksanen, 300 000 €, 2016-2018, Juho and Lempi Pitkänen Fund.
25. Spectral imaging of plants (Kasvien spektrikuvantaminen), Lars Granlund, 24 000 € for PhD work, 2016-2017, Finnish Cultural Foundation.
26. Isolation of extractives and other subernic compounds from bark of short rotation wood species through slow pyrolysis and solvent extraction (Puun kuoren kemian erotus- ja analyysitutkimus), Qing Zhao, 18 000 € for PhD work 2015-2016, Fortumin säätiö. Joint supervision by Ass. Prof. Antti Haapala (School of Forest Sciences) and Prof. Janne Jänis (Department of Chemistry).
27. Effects of long-term weather and moisture exposure on the structure and properties of thermally modified wood (Lämpöpuun vettymisen ja pitkäaikaisen kosteusaltistuksen tutkimus) 24 000 € for PhD work 2015-2016, Jenny ja Antti Wihurin säätiö. Joint supervision by Ass. Prof. Antti Haapala (School of Forest Sciences) and Dr. Henrik Heräjärvi (Natural Resources Institute Finland).

28. Examining the sensitivity of UK bird populations to changes in forest- and landscape structure through detailed remote sensing based analysis. Dr. Markus Melin, 58 000 € for 12 months post-doc working period, Bournemouth University. Applied through the post doc pool, granted by Finnish Cultural Foundation (central fund).
29. Climate benefits of carbon sequestration and material substitution by forest energy biomass and harvested wood products. (Metsien hiilensidontan ja biomassan korvausvaikutuksien ilmastolliset hyödyt). Tarit Baul, 16 000 €, 8 months for PhD work, Finnish Cultural Foundation, North Karelia regional fund.
30. Kone Foundation, project funding for Dr Matti Koivula 180000 € in 2017-2018 (Multiple-view evaluation of forest regeneration methods from the points of view of biodiversity, recreational use and harvesting costs [Metsänuudistamisen menetelmien moninäkökulmainen tarkastelu monimuotoisuuden, virkistyskäytön ja puunkorjuun kustannuksien kannalta])
31. Kone Foundation, PhD scholarship for Jari Jokela 28000 € in 2017 (Does uneven-age management support the diversity of forest-specialist species better than the classic even-age management).
32. Metsämiesten säätiö, 30.000 € vuonna 2017, UEF, School of Forest Sciences (Senior researcher Sari Pitkänen). 'OpenBIO: Digitaalisen biotalousoppimisympäristön kehittäminen perustuen rajoja ylittävien osaamisverkostojen tutkimukseen ja osaamiseen', Other partners, Savonlinnan opettajankoulutus ja Karelia-AMK.
33. Finnish Cultural Foundation, led by associate prof. James Blande, 3 years, start date to be fixed, 196 000 €(Optimising volatile-mediated plant-to-plant interactions to deliver robust pest control (OptiVol))

Other funding sources

1. Lentokorkeuden ja keilainparametrien vaikutus puustotunnusten tarkkuuteen laserkeilaukseen perustuvassa metsien inventoinnissa, The Finnish Forest Centre, 20 000€ in 2015.
2. Laserkeilaus ja riistakolmioiden tuottama paikkatieto poikueympäristönäkökulmasta, The Finnish Wildlife Agency, 23 000€ in 2015.
3. Erasmus+ International Credit Mobility between the School of Forest Sciences, UEF and the University of Belgrade (UB), Technical Faculty in Bor (TFB). 2016-2017, 30 320 € (UEF team: Jyrki Kangas, Kirsi Karjalainen, Markku Ropo).
4. Mahdollisuuksia jatkojalostukseen/Possibilities for refining, led by prof. Riitta Julkunen-Tiitto, YB, 1.9.2017-31.12.2018., 96 842 €, Centre for Economic Development, Transport and the Environment.

UEF Strategic funding

Ongoing UEF SA PROFI funding:

1. Tenure track ass. professorship Ari Lauren (2018-2021)
2. Tenure track ass. professorship James Blande (2018-2021)
3. Tenure track ass. professorship Mikko Vastaranta (2018-2021)
4. Tenure track ass. professorship Petteri Packalen (1.10.2015-31.9.2018)
5. University researcher Zhenming Ge (16.11.2015-31.9.2018)

Strategic profi funding of UEF

1. Antti Haapala, 120 000 €, 2016-2018
2. Petteri Packalen, 20 000 €, 2017
3. Zhenming Ge, 20 000 € 2016

Ongoing UEF Post Doc positions:

1. Dr Aino Korrensalo (2018-2020)
2. Dr Virpi Viljamo (2016-2018)

Previous UEF Post Doc positions:

1. Dr Ane Zubizarreta Gerendiain (2013-11/2016, motherhood leave in 3/2013-2/2014)
2. Dr Ruben Valbuena (2015-2017)

Previous Spearhead projects:

1. Changing climate and biological interactions related to forest, consortium led by prof. Riitta Julkunen - Tiitto, Department of Biology, UEF, 300000 € in 2015.
2. Multi-scale geospatial analysis of forest ecosystems (TOPLASER), consortium project led by Prof. Matti Maltamo, 160000 € in 2015.
3. Sustainable bioenergy, climate change and health (SUBI), consortium project led by Prof. Jorma Jokiniemi, Department of Environmental Science, UEF. Leader of research group of School of Forest Sciences, Prof. Heli Peltola, funding 35000 € in 2015.

UEF PhD salary positions:

Lars Granlund (2013-2015), Ben Wang (2014-2016), Hannes Pasanen (2014-2017), Mihailis Cugunovs (2014-2017), Dmirty Lepilii (2014-2015), Katalin Kiss (2014-2017), Olalla Diaz (2014-2017), Unni Krishnan (2014-2017), Yaodan Zhang (2015), Rajendra Ghimire (2015), Daniela Ala -Sisto (2016-2018, maternity leave in 2015), Eliezer Khaling (2015-2016), Juha Keränen (2016-2017), Aino Hämäläinen (2016), Aino Korrensalo (2016), Eino Levkoev (2016-2017), Adrian Pascual (2016-2017), Blanca Sanz (2016-2017), Norul Sobuj (2016-2017), Liukkonen Lauri (2016-2017)

UEF/ short term PhD Scholarship (by school/depts.):

1. Adrian Pascual (6 months), Piritta Torssonen (3 months) in 2015
2. Antonio Rodriguez (9 months), Parvathy Venugopal (9 months), Osmo Heikkala (3 months), Aino Hämäläinen (3 months) in 2016
3. Janne Räsänen (2 months) in 2017