

Universitatea Transilvania din Braşov

Facultatea de Silvicultură și Exploatare Forestiere

Departamentul Exploatare Forestiere, Amenajarea Pădurilor și Măsurători Terestre

Tematica propusă pentru admiterea la doctorat Septembrie 2019

Domeniul de doctorat: Silvicultură

Conducător de doctorat: prof. dr. ing. Iosif Vorovencii

Tematica: Efectele intervențiilor umane asupra productivității, emisiilor CO₂ și a funcțiilor solului într-o pădure virgină de brad cu fag

Bibliografie recomandată:

1. Curiel Yuste, J., Nagy, M., Janssens, I.A., Carrara, A., Ceulemans, R., 2005. Soil respiration in a mixed temperate forest and its contribution to total ecosystem respiration. *Tree Physiology* 25, 609-619.
2. Davidson Eric, A., Janssens Ivan, A., Luo, Y., 2005. On the variability of respiration in terrestrial ecosystems: moving beyond Q10. *Global Change Biology* 12, 154-164.
3. Eissenstat, D.M., Wells, C.E., Yanai, R.D., Whitbeck, J.L., 2000. Building roots in a changing environment: implications for root longevity. *New Phytologist* 147, 33-42.
4. Fernández-Alonso, M.J., Curiel Yuste, J., Kitzler, B., Ortiz, C., Rubio, A., 2018. Changes in litter chemistry associated with global change-driven forest succession resulted in time-decoupled responses of soil carbon and nitrogen cycles. *Soil Biology and Biochemistry* 120, 200-211.
5. Frouz, J., Pižl, V., Cienciala, E., Kalčík, J., 2009. Carbon storage in post-mining forest soil, the role of tree biomass and soil bioturbation. *Biogeochemistry* 94, 111-121.
6. Gazol, A., Camarero, J.J., Jiménez, J.J., Moret-Fernández, D., López, M.V., Sangüesa-Barreda, G., Igual, J.M., 2018. Beneath the canopy: Linking drought-induced forest die off and changes in soil properties. *Forest Ecology and Management* 422, 294-302.
7. Gough Christopher, M., Hardiman Brady, S., Nave Lucas, E., Bohrer, G., Maurer Kyle, D., Vogel Christoph, S., Nadelhoffer Knute, J., Curtis Peter, S., 2013. Sustained carbon uptake and storage following moderate disturbance in a Great Lakes forest. *Ecological Applications* 23, 1202-1215.

8. Hobbie, S.E., Oleksyn, J., Eissenstat, D.M., Reich, P.B., 2010. Fine root decomposition rates do not mirror those of leaf litter among temperate tree species. *Oecologia* 162, 505-513.
9. Högberg, M.N., Högberg, P., Myrold, D.D., 2007. Is microbial community composition in boreal forest soils determined by pH, C-to-N ratio, the trees, or all three? *Oecologia* 150, 590-601. Högberg, P., Nordgren, A., Buchmann, N., Taylor, A.F.S., Ekblad, A., Högberg, M.N., Nyberg, G., Ottosson-Löfvenius, M., Read, D.J., 2001. Large-scale forest girdling shows that current photosynthesis drives soil respiration. *Nature* 411, 789.
10. Jacobs, S., Dendoncker, N., Keune, H., 2013. *Ecosystem Services: Global Issues, Local Practices*
11. Janssens, I.A., Lankreijer, H., Matteucci, G., Kowalski, A.S., Buchmann, N., Epron, D., Pilegaard, K., Kutsch, W., Longdoz, B., Grünwald, T., Montagnani, L., Dore, S., Rebmann, C., Moors, E.J., Grelle, A., Rannik, Ü., Morgenstern, K., Oltchev, S., Clement, R., Guðmundsson, J., Minerbi, S., Berbigier, P., Ibrom, A., Moncrieff, J., Aubinet, M., Bernhofer, C., Jensen, N.O., Vesala, T., Granier, A., Schulze, E.D., Lindroth, A., Dolman, A.J., Jarvis, P.G., Ceulemans, R., Valentini, R., 2002. Productivity overshadows temperature in determining soil and ecosystem respiration across European forests. *Global Change Biology* 7, 269-278.
12. Levy-Varon, J.H., Schuster, W.S.F., Griffin, K.L., 2014. Rapid rebound of soil respiration following partial stand disturbance by tree girdling in a temperate deciduous forest. *Oecologia* 174, 1415-1424.
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14. Tang, J., Baldocchi Dennis, D., Xu, L., 2005. Tree photosynthesis modulates soil respiration on a diurnal time scale. *Global Change Biology* 11, 1298-1304.
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Prof. dr. ing. Iosif Vorovencii

Transilvania University of Braşov

Faculty of Silviculture and Forest Engineering

Department of Forest Engineering, Forest Management Planning and Terrestrial Measurements

Proposed topic for doctoral studies admission contest – September 2019

Doctoral field: Silviculture

Doctoral coordinator: prof. dr. ing. Iosif Vorovencii

Topic: Effects of human interventions over productivity, CO₂ emissions and soil functions in a silver fir-beech virgin forest

Recommended bibliography:

1. Curiel Yuste, J., Nagy, M., Janssens, I.A., Carrara, A., Ceulemans, R., 2005. Soil respiration in a mixed temperate forest and its contribution to total ecosystem respiration. *Tree Physiology* 25, 609-619.
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