Curriculum Vitae

Ioan DUTCĂ

Contact information

Address: Transilvania University of Brasov
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Education

Doctor of Philosophy in Forestry 2007-2011
Institution: Transilvania University of Brasov, Romania

Master of Science in Forest Ecosystem Management 2005-2007
Institution: Transilvania University of Brasov, Romania

Bachelor of Science in Forestry 2000-2005
Transilvania University of Brasov, Romania

Professional history

Lecturer 2012-present
Transilvania University of Brasov, Romania
Teaching:
Applied Statistics in Forest Research – MSc (in English);
Advanced data analysis – MSc ;
Artificial forest regeneration – BSc.
Research:
BIOPREDICT project; biomass modelling; sources of uncertainty in forest biomass estimation; error propagation.

Research fellow 2014-present
Buckinghamshire New University, United Kingdom

Fellowships

Bayesian calibration, forecasting and multi-model predictions of process-based vegetation models
Location: Rencurel, Grenoble, France 2015
Funded by European Commission – PROFOUND project

Leverhulme Postdoctoral Fellowship
Location: Buckinghamshire New University 2012-2013
Awarded by "The Leverhulme Trust", United Kingdom

Doctoral Fellowship 2008-2010
Location: Transilvania University of Brasov
Awarded by the Romanian Ministry of Education and Research, CNCS – UEFISCDI

Leonardo da Vinci fellowship
Location: Technical Educational Institute of Heraklion, Greece 2005
Awarded by the European Commission

Publications

Dutcă, I., Mather, R., & Ioraş, F. (2020). Sampling trees to develop allometric biomass models: How does tree selection affect model prediction accuracy and precision?. Ecological Indicators, 117, 106553. https://doi.org/10.1016/j.ecolind.2020.106553

Dutcă, I., Zianis, D., Petriţan, I. C., Bragă, C. I., Ştefan, G., Yuste, J. C., & Petriţan, A. M. (2020). Allometric Biomass Models for European Beech and Silver Fir: Testing Approaches to Minimize the Demand for Site-Specific Biomass Observations. Forests, 11(11), 1136. https://doi.org/10.3390/f11111136

Blennow, K., Persson, J., Gonçalves, L. M. S., Borys, A., Dutcă, I., Hynynen, J., ... & Reyer, C. P. (2020). The role of beliefs, expectations and values in decision-making favoring climate change adaptation—implications for communications with European forest professionals. Environmental Research Letters, 15(11), 114061. https://doi.org/10.1088/1748-9326/abc2fa

Persson, J., Blennow, K., Gonçalves, L., Borys, A., Dutcă, I., Hynynen, J., ... & Reyer, C. P. (2020). No polarization–expected values of climate change impacts among European forest professionals and scientists. Sustainability, 12(7), 2659. https://doi.org/10.3390/su12072659

Dutcă, I. (2019). The variation driven by differences between species and between sites in allometric biomass models. Forests, 10(11), 976. https://doi.org/10.3390/f10110976

Dutcă, I., McRoberts, R. E., Næsset, E., & Blujdea, V. N. (2019). A practical measure for determining if diameter (D) and height (H) should be combined into D^2H in allometric biomass models. Forestry: An International Journal of Forest Research, 92(5), 627-634. https://doi.org/10.1093/forestry/cpz041

Stăncioiu, P. T., Dutcă, I., Bălăcescu, M. C., & Ungurean, Ş. V. (2019). Coexistence with Bears in Romania: A Local Community Perspective. Sustainability, 11(24), 7167. https://doi.org/10.3390/su11247167

Dutcă, I., Mather, R., Blujdea, V.N., Ioraş, F., Olari, M. and Abrudan, I.V., (2018). Site-effects on biomass allometric models for early growth plantations of Norway spruce (*Picea abies* (L.) Karst.). Biomass and Bioenergy, 116, pp.8-17. https://doi.org/10.1016/j.biombioe.2018.05.013

Dutcă, I., Stăncioiu, P.T., Abrudan, I.V., Ioraş, F., (2018). Using clustered data to develop biomass allometric models: the consequences of ignoring the clustered data structure, Plos One, 13(8). https://doi.org/10.1371/journal.pone.0200123

Dutcă, I., (2018). Biomass data for young, planted Norway spruce (*Picea abies* (L.) Karst.) trees in Eastern Carpathians of Romania, Data in Brief, 19, 2384-2392. https://doi.org/10.1016/j.dib.2018.07.033

Dutca, I., Mather, R., Ioras, F. (2018). Tree biomass allometry during the early growth of Norway spruce (Picea abies) varies between pure stands and mixtures with European beech (Fagus sylvatica). Canadian Journal of Forest Research, 48(1), 77-84. https://doi.org/10.1139/cjfr-2017-0177

Palaghianu, C., Dutca, I. (2017). Afforestation and reforestation in Romania: History, current practice and future perspectives. Reforesta, 4, 54-68 http://journal.reforestationchallenges.org/index.php/REFOR/article/view/58

Dutca, I., Negrutiu, F., Ioras, F., Maher, K., Blujdea, V.N., Ciuvat, L.A. (2014). The Influence of Age, Location and Soil Conditions on the Allometry of Young Norway Spruce (Picea abies L. Karst.) Trees. Notulae Botanicae Horti Agrobotanici, 42(2), 579-582. http://www.notulaebotanicae.ro/index.php/nbha/article/viewFile/9714/7771

Ciuvat, A.L., Abrudan, I.V., Blujdea, V., Dutca, I., Nuta, I. S., Elena, E.D.U. (2013). Biomass Equations and Carbon Content of Young Black Locust (Robinia pseudoacacia L.) Trees from Plantations and Coppices on Sandy Soils in South-Western Romanian Plain. Notulae Botanicae Horti Agrobotanici, 41(2), 590-592. http://notulaebotanicae.ro/index.php/nbha/article/viewFile/9355/7673

Blujdea, V., Pilli, R., Dutcă, I., Ciuvăţ, L., Abrudan, I.V. (2012). Allometric biomass equations for young broadleaves in plantations in Romania. Forest Ecology and Management, 264, p172–184. https://doi.org/10.1016/j.foreco.2011.09.042

Dutcă, I., Abrudan, I.V., Stăncioiu, P.T., Blujdea, V. (2010) Biomass Conversion and Expansion Factors for Young Norway Spruce (Picea abies (L.) Karst.) Trees Planted on Non-Forest Lands in Eastern Carpathians. Notulae Botanicae Horti Agrobotanici, 38(3), p286 - 292. http://www.notulaebotanicae.ro/index.php/nbha/article/view/5450/5103

Stăncioiu, P.T., Abrudan, I.V., Dutcă, I. (2010) The Natura 2000 ecological network and forests in Romania: implications on management and administration. International Forestry Review, Vol.12(1), p106-113. https://doi.org/10.1505/ifor.12.1.106

Dutcă, I., Abrudan, I.V. (2010). Estimation of Forest Land Cover Change in Romania between 1990 and 2006. Bulletin of Transilvania University of Brasov, Series II Forestry, Wood Industry and Agricultural Food Engineering, Vol. 2 (51), p13-18. http://webbut.unitbv.ro/BU2010/Series%20II/BULETIN%20II%20PDF/Forestry/Dutca%20I.pdf

Presentations

1. The role of covariate range in allometric biomass models

In: Robust projections of forests under climate change - data, methods and models
Potsdam, Germany, October 2017

2. How effective is the age as explanatory variable in predicting biomass of young trees?
In: Modern horticulture: Achievements and Perspectives
Chisianu, Republic of Moldova, October, 2015
3. Allometric differences in young Norway spruce trees from pure and mixed stands
In: Ecology, silviculture and management of spruce species in mixed forests (IUFRO conference)
University of Alberta, Edmonton, Alberta Canada, August 2015
4. The influence of age, location and soil conditions on tree allometry
In: International Symposium "Forest and Sustainable Development",
Brasov, Romania, October 2014
5. Carbon sequestration in forest ecosystems in the context of climate change
In: International summer school "Climate Change and Restoration of Degraded Lands"
El Hierro, Spain, July 2014
6. The potential of site specific factors in explaining variance in allometric equations
In: International conference "Climate Change and Restoration of Degraded Lands"
El Hierro, Spain, July 2014
7. Two different methods to estimate needles and branches biomass for Norway spruce
In: International Symposium "Forest and Sustainable Development",
Brasov, Romania, October 2008

Projects

1. Improving the accuracy and precision of biomass estimations for Fagus sylvatica L., from tree level to large area, using terrestrial laser scanning technology - BIOPREDICT
Funded by Romanian Ministry of Education and Research, CNCS – UEFISCDI.
Period: 2020 - 2022
2. Mobilizing and Monitoring Climate Positive Efforts in Forests and Forestry - FORCLIMIT
Funded by ERA-GAS, Horizon 2020
Period: 2017-2020
3. MSc Programme in Climate Change and Restoration of Degraded Lands
Lifelong Learning Programme funded by the European Commission
Period: 2012-2014
4. Green Technology European Virtual Gateway
Lifelong Learning Programme funded by the European Commission
Period: 2012-2014
5. Improving the conditions for large carnivore conservation – a transfer of best practices (LIFE EX-TRA)
Funded by the European Commission
Period: 2010-2012
6. Project title: Data collection for economical assessment of National Protected Areas in Romania
Funded by the World Bank and United Nations Development Programme
Period: 2011-2012
7. Project title: Integrated Nutrient Pollution Control – Consulting services for development of afforestation plans
Funded by Ministry of Environment and the World Bank

Period: 2009-2012

8. Project title: Training Program for Implementing the Development Strategy of N.F.A. ROMSILVA
   Funded by the World Bank and Ministry of Forests and Rural Development
   Period: 2009
9. Project title: Training Program for the Department of Forests and Territorial Inspectorates
   Funded by the World Bank and Ministry of Forests and Rural Development
   Period: 2008-2009
10. Estimation of carbon accumulation dynamics through afforestation, using classic and modern tools
   Funded by the National Council of Scientific Research in Higher Education, BD programme
   Period: 2008-2010
11. Priority forest, sub-alpine and alpine habitats in Romania
   Funded by European Commission (LIFE)
   Period: 2008
12. Modelling of carbon sequestration in transitory forest ecosystems associated with forest land use change in Romania (FORLUC)
   Funded by the National Council of Scientific Research in Higher Education, PNII programme
   Period: 2007-2010
13. Capacity Building for Managing Eastern European High Conservation Value Forests: Romania
   Funded by DEFRA – Darwin (UK)
   Period: 2006-2007

Computer skills

Programming:

1. R – The R Project for Statistical Computing (proficient user);
2. JAGS – Just Another Gibbs Sampler (independent user);
3. WinBUGS – Bayesian inference Using Gibbs Sampling (independent user);
4. HTML – working knowledge;

Software packages: SPSS, CorelDRAW, ArcGIS, AutoCAD, MS Office.

Languages

Romanian (native); English (fluent).