MICHAEL C. DIETZE

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Academic Positions

Boston University
Associate Professor, Department of Earth and Environment,. 2015-present
Assistant Professor, Department of Earth and Environment,. 2012-2015
Additional Affiliations: Biology

University of Illinois Urbana-Champaign
Assistant Professor, Department of Plant Biology,. 2008-2012.
Additional Affiliations: Natural Resources and Environmental Sciences, Institute for Genomic Biology, Energy Biosciences Institute

Harvard University
Postdoctoral Research Fellow, 2006 – 2008

Education

Duke University
Ph.D., Ecology, April 2006
Thesis: *Regeneration Dynamics in Large Forest Gaps*

Duke University
B.S., Biology, 2000

Grants

(24) **M Dietze**, H Lynch. "The Ecological Forecasting Initiative: An Interdisciplinary Conference" Sloan Foundation 08/2018-12/2019	$50,000
(23) **M Dietze** "The Ecological Forecasting Initiative: An Interdisciplinary Symposium" Pardee Faculty Research Fellowship 09/2018-08/2021	$10,000
(22) **M Dietze**, A. Matta Ecological Forecasting Cyberinfrastructure. Hariri Institute Research Award	$30,000
(21) **M Dietze**, S. Serbin, A. Andrews "A prototype data assimilation system for the terrestrial carbon cycle to support Monitoring, Reporting, and Verification" NASA CMS 11/2017 – 10/2020	$1,049,739
(20) **M Dietze**, R Gallery, J McLachlan, R Vargas "Ecological Knowledge And Predictions: Integrating Across Networks And National Observatories" NSF OISE 09/2017 – 08/2019	$50,000
(19) C. Staudhammer, M. Binford, A. Desai, **M. Dietze**, P. Duffy, R. Kelly, W. Kleindl, P. Stoy, C. Schultz "Collaborative Proposal: MSB-FRA: The future of US forest function under changing climate, disturbance, and forest management" NSF Macrosystems 07/2017 – 06/2022	$121,478
(18) **M Dietze**, J Talbot, S. LaDeau, K. Weathers "Collaborative Proposal: MSB-ENSA: The Near-term Ecological Forecasting Initiative" NSF Macrosystems 01/2017 – 12/2021	$1,148,858
(17) B. Allen, L. Flory, **M Dietze** "Climate change impacts on fire regimes, plant invasions and tick-borne disease exposure risk" DOD SERDP, 05/2016-04/2021	$521,537
(16) **M Dietze**, ***A. Shiklomanov** "Tracking successional dynamics of foliar traits using remote sensing" NASA NESSF 09/2016-08/2019	$90,000
(15) **M Dietze, *J Mantooth** "Dissertation Research: Linking Tree Demography and Nonstructural Carbon in Eastern US Forests" NSF DDIG 07/2015 – 06/2017	$21,212

(14) **M Dietze**, A Desai, K McHenry "Collaborative Research: ABI Development: The PEcAn Project: A Community Platform for Ecological Forecasting" $487,861
NSF ABI, 07/2015 – 06/2019

(13) Lapenas, A. et al. "IDBR: TYPE A : Collaborative Research: The NANAPHID: A novel aphid-like nanosensor network for real-time measurements of carbohydrates in live plant tissue" $33,818
NSF IDBR, 01/2015 – 01/2017

(12) S. Serbin, **M. Dietze**, P. Townshend. "Assimilation of imaging spectroscopy data to improve the representation of vegetation dynamics in ecosystem models" $503,929
NASA Terrestrial Ecosystems, 03/2014-03/2017

(11) K. McHenry, **M. Dietze**, J. Lee, P. Kumar, B. Minsker "CIF21 DIBBs – Brown Dog" $10,519,716
NSF DIBBs 1261582, 11/2013-11/2018

(10) C. Staudhammer, M. Binford, L. Boring, A. Desai, **M. Dietze**, P. Duffy, J. Franklin, G. Starr, P. Stoy "Collaborative Research: Building forest management into Earth system modeling: Scaling from stand to continent" $1,212,300
NSF Macrosystems 1241894, 05/2013 - 04/2015

(9) J. McLachlan, **M. Dietze**, P. Duffy, A. Finley, P. Higuera, M. Hooten, J. Marlon, D. Moore, N. Pederson, J. Williams, J. Zhu "Collaborative Research and NEON: PalEON2 – a PaleoEcological Observatory Network to assess terrestrial ecosystem models" $5,113,062
NSF Macrosystems 1241891 05/2013-04/2018

(8) **M. Dietze**, A. Leakey. "Sustainability of woody biofuel feedstocks" $579,551
Energy Biosciences Institute 01/2012-12/2014.

(7) J. Clark, **M. Dietze**, A. Finley, A Gelfand, J. Mohan, M. Uriarte. "Collaborative Research: Climate change impacts on forest biodiversity: individual risk to subcontinental impacts" $4,273,484
NSF Macrosystems 1318164, 10/2011 to 9/2016

(6) **M. Dietze**, C.E. Caceres, R.E. DeVille, M. Kantorovitz, Z. Rapti "UBM Group: Biomathematics Research and Training for Undergraduates at the University of Illinois Urbana-Champaign" $239,586
NSF UBM 1129198, 08/2011 – 08/2014.

(5) **M. Dietze**, A. Desai, K. McHenry. "Collaborative Proposal:ABI Innovation: Model-data synthesis and forecasting across the upper Midwest: Partitioning uncertainty and environmental heterogeneity ecosystem carbon" $770,653
NSF ABI 1062547, 05/2011-05/2014.

(4) J. McLachlan, **M. Dietze**, C. Paciorek, J. Williams, S. Jackson, D. Foster. "Collaborative Research and NEON: PalEON – a PaleoEcological Observatory Network to assess terrestrial ecosystem models" $657,156
NSF Macrosystems Biology 1346748. 05/2011-04/2013

(3) F.S. Hu, M. Dietze, P. Higuera, P. Duffy. "Collaborative Research: Integrating paleoecological analysis and ecological modeling to elucidate the responses of tundra fire regime to climate change" $1,136,634
NSF Arctic Systems Science 1023477. 08/2010-07/2014

(2) **M. Dietze.** "Regional Biofuel Modeling" $1,006,128
Energy Biosciences Institute. 01/2009-12/2011.

(1) **M. Dietze.** "Refined estimates of the eastern North American carbon budget: Multi-objective model calibration" $10,000
NCSA Faculty Fellows Program, 8/2009-8/2010

Books

Dietze, M. 2017. Ecological Forecasting. Princeton University Press

Publications

UNDERLINE DENOTES ADVISEE CO-AUTHOR

2018

(92) **Wheeler K, M Dietze** 2018 "Modeling midday NDVI from the newest Geostationary Operational Environmental Satellite (GOES-16)" Remote Sensing of Environment *in review.*

(91) **McCabe T, M Dietze**. 2018. Scaling contagious disturbance: a spatially-implicit dynamic model. Frontiers in Ecology and Evolution *in review.*

(90) **Averill C**, SN Kivlin, M Anthony, ER Brzostek, KE Clemmensen, C Fernandez, BD Lindahl, L McCormack, C Terrer, N Wurzburger, **MC Dietze**, JM Bhatnagar. 2018. Connecting mycorrhizal traits and tradeoffs to ecosystem function. New Phytologist *in review*

(89) Finzi AC, MA Giasson, A Barker Plotkin, EA Davidson, **MC Dietze**, AM Ellison, SD Frey, E Goldman, TF Keenan, WJ Munger, SV Ollinger, N Pederson, AD Richardson, K Savage, J Tang, JR Thompson, CA Williams, Z Zhou, DR Foster. 2018. The Harvard Forest Carbon Budget: Patterns, Processes And Responses To Global Change. *in review.*

(88) **Dietze M, I Fer, T McCabe, E Cowdery**, A Desai, A Gardella, D LeBauer, A Raiho, S Serbin, **A Shiklomanov**. New methods for ecological forecasting and model-data integration. New Phytologist Tansley Insight *in review*

(87) **Averill C**, L Cates, **M Dietze**, J Bhatnagar. 2018. Spatial vs. temporal controls over soil fungal community similarity at global scale. *In review*

(86) Reyer CPO, R Silveyra Gonzalez, K Dolos, F Hartig, Y Hauf, M Noack, P Lasch-Born, T Rötzer, H Pretzsch, H Meesenburg, S Fleck, M Wagner, A Bolte, TGM Sanders, P Kolari, A Mäkelä, T Vesala, I Mammarella, J Pumpanen, G Matteucci, A Collalti, E D'Andrea, L Krupkova, J Krejza, A Ibrom, K Pilegaard, D Loustau, JM Bonnefond, P Berbigier, D Picart, S Lafont, **M Dietze**, D Cameron, M Vieno, H Tian, A Palacios, V Cicuendez, M Büchner, S Lange, J Volkholz, H Kim, GP Weedon, J Sheffield, I Vega del Valle, F Suckow, JA Horemans, S Martel, F Bohn, J Steinkamp, A Chikalanov, K Frieler. 2018. The PROFOUND database for evaluating vegetation models and simulating climate impacts on forest stands. *In review*

(85) **Viskari T, A Shiklomanov, M.C. Dietze** and **S.P. Serbin**. 2018. The influence of canopy radiation parameter uncertainty on model projections of carbon and energy cycling. Journal of Advances in Modeling Earth Systems *in review*

(84) Travis A, **MC Dietze**, R Booth. 2018. Climate or disturbance: temperate forest structural change and carbon sink potential. Global Change Biology *In review*

(83) **Shiklomanov A, Cowdery E**, Bahn M, Burrascano S, Byun C, Craine J, Gonzalez-Melo A, Gutierrez A, Jansen S, Kraft N, Kramer K, Minden V, Niinemets Ülo, Onoda Y, Sosinski E, Soudzilovskaia N, **Dietze MC**. 2018. Scaling and breaking the leaf economic spectrum: Leaf trait relationships diverge across plant functional types. New Phytologist *in review*

(84) Raczka B, **MC Dietze**, SP Serbin, KJ Davis. 2018. Quantifying parametric uncertainty in the simulation of decadal to centennial scale carbon sequestration in Northern Wisconsin. JGR-Biogeosciences *in press*

(81) Asbjornsen H, JL Campbell, KA Jennings, MA Vadeboncoeur, C McIntire, PH Templer, RP Phillips, TL Bauerle, **MC Dietze**, SD Frey, PM Groffman, R Guerrieri, PJ Hanson, EP Kelsey, AK Knapp, NG McDowell, P Meir, KA Novick, SV Ollinger, WT Pockman, PG Schaberg, SD Wullschleger, MD Smith, L Rustad. 2018. Guidelines and considerations for designing precipitation manipulation experiments in forest ecosystems. Methods in Ecology and Evolution DOI: 10.1111/2041-210X.13094

(80) Babst F, P Bodesheim, N Charney, A Friend, M Girandin, S Klesse, DJP Moore, K Seftigen, J Björklund, O Bouriaud, A Dawson, RJ DeRose, **M Dietze**, A Eckes, B Enquist, DC Frank, MD Mahecha, B Poulter, S Record, V Trouet, R Turton, Z Zhang, MEK Evans. 2018. When tree rings go global: challenges and opportunities for retro- and prospective insight. Quaternary Science Reviews 197:1-20

(79) **Averill C**, **MC Dietze**, JM Talbot. 2018. Continental-scale nitrogen pollution is shifting forest mycorrhizal associations and soil carbon stocks. Global Change Biology 10.1111/gcb.14368 *In press*

(78) **Fer I, R Kelly**, P Moorcroft, AD Richardson, **E Cowdery, MC Dietze**. 2018. Linking big models to big data: efficient ecosystem model calibration through Bayesian model emulation. Biogeosciences *In press*

(77) **Dietze M**, **C Averill**, **J Foster**, **K Wheeler**. 2018. Ecological Forecasting. Oxford Bibliographies *in press*

(76) **Dietze MC**, A Fox, L Beck-Johnson, JL Betancourt, MB Hooten, CS Jarnevich, TH Keitt, MA Kenney, CM Laney, LG Larsen, HW Loescher, CK Lunch, B Pijanowski, JT Randerson, EK Read, AT Tredennick, R Vargas, KC Weathers, EP White. 2018. Iterative near-term ecological forecasting: Needs, opportunities, and challenges. Proceedings of the National Academy of Sciences https://doi.org/10.1073/pnas.1710231115.

(75) Fernandes A, **CR Rollinson**, WS Kearney, **MC Dietze**, S Fagherazzi. 2018. The impact of extreme storm surges on Mid-Atlantic coastal forests. Journal of Geophysical Research: Biogeosciences 123 (3), 832-849

(74) Kleindl, W. J., P. C. Stoy, M. Binford, A. Desai, **M. C. Dietze**, Schultz, G. Starr, C. Staudhammer, D. J. A. Wood. 2018. Toward a Socioecological Theory of Forest Macrosystems. Forests 9(4):200 DOI: 10.3390/f9040200

2017 (73) Rogers A, B Medlyn, J Dukes, G Bonan, S Caemmerer, **MC Dietze**, J Kattge, A Leakey, L Mercado, Ü Niinemets, IC Prentice, **S Serbin**, S Sitch, D Way, S Zaehle. 2017. A roadmap for improving the representation of photosynthesis in Earth system models. New Phytologist 213: 22-42

(72) Fisher RA, CD Koven, WRL Anderegg, BO Christoffersen, **MC Dietze**, C Farrior, JA Holm, G Hurtt, RG Knox, PJ Lawrence, M Longo, AM Matheny, D Medvigy, HC Muller-Landau, TL Powell, **SP Serbin**, H Sato, J Shuman, B Smith, AT Trugman, **T Viskari**, H Verbeeck, E Weng, C Xu, X Xu, T Zhang, P Moorcroft. 2017. Vegetation Demographics in Earth System Models: a review of progress and priorities. Global Change Biology *DOI: 10.1111/gcb.13910*

(71) Massoud, EC, J Huisman, E Beninca, **MC Dietze**, W Bouten, and JA Vrugt. Probing the limits of predictability: data assimilation improves forecasts of complex ecosystem dynamics. Ecology Letters *21 (1), 93-103*

(70) Marlon JR, N Pederson, C Nolan, S Goring, B Shuman, R Booth, PJ Bartlein, MA Berke, M Clifford, E Cook, A Dieffenbacher-Krall, **MC Dietze**, A Hessl, JB Hubeny, ST Jackson, J Marsicek, J McLachlan, CJ Mock, DJP Moore, J Nichols, A Robertson, K Schaefer, V Trouet, C Umbanhowar, JW Williams, and Z Yu 2017. Climatic history of the northeastern United States during the past 3000 years. Climate of the Past *in press* https://doi.org/10.5194/cp-2016-104

(69) **Dietze, M.** 2017. Prediction in ecology: a first-principles framework. Ecological Applications 27: 2048–2060. *DOI: 10.1002/eap.1589*

(68) **Dietze M.C**., A. Fox, J. Betancourt, M. Hooten, C. Jarnevich, T. Keitt, M. A. Kenney, C. Laney, L. Larsen, H. W. Loescher, C. Lunch, B. Pijanowski, J. T. Randerson, E. Read, A. Tredennick, K. C. Weathers, E. P. White. 2017. Iterative ecological forecasting: Needs, opportunities, and challenges. NEON Workshop Report. DOI: 10.6084/m9.figshare.4715317

(67) **Rollinson, C. R**., Liu, Y., Raiho, A., Moore, D. J.P., McLachlan, J., Bishop, D. A., Dye, A., **Matthes, J. H.,** Hessl, A., Hickler, T., Pederson, N., Poulter, B., Quaife, T., Schaefer, K., Steinkamp, J. and **Dietze, M. C.** (2017), Emergent climate and CO2 sensitivities of net primary productivity in ecosystem models do not agree with empirical data in temperate forests of eastern North America. Glob Change Biol. Accepted Online. doi:10.1111/gcb.13626

(66) **LeBauer, D.,** Kooper, R., Mulrooney, P., Rohde, S., **Wang, D.,** Long, S. P. and **Dietze, M. C.** (2017), betydb: a yield, trait, and ecosystem service database applied to second-generation bioenergy feedstock production. GCB Bioenergy. doi:10.1111/gcbb.12420

2016 (65) Schlesinger W.H., **M.C. Dietze**, R.B. Jackson, R.P. Phillips, C.C. Rhoades, L.E. Rustand, J.M. Vose. 2016. Forest Biogeochemistry in Response to Drought. *Chapter in:* Effects of Drought on Forests and Rangelands in the United States : A Comprehensive Science Synthesis. Editors: J.M Vose, J.S. Clark, C.H. Luce, T. Patel-Weynand. Forest Service Gen. Tech. Report WO-93b.

(64) Goring S, DJ Mladenoff, CV Cogbill, S Record, CJ Paciorek, ST Jackson, **MC Dietze**, A Dawson, **J Matthes**, JS McLachlan, JW Williams. 2016. Novel and lost forests in the upper Midwestern United States, from new estimates of settlement-era composition, stem density, and biomass. PLOS ONE *DOI: 10.1371/journal.pone.0151935*

(63) Rogers A, BE Medlyn, J Dukes, G Bonan, S von Caemmerer, **MC Dietze**, J Kattge, ADB Leakey, LM Mercado, U Niinemets, IC Prentice, SP Serbin, S Sitch, DA Way, S Zaehle. 2016. "A Roadmap for Improving the Representation of Photosynthesis in Earth System Models" New Phytologist 213(1):22-42 DOI: 10.1111/nph.14283

(62) Padhy et al 2016. An Architecture for Automatic Deployment of Brown Dog Services At Scale into Diverse Computing Infrastructures. XSEDE16. ACM SIG Proceedings. *10.1145/2949550.2949647*

(61) **Shiklomanov. A, MC Dietze**, T Viskari, PA Townsend, SP Serbin. 2016 "Quantifying the influences of spectral resolution on uncertainty in leaf trait estimates through a Bayesian approach to RTM inversion" Remote Sensing of the Environment *183: 226-238*

(60) Lokupitiya et al. 2016. Carbon and Energy Fluxes in Cropland Ecosystems: A Model-Data Comparison. Biogeochemistry *129:53-76*

(59) Matthes, JH, S Goring, JW Williams, **MC Dietze**. 2016 "Benchmarking historical CMIP5 plant functional types across the Upper Midwest and Northeastern United States" Journal of Geophysical Research – Biogeosciences. DOI: *10.1002/2015JG003175*

(58) Miller, AD, **MC Dietze**, EH DeLucia, KJ Anderson-Teixeira. 2016. "Alteration of forest succession and carbon cycling under elevated CO2" Global Change Biology 22 (1), 351-363 DOI: 10.1111/gcb.13077

2015 (57) Padhy et al 2015 "Brown Dog: Leveraging Everything Towards Autocuration" IEEE Big Data Conference: *493-500*

(56) Schlesinger WH, **MC Dietze**, RB Jackson, RP Phillips, CC Rhoades, LE Rustad, JM Vose. 2015. "Forest biogeochemistry in response to drought" Global Change Biology *10.1111/gcb.13105*

(55) Hu, FS, P Higuera, P Duffy, M Chipman, A Rocha, A Young, **R Kelly**, **M Dietze**. 2015. "Tundra Fires in the Arctic: Natural Variability and Responses to Climate Change" Frontiers in Ecology and the Environment 13: 369–377. http://dx.doi.org/10.1890/150063

(54) Medlyn, B, S Zaehle, M De Kauwe, A Walker, **M Dietze**, P Hanson, T Hickler, A Jain, Y Luo, W Parton, IC Prentice, P Thornton, S Wang, YP Wang, E Weng, C Iversen, H McCarthy, J Warren, R Oren, R Norby. 2015 "Using ecosystem experiments to improve vegetation models" Nature Climate Change 5:528-534 DOI: 10.1038/NCLIMATE2621

(53) Becknell, J.M., A.R. Desai, **M.C. Dietze**, G. Starr, J.F. Franklin, **A. Pourmokhtarian**, J. Hall, P.C. Stoy, P.A. Duffy, M.W. Binford, L.R. Boring, C.L. Staudhammer. Assessing the effects of interactions among changing climate, management, and disturbance on forests: A macrosystems approach. Bioscience 65(3):263-274

(52) **Viskari T**, **B Hardiman**, A Desai, **M Dietze**. Model-data assimilation of multiple phenological observations to constrain and predict leaf area index. Ecological Applications 25(2): 546-558

2014 (51) McHenry K, J Lee, **M Dietze**, P Kumar, B Minsker, R Marciano, L Marini, R Kooper, D Mattson. DIBBs Brown Dog, PaaS for SaaS for PaaS. Proceedings of XSEDE14

(50) **Dietze M, J Hatala Matthes.** A general ecophysiological framework for modeling the impact of pests and pathogens on forest ecosystems. Ecology Letters 17: 1418–1426.

(49) Matheny A, G Bohrer, P Stoy, I Baker, A Black, A Desai, **M Dietze**, C Gough, V Ivanov, P Jassal, K Novick, K Schäfer, H Verbeeck. Characterizing the diurnal patterns of errors in land-surface models' prediction of evapotranspiration: an NACP analysis. Journal of Geophysical Research – Biogeoscience *DOI: 10.1002/2014JG002623*

(48) Walker A, P Hanson, M De Kauwe, B Medlyn, S Zaehle, S Asao, **M Dietze**, T Hickler, C Huntingford, C Iversen, A Jain, M Lomas, Y Luo, H McCarthy, W Parton, IC Prentice, P Thornton, S Wang, Y-P Wang, D Warlind, E Weng, J Warren, I Woodward, R Oren, R Norby. Comprehensive ecosystem model-data synthesis using multiple datasets at two temperate forest free-air CO_2 enrichment experiments: model performance at ambient CO_2 concentration. Journal of Geophysical Research – Biogeoscience. *DOI: 10.1002/2013JG002553.*

(47) De Kauwe M, B Medlyn, S Zaehle, A Walker, S Asao, **M Dietze**, B El-Masri, T Hickler, A Jain, Y Luo, W Parton, IC Prentice, B Smith, P Thornton, S Wang, Y-P Wang, D Wårlind, E Weng, P Hanson. Where does the carbon go? A model-data intercomparison of carbon allocation at two temperate forest free-air CO2 enrichment sites. New Phytologist*. 203: 883–899 doi: 10.1111/nph.12847*

(46) Fisher J, M Sikka, W Oechel, D Huntzinger, J Melton, C Koven, A Ahlström, A Arain, I Baker, J Chen, P Ciais, **C Davidson**, **M Dietze**, B El-Masri, D Hayes, C Huntingford, A Jain, P Levy, M Lomas, B Poulter, D Price, A Sahoo, K Schaefer, H Tian, E Tomelleri, H Verbeeck, N Viovy, R Wania, N Zeng, C Miller. 2014. Carbon cycle uncertainty in the Alaskan Arctic. Biogeosciences 11, 4271–4288. doi:10.5194/bg-11-4271-2014

(45) Niu S, Y Luo, **M Dietze**, T Keenan, Z Shi, J Li, FS Chapin III. 2014. The role of data assimilation in predictive ecology. Ecosphere, 5 (5):10.1890/ES13-00273.1

(44) **Dietze M**, **S Serbin**, **C Davidson**, A Desai, **X Feng**, **R Kelly**, R Kooper, **D LeBauer**, **J Mantooth**, K McHenry, **D Wang**. 2014. A quantitative assessment of a terrestrial biosphere model's data needs across North American biomes. Journal of Geophysical Research Biogeosciences 119, 286–300, doi:10.1002/ 2013JG002392.

(43) Zaehle S, B Medlyn, M De Kauwe, A Walker, **M Dietze**, T Hickler, Y Luo, Y-P Wang, B El-Masri, P Thornton, A Jain, S Wang, D Warlind, E Weng, W Parton, C Iversen, A Gallet-Budynek, H McCarthy, A Finzi, P Hanson, IC Prentice, R Oren, R Norby. 2014. Evaluation of 11 terrestrial carbon-nitrogen cycle models against observations from two temperate Free-Air CO2 Enrichment studies. New Phytologist 202: 803–822 doi: 10.1111/nph.12697

(42) **Dietze M**, A Sala, M Carbone, C Czimczik, **J Mantooth**, A Richardson, R Vargas 2014. Nonstructural carbon in woody plants. Annual Review in Plant Biology. DOI: 10.1146/annurev-arplant-050213-040054

2013 (41) Kooper R, K McHenry, **M Dietze**, **D LeBauer**, **S Serbin**, A. Desai. 2013. Ecological Cyberinfrastructure and HPC Towards More Accurately Predicting Future Levels of Greenhouse Gases. Proceedings of XSEDE13: Extreme Science and Engineering Discovery Environment

(40) **Wang D**, **D LeBauer**, G Kling, T Voigt, **M Dietze**. 2013. Ecophysiological screening of tree species for biomass production: trade-off between production and water use. Ecosphere 4 (11):10.1890/ES13-00156.1

(39) **Feng X**, **M Dietze**. 2013. Scale-dependence in the effects of leaf economic traits on photosynthesis: Bayesian parameterization of photosynthesis models. New Phytologist 200(4): 1132–1144 DOI: 10.1111/nph.12454

(38) **Urban M**, D Nelson, **R Kelly**, T Ibrahim, **M Dietze**, A Pearson, FS Hu. 2013. A hierarchical Bayesian approach to the classification of C3 and C4 grass pollen based on SPIRAL d13C data. Geochimica et Cosmochimica Acta. 121: 168-176

(37) **LeBauer D**, **M. Dietze**, B. Bolker. 2013. Translating Probability Density Functions: From R to BUGS and Back Again. R Journal Vol. 5/1, June, 207-209

(36) **Dietze M.** 2013. Gaps in knowledge and data driving uncertainty in models of photosynthesis. Photosynthesis Research 19:3-14 DOI: 10.1007/s11120-013-9836-z

(35) Stoy P, **M Dietze**, A Richardson ,R Vargas, A Barr, R Anderson, M Arain, I Baker, T Black, J. Chen, R Cook, C Gough, R Grant, D Hollinger, R Izaurralde, C Kucharik , P Lafleur, B Law, S Liu, E Lokupitiya, Y Luo, J Munger, C Peng, B Poulter, D Price, D Ricciuto, W Riley, A Sahoo, K Schaefer, C Schwalm, H Tian, H Verbeeck, E Weng. 2013. Evaluating the agreement between measurements and models of net ecosystem exchange at different times and time scales using wavelet coherence: an example using data from the North American Carbon Program Site-Level Interim Synthesis. Biogeoscience 10, 6893-6909 doi:10.5194/bgd-10-3039-2013

(34) De Kauwe M, B Medlyn, S Zaehle, A Walker, **M Dietze**, T Hickler, A Jain, Y Luo, W Parton, IC Prentice, B Smith, P Thornton, S Wang, Y-P Wang, D Warlind, E Weng, K Crous, D Ellsworth, P Hanson, H-S Kim, J Warren, R Oren, R Norby. 2013. Water use and water use efficiency at elevated CO2: a model-data intercomparison at two contrasting temperate forest FACE sites. 19(6): 1759–1779

(33) **Dietze M**, **D LeBauer**, R Kooper. 2013. On improving the communication between models and data. Plant, Cell, and Environment *36(9): 1575–1585*

(32) **Wang D**, **D LeBauer**, **M Dietze**. 2013. Predicted yields of short-rotation hybrid poplar (*Populus* spp.) for the contiguous US. Ecological Applications *23:944–958*

(31) **LeBauer D**, **D Wang**, K Richter, **C Davidson**, **M Dietze**. 2013. Feedbacks between measurements and models facilitated by scientific workflows. Ecological Monographs *83:133–154*

2012 (30) Schaefer K, C Schwalm, C Williams, M Arain, A Barr, J Chen, K Davis, D Dimitrov, T Hilton, D Hollinger, E Humphreys, B Poulter, B Raczka, A Richardson, A Sahoo, P Thornton, R Vargas, H Verbeeck, R Anderson, I Baker, A Black, P Bolstad, J Chen, P Curtis, A Desai, **M Dietze**, D Dragoni, C Gough, R Grant, L Gu, A Jain, C Kucharik, B Law, S Liu, E Lokipitiya, H Margolis, R Matamala, JH McCaughey, R Monson, JW Munger, W Oechel, C Peng, D Price, D Ricciuto, W Riley, N Roulet, H Tian, C Tonitto, M Torn, E Weng, X Zhou 2012. A Model-Data Comparison of Gross Primary Productivity: Results from the North American Carbon Program Site Synthesis. JGR-Biogeosciences 117:G03010 doi:10.1029/2012JG001960

(29) Davis S, **M Dietze**, E DeLucia, C Field, S Hamburg, S Loarie, W Parton, M Potts, B Ramage, **D Wang**, H Youngs, S Long. 2012. Harvesting carbon from eastern US forests. Forests 3(2), 370-397; doi:10.3390/f3020370

(28) Kumar J, **B Brooks**, P Thornton, **M Dietze**. 2012. Sub-daily Statistical Time Downscaling of Meteorological Variables Using Neural Networks. Procedia Computer Science 9: 887–896

(27) Keenan T, I Baker, A Barr, P Ciais, K Davis, **M Dietze**, D Dragoni, C Gough, R Grant, D Hollinger, K Hufkens, B Poulter, H Mccaughey, B Raczka, Y Ryu, K Schaefer, H Tian, H Verbeeck, M Zhao, A Richardson. 2012. Terrestrial biosphere model performance for inter-annual variability of land-atmosphere CO2 exchange Global Change Biology 18(6):1971–1987; doi: 10.1111/j.1365-2486.2012.02678.x

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(24) **Wang D**, M Maughan, J Sun, **X Feng**, F Miguez, DK Lee, **M Dietze**. 2012. Impacts of nitrogen allocation on growth and photosynthesis of Miscanthus (*Miscanthus x giganteus*) Global Change Biology Bioenergy 4(6): 688-697

(23) Hicke J, C Allen, A Desai, **M Dietze**, R Hall, E Hogg, D Kashian, D Moore, K Raffa, R Sturrock, J Vogelmann. 2012. The effects of biotic disturbances on the North American carbon cycle. Global Change Biology 18: 7-34. DOI 10.1111/j.1365-2486.2011.02543.x

2011 (22) **Dietze M**, P Moorcroft. 2011. Tree mortality in the eastern and central U.S.: Patterns and drivers. Global Change Biology 17, 3312-3326.

(21) **Dietze M**, A Latimer. 2011. Forest Simulators. *Invited Chapter in:* Encyclopedia of Theoretical Ecology (A. Hastings and L. Gross, eds.), University of California Press, Berkeley, CA

(20) **Dietze M**, R Vargas, A Richardson, P Stoy, A Barr, Anderson, M Arain, I Baker, A Black, J Chen, P Ciais, L Flanagan, C Gough, R Grant, D Hollinger, RC Izaurralde, C Kucharik, P Lafleur, S Liu, E Lokupitiya, Y Luo, JW Munger, C Peng, B Poulter, D Price, D Ricciuto, W Riley, A Sahoo, K Schaefer, A Suyker, H Tian, C Tonitto, H Verbeeck, S Verma, W Wang, E Weng. 2011. Identifying the time scales that dominate model error: A North American synthesis of the spectral properties of ecosystem models. JGR-Biogeosciences 116, G04029, doi:10.1029/2011JG001661

(19) **Feng X**, **M Dietze**. 2011. Prairie yield, moisture and nitrogen content response to harvest time. Aspects of Applied Biology 112, Biomass and Energy Crops IV, 271-277

(18) **Hatala J**, **M. Dietze**, Interagency Whitebark Pine Monitoring Working Group, K Kendall, D Six, R Crabtree, P Moorcroft. 2011. An ecosystem model of white pine blister rust (Cronartium ribicola) spread in whitebark pine (Pinus albicaulis) of the Greater Yellowstone Ecosystem. Ecological Applications 21(4):1138-1153

(17) Miguez F, **M Dietze**, A Kemanian. 2011. Modeling tools and strategies for developing sustainable feedstock supplies. *Invited chapter in:* Sustainable Alternative Fuel Feedstock Opportunities, Challenges and Roadmaps for Six U.S. Regions. pp. 319-338

(16) **Wang D**, M Maughan, J Sun, **X Feng**, F Miguez, DK Lee, **M Dietze**. 2011. Impacts of canopy position and nitrogen on nitrogen allocation and photosynthesis of switchgrass (Panicum virgatum L.). Aspects of Applied Biology 112, Biomass and Energy Crops IV, 341-351.

2010 (15) Clark J, D Bell, C Chu, B Courbaud, **M Dietze**, M Hersh, J HilleRisLambers, I Ibanez, S LaDeau, S McMahon, J Metcalf, J Mohan, E Moran, L Pangle, S Pearson, C Salk, Z Shen, D Valle, and P Wyckoff. 2010. High Dimensional coexistence base on individual variation: a synthesis of evidence. Ecological Monographs 80(4):569-608

(14) Clark J, D Bell, **M Dietze**, M Hersh, I Ibanez, S LaDeau, S McMahon, J Metcalf, E Moran, L Pangle, M Wolosin. 2010. Models for demography of plant populations. in T. O'Hagan and M. West (eds) Handbook of Bayesian Analysis, Oxford University Press.

(13) Schwalm C, C Williams, K Schaefer, R Anderson, M Arain, I Baker, A Barr, TA Black, G Chen, J Chen, P Ciais, K Davis, A Desai, **M Dietze**, D Dragoni, M Fischer, L Flanagan, R Grant, L Gu, D Hollinger, RC Izaurralde, C Kucharik, P Lafleur, B Law, L Li, Z Li, S Liu, E Lokupitiya, Y Luo, S Ma, H Margolis, R Matamala, H McCaughey, R Monson, W Oechel, C Peng, B Poulter, D Price, D Riciutto, W Riley, A Sahoo, M Sprintsin, J Sun, H Tian, C Tonitto, H Verbeeck, S Verma. 2010. A model-data intercomparison of CO2 exchange across North America: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research Biogeosciences VOL. 115, G00H0 doi:10.1029/2009JG001229

(12) **Wang D**, **D LeBauer**, **M Dietze**. 2010 A quantitative review comparing the yield of switchgrass in monocultures and mixtures in relation to climate and management factors. Global Change Biology Bioenergy. Global Change Biology Bioenergy 2(1): 16-25

2009 (11) Ibáñez I, J Clark, **M Dietze**. 2009. Estimating performance of potential migrant species. Global Change Biology. 15:1173-1188

(10) McMahon S, **M Dietze**, M Hersh, E Moran, J Clark. 2009. A predictive framework to understand forest responses to global change *Invited chapter in:* The Year in Ecology and Conservation Biology 1162:221-236

2008 (9) **Dietze M**, Clark J. 2008. Rethinking gap dynamics: the impact of damaged trees and sprouts. Ecological Monographs. 78(3):331-347.

(8) **Dietze** M, M Wolosin, J Clark. 2008. Tree allometries: capturing diversity using a Hierarchical Bayes approach. Forest Ecology and Management 256: 1939–1948. doi:10.1016/j.foreco.2008.07.034

(7) Ibáñez I, J Clark, **M Dietze**. 2008. Evaluating the sources of potential migrant species. Implications under climate change. Ecological Applications 18(7): 1664-1678.

2007 & Earlier (6) Clark J, **M Dietze**, S Chakraborty, P Agarwal, I Ibanez, S LaDeau, M Wolosin. 2007. Resolving the biodiversity paradox. Ecology Letters 10(8): 647-659.

(5) Clark J, M Wolosin, **M Dietze**, I Ibanez, S LaDeau, M Welsh, B Kloeppel. 2007. Tree growth inference and prediction from diameter censuses and ring widths. Ecological Applications. *17(7): 1942-1953.*

(4) Govindarajan S, **M Dietze**, P Agarwal, J Clark. 2007. A scalable algorithm for dispersing populations. Journal of Intelligent Information Systems. 29(1):39-60

(3) Ibáñez I, J Clark, **M Dietze**, K Feeley, M Hersh, S LaDeau, A McBride, N Welch, M Wolosin. 2006. Predicting biodiversity change: Outside the climate envelope, beyond the species-area curve. Ecology 87(8): 1896–1906.

(2) Govindarajan S, **M Dietze**, P Agarwal, J Clark. 2004. A scalable model of forest dynamics. Proceedings of the ACM Symposium on Computational Geometry, 106-115.

(1) Clark J, **M Dietze**, I Ibanez, J Mohan. 2003. Coexistence: how to identify trophic tradeoffs. Ecology, 84:17-31.

Workshops & working groups

NASA Carbon Monitoring System PI Meeting
February 2019, La Jolla, CA

Ecological Forecasting Initiative strategic planning meetings. **Lead organizer**
January 2018, South Bend IN
August 2018, Boston MA

RCN: Cross-Scale Processes Impacting Biodiversity
June 2018, Cedar Creek LTER, MN

DOE workshop "Vegetation Dynamics and Disturbance in the Earth System"
Gaithersburg, VA

NSF Workshop "Ecological Knowledge And Predictions: Integrating Across Networks And National Observatories" February 2018. Tucson, AZ
Workshop lead organizer

Joint CZO / LTER / NEON / ISMC Workshop "Using Observation Networks to Advance Earth System Understanding: State of the Art, Data-Model Integration, and Frontiers" February 2018. Boulder, CO

Ecosystem Demography model PI meeting, January 2018. South Bend IN
Workshop co-organizer

NSF Macrosystems Biology Annual PI meeting, January 2018. Alexandria VA
Lead organizer

PROFOUND Final Conference: "Robust projections of forests under climate change – data, methods and models" October 9-10, 2017. Potsdam, Germany
Keynote Speaker

Ecological Society of America Annual Meeting, August 2017
Oral Session Organizer: "Ecological Forecasting: Advances and Opportunities"
Oral Session Co-organizer: "Using Data to Improve Models of Forest Dynamics"

39th New Phytologist Symposia "Trait covariation: Structural and functional relationships in plant ecology" June 27–29, 2017 University of Exeter, UK

NSF Workshop "An examination of data assimilation algorithms, observations, and applications in the context of next-generation computing" April 6-7, 2017, Arlington VA

Joint North American Carbon Program and Ameriflux Primary Investigators Meeting, March 27-30, 2017, Bethesda, MD

NEON workshop "Optimizing NEON Science" February 14-16, 2017 Boulder, CO

DIBBs (Data Infrastructure Building Blocks) PI meeting, NSF HQ, January 2017, Arlington, VA

PalEON Data Assimilation Hackathon, Berkeley CA, November 2016
Workshop organizer

Sustaining Biological Infrastructure (SBI), Ecological Society of America, June 2016, Washington, DC

PEcAn workshop "Ecoinformatic needs and opportunities in ecosystem modeling" May 2016, Boston, MA
Workshop organizer

NACP workshop "Development of Predictive Carbon Cycle Science**"**, March 2016, College Park, Maryland.

NEON "Operationalizing Ecological Forecasting", January 2016, Ft Collins, CO
Workshop proposer and lead organizer

NCAR "Ecosystem Demographics in the Earth System" January 2016, Boulder, CO

American Geophysical Union Fall Meeting, December 2015
Co-organizer "Constraining Ecosystem Carbon Uptake and Long-Term Storage with Integrated Modeling, Experiment, and Observation" 3 oral sessions, 1 poster session

DOE "Trait methods for representing ecosystem change" November 2015, Rockville, MD

Ecological Society of America Annual Meeting, August 2015
Oral Session Co-organizer "Paleoecological Patterns, Ecological Processes, Modeled Scenarios: Crossing Scales to Understand an Uncertain Future"

NSF Macrosystems Biology Annual PI meeting, August 2015. Arlington VA

NSF "Building Global Ecological Understanding", May 2015, Newark, DE

North American Carbon Program "All Investigator Meeting 5" February 2015.
Member of **organizing committee** (April 2014 – February 2015).

EU COST Action FP1304 "Towards robust PROjections of European FOrests UNDer climate change (PROFOUND)", 2013-present
Working Group 2: Uncertainty of process and scaling issues
Working Group 3: Model comparisons and multi-model assessments

American Geophysical Union Fall Meeting, December 2014
Co-organizer "Constraining Ecosystem Carbon Uptake and Long-Term Storage Using Models and Data" 1 oral session, 1 poster session

National Ecological Observatory Network Annual Meeting, October 2014, Boulder Colorado, **Primary organizer of 1 day workshop on ecological scaling**

Brown Dog Early Users Workshop, July 2014, Urbana, IL

"Climate-Change Induced Changes in Forest Disturbance Regimes and Their Interaction with Forests Managed under Contrasting Management Regimes", July 2014, Harvard Forest, Petersham, MA

NSF Macrosystems Biology Annual PI meeting, June 2014. Arlington VA

New Phytologist Trust Workshop, "Improving Representation of Photosynthesis in Earth System Models", April 2014, Montauk, NY

FORECAST RCN workshop, "Advancing Software for Ecological Forecasting", March 2014, Urbana, IL

National Assessment of Drought Impacts on Forests, US Forest Service, December 2013

American Geophysical Union Fall Meeting, December 2013
Co-organizer "Ecological Disturbance: Observing and Predicting the Impacts of Landscape Disturbance" 2 oral sessions, 1 poster session

MANDIFORE PI meeting, July 2013, Jones Center, GA

NSF Macrosystems Biology Annual PI meeting, June 2013. Arlington VA

North American Carbon Program "All Investigator Meeting 4" February 2013.
Member of **organizing committee** and **session chair**.
Organizer of breakout session on "Harnessing the 'long tail' of ecosystem carbon cycle observations: Approaches and challenges in synthesizing and assimilating non-automated and experimental data"

DIMACS Geological Data Fusion workshop, 2013, Rutgers, NJ

NSF workshop "Climate change and species interactions: ways forward" November 2012. Cary Institute

FORECAST RCN "Promoting New Perspectives on Data Assimilation in Global Change Science" October 2012

University of Illinois LAS Reflective Teaching Seminar (AY 2010-2011).

Paleo-Ecological Observatory Network (PalEON) workshops:
Kick-off meeting: **co-organizer**, May 2011.
Settlement-era vegetation meeting, October 2011, May 2013
Data-assimilation meeting: **co-organizer**, January 2012
Annual meeting: **co-organizer**, December 2012, 2013, 2014
Ecosystem modeling meeting: **co-organizer & host,** March 2014

National Ecological Observatory Network (NEON), Annual Meeting
4th Annual Meeting - September 2011
5th Annual Meeting - October 2012 (**invited presenter**)
6th Annual Meeting – October 2013
7th Annual Meeting – October 2014 (**workshop organizer)**

IAMCS Large-scale Inverse Problems Workshop, College Station, TX, February 2011

Energy Biosciences Institute
co-organizer, December 2010

Ecological Society of America Annual Meeting. **Principal Organizer** of Oral Session "Forecasting Ecosystem Responses to Elevated CO2: Confronting Models with Long-Term CO2 Enrichment Experiments" August 2010

NSF Research Coordination Network: "Forecast of Resource and Environmental Changes: data Assimilation Science and Technology (FORECAST)" July 2010

iPlant Initiative, **advisory committee** on Tree Biology Cyberinfrastructure project, 2010-present

NCEAS Working Group "Benchmarking ecosystem response models with experimental data from long-term CO2 Enrichment Experiments" October 2008, May 2009

North American Carbon Program (NACP), Site-level model-data inter-comparison. Participant (2007-2014) and workshop attendee (Jan 2009, November 2009)

"Rapid Directional Environmental Change" NSF Workshop. Arlington, VA. (Dec 2008)

"Data-model Assimilation in Ecology: Techniques and Applications". NSF Workshop. Norman, Oklahoma. October 2007.

"Program on Development, Assessment and Utilization of Complex Computer Models" Statistical and Applied Mathematical Sciences Institute (SAMSI). Research Triangle Park, NC. September 2006, April 2007.

"Regional and Global Models: A study in model sensitivities to various parameters" UCAR/NCAR Early Career Scientists Assembly (ECSA) Junior Faculty Forum on Future Scientific Directions (JFF). Boulder, Colorado. August 2006.

Summer Institute on Ecological Forecasting Workshop, Duke Center on Global Change, Durham, North Carolina. A two week program on modern statistical computing, decision making, and ecological forecasting. June 2004.

"Multi-Dimensional Forested Ecosystem Structure: Requirements for Remote Sensing Observations" NASA Workshop. Annapolis, Maryland. June 2003.

Teaching

Boston University	GE375 – Introduction to Quantitative Environmental Modeling Spring 2013, 2014, 2015, 2017 Fall 2015, 2017
	GE585 – Ecological Forecasting and Informatics Fall 2013 Spring 2016
	GE509 – Applied Environmental Statistics Fall 2014 Spring 2018
University of Illinois	MATH/IB 199 – BioMath Seminar Fall 2010, 2011, Spring 2012
	IB / NRES 509 – Statistical Modeling Spring 2010, 2012
	IB 447 – Field Ecology Spring 2011
	IB 496 – Mathematical Modeling in Ecology and Evolution Fall 2009
	IB 100/101 – Biological Sciences Fall 2009, 2010, 2011
	IB 546 – Topics in Ecology and Evolution Fall 2010, Spring 2011, Fall 2011
Short Courses	Near-Term Ecological Forecasting Initiative Summer 2018: Lead organizer
	"Summer Course in Flux Measurements and Advanced Modeling" Niwot Ridge Summer 2011, 2012, 2013, 2014, 2015, 2016, 2017
	COST PROFOUND "Bayesian calibration, forecasting and multi-model predictions of process-based vegetation models" Rencurel, France Summer 2015, 2016, 2017
	ESA workshop: "A Brief Introduction to Bayesian and Hierarchical Bayesian Modeling in Ecology" Organizer: 2012-2014 Instructor: 2008-2011
	PalEON Summer Course, "Assimilating Long-Term Data into Ecosystem Models" University of Notre Dame Environmental Research Center Summer 2012, 2014, 2016
	Macrosystems Workshop: Integrating Evidence on Forest Response to Climate Change: Physiology to Regional Abundance, Duke University May 13-14, 2013
	Ecosystem Demography model workshop, Harvard University 2012, 2013, 2018
	Harvard Ecology Discussion Group – organizer/moderator – 2007-2008
	Teaching Assistant, Duke University. 2003-2004 Introduction to Ecology Comparative Biomechanics Ecological Models and Data

Mentoring Experience

Graduate Students:	Kathryn Wheeler (2017 – present, PhD) John Foster (2017 – present, PhD) Tempest McCabe (2016 – present, PhD) Elizabeth Cowdery (2014 – present, PhD) Alexey Shiklomanov (2014 – 2018, PhD) Joshua Mantooth (2011 – 2017, PhD)

Carl Davidson (2010 – 2012, MS)
Xiaohui Feng (2009 – 2014, PhD)
Matt Locus (2009, MS)

Postdoctoral fellows:
Hamze Dokoohaki (2018-present)
Istem Fer (2016-present)
Colin Averill (2015-present) coadvisor: Jenny Talbot
Christy Rollinson (2014-2016)
Ryan Kelly (2014-2015)
Afshin Pourmokhtarian (2013 – 2015)
Jaclyn Hatala (2013-2014)
Toni Viskari (2013-2015)
Brady Hardimann (2012 – 2014)
Bjorn Brooks (2011 – 2012)
Shawn Serbin (2011 – 2012)
David LeBauer (2009 - 2012)
Dan Wang (2008 - 2012)

Graduate Committees:
Mustafa Saifuddin, Ph.D. (2015 – present)
Hollie Emery, Ph.D. (2013 – present)
Arnold Fernandes, M.A. (2016 – 2017)
Tim Maguire, Ph.D. (2015 – 2017)
Angela Rigden, Ph.D. (2014 – 2017)
Dan Gianotti, Ph.D. (2013 – 2016)
Travis Andrews, Ph.D. (2013-2015), Lehigh Univ.
Ryan Kelly, Ph.D. (2009-2014) , U. Illinois
Katie Heinman (2010-2012) , U. Illinois
Claire Baldeck, Ph.D. (2008-2011), U. Illinois
Zack Kron, M.S. (2009-2011) , U. Illinois
Katie Richter, M.S. (2011) , U. Illinois
Kelly Anderson, Ph.D. (2009) , U. Illinois

Visiting Scholars:
Jason McLachlan (AY 2015-2016), Sabbatical, Notre Dame
Ann Raiho (AY 2015-2016), PhD Candidate, Notre Dame
Elizabeth Kearsley (summer, fall 2014), PhD Candidate, U. Ghent
Lizzy Hare (fall 2013), Anthropology PhD Candidate, UC Santa Cruz
Brett Raczka (spring 2012), PhD Candidate, Penn State

Undergraduate Independent Study:
Saloni Shah (spring 2018)
Eliandro Tavares (summer 2017)
Hannah Ditty (fall 2016, spring & summer 2017)
Qiyuan (Lucy) Fu (summer 2015)
Alvina Jiang (summer 2015)
Scott Flaherty (spring 2015)
Aine Russell (spring 2015)
Tony Gardella (spring 2015)
Sam Worley (spring 2015)
Francesca Schiavello (fall 2014)
Rani Murali (spring 2014)
Lindsey Shanks (fall 2013, spring 2014)
Mary Gianotti (fall 2013, spring 2014)
Kshitij Sharma (summer & fall 2013)
Jennifer Ruth (fall 2013)
Thomas Azeizat (fall 2012, spring 2013)
Nick Brady (fall 2011, spring 2012)
Dan Dickson (spring 2010)

Sen Lu (fall 2009)

Undergraduate Technicians: 9 current, 70+ total

Service

Global Change Biology
Editorial Advisory Board (2017 – present)
Agricultural and Forest Meteorology
Editorial review board (2012-present)
Ecological Applications
Guest editor (2017)
NASA ABOVE grant panel (2018)
NSF Advances in Biological Informatics
Grant panel (2017)
NASA Oak Ridge DAAC Advisory Board (2015 – present)
American Geophysical Union
Nominations Committee, 2018
CAS Natural Sciences Curriculum Committee
Committee Chair, 2017-2018
Member, 2015-2018
Faculty Search Committee "Human Dimensions of Global Change", Department of Earth & Environment, Boston University (2015-2016)
Research Computing Governance Committee, Boston University (2014)
Summer Lab, Upward Bound college prep program, (June 2014)
Admissions Committee, Earth and Environment, Boston University (2014)
QUEST (Quantifying Uncertainty in Ecosystem Studies) RCN
Statistical Advisory Board (2013-present)
NEON representative
Boston University (2012-2016)
University of Illinois (2011- 2012),
Awards Committee, Program in Biogeosciences, Boston University (2013)
Graduate Affairs Committee, Department of Plant Biology, University of Illinois (2008-2012)
Awards Committee, School of Integrative Biology, University of Illinois (2011-2012)
Faculty Search Committee "Global Change Ecology", School of Integrative Biology, University of Illinois (2011-2012)
Seminar Committee, Program in Ecology, Evolution, and Conservation Biology, University of Illinois (2010-2012)
Grant Proposal Review Panels: NSF (2013), NASA (2014)
Grant proposal reviews: NSF, NERC (UK), Portuguese Foundation for Science and Technology, Indo-US Science and Technology Forum, Energy Biosciences Institute, University of Illinois Campus Research Board
Peer review of the book: Koricheva, J., J. Gurevitch, K. Mengersen. 2013. "Handbook of Meta-analysis in Ecology and Evolution", Princeton University Press
Reviewed manuscripts for: Agricultural and Forest Meteorology, Annals of Botany, Atmospheric Chemistry and Physics, Biogeosciences, Bioscience, Earth System Dynamics, Ecological Applications, Ecological Informatics, Ecological Modelling, Ecological Monographs, Ecological Processes, Ecology Letters, Ecosphere, Ecosystems, Environmental and Ecological Statistics, Functional Ecology, Forest Ecology and Management, Frontiers in Ecology and the Environment, Geophysical Model Development, Geophysical Research Letters, GIScience, Global Change Biology, Global Change Biology Bioenergy, Journal of Advances in Modeling Earth Systems, Journal of Biogeography, Journal of Ecology, Journal of Geophysical Research, Journal of Plant Ecology, Methods in Ecology and Evolution, Nature, Nature Climate Change, New Phytologist, Oecologia, Photosynthesis Research, Plant Physiology, PLOS One, Proceedings of the National Academy of Science, Remote Sensing, Science, Theoretical Ecology, Tree Physiology, Trees.

Conference & Workshop Presentations

December 2018 – "Forecasting forest responses in real-time: How close are we and how do we get there?" American Geophysical Union Fall Meeting, Washington DC **[INVITED]**

October 2018 – LTER All Scientists Meeting **[INVITED KEYNOTE]**

August 2018 – "Forecasting forest responses to climate variability in real-time: How close are we and how do we get there?" Ecological Society of America Annual Meeting, New Orleans, LA **[INVITED SYMPOSIUM]**

February 2018 – "The Near-term Ecological Forecasting Initiative" Ecological Knowledge and Prediction, Tuscon, AZ

January 2018 – "Ecological Forecasting Lab: Progress update" Ecosystem Demography Model PI meeting, South Bend, IN

January 2018 – "The Near-term Ecological Forecasting Initiative" NSF Macrosytems Biology PI meeting, Alexandria, VA

December 2017 – "Community Cyberinfrastructure for Ecological Forecasting" American Geophysical Union, New Orleans, LA

October 2017 – "PROFOUND thoughts on Model-Data Integration & Forecasting (pun intended)" COST PROFOUND Workshop, Potsdam, Germany [**INVITED KEYNOTE**]

August 2017 – "On the nature of prediction in ecology" Ecological Society of America Annual Meeting, Portland, OR

June 2017 – "There and back again: a model-data assimilation tale" 39th New Phytologist Symposia, University of Exeter, UK **[INVITED]**

March 2017 – "Enabling carbon cycle terrestrial model-data assimilation and forecasting - The Predictive Ecosystem Analyzer project tutorial and discussion" North American Carbon Program All-Investigators Meeting, Bethesda, MD

December 2016 – "Show me the data: Advances in multi-model benchmarking, assimilation, and forecasting" American Geophysical Union, San Francisco, CA

December 2016 – "On the Nature of Prediction in Ecology" American Geophysical Union, San Francisco, CA **[INVITED]**

August 2016 – "Why we must forecast, starting today" Ecological Society of America, Ft. Lauderdale, FL **[INVITED]**

March 2016 – "The PEcAn Project" NACP Development of Predictive Carbon Cycle Science Workshop, College Park, MD

January 2016 – "The PEcAn Project" Ecosystem Demographics in Earth System Models, National Center for Atmospheric Research, Boulder, CO

January 2016 – "Ecological Forecasting" and "The PEcAn Project: Putting ecosystem model-data fusion in your pocket", Operationalizing Ecological Forecasts, USGS Powell Center, Ft Collins CO

December 2015 – "Fusing data and models to forecast disturbance impacts on ecosystems: past, present, and future" American Geophysical Union Fall Meeting, San Francisco, CA **[INVITED]**

December 2015 – "Chasing the long tail of environmental data: PEcAn is nuts about Brown Dog" American Geophysical Union Fall Meeting, San Francisco, CA **[INVITED]**

November 2015 – "Model-Data Assimilation" DOE Workshop "Trait methods for representing ecosystem change", Rockville, MD

August 2015 – "Breaking the communication gaps: models talking with ecologists, the data, and each other." Ecological Society of America Annual Meeting, Baltimore MD **[INVITED]**

July 2015 – "Breaking the communication gaps: models talking with ecologists, the data, and each other." International Association for Landscape Ecology World Congress, Portland, OR **[INVITED]**

March 2015 – "A Bayesian Data Analysis Activity to Produce Allometric Equations for Use by Harvard Forest Scientsts" Harvard Forest Annual Meeting

January 2015 – "The PEcAn Project: a scalable, multi-model platform for uncertainty quantification, analysis, and propagation" North American Carbon Program, Washington DC

January 2015 – "Carbon cycle data-model integration in the classroom" North American Carbon Program, Washington, DC (poster)

December 2014 – "Caught in the flux net: disentangling error, uncertainty, heterogeneity, and spatial process in biogeochemical scaling" American Geophysical Union Fall Meeting, San Francisco, CA **[INVITED]**

December 2014 – "Integrating Satellite and Tower Phenology: a case-study in real-time ecological forecasting" American Geophysical Union Fall Meeting, San Francisco, CA

November 2014 – "On The Communication between Models & Data" COST PROFOUND Workshop, Potsdam, Germany **[INVITED KEYNOTE]**

October 2014 – "Fires, invasives, migrations, oh my! Scaling spatial processes into earth system models and global change projections" NEON Annual Meeting, Boulder, CO

August 2014 – "Predicting phenology: a case-study in real-time ecological forecasting." Ecological Society of America Annual Meeting, Sacramento, CA

July 2014 – "Brown Dog Case Study: Long Tail Vegetation Data in Ecology and Global Change Biology" Brown Dog Early Users Workshop, Urbana, IL

June 2014 – "Informatics and data management" Macrosystems Biology Annual Meeting, Arlington, VA

March 2014 – "The PEcAn Project: Accessible ecoinformatic tools for carbon-cycle model-data analysis and assimilation" NSF FORECAST RCN, Workshop on ecological forecasting software

December 2013 – "Impact Of Diffuse Mortality In A Terrestrial Biosphere Model: Stress, Succession, And Disease" American Geophysical Union Fall Meeting, San Francisco, CA **[INVITED]**

December 2013 – "Fires, invasives, migrations, oh my! Scaling spatial processes into earth system models and global change projections" American Geophysical Union Fall Meeting, San Francisco, CA **[INVITED]**

August 2013 – "Assimilating forest inventory data into models" Ecological Society of America Annual Meeting, Minneapolis, MN

February 2013 – "PalEON: Synthesis, model validation, and data-assimilation on centennial time-scales" North American Carbon Program All-Investigators Meeting, Albuquerque NM

January 2013 – "Assimilating paleoecological data into land surface & biogeochemical models" DIMACS Geological Data Fusion workshop, Rutgers University, NJ **[INVITED]**

December 2012 – "What do we need to measure, how much, and where? A quantitative assessment of terrestrial data needs across North American biomes through data-model fusion and sampling optimization" American Geophysical Union Fall Meeting, San Francisco, CA **[INVITED]**

December 2012 – "The modeled effects of fire on carbon balance and vegetation abundance in Alaskan tundra" American Geophysical Union Fall Meeting, San Francisco, CA

October 2012 – "A Tale of Two Macrosystems Biology Projects" NEON Annual Meeting, Washington, DC

October 2012 – "The PEcAn Project: Carbon-Cycle Reanalysis Facilitated by Model-Data Ecoinformatics" RCN FORECAST Workshop, Woods Hole, MA **[INVITED]**

August 2012 – "Reconciling inventory, tower, and remotely-sensed carbon estimates across northern Wisconsin through model-data fusion." Ecological Society of America Annual Meeting, Portland, OR

September 2012 – "The PEcAn Project Carbon-Cycle Reanalysis Facilitated By Model-Data Ecoinformatics" MGHPCC Seed Fund 2012 Kickoff Meeting

June 2012 – "Challenges in ecosystem modeling and model-data fusion" Chequemegon Ecosystem Atmosphere Study, Kemp Biological Station, WI

May 2012 – "The PEcAn Project: Carbon-Cycle Reanalysis Facilitated by Model-Data Ecoinformatics" American Meteorological Society. First Meeting on Atmospheric Biogeochemistry. Boston, MA

December 2011 – "The PEcAn Project: Model-Data Ecoinformatics for the Observatory Era" American Geophysical Union Fall Meeting, San Francisco, CA

August 2011 – "Regional-scale impacts of climate and environmental variability on tree carbon reserves" Ecological Society of America Annual Meeting, Austin, TX

December 2010 – "Does complex terrain matter for global terrestrial ecosystem models?" American Geophysical Union Fall Meeting, San Francisco, CA **[INVITED UNION TALK]**

May 2011 – "Ecosystem Modeling in Paleoecology" Paleo-Ecological Observatory Network (PalEON) workshop, Petersham, MA

September 2010 – "Spectral Analysis" North American Carbon Program – Model Inter-comparison Workshop, Oak Ridge, TN

August 2010 – "How well are we modeling forest responses to elevated CO2? Results of the FACE/model inter-comparison project" Ecological Society of America Annual Meeting, Pittsburgh, PA, **[INVITED]**

May 2010 – "Seeing the Forest for the Trees: Data Resources on Forest Ecology and Global Change" iPlant Workshop on Tree Biology, Point Reyes Station, CA **[INVITED]**

December 2009 – "Beyond MCMC: Data-constraint and error propagation in a dynamic terrestrial biosphere model through Bayesian model emulation" American Geophysical Union Fall Meeting, San Francisco, CA **[INVITED]**

November 2009. North American Carbon Program – Model Inter-comparison Workshop, Oak Ridge, TN

September 2009 – "The effects of landscape-scale environmental heterogeneity on forest ecosystem dynamics in central New England" Ameriflux Annual meeting, Washington, DC (poster)

August 2009 – "The effects of landscape-scale environmental heterogeneity on forest community and ecosystem dynamics in central New England" Ecological Society of America Annual Meeting, Albuquerque, NM

February 2009 – "Incorporating landscape-scale edaphic variation into regional ecosystem forecasts using ED2" North American Carbon Program Meeting, San Diego, CA (poster)

August 2008 – "Drivers of tree mortality in the eastern and central U.S" Ecological Society of America Annual Meeting, Milwaukee, WI

April 2008 – "Hierarchical Bayes in Ecology" Hubbard Brook Committee of Scientists Meeting **[INVITED]**

March 2008 – "Incorporating landscape-scale edaphic variation into regional ecosystem forecasts using ED2" Harvard Forest Annual Symposium (poster)

August 2007 – "The role of landscape-scale edaphic variation in forecasting regional-scale forest ecosystem dynamics" Ecological Society of America Annual Meeting, San Jose, CA

April 2007 – "Forest Ecosystem Models" Statistical and Applied Mathematical Sciences Institute (SAMSI), Cary, NC

March 2007 – "Modeling Regional Carbon" Harvard Forest Annual Symposium, Petersham, MA

August 2006 – "Regeneration dynamics in large forest gaps: assessing the importance of resprouting" Ecological Society of America Annual Meeting, Memphis, TN
August 2005 – "Data assimilation, inference, and prediction in a hierarchical forest model" Ecological Society of America Annual Meeting, Montréal, Canada **[INVITED]**
August 2004 – "Light heterogeneity in forest gaps: the impact of damaged tree demography" Ecological Society of America Annual Meeting, Portland, Oregon
August 2003 – "North Atlantic Hurricane Disturbance: Current Patterns and Climatic Phases" Ecological Society of America Annual Meeting, Savannah, GA
July 2003 – "A comparison of factors affecting leaf-level drag in trees and shrubs" 4th Plant Biomechanics Conference, East Lansing, MI. (poster)
August 2002 – "Computational methods for ecological forecasting: Spatial models and algorithms" Ecological Society of America Annual Meeting, Tucson, AZ
August 2001 – "The Extinction Debt Revisited: Population Dynamics in a Point-Process Model" Ecological Society of America Annual Meeting, Madison, WI **[Lotka-Volterra Award winner]**

Invited Seminars

December 2018 – Woods Hole Oceanographic Institution
October 2018 – "Solving the Challenge of Predicting Nature: How Close are We and How Do We Get There?" University of Toronto, Department of Ecology and Evolutionary Biology
September 2018 – "Solving the Challenge of Predicting Nature: How Close are We and How Do We Get There?" **NSF Distinguished Lecturer**
September 2018 – Sloan Foundation
September 2018 – "Solving the Challenge of Predicting Nature: How Close are We and How Do We Get There?" OneNOAA Science Seminar Series, Silver Spring MD
June 2018 – "The PEcAn Project: Putting ecosystem model-data fusion in your pocket" Harvard Forest REU Program
February 2018 – "Forecasting Ecology in A Changing World" University of Arizona, School of Natural Resources and the Environment
July 2017 – "Forecasting Ecology in A Changing World" Harvard Forest REU program, Petersham, MA
June 2017 – "Ecological Forecasting" Boston University Pardee Center
April 2017 – "View From The Pew: Science March" First Parish Church, Beverly, MA **[Public outreach]**
March 2017 – "Forecasting Ecology in A Changing World" Barro Colorado Island, Panama
March 2017 – "The PEcAn Project: Putting ecosystem model-data fusion in your pocket" Smithsonian Tropical Research Institute, Panama
November 2016 – "Ecological Forecasting: Past, Present, and Future" University of Washington, Seattle, WA
October 2016 – "Ecological Forecasting: Past, Present, and Future" NASA Jet Propulsion Lab, Pasadena, CA
October 2016 – "Ecological Forecasting: Past, Present, and Future" University of California, Irvine
September 2016 – "Forecasting Ecology in A Changing World" Boston University Alumni Weekend **[Alumni outreach]**
September 2016 – "Ecological Forecasting: Past, Present, and Future" Lawrence Berkeley National Lab, Berkeley, CA
July 2016 – "The PEcAn Project: Putting ecosystem model-data fusion in your pocket" Harvard Forest REU Program

June 2016 – "Fire, invasives, and ticks, oh my! Forecasting ecology in a changing world" Harvard University Science by the Pint, The Burren, Davis Square, Somerville, MA **[Public outreach]**
October 2015 – "Forecasting ecosystems: challenges and opportunities" University of Georgia, Odum School of Ecology
July 2015 – "The PEcAn Project:Carbon-Cycle Reanalysis Facilitated by Model-Data Ecoinformatics" Harvard Forest Summer REU Program
May 2015 – "Ecological Forecasting: from theory to practice" University of New Hampshire, Biology
April 2015 – "The PEcAn Project: A Community Platform for Synthesis & Forecasting of Ecosystems" Stony Brook University, Biology
March 2015 – "The PEcAn Project: A Community Platform for Ecological Synthesis & Forecasting" Montana State University, Biology
February 2015 – "Ecological Forecasting: From Theory to Practice" University of Florida, Wildlife Ecology and Conservation
October 2014 – "The PEcAn Project: A Community Platform for Synthesis & Forecasting of Ecosystems" Columbia University, E3B
October 2014 – "Ecological Forecasting: An Emerging Challenge" Boston University, Math and Statistics
September 2014 – "Terrestrial Ecosystems: Past, Present, & Future" Kent State University, Biology
September 2014 – "Terrestrial Ecosystems: Past, Present, & Future" Boston University, Earth and Environment
July 2014 – "The PEcAn Project:Carbon-Cycle Reanalysis Facilitated by Model-Data Ecoinformatics" Harvard Forest Summer REU Program
January 2014 – "The PEcAn Project: Accessible ecoinformatic tools for carbon-cycle model-data analysis and assimilation" The Ecosystem Center, Woods Hole Marine Biological Laboratory
June 2013 – "The PEcAn Project:Carbon-Cycle Reanalysis Facilitated by Model-Data Ecoinformatics" Harvard Forest Summer REU Program
May 2013 – "The PEcAn Project:Carbon-Cycle Reanalysis Facilitated by Model-Data Ecoinformatics" Harvard Forest Seminar Series
April 2013 – "The PEcAn Project:Carbon-Cycle Reanalysis Facilitated by Model-Data Ecoinformatics" Harvard ClimaTea Seminar Series
March 2013 – "Ecology in a Data Rich Era" Boston University EBE seminar series
February 2012 – "The Emerging Era of Ecological Forecasts: Feedbacks between models and data" Boston University, Department of Geography
January 2010 – "Global change impacts on tree mortality and east temperate forest dynamics" Ohio State University, EEOB seminar series
March 2009 – "Incorporating landscape-scale edaphic variation into regional ecosystem forecasts using ED2" University of New Hampshire, Complex Systems Research Center
March 2009 – "Incorporating landscape-scale edaphic variation into regional ecosystem forecasts using ED2" University of Vermont, Department of Plant Biology
March 2009 – "Regeneration Dynamics in Large Forest Gaps" Michigan State University, Department of Forestry
November 2008 – "Missing pieces? Tree mortality and regeneration" University of Illinois, Plant Biology Colloquium
October 2008 – "Biofuels and Ecosystem Services: Model-Data Synthesis" Energy Biosciences Institute
March 2008 – "Reassessing Paradigms of Forest Dynamics" University of Illinois, School of Integrative Biology
February 2007 – "Regeneration Dynamics in Large Forest Gaps" Harvard University OEB Seminar Series

October 2006 – "Regeneration Dynamics in Large Forest Gaps" Harvard Forest Seminar Series.
April 2006 "Regeneration Dynamics in Large Forest Gaps" Duke University.
September 2005 – "Shadow and light: heterogeneity in forest gaps" Harvard University

Affiliations

Ecological Society of America – 2000-present
American Geophysical Union – 2009-present
American Meteorological Society – 2012-present
US-IALE – 2015-present
Society for Conservation Biology – Duke Chapter, Executive Committee – 2001

Honors

Top 10 most downloaded Global Change Biology Bioenergy papers in 2012
Top 25 most downloaded Global Change Biology papers in 2012
Giles-Keever Award, Duke Ecology Program, 2002
Lotka-Volterra Award, Ecological Society of America Theoretical Ecology Section, 2001
Excellence in Botany Award, Duke Botany Dept, 2000
NSF Predoctoral Fellowship – Honorable Mention, 2000
Howard Hughes Biology Forum - Fellow, 1999