

# ALEXANDER SHENKIN, PH.D.

<http://al.shenkin.org>, [alexander.shenkin@ouce.ox.ac.uk](mailto:alexander.shenkin@ouce.ox.ac.uk), +44 (0) 7513 733 721

## RELEVANT EXPERIENCE

- Research Professor, Northern Arizona University*, Flagstaff, AZ 2021 – Present  
School of Informatics, Computing, and Cyber Systems
- Consultant, The Nature Conservancy*, Arlington, VA 2021 – Present  
Modeling pan-Amazonian impacts of silvicultural interventions
- Post-Doctoral Research Scientist, University of Oxford*, Oxford, UK 2017 – Present  
Adviser: Yadvinder Malhi  
Leading pan-tropical studies of tree architecture derived from Terrestrial LiDAR Scanning.
- Post-Doctoral Research Scientist, University of Oxford*, Oxford, UK 2013 – 2016  
Adviser: Yadvinder Malhi  
Investigated the roles of forest structure and light environments on the ecology and productivity of forests across altitudinal gradient spanning the Andes to the Amazon in Peru.
- Researcher, PRORENA / Smithsonian Tropical Research Institute*, Panama 2005 – 2007  
Advisers: Mark Ashton, Omar Lopez  
Investigated soil factors affecting tree growth across reforestation sites in Panama.
- Consultant, Birdlife International / Government of Turkey*, Ankara, Turkey April 2004 – April 2005  
Conceptual design of the Turkey Biodiversity Database.
- Consultant, Conservation International*, Washington, DC Nov. 2002 – January 2005  
Developed knowledge management systems and biodiversity databases.
- Consultant, Environmental Literacy Council*, Washington, DC Oct. 2002 – August 2004  
Authored cellular phone life cycle teaching module. World Parks Congress correspondent.
- Consultant, The Nature Conservancy*, Washington, DC Jun. 2003 – Sept. 2003  
Developed a Visual Basic-based spreadsheet tool for international Protected Areas conservation finance. Presented at World Parks Congress in Durban, 2003.
- Developer, eWingz Systems Inc.*, San Francisco, CA Nov. 2001 – Jul. 2002  
Perl coding for SMS gateway.
- Field and Research Volunteer, Orangutan Foundation International*, Borneo, Indonesia Jul. – Aug. 2000  
Conducted orangutan research, investigated illegal logging, maintained camp.
- Consulting Hardware & Software Engineer, Microsoft, Stanford University, Lockheed Martin Western Development Labs, Others*, San Francisco Bay Area, California Aug. 1997 – Jun. 2003  
Hardware: design and test of RF circuits. Software: Programming procedural and object-oriented languages (e.g. PERL, PHP, JavaScript, C, VB) for back-end web applications; administering Unix/Linux/PC servers, systems, networks, and databases (e.g. Oracle, MySQL).

- Senior Design Engineer*, **Precision Microwave Components, Inc.**, San Jose, California Sept. 1997 – Apr. 1999  
Circuit design, implementation and testing of commercial communications modules
- Research & Development Engineer*, **Lockheed Martin Western Development Labs**, San Jose, California Apr. 1995 – Feb. 1998  
Circuit design, implementation and testing of high-speed R&D satellite communication sub-modules

**POSITIONS**

- Management Committee Member*, **3D Forest Ecosystem Monitoring COST Action**, 2021 - 2025
- Member*, **Tropical Managed Forest Observatory**, 2012 – present
- Fellow*, **Smithsonian Tropical Research Institute**, 2011 – 2016

**EDUCATION**

- University of Florida**, Gainesville, Florida 2014  
PhD, Interdisciplinary Ecology  
Adviser: Francis E. “Jack” Putz  
Dissertation: Fates of Trees and Forests in Bolivia Subjected to Selective Logging, Fire, and Climate Change
- Yale University**, New Haven, Connecticut 2006  
Master of Environmental Science
- University of Colorado at Boulder**, Boulder, Colorado 2001  
Master of Engineering (Electrical)
- Stanford University**, Palo Alto, California 1995 – 1996  
NDO Industry Program
- University of California at San Diego**, La Jolla, California 1994  
Bachelor of Science, Engineering Physics, Solid State Electronics
- Lund Institute of Technology, University of Lund**, Lund, Sweden 1991 – 1992  
Education Abroad Program, University of California at San Diego

**TEACHING EXPERIENCE**

- Instructor*, **Tree Architecture and Terrestrial Laser Scanning**, Mato Grosso, Brazil 2019  
Designed and taught field course to Brazilian students on tree architecture and novel methods of investigation.
- Co-organizer*, **Conservation and Development Seminar Series**, Oxford, UK 2015 – present
- Leader*, **Ecology Book Club**, Oxford, UK 2015 - 2017
- Teaching Assistant*, **Field Methods Course**, Gainesville, FL 2012  
Forest Conservation Field Methods
- Teaching Assistant*, **Field Methods Course**, Suriname 2011  
Forest Research Methods

*Instructor and Co-planner*, **Bolivia Forest Policy: REDD's Challenges and Opportunities**, Pando & Santa Cruz, Bolivia

August 2008

Designed and coordinated two-week field course which hosted both Bolivian and US students. In conjunction with the Working Forests in the Tropics NSF IGERT at the University of Florida.

*Teaching Assistant*, **University of Florida**, Gainesville, Florida

2006

Landscape Ecology course

*Research Assistant/Fellow*, **Space Grant Consortium, University of Colorado at Boulder**, Boulder, CO

Aug. 1999 – May 2000

Mentored undergraduate students in the development of antenna systems and solar power systems for the Citizen Explorer satellite.

#### **STUDENTS SUPERVISED (\*\*), CO-SUPERVISED (\*) AND MENTORED**

Honglu Xin\* (PhD, Peking University)

Jens van der Zee\* (MSc, Wageningen University)

Yuanzhao Ding\*\* (MSc, Oxford University)

Nicolas Raab\* (PhD, Oxford University)

Tobias Jackson\* (PhD, Oxford University)

Alvaro Lau\* (MsC\*, PhD, Wageningen University)

Lucio Trujillo (BS Universidad Nacional San Antonio Abad del Cusco, MsC PPGGIO/UNIFAP-Amapá-Brazil)

Kieran Walker\* (MsC, Imperial College London)

Nils Rutjes\* (MsC, Wageningen University)

## **PUBLICATIONS**

### **PEER-REVIEWED ARTICLES**

**Shenkin, A.**, Patrick Bentley, L., Oliveras, I., Salinas, N., Adu-Bredu, S., Marimon, B. H., . . . Malhi, Y. (2020). The Influence of Ecosystem and Phylogeny on Tropical Tree Crown Size and Shape. *Frontiers in Forests and Global Change* 3, 109pp. doi:10.3389/ffgc.2020.501757

**Shenkin, A.**, Chandler, C., Boyd, D., Jackson, T., Jami, J. b., Disney, M., . . . Malhi, Y. (2019). The world's tallest tropical tree in three dimensions. *Frontiers in Forests and Global Change*. doi:10.3389/ffgc.2019.00032

**Shenkin, A.**, Bolker, B., Peña-Claros, M., Licona, J. C., Ascarrunz, N., & Putz, F. E. (2018). Interactive effects of tree size, crown exposure and logging on drought-induced mortality. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 373(1760). doi:10.1098/rstb.2018.0189

**Shenkin, A.**, Bolker, B., Peña-Claros, M., Licona, J. C., & Putz, F. E. (2015). Fates of trees damaged by logging in Amazonian Bolivia. *Forest Ecology and Management*, 357, 50-59. doi:10.1016/j.foreco.2015.08.009

Shiwen, L., Steel, L., Dahlsjö, C. A., Peirson, S., **Shenkin, A.**, Morimoto, T., . . . Spitschan, M. (2021). Hyperspectral characterisation of natural illumination in woodland and forest environments (Vol. 11815): SPIE. doi: 10.1117/12.2595301

Wilkes, P., **Shenkin, A.**, Disney, M., Malhi, Y., Bentley, L. P., & Vicari, M. B. Terrestrial laser scanning to reconstruct branch architecture from harvested branches. doi:10.1111/2041-210X.13709

Xin, H., Lin, Yi., Jackson, T., Cao, Y., Zhang, H., & **Shenkin, A.** (2021). Forest trees spatial pattern analysis based on vectorial mark. *Journal of Forestry Research* (accepted).

- Xin, H., Malhi, Y., Coomes, D. A., Lin, Y., Liu, B., Yang, Q., & **Shenkin, A.** (2021). Individual tree detection and crown segmentation based on metabolic theory from airborne laser scanning data. *Journal of Applied Remote Sensing*, 15(3), 034504. doi:10.1117/1.JRS.15.034504
- van der Zee, J., Lau, A., & **Shenkin, A.** (2021). Understanding crown shyness from a 3D perspective. *Ann Bot.* doi:10.1093/aob/mcab035
- Aguirre-Gutiérrez, J., Rifai, S., **Shenkin, A.**, Oliveras, I., Bentley, L. P., Svátek, M., . . . Malhi, Y. (2021). Pantropical modelling of canopy functional traits using Sentinel-2 remote sensing data. *Remote Sensing of Environment*, 252, 112122. doi:10.1016/j.rse.2020.112122
- Jackson, T., **Shenkin, A.**, Majalap, N., Bin Jami, J., Bin Sailim, A., Reynolds, G., . . . Malhi, Y. (2020). The mechanical stability of the world's tallest broadleaf trees. *Biotropica*. doi:10.1111/btp.12850
- Elsherif, A., Gaulton, R., **Shenkin, A.**, Malhi, Y., & Mills, J. (2019). Three dimensional mapping of forest canopy equivalent water thickness using dual-wavelength terrestrial laser scanning. *Agricultural and Forest Meteorology*, 276, 107627.
- Jackson, T., **Shenkin, A.**, Kalyan, B., Zions, J., Calders, K., Origo, N., . . . Malhi, Y. (2019). A New Architectural Perspective on Wind Damage in a Natural Forest. *Frontiers in Forests and Global Change*, 1(13). doi:10.3389/ffgc.2018.00013
- Jackson, T., **Shenkin, A.**, Wellpott, A., Calders, K., Origo, N., Disney, M., . . . Malhi, Y. (2019). Finite element analysis of trees in the wind based on terrestrial laser scanning data. *Agricultural and Forest Meteorology*, 265, 137-144. doi:https://doi.org/10.1016/j.agrformet.2018.11.014
- Perz, S. G., **Shenkin, A.**, Rondon, X., & Qiu, Y. (2013). Infrastructure upgrades and rural–urban connectivity: distance disparities in a tri-national frontier in the Amazon. *The Professional Geographer*, 65(1), 103-115.
- Perz, S. G., **Shenkin, A.**, Barnes, G., Cabrera, L., Carvalho, L. A., & Castillo, J. (2012). Connectivity and resilience: a multidimensional analysis of infrastructure impacts in the Southwestern Amazon. *Social indicators research*, 106(2), 259-285.
- van der Sande, M. T., Bush, M. B., Urrego, D. H., Silman, M., Farfan-Rios, W., García Cabrera, K., **Shenkin, A.**, . . . Gosling, W. (2021). Modern pollen rain predicts shifts in plant trait composition but not plant diversity along the Andes–Amazon elevational gradient. *32(1)*, e12925. doi: 10.1111/jvs.12925
- Doughty, C. E., Cheesman, A. W., Ruita, T., Thomson, E., **Shenkin, A.**, Huasco, W. H., . . . Meir, P. (2020). Predicting tropical tree mortality with leaf spectroscopy. *Biotropica*, 53(2), 581-595. doi: 10.1111/btp.12901.
- Oliveras, I., Bentley, L., Fyllas, N. M., Gvozdevaite, A., **Shenkin, A.**, Prepah, T., . . . Malhi, Y. (2020). The influence of taxonomy and environment on leaf trait variation along tropical abiotic gradients. *Frontiers in Forests and Global Change*.
- Martin, R. E., Asner, G. P., Bentley, L. P., **Shenkin, A.**, Salinas, N., Huaypar, K. Q., . . . Malhi, Y. (2020). Covariance of Sun and Shade Leaf Traits Along a Tropical Forest Elevation Gradient. *Frontiers in plant science*, 10(1810). doi:10.3389/fpls.2019.01810
- Jucker, T., Jackson, T. D., Zellweger, F., Swinfield, T., Gregory, N., Williamson, J., . . . **Shenkin, A.**, . . . , Coomes, D. A. (2020). A Research Agenda for Microclimate Ecology in Human-Modified Tropical Forests. *Frontiers in Forests and Global Change*, 2(92). doi:10.3389/ffgc.2019.00092

- Durán, S. M., Martin, R. E., Díaz, S., Maitner, B. S., Malhi, Y., Salinas, N., **Shenkin, A.**, . . . Enquist, B. J. (2019). Informing trait-based ecology by assessing remotely sensed functional diversity across a broad tropical temperature gradient. *Science Advances*, 5(12), eaaw8114. doi:10.1126/sciadv.aaw8114
- Verbeeck, H., Bauters, M., Jackson, T., **Shenkin, A.**, Disney, M., & Calders, K. (2019). Time for a Plant Structural Economics Spectrum. *Frontiers in Forests and Global Change*, 2(43). doi:10.3389/ffgc.2019.00043
- Piponiot, C., Rödig, E., Putz, F. E., Rutishauser, E., Sist, P., Ascarrunz, N., . . . , **Shenkin, A.**, . . . , Hérault, B. (2019). Can timber provision from Amazonian production forests be sustainable? *Environmental Research Letters*, 14(6), 064014. doi:10.1088/1748-9326/ab195e
- Lau, A., Martius, C., Bartholomeus, H., **Shenkin, A.**, Jackson, T., Malhi, Y., . . . Bentley, L. P. (2019). Estimating architecture-based metabolic scaling exponents of tropical trees using terrestrial LiDAR and 3D modelling. *Forest Ecology and Management*, 439, 132-145. doi:10.1016/j.foreco.2019.02.019
- Fauset, S., Gloor, M., Fyllas, N. M., Phillips, O. L., Asner, G. P., Baker, T. R., . . . , **Shenkin, A.**, . . . , Malhi, Y. (2019). Individual-Based Modeling of Amazon Forests Suggests That Climate Controls Productivity While Traits Control Demography. *Frontiers in Earth Science*, 7(83). doi:10.3389/feart.2019.00083
- Doughty, C., Santos-Andrade, P.E., **Shenkin, A.**, Goldsmith, G., Bentley, L. P., Blonder, B. Diaz, S., Salinas, N., Enquist, B., Martin, R. E., Asner, G. P., Malhi, Y. (2018). Tropical forest leaves may darken in response to climate change. *Nature Ecology & Evolution* (accepted).
- Blonder, B., Salinas, N., Bentley, L. P., **Shenkin, A.**, Chambi Porroa, P. O., Valdez Tejeira, Y., . . . Malhi, Y. (2018). Structural and defensive roles of angiosperm leaf venation network reticulation across an Andes–Amazon elevation gradient. *Journal of Ecology*, 106(4), 1683-1699. doi:doi:10.1111/1365-2745.12945
- Lau, A., Bentley, L. P., Martius, C., **Shenkin, A.**, Bartholomeus, H., Raunonen, P., . . . Herold, M. (2018). Quantifying branch architecture of tropical trees using terrestrial LiDAR and 3D modelling. *Trees*, 32(5), 1219-1231. doi:10.1007/s00468-018-1704-1
- Malhi, Y., Jackson, T., Bentley, L. P., Lau, A., **Shenkin, A.**, Herold, M., . . . Disney, M. (2018). New perspectives on the ecology of tree structure and tree communities through terrestrial laser scanning. *Interface Focus*. doi:10.1098/rsfs.2017.0052
- Fauset, S., M. G., Fyllas, N., Phillips, O. L., Asner, G. P., Baker, T., Bentley, L., . . . , **Shenkin, A.**, . . . , Malhi, Y. S. (2019). Individual-based modelling of Amazon forests suggests that climate controls productivity while traits control demography. *Frontiers in Earth Science* (Accepted).
- Fauset, S., Gloor, M. U., Aidar, M. P. M., Freitas, H. C., Fyllas, N. M., Marabesi, M. A., Rochelle, A.L.C., **Shenkin, A.**, Vieira, S.A., & Joly, C. A. (2017). Tropical forest light regimes in a human-modified landscape. *Ecosphere*, 8(11), e02002-n/a. doi:10.1002/ecs2.2002
- Doughty, C. E., Santos-Andrade, P. E., Goldsmith, G. R., Blonder, B., **Shenkin, A.**, Bentley, L. P., . . . Malhi, Y. (2017). Can leaf spectroscopy predict leaf and forest traits along a Peruvian tropical forest elevation gradient? *Journal of Geophysical Research: Biogeosciences*, 122(11), 13. doi:10.1002/2017JG003883
- Enquist, B. J., Bentley, L. P., **Shenkin, A.**, Maitner, B., Savage, V., Michaletz, S., . . . Malhi, Y. (2017). Assessing trait-based scaling theory in tropical forests spanning a broad temperature gradient. *Global Ecology and Biogeography*. doi:10.1111/geb.12645

- Fyllas, N. M., Bentley, L. P., **Shenkin, A.**, Asner, G. P., Atkin, O. K., Díaz, S., . . . Swenson, D. N. (2017). Solar radiation and functional traits explain the decline of forest primary productivity along a tropical elevation gradient. *Ecology Letters*. doi:10.1111/ele.12771
- Wu, M. S., Feakins, S. J., Martin, R. E., **Shenkin, A.**, Bentley, L. P., Blonder, B., . . . Malhi, Y. (2017). Altitude effect on leaf wax carbon isotopic composition in humid tropical forests. *Geochimica Et Cosmochimica Acta*, 206, 1-17. doi:10.1016/j.gca.2017.02.022
- Blonder, B., Salinas, N., Patrick Bentley, L., **Shenkin, A.**, Chambi Porroa, P. O., Valdez Tejeira, Y., . . . Malhi, Y. (2017). Predicting trait-environment relationships for venation networks along an Andes-Amazon elevation gradient. *Ecology*, 98(5), 1239-1255. doi:10.1002/ecy.1747
- Piponiot-Laroche, C., Sist, P., Mazzei, L., Peña-Claros, M., Putz, F. E., Rutishauser, E., **Shenkin, A.**, . . . Hérault, B. (2016). Carbon recovery dynamics following disturbance by selective logging in Amazonian forests. [archive]. *eLife*, 5, e21394 (21319 p.). doi:10.7554/eLife.21394
- Feakins, S. J., Peters, T., Wu, M. S., **Shenkin, A.**, Salinas, N., Girardin, C. A. J., . . . Malhi, Y. (2016). Production of leaf wax n-alkanes across a tropical forest elevation transect. *Organic Geochemistry*, 100, 89-100. doi:http://dx.doi.org/10.1016/j.orggeochem.2016.07.004
- Goldsmith, G. R., Bentley, L. P., **Shenkin, A.**, Salinas, N., Blonder, B., Martin, R. E., . . . Malhi, Y. (2016). Variation in leaf wettability traits along a tropical montane elevation gradient. *New Phytol*. doi: 10.1111/nph.14121
- Neyret, M., Bentley, L. P., Oliveras, I., Marimon, B. S., Marimon-Junior, B. H., Almeida de Oliveira, E., . . . **Shenkin A.**, . . . Malhi, Y. (2016). Examining variation in the leaf mass per area of dominant species across two contrasting tropical gradients in light of community assembly. *Ecology and Evolution*. doi: 10.1002/ece3.2281
- Asner, G. P., Martin, R. E., Anderson, C. B., Kryston, K., Vaughn, N., Knapp, D. E., . . . **Shenkin A.**, . . . Malhi, Y. (2016). Scale dependence of canopy trait distributions along a tropical forest elevation gradient. *New Phytologist*. doi: 10.1111/nph.14068
- Feakins, S. J., Bentley, L. P., Salinas, N., **Shenkin, A.**, Blonder, B., Goldsmith, G. R., . . . Malhi, Y. (2016). Plant leaf wax biomarkers capture gradients in hydrogen isotopes of precipitation from the Andes and Amazon. *Geochimica Et Cosmochimica Acta*, 182, 155-172. doi: http://dx.doi.org/10.1016/j.gca.2016.03.018
- Sist, P., Rutishauser, E., Peña-Claros, M., **Shenkin, A.**, Hérault, B., Blanc, L., . . . Silva, K. E. (2015). The Tropical managed Forests Observatory: a research network addressing the future of tropical logged forests. *Applied Vegetation Science*, 18(1), 171-174.
- Baraloto, C., Alverga, P., Quispe, S. B., Barnes, G., Chura, N. B., da Silva, I. B., . . . , **Shenkin, A.**, . . . , Perz, S. (2015). Effects of road infrastructure on forest value across a tri-national Amazonian frontier. *Biological Conservation*, 191, 674-681. doi: http://dx.doi.org/10.1016/j.biocon.2015.08.024
- Perz, S. G., Xia, Y., & **Shenkin, A.** (2014). Global Integration and Local Connectivity: Trans-boundary Highway Paving and Rural-Urban Ties in the Southwestern Amazon. *Journal of Latin American Geography*, 13(3), 205-239.
- Perz, S., Barnes, G., **Shenkin, A.**, Rojas, D., & Vaca, C. (2014). Private and communal lands? The ramifications of tenure ambiguity and regional integration for tenure formalization and its consequences in northern Bolivia. *International Journal of the Commons*, 8(1), 179-206.

Perz, S., Chavez, A. B., Cossio, R., Hoelle, J., Leite, F. L., Rocha, K., Rojas, R.O., **Shenkin, A.**, Araujo Carvalho, L, Castillo, J. (2014). Trans-boundary infrastructure, access connectivity, and household land use in a tri-national frontier in the Southwestern Amazon. *Journal of Land Use Science*, 1-27.

Baraloto, C., Alverga, P., Baéz Quispe, S., Barnes, G., Bejar Chura, N., Brasil da Silva, I., . . . **Shenkin A.**, . . . Perz, S. (2014). Trade-offs among forest value components in community forests of southwestern Amazonia. *Ecology and Society*, 19(4). doi: 10.5751/ES-06911-190456

Romero, L.C., Biedenweg, K., Camacho, I.R., Céspedes, D.R., **Shenkin, A.**, Elliott, D. & Perz, S., (2009). Perspectivas socioeconómicas de los proyectos de infraestructura: Las comunidades campesinas y la pavimentación de carreteras en Pando, Bolivia *Bolivian Studies Journal* 8(1), 18pp.

#### **BOOK CHAPTERS, DATABASES, AND SOFTWARE**

**Shenkin, A.**, Berenger, E., Bennett, A. (2019). World Economic Forum Transformation Map, Innovation for Nature. <https://intelligence.weforum.org/topics/a1G0X0000062jZ3UAI?tab=publications>

**Shenkin, A.** (2019). treestruct: R package for analysis and manipulation of tree structure models. R package version 0.30.0. <https://github.com/ashenkin/treestruct>

Meir, P., **Shenkin, A.**, Disney, M., Rowland, L., Malhi, Y., Herold, M., & Costa, A. C. L. d. (2017). Plant Structure-Function Relationships and Woody Tissue Respiration: Upscaling to Forests from Laser-Derived Measurements. In G. Tcherkez & J. Ghashghaie (Eds.), *Plant Respiration: Metabolic Fluxes and Carbon Balance* (Vol. 43): Springer International Publishing AG.

**Shenkin, A.**, Bentley, L. P., Girardin, C., Blonder, B., Boyle, B., Doughty, C. E., . . . Malhi, Y. (2017). GEMTraits: A database and R package for accessing and analyzing plant functional traits from the Global Ecosystems Monitoring Network. doi:10.5287/bodleian:v0BD04N7o

#### **ARTICLES IN PREPARATION**

**Shenkin, A.**, et al, A New Tree Surface Area Allometry. In preparation for *Ecology Letters*, 80% complete.

**Shenkin, A.**, Asner, G.P., Bentley, L., Salinas, N., Olivieras, I., Enquist, B., Malhi, Y. Leaf chemical traits explain carbon cycle allocation: setting a foundation for understanding carbon cycles at landscape scales. *Ecology Letters*, in preparation, 40% complete.

**Shenkin, A.**, Bentley, L., Salinas, N., Asner, G.P., Enquist, B., Malhi, Y. Vertical light variability affects forest productivity across a tropical elevation gradient. In preparation, 40% complete.

#### **SELECTED PRESENTATIONS**

**Shenkin, A.**, Ladenburg, A. (2019). **Invited Talk:** Forests of Gestalt. Digital | Visual | Cultural III, Oxford, UK.

**Shenkin, A.**, Herold, M., Gonzalez de Tanago, J., Disney, M., Meir, P., Lau Sarmiento, A., Malhi, Y. (2017). Tree architecture influences stem respiration: 3D models to better understand forest productivity. Association of Tropical Biology and Conservation, Fall Meeting 2017, Merida, Mexico.

**Shenkin, A.** (2017). Does Forest Structure Matter for Forest Productivity? Presentation to the Oxford Centre for Tropical Forests, University of Oxford, Oxford, UK. <http://www.tropicalforests.ox.ac.uk/event/octf-seminar-dr-alexander-shenkin/>

Bentley, L.P., **Shenkin, A.** (2017). **Symposium organizers:** New Views of Structural Complexity and Tropical Ecosystem Function. Association of Tropical Biology and Conservation, Fall Meeting 2017, Merida, Mexico.

- Shenkin, A.**, Hallé, F., Malhi, Y. (2016). **Symposium organizers:** Tropical tree structure and function: directions and gaps four decades after Hallé. Association of Tropical Biology and Conservation, Fall Meeting 2016, Montpellier, France.
- Shenkin, A.** (2016). The shapes of trees across the tropics: environmental and evolutionary roles in crown metabolic scaling. Association of Tropical Biology and Conservation, Fall Meeting 2016, Montpellier, France.
- Shenkin, A.**, Asner, G.P., Malhi, Y. (2015). Sensing Carbon Cycles from the Andes to the Amazon: First steps towards scaling to the landscape. Association of Tropical Biology and Conservation, Fall Meeting 2015, Honolulu, Hawaii.
- Bentley, L.P., **Shenkin, A.** (2015). GEM-Traits: A new global database linking tropical tree diversity to ecosystem function via functional traits. Association of Tropical Biology and Conservation, Fall Meeting 2015, Honolulu, Hawaii.
- Shenkin, A.** (2015). Lasers in the Jungle, SEED, Oxford University.  
<https://www.youtube.com/watch?v=d0q4vO-SrLQ>
- Goldsmith, G., Doughty, C., Bentley, L., **Shenkin, A.**, Castro-Ccoscco, R., Salinas, N., & Malhi, Y. (2014). Intra-and inter-community variation in leaf water repellency along a 4000 m elevation transect in the Peruvian Andes. AGU Fall Meeting Abstracts, 1, 04.
- Bentley, L., **Shenkin, A.**, Enquist, B., & Malhi, Y. (2014). Using empirical measurements of tree branching architecture to scale whole-tree metabolism along a 4000 m elevation transect in the Peruvian Andes and Amazon. AGU Fall Meeting Abstracts, 1, 0103.
- Shenkin, A.**, Bentley, L., Asner, G., & Malhi, Y. (2014). Light in Tropical Forest Models: What Detail Matters? AGU Fall Meeting Abstracts, 1, 0123.
- Shenkin, A.**, Lopez, O., Ashton, P.M. (2007). Microbiotic Soil Community Effects on Tree Growth Across Two Sites in Panama (poster). American Museum of Natural History Spring Symposium, Small Matters: Microbes and Their Role in Conservation.
- Shenkin, A.** (2004). Turkey's Biodiversity Information Monitoring System: Adapting Birdlife's World Bird Database For Use in Turkey. Biodiversity Information Monitoring System Meeting. Ankara, Turkey.

## GRANTS AND AWARDS

- |             |  |
|-------------|--|
| 2021        | 1st Place, Oxford Climate Tech & Sustainability Innovation Challenge. "A new climate service provided by forests." <b>£12,000</b><br>Role: PI                                    |
| 2021        | John Fell Fund, "Spatio-temporal variation of oak-caterpillar phenological synchrony in Wytham Woods, UK." <b>£5000</b><br>Role: PI  |
| 2020-2021   | John Fell Fund, "The visual ecosystem of Wytham Woods: A big data approach to measurement and modelling." <b>£18,000</b> .<br>Role: Co-I/Researcher.                             |
| 2019        | New Phytologist Large Symposium award. "The Shape of Trees: Advances in understanding tree architecture, forest structure, and ecosystem function." <b>£60,000</b> .<br>Role: PI |
| 2016 – 2017 | John Fell Fund, "Building a virtual 3D forest: a new partnership between ecological research and commercial software engineering." <b>£60,000</b> .<br>Role: PI                  |



- 2016 DigitalGlobe Foundation Imagery Grant. **£2000**.  
Role: PI
- 2010-2012 World Wildlife Foundation Fuller Fellow. **\$20,000**.  
Role: PI
- 2007 Working Forests in the Tropics NSF IGERT, University of Florida, Gainesville, Florida, USA. **\$3000**.  
Role: PI
- 2006 – 2010 Alumni Fellow, University of Florida, Gainesville, Florida, USA. **\$100,000**.  
Role: PI
- 2005 Tropical Research Institute Fellow, Yale University. **\$1500**.  
Role: PI
- 2005 101 Conservation Scholarship Recipient, Pinchot Institute for Conservation. **\$3000**.  
Role: PI
- 2000 Merit Scholarship, University of Colorado, Boulder, USA. **\$20,000**.  
Role: PI

### **Submitted and in process**

- In process EPIC Games MegaGrant. “Functional virtual forests: bridging the gap between ecosystem simulation and gaming engines.” **\$200,000**. (Funding for one year, with the intention to submit ~**\$2M** bid thereafter).  
Role: PI
- In process BBSRC (UK) – NSF/BIO Lead Agency Opportunity in Bioinformatics and Synthetic Biology. “The WholeTraits Database: Data Infrastructure for advancing synthesis and prediction in biodiversity science.” **\$1.8M**.  
Role: Co-I (PI if permanent position secured). Collaborators: B. Enquist, Y. Malhi.

## **FIELD EXPERIENCE**

- Indonesia – Central Kalimantan – 6 weeks – volunteer work in remote orangutan rehabilitation center.
- Panama – Gamboa, BCI, Los Santos, Rio Hato – 2 months – soil collection and sterilization, conducted nursery experiment
- Northern Bolivia – Pando – 4 months – conducted social surveys in rural communities on land tenure, livelihoods, and resource use and knowledge. Co-organized team of 5 local assistants.
- Eastern Bolivia – Guarayos, Santa Cruz – 6 months – forest survey methods (censuses, lianas, canopy cover, regeneration). Organized team of 2 local assistants and 2 local students.
- Suriname – Carolina Savanna and surrounding forest concessions – 2 weeks – teaching field methods and research course for local students and professionals.
- USA – Gainesville, Florida – 2 weeks – teaching field methods.
- Peru – eastern Andes to Amazon basin – 6 months – tree structure, forest structure and microenvironmental measurements; built and deployed vertical light profile measurement system; terrestrial laser scanning; oversaw team of 3 local research assistants.
- UK – Wytham Woods, Oxford – 1 month, ongoing – woody respiration measurement
- Ghana – 2 weeks – Implementing and training for vertical light profile and crown architecture measurements in savanna – forest transition gradient study.
- Malaysian Borneo – SAFE project area, Maliau Basin, Danum Valley – 2 months – terrestrial laser scanning, branch felling, Huber value/LMA measurement, designed and operated drone-based multispectral surveys. Principal leader; organized logistics and budget, ran campaign with 12 assistants and 2 researchers.

Australia – Northern Queensland – 2 months – terrestrial laser scanning, branch felling, Huber value/LMA measurement, designed and operated drone-based multispectral surveys. Principal leader; organized logistics and ran campaign with 2 assistants and 2 researchers.

Brazil – Mato Grosso – 1 month – terrestrial laser scanning, branch architecture measurement, photogrammetry, and drone-based multispectral surveys. Principal leader; organized logistics and ran campaign with 10 assistants and 2 researchers. Taught concurrent field course.

## MEDIA COVERAGE AND OUTREACH

Footage: “Judi Dench’s Wild Borneo Adventure”, <a href="#">ITV</a>	July 2019
“The World’s Tallest Tropical Tree Discovered in Malaysia”, The Niche	September 2019
“UK Scientists discover world’s tallest tropical tree”, <a href="#">BBC</a>	April 2019
“Climb confirms that the world’s tallest tropical tree tops 100 meters”, <a href="#">Mongabay</a>	April 2019
“The World’s Tallest Tropical Tree Is Longer Than a Football Field”, <a href="#">Live Science</a>	April 2019
“Meet Menara, the highest tropical tree in the world”, <a href="#">VRT News</a>	April 2019

## SERVICE

Associate Editor, <i>Frontiers in Forests and Global Change</i> (Forest Ecophysiology)	2020 - present
Review Editor, <i>Frontiers in Forests and Global Change</i> (Forest Disturbance)	2018 - present
Reviewer for: <i>New Phytologist</i> , <i>Ecology Letters</i> , <i>PLOS One</i> , <i>Human Ecology</i> , <i>Journal of Applied Ecology</i> , <i>Methods in Ecology and Evolution</i> , <i>Global Ecology and Biogeography</i> , <i>Journal of Theoretical Biology</i> , <i>Journal of Vegetation Science</i> , <i>Functional Ecology</i>	

## PROFESSIONAL MEMBERSHIPS

British Ecological Society	2018 - present
Association of Tropical Biology and Conservation	2015 – present

## LANGUAGES

Fluent in English and Spanish (resident in Panama for 5 years)