

# Peter W. Tittmann

Geographer  
University of California, Berkeley  
Center for Forestry  
1301 S. 46<sup>th</sup> Street  
Richmond, CA 94804

Phone: (510) 665-3518  
Email: pwt@berkeley.edu  
Homepage: <http://www.locuscor.net/wordpress/>

## Academic Appointments

**Academic Geographer**, Center for Forestry, University of California, Berkeley (2012 – present)

**Postdoctoral Scholar**, Energy Institute, University of California, Davis (2011 – present)

## Education

B.A. Environmental Studies, University of California, Santa Cruz, 1999

*Advanced study*: University of California Education Abroad Program in Tropical Agroecology. Costa Rica, Spring 1998

Ph.D. Geography, University of California, Davis, June 9, 2011

DISSERTATION Aerial laser scanning: Applications for forest biomass management

*Major Professor*: Deborah Elliott-Fisk.

*Committee*: Bruce Hartsough, Susan Ustin, and Bryan Jenkins.

EXTENDED STUDY: Business Development Certificate, Graduate School of Management, University of California, Davis

## Honors, Awards, & Fellowships

California Energy Commission – Sustainability of forest based biofuels – \$250,000 2011

Collaborator USDA-NIFA Advanced Hardwoods Biofuels Northwest, CAP – \$40M 2011

Dissertation fellowship, UC Davis Sustainable Transportation Research Center, (2009)

Chevron Corp. Renewable Energy Research Grant, (2008)

Graduate Research Fellowship, University of California Space Institute, (2008)

Business Integration Grant, Zell-Lurie Center for Entrepreneurship, University of Michigan, Ann Arbor, (2008)

G. Chris Anderson Award, Cleantech Venture Challenge, Leeds School of Business, University of Colorado, (2008)

Laura Perott-Mahan Graduate Fellowship, University of California, Davis (2007)

## Teaching and Research Fields

Geography, Quantitative Geography, Geographic Information Sciences, Remote Sensing, Forest Engineering, Life-cycle analysis.

## Research

### *Published Papers*

**Tittmann**, P. and Yeh, S., "A framework for assessing the environmental performance of forestry in an era of carbon management" in *Journal of Sustainable Forestry* (2013)

**Tittmann**, P., and Parker, N., Hart, Q., and Jenkins, B., "A spatially explicit techno-economic model of bioenergy and biofuels production in California," *Journal of Transport Geography*, (2011)

Parker, N., **Tittmann**, P., Hart, Q., and Jenkins, B., "Development of an Optimized Biofuel Supply Curve for the Western United States" *Biomass and Bioenergy* (2011)

Jenkins, B., Williams, R., Parker, N., **Tittmann**, P., Hart, Q., Gildart, M., Kaffka, S., Hartsough, B., and Dempster, P. (2009) "Sustainable use of California biomass resources can help meet state and national bioenergy targets", *California Agriculture* v.63 n.4

Jacobsen, J., Searcy, E., Muth, D. , Wilkerson, E., Sokhansanj, S., Jenkins, B., **Tittmann**, P., Hart, Q. , and Nelson, R., (2009) "Sustainable biomass supply systems" in proceedings *American Institute of Chemical Engineers 2009 Spring National Meeting*

Skog, K., Rummer, R., Patton-Mallory, M., Nelson, R., Jenkins, B., Parker, N., **Tittmann**, P., Hart, Q., Gray, E., Schmidt, A., and Gordon, G., (2008) "Strategic assessment of biofuels potential for the western U.S." in proceedings: *McWilliams, Will; Moisen, Gretchen; Czaplewski, Ray, comps. Forest Inventory and Analysis (FIA) Symposium 2008; October 21-23, 2008; Park City, UT. Proc. RMRS-P-56CD. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 13 p.*

### *Working papers*

**Tittmann**, P., Hart, Q., Jenkins, B. (2013) "Estimating site-specific logistics and land costs for new biorefinery construction in the Pacific Northwest"

**Tittmann**, P., Hartsough, B., Goines, Shelly, J. (2013) "Forest sources biomass supply chain costs"

Li, Y., **Tittmann**, P., Jenkins, J. (2013) "The impact of combined torrefaction and pelletization process on forestry biomass supply chain in California" submitted to *Bioresource Technology*

**Tittmann**, P. (2011) "LiDAR derived stand metrics for modeling carbon-based forest management" *working title*

**Tittmann**, P. Nickerson, J. (2009) "Assessing economic impacts of wildfire severity in redwood using Landat"

### *Book chapters*

Yeh, Sonia, Mark A. Delucchi, Alissa Kendall, Julie Witcover, Peter **Tittmann**, and Eric Winford. (2011) "Key Measurement Uncertainties for Biofuel Policy." In *Sustainable Transportation Energy Pathways: A Research Summary for Decision Makers*, edited by Joan Ogden and Lorainne Anderson, 1st ed., 263–277. Davis: Institute for Transportation Studies.

### *Technical Reports*

Quinn Hart, Nathan Parker, Peter **Tittmann**, Mui Lay, Richard Nelson, Ken Skog, Ed Gray, Alex Schroeder, and Bryan Jenkins. (2010) "Strategic development of bioenergy in the United States: spatial analysis and supply curve development'," USDA Economic Research Service

Sonia Yeh, Daniel A. Sumner, Stephen R. Kaffka, Joan M. Ogden, Bryan M. Jenkins, Hyonuk Lee, Nathan C. Parker, Peter W. **Tittmann**, Gouri Mishra, (May 15, 2009) "Developing a Sustainability Framework for the California Low Carbon Fuel Standard," Institute of Transportation Studies Research Report, UCD-ITS-RR-09-05

Nathan Parker, Peter **Tittmann**, Quinn Hart, Richard Nelson, Ken Skog, Ed Gray, Alex Schroeder, and Bryan Jenkins, (2010) "National Biorefinery Siting Model," US Department of Energy

Peter **Tittmann**, Nathan Parker, Joan Ogden (2008) "California Biomass Supply Potential," U.C. Davis Sustainable Transportation Energy Pathways

Peter **Tittmann**, Nathan Parker, Quinn Hart, Mui Lay, and Bryan Jenkins (2008) "Economic potential of California biomass resources for energy and biofuel," California Energy Commission

Nathan Parker, Peter **Tittmann**, Quinn Hart, Mui Lay, Joshua Cunningham, Bryan Jenkins (2008) "Western Bioenergy Assessment: Spatial Analysis and Supply Curve Development," Western Governors Association

Peter Dempster, Nicholas Gallo, Bruce Hartsough, Bryan Jenkins, Peter **Tittmann**, (2008) "Biomass Harvesting Equipment and Conversion Technology Review," California Biomass Collaborative

## Conference Presentations

Shah, Zehra, Stewart He, Peter **Tittmann**, and Nina Amenta. 2013. "Analysis of Airborne Laser Scanning Data with Regional Shape Descriptors." In 13th International Conference on LiDAR Applications for Assessing Forest Ecosystems. Beijing.

**Tittmann**, P "Heuristic biorefinery location analysis in the US Pacific Northwest" Association of American Geographers Annual Meeting 2103, Los Angeles, CA

**Tittmann**, P. and Shafii, S (2011) "Tree detection, delineation, and measurement from LiDAR point clouds using RANSAC" Proceedings of Eleventh International Conference on LiDAR Applications for Assessing Forest Ecosystems (SilviLaser 2011) Hobart, Tasmania.

**Tittmann**, P. Hartsough, B., Yeh, S. (2010) "Spatially explicit life-cycle analysis of forest based bioenergy in California," American Chemical Society Annual Meeting, San Francisco

**Tittmann**, P. (2009) "LiDAR as a tool for forest vegetation analysis," California Forest Soils Council Annual Meeting, Davis

N. Parker, Q. Hart, P. **Tittmann**, J. Zheng, G. Morrison, C. Murphy, R. Nelson, and B.M. Jenkins, (2009) "Large-scale bioenergy development in the U.S.– model design for optimizing biorefinery capacity and infrastructure," The 5<sup>th</sup> Sino-US Conference of Chemical Engineering, Beijing

N. Parker and P. **Tittmann** (2008) "Spatial modeling of biofuels production in the Western US," Association of American Geographers Annual Meeting, Boston

J.A. Greenberg, S.Z. Dobrowski, P. **Tittmann**, V. Vanderbilt, and S.L. Ustin (2007) "Individual tree crown recognition and remote sensing aware allometry: biomass mapping using hyperspatial remote sensing" Object Based Image Analysis Symposium, Berkeley

P. **Tittmann**, N. Parker, Q. Hart, B. Jenkins (2007) "Optimizing the location of biorefineries in the Western United States using Geographical Information Systems (GIS) and Linear Programming (LP)," Sun Grant Initiative: Biomass energy feedstock partnership workshop, Portland

## Academic Experience

### *University of California, Davis*

Research Assistant, School of Education Center for Community School Partnerships, 2007

Research Assistant, Biomass Harvesting Equipment/Conversion Technology Review, California Biomass Collaborative, Bruce Hartsough, 2006–2007

Research Assistant, Spatial-economic assessment of biomass potential in California, Institute for Transportation Studies, Joan Ogden, 2007–2008

Research Assistant, Western Governors' Association: Transportation Fuels for the Future Department of Biological and Agricultural Engineering, Bryan Jenkins,

Research Assistant, Spatial life cycle analysis of forest management strategies Sustainable Transportation Energy Pathways (STEPS), Sonia Yeh, 2008–2009

Post-doctoral researcher, Institute for Transportation Studies and Energy Institute at UC Davis. 2011-present

### *University of California, Berkeley*

Visiting Scholar, Geospatial Innovation Facility, Maggi Kelly 2007–2008

Visiting Scholar, University of California Cooperative Extension , John Shelly 2008–2009

Visiting Scholar, Energy Biosciences Institute, Susan Jenkins 2012–present

## Professional Experience

Arbos, Berkeley, CA

*Managing Principal* 2013–present

Develop methodological tool for above ground biomass measurement under Verified Carbon Standard for REDD+ projects using hybrid radar/LiDAR.

Conduct LiDAR inventory of managed conifer forest

LocusCor Geographics, Berkeley, CA

*Principal* 2002–2012present

Managed all aspects of geographic information product development and delivery.

Institute for Sustainable Forestry, Redway, CA

*Forestry Project Manager* 2004–2005

Led fire hazard reduction thinning crew, wrote an managed grants.

California Coastal Commission, San Francisco, CA

*Coastal Program Analyst* Oil Spill Program 2000–2002

*Coastal Program Analysis* Critical Coastal Areas Program 2003–2004

Developed a range of geospatial data products for oil spill prevention and surface water quality management.

## Professional Activities

Board of Directors, University of California Students Association. 2006–2007

External Chair, Graduate Student Association, University of California, Davis. 2006–2007

Board of Directors, Humboldt County Firesafe Council. 2004–2005

Member, Society of American Foresters, 2006–Present

Member, Association of American Geographers, 2007–Present

Member, International Society for Photogrammetry and Remote Sensing, 2010–Present

Member, Society of American Foresters 2008–present

## Languages

Spanish - *fluent*

Portugese - *conversant*

## Professional Training

Green Technology Entrepreneurship Academy (2008) *scholarship awardee* University of California Davis Graduate School of Management, Incline Village, California

ESRI™ Instructor-led Training: Working with ArcGIS Network Analyst (2008) Portland, Oregon

ESRI™ Instructor-led Training: Writing Advanced Geoprocessing Scripts Using Python (2008) Sacramento, California

Fuel Reduction on Steep Slopes, (2009) Forest Engineering Inc., Sacramento, California

Pacific Northwest Forest Harvesting Study Tour (2006), International Forest Engineering Institute, Coeur d'Alene, Idaho

## Miscellaneous

*Computer Skills:* ArcGIS, ARCInfo, ArcGIS Server, Mapnik, SQL, PostGIS, L<sup>A</sup>T<sub>E</sub>X, Linux, ENVI, Quantum GIS, Geographic Data Abstraction Library (GDAL), Extensible Markup Language (.xml), LibreOffice, Microsoft Windows™.

*Programming languages:* SQL, R, Python, C++, GNUmake, JavaScript, bash

## References

Bryan Jenkins  
Professor of Engineering  
University of California, Davis  
(530) 752 1422  
bmjenkins@ucdavis.edu.edu

Bruce Hartsough  
Professor of Engineering  
University of California, Davis  
(530) 752 5714  
brhartsough@ucdavis.edu

Susan Ustin  
Professor of Land, Air and Water Resources  
University of California, Davis  
(530) 752 0621  
slustin@ucdavis.edu

Quinn Hart  
Programmer, Department of Land, Air and  
Water Resources  
University of California, Davis  
(530) 752 7857  
qjhart@ucdavis.edu

Sonia Yeh  
Research Engineer  
University of California, Davis  
(530) 754-9000  
slyeh@ucdavis.edu

Deborah Elliott-Fisk  
Professor of Wildlife, Fish, and Conservation  
Biology  
University of California, Davis  
(530) 752-5256  
dlelliottfisk@ucdavis.edu