



Alexandra D. Syphard

Conservation Biology Institute
136 SW Washington Ave.
Suite 202
Corvallis, OR 97333

Phone: 541-757-0687
asyphard@consbio.org
asyphard@yahoo.com

Local Contact:
209 Poplar Ave.
Edgewater, MD 21037

Phone: 619-865-9457

EDUCATION

2005 – Ph.D., San Diego State University and University of California, Santa Barbara, Geography.

1998 – MES, Virginia Commonwealth University, Environmental Studies.

1994 – MPH, Medical College of Virginia, Public Health.

1992 – BA, University of Mary Washington, English/communications.

PROFESSIONAL EXPERIENCE

2015-current – Associate Editor, Diversity & Distributions

2011-current – Adjunct Professor, Geography, San Diego State University, CA.

2007-current – Senior Research Scientist, Conservation Biology Institute, La Mesa, CA.

2007-2008 – Postdoctoral Fellow, Biology, San Diego State University, CA.

2005-2007 – Postdoctoral Fellow, Forest & Wildlife Ecology, University of Wisconsin, Madison, WI.

1998-1999 – GIS Analyst/Environmental Planner, Vanasse Hangen Brustlin, Williamsburg, VA.

1995-1998 – Publications writer, Alliance for the Chesapeake Bay, Richmond, VA.

SELECT RESEARCH EXPERIENCE

2017 – Linked socio-environmental responses to destructive wildfire: Are fires ‘hot moments’ for transformative adaptation? National Socio-Environmental Synthesis Center (SESYNC).

2017 – Sage underwriters, fire insurance company scientific support

2017 – Climate, land use, and wildfire. University of California, Berkeley

2015 – Global change and wildfire. USGS Western Ecological Research Station.

2015 – Fire and invasive grass modeling in the California desert. DRECP.



- 2015 – 2019 – Balancing fire risk with resource protection under global change. USGS Western Ecological Research Station.
- 2014 – Land use planning and wildfire. University of California, Berkeley.
- 2011-2012 – Decision support for climate change adaptation and fire management strategies for at-risk species in southern California. California Landscape Conservation Cooperative.
- 2011-2017 – Collaborative Research: Do microenvironments govern macroecology? National Science Foundation.
- 2009-2013 – Understanding and improving fire management for Marine Corps Base Camp Pendleton. Department of Defense.
- 2008-2013 – Urban growth and fire risk modeling. USGS Western Ecological Research Center.
- 2008-2012 – Quantitative Assessment of the effect of fuel manipulation projects on fire behavior and urban loss. USGS Western Ecological Research Center.
- 2008-2011 – The persistence of biodiversity in southern California under future land-use change scenarios. National Science Foundation.

PEER-REVIEWED PUBLICATIONS

Journal articles

- xx Syphard, A.D., Brennan, T.J., Keeley, J.E.. Drivers of chaparral vegetation type conversion to grassland in coastal Southern California. In preparation.
- xx Syphard, A.D., Davies, I.D., Serra-Diaz, J.M., Regan, H.M., Franklin, J., Midgley, G.F., Hannah, L., Flint, L., Flint, A., Davis, F.W. How important is the species' establishment niche in mediating simulated range shifts under global change? In preparation.
- xx Keeley, J.E., Syphard, A.D. Impact of ignition sources on wildfires in California. In preparation.
- 62 Radeloff, V.C., Helmers, D., Alexandre, P., Bar Massada, A., Butsic, V., Hawbaker, T.J., Kramer, A., Martinuzzi, S., Mockrin, M.H., Syphard, A.D., and Stewart, S.I. In review. Rapid growth of the Wildland Urban Interface from 1990 to 2010 across the United States exacerbates wildfire problems. Proceedings of the National Academy of Sciences of the United States of America.
- 61 **Syphard, A.D.**, Keeley, J.E., Pfaff, A., Ferschweiler, K. 2017. Human presence diminishes the importance of climate in driving fire activity across the United States. Proceedings of the National Academy of Sciences of the United States of America 114: 13750-13755.
- 60 Keeley, J.E., **Syphard, A.D.** 2017. Different historical fire-climate patterns in California. International Journal of Wildland Fire 26: 253-268.
- 59 **Syphard, A.D.**, Keeley, J.E., Abatzoglou, J.T. 2017. Trends and drivers of fire activity vary across California aridland ecosystems. Journal of Arid Environments 21: 140-147.



- 58 **Syphard, A.D.**, Brennan, T.J., Keeley, J.E. 2017. The importance of building construction materials relative to other factors affecting structure survival during wildfire. *International Journal of Disaster Risk Reduction* 21: 140-147.
- 57 Davis, F.W., Sweet, L.C., Serra-Diaz, J.M., McCullough, I.M., Dingman, J.R., Flint, A.L., Flint, L.E., Franklin, J., **Syphard, A.D.**, Regan, H.M., Moritz, M.A., Hannah, L., Redmond, K., Sork, V.L. 2016. Shrinking windows of opportunity for oak seedling establishment in southern California mountains. *Ecosphere* 7.
- 56 Keeley, J.E., and **Syphard, A.D.** 2016. Climate change and future fire regimes: Examples from California. *Geosciences*. 2016: 37.
- 55 **Syphard, A.D.**, Keeley, J.E. 2016. Historical reconstructions of California wildfires vary by data source. *International Journal of Wildland Fire* 25: 1221-1227.
- 54 Franklin, J., Serra-Diaz, J.M., **Syphard, A.D.**, Regan, H.M. 2016. Linking big data across scales for understanding plant community dynamics. *Global Ecology and Biogeography* 26: 6-17.
- 53 **Syphard, A.D.**, Butsic, V., Keeley, J.E., Bar-Massada, A., Tracey, J. 2016. Setting priorities for private land conservation in fire-prone landscapes: Are fire risk reduction and biodiversity conservation competing or compatible objectives? *Ecology and Society* 21: 3.
- 52 Butsic, V., **Syphard, A.D.**, Keeley, J.E., Bar Massada, A. Can private land conservation reduce wildfire risk to homes? 2017. A case study in San Diego County, California, USA. *Landscape and Urban Planning* 157: 161-169.
- 51 Alexandre, P.M. Stewart, S.I., Mockrin, M.H., Keuler, N.S., Clayton, M.K., Bar-Massada, A., **Syphard, A.D.**, Radeloff, V.C. 2016. Factors related to building loss due to wildfires in the conterminous United States. *Ecological Applications* 26: 2323-2338.
- 50 Franklin, J., Serra-Diaz, J.M., **Syphard, A.D.**, Regan, H.M. 2016. Global change and terrestrial plant community dynamics. *Proceedings of the National Academy of Sciences of the United States of America* 113: 3725-3734.
- 49 McCullough, I.M., Davis, F.W., Dingman, J.R., Flint, L.E., Flint, A.L., Serra-Diaz, J.M., **Syphard, A.D.**, Moritz, M.A., Hannah, L., Franklin, J. 2016. High and dry: high elevations disproportionately exposed to regional climate change in Mediterranean-climate landscapes. *Landscape Ecology* 31: 1063-1075.
- 48 Serra-Diaz, J.M., Franklin, J., Sweet, L., McCullough, I.M., **Syphard, A.D.**, Regan, H.M., Flint, L.E., Flint, A.L., Dingman, J.R., Moritz, M.A., Redmond, K., Hannah, L., Davis, F.W. 2015. Averaged 30-year climate change projections mask opportunities for species establishment. *Ecography* 38: 001-002.
- 47 Serra-Diaz, J.M., Dillon, W.W., Franklin, J., **Syphard, A.D.**, Davis, F.W., Meentemeyer, R.K. 2015. California forests show early indications of both range shifts and local persistence under climate change. *Global Ecology and Biogeography* 25: 164-175.
- 46 Alexandre, P.M., Stewart, S.I., Mockrin, M.H., Keuler, N.S., **Syphard, A.D.**, Bar Massada, A., Clayton, M.K., Radeloff, V.C. 2015. The relative impacts of vegetation, topography and spatial arrangement on building loss to wildfires in case studies of California and Colorado. *Landscape Ecology* 31: 415-430.



- 45 Hannah, L., Flint, L., **Syphard, A.D.**, Moritz, M.A. and Hall, A, Buckley, L.B. 2015. Place and Process in Conservation Planning for Climate Change: a reply to Keppel & Wardell-Johnson. *Trends in Ecology and Evolution* 169: 5347.
- 44 Serra-Diaz, P., Scheller, R.M., **Syphard, A.D.**, Franklin, J. 2015. Disturbance and climate microrefugia mediate tree range shifts during climate change. *Landscape Ecology* 2015: 1-15.
- 43 Conlisk, E., **Syphard, A.D.**, Franklin, J., and Regan, H.M. 2015. Predicting the impact of fire on a vulnerable multi-species community in a dynamic vegetation model. *Ecological Modelling* 301: 27-39.
- 42 **Syphard, A.D.**, Keeley, J.E, 2015. Location, timing, and extent of wildfire varies by cause of ignition. *International Journal of Wildland Fire* 24: 37-47.
- 41 Keeley, J.E., and **Syphard, A.D.** 2015. Different fire-climate relationships on forested and non-forested landscapes in the Sierra Nevada ecoregion. *International Journal of Wildland Fire* 24: 27-36.
- 40 Moritz, M.A., Batllori, E., Bradstock, R.A., Gill, A.M., Handmer, J., Hessburg, P.F., Leonard, J., McCaffrey, A., Odion, D., Schoennagel, T, **Syphard, A.D.** Learning to coexist with fire. 2014. *Nature* 515: 58-66.
- 39 Penman, T.D., Collins, L., **Syphard, A.D.**, Keeley, J.E., Bradstock, R.A. 2014. Relative influence of fuels, weather and the built environment on the exposure of property to wildfire in San Diego, California. *PLoS ONE* 10):e111414
- 38 **Syphard, A.D.**, Brennan, T.J., Keeley, J.E., 2014. The role of defensible space for residential structure protection during wildfires. *International Journal of Wildland Fire* 23: 1165-1175.
- 37 Hannah, L., Flint, L., **Syphard, A.D.**, Moritz, M.A. and Hall, A, Buckley, L.B. 2014. Fine-scale modeling of vegetation response to climate change. *Trends in Ecology and Evolution* 29: 390-397.
- 36 **Syphard, A.D.**, Bar Massada, A., Butsic, V., and Keeley, J.E. 2013. Land use planning and wildfire: development policies influence future probability of housing loss. *PLoS ONE* 8(8): e71708.
- 35 Franklin, J., Regan, H.M., and **Syphard, A.D.** 2013. Linking spatially explicit species distribution and population models to plan for the persistence of species under global change. *Environmental Conservation* 41: 97-109.
- 34 **Syphard, A.D.**, Regan, H.M., Franklin, J., Swab, R.M., and Bonebrake, T.C. 2013. Does functional type vulnerability to multiple threats depend on spatial context in Mediterranean-climate ecosystems? *Diversity and Distributions* 19: 1263-1274.
- 33 Beltran, B.J., Franklin, J., **Syphard, A.D.**, Regan, H.M., Flint, L.E., Flint, A.L., 2013. Effects of climate change and urban development on the distribution and conservation of vegetation in a Mediterranean Type Ecosystem. *International Journal of Geographical Information Science* 28: 1561-1589.
- 32 Bonebrake, T.C., **Syphard, A.D.**, Regan, H.M., Franklin, J., Anderson, K.E., Mizerek, T., Winchell, C. 2014. Fire management, managed relocation and land conservation options for a rare shrub species under global change. *Conservation Biology* 28: 1057-1067.
- 31 Serra-Diaz, P., Franklin, J., Ninyerola, M., Davis, F.D., **Syphard, A.D.**, Regan, H.M., Ikegami, M. 2013. Species-specific exposure to climate change in time and space:



- from climate velocity to bioclimatic-velocity. *Diversity and Distributions* 20: 169-180.
- 30 Franklin, J., Davis, F.W., Ikegami, M., **Syphard, A.D.**, Flint, L.E., Flint, A.L., Hannah, L. 2012. Modeling plant species distributions under future climates: how fine-scale do climate projections need to be? *Global Change Biology* 19: 473-483.
- 29 Conlisk, E., **Syphard, A.D.**, Franklin, J., Flint, L., Flint, A., Regan, H.M. 2013. Uncertainty in assessing the impacts of global change with spatially dynamic population models. *Global Change Biology* 18: 858-869.
- 28 Bar-Massada, A., **Syphard, A.D.**, Stewart, S.I., Radeloff, V.C. 2012. Wildfire ignition modeling: a comparative study in the Huron National Forest, Michigan, USA. *International Journal of Wildland Fire* 22: 174-183.
- 27 Price, O.F., Bradstock, R.A., Keeley, J.E., **Syphard, A.D.** 2012. Antecedent fire area has no effect on wildfire area in coastal southern California. *Journal of Environmental Management* 113: 301-307.
- 26 **Syphard, A.D.**, Keeley, J.E., Bar Massada, A., Brennan, T.J., Radeloff, V.C. 2012. Housing arrangement and location determine the likelihood of housing loss due to wildfire. *PLoS ONE* 7: e33954. doi:10.1371/journal.pone.0033954.
- 25 Conlisk, E., Lawson, D., **Syphard, A.D.**, Franklin, J., Flint, A., Flint, L., Regan, H.M. 2012. The roles of dispersal, fecundity, and predation on the population viability of an oak species (*Quercus engelmannii*) under global change. *PLoS ONE* 7(5): e36391. doi:10.1371/journal.pone.0036391.
- 24 Regan, H.M. **Syphard, A.D.**, Franklin, J., Swab, R. Markovchick, L. Flint, A., Flint, L., Zedler, P. 2012. Evaluation of assisted colonization strategies under climate change for a rare, fire-dependent plant. *Global Change Biology* 18: 936-947.
- 23 Scheller, R.M., Spencer, W.D., Rustigian, H., **Syphard, A.D.**, Ward, B.W., Strittholt, J.R. 2011. Using stochastic simulation to evaluate competing risks of wildfires and fuels management on an isolated forest carnivore. *Landscape Ecology* 26: 1491-1504.
- 22 **Syphard, A.D.**, Clarke, K.C., Franklin, J., Regan, H.M., McGinnis, M. 2011. Forecasts of habitat loss and fragmentation due to urban growth are sensitive to source of input data. *Journal of Environmental Management* 92: 1882-1893.
- 21 **Syphard, A.D.**, Keeley, J.E., Brennan, T.J. 2011. Comparing the role of fuel breaks across southern California national forests. *Forest Ecology and Management* 26: 2038-2048.
- 20 **Syphard, A.D.**, Keeley, J.E., Brennan, T.J. 2011. Factors affecting fuel break effectiveness in the control of large fires in the Los Padres National Forest, California. *International Journal of Wildland Fire* 20: 764-775.
- 19 **Syphard, A.D.**, Scheller, R.M. Ward, B.C. Spencer, W.D. Strittholt J.R. 2011. Simulating landscape-scale effects of fuels treatments in the Sierra Nevada, California, USA. *International Journal of Wildland Fire* 20:364-383.
- 18 Bar Massada, A., **Syphard, A.D.**, Radeloff, V.C., Hawbaker, T.J., Stewart, S.I. 2011. Effects of ignition models on the spatial patterns of simulated fires. *Environmental Modelling & Software* 26: 583-592.
- 17 Sturtevant, B.R., Scheller, R.M., Miranda, B.R., Shinneman, D., **Syphard, A.D.** 2010. Simulating dynamic and mixed-severity fire regimes: A process-based fire extension for LANDIS-II. *Ecological Modelling* 220: 3380-3393.



- 16 **Syphard, A.D.**, Franklin, J. 2010. Species' traits affect the performance of species' distribution models for plants in southern California. *Journal of Vegetation Science* 21: 177-189.
- 15 **Syphard, A.D.**, Franklin, J. 2009. Differences in spatial predictions among species distribution modeling methods vary with species traits and environmental predictors. *Ecography* 32: 907-918.
- 14 **Syphard, A.D.**, Radeloff, V.C., Hawbaker, T.J., Stewart, S.I. 2009. Conservation threats due to human-caused increases in fire frequency in Mediterranean climate ecosystems. *Conservation Biology* 23: 758-769.
- 13 **Syphard, A.D.**, Stewart, S.I., McKeefry, J., Hammer, R., Fried, J., Holcomb, S., Radeloff, V.C. 2009. Assessing housing growth when census boundaries change. *International Journal of Geographic Information Science* 23: 859-876.
- 12 Hawbaker, T.J., Radeloff, V.C., **Syphard, A.D.**, Zhu, Z., Stewart, S.I. 2009. Detection rates of the MODIS active fire product. *Remote Sensing of the Environment* 112: 2656-2664.
- 11 **Syphard, A.D.**, Radeloff, V.C., Keuler, N.S., Taylor, R.S., Hawbaker, T.J., Stewart, S.I., and Clayton, M.K. 2008. Predicting spatial patterns of fire on a southern California landscape. *International Journal of Wildland Fire* 17: 602 - 613.
- 10 **Syphard, A.D.**, Yang, J., Franklin, J. He, H.S., Keeley, J.E. 2007. Calibrating a forest landscape model to simulate high fire frequency in Mediterranean-type shrublands. *Environmental Modelling & Software* 22: 1641-1653.
- 9 **Syphard, A.D.**, Radeloff, V.C. Keeley, J.E. Hawbaker, T.J. Clayton, M.K. Stewart, S.I., Hammer, R.B. 2007. Human influence on California fire regimes. *Ecological Applications* 17: 1388-1402.
- 8 **Syphard, A.D.**, Clarke, K.C., Franklin, J. 2007. Simulating frequent fire and urban growth in southern California coastal shrublands, USA. *Landscape Ecology* 22: 431-445.
- 7 **Syphard, A.D.**, Franklin, J., Keeley, J.E. 2006. Simulating the effects of frequent fire on southern California coastal shrublands. *Ecological Applications* 16: 1744-1756.
- 6 Franklin, J, **Syphard, A.D.**, He, H.S., Mladenoff, D.J. 2006. The effects of altered fire regimes on patterns of plant succession in the foothills and mountains of southern California. *Ecosystems* 8: 885-898.
- 5 **Syphard, A.D.**, Clarke, K.C., Franklin, J. 2005. Using a cellular automaton model to forecast the effects of alternate scenarios of urban growth on habitat fragmentation in southern California. *Ecological Complexity* 2: 185-203.
- 4 Akcakaya, R., Franklin, J., **Syphard, A.D.**, Stephenson, J. 2005. Viability of the sage sparrow under altered fire regimes: integrated landscape and metapopulation modeling. *Ecological Applications* 15: 521-531.
- 3 **Syphard, A.D.**, Franklin, J. 2004. The effect of aggregation of landscape attributes on the simulation of fire disturbance and succession using the LANDIS model. *Ecological Modelling* 180: 21-40.
- 2 **Syphard, A.D.**, Garcia, M. W. 2001. Human- and beaver- induced wetland changes in the Chickahominy River watershed from 1953 to 1994. *Wetlands* 21: 342-353.



- 1 Franklin, J., **Syphard, A.D.** Mladenoff, D.J. He, H.S., Simons, D.K., Martin, R.P., Deutschman, D., O'Leary, J.F. 2001. Simulating the effects of different fire regimes on plant functional groups in Southern California. *Ecological Modelling* 142: 261 - 283.

Book Chapter

- 8 Syphard, A.D., Gershunov, A., Lawson, D., Huerta, H.R., Guzman-Morales, J., Jennings, M. San Diego Wildfires: Drivers of Change and Future Outlook. A Report for: California's Fourth Climate Change Assessment. In review.
- 7 Ganteaume, A., Syphard, A.D. Ignition sources. *Encyclopedia of Wildland Urban Interface Fires*. In review.
- 6 **Syphard, A.D.**, Brennan, T.J., Keeley, J.E., In press. Chaparral Landscape Conversion in Southern California, In *The Ecological Value of Chaparral Landscapes: Ecosystem Services and Resource Management*. Springer.
- 5 Keeley, J.E., **Syphard, A.D.** In press. South coast bioregion. Chapter in: J. W. van Wagtenonk, N. G. Sugihara, S. L. Stephens, A. E. Thode, K. E. Shaffer, and J. Fites-Kaufman. *Fire in California's Ecosystems: Second Edition, Revised*. University of California Press, Berkeley, California, USA.
- 4 Holmes, P.M., **Syphard, A.D.** 2015. Land use change in an urbanizing world: a comparison between City of Cape Town, South Africa and Los Angeles County, CA. In *The Biology of Mediterranean Type Ecosystems*. Oxford University Press. In press.
- 3 Halsey, R.W., **Syphard, A.D.** 2015. High intensity fire in chaparral: Cognitive dissonance in the shrublands. In DellaSala, D.A., Hanson, C.T. (eds.) *The Ecological Importance of Mixed-Severity Fires Nature's Phoenix*. Elsevier Inc. pp. 177-209.
- 2 Keeley, J.E., **Syphard, A.D.**, and Fotheringham, C.J. 2013. The 2003 and 2007 wildfires in southern California. In: Boulter, S., J. Palutikof, D.J. Karoly, D. Guitart (eds.) *Natural Disasters and Adaptation to Climate Change*. Oxford: Cambridge University Press. 204p.
- 1 Miller, C., Abatzoglou, J., Brown, T., **Syphard, A.D.** 2011. Wilderness fire management in a changing environment. In: *The Landscape Ecology of Fire*. Edited by Don McKenzie, Carol Miller, Don Falk, and Lara-Karena Kellogg. Pp. 269-294.

FIRST-AUTHOR PRESENTATIONS AND INVITED LECTURES

Fire activity in aridland ecosystems. State of Biodiversity Symposium San Diego Natural History Museum. San Diego, CA, 2018.

Are biodiversity conservation and fire risk reduction competing or compatible objectives in fire-prone landscapes? 7th International Fire Ecology & Management Congress. Orlando, FL. 2017.

How important is the species' establishment niche in mediating simulated range shifts in a dynamic, disturbance-prone landscape? International Association of Landscape Ecology Annual Meeting. Baltimore, MD. 2017.



- Are fire risk reduction and biodiversity conservation competing or compatible objectives in fire-prone landscapes? MEDECOS Conference XIII. Olmue, Sevilla, Spain. 2017.
- Chaparral landscape conversion after a century of global change. Natural Areas Conference. Davis, CA. 2016.
- Modeling vegetation dynamics under global change: Approaches, challenges, and examples. Invited speaker at annual symposium for the California Native Plant Society. Morro Bay, CA. 2016.
- Balancing fire risk reduction with biodiversity conservation: Lessons from Southern California. Invited keynote speaker at Forest Fire 2016, International conference on forest fires and WUI fires. Aix-en-Provence, France, 2016.
- Fire at the Wildland Urban Interface in Southern California. Invited speaker at Association of Environmental Professionals Conference. San Diego, CA, 2016.
- The role of microenvironments, competition, and disturbance in mediating species' response to climate change. International Association for Landscape Ecology World Congress. Portland, OR. 2015.
- Trends in chaparral landscape conversion. Invited speaker at the 2nd Southern California Chaparral Symposium, USFS. Arcadia, CA. 2015.
- Fire in Southern California: Balancing fire ecology & management. Invited speaker at the California State Parks Annual Meeting. Marshall, CA. 2015.
- Plant species persistence under climate change in the context of multiple threats. California Native Plant Society. San Jose, CA. 2015.
- Fire at the wildland-urban interface: Lessons from southern California. MEDECOS Conference XII. Olmue, Chile. 2014.
- Webinar: A tale of two fires: fire ecology and management with an eye to the future in S. California. 2013.
- The Wildland Urban Interface and fire in southern California USA. 5th annual FUME meeting, Toledo, Spain. 2013.
- The role of fire and fuels management in chaparral restoration. Invited lecture at USFS chaparral restoration workshop. Pasadena, CA. 2013.
- Balancing fire ecology and management. Invited lecture to Sierra Club Santa Margarita. 2013.
- From intervention to prevention: How can fire distribution models inform management and conservation? Fire and strategic plan workshop, San Diego County, CA, 2013.
- Land use planning to reduce housing loss to wildfire in southern California. Association for Fire Ecology, Portland OR, 2012.
- Analysis of geographic influence on reducing wildfire risks and ecological impacts. San Diego partners for Biodiversity meeting, San Diego, CA, 2011.
- Land use planning to reduce wildfire risk in southern California. MEDECOS Conference XII. Los Angeles, CA. 2011.
- A modeling framework for assessing adaptation strategies for plants threatened by climate, land use, and altered fire regimes in Mediterranean-type ecosystems. 7th European Conference on Ecological Modelling – Riva del Garda, Italy. 2011.



- Evaluating the relative impact of climate change and other threats to the persistence of rare plant species in southern California. Invited lecture, U.S. Fish and Wildlife Service, U.S. Geological Survey and California Department of Fish & Game, Bridging the Gap climate change communications workshop, Sacramento, CA. 2010.
- Does translocation of a rare fire-dependent plant mitigate the effects of climate change? Invited lecture, Tecate cypress symposium, Rancho Jamul Ecological Preserve, CA. 2010.
- Humans alter the spatial pattern of fire in Mediterranean ecosystems. Invited lecture, Department of Geography, San Diego State University
- The role of pre-fire fuel management on reducing impacts of large fires in the Los Padres National Forest, California. 4th International Fire Congress – Savannah, GA. 2009.
- Modeling interactions among humans, fire, and vegetation in California. Invited lecture, Department of Biology, San Diego State University. 2008.
- Humans alter the spatial pattern of fire in Mediterranean ecosystems. Pacific Coast Fire Conference: Changing Fire Regimes, Goals and Ecosystems. California Association of Fire Ecology – San Diego, CA. 2008.
- Southern Sierra Nevada Fisher Baseline Assessment and Prediction of Future Habitat Conditions Under Changing Fire Regimes. Association for Fire Ecology Regional Conference 2008 – Tucson, AZ. 2008.
- Interactions among humans, fire, and vegetation on southern California landscapes. Invited lecture, Department of Botany, University of California, Riverside. 2007.
- Modeling and mapping human influence on California fire regimes. Invited lecture, University of Wisconsin-Madison, Chaos and Complex Systems Seminar. 2007.
- Using global satellite data to predict human influence on fire in Mediterranean ecosystems. 4th International Wildland Fire Conference – Seville, Spain. 2007.
- Humans and fire in California: predicting influences and simulating impacts. Invited lecture, Department of Geology & Geography, University of West Virginia. 2006.
- Predicting spatial patterns of fire in a southern California landscape. Third International Fire Ecology & Management Congress – San Diego, CA. 2006.
- Effects of human activities on California fire regimes. International Association for Landscape Ecology Annual Meeting – San Diego, CA. 2006.
- Simulating the combined effects of urban growth and high fire frequency on native shrublands in southern California. Association of American Geographers Annual Meeting – Chicago, IL. 2006.
- Simulating the effects of frequent fire on the distribution of dominant plant functional types in southern California shrublands. Society for Conservation Biology Annual Meeting – Brasilia, Brazil. 2005.
- Simulating alternate scenarios of habitat fragmentation in California native shrublands using a cellular automaton urban growth model. Ecological Society of America Annual meeting - Portland OR. 2004.
- Modeling alternate scenarios of urban growth on habitat fragmentation in southern California. The 19th Annual Symposium International Association Landscape Ecology- Las Vegas, NV. 2004.



Modeling long-term effects of altered fire regimes and urbanization on vegetation succession. International Association for Landscape Ecology World Congress - Darwin, Australia. 2003.

Simulation modeling of the long-term effects of altered fire regimes on vegetation succession in the Peninsular Ranges of San Diego County. Fire Conference: Managing Fire and Fuels in the Remaining Wildlands and Open Spaces of the Southwestern United States - San Diego, CA. 2003.

AWARDS

2002-2005 –NASA Earth System Science Fellowship

2002 – “Ecosystem Management in Cultural Landscapes” training in Europe, funded by FIPSE.

2002 – McFarland Scholarship, San Diego State University

SELECTED PROFESSIONAL ACTIVITIES

Outreach

- **External PhD and masters student committees:** Oregon State University Environmental Sciences Program; Prescott, AZ masters program; external expert to SESYNC collaborative graduate student project, “Understanding shifting human-fire dynamics in the San Diego-Cleveland National Forest wildland-urban interface”; Western Sydney University Doctoral Program Engineering Dissertation Reviewer
- **Peer and scientific review:** Associate editor of Diversity & Distributions; Peer review for more than 30 scientific journals; scientific reviewer for Cal Fire Vegetation Treatment Program EIR; Guest Editor ESA Ecological Applications; review panel of vegetation models for LANDFIRE project; Maryland Sea Grant; National Science Foundation proposal review.
- **Teaching:** Population biology in Spanish at ECOSUR, Chiapas MX; GEOG 570 Environmental Conservation Practice; GEOG GIS labs
- **Working groups, membership, and invited meetings:** Linked socio-environmental responses to destructive wildfire: Are fires ‘hot moments’ for transformative adaptation? National Socio-Environmental Synthesis Center (SESYNC); NCEAS working group, Global climate change and adaptation of conservation priorities; Vegetation/Fuels Fire Committee for the San Diego County Forest Area Safety Taskforce (FAST); Ecosystems and Wildfires working groups for San Diego County Focus 2050 project; EU FUME project, Forest fire under climate, social and economic changes; Stakeholder Committee for Southern California Climate Adaptation Project, EcoAdapt; Organizing committee for California chaparral restoration workshop; Fire and Biodiversity Modeling Working Group, Solsona Spain; National Academy of Sciences Wildfire Workshop, UNDEP Committee Spatial Data for Biodiversity, Washington DC
- **Knowledge transfer:** Webinar: A tale of two fires: fire ecology and management with an eye to the future in S. California; Blog: Conservation and housing loss to



- wildfire. Invited Panelist, community planning workshop for Cal Fire's Forest and Range Assessment; Media outreach
- **Policy advisor:** Panelist at Cal Fire meeting on land use planning; speaker at CA governor's office; Invited panelist, fire science press briefs, House of Representatives and Senate, Washington, D.C., 2017, Invited scientist for meetings with congressional staff, Washington, D.C., 2017

Media

2017, Science Friday, the atlantic, two la times articles, wired, etc. (expand)
2017 "Urban damage raises questions about California's wildfire strategy," Wall Street Journal
2017 "The west is on fire. Blame the housing crisis," Wired
2016 "Fireproofing homes in fire-prone areas," National Public Radio Southern CA
2015 "Developers want to build in high-risk wildfire areas," Voice of San Diego
2014 "Overwhelming cause of California wildfires: humans," National Geographic
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