

JAG Appointment Transition Plan 2012

Current Incumbent	Area Represented	Current Expiration	Recommended Action	New Expiration	Next Expiration
Mike Anderson (wishes to serve another term)	Licensed Timber Operator/RPF	2012	Reappoint	2013	2016
Peter Braudrick (wishes to serve another term)	Recreation/Former CA Dept. of Parks and Recreation	2012	Reappoint	2014	2017
John Helms (Chairman) (does not want another term)	Professor of Silviculture/UCB Emeritus	2012	Appoint Mahesh Rao, Humboldt State University	2015	2018
Mike Liquori (wishes to serve another term)	Consulting Physical Scientist (Hydrology/Geology)	2012	Reappoint	2015	2018
Dan Porter (does not want another term)	Botanist/Forest Ecologist/The Nature Conservancy	2012	Appoint Darcie Mahoney, Consulting RPF	2015	2018
Vince Taylor (resigned 2011)	Environmental Advocate/Local Community	2012 (resigned 2011)	Appoint Amy Wynn, Land Use Consultant and Outdoor Recreation Advocate	2015	2018
No action needed at this time for the positions below.					
Kathy Bailey	Environmental Advocate/Sierra Club	2013		2016	2019
Don Phillips	Agricultural Scientist (retired)	2014		2017	2020
John Anderson	Industrial Forestland Owner/RPF	2013		2016	2019
Ross Liberty	Local Community/Businessman	2014		2017	2020
Kelly Harris	Environmental Restoration Specialist	2013		2016	1019
George Hollister (Vice Chairman)	Small Private Forestland Owner	2014		2017	2020
Doug Albin	Biologist/CDFG	2013		2016	2019

Amy Wynn
26281 Omar Drive
Fort Bragg, CA 95437
707-964-2358
awynn@mac.com

June 29, 2012

Bill Snyder
Deputy Director for Resource Management
Department of Forestry and Fire Protection
PO Box 944246
Sacramento, CA 94244-2460
Bill.snyder@fire.ca.gov

Re: JDSF Advisory Group

Dear Mr. Snyder,

Thank you for publicizing the request for participation in the Jackson Demonstration State Forest Advisory Group. I would like very much to be considered for membership in this group.

I am the owner of Amy Wynn Coastal Development Permits (land use consulting), Vice President of Mendocino Coast Cyclists, founding partner of Mendocino Bike Sprite (offering hospitality for cycling on the Mendocino Coast), current member of the JDSF Recreation Task Force, and helped organize the 2011 Mendocino Coast Fat Tire Festival. My Bachelor's Degree is in Design of the Environment, my Master's is in Landscape Architecture.

I have a strong understanding of the balance between natural resources and people and the regulatory processes through which one navigates. The projects I foster are thoroughly analyzed for potential impacts and mitigations, maintaining intense coordination with a range of consultants, including biologists, archaeologists, geologists and surveyors. I work well with both governmental agencies and private landowners. With all of this, I have a broad set of skills and experience that would complement Advisory Group members.

Board of Forestry Policy 0351.5 (E) states that "Recreation use will be integrated with timber management activities to demonstrate how these uses can be compatible." I believe that JDSF can demonstrate how recreational activities can occur on Timberlands pre- and post-harvest, and by analyzing the benefits (educational and monetary, and even simply by having eyes on the ground), private timberland owners may see recreational activities as a way to gain a benefit on their property between harvests.

When I started exploring the Forest, my understanding of the coast changed dramatically. Exploring the trails, I'd pick up on the different microclimates created by the aspect of the slopes, proximity to drainages and the different voices of the wildlife, from a chorus of frogs in the damps to the watching eyes of those silent big cats in the dries where the only sound was that of my knocking knees. I'd notice the different stages of logging and try to figure out which type of regrowth is considered the best one. I learned that I wasn't in Jackson State Forest; I was in Jackson *Demonstration* State Forest. I've since learned that there are differing points of view as to which regrowth management style is the best, and that JDSF exists to study exactly those sorts of questions.

Then I stole my husband's mountain bike and started riding. All of a sudden my world opened up and I got to see so much more of the Forest. I saw a network of skid and logging roads and a wider variety of forest types, some of which I am still learning about (what is that dry Bay/Oak forest type on Cookhouse, and why does it smell so unusual in the summer?). Having seen the demonstration trails marked along Highway 20 and in The Woodlands, I wanted to learn more. Without clearly descriptive signage, I am left to figure it out on my own. I don't know what the numbers mean and I can't read a brochure while I'm slogging my bike up Cookhouse.

Riding in the woods, I've also seen how different user groups interact with the Forest, sometime goods, sometimes bad. Besides motorcycles and equestrians, mountain bikers see more of the Forest than any other user group.

Encl: Amy Wynn Coastal Development Permits SOQ

My stewardship attitude with the Forest has grown from just wishing and hoping to being an active participant: Mendocino Coast Cyclists is very attentive to fixing damaged trails (often impacted by other user groups), picking up garbage (again, from other "user" groups), and encouraging best trail riding practices. Mountain bikers have a strong trail maintenance ethic and are deeply connected to the environments in which they ride. We're also very much focused on safety – though maintenance of safe trails and wayfinding. And, if the trails that we ride need to be closed due to logging efforts, there's plenty of room for us to ride elsewhere, and we're happy to do so; it's a big Forest.

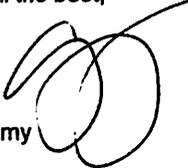
There is a huge opportunity for positive interaction with the Forest, encouraging our youth to connect with the woods in a constructive rather than destructive way. Recreational participation with the Forest is perhaps the strongest way of achieving that goal. However, our most active mountain biking population on the coast is an aging demographic. We see visiting cyclists on the trails; more often than not, they are lost. We see locals on the trails; often, they too are lost. The intimate knowledge and stewardship of the trails may be lost if our youth isn't encouraged to get out there on their bikes. In order to do that, however, they need to know where to ride and they need trails that they can learn on.

Encouraging recreational users, in particular mountain bikers, strongly supports the demonstration and education aspects of the Forest. As more mountain bikers come to ride in our Forest, they too learn about the Demonstration Forest and will naturally talk with others about what they come to understand.

This is just my story and vision, but one that's echoed by our local cycling community. Please consider me as a future team member of the Jackson Demonstration State Forest Advisory Group.

Thank you for your consideration.

All the best,


Amy

Amy Wynn

Amy Wynn Coastal Development Permits
Permit Agent and Land Use Consultant
...since 2005

703 North Main Street, Fort Bragg CA 95437
T 707-964-2537 F 707-964-2622
Amy@AmyWynnCDP.com
www.AmyWynnCDP.com

Profile

As a land use consultant, I assist landowners in navigating the planning permit process, focusing on – but not limited to – Development Permits in Mendocino County's and its cities' Coastal Zones. My projects range from small-scale residential improvements to multi-parcel subdivisions, including use permits, general plan amendments, rezoning and boundary line adjustments. Pairing a strong understanding of environmental issues as they relate to the County's and our Cities' Local Coastal Programs with ever-important mediating skills, I am well suited to helping clients with tough projects. In addition, I have a strong working relationship with stakeholder agencies and consultants, which further enables me to steer projects towards the best resolution for all interested parties.

My projects run the gamut of review from CEQA Exempt to Negative Declarations, Mitigated Negative Declarations and Environmental Impact Reports, with involvement of a range of Stakeholder Agencies, including but not limited to:

- County of Mendocino and its Cities
- California Coastal Commission
- Department of Fish & Game
- United States Fish & Wildlife Service
- Army Corps of Engineers
- Regional Water Quality Control Board
- California Department of Housing & Community Development
- County Agricultural Commissioner
- California State Parks
- Land Trusts

Services Provided

- Select Consultants and guide Consultant involvement, including but not limited to:
 - Biologists
 - Surveyors
 - Septic Designers
 - Attorneys
 - Architects and Designers
 - Title Companies
 - Geologists
 - Archaeologists
 - Traffic Engineers
 - Contractors
- Land Use Opportunities and Constraints Analyses
- Overview all aspects of site investigations
- Coastal Development Permits
- Boundary Line Adjustments
- Divisions
- Use Permits
- General Plan Amendments & Rezones

Amy Wynn Coastal Development Permits
Permit Agent and Land Use Consultant

Clientele

Private landowners, Senior Housing, Multi-family Residential and Commercial Developers, Ranchers, among others

Education

MLA Landscape Architecture, College of Environmental Design, University of California at Berkeley, 1993
BA Design of the Environment, College of Arts and Sciences, University of Pennsylvania, 1989

Continuing Education

Point Arena Mountain Beaver Workshop, US Fish & Wildlife Service, Point Arena, CA, 2010
Planning in California: An Overview & Update, UC Davis Extension, Land Use Planning, Sacramento, CA, 2007-08
Mitigation Measure Development & Monitoring, UC Davis Extension, Land Use Planning, Davis, CA, 2007
CEQA: A Step-by-Step Approach, UC Davis Extension, Land Use Planning, Sacramento, CA, 2007
Endangered Species Regulation & Protection, UC Davis Extension, Land Use Planning, Davis, CA, 2007
Land Use, Real Estate & Environmental Law Update, Abbott & Kindermann, LLP, Sacramento, CA, 2007, 2010
Introduction to Wetland Delineation, CA State Chico, Friends of the Biological Sciences Herbarium, Chico, CA, 2006
Subdivision Map Act: Parts I & II, UC Davis Extension, Land Use Planning, Davis, CA, 2006

Additional Experience

12 years manager for design and construction bookstore
8 years draftsman and model maker for various design firms, including landscape architecture, interior design and lighting design
1 year project manager for civil and structural engineering firm
2 years performing garden installations
2 art exhibits

Organizations, current

Toastmasters' International, Vice President of Education, 2012
Mendocino Coast Cyclists, Vice President, 2012
Mendocino Coast Fat Tire Festival, Committee Member, 2011-12
Jackson Demonstration State Forest, Recreation Task Force Member, 2012-current
Mendocino Bike Sprite, Founding Partner, 2012-current

References available upon request

DARCIE MAHONEY, Consulting Forester
30995 Greenwood Road □ Elk, CA 95432 □ 707-877-3435

28 June 2012

Bill Snyder, Deputy Director
Resource Management
Cal Fire
P.O. Box 944246
Sacramento, CA 94244-2460

Dear Bill:

I have received Cal Fire's request for applicants to serve on JDSF's forest advisory group, and I would be interested in serving on the board.

My experience working as a consultant with non-industrial forest landowners could provide an additional perspective for the advisory group.

I have enclosed my resume.

Sincerely,


Darcie Mahoney, Lic. No. 2397

Att.

Darcie Mahoney, RPF Lic. No. 2397
30995 Greenwood Road, Elk, CA 95437
707-877-3435; darmahoney@yahoo.com

EMPLOYMENT HISTORY

1993 to present: **Consulting Forester.** Self employed.

1990 - 1993: **Forester.** Georgia-Pacific Corporation, Fort Bragg.

1988 - 1990: **Assistant Forester.** Georgia-Pacific Corporation.

1986 - 1988 **Co-owner, Pygmy Produce.** Self employed, Fort Bragg;
and **Head Gardener,** Big River Lodge, Mendocino.

1986 - 1987 **Nursery Worker.** Heartwood Nursery, Fort Bragg.

1982 - 1986 **Forestry Aide.** Calif. Dept. of Forestry, So. Lake Tahoe &
Jackson Demonstration State Forest, Fort Bragg.

1983 **Financial Aid Counselor.** College of the Redwoods, Fort
Bragg. (Employed in between seasonal forestry work.)

Summer 1982 **Biological Technician.** Soil Conservation Service, Ukiah.

Spring 1982 **Graduate Assistant.** Humboldt State Univ., Arcata.

1979 - 1982 School year on-campus employment and seasonal forestry work
with US Forest Service, Big Bar; and Masonite Corp., Ukiah.

1978 - 1979 **Sanitary Engineering Technician Trainee** (Forest Practices).
North Coast Regional Water Quality Control Board, Santa Rosa.

EDUCATION

B.S., Forestry, Humboldt State University, Arcata, 1981

RELEVANT SKILLS AND EXPERIENCE

- As a consulting forester, I am responsible for development and supervision of timber harvest plans and non-industrial timber management plans, including: logging design, road layout, regeneration prescriptions, marketing of timber, archaeological evaluations, Northern Spotted Owl surveys, identification and protection of special plant and animal species, botanical surveys, fisheries habitat and water quality analyses, road maintenance and erosion control, and logging supervision. I advise landowners regarding pest and disease problems of trees, erosion control, and revegetation.
- As a consulting forester for a large non-profit landholding: I conduct timber harvest plan inspections with community members and stakeholders; I hold community informational meetings regarding proposed timber harvest plans; I lead invasive plant removal operations with community members; and I lead nature walks.
- As a member of the timber harvest plan review team with the North Coast Regional Water Quality Control Board, I inspected private logging operations to determine compliance with forest practice rules; I responded to public complaints regarding logging practices; I initiated enforcement actions for non-compliance with water quality laws.

QUALIFICATIONS SUMMARY

I served three years as a board member of the California Licensed Foresters' Association, and have a serious interest in maintaining high standards of forester professionalism and forest management. I am a member of the Forest Guild and the Association of Consulting Foresters. I served as a board member of the non-profit Redwood Forest Foundation. I currently serve as a board member with the North Coast Resource Conservation and Development Council; I am a community member of the Fort Bragg Biomass Committee; and I am a member of The Conservation Fund's advisory committee.

I believe I have been successful in balancing landowner goals with environmental sensitivity and have demonstrated the ability to work cooperatively with government agencies and environmental groups in politically controversial and environmentally sensitive areas.

Henly, Russ

From: Mahesh N. Rao [Mahesh.Rao@humboldt.edu]
Sent: Monday, June 04, 2012 10:15 PM
To: Henly, Russ
Subject: FW: CAL FIRE Seeks Applicants for JDSF Advisory Group Vacancies
Attachments: RaoCV2012b.pdf

Dear Russ,

I am interested in applying to the JDSF Advisory Group.

I am a new faculty member in the Department of Forestry and Wildland Resources with teaching and research interests focused on applications of Geospatial technologies such as Remote Sensing and GIS in the field of natural resource management. Currently, I am engaged in applications of LiDAR remote sensing for biomass/carbon estimation in forested environments of the pacific north coast. This summer, we have initiated a pilot project in the Casper Creek Watershed (North/South Forks) to study relationships of canopy height estimated from LiDAR point cloud to field observed data.

Please find attached my cv for your kind perusal.

Best Regards,

-Mahesh

Mahesh Rao, Ph. D
Associate Professor
Forestry and Wildland Resources
211 Forestry Building
Humboldt State University
Arcata, CA 95521.

Phone: 707.826.3935
Fax: 707.826.5634

E-mail: mahesh.rao@humboldt.edu
http://humboldt.edu/fwr/faculty/detail/mahesh_rao

"Carpe Diem"

From: Henly, Russ
Sent: Monday, June 04, 2012 11:23 AM
Subject: CAL FIRE Seeks Applicants for JDSF Advisory Group Vacancies

Dear Persons Interested in Jackson Demonstration State Forest:

There are currently three vacancies on the Jackson Demonstration State Forest Advisory Group. CAL FIRE is seeking new applicants for these positions and encourages interested persons to apply.

Item 13.0

Letters of application and resumes are requested by June 29, 2012. See the attached announcement for details.

Please help to spread the word that we are seeking applicants.

Thank you,

Russ Henly
Assistant Deputy Director
Resource Protection and Improvement
CAL FIRE
California Department of Forestry and Fire Protection
P.O Box 944246
Sacramento, CA 94244-2460
916-653-9447 Office
916-214-4868 Cell

M a h e s h N . R a o

Associate Professor of Remote Sensing and GIS
 211 Forestry Building
 Department of Forestry and Wildland Resources
 Humboldt State University
 Arcata, CA 95521

Phone: 707-826-5484
 Fax: 707-826-5634
 E-mail: mahesh.rao@humboldt.edu
http://humboldt.edu/fwr/faculty/detail/mahesh_rao

Education:

- | | |
|----------------------------------------------------------------------------------------|-------------------|
| Ph. D. Environmental Science – Geography
Oklahoma State University, Stillwater, OK. | Aug '92 - Dec '96 |
| M. Sc. (Agriculture)
A. P. Agricultural University, Hyderabad, India. | Aug '86 - Dec '88 |
| B. Sc. (Agriculture)
A. P. Agricultural University, Hyderabad, India. | Aug '82 - Aug '86 |

Academic Appointments:

- Associate Professor (Tenure-Track), August 2009 - Present, Humboldt State University
 Director, Institute for Spatial Analysis, August 2009- Present, Humboldt State University
- Associate Professor, August 2005 - 2009, Oklahoma State University (OSU)
- Assistant Professor (Tenure-Track), August 1999 – August 2005
 Director, Center for Applications of Remote Sensing (CARS) August 1999 – 2009, Oklahoma State University, Stillwater
- Visiting Assistant Professor, August 1998 – August 1999
 Geography Department, Oklahoma State University, Stillwater
- Post-Doctoral Fellow, November 1996 – August 1998
 Zoology Department, Oklahoma State University, Stillwater
- Graduate Research Assistant, August 1992 – December 1996
 Geography Department, Oklahoma State University, Stillwater

Courses Taught:

- Intro Remote Sensing
- Advanced Image Analysis
- GIS: Natural Resource Applications
- Advanced GIS
- Physical Geography

Teaching Awards/Honors:

Ted Mills Award for Outstanding Environmental Teaching-2007. OSU Environmental Institute/Environmental Science Program, Stillwater, OK. The Fifth Annual Environmental Awards Reception, March 29, 2007, Wes Watkins Center, Stillwater, OK.

o Research Interests:

- Applications of Remote Sensing and GIS for Natural Resources Conservation and Management.
- Land use/land cover (LULC) mapping and Change Detection using remotely sensed data
- LiDAR applications for Biomass/C sequestration
- Ecological Services
- Ground-based remote sensing (field Spectroscopy) for plant stress detection
- GIS-based modeling approaches to evaluating environmental/socio-economic benefits of USDA's Conservation Reserve Program (CRP)

Research Grants:

1. Estimating Coarse Woody Debris (CWD) in the Blacks Mountain Experimental Forest using LiDAR data. USDA-FS Pacific Southwest Research Station, Redding, CA. \$30,475. PI.
2. Lidar-based mapping of serpentine soils in the Storrie Fire and Meadow Valley regions of the Lassen and Plumas National Forest. USDA-FS Plumas National Forests, Jan 2010-Mar 2012, \$48,886. PI.
3. Application of LiDAR remote sensing and GIS-based models for Biomass Estimation. USDA-McIntire-Stennis Forestry Research, Nov 2009-Nov 2012, \$54,000. PI
4. Multitemporal Land Use and Land Cover (LULC) Mapping of the Upper Washita River Subwatersheds. USDA-ARS, El Reno, OK, 2008-2009, \$16,500. PI.
5. Remote Sensing for Russian wheat Aphids in Wheat. Oklahoma Center for Advancement of Science and Technology (OCAST), 2008 – 2010, \$89,000, Co-PI with Dr. N. Elliott, USDA-ARS, Stillwater, OK.
6. Geographic Information Systems Task - South Central Region. Sun Grant Initiative – SDSU. 2008-2009. \$159,000. Co-PI with Dr. R. Hunke, OSU BioSystems Engineering.
7. Proposal for the purchase of FieldSpec3 Spectroradiometer for field-based remote sensing. OSU Tech Fee Grant, Jan. 2008. \$45,120.
8. CRP Lands as a Potential Bioenergy Resource. OSU Arts and Sciences Fall Travel Program. 2008-2009, \$1000.
9. Integrating CRP-Decision Support System with the USDA's Common Land Unit database. OSU Arts and Sciences Travel Award, 2007-2008, \$1000.

10. Developing a GIS database for potential feedstock area in the EPA Region 6. Sun Grant Initiative – OSU Biosystems. 2008. \$5100. Co-PI with Dr. R. Hunke, OSU Biosystems Engineering.
11. Developing an ODOT GIS database. Oklahoma-DOT (through OSU Environmental Engineering). 2007. \$5500. Co-PI with Dr. A. Tyagi, OSU Civil Engineering.
12. Land Use and Land Cover (LULC) Mapping of the Upper Washita River Subwatersheds. USDA-ARS. 2006. \$21,600. PI.
13. Using a Multi-Resolution GIS-Modeling Approach to Evaluate the Carbon Sequestration Potential in Texas County, Oklahoma. NASA-EPSCOR RIG. 2005. \$21,000. PI.
14. Developing Spatial Mapping and Environmental Modeling Tools within the CRP-DSS for Resource Management. NASA-EPSCOR Travel Grant, 2004. \$1,500, PI.
15. Evaluating the Carbon Sequestration Potential of USDA's Conservation Reserve Program in the Oklahoma Panhandle. 2005 OSU Arts and Sciences Summer. Research Grant and supplemental travel Award. 2005. \$6500. PI.
16. Vegetation Mapping Around Lake Hudson, Oklahoma using Landsat TM data. AtkinsAmericas Environmental, Inc. 2003-2004. \$80,091. PI.
17. Development of a Web-GIS Decision Support System for Environmental Water Quality and Resource Management. University Center for Water Research (UCWR). 2003- 2004. \$14,836. Co-PI with Dr. J. Thomas, OSU Computer Science.
18. Toward an Integrated Web-GIS Decision Support System for Evaluating USDA's Conservation Reserve Program (CRP). Oklahoma NASA-EPSCoR. Research Initiation Grant (RIG). 2003- 2003. \$21,306. Co-PI with Dr. G. Fan, OSU Electrical and Computer Engineering (ECEN).
19. Developing a GIS-based Tool for Automated Feature Information Retrieval from Multisource Geospatial Data: Application to CRP Mapping at Texas County, Oklahoma. University Center for Water Research (UCWR). 2002 – 2003. \$24,575. Co-PI with Dr. G. Fan, OSU ECEN.
20. Equipping the GIS/Simulation Labs with Projectors to upgrade teaching needs of the GIS and Simulation Labs in the department. OSU Tech Fee Grant, Sept 2003, \$9,400.
21. Characterization of Greenbug Stress In Wheat Using Remote Sensing Techniques. USDA-ARS, 2002-2003. \$10,000. PI.

22. Application of Automated Feature Information Retrieval System to Geospatial Decision Support Systems for Environmental Quality and Resource Management. NASA–EPSCoR Travel Award, 2002. \$1,454, Co-PI with Dr. G. Fan, OSU ECEN.
23. EPIC-View: Developing Calibration and Validation Tools. Oklahoma Center for Advancement of Science and Technology (OCAST). 2000-2002. \$50,573. PI.
24. Radiometric Studies to Characterize the Onset of Greenbug-Induced Stress in Wheat. University Center for Water Research (UCWR). 2001-2002. \$24,979. PI.
25. Upgrading the Simulation Lab to strengthen the teaching and research needs of the OSU Geography Department. OSU Tech Fee Grant, Feb 2001, \$35,936.
26. Mapping the Areal Extent of Saltcedar Invasion Using Satellite Imagery. Dean’s Incentive Grant (DIG). 2001. \$3000. PI.
27. Evaluating Spatio-Temporal Changes in CRP tracts Using Multi-Seasonal Satellite Imagery. University Center for Water Research (UCWR). 2000- 2001. \$25,000. PI.
28. Use of Field Spectroscopy/Radiometry in detecting crop stress: A review. Dean’s Incentive Grant (DIG). 2000-2001. \$3000. PI.
29. Demonstration of the Value of GIS in Assessing Cumulative Ecological Risk. University Center for Energy Research. 2000-2001. \$50,000. Co-PI with Dr. R. Lanno, OSU Zoology.
30. Image Processing Software- Acquiring ERDAS Imagine under the Higher Educational Annual Kit (HEAK) program. Jan 2000, \$5600.
31. Environmental Site Characterization of the Norman Landfill using GIS and Remote Sensing NSF-EPSCoR. \$41,334. 1998-1999. Co-PI with Dr. J. Bantle, OSU A&S Assoc. Dean.

Pending:

1. Modeling and Mapping Integrated Sustainability Challenges and Trade-offs for Bioenergy, Water, Ecology, and Agriculture: A New Paradigm Study Using Remote Sensing Data and Geospatial Modeling. USDA-AFRI, Sustainable Biomass. 2012-2015. PI. \$485,000.

Refereed Publications:

1. Awawdeh, M., and **M. Rao**. 2012. The Conservation Reserve Program in Texas County, Oklahoma: A GIS-based Evaluation. LAP LAMBERT Academic Publishing.
2. Prabhakar, M., Y. G. Prasad and **M. Rao**. 2011. Remote Sensing of Biotic Stress in Crop Plants and its Applications for Pest Management. *In Crop Stress and its Management:*

- Perspectives and Strategies, Venkateswarlu, B., Shanker, A.K., Shanker, C., Maheswari, M. (eds.). ISBN 978-94-007-2219-4. Springer.
3. Starks, P., **M. Rao**, and S. Siewe. 2011. Land-Cover Analysis for the Fort Cobb Watershed, Southwestern Oklahoma. *In* Assessment of conservation practices in the Fort Cobb Reservoir watershed, Southwestern Oklahoma, Becker, C.J., ed., 2011: U.S. Geological Survey Scientific Investigations Report 2010–5257.
 4. **Rao, M.**, and Z. Yang. 2010. Potential Groundwater Impacts of the USDA's Conservation Reserve Program in Texas County, Oklahoma. *Applied Geography* 30:317-328.
 5. Yang, Z., **Rao, M.N.**, Elliott, N.C., Kindler, S.D., Popham, T.W. 2009. Differentiating stress induced by greenbugs and Russian wheat aphids in wheat using remote sensing. *Computers and Electronics in Agriculture*, 67(Issue 1-2): 64 -70.
 6. **Rao, M.** 2009. Data Editing. *In*: Encyclopedia of Geography. Barney Warf (ed). Sage Publications, Inc. ISBN-10: 1412956978.
 7. **Rao, M.**, and S. Siewe. 2008. Characterizing Changes in the Land Use and Land Cover in the Ft. Cobb Reservoir Watershed, Oklahoma. Proceedings of the 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS), July 6-11, 2008, Boston, MA.
 8. **Rao, M.**, and S. Siewe. 2008. USDA's Conservation Reserve Program: Environmental and Socio-Economic Implications. Proceedings of the South East Asian Geography Association Conference, 3-6 June, 2008, Quezon City, Philippines.
 9. Song, X., G. Fan, and **M. Rao**. 2008. SVM-based Data Editing for Enhanced One-Class Classification of Remotely Sensed Imagery. *IEEE Geoscience and Remote Sensing Letters* 5(2): 12-24.
 10. **Rao, M.**, G. Fan, J. Thomas, G. Cherian, V. Chudiwale, M. Awawdeh. 2007. A Web-based GIS Decision Support System for Managing and Planning USDA's Conservation Reserve Program (CRP). *Environmental Modelling and Software* 22: 1270-1280.
 11. **Rao, M.**, M. Awawdeh, and M. Dicks. 2005. Spatial Allocation and Environmental Benefits: The Impacts of the Conservation Reserve Program in Texas County Oklahoma. *In*: Allen, A.W., and Vandever, M.W., eds. 2005. The Conservation Reserve Program – Planting for the future: Proceedings of a National Conference, Fort Collins, Colorado, June 8-9, 2004: U. S. Geological Survey, Biological Resources Discipline, Scientific Investigations Report 2005-5145, 174-182.
 12. Song, X., G. Fan., and **M. Rao**. 2005. Automatic CRP Mapping Using nonparametric Machine Learning Approaches. *IEEE Transactions on Geoscience and Remote Sensing* 43(4): 888-897.
 13. **Rao, M.**, M. Awawdeh, M. Dicks. 2004. Spatial Allocation and Environmental Benefits: The Impacts of the Conservation Reserve Program in Texas County Oklahoma. Proceedings of the USDA-USGS Conference on CRP- Planting for the Future. June 6-9, 2004, Ft. Collins, CO.

14. Elliott, N.C., Mirik, M., Yang, Z., Dvorak, T., **Rao, M.**, Michels, J., Catana, V., Phoofolo, M., Giles, K., and Royer, T. 2005. Airborne multi-spectral remote sensing for Russian wheat aphid infestations. In: Proceedings of the 20th Biennial Workshop on Aerial Photography, Videography, and High Resolution Digital Imagery for Resource Assessment, October 4-6, 2005, Weslaco, TX. 2005 CD-ROM.
15. Yang, Z., **M. Rao**, N. Elliott, S. Kindler, and T. W. Popham. 2004. Using Ground-based Multispectral Radiometry to Detect Stress in Wheat Caused by Greenbug (Homoptera: Aphididae) Infestation. *Computers and Electronics in Agriculture*. 47:121-135.
16. Cherian, G., X Song, G. Fan, **M. Rao**. 2004. Application of Support Vector Machines for Automatic Compliance Monitoring of the Conservation Reserve Program (CRP) Tracts. Proceedings of the IEEE International Geoscience and Remote Sensing Symposium, September 20-24, 2004, Anchorage, Alaska.
17. **Rao, M.**, and M. Awawdeh. 2004. Evaluating the Impacts of Conservation Reserve Program in Texas County Oklahoma. Proceedings of the 10th Biennial Forest Service Remote Sensing Applications Conference, April 5-9, 2004 Salt Lake City, UT. ASPRS Special Issue.
18. Yang, Z., **M. Rao**, D. Kindler, and N. Elliott. 2003. Use of Field Spectroscopy/Radiometry in Detecting Crop Stress: A Review. *Southwestern Entomologist* 29(3): 227-236.
19. Song, X., G. Fan, and **M. Rao**. 2003. Machine Learning Approaches to Multisource Geospatial Data Classification: Application to CRP mapping in Texas County, Oklahoma. Proceeding of the IEEE Workshop on Advances in Techniques for Analysis of Remotely Sensed Data. October 27-28, 2003, NASA Goddard Center, Greenbelt, MD.
20. **Rao, M.**, and A. Raghavan. 2002. Using Multi-temporal Landsat Imagery to Evaluate Conservation Reserve Program (CRP) Tracts in Texas County, Oklahoma. Proceedings of the ISPRS International Symposium on Resource and Environmental Monitoring, December 3-6, 2002, Hyderabad, India.
21. Bruner, M.A., P.A. Shipman, **M. Rao**, and J.A. Bantle. 2002. Developmental Effects of Ambient UV-B light and Landfill Leachate in *Rana Blairi* and *Hyla Chrysocelis*. *Ecotoxicology and Environmental Safety* 53: 73-80.
22. **Rao, M.**, W. Focht, and J.A. Bantle. 2001. Application of GIS in Environmental Policy Analysis. *Oklahoma Politics* (10): 141-155.
23. **Rao, M.**, D. A. Waits, and M. L. Neilsen. 2000. A GIS-based modeling approach for implementation of sustainable farm management practices. *Environmental Modelling and Software*. 15(8):745-753.
24. Bruner, M. A., **M. Rao**, T. Jones, M. Hull, J. N. Dumont, and J. A. Bantle. 1998. Ground and surface water developmental toxicity at a municipal landfill: Description and weather-related variation. *Ecotoxicology and Environmental Safety* 39:215-226.
25. Ramanarayanan, T. S., D. E. Storm, M. D. Smolen, **M. Rao**, M. A. Kizer, and E. A. Guertal. 1993. Soil Nitrate-N variability and Distribution in the Tipton Wellhead Protection Area.

Proceedings of the 1993 Amer Soc of Ag Eng (ASAE) International Summer Meeting, June 20-23, 1993 Spokane, Washington. No. 932086.

Articles in Review/ Preparation:

1. Siewe, S., and M. Rao. Characterizing the Changes in the Land use and the Land cover of the Fort Cobb Reservoir Watershed in Southwestern Oklahoma. *Journal of Land Use Science*. In Review.
2. Rao, M. and L. Yu. Comparative Analysis of MLC and SVM Classification Techniques for Land Cover Mapping. In Preparation.
3. Rao, M., and Z. Yang. Vegetation Mapping Around Lake Hudson, Oklahoma. *GIScience & Remote Sensing*. In Preparation.

Presentations/ Un-refereed Publications:

1. **Rao, M.**, and E. Miller. 2012. Mapping Serpentine Soils Using Remote Sensing Techniques. ASPRS 2012 Annual Conference, Sacramento, CA, March 19-23, 2012.
2. Miller, E., and **Rao, M.** 2011. LiDAR-based Mapping of Serpentine Soils – Plumas and Lassen National Forest. ASPRS 2011 Annual Conference, Milwaukee, WI., May 1-5, 2011.
3. **Rao, M.**, and E. Stewart. 2010. Estimating Above Ground Biomass using LiDAR in the Northcoast Redwood Forests. Abstract B33A-0395. Presented at 2010 Fall Meeting, AGU, San Francisco, Calif., 13-17 Dec.
4. **Rao, M.**, and L. Yu. 2010. Comparative Analysis of MLC and SVM Classification Techniques for Land Cover Mapping. Annual Meeting of the American Society of Photogrammetry and Remote Sensing. April 26–30, San Diego, CA.
5. **Rao, M.**, 2009. Assessment of MLC and SVM Techniques for Land Cover Mapping in the Fort Cobb Reservoir Watershed, Oklahoma. 2009 Annual Conference of the American Society of Photogrammetry and Remote Sensing, March 9-13, 2009, Baltimore, MD.
6. **Rao, M.**, and L. Yu. 2009. Comparative Analysis of MLC and SVM Classification Techniques for Land Use Mapping. ASPRS/ MAPPS Fall Policy Conference, Nov 16-19, San Antonio, TX.
7. **Rao, M.**, and S. Ganta. 2009. A Spatial Analysis of Expiring Contracts under the Conservation Reserve Program (CRP). 2009 Annual Meeting of the Association of American Geographers. March 22-27, Las Vegas, NV.
8. Dung, J., and **M. Rao**. 2009. Using GIS to Assess the Conservation Reserve Program (CRP) Tracts within the Cropland Data Layer in Texas County, Oklahoma. 2009 Annual Meeting of the Association of American Geographers. March 22-27, 2009, Las Vegas, NV.
9. Siewe, S., and **M. Rao**. 2009. The Role of Field based Remote Sensing in Detecting Crop Stress. 2009 Annual Meeting of the Association of American Geographers. March 22-27, 2009, Las Vegas, NV.

10. Ganta, S., and **M. Rao**. 2009. A GIS-based Evaluation of Potential Biomass Feedstock Areas in the South Central Sun Grant Region. Annual Meeting of the Association of American Geographers, March 22-29, 2009, Las Vegas, NV.
11. Dung, J., and **M. Rao**. 2008. Estimating Carbon Sequestration in CRP Tracts in Texas County, Oklahoma, Using Century Model. Annual Meeting of the Association of American Geographers, April 15-19, 2008, Boston, MA.
12. Dung, J., and **M. Rao**. 2007. Spatial Analysis of Conservation Reserve Program (CRP) Tracts in the Central High Plains of the U.S. Annual Meeting of the Association of American Geographers, April 17-21, 2007, San Francisco, CA.
13. **Rao, M.**, and S. Siewe. 2007. A Hybrid Image Classification Technique for Mapping the Land use and Land cover in the Little Washita Watershed. 32nd International Symposium on Remote Sensing of Environment - Sustainable Development through Global Earth Observations, June 25 - 29, 2007, San Jose, Costa Rica.
14. Siewe, S., and **M. Rao**. 2006. Land Use and Land Cover Mapping of the Upper Washita River Watersheds using Landsat Data. Oklahoma Water 2006 Symposium, October 5-6, Oklahoma History Center, OKC, Oklahoma.
15. **Rao, M.**, and A. Subanthore. 2006. Perceptions of Conservation Reserve Program Participants to Environmental Quality in the Oklahoma Panhandle. Proceedings of the 5th International Conference on Social Sciences, May 31-June 3, 2006, Honolulu, HI.
16. Pradhan, D., and **M. Rao**. 2005. Integrating SVM tools with ERDAS Imagine 8.7 for USDA's Conservation Reserve Program (CRP) Mapping and Compliance. Proceedings of the PECORA 16 – Global Priorities in Land Remote Sensing, October 23-27, 2005, Sioux Falls, South Dakota.
17. **Rao, M.**, G. Fan, and J. Thomson. 2005. Using a Multi-Resolution GIS-Modeling Approach to Evaluate the Carbon Sequestration Potential in Texas County, Oklahoma. NASA RIG Project presentation at the Ecosystem Science and Technology Branch, NASA Ames Research Center, Moffett Field, CA, July 25th, 2005.
18. **Rao, M** and Z. Yang. 2005. Groundwater Impacts due to the Conservation Reserve Program (CRP) in Texas County, Oklahoma. Annual Meeting of the Association of American Geographers, April 5-9, 2005, Denver, CO.
19. Elliott, N.C., M. Mirik, G.J. Michels, Z. Yang, **M. Rao.**, K.L. Giles, T. A. Royer, V. Catana, M. W. Phoofolo. 2005. Multispectral remote sensing for Russian wheat aphid infestations. Entomological Society of America Annual Meeting and Exhibition, Nov 6-9, 2005, Ft. Lauderdale, Florida.
20. Fan, G., **M. Rao**, J. Thomas. 2004. An Integrated Web-GIS DSS and Query System in .NET framework for Evaluating USDA's CRP. 2nd. Annual Oklahoma Symposium on Geospatial Technology, May 28th, 2004, Norman, OK.
21. **M. Rao** and M. Awawdeh. 2003. Evaluating USDA's Conservation Reserve Program (CRP) in Texas County, Oklahoma. Twenty-Third Annual ESRI International User Conference, July 7-11, 2003, San Diego, California.

22. Fan, G., **M. Rao**, J. Thomas. 2003. Toward an Integrated Web-GIS Decision Support System for Evaluating USDA's Conservation Reserve Program (CRP). Poster Presentation at the Oklahoma Geospatial Vision: 1st Annual Oklahoma Symposium on Geospatial Information Technology, June 13, 2003, Norman, OK.
23. Awawdeh, M., and **M. Rao**. 2003. A GIS-Based Modeling Approach to Evaluating the Conservation Reserve Program in Texas County, Oklahoma. SWAAG 2003, Annual Meeting of the Southwestern Division of the Association of American Geographers, October 23-25, 2003, Oklahoma State University, Stillwater, OK.
24. **Rao, M.N.** and A. Raghavan. 2002. Using Multi-temporal Landsat Imagery to Evaluate Conservation Reserve Program (CRP) Tracts in Texas County, Oklahoma. ISPRS International Symposium on Resource and Environmental Monitoring, December 3-6, 2002, Hyderabad, India.
25. Yang, Z., and **M. Rao**. 2002. Onset of Greenbug Infestation in Wheat using Field-based Remote Sensing. 98th Annual Meeting of the AAG, Los Angeles, CA, July 19-23, 2002.
26. Elliott, N., Z. Yang, **M. Rao**, F. Schiebe, D. Kindler, D. Davis, and K. Giles. 2002. Remote sensing to detect the occurrence and spatial distribution of greenbugs in wheat fields. Entomo. Soc. Amer. Annual Mtg., Ft. Lauderdale, Florida, November 17-20. 2002.
27. Belt, K.C., Paxton, S.T., and **Rao, M.** 2002. GIS as an Important Aid to Visualizing and Mapping Geology and Rock Properties in Regions of Subtle Topography: An Example from North-Central Oklahoma. Paper No. 88-5. 2002 Annual Meeting of the Geological Society of America, Denver, Colorado.
28. **Rao, M.** and S. Janakiraman. 2001. EPIC-View: A Spatial Tool for Sustainable Farming. Third International Conference on Geospatial Information in Agriculture and Forestry. Nov. 5-7, 2001, Denver, Colorado.
29. Pipkin, L.A., and **M. Rao**. 2001. Assessing Change in Stream Flow Rates on Conservation Reserve Program Lands in a Small Texas County Watershed. Presentation at the 2001 American Water Resources Association (AWRA), November 2001, Albuquerque, NM.
30. Raghavan, A and **M. Rao**. 2001. Evaluating of CRP Tracts Using Multi-Temporal Satellite Imagery. Paper presentation at the 2001 Annual Conference of the American Society of Photogrammetry and Remote Sensing (ASPRS), April 23-27, St. Louis, Missouri.
31. Overturf, S. and **M. Rao**. 2000. Tract Transformation of Conservation Reserve Program Participants Utilizing GIS and Remote Sensing Techniques. 2000 Annual Conference of the Association of American Geographers. New York City, Feb 28 – Mar 3, 2000.
32. **Rao, M.**, and H. Rashid. 2000. Mapping the Areal Extent of the 1998 Flood of Bangladesh Using AVHRR Imagery. Presentation at the 2000 AAG Meeting, April 4-8, 2000, Pittsburg, Pennsylvania.
33. **Rao, M.**, W. Focht, and J.A. Bantle. 1999. GIS use in Environmental Policy Analysis. Presentation at the Annual meeting of the Oklahoma Political Science Association, Nov 12, 1999, El Reno, OK.

34. **Rao, M.**, J. N. Dumont, and J. A. Bantle. 1999. Implementation of GIS for Environmental Site Characterization of a Closed Municipal Landfill in Central Oklahoma. Paper presentation at the 95th Annual Meeting of the Association of American Geographers. March 23-27, 1999, Honolulu, Hawaii.
35. **Rao, M.**, M. A. Bruner, and J. A. Bantle. 1998. Ecotoxicity and Environmental Conditions at a Closed Municipal Landfill in Central Oklahoma. Paper presentation at the 19th Annual Meeting of Society of Environmental Toxicology and Chemistry (SETAC). November 15-19, 1998, Charlotte, North Carolina.
36. Shipman, P. A., M. A. Bruner, **M. Rao**, J. N. Dumont, and J. A. Bantle. 1998. Weather-Related Amphibian Activity Patterns and Water Toxicity: Comparative Risks of Exposure. Paper presentation at the 19th Annual Meeting of Society of Environmental Toxicology and Chemistry (SETAC). November 15-19, 1998, Charlotte, North Carolina.
37. **Rao, M.**, J. Dumont, and J. Bantle. 1998. Application of GIS in Environment Related Studies on Amphibian Populations in Central Oklahoma. Paper presentation at the International Society for Conservation GIS (SCGIS) Conference, July 25-27, 1998, Idyllwild, California.
38. **Rao, M.**, J. Dumont, and J. Bantle. 1998. Application of GIS in Environment Related Studies on Amphibian Populations in Central Oklahoma. Poster presentation at the Eighteenth Annual ESRI International, July 27-31, 1998, San Diego, California.
39. **Rao, M.**, J. Dumont, and J. Bantle. 1998. Use of GIS in Ground and Surface Water Developmental Toxicity Studies at a Closed Municipal Landfill in Central Oklahoma. Paper presentation at the South Central/ Ozark-Prairie Regional SETAC Meeting, April 20-22, 1998, Wichita, Kansas.
40. **Rao, M.**, M. Bruner, and J. Bantle. 1998. Amphibian populations and Environmental conditions at the Norman Landfill. Paper presentation at the USGS Norman Landfill Site Meeting, February 24-25, 1998, University of Oklahoma, Norman, Oklahoma.
41. Dumont, J., **M. Rao**, M. Bruner, and J. Bantle. 1998. Evaluation of ground and -surface water toxicity at the Norman Landfill. Paper presentation at the USGS Norman Landfill Site Meeting, February 24-25, 1998, University of Oklahoma, Norman, Oklahoma.
42. Bruner, M., T. Jones, M. Hull, **M. Rao**, J. Dumont, and J. Bantle. 1998. Evaluation of Ground and Surface Water Toxicity Downgradient from a Municipal Landfill. Paper presentation at the 18th Annual Meeting of the Society of Environmental Toxicology and Chemistry (SETAC), 16-20 Nov 1997, San Francisco, California.
43. Bruner, M., T. Jones, M. Hull, **M. Rao**, J. Dumont, and J. Bantle. 1997. Evaluation of Ground and Surface Water Toxicity Downgradient from a Municipal Landfill. Paper presentation at the Ozark-Prairie Regional Meeting, May 15-17, 1997, Columbia, Missouri.

Technical Reports:

1. Land use /Land cover Mapping of Fort Cobb Lake Watershed (1997). Final Report Submitted to USDA-ARS Grazinglands Research Lab, El Reno OK. 06/25/2010.
2. Land use /Land cover Mapping of Upper Washita Watersheds (2005). Final Report Submitted to USDA-ARS Grazinglands Research Lab, El Reno, OK. 03/21/2008.
3. Vegetation Mapping around Lake Hudson, Oklahoma. Submitted to Benham/Grand River Dam Authority, Oklahoma, 10/31/2004.
4. Vegetation Mapping around Lake Hudson, Oklahoma. Submitted to Benham/Grand River Dam Authority, Oklahoma, 10/31/2004.
5. Developing a GIS-based Tool for Automated Feature Information Retrieval from Multisource Geospatial Data: Application to CRP Mapping at Texas County, Oklahoma, 8/1/2003.
6. Evaluating Spatio-Temporal Changes in CRP Tracts using Multi Seasonal Satellite Imagery. Submitted to OSU Water Research Center, Environmental Institute, Stillwater, 8/1/2001.
7. Radiometric Studies to Characterize the Onset of Greenbug-Induced Stress in Wheat. Submitted to OSU Water Research Center, Environmental Institute, Stillwater, 10/1/2002.
8. Developed CARS Mission Statement and Coordinator job specification (Fall 1999).

Invited Presentations:

1. Mapping and Evaluation of Conservation Lands Using Geospatial Technologies. Ecology Lecture Series, Department of Wildlife, Wildlife & Fisheries Building, October 29, 2009.
2. Combining USDA Data for Agriculture and Resource Analysis. USDA-Economic Research Service, Washington DC., September 30, 2004.
3. Application of Automated Feature Information Retrieval System (AFIRS) to Geospatial Decision Support Systems for Environmental Quality and Resource Management. USDA-Farm Service Agency, Washington, DC., August 28, 2003.
4. Toward an Integrated Web-GIS Decision Support System for Evaluating USDA's Conservation Reserve Program (CRP). NASA-ESE, Stennis Space Center, MS August 29, 2003.
5. Interactive GIS-based Query System for Resource Management. NASA -ESE Glenn Bethl and Shirley Hall (FSA) - Crop Compliance, October 28, 2003, USDA-FSA, Washington, DC. Evaluating the Environmental Benefits of the CRP. USDA-ARS Grasslands Research Lab, El Reno, OK March 27th, 2003.
6. Toward an Integrated Web-GIS Decision Support System for Evaluating USDA's Conservation Reserve Program (CRP). NASA-ESE, Stennis Space Center, MS August 29, 2003.

7. Developing an Integrated CRP Decision Support System Tool. Office of the Chief Information Officer, USDA, Washington DC., October 29, 2003.
8. Development of a Geospatial Decision Support System for Environmental Quality and Resource Management. NASA-ESE, Stennis Space Center, MS, November 25, 2002.
9. Evaluating Changes in Conservation Reserve Program (CRP) Tracts Using Multi-Seasonal Satellite Imagery. State GIS Council Meeting, Oklahoma City, June 1, 2001.
10. EPIC-View: A GIS-Based Modeling Tool for Implementation of Sustainable Farm Management Practices. Kansas Applied Remote Sensing (KARS) Program, Lawrence, KS. June 26, 2000.

Departmental, University Committee/Service Experience:

Departmental level:

- **Director, HSU Institute of Spatial Analysis (ISA)**
 - Provided input on image processing software including installation and site licensing of ERDAS Image software, FUSION, ENVI, and E-Cognition.
 - Proposed research projects including NSF-REU, USDA McIntire-Stennis, and USDA Forest Service.
 - Met and discussed projects with Park Service, State/Forest Service personnel regarding remote sensing applications pertaining to LiDAR data.
- **Faculty Advisor/Director, OSU Center for Applications of Remote Sensing (CARS)**
 - Developed CARS action plan that spelled out overall goal and mission of the lab. Coordinated CARS activities on hardware, software purchase, and website design. Proposed and secured the site license for ERDAS Imagine software.
 - Oversee the activities of CARS lab. Appraisal and development evaluation of CARS Coordinator. Provided suggestions/encouragement on the need to familiarize with GIS/Remote Sensing technologies and also pursue contracts and grants. Augmented the CARS hardware infrastructure to include: 4 high-end Dell PCs, one Sun ULTRA 60, Hand-held Radiometers (ASD FieldSpec, CROPSCAN, and Exotech), and Dell 2300 projector.
 - Met and scheduled tour of CARS lab for various visiting faculty/administrators. Highlighted research/extension activities of CARS.
 - Research support to students and scholars.
- **Departmental Committees:**
 - **Curriculum Committee (2009-Present):** Member, Department of Forestry and Wildland Resources, Humboldt State University
 - **Faculty Hearing Committee (2011):** Member, Department of Forestry and Wildland Resources, Humboldt State University
 - **Colloquium Coordinator/Geography Seminar Series (2007-2008)**
 - **Personnel Committee (2002; 2005-2007, 2007-2008):** Member, Department of Geography, Oklahoma State University
 - **Faculty Mentor for Dr. Jianjun Ge, Assistant Professor (2007-2009)**

- **Graduate Committee (2001; 2004):** Member, Department of Geography, Oklahoma State University
- **GIS/CARS/CART Committee (2000-2009):** Member, Department of Geography, Oklahoma State University
- **CARS Coordinator Search Committee (1999):** Member, Department of Geography, Oklahoma State University
- **Environmental Science Steering Council (2002-2009):** Member, Environmental Science Program, Oklahoma State University
- **Faculty Advisor:** Geography Club/GTU (2004-2006); OSU GIS Club (2005-2009)
- **Faculty Meetings Secretary (1999):** Department of Geography, Oklahoma State University,
- **Other Contributions:**
 - Provided input to the department and the college on various initiatives dealing with remote sensing technology
 - Provided input to the Head of the Department for the OSU 2002 Congressional Agenda. This involved a preproposal titled: CARS Research Initiative: Request to fund position of Research Analyst
 - Provided input (8/10/2000) to the Department Head in writing a short narrative on the role of Remote Sensing Technology in Oil and Natural Gas exploration, particularly onshore exploration.
 - Provided input to the Associate Dean, Arts and Sciences, on the role of CARS and its mission. The proposal elaborated the existing research activities at Oklahoma State University to justify inclusion as a member to the Universities Space Research Association.
 - Provided input to 'Criterion 3 Survey of Learning' pertaining to the role of CARS lab in terms of Department's organization value and support for effective teaching. (March 18, 2004)
 - Provided input to 'Goals, Critical Success Factors, objectives, and Strategies – Department of Geography' May 5, 2004
 - Provided input to "Assessing Learning Outcomes of Geography Majors". Department of Geography, 2002/2003

• **Graduate Student Advisement:**

	Committee Chair		Committee Member		Total
	Past Graduates	Current Graduates	Past Graduates	Current Graduates	
M.S	10	3	17	2	32
Ph.d	2	1	5	-	8

• **Undergraduate Students Advisement:**

- * NSF-Research Experience for Undergraduates (REU, 1999-2002): 4
- * Senior Research Projects: 5

• **Other Technical Advisement:**

- GeoMap Source Inc. Ponca City, Ok (1999-2000)
- Council of Governments for Inola, Ok (2000)
- Natural Resource Conservation Service (2002)

• **Technical Workshops Organized:**

- Remote Sensing Workshop for Iraqi Higher Education (USAID sponsored Al-Sharaka Project), July 5-21, 2004, Amman, Jordan.
- ESRI Spatial/3-D Analyst workshop, Oct. 2-3, 2000, OSU, Stillwater, OK.
- NASA Workshop for AESP/TFSP Specialists, July 20-23, 1999, OSU, Stillwater, OK.

University Level:

- HSU Geospatial Curriculum Steering Committee (2011-present)
- HSU CNRS-Scholarship Committee (Geospatial) (2011-present)
- HSU GeoSpatial Taskforce Group (2010-2011)
- OSU Faculty Council (2008-2009), member
- OSU Student Technology Fee Committee (2008), member
- OSU Campus Fulbright Committee (2008), member
- OSU Environmental Sciences Awards Committee, chair
- OSU Faculty Council, Dispute Resolution Committee (2004), member
- OSU Student Technology Fee Committee (2001-2002), member
- OSU Environmental Sciences Committee (2000-present), member
- OSU Graduate Research Symposium Judge (2002)

Other Professional Service:

- Interview Panel Member, HSU Study Abroad Program (2011-Present)
- Judging Committee Member, Jacoby Creek Charter School (2011)
- Judging Committee member, Oklahoma K-12 Students Virtual Science Fair, 2003 and 2004; <http://www.okepscor.org/sciencefair/>
- Talk: Applications of Geospatial Technology in Natural Resources, OSU Wildlife Society, Fall 2003
- Talk: GIS-based modeling approach to Sustainable farm management practices, Fall 2000 OSU Environmental Science Seminar Series
- Colloquium presentation: GIS-Based Modeling Approach for the Implementation of Sustainable Farm Management Practices, Geography Colloquium, OSU Geography Department, Oct. 21, 1996
- Colloquium presentation: Implementation of GIS for Environmental Site Characterization of a closed Municipal landfill in Central Oklahoma, Geography Colloquium, March 1, 1999

Software Skills:

- Strong working knowledge of GIS – ArcGIS 10 (ArcMap, ArcToolbox, and ArcCatalog) ARC/INFO for NT/2000/UNIX (SUN SPARC station and Ultra 40).
- Advanced GIS extensions – Spatial Analyst, 3-D analyst, Image Analyst, Geostatistical Analyst
- Strong working knowledge of image processing systems – ERDAS 2011, E-Cognition, ENV 4.8.
- Strong working knowledge of USDA-ARS hydrologic/NPS model—SWAT, EPIC and companion UTIL software.
- Strong working knowledge of USFS FUSION model.
- Good working knowledge of relational database management - MS Access, and MS Excel.
- Strong working knowledge of scripting language - Avenue, Arc Macro Language (AML), Visual Basic, and Paradox Application Language (PAL).
- Good working knowledge of html authoring, geo-web applications (KMZ) and Dreamweaver

Professional Affiliations:

- American Geophysical Union
- American Society of Photogrammetry and Remote Sensing
- International Society of Photogrammetry and Remote Sensing
- Association of American Geographers
- Southwest Association of American Geographers
- Soil and Water Conservation Society
- Sigma Xi, The Scientific Research Society, OSU Chapter

Professional Activities:

- Reviewer: Applied Geography
- Reviewer: Photogrammetric Engineering and Remote Sensing
- Reviewer: International Journal of Geographic Information Science
- Reviewer: Environmental Modelling and Software
- Reviewer: USGS's NIWR program