CURRICULUM VITA

Su Zhang, PhD, GISP, CMS-RS

Earth Data Analysis Center (EDAC)
Department of Geography and Environmental Studies (GES)
Department of Civil, Construction, and Environmental Engineering (CCEE)
Center for Advancement of Spatial Informatics Research and Education (ASPIRE)
University of New Mexico (UNM), MSC01 1110, Albuquerque, New Mexico 87131-0001

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1. RESEARCH INTEREST

- GIScience, Geographic Information Systems (GIS), Geovisualization, and Geomatics
- Photogrammetry, Remote Sensing (RS), and Unoccupied Aircraft Systems (UAS)
- GIS, RS, and UAS for Civil Infrastructure Management and Environmental Management
- Spatial Analysis and Modeling, Geospatial Big Data, and Spatial Database Management
- Transport Geography, Geospatial Privacy, and Internet Mapping
- Construction Cost Estimation, Construction Technologies, and Automation in Construction

2. EDUCATION

Doctor of Philosophy in Civil Engineering **May 13, 2017**

UNM, Department of CCEE

- Advisors: Susan Bogus Halter, Christopher Lippitt, Guohui Zhang, and Vanessa Valentin
- Dissertation with Distinction: Pavement Surface Distress Detection, Assessment, and Modeling Using Geospatial Techniques

Master of Science in Geography **May 14, 2016**

UNM, Department of GES

- Advisors: Christopher Lippitt, Susan Bogus Halter, and Danqing Xiao
- Thesis with Distinction: Assessing the Utility of Nighttime Light Satellite Imagery for Adjusting Construction Cost Estimates by Project Location

Master of Construction Management **July 31, 2010**

UNM, Department of CCEE

- Advisors: Giovanni Migliaccio, Paul Zandbergen, Susan Bogus Halter, and James Matthews
- Thesis: Validation of Geographically Based Surface Interpolation Methods for Adjusting Construction Cost Estimates by Project Location

3. CERTIFICATION

- Engineer Intern in New Mexico
- Federal Aviation Administration (FAA) Certified Remote Pilot
- GIS Certification Institute (GISCI) Certified GIS Professional (GISP)
- American Society for Photogrammetry and Remote Sensing (ASPRS) Certified Mapping Scientist – Remote Sensing (CMS-RS)

4. EMPLOYMENT HISTORY/RESEARCH EXPERIENCE

Associate Director

UNM, EDAC April 2022 – Present

- Identify and secure public and private funding sources for geospatial research and services
- Collegiate grant and competitive proposal writing
- Provide advanced technical guidance, research leadership, and direct supervision of the IT Team, GIS Team, and Remote Sensing Team
- Overseeing all facets of the daily operations of EDAC

Assistant Professor

UNM, Department of GES August 2025 – Present

- Identify and secure funding to establish geospatial research programs and projects
- Teach GIS and RS courses
- Serve on graduate student thesis or dissertation committees

Lab Manager

UNM, ASPIRE August 2021 – August 2022

- Space and equipment management
- Operation management

Assistant Professor

UNM, Department of CCEE August 2025 – Present

- Geospatial specialist for New Mexico's Local Technical Assistance Program (LTAP)
- Identify and secure funding to establish geospatial research programs and projects
- Teach geomatics courses
- Serve on graduate student thesis or dissertation committees

Senior Research Engineer; IT and Operations Manager

UNM, EDAC April 2017 – March 2022

- Identified and secured public and private funding sources for geospatial research and services
- Collegiate grant and competitive proposal writing
- Professional level support in civil engineering, geospatial, and information technologies
- Provided technical guidance, research leadership, and direct supervision of the IT Team

Research Assistant

1) UNM, EDAC May 2012 – March 2017

- Worked on the New Mexico's Established Program to Stimulate Competitive Research (NM EPSCoR) project funded by National Science Foundation (NSF Award # IIA-1301346)
- Coordinated and acquired data from NM EPSCoR researchers and creating metadata
- Reviewed, evaluated, and archived research tools/data for NM EPSCoR
- Developed and maintained a relational database for archiving research data for NM EPSCoR

2) UNM, Department of CCEE May 2012 – March 2017

- Participated in proposal development and grant application
- Explored the utility of various geospatial technologies for pavement condition assessment
- Worked on the development of a remote sensing network for time-sensitive detection of fine scale damage to transportation project funded by USDOT (Award# OASRTRS-14-H-UNM)
    - Participated in the development of a time-sensitive remote sensing system (TSRSS) for post-hazard transportation infrastructure (e.g., roads and bridges) condition evaluation
    - Surveyed the in-house remote sensing capacity of New Mexico Department of Transportation (NMDOT) and the utility and desirability of the TSRSS products
    - Played a project management role

3) UNM, Department of GES January 2015 – May 2015

- Worked on the time-sensitive remote sensing network optimization project funded by NSF (Award # CMMI-1360041)
  - Surveyed various aerial mapping firms in New Mexico and California to investigate their capacity for time-sensitive airborne imaging mission
  - Participated in research report development

4) UNM, Department of GES August 2011 – April 2012

- Worked on the validation of geographic masking techniques for location privacy protection project funded by National Institute of Health (NIH, Award # 1R21ES019666-01)
  - Developed geomasking techniques to protect patients' confidentiality
  - Developed seven geomasking tools in ArcGIS ModelBuilder and Python scripting
- Researched the reliability and accuracy of reverse geocoding

5) UNM, Department of CCEE August 2008 – December 2008

- Worked on the Long Wavelength Array (LWA) project in Socorro County funded by the Office of Naval Research (Award # N00014-07-C-0147)
- Conducted land surveying for the LWA project's construction site
- Prepared and set up the construction site for the installation of multiple LWA antennas for project demonstration purposes

Project Assistant

UNM, Department of CCEE January 2009 – August 2010

- Explored the utility of spatial analysis and modeling in construction cost estimates
- Established and validated new spatial interpolation methods for construction cost estimates
- Developed a nationwide city construction cost index model

Teaching Assistant

UNM, Department of GES August 2012 – December 2014

- GEOG 483L/583L Fundamental of Remote Sensing
- GEOG 484L/584L Applications of Remote Sensing
- GEOG 381L Introduction to GIS

UNM, Department of CCEE August 2012 – December 2014

- CE 477/577 Project Controls
- CE 370 Construction Methods and Equipment
- CE 283 Surveying and Geomatics

Part-Time Instructor

UNM, Department of CCEE August 2021 – Present

- CE283 Surveying and Geomatics

UNM, Department of GES August 2017 – Present

- GEOG 481L Map Design and Geovisualization
- GEOG 483L/583L Fundamentals of Remote Sensing
- GEOG 488L GIS Concepts and Techniques
- GEOG 524 Advanced Topics in Remote Sensing

Assistant Project Engineer

Bradbury Stamm Construction May 2009 – September 2009

- Worked on the Crownpoint K-12 School project in New Mexico
- Reviewed and documented architectural and structural drawings as well as specifications
- Processed change orders and addressed on-site construction engineering issues

5. ORGANIZATION MEMBERSHIP

- Transportation Research Board (TRB) of the National Academies of Sciences, Engineering, and Medicine (the National Academies)
  - Committee Member — Apr. 2017 – Present
    - Standing Committee on Geospatial Data Acquisition Technologies (AKD70)
    - Standing Committee on Geographic Information Science (AED40)
  - Young Committee Member — Apr.2015 – Apr. 2017
    - AKD70
    - AED40
- New Mexico Geospatial Advisory Committee UAS Subcommittee
  - Committee Founding Chair — Feb. 2021 – Present
- ASPRS Rio Grande Chapter
  - Chapter Treasurer — Dec. 2017 – Present
- New Mexico Geographic Information Council (NMGIC)
  - Professional Member — Oct. 2011 – Present
- American Society of Civil Engineers (ASCE)
  - Student Member — Sept. 2014 – Mar. 2017
- American Society for Photogrammetry and Remote Sensing (ASPRS)
  - Student Member — Nov. 2011 – Mar. 2017
- American Association of Geographers (AAG)
  - Student Member — Oct. 2014 – Oct. 2016
- ASPRS UNM Student Chapter
  - Founding President — Sept. 2014 – Mar. 2017
- UNM Civil Engineering Graduate Student Association (CEGSA)
  - Founding President — Jun. 2012 – Mar. 2017

6. SERVICES

- 2020, 2021, 2022, 2023, 2024 Eisenhower Transportation Fellowship Committee
- 2015 NMGIC Scholarship Committee
- 2012 UNM Department of GES Lecturer Search Committee
- 2013 UNM Department of GES Visiting Faculty Search Committee

7. CONFERENCE AND EVENT MANAGEMENT

A. 51st, 52nd, 53rd, and 54th Pavement and Transportation Conference (2014 – 2017)

- Worked as the conference coordinator
- Communicated with exhibitors and speakers
- Monitored presentation sessions and the exhibiting room
- Organized Speakers' Dinner and Institute of Transportation Engineers (ITE) Social Night

B. ASPRS-RGC 2014 and 2016 Annual Spring Meeting

- Meeting organizer
- Coordinated and monitored presentation sessions
- Organized lunch

8. AWARDS AND SCHOLARSHIPS

- 2017 ASPRS Leica Scholarship ($2,000)
- 2017 ASPRS Rocky Mountain Region Scholarship Doctoral Student First Place ($1,500)
- 2016 UNM School of Engineering Outstanding Graduate Student Award
- 2016 UNM Doctoral Conference Presentation Award ($980)
- 2016 UNM Department of GES Graduate Research Distinction Award
- 2016 ASPRS Rocky Mountain Region Scholarship Doctoral First Place ($1,500)
- 2015 SWAAG Graduate Student Paper Competition Second Place ($250)
- 2015 UNM Civil Engineering Department Emeriti Scholarship ($1,500)
- 2015 Hexagon Geospatial Education Contest Award ($1,500)
- 2015 UNM Department of GES Snead Scholarship ($600)
- 2015 ASPRS Rio Grande Chapter Graduate Student Scholarship ($250)
- 2015 UNM Student Conference Award Program (S-CAP) Scholarship ($600)
- 2015 UNM Department of CCEE Graduate Student Travel Awards ($500)
- 2015 UNM Doctoral Conference Presentation Award ($998)
- 2014 UNM Graduate Dean's Dissertation Scholarship ($1,000)
- 2014 UNM Research Project and Travel Grants ($530)
- 2013 ASPRS Rocky Mountain Region Scholarship Doctoral Student First Place ($1,000)
- 2013 UNM GPSA New Mexico Research Grants ($3,000)
- 2013 UNM Student Conference Award Program (S-CAP) Scholarship ($600)
- 2012 ASPRS Rocky Mountain Region Scholarship First Place ($1,000)
- 2013 Jessie Rossbach Memorial Scholarship ($1,000)
- 2011 NMGIC ESRI Southwest User Group Conference (SWUG) Scholarship ($1,000)
- 2009 UNM Research Project and Travel Grants ($400)

9. PEER-REVIWED PUBLICATIONS

A. Referred Journal Articles – Published

1. Mukerji, R., Lin, Y. C., Zhang, S., Stone, M. Hushman, C., Moreau, F. Vigil, L., Eshelman, T., Rotche, L., Baca, A., Nodine, M., Faulkner, M., and Johnson, C. (2024). Co-design as participation: creating meaningful pathways for collaboration in flood risk adaptation in Ohkay Owingeh Pueblo. *International Journal of Disaster Risk Reduction*, 113, 104843.
2. Malek, K., Rodriguez, E. O., Lee, Y., Murillo, J., Mohammadkhorasani, A., Vigil, L., Zhang, S., and Moreu, F. (2023). Design and implementation of sustainable solar energy harvesting for low-cost remote sensors equipped with real-time monitoring systems. *Journal of Infrastructure Intelligence and Resilience*, 2(3), 10051.
3. Yuan, X., Smith, A., Sarlo, R., Lippitt, C. D., Hojati, M., Alampalli, S., Zhang, S., and Moreu, F.

(2023). Automatic evaluation of rebar spacing and quality using LiDAR data: field application for bridge structural assessment. *Automation in Construction*, 146, 104708.

4. Zhang, S., Barrett, H. A., Neville, P. R. H., Talasila, S., and Sinclair, L. L. (2022). Georeferencing accuracy assessment of historical aerial photos using a custom-built online georeferencing tool. *ISPRS International Journal of Geo-Information*, 11(12), 582.
5. Zhang, S., Baros, S. V., Benedict, K., and Barrett, H. A. (2022). New Mexico's Major initiative on digitizing, archiving, and web-Publishing historical aerial photos. *Journal of Maps and Geography Libraries*, 18(3), 185–208.
6. Chaulagain, S., Stone, M. C., Dombroski, D., Gillihan, T., Chen, L., and Zhang, S. (2022). An investigation into remote sensing techniques and field observations for modeling of dynamic hydraulic roughness from riparian vegetation. *River Research and Applications*, 38(10), 1730–1745.
7. Zhang, S., Bogus, S. M., Baros, S. V., Neville, P. R. H., Barrett, H. A., Eshelman, T. (2023). Bridge deck surface distress evaluation using S-UAS acquired high-spatial resolution aerial imagery. *Annals of GIS*, 29(2), 261–272.
8. Beene, D., Zhang, S., Lippitt, C. D., and Bogus, S. M. (2022) Performance evaluation of multiple pan-sharpening techniques on NDVI: a statistical framework. *Geographies*, 2(3), 435–452.
9. Zhang, S., Bogus, S. M., Lippitt, C. D., Kamat, V., and Lee, S. (2022). Implementing remote sensing methodologies for construction research – an unoccupied airborne system perspective. *Journal of Construction Engineering and Management*, 148(9), 03122005.
10. Zhang, S., Lippitt, C. D., Bogus, S. M., Taylor, T. D., and Haley, R. (2022). Mapping construction costs at the national level. *Geographies*, 2(1), 132–144.
11. Beene, D., Zhang, S., and Paulus, G. (2022). Workflow for hydrologic modelling with sUAS-acquired aerial imagery. *Geocarto International*, 2(3), 435–452.
12. Garg, P., Nasimi, R., Ozdagli, A., Zhang, S., Mascarenas, D. D. L., Taha, M. R., and Moreu, F. (2020). Measuring transverse displacements using unmanned aerial systems laser Doppler vibrometer (UAS-LDV): development and field validation. *Sensors*, 20(21), 6051.
13. Han, F. and Zhang, S. (2020). Evaluation of spatial resilience of highway safety in response to adverse weather conditions. *ISPRS International Journal of Geo-Information*, 9(8), 480.
14. Lippitt. C. D., and Zhang, S. (2018). The impact of small unmanned airborne platforms on passive optical remote sensing: a conceptual perspective. *International Journal of Remote Sensing*, 39 (15-16), 4852–4868.
15. Zhang, Y., Chen, C., Wu, Q., Qi, L., Zhang, S., Zhang, G., and Yang, Y. (2018). A Kinect-based approach for 3D pavement surface reconstruction and cracking recognition. *IEEE Transactions on Intelligent Transportation Systems*, 1(12), 3935–3946.
16. Zhang, S., Lippitt, C. D., and Bogus, S. M. (2017). Pavement surface condition estimation based

on geospatial modeling. *Annals of GIS*, 23(3), 167–181.

17. Zhang, S., Bogus, S. M., Lippitt, C. D., and Migliaccio, G. C. (2017). Estimating location adjustment factors for conceptual cost estimating based on nighttime light satellite imagery. *Journal of Construction Engineering and Management*, 143(1), 04016087.
18. Zhang, S., Freundschuh, S., Lenzer, K., and Zandbergen, P. A. (2017). The location swapping method for geomasking. *Journal of Cartography and Geographic Information Science*, 44(1), 22–34.
19. Zhang, S., Lippitt, C. D., Bogus, S. M., and Neville, P. R. H. (2016). Characterizing pavement surface distress conditions with hyper-spatial resolution natural color aerial photography. *Remote Sensing*, 8, 392.
20. Zhang, S., Lippitt, C. D., Bogus, S. M., Loerch, A. C., and Sturm, J. O. (2016). The accuracy of aerial triangulation products automatically generated from hyper-spatial resolution digital aerial photography. *Remote Sensing Letters*, 7(2), 160–169.
21. Zhang, S., Bogus, S. M., Lippitt, C. D., Neville, P. R. H., Zhang, G., Chen, C., and Valentin, V. (2015). Extracting pavement distress condition patterns based on high spatial resolution multispectral digital aerial photography. *Photogrammetric Engineering and Remote Sensing*, 81(9), 709–720.
22. Chen, C., Zhang, S., Zhang, G., Bogus, S. M., and Valentin, V. (2014). Discovering temporal and spatial patterns and characteristics of pavement distress condition data on major corridors in New Mexico. *Journal of Transport Geography*, 38, 148–158.
23. Zhang, S., Migliaccio, G. C., Zandbergen, P. A., and Guindani, M. (2014). Empirical assessment of geographically-based surface interpolation methods for adjusting construction cost estimates by project location. *Journal of Construction Engineering and Management*, 140(6), 04014015.
24. Zhang, S., Cheng, Y., and Zhao, Y. (2008). Determinants of intercity housing price difference in Hebei Province. *Journal of Market Modernization,* 547(10), 257.
25. Zhao, Y., Cheng, Y., and Zhang, S. (2008). Hedonic model-based housing price analysis for Shijiazhuang City. *Journal of Market Modernization,* 546(10), 291.

B. Referred Journal Articles – Under Review

1. Dow, R., Zhang, S., and Bogus, S. M. Drivable space datasets created from airborne LiDAR Data and aerial imagery. Submitted to: *ISPRS International Journal of Geo-Information*.
2. Zhang, S., Kafle, A., Kookhaei, T., Sinclair, L. L. Empirical assessment of smooth interpolation methods for estimating construction cost by project location. Submitted to: *ISPRS International Journal of Geo-Information*.
3. Yang, C., Lan, H., Srirenganathan, A., Trefonides, T., Guan, W., Huang, Q., Su. Y., Zhang, X., Zhang. S., and Zhao, L. Digital twins. Submitted to: *The International Encyclopedia of Geography*.

4. Wu, Q., Huang, Y., Sinclair, L., Kang, H., Eshelman, T., Maria, P. A., Childs, M., Alexis, N. E., Zhang, S., Belinsky, S. A., Campen, M. J., Gong, X., and Leng, S. Associations between wildfire smoke exposure and health-related quality of life: findings from the Lovelace Smokers Cohort. Submitted to: *Respiratory Research*.
5. Almasi, P., Xiao, Y., Premadasa, R., Boyle, J., Jauregui, D., Khodagholi, A., Zhang, S., Wan, Z., and Zhang, Q. Meta-heuristic-driven continuous path optimization for area coverage in unmanned aerial vehicle-based infrastructure inspection. Submitted to: *Engineering*.

C. Referred Journal Articles – In Preparation

1. Zhang, S., Lippitt, C.D., and Bogus, S. M. Review of remote sensing techniques in transportation infrastructure condition assessment. Target Journal: *International Journal of Remote Sensing*.
2. Lippitt, C.D., Sturm, J. O., Sprague, E. J., and Zhang, S. A comparison of LiDAR and aerial triangulation for common applications of digital surface models. Target Journal: *International Journal of Remote Sensing*.
3. Sprague, E.J., Lippitt, C. D., Sturm, J. O., Zhang, S. The effect of GCP control on the vertical accuracy of surface models generated from structure-from-motion. Target Journal: *ISPRS Journal of Photogrammetry and Remote Sensing*.
4. Sprague, E.J., Lippitt, C. D., Krofcheck, D. J., Zhang, S. Stability and reliability of digital surface models generated using structure-from-motion. Target Journal: *ISPRS Journal of Photogrammetry and Remote Sensing*.
5. Zhang, S., Lippitt, C.D., and Bogus, S. M. Quantifying the impact of road lighting conditions on nighttime vehicle crash rates using nighttime light satellite imagery. Target Journal: *Geographies*.
6. Carugati, S., Morelli, C., Zhang, S., and Huang, H. W. Comparison of crosswalk densities along center-running BRT and LRT corridors. Target Journal: *Transportation Research Record: Journal of the Transportation Research Board*.
7. Huang, H. W., Zhang, S., Morelli, C., and Carugati, S. Developing a hybrid expert/non-expert pedestrian walk-audit method for commercial corridors. Target Journal: *Transportation Research Record: Journal of the Transportation Research Board*.
8. Zhang, S., Sinclair, L. L., Barrett, H. A., Sharma, P., and Lippitt, C. D. Maximizing ground coverage : a workflow to determine the minimum consecutive days of PlanetScope imagery for complete area of interest mapping. Target Journal: *Remote Sensing Letters*.
9. Zhang, S., Sinclair, L. L., Eshelman, T., and Lippitt, C. D., Horizontal accuracy assessment of PlanetScope Imagery. Target Journal: *Remote Sensing Letters*.
10. Sinclair, L. L., Zhang, S., Lippitt, C. D., and Muldavin, E. H. Feasibility of arid landscape fine-scale vegetation mapping using a small field dataset, GEOBIA, and machine learning. Target Journal: *Remote Sensing*.

11. Zhang, S., Barrett, H. A., Eshelman, T., and Lippitt, C. D. Development of empirical models for deriving daily full ground coverage phenological data of an AOI using hyper-temporal resolution PlanetScope imagery. Target Journal: *Remote Sensing*.
12. Sinclair, L. L., Blumhardt, C., Sharma, P., Zhang, S., and Lippitt, C. D. Dimensionality Reduction of High-Temporal Phenological Time Series Enhances Dryland Vegetation Classification. Target Journal: *International Journal of Remote Sensing*.
13. Zhang, S., Lin, Y., and Sinclair, L. L. Hybrid interpolation method for estimating construction costs by location. Target Journal: *Journal of Construction Engineering and Management*.
14. Amin, A. G., Zhang, S., and Bogus, S. M. Evaluation of machine learning algorithms for predicting traffic crash severity and location. Target Journal: *Journal of Transport Geography*.
15. Aryal, A., Losada-Rojas, L. L., and Zhang, S. Evaluating inequality in EV charging stations in New Mexico. Target Journal: *Journal of Transport Geography*.

10. PEER-REVIWED CONFERENCE PROCEEDINGS

1. Robertson, G., Zhang, S., and Bogus, S. M. (2022). Challenges of Implementing E-Ticketing for Rural Transportation Construction Projects. *Proceedings of the 2022 Construction Research Congress*, ASCE, Arlington, VA, 453–462.
2. Dow, R., Zhang, S., Bogus, S. M., and Han, F. (2022). Drivable Space Extraction from Airborne LiDAR and Aerial Photos. *Proceedings of the 2022 Construction Research Congress*, ASCE, Arlington, VA, 154–163.
3. Zhang, S., Bogus, S. M., Baros, S. V., Neville, P. R. H., and Barrett, H. A. (2021). Bridge Deck Condition Data Collection Using Small Unmanned Aircraft System (UAS). *Proceedings of the 2021 Tran-SET Conference*, Jonesboro, AK, 27–38.
4. Han, F., Bogus, S. M., Moore, H., and Zhang, S. (2021). Forecasting Budget Overrun by Productivity Variations in Electrical Construction. *Proceedings of the 2021 CSCE Construction Specialty Conference*, Vancouver, Canada, CON217.
5. Zhang, S., Bogus, S. M., Baros, S. V., Neville, P. R. H., and Barrett, H. A. (2020). Sinkhole Detection and Mapping Using Airborne LiDAR – A Practical Workflow. *Proceedings of the 2020 Tran-SET Conference*, Albuquerque, NM, 100–111.
6. Zhang, S., Han, F., and Bogus, S. M. (2020). Building Footprint and Height Information Extraction from Airborne LiDAR and Aerial Imagery. *Proceedings of the 2020 Construction Research Congress*, ASCE, Tempe, AZ, 326–335.
7. Zhang, S., Han, F., and Bogus, S. M. (2020). Monitoring Subsidence Threats to Pipelines Based on Structure-from-Motion and Small Unmanned Aircraft Systems. *Proceedings of the 2020 Construction Research Congress*, ASCE, Tempe, AZ, 316–325.
8. Han, F., Bogus, S. M., and Zhang, S. (2020). Development of Rating Criteria for Resilience Performance of Transportation Project Delivery: A PCA-based Approach. *Proceedings of the*

2020 Construction Research Congress, ASCE, Tempe, AZ, 1139–1148.

9. Han, F., Bogus, S. M., and Zhang, S. (2020). Evaluation of Resilient Practices for Capital Project Planning Under Variable Budget Constraints. *Proceedings of the 2020 Construction Research Congress*, ASCE, Tempe, AZ, 105–114.
10. Zhang, S., Bogus, S. M., Baros, S. V., Neville, P. R. H., and Dow, R. (2019). Karst Sinkhole Detecting and Mapping Using Airborne LiDAR – A Conceptual Framework. *Proceedings of the 2020 Tran-SET Conference*, San Antonio, TX, 271.
11. Zhang, S., Bogus, S. M., Lippitt, C. D., and Sprague, J. E. (2018). Geospatial Technologies for Collecting Construction Material Information. *Proceedings of the 2018 Construction Research Congress*, ASCE, New Orleans, LA, 660–669.
12. Zhang, S., Lippitt, C. D., and Bogus, S. M. (2018). An Adaptive Two-stage Survey Method for Development of a Remote Sensing Network for Time-sensitive Detection of Fine-scale Damage to Transportation Infrastructure. *Proceedings of the Transportation Research Board 97th Annual Meeting*, TRB, Washington, D.C., 18-01854.
13. Zhang, S., Bogus, S. M., and Lippitt, C. D. (2016). Estimating Infrastructure Condition Based on Inferential Geospatial Modeling. *Proceedings of the 2016 Construction Research Congress*, ASCE, San Juan, Puerto Rico, 1518–1527.
14. Zhang, S., Bogus, S. M., and Lippitt, C. D. (2015). Pavement Surface Permanent Deformation Detection and Assessment Based on Digital Aerial Triangulation. *Proceedings of the 2015 ASCE International Workshop on Computing in Civil Engineering*, Austin, TX, 74–81.
15. Zhang, S., Bogus, S. M., and Lippitt, C. D. (2015). Infrastructure Condition Assessment Based on Low-cost Ultrahigh Spatial Resolution Multispectral Digital Aerial Photography. *Proceedings of the 2015 International Construction Specialty Conference*, Vancouver, British Columbia, Canada, 1–10.
16. Zhang, S., and Bogus, S. M. (2014). Use of Low-cost Remote Sensing for Infrastructure Management. *Proceedings of the 2014 Construction Research Congress*, ASCE, Atlanta, GA, 1299–1308.
17. Migliaccio, G. C., Guindani, M., Zhang, S., and Ghorai, S. (2011). Regression-based Prediction Methods for Adjusting Construction Cost Estimates by Project Location. *Proceedings of the 2011 Annual Conference of the Canadian Society for Civil Engineering*, Ottawa, Ontario, 2611–2619.
18. Martinez, A. A., Migliaccio, G. C., Zandbergen, P. A., and Zhang, S. (2009). Assessment of Methods for Adjusting Construction Cost Estimates by Geographical Location. *Proceeding of the* 2009 *AACE International Annual Meeting*, Seattle, WA, EST.15.1–EST.15.12.

11. TECHNICAL REPORTS

1. Zhang, S., Eshelman, T., Sinclair, L., and Ferenchak, N. (2024). *Enhancing Collaboration through*

Web-base Visualization and Analysis of Traffic Crash Data. Technical Report for the Center for Pedestrian and Bicyclist Safety, University of New Mexico.

2. Bogus, S. M., Zhang, S., and Amin, A. G. (2024). *Development of a Web Application for Traffic Accident Mapping and Analysis*. Technical Report for the USDOT Tran-SET program.
3. Bogus, S. M., Zhang, S., and Robertson, G. (2024). *Field evaluation of E-Ticketing Technologies for Efficient Asphalt Delivery Ticket Collection and Quantity Calculation*. Technical Report for the USDOT Tran-SET program.
4. Zhang, S., and Baros, S. V. (2022). *New Mexico's Major Initiative on Digitizing, Archiving, and Accessing to Historical Aerial Photo Project Final Performance Report*. Technical Report for the National Historical Publications and Records Commission, National Archives and Records Administration.
5. Zhang, S., and Baros, S. V. (2022). *New Mexico's Major Initiative on Digitizing, Archiving, and Accessing to Historical Aerial Photo Project Semi-Annual Performance Report – Fifth Report.* Technical Report for the National Historical Publications and Records Commission, National Archives and Records Administration.
6. Zhang, S., and Baros, S. V. (2021). *New Mexico's Major Initiative on Digitizing, Archiving, and Accessing to Historical Aerial Photo Project Semi-Annual Performance Report – Fourth Report.* Technical Report for the National Historical Publications and Records Commission, National Archives and Records Administration.
7. Zhang, S., and Baros, S. V. (2021). *New Mexico's Major Initiative on Digitizing, Archiving, and Accessing to Historical Aerial Photo Project Semi-Annual Performance Report – Third Report.* Technical Report for the National Historical Publications and Records Commission, National Archives and Records Administration.
8. Zhang, S., and Baros, S. V. (2021). *New Mexico's Major Initiative on Digitizing, Archiving, and Accessing to Historical Aerial Photo Project Semi-Annual Performance Report – Second Report.* Technical Report for the National Historical Publications and Records Commission, National Archives and Records Administration.
9. Zhang, S., and Baros, S. V. (2020). *New Mexico's Major Initiative on Digitizing, Archiving, and Accessing to Historical Aerial Photo Project Semi-Annual Performance Report – First Report.* Technical Report for the National Historical Publications and Records Commission, National Archives and Records Administration.
10. Zhang, S., Baros, S. V., and Bogus, S. M. (2020). *Bridge Deck Inspection Using Small Unmanned Aircraft Systems Based Airborne Imaging Techniques*. Technical Report for the USDOT Tran-SET program.
11. Zhang, S., Baros, S. V., and Bogus, S. M. (2019). *Karst Sinkhole Detecting and Mapping Using Airborne LiDAR*. Technical Report for the USDOT Tran-SET program.

12. Zhang, S., Bogus, S. M., and Lippitt, C. D. (2016). *Potential Applications of Optimized TSRSS for Assessing Roadway and Bridge Conditions.* Technical Report for the USDOT Office of Assistant Secretary for Research & Technology (OST-R) Commercial Remote Sensing and Spatial Information Technologies Program (CRS&RI).
13. Zhang, S., Bogus, S. M., and Lippitt, C. D. (2016). *NDMOT Optimized TSRSS Products Utility and Desirability Survey Report*. Technical Report for the USDOT Office of Assistant Secretary for Research & Technology (OST-R) Commercial Remote Sensing and Spatial Information Technologies Program (CRS&RI).
14. Loerch, A., Zhang, S., Lippitt, C. D., and Bogus, S. M. (2016). *Total Time of Information Delivery of the Optimized TSRSS*. Technical Report for the USDOT Office of Assistant Secretary for Research & Technology (OST-R) Commercial Remote Sensing and Spatial Information Technologies Program (CRS&RI).
15. Zhang, S., Lippitt, C. D., Bogus, S. M. (2015). *New Mexico Department of Transportation Infrastructure Manager Survey Report*. Technical Report for the USDOT Office of Assistant Secretary for Research & Technology (OST-R) Commercial Remote Sensing and Spatial Information Technologies Program (CRS&RI).
16. Bogus, M. S., Valentin, V., Zhang, G., Barboza, D., Chen, C., and Zhang, S. (2012). *2012 Pavement Evaluation Report Northern New Mexico.* Technical Report for NMDOT.

12. CONFERENCE PRESENTATIONS

1. Zhang, S. (2024). *Online Crash Mapping Platform*. 2024 New Mexico Transportation Safety Summit, August 27–28, 2024, Albuquerque, NM.
2. Sandoval, J., Zhang, S., and Robertson, G. (2023). *NMDOT's Piloting of Paperless eTicketing in Construction*. 2023 New Mexico Transportation and Construction Conference, April 12–14, 2023, Las Cruces, NM.
3. Robertson, G., and Zhang, S. (2023). *E-Ticketing Technologies for Efficient Asphalt Delivery Ticket Collection and Quantity Calculation*. 2023 Transportation and Paving Conference, January 4–5, 2023, Albuquerque, NM.
4. Morelli, C., and Zhang, S. (2022). *Nob Hill Walk Audit Methodology*. 2022 APA New Mexico Planning Conference, October 26–28, 2022, Albuquerque, NM
5. Zhang, S. (2021). *New Mexico's Major Initiative on Digitizing, Archiving, and Accessing to Historical Aerial Photo Project*, 2021 Fall New Mexico Geographic Information Council NMGIC Geoseminar Series, October 28, 2021, Albuquerque, NM.
6. Zhang, S., Bogus, S. M., Baros, S. V., Neville, P. R. H., and Barrett, H. A. (2021). *Bridge Deck Condition Data Collection Using Small Unmanned Aircraft System (S-UAS)*, 2021 Tran-SET Conference, June 3–4, 2021, Jonesboro, AR.
7. Nasimi, R., Cobo, N., Rosa, J. D., Woodall, J., Zhang, S., Garg, P., and Moreu, F. (2020).

Requirements of Using Aerial Vehicles in Field Experiments to Find Displacement, 2020 Tran-SET Conference, September 1–2, Albuquerque, NM.

8. Zhang, S., Bogus, S. M., Baros, S. V., Neville, P. R. H., and Barrett, H. A. (2020). *Sinkhole Detection and Mapping Using Airborne LiDAR – A Practical Workflow*, 2020 Tran-SET Conference, September 1–2, 2020, Albuquerque, NM.
9. Zhang, S., Han, F., and Bogus, S. M. (2020). *Building Footprint and Height Information Extraction from Airborne LiDAR and Aerial Imagery*, 2020 Construction Research Congress Conference, March 8–10, 2020, Tempe, AZ.
10. Zhang, S., Han, F., and Bogus, S. M. (2020). *Monitoring Subsidence Threats to Pipelines Based on Structure-from-Motion and Small Unmanned Aircraft Systems*, 2020 Construction Research Congress Conference, March 8–10, 2020, Tempe, AZ.
11. Han, F., Bogus, S. M., and Zhang, S. (2020). *Development of Rating Criteria for Resilience Performance of Transportation Project Delivery: A PCA-based Approach*, 2020 Construction Research Congress Conference, March 8–10, 2020, Tempe, AZ.
12. Han, F., Bogus, S. M., and Zhang, S. (2020). *Evaluation of Resilient Practices for Capital Project Planning Under Variable Budget Constraints*, 2020 Construction Research Congress Conference, March 8–10, 2020, Tempe, AZ.
13. Zhang, S., Bogus, S. M., and Baros, S. V. (2020). *Karst Sinkhole Detecting and Mapping Using Airborne LiDAR*, 57th Paving and Transportation Conference, January 8–9, 2020, Albuquerque, NM.
14. Zhang, S., Bogus, S. M., Baros, S. V., Neville, P. R. H, and Dow, R. (2019). *Karst Sinkhole Detecting and Mapping Using Airborne LiDAR – A Conceptual Framework.* 2019 Tran-SET Conference, April 10–12, 2019, San Antonio, TX.
15. Moreu, F., Zhang, S., Ayorinde, E., Struge, J., Soni, R., Ozdagli, A. I., and Liu, B. (2019). *Smart Management of Transportation Infrastructure: Engaging High School Students by Designing, Building, and Using Low-cost Sensors*. Transportation Research Board 98th Annual Meeting, January 13–17, 2019, Washington, D.C.
16. Zhang, S., Lippitt, C. D., and Bogus, S. M. (2018). *An Adaptive Two-stage Survey Method for Development of a Remote Sensing Network for Time-sensitive Detection of Fine Scale Damage to Transportation Infrastructure*. Transportation Research Board 97th Annual Meeting, January 7–11, 2018, Washington, D. C.
17. Lippitt, C. D., Bogus, S. M., and Zhang, S. (2017). *Development of a Remote Sensing Network for Time-Sensitive Detection of Fine Scale Damage to Transportation Infrastructure*. Transportation Research Board 96th Annual Meeting, January 8–12, 2017, Washington, D. C.
18. Zhang, S., Lippitt, C. D., and Bogus, S. M. (2016). *Characterizing Pavement Surface Distress Conditions with Hyper-Spatial Resolution Natural Color Aerial Photography*. 2016 GIS in the

Rockies Conference. September 21–22, 2016, Denver, CO.

19. Zhang, S., Bogus, S. M., and Lippitt, C. D. (2016). *Estimating Infrastructure Condition Based on Inferential Geospatial Modeling*. 2016 Construction Research Congress Conference, May 31–June 2, 2016, San Juan, Puerto Rico.
20. Zhang, S., Lippitt, C. D., and Bogus, S. M. (2016). *Estimating Location Adjustment Factors for Conceptual Cost Estimating Based on Nighttime Light Satellite Imagery*. 2016 ASPRS Rio Grande Chapter Annual Spring Meeting. April 30, 2016, Albuquerque, NM.
21. Zhang, S., Lippitt, C. D., and Bogus, S. M. (2016). *Characterizing Pavement Surface Distress Condition with Hyper-spatial Resolution Natural Color Aerial Photography Acquired from S-UAS.* 2016 NMGIC Spring Workshop and Meeting, April 21–22, 2016, Albuquerque, NM.
22. Zhang, S., Lippitt, C. D., and Bogus, S. M. (2016). *Assessing Pavement Surface Distress Condition Using Hyper-spatial Resolution Natural Color Digital Aerial Photography Acquired from A Low-cost Small Unmanned Aircraft System*. 2016 AAG Annual Meeting, March 29–April 2, 2016, San Francisco, CA.
23. Zhang, S., Lippitt, C. D., Bogus, S. M., and Zhang, G. (2016). *Quantifying the Impact of Road Lighting Conditions on Nighttime Vehicle Crash Rates Using Nighttime Light Satellite Imagery*. Transportation Research Board 95th Annual Meeting, January 10–14, 2016, Washington, D. C.
24. Xie, S., Chen, C., Wu, Q., Lu, Q., Zhang, S., Montoya, K., Zhang, G., and Yang, Y. (2016). *3D Pavement Surface Reconstruction and Cracking Recognition Based on Kinect Fusion Techniques*. Transportation Research Board 95th Annual Meeting, January 10–14, 2016, Washington, D. C.
25. Zhang, S., and Lippitt, C. D. (2015). *Infrastructure Condition Assessment based on Low-cost Hyper-spatial resolution Multispectral Digital Aerial Photography*. 2015 SWAAG-AGC Joint Meeting, November 4–7, 2015, San Antonio, TX.
26. Bogus, S. M., Lippitt, C. D., and Zhang, S. (2015). *Development of a Remote Sensing Network for Time-Sensitive Detection of Fine Scale Damage to Transportation Infrastructure.* 2015 ASCE New Mexico and APA New Mexico Joint Fall Conference, September 23–25, 2015, Las Cruces, NM.
27. Zhang, S., Bogus, S. M., and Lippitt, C. D. (2015). *Infrastructure Condition Assessment Based on Low-cost Hyper-spatial Resolution Multispectral Digital Aerial Photography*. The 5th International/11th Construction Specialty Conference, June 7–10, 2015, Vancouver, Canada.
28. Zhang, S., and Lippitt, C. D. (2015). *Pavement Surface Cracks Detection and Assessment Based on Hyper-spatial Resolution Natural Color Digital Aerial Photography*. Hexagon Live 2015 Conference, June 1–4, 2015, Las Vegas, NV.
25. Zhang, S., Lippitt, C. D., and Bogus, S. M. (2015). *Extracting Pavement Surface Distress Conditions Based on High Spatial Resolution Multispectral Digital Aerial Photography*. 2015

AAG Annual Meeting, April 21–25, 2016, Chicago, IL.

29. Zhang, S., Bogus, S. M., and Lippitt, C. D. (2015). *Pavement Distress Condition Assessment Using Aerial Photographs at Differing Spatial Resolutions*. Transportation Research Board 94th Annual Meeting, January 11–15, 2015, Washington, D.C.
30. Zhang, S., Lippitt, C. D., Bogus, S. M., and Loerch, A. (2014). *Best Practices for Tethered Weather Balloon Mapping*. 2014 SWAAG-GPRM Joint Regional Meeting, October 23–25, 2014, Albuquerque, NM.
31. Zhang, S., and Bogus, S. M. (2014). *Use of Low-cost Remote Sensing for Infrastructure Management*. 2014 Construction Research Congress, May 19–21, 2014, Atlanta, GA.
32. Zhang, S. (2013). *Aerial Photograph-based Pavement Surface Distress Detection and Assessment*. 2013 NMGIC Spring Workshop and Meeting, April 11–12, 2013, Albuquerque, NM.
33. Zhang, S., Bogus, S. M., Neville, P. R. H., Zhang, G., Chen, C., Valentin, V. (2013). *Aerial photographs-based pavement surface distress detection and assessment.* Transportation Research Board 92nd Annual Meeting, January 13–16, 2013, Washington, D.C.
34. Chen, C., Zhang, S., Zhang, G., Bogus. S. M., Valentin, V. (2013). *Analysis of Pavement Surface Distress Condition on Major Corridors in New Mexico*. Transportation Research Board 92nd Annual Meeting, January 13–16, 2013, Washington, D.C.
35. Zhang, S., Camponovo, M. E., and Scott, S. (2013). *A Case Study of Data Management with New Mexico EPSCoR.* ESIP Winter Meeting 2013, January 8–10, 2013, Washington, D.C.
36. Zandbergen, P. A., Lenzer, K. E., and Zhang, S. (2012). *A Toolbox for Geographic Masking to Protect Confidentiality of Individual-Level Geocoded Data*. 2012 American Public Health Association Annual Meeting, October 27–31, 2012, San Francisco, CA.
37. Zhang, S., and Zandbergen, P. A. (2012). *Geographic Masking Using Location Swapping to Protect Confidentiality of Individual-level Data.* 2012 NMGIC Spring Workshop and Meeting, May 3–4, 2012, Albuquerque, NM.
38. Lenzer, K. E., Zandbergen, P. A., Camponovo, M.E., and Zhang, S. (2012). *How easy is it to hack a map? A consideration of geospatial privacy and maps using confidential individual-level point data.* 2012 AAG Annual Meeting, February 24–28, 2012, New York City, NY.
39. Zhang, S., and Zandbergen, P. A. (2011). *Geographic masking using location swapping to protect confidentiality of individual-level data.* 2011 ESRI Southwest User Conference, November 16–18, 2011, Mesa, AZ.
40. Migliaccio, G. C., Martinez, A., and Zhang, S. (2009). Assessment of Methods for Adjusting Construction Cost Estimates by Project Location. 2009 Construction Industry Institute Annual Conference, August 5–6, 2009, Reno, NV.

13. PEER REFEREE WORK

A. Journal Articles

1. Reviewed 1 paper for the *Journal of Transport Geography*
2. Reviewed 30 papers for *Transportation Research Record*
3. Reviewed 2 papers for the *Egyptian Journal of Remote Sensing and Space Sciences*
4. Reviewed 4 papers for *Geocarto International*
5. Reviewed 10 papers for *Photogrammetric Engineering and Remote Sensing*
6. Reviewed 2 papers for *Remote Sensing Letters*
7. Reviewed 1 paper for *Cartography and Geographic Information Science*
8. Reviewed 3 paper for *Remote Sensing of Environment*
9. Reviewed 45 papers for *Remote Sensing*
10. Reviewed 1 paper for *Journal of Infrastructure Systems*
11. Reviewed 13 paper for *Automation in Construction*
12. Reviewed 2 papers for the *International Journal of Remote Sensing*
13. Reviewed 1 paper for *Remote Sensing in Ecology and Conservation*
14. Reviewed 4 paper for *IEEE Transactions on Intelligent Transportation Systems*
15. Reviewed 13 paper for *International Journal of Pavement Engineering*
16. Reviewed 3 paper for *International Journal of Geographical Information Science*
17. Reviewed 1 paper for the *IEEE Geoscience and Remote Sensing Letters*
18. Reviewed 11 papers for the *ASCE Journal of Construction Engineering and Management*
19. Reviewed 1 paper for *Frontiers in Built Environment*
20. Reviewed 1 paper for *Journal of Road Engineering*
21. Reviewed 1 paper for *Measurement*
22. Reviewed 1 paper for *Nature Communications Earth and Environment*
23. Reviewed 1 paper for *International Journal of Transportation Science and Technology*
24. Served as the Co-Editor for the *Remote Sensing* Special Issue

B. Conference Papers

1. Reviewed 1 paper for the 2021 TranSET Conference
2. Reviewed 2 papers for the 2020 TranSET Conference
3. Reviewed 10 papers for the *Third IEEE International Smart Cities Conference (ISC2 2017)*
4. Reviewed 2 papers for the *5th International/11th Construction Specialty Conference*.
5. Reviewed 2 paper for the *Transportation Research Board 98th Annual Meeting*.
6. Reviewed 4 papers for the *Transportation Research Board 97th Annual Meeting*.
7. Reviewed 1 paper for the *Transportation Research Board 96th Annual Meeting*.
8. Reviewed 1 paper for the *Transportation Research Board 95th Annual Meeting*.
9. Reviewed 1 paper for the *Transportation Research Board 94th Annual Meeting*.

14. FUNDING GRANTS

A. Research Funding – Funded

1. New Mexico Statewide Terrestrial Habitat Map – Phase 2

Team: Esteban Muldavin, Christopher Lippitt, and Su Zhang

Funding Agency: New Mexico Department of Game and Fish

Role: Co-PI

Timeline: July 2025 – June 2027

Amount: $3,628,317 ($2,902,710 Main Contract + $725,607 Technology Enhancement Fund)

2. A Web-Based Data Entry, Management, and Analysis System for the New Mexico Forest and Watershed Restoration Institute (NMFWRI) Phase 1 – Design and Development of a Relational Database and Data Entry Form

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: New Mexico Forest and Watershed Restoration Institute

Role: PI

Timeline: July 2025 – December 2025

Amount: $11,700

3. UNM CHANGES (Climate Health Allied Network Geospatial and Environmental Science) Center

Team: Jose Cerrato, Matthew Campen, Su Zhang, Roberta Lavin, Shuguang Leng, Xi Gong, Tamar Ginossar, Peter Fawcett, Christopher Lippitt, and Yiliang Zhu

Funding Agency: National Institute of Health and National Institute of Nursing Research

Role: Co-PI, Deputy Director

Timeline: September 2024 – August 2027

Amount: $3,833,036

4. Desertification Process Investigation on Lordsburg Playa

Team: Su Zhang and Susan Bogus Halter

Funding Agency: U.S. Department of Transportation Southern Plains Transportation Center (SPTC)

Role: PI

Timeline: September 2024 – August 2025

Amount: $150,000

5. Automated Quality Assessment of Precast Members Using LiDAR and AR

Team: Fernando Moreau and Su Zhang

Funding Agency: U.S. Department of Transportation Southern Plains Transportation Center (SPTC)

Role: Co-PI

Timeline: September 2024 – August 2025

Amount: $150,000

6. UNM Traffic Safety Center Grant Agreement 2

Team: Su Zhang

Funding Agency: New Mexico Department of Transportation

Role: PI

Timeline: September 2024 – June 2026

Amount: $50,128

7. Programming Support to the Robotic-enabled Automated Underwater Bridge Inspection

Team: Qianyun Zhang and Su Zhang

Funding Agency: New Mexico Department of Transportation and New Mexico State University

Role: Project Co-PI and UNM PI

Timeline: July 2024 – June 2025

Amount: $80,000

8. UNM Traffic Safety Center

Team: Su Zhang

Funding Agency: New Mexico Department of Transportation

Role: PI

Timeline: July 2024 – June 2028

Amount: $3,147,639

9. UNM Traffic Safety Center Grant Agreement 1

Team: Su Zhang

Funding Agency: New Mexico Department of Transportation

Role: PI

Timeline: June 2024 – August 2024

Amount: $54,960

10. Elevating Traffic Safety in Native American Communities: A Comprehensive Approach with Online Mapping and Crowdsourcing Solutions

Team: Su Zhang, Tyler Eshelman, Hays Barrett, Eric Crozier, Brian Keller, and Shawn Penman

Funding Agency: UNM Center for Pedestrian and Bicyclist Safety (CPBS)

Role: PI

Timeline: June 2024 – May 2025

Amount: $85,000

11. Unlocking a Photographic Legacy – Enhancing Historical Aerial Photo Digitization through Photogrammetric Scanner Procurement

Team: Su Zhang

Funding Agency: UNM Office of Vice President for Research (OVPR)

Role: PI

Timeline: January 2024 – December 2025

Amount: $56,250

12. Unlocking Insights: Planet Labs Imagery Licensing for Enhanced Research and Education

Team: Su Zhang, Yan Lin, and Christopher Lippitt

Funding Agency: UNM Office of Vice President for Research (OVPR)

Role: PI

Timeline: January 2024 – December 2025

Amount: $30,000

13. Estimate Atmospheric Black Carbon Concentrations Using Satellite Remote Sensing Data

Team: Yiliang Zhu, Shuguang Leng, Su Zhang, and Xi Gong

Funding Agency: UNM Clinic and Translational Science Center (CTSC)

Role: Co-PI

Timeline: December 2023 – November 2024

Amount: $29,050

14. Drone for Bridge Inspection Program for NMDOT District 2 – Phase 2

Team: Qianyun Zhang and Su Zhang

Funding Agency: New Mexico Department of Transportation and New Mexico State University

Role: Project Co-PI and UNM PI

Timeline: December 2023 – December 2025

Amount: $390,000

15. New Mexico Statewide Terrestrial Habitat Map – Phase 1

Team: Esteban Muldavin, Christopher Lippitt, and Su Zhang

Funding Agency: New Mexico Department of Game and Fish

Role: Co-PI

Timeline: November 2023 – June 2026

Amount: $4,000,583 ($3,220,583 Main Contract + $780,000 Technology Enhancement Fund)

16. Drone for Bridge Inspection Program for NMDOT District 2 – Phase 1

Team: Qianyun Zhang and Su Zhang

Funding Agency: New Mexico Department of Transportation and New Mexico State University

Role: Project Co-PI and UNM PI

Timeline: October 2023 – September 2024

Amount: $110,000

17. Technology and Research Support Services to GeoSystems Analysis, Inc.

Team: Su Zhang, Hays Barrett, Tyler Eshelman, Eric Crozier, and Brian Keller

Funding Agency: GeoSystems Analysis, Inc.

Role: PI

Timeline: October 2023 – June 2028

Amount: $1,000,000

18. Increasing Understanding to Climate Emergencies and Enhancing Safety of Rural and Tribal Areas Using Wireless Smart Sensors and Human-Environment-Data Interfaces Using Augmented Reality (AR)

Team: Fernando Moreu and Su Zhang

Funding Agency: U.S. Department of Transportation Southern Plains Transportation Center (SPTC)

Role: Co-PI

Timeline: August 2023 – July 2024

Amount: $80,000

19. Spatial Analysis for Identifying Optimal Locations to Maximize Benefits of Green Infrastructure on the NMDOT Transportation System

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: GeoSystems Analysis, Inc.

Role: PI

Timeline: July 2023 – June 2025

Amount: $20,430

20. GeoSystems Analysis, Inc. Papua New Guinea Project Phase 5 – SQL Database Expansion and Web Application Improvement

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: GeoSystems Analysis, Inc.

Role: PI

Timeline: July 2023 – May 2025

Amount: $60,000

21. Enhancing Collaboration through Web-based Visualization and Analysis of Traffic Crash Data

Team: Su Zhang, Tyler Eshelman, Hays Barrett, Eric Crozier, Brian Keller, and Shawn Penman

Funding Agency: UNM Center for Pedestrian and Bicyclist Safety (CPBS)

Role: PI

Timeline: June 2023 – May 2024

Amount: $126,389

22. Development of a Web Application for Precipitation Data Visualization and Analytics in Selected Middle East Countries

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: New Mexico State University

Role: PI

Timeline: March 2023 – February 2024

Amount: $7,000

23. GeoSystems Analysis MSCP Database and Web Application Development Project

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: GeoSystems Analysis, Inc.

Role: PI

Timeline: January 2023 – June 2023

Amount: $40,000

24. ShakeMap Model Deployment

Team: Su Zhang, Hays Barrett, and Tyler Eshelman

Funding Agency: UNM ASPIRE Center

Role: PI

Timeline: October 2022 – June 2023

Amount: $4,000

25. UNM CONverging on Volcanic ERuption Science with Equity (CONVERSE) Center

Team: Tobias Fischer, Bruce Houghton, Einat Lev, and Su Zhang

Funding Agency: National Science Foundation

Role: Senior Personnel, Project Manager

Timeline: September 2022 – August 2025

Amount: $499,088

26. 2022 Balloon Fiesta Park & Ride Data Collection and Analysis

Team: Claude Morelli and Su Zhang

Funding Agency: City of Albuquerque

Role: Co-PI

Timeline: September 2022 – June 2023

Amount: $10,000

27. Climate Change Web Mapping Portal Hosting

Team: Su Zhang, Shirley Baros, Hays Barrett, and Tyler Eshelman

Funding Agency: New Mexico Department of Energy, Minerals, and Natural Resources (EMNRD)

Role: PI

Timeline: July 2022 – June 2024

Amount: $4,800

28. Development of a Web Application for Traffic Accident Mapping and Analysis

Team: Susan Bogus Halter and Su Zhang

Funding Agency: U.S. Department of Transportation Tran-SET Program

Role: Co-PI

Timeline: May 2022 – October 2023

Amount: $150,000

29. New Mexico Riparian Habitat Map (NM RIPMAP) Supplement

Team: Esteban Muldavin, Christopher Lippitt, and Su Zhang

Funding Agency: New Mexico Department of Game and Fish

Role: Co-PI

Timeline: April 2022 – June 2023

Amount: $943,764

30. Development of a Prototype Reporting Platform for the NSF EPSCoR Program based on Open Source and Free Software

Team: Su Zhang, Hays Barrett, and Tyler Eshelman

Funding Agency: National Science Foundation ERCore Consortium

Role: PI

Timeline: January 2022 – June 2022

Amount: $25,000

31. Web-based CNN Access and Gamification for Duck Identification

Team: Su Zhang, Hays Barrett, and Tyler Eshelman

Funding Agency: UNM ASPIRE Center

Role: PI

Timeline: January 2022 – December 2022

Amount: $50,322

32. SCC-CIVIC-FA Track B: Low-Cost Efficient Wireless Intelligent Sensors (LEWIS) for Greater Preparedness and Resilience to Post-Wildfire Flooding in Native American Communities

Team: Fernando Moreu, Su Zhang, Mark Stone, Yolanda Lin, and Carolyn Hushman

Funding Agency: National Science Foundation

Role: Co-PI, Project Manager

Timeline: October 2021 – December 2024

Amount: $1,032,000

33. Data Collection for 2021 Balloon Fiesta Park and Ride

Team: Claude Morelli and Su Zhang

Funding Agency: City of Albuquerque

Role: Co-PI

Timeline: September 2021 – December 2022

Amount: $6,863

34. Climate Change Web Mapping Portal Hosting

Team: Shirley Baros, Su Zhang, and Esmeraldo Martinez

Funding Agency: New Mexico Department of Energy, Minerals, and Natural Resources (EMNRD)

Role: Co-PI

Timeline: July 2021 – June 2022

Amount: $2,600

35. Nob Hill Pedestrian and Quality of Life Study

Team: Claude Morelli and Su Zhang

Funding Agency: City of Albuquerque

Role: Co-PI

Timeline: July 2021 – June 2022

Amount: $7,250

36. Field Evaluation of E-Ticketing Technologies for Efficient Asphalt Delivery Ticket Collection and Quantity Calculation

Team: Susan Bogus Halter and Su Zhang

Funding Agency: U.S. Department of Transportation Tran-SET Program

Role: Co-PI

Timeline: July 2021 – December 2022

Amount: $130,000

37. E-Ticketing Technologies for Efficient Asphalt Delivery Ticket Collection and Quantity Calculation

Team: Susan Bogus Halter, Su Zhang, and Gena Robertson

Funding Agency: New Mexico Department of Transportation STIC Program

Role: Co-PI

Timeline: June 2021 – May 2023

Amount: $125,000

38. Low-Cost Efficient Wireless Intelligent Sensors (LEWIS) for Greater Preparedness and Resilience to Post-Wildfire Flooding in Native American Communities

Team: Fernando Moreu, Mark Stone, Su Zhang, Yolanda Lin, Carolyn Hushman, and Jiaqi Xu

Funding Agency: National Science Foundation

Role: Co-PI

Timeline: January 2021 – May 2021

Amount: $50,000

39. New Mexico Water Data Initiative and Regional Pilot Project for Improved Data Management and Decision Support Tool in the Lower Pecos Valley

Team: Stacy Timmons, Jeri Graham, and Su Zhang

Funding Agency: Bureau of Reclamation

Role: Senior Personnel

Timeline: March 2020 – February 2023

Amount: $600,001

40. Bridge Deck Inspection Using Small Unmanned Aircraft Systems Based Airborne Imaging Techniques

Team: Su Zhang, Shirley Baros, and Susan Bogus

Funding Agency: U.S. Department of Transportation Tran-SET Program

Role: PI

Timeline: August 2019 – May 2021

Amount: $100,000

41. New Mexico's Major Initiative on Digitizing, Archiving, and Accessing to Historical Aerial Photo Project

Team: Shirley Baros, Su Zhang, Hays Barrett, Sandeep Talasila, Esmeraldo Martinez, and Paul Neville

Funding Agency: National Archives and Records Administration

Role: Co-PI

Timeline: July 2019 – June 2022

Amount: $699,976

42. GeoSystems Analysis SQL Database and Web Application Development

Team: Shirley Baros, Su Zhang, Hays Barrett, and Tyler Eshelman

Funding Agency: GeoSystems Analysis, Inc.

Role: Co-PI

Timeline: July 2019 – March 2023

Amount: $147,565

43. ERCore Consortium's Drupal Reporting Sites Maintenance and Development

Team: Su Zhang, Hays Barrett, Esmeraldo Martinez, Tyler Eshelman, and Sandra Mentz

Funding Agency: National Science Foundation ERCore Consortium

Role: PI

Timeline: July 2019 – June 2025

Amount: $234,668

44. New Mexico Rural Veterans Transportation Task Force Analytic and Planning Assistance: Phase 1 GIS Spatial Analysis and Network Analysis

Team: Claude Morelli and Su Zhang

Funding Agency: New Mexico Office of Community Health

Role: PI

Timeline: April 2019 – September 2019

Amount: $5,000

45. Nevada, Virgin Island, Guam, New Hampshire, Hawaii, Montana, North Dakota, South Dakota, Arkansas, Maine, Mississippi, and Puerto Rico EPSCoR Reporting Site Setup, Hosting, and Maintenance

Team: Su Zhang, Shirley Baros, Hays Barret, Tyler Eshelman, and Esmeraldo Martinez

Funding Agency: National Science Foundation ERCore Consortium

Role: PI

Timeline: July 2018 – June 2025

Amount: $129,600

46. Development of an Enhanced and Expanded Data Management Training Clearinghouse

Team: Su Zhang, Hays Barrett, and Tyler Eshelman

Funding Agency: Institute of Museum and Library Services and UNM University Libraries

Role: PI

Timeline: July 2018 – June 2023

Amount: $73,799

47. Investigation on Albuquerque Houses' Potential to Install Solar Panels

Team: Su Zhang, Hays Barrett, and Harrison Meyer

Funding Agency: Eonics Solar

Role: PI

Timeline: May 2018 – July 2018

Amount: $1,680

48. Karst Sinkhole Detecting and Mapping Using Airborne LiDAR

Team: Su Zhang, Susan Bogus Halter, Shirley Baros, and Paul Neville

Funding Agency: U.S. Department of Transportation Tran-SET Program

Role: PI

Timeline: March 2018 – August 2019

Amount: $140,000

49. Data Management, OwnCloud, and Drupal Website for New Mexico INFEWS

Team: Shirley Baros and Su Zhang

Funding Agency: New Mexico State University

Role: Co-PI

Timeline: March 2018 – September 2020

Amount: $70,000

50. New Mexico Local Technical Assistance Program (LTAP)

Team: Susan Bogus, Callie French, and Su Zhang

Funding Agency: U.S. Department of Transportation and New Mexico Department of Transportation

Role: Program Manager (May 2018 – October 2018) and Senior Personnel (October 2018 – Current)

Timeline: July 2017 – September 2027

Amount: $3,588,000

51. New Mexico's Established Program to Stimulate Competitive Research (NM EPSCoR) Cyberinfrastructure Component

Team: Karl Benedict, Shirley Baros, and Su Zhang

Funding Agency: National Science Foundation

Role: Graduate Research Assistant (June 2013 – March 2017) and Senior Personnel (April 2017 – November 2018)

Timeline: June 2013 – November 2018

Amount: $1,500,000

B. Research Funding – Pending

1. Documenting Implemented AI Tools in State and Local DOTs

Team: Su Zhang, Fernando Moreu, Hays Barrett, Tyler Eshelman, Eric Crozier, Christopher Girlamo, and Lisa Sinclair

Funding Agency: National Cooperative Highway Research Program.

Role: PI

Timeline: November 2025 – December 2026

Amount: $100,000

2. Drivable Space Extraction from Remote Sensing Data

Team: Su Zhang, Hays Barrett, Tyler Eshelman, Eric Crozier, Christopher Girlamo, and Lisa Sinclair

Funding Agency: U.S. Department of Transportation Southern Plains Transportation Center (SPTC)

Role: PI

Timeline: October 2025 – September 2026

Amount: $150,000

3. Augmented Reality-Assisted Quality Control for Structural Component Placement in Bridge Construction

Team: Fernando Moreu and Su Zhang

Funding Agency: U.S. Department of Transportation Southern Plains Transportation Center (SPTC)

Role: Co-PI

Timeline: October 2025 – September 2026

Amount: $150,000

4. Development of a Web Application for Hydro-Analytics, LLC.

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: Hydro-Analytics, LLC.

Role: PI

Timeline: July 2025 – January 2026

Amount: $255,600

5. Development of a Crash Mapping Portal for the Navajo Nation Division of Transportation

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: Navajo Nation Division of Transportation

Role: PI

Timeline: July 2025 – June 2026

Amount: $250,000

6. Navajo Nation Aerial Photography and Airborne LiDAR Project

Team: Su Zhang and Christopher Lippitt

Funding Agency: Navajo Nation Division of Transportation and Division of Natural Resources

Role: PI

Timeline: July 2025 – June 2028

Amount: $36,500,000

7. Utilizing Historic Geotechnical Data for the Development of State-Specific Design Correlations

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: New Mexico Department of Transportation

Role: PI

Timeline: July 2025 – June 2027

Amount: $16,500

8. Kaibab National Forest Terrestrial LiDAR Data Collection and Analysis

Team: Su Zhang and Christopher Lippitt

Funding Agency: Arizona Department of Forestry and Fire Management and GeoSystems Analysis, Inc.

Role: PI

Timeline: May 2025 – April 2026

Amount: $650,000

9. Development of Analytical Tools to Optimize NMDOT Facility Performance

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Eric Crozier

Funding Agency: New Mexico Department of Transportation

Role: PI

Timeline: January 2025 – December 2025

Amount: $100,000

10. Center: Center Operations: The CONVERSE Center: Converging on Eruption Science with Equity

Team: Tobias Fischer, Bruce Houghton, Barb Bruno, Einat Lev, and Su Zhang

Funding Agency: National Science Foundation

Role: Senior Personnel

Timeline: October 2024 – September 2029

Amount: $15,000,000

C. Research Funding – Declined

1. Enhancing Traffic Safety Data – Extracting Nighttime Lighting Conditions and Sidewalks from Remote Sensing Data

Team: Su Zhang, Hays Barrett, Tyler Eshelman, Eric Crozier, Christopher Girlamo, and Lisa Sinclair

Funding Agency: UNM Center for Pedestrian and Bicyclist Safety (CPBS)

Role: PI

Timeline: June 2025 – May 2026

Amount: $90,000

2. RII Track-2 FEC: Climate Resilience in Rural and Tribal U.S. South: Community-Driven Decision-Making

Team: Mohamad Soliman, Fernando Moreu, Heng Zuo, Deoun Cho, and Su Zhang

Funding Agency: National Science Foundation

Role: Co-PI

Timeline: October 2024 – September 2028

Amount: $6,000,000

3. RII Track-2 FEC: Building Capacity for Smart and Resilient Solutions for Aging Populations in Nebraska and New Mexico under Interconnected Threats of Drought, Heat, and Wildfire

Team: Kristina Kintziger, Josephine Lau, Mark Stone, Iason Konstantzos, and Su Zhang

Funding Agency: National Science Foundation

Role: Co-PI

Timeline: August 2024 – July 2028

Amount: $3,987,365

4. Development of Empirical Models for Deriving Full Ground Coverage Phenological Data of An AOI Using Hyper-temporal Resolution PlanetScope Imagery

Team: Su Zhang, Christopher Lippitt, Lisa Sinclair, Hays Barrett, Tyler Eshelman, and Paul Neville

Funding Agency: National Aeronautics and Space Administration

Role: PI

Timeline: October 2023 – September 2025

Amount: $344,906

5. Collaborative Web Application for Visualization and Analysis of Traffic Crash Data

Team: Nick Ferenchak and Su Zhang

Funding Agency: Federal Highway Administration

Role: Co-PI

Timeline: October 2023 – September 2025

Amount: $150,000

6. Thriving Communities

Team: Susan Bogus Halter, Su Zhang, and Callie French

Funding Agency: U.S. Department of Transportation

Role: Co-PI

Timeline: July 2023 – June 2025

Amount: $620,000

7. Development of a Machine Learning-based Classification Model for MRMPO's Sidewalk and Driveway Inventory

Team: Su Zhang, Christopher Lippitt, Lisa Sinclair, Hays Barrett, Tyler Eshelman, and Paul Neville

Funding Agency: Mid-Region Metropolitan Planning Organization

Timeline: July 2023 – June 2024

Amount: $70,000

8. 2023 Road to Zero Community Traffic Safety Grants

Team: Nick Ferenchak and Su Zhang

Funding Agency: National Highway Traffic Safety Administration

Role: Co-PI

Timeline: March 2023 – February 2024

Amount: $150,000

9. Sustainable Vertiports for Drones in Smart Cities

Team: Mostafa Hassanalian, Sihua Shao, Jun Zheng, Mahdi Haghshenas-Jaryani, Xiang Sun, Christopher Lippitt, and Su Zhang

Funding Agency: National Aeronautics and Space Administration

Role: Co-PI

Timeline: January 2023 – December 2025

Amount: $1,120,994

10. Tribal Technical Assistance Program (TTAP) Center

Team: Claude Morelli, Su Zhang, Susan Bogus, Nick Ferenchak, and Callie French

Funding Agency: U.S. Department of Transportation Federal Highway Administration

Role: Senior Personnel

Timeline: October 2022 – September 2027

Amount: $4,375,000

11. Integrated Web Application for Visualization and Analysis of Traffic Crash Data

Team: Nicolas Ferenchak and Su Zhang

Funding Agency: National Academy of Sciences

Role: Co-PI

Timeline: July 2022 – December 2024

Amount: $150,000

12. Development of a GIS Tracking System for Watershed Restoration Work in Peru

Team: Su Zhang, Hays Barrett, Tyler Eshelman, Brian Keller, Gladys Valentin

Funding Agency: Geosystems Analysis, Inc.

Role: PI

Timeline: April 2022 – December 2022

Amount: $364,800

13. Collaborative Web Application for Visualization and Analysis of Traffic Crash Data

Team: Nicolas Ferenchak, Su Zhang, and Robert Rhatigan

Funding Agency: National Safety Council Road to Zero Coalition

Role: Co-PI

Timeline: March 2022 – February 2023

Amount: $250,000

14. Development of a Web Mapping Application for the Wilderness Society for Informed Decision Making

Team: Su Zhang, Shirley Baros, Hays Barrett, Tyler Eshelman, and Esmeraldo Martinez

Funding Agency: The Wilderness Society

Role: PI

Timeline: October 2021 – September 2022

Amount: $116,110

15. Decadal Change in Forest Cover Using Historic Aerial Photos

Team: Su Zhang, Shirley Baros, Paul Neville, Sandeep Talasila, and Hays Barrett

Funding Agency: The City of Austin

Role: PI

Timeline: October 2021 – September 2022

Amount: $38,951

16. Web-publication of the U.S. Forest Service Southwestern Region's Historical Aerial Photography Archive Project (HAPAP)

Team: Su Zhang, Hays Barrett, Tyler Eshelman, and Lisa Sinclair

Funding Agency: U.S. Forest Service

Role: PI

Timeline: July 2021 – June 2022

Amount: $187,725

17. Proposed AASHTO Guidelines for Applications of Unmanned Aerial Systems Technologies for Element-Level Bridge Inspection

Team: Fernando Moreu, Christopher Lippitt, Su Zhang, Susan Bogus, Jian Li, Caroline Bennett, William Collins, and Walter Gerstle

Funding Agency: U.S. Department of Transportation National Cooperative Highway Research Program (NCHRP)

Role: Co-PI

Timeline: June 1, 2021 – December 2023

Amount: $340,000

18. New Mexico Department of Transportation Culvert Inspection System

Team: Christopher Lippitt, Susan Bogus, and Su Zhang

Funding Agency: New Mexico Department of Transportation

Role: Co-PI

Timeline: March 1, 2021 – November 2022

Amount: $497,025

19. New Mexico's Major Initiative on Preserving and Accessing to Historical Aerial Photo Project

Team: Shirley Baros, Su Zhang, Laura Gleasner, Paul Neville, Hays Barrett, and Harrison Meyer

Funding Agency: National Endowment for the Humanities

Role: Co-PI

Timeline: January 2021 – December 2023

Amount: $349,932

20. University of New Mexico Press Website Rebuild Project

Team: Su Zhang, Hays Barrett, Esmeraldo Martinez, Shirley Baros, and Tyler Eshelman

Funding Agency: UNM Press

Role: PI

Timeline: November 2020 – March 2022

Amount: $180,723

21. Comprehensive Web Portal for Traffic Safety Interactive Mapping and Predictive Analysis

Team: Nick Ferenchak and Su Zhang

Funding Agency: U.S. Department of Transportation

Role: Co-PI

Timeline: July 2020 – June 2021

Amount: $468,221

22. Developing a Mobile Application to Visualize and Analyze Methane Gas Production in New Mexico

Team: Su Zhang, Shirley Baros, and Hays Barrett

Funding Agency: New Mexico Department of Energy, Minerals, and Natural Resources (EMNRD)

Role: PI

Timeline: July 2020 – June 2021

Amount: $167, 639

23. Developing a Mobile Application to Offer Mobile Users to Report Selected Environmental Issues to the New Mexico Oil Conservation Division

Team: Su Zhang, Shirley Baros, and Hays Barrett

Funding Agency: New Mexico Department of Energy, Minerals, and Natural Resources (EMNRD)

Role: PI

Timeline: July 2020 – June 2021

Amount: $310, 248

24. Developing Public Facing Bulk Data API for New Mexico's Oil and Gas Data

Team: Su Zhang, Shirley Baros, and Hays Barrett

Funding Agency: New Mexico Department of Energy, Minerals, and Natural Resources (EMNRD)

Role: PI

Timeline: July 2020 – June 2021

Amount: $188,222

25. Railroads Inspections with Drones of Higher Automatization (RIDHA)

Team: Fernando Moreu, Rafael Fierro, and Su Zhang

Funding Agency: U.S. Department of Transportation Federal Railroad Administration

Role: Co-PI

Timeline: April 2020 – March 2021

Amount: $250,000

26. Count Every Drop: Testing Gap Analysis and Remediating Data Completeness for New Mexico

Water Data Research and Policies

Team: Jeri Graham and Su Zhang

Funding Agency: UNM Water Grand Challenging

Role: Co-PI

Timeline: January 2020 – December 2020

Amount: $10,000

27. Dynamic Online Mapping and Analysis Platform for NMDOT

Team: Su Zhang, Shirley Baros, Hays Barrett, Harrison Meyer, and Sandeep Talasila

Funding Agency: New Mexico Department of Transportation

Role: PI

Timeline: January 2020 – December 2022

Amount: 450,000

28. Achieving Geospatial Data Excellence in Economic Development

Team: Shirley Baros, Su Zhang, Brian Keller, Shawn Penman, Sandeep Talasila, and Laura Gleasner

Funding Agency: National Endowment for the Humanities

Role: Co-PI

Timeline: January 2020 – December 2022

Amount: $674,518

29. GIS Institute for Digital Humanists

Team: Shirley Baros, Su Zhang, Brian Keller, Shawn Penman, Sandeep Talasila, and Karl Benedict

Funding Agency: National Endowment for the Humanities

Role: Co-PI

Timeline: October 2019 – September 2021

Amount: $249,968

30. New Mexico's Major Initiative on Accessing to Historical Aerial Photo Project

Team: Shirley Baros, Su Zhang, Laura Gleasner, Paul Neville, Hays Barrett, and Harrison Meyer

Funding Agency: National Endowment for the Humanities

Role: Co-PI

Timeline: July 2019 – June 30, 2022

Amount: $349,954

31. The Cost-Effectiveness of Using Earth-Observing Satellite Imagery to Inform Metropolitan Transportation Planning

Team: Shirley Baros, Su Zhang, and Jingjing Wang

Funding Agency: Resources for the Future

Role: Co-PI

Timeline: July 2019 – June 2020

Amount: $99,991

32. Application of sUAS in Water Conservation on Golf Courses

Team: Su Zhang, Paul Neville, and Shirley Baros

Funding Agency: United States Golf Association

Role: PI

Timeline: January 2019 – December 2021

Amount: $119,921

33. New Mexico Grants Mineral Belt Historical Aerial Photo Archive Project

Team: Shirley Baros, Su Zhang, Laura Gleasner, Paul Neville, and John Savickas

Funding Agency: National Archives and Records Administration

Role: Co-PI

Timeline: July 2018 – June 2019

Amount: $136,250

34. Flying Sky High with STEM

Team: Christopher D. Lippitt, Su Zhang, Caitlin L. Lippitt, Timothy L. Hawthorne, Martin H. Jones, and Rafael Fierro

Funding Agency: U.S. National Science Foundation

Role: Senior Personnel

Timeline: June 2018 – May 2022

Amount: $1,957,554

35. A Comprehensive Habitat Linkage Assessment for Multiple Terrestrial Species of Greatest Conservation Need (SGCN) using Graph Theory-based GIS Modeling and High Spatial Resolution LiDAR and NAIP in the Upper Rio Grande Watershed

Team: Yan Lin, Xi Gong, Su Zhang, and Paul Neville

Funding Agency: New Mexico Department of Game and Fish

Role: Co-PI

Timeline: January 2018 – December 2018

Amount: $60,333

15. TEACHING

A. Master Advisement

1. Completed as Committee Member (13)

- Piyush Garg
  - Graduated in December 2017
  - Thesis – Displacement Measurement Using a Laser Doppler Vibrometer Mounted on an Unmanned Aerial Vehicle
- Smriti Chaulagain
  - Graduated in August 2018
  - Thesis – An Investigation into Remote Sensing Techniques for Describing Hydraulic Roughness
- Jared Romero

- Graduated in December 2018
- Thesis – Quantification of Sediment Yields from Semi-arid Watersheds Using Unmanned Aerial Systems and Photogrammetry Techniques

- Sean O'Neill
  - Graduated in May 2019
  - Professional Project – Mapping Health in New Mexico's Forests: A Solution for a Continuously Updated Forest Health Web Mapping Portal
- Ryan Dow
  - Graduated in May 2019
  - Thesis – Drivable Space Datasets Created by Airborne LiDAR and Aerial Imagery
- Jacob Wikle
  - Graduated May 2019
  - Professional Project – Drone Based Aerial Survey: Using Drones to Replace Traditional Field Survey Methods for Determining Peak Streamflow
- Alexander Marx
  - Graduated in May 2019
  - Professional Project – Geospatial Technologies to Detect and Visualize Potential Urban Farmland for Neighborhood Revitalization
- Aron Roberts
  - Graduated May 2020
  - Thesis – An Analysis of Contraflow Network Resiliency Under Mass Evacuation Conditions in Houston, Texas
- Tammira Taylor
  - Graduated in May 2021
  - Professional Project – Building Inspection Feasibility Study for Albuquerque Public Schools
- Gena Robertson
  - Graduated in August 2023
  - Thesis – Performance Evaluation Of E-Ticketing Technologies On Asphalt Paving Projects In New Mexico
- Pratistha Sharma
  - Graduated in December 2023
  - Thesis – Dryland Vegetation Mapping Using High Spatial-Temporal Resolution Satellite Imagery In New Mexico: A Comparison Of Phenological Time-Series Transformation Methods
- Yahaira Alvarez Gandia
  - Graduated in May 2024
  - Thesis – Assessing Consequences and Relevant Thresholds of Seismic Events in Puerto Rico to Aid the Future Creation of Consequence-Driven Scenarios
- Arian Golrokh Amin
  - Graduated in August 2024
  - Thesis – Evaluation Of Machine Learning Algorithms and Statistical Analysis For Predicting Crash Severity And Determining Contributing Factors: A Comparative Study

2. In-Progress as Committee Member (2)

- Claire Jordy
  - Graduating in December 2024
  - Professional Project – Spatial and Equity Analysis of the Xeriscape Conversion Rebate Program in Albuquerque, NM
- David Jacobs
  - Graduating in May 2025
  - Professional Project – TBD

B. Doctoral Advisement

1. Completed as Committee Member (1)

- Fei Han
  - Graduated in December 2021
  - Dissertation – Measurement of Resilience Performance for Infrastructure Construction Project Delivery

2. In-Progress as Committee Member (1)

- Lindsey Rotche
  - Graduating in May 2026
  - Dissertation – Climate Change, Snow, and Fires: Adapting to an Uncertain Future

C. Classroom Teaching

1. 2025 Fall GEOG483L/583L Remote Sensing Fundamentals (UNM GES)
2. 2025 Spring GEOG488L/588L GIS Concepts and Techniques (UNM GES)
3. 2024 Fall CE283 Surveying and Geomatics (UNM CCEE)
4. 2024 Spring GEOG488L/588L GIS Concepts and Techniques (UNM GES)
5. 2023 Fall CE283 Surveying and Geomatics (UNM CCEE)
6. 2022 Fall CE283 Surveying and Geomatics (UNM CCEE)
7. 2022 Spring CE547 GIS in Water Resources Engineering (UNM CCEE)
8. 2018 Fall GEOG524 Advanced Topics in Remote Sensing (UNM GES)
9. 2018 Spring GEOG481L Geovisualization and Map Design (UNM GES)
10. 2017 Fall GEOG483L/583L Fundamentals of Remote Sensing (UNM GES)