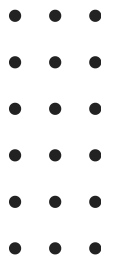




INSTITUTE FOR COMMUNITY
AND SOCIETY TRANSFORMATION
The UNIVERSITY of OKLAHOMA



ICAST Annual Report



2026



icast@ou.edu



<https://www.ou.edu/icast>

Land Acknowledgement



▶ **ICAST Commitment to Discovery, Creativity, and Innovation**

ICAST and the Office of the Vice President for Research and Partnerships at the University of Oklahoma advance the University's commitment to Pillar 5 of the Lead On, University Strategic Plan by supporting OU research and helping to shape the future through discovery, creativity, and innovation.

▶ **Land Acknowledgment Statement**

"Long before the University of Oklahoma was established, the land on which the University now resides was the traditional home of the "Hasinais" Caddo Nation and "Kirikir?i:s" Wichita & Affiliated Tribes. We acknowledge that this territory once also served as a hunting ground, trade exchange point, and migration route for the Apache, Comanche, Kiowa, and Osage nations. Today, 39 Tribal Nations dwell in the state of Oklahoma as a result of settler and colonial policies that were designed to assimilate Native people.

The University of Oklahoma recognizes the historical connection our university has with its Indigenous community. We acknowledge, honor, and respect the diverse Indigenous peoples connected to this land. We fully recognize, support, and advocate for the sovereign rights of all of Oklahoma's 39 Tribal Nations. This acknowledgment is aligned with our university's core value of creating a diverse and inclusive community. It is an institutional responsibility to recognize and acknowledge the people, culture, and history that make up our entire OU community."

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MESSAGE FROM THE DIRECTOR

As we gear up for a new academic year, the Institute for Community and Society Transformation (ICAST) is delighted to share our FY26 annual report. Impactful research, scholarship and creative activities are more important than ever given the evolving challenges and opportunities facing many communities today. We are inspired by the scientific discoveries, intellectual contributions and creative output of OU faculty, researchers, students, staff and community partners working together to help communities thrive.

Here are some of this past year's highlights:

- Significant growth in ICAST affiliate membership
- Impactful networking events and workshops to build collaborations, share research and creative activities, connect faculty members to funding opportunities and refine proposal resubmissions
- ICAST speaker series launched, highlighting, highlighting innovative projects by ICAST faculty fellows and affiliates
- \$68 million in extramural proposals, \$10.5 million in new funding
- Collaborations with Native Nations in Oklahoma (and beyond) to support tribal energy development and sovereignty through symposia and connection with OU energy experts
- Financial support for operations and staff for ICAST's five affiliated centers, institutes and consortia
- Seed grants to six interdisciplinary research teams at OU
- Support for research translation activities and the growth of OU's innovation and research translation ecosystem



We are grateful for you, our ICAST affiliates and colleagues, and your willingness to engage with the kinds of work needed to better understand and solve difficult human and societal challenges. We extend huge thanks to the Office of the Vice President for Research and Partnerships for their support and guidance, which underpins ICAST's success. ICAST remains committed to supporting social sciences, humanities, arts, and data sciences within and beyond their disciplinary boundaries. We look forward to the coming year as we foster collaborations and innovations to create positive OU impacts and transform communities.

Sincerely,

A handwritten signature in cursive script that reads "Shane Connelly".

Shane Connelly, Ph.D.

George Lynn Cross Research Professor, Psychology

Director, Institute for Community and Society Transformation (ICAST)



MISSION

Broaden access and forge new pathways toward positive societal transformation through community-engaged research and creative activity that advances health and well-being, arts and humanities, education, and technological and workforce adaptations.



VISION

Transform societies by setting the national standard for convergent, community-engaged research and creative activity.

OUR VALUES



INNOVATION

In collaboration with partners, we implement new and improved ideas to provide solutions that create positive and lasting social change.



CREATIVITY

We generate novel transdisciplinary research, knowledge, and solutions to intractable societal and community challenges.



INTEGRITY

We practice honesty, consistency, and persistence in our work to ensure the quality of our research and creative activities and build trust in our collaborative relationships. We promote awareness of an adherence to ethical principles within and across disciplines.



HUMILITY

We are lifelong learners who do not have all the answers and remain open to the experiences, knowledge, and ideas of others. We recognize and build on community strengths.



COLLABORATION

We strive to build authentic, respectful, and engaged relationships with community partners and transdisciplinary scholars, grounded in commitment to collaboration.



INCLUSIVENESS & OPPORTUNITY

We strive to create an environment of broad participation in which all are valued and can contribute in unique, meaningful ways.

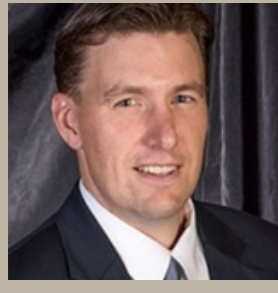
Meet our Team



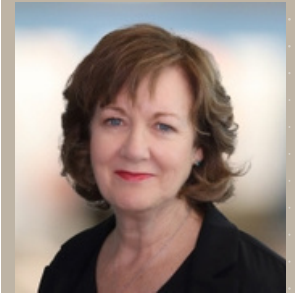
Shane Connelly, PhD
Director



Brittany Hott, PhD
Associate Director



Matthew Jensen, PhD
Associate Director



Kate Gallagher, PhD
Associate Director



Kathy Volz
Program Manager



Kelly Peters
Sr. Project Coordinator



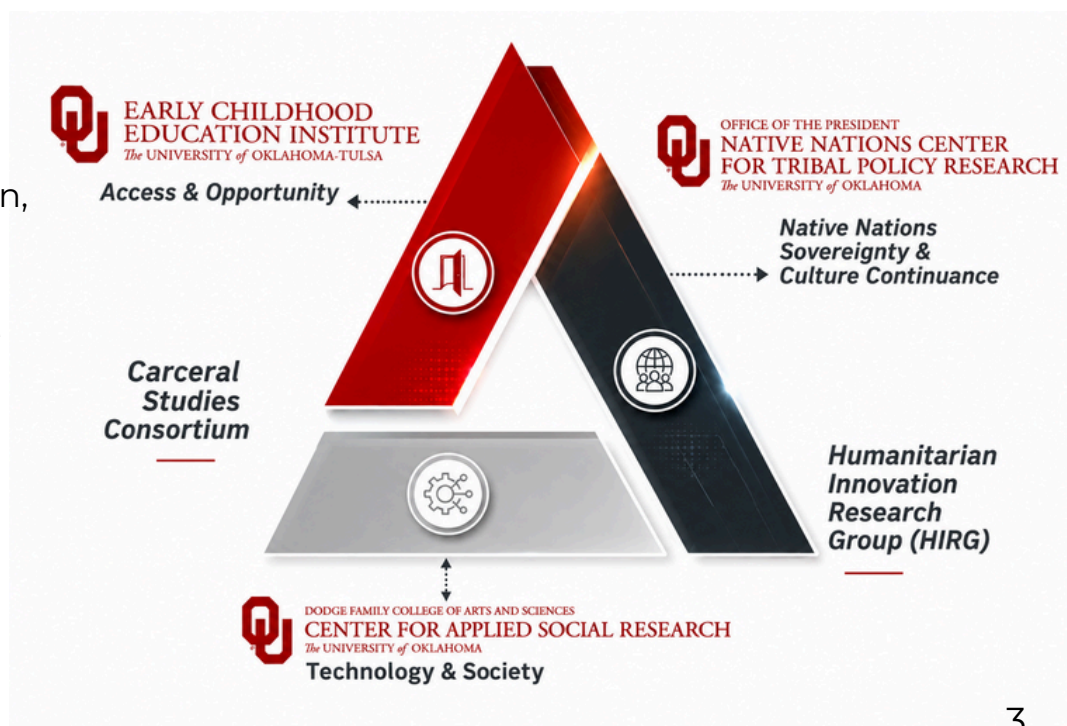
Dan Li, PhD
Faculty Fellow



Eric Day, PhD
Faculty Fellow

Affiliated Centers & Institutes

The University of Oklahoma hosts research centers and institutes that cover a diverse range of disciplines and specialties across OU's Norman, Health and Tulsa campuses. These centers and institutes serve as hubs for collaborative research, bringing together investigators to drive societal transformation. OU's interdisciplinary research ecosystem encompasses various cross-departmental research initiatives, programs, and institutes.



Affiliated Centers & Institutes



THE CENTER FOR APPLIED SOCIAL RESEARCH (CASR)

The Center for Applied Social Research applies innovative concepts and methods in social sciences to advance complex, multi-faceted organizational, policy, and public health research. CASR approaches critical emerging issues that influence institutional policies and practices from an interdisciplinary perspective to enhance our understanding of human social behavior and develop practical solutions to real-world problems.



EARLY CHILDHOOD EDUCATION INSTITUTE (ECEI)

The Early Childhood Education Institute at OU-Tulsa is a nationally recognized research center dedicated to improving access and opportunity in early childhood programming and policies by generating and disseminating high-quality, meaningful research. ECEI works closely with community partners and drives improvements in early childhood education and improves the lives of the children in it.



NATIVE NATIONS CENTER FOR TRIBAL POLICY RESEARCH (NNCTPR)

The Native Nations Center for Tribal Policy Research strives to be recognized as the premier institute that produces trustworthy, transformational, and forward-thinking policy research focused on tribal governance and sovereignty, while supporting tribally centered capacity-building initiatives. NNCTPR aspires to embody research excellence in service to Indian Country through ethical, collaborative relationships.



CARCERAL STUDIES CONSORTIUM (CSC)

The Carceral Studies Consortium brings together faculty, staff, and students from across the University and beyond to cultivate and support rigorous research, pedagogy, and community engagement toward social reform.



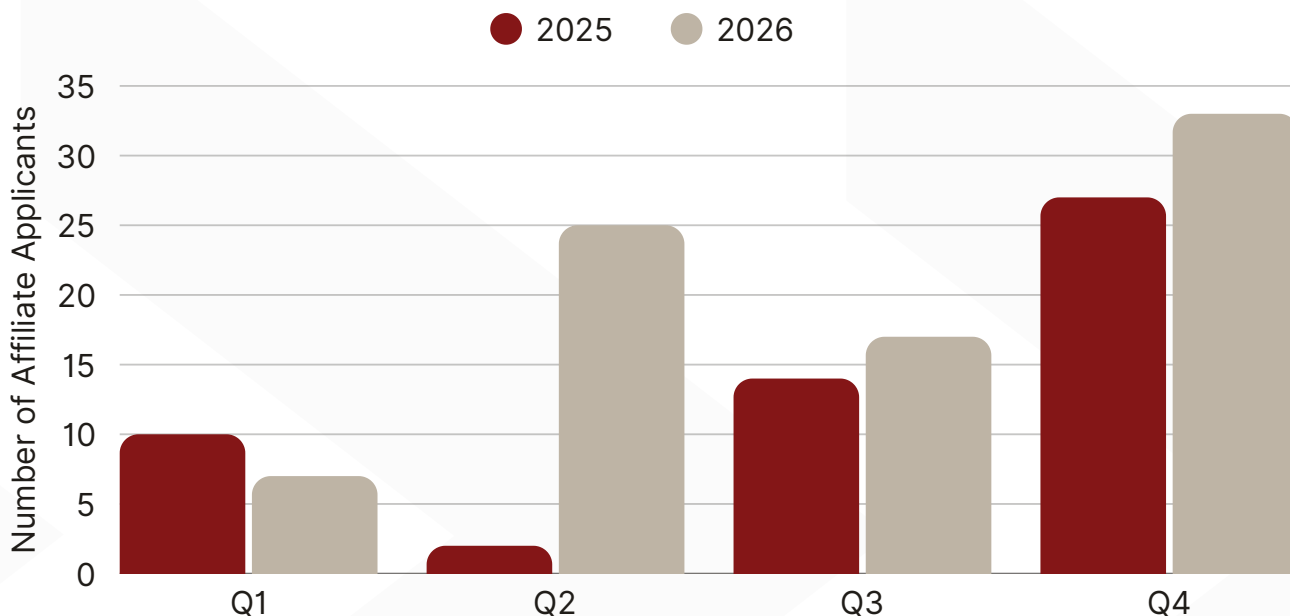
HUMANITARIAN INNOVATION RESEARCH GROUP (HIRG)

The OU Humanitarian Innovation Research Group is a transdisciplinary research team working towards the development of an effective refugee resettlement model for the benefit of both host and refugee communities in the U.S. within a global framework

ICAST Affiliation Growth

263
Affiliates

54%
Growth



University Departments

ICAST affiliates represent a broad range of expertise and disciplines across **44** academic departments



Colleges

ICAST affiliates represent a diverse community of scholars and practitioners spanning **9** colleges across three campuses

BECOME AN ICAST AFFILIATE

Join a community of researchers, practitioners and students working together to create lasting social impact.



ICAST Programs & Initiatives

ICAST Workshops

This spring, ICAST hosted interactive workshops designed to help affiliate researchers identify funding opportunities, strengthen proposal development strategies, and successfully respond to reviewer feedback.

Finding Funding Workshop

Led by ICAST Program Manager Kathy Volz, this hands-on workshop helped participants develop personalized funding strategies tailored to their research interests and career goals. Attendees learned effective approaches for identifying and evaluating funding opportunities while conducting real-time searches for internal, federal, foundation, and international funding sources.

Re-Tool & Re-Submit Workshop

This workshop provided affiliates with practical strategies for strengthening unfunded grant proposals and preparing them for resubmission. Participants learned how to interpret reviewer feedback, identify areas for improvement, refine project narratives, and better align proposals with sponsor priorities. The session also explored alternative funding opportunities and helped attendees develop actionable plans to increase the competitiveness of future submissions.

Workshop Impact

79

Affiliate participants

19

Hands-on funding searches conducted

3

Workshops Developed

67

% Registrant Attendance Rate

ICAST Speaker Series

FY'26 marked the inaugural year of the ICAST Speaker Series, a new initiative designed to foster interdisciplinary dialogue and strengthen connections among researchers, practitioners, students, and community partners. Through a diverse lineup of presentations and discussions, the series provided opportunities to explore emerging challenges, innovative solutions, and community-engaged approaches to research and practice.

Over the course of the year, the Speaker Series hosted multiple events that engaged participants from **8** colleges and **18** academic departments and units across the University of Oklahoma, while also welcoming community organizations and external partners. By bringing together perspectives from across disciplines and sectors, the series helped cultivate new relationships, expand knowledge sharing, and advance ICAST's mission of creating meaningful community impact through collaborative scholarship.



AI, Automation, and the Future of Work

This session focused on how AI and workplace automation are reshaping employee experiences and organizational life. It highlighted diverse disciplinary and methodological perspectives on both the opportunities and challenges associated with emerging technologies. Dr. Eric Day presented findings from his lab's recent research examining links between workplace AI use and well-being outcomes both in- and outside of work.

Speaker: Eric Day, Ph.D.



Collaborating Across Disciplines to Advance School Mental Health

This session examined how researchers, educators, and practitioners can collaborate to strengthen mental health supports in schools. It emphasized the value of bringing diverse perspectives and expertise into dialogue to generate new ideas and partnerships. The discussion focused on advancing strategies that promote student well-being and support thriving learning environments.

Speaker: Dan Li, Ph.D.



Artifice: Creating a Chosen World

This session explored how tools and technologies have been used to represent, investigate, and model the workings of the mind and society. It examined the social context and meaning of technological change, drawing connections between the history of the social and behavioral sciences and the history of technology. Professor Heyck's work highlighted the role of information and media technologies in shaping how knowledge about mind and society is produced.

Speaker: Hunter Heyck, Ph.D.



The State of Precarity in Oklahoma

This session explored household financial precarity in Oklahoma, including ALICE (Asset Limited, Income Constrained, Employed) data from United Way of Oklahoma. It highlighted that 16% of Oklahoma households live below the poverty line and 29% face financial constraints. The discussion focused on using this data to inform research and policy on economic instability and inequality.

Speaker: Joy Pendley, Ph.D.



Water as a Connector: Expanding the Research at the Oklahoma Water Survey

This session highlighted the Oklahoma Water Survey's efforts to sustain water resources and protect aquatic and public health in Oklahoma. It showcased key strategies, partnerships, and solutions addressing the state's most pressing water challenges. The discussion emphasized collaborative approaches to advancing water sustainability and resilience.

Speaker: Jason Vogel, Ph.D.

MEASURING STUDENT IMPACT

This year, ICAST continued to strengthen interdisciplinary collaboration, expand research engagement, and support innovative funding opportunities across the university community. The following metrics highlight the collective impact, growth, and momentum generated through strategic initiatives, affiliate engagement, and research development efforts throughout the year.

Undergraduate Students

17

Doctoral Students

27

Masters Students

18

Research Scientists

11



Annual ICAST Networking Event

Bringing together affiliates, faculty, students, and research partners to strengthen interdisciplinary collaboration and spark innovative research across campus.

Last November, ICAST hosted its fifth annual in-person networking event designed to encourage meaningful dialogue across disciplines and foster new collaborative partnerships.

Through seed grant presentations, interactive discussions, and networking sessions, attendees explored shared research interests, emerging societal challenges, and opportunities for future interdisciplinary initiatives.

Beyond showcasing current initiatives, the networking event fostered new partnerships, interdisciplinary collaboration, and future research opportunities by connecting participants around shared interests and emerging ideas.



As ICAST continues to expand its interdisciplinary research ecosystem, future networking sessions will build upon this momentum by introducing additional thematic discussions, collaborative workshops, and opportunities for faculty, students, community organizations, and external partners to engage in meaningful research conversations. These events will continue to support ICAST's mission of advancing innovative, community-engaged, and solutions-focused research across the university and beyond.

Featured Research Discussion Topics

- ▶ Tribal Engagement & Policy Research
- ▶ Education & Health
- ▶ Carceral & Criminal Justice
- ▶ Disaster Preparedness & Response
- ▶ Humanitarian Innovation
- ▶ Social Media Use & Youth Mental Health
- ▶ Healthy & Helpful AI in Workplaces

Native American Energy in Transition

Old Problems, New Challenges in Indian Country

The University of Oklahoma hosted the second annual Native American Energy in Transition: Old Problems, New Challenges in Indian Country symposium on October 2–3, 2025, at the Sam Noble Museum of Natural History in Norman. This Tribally led gathering convened more than 70 participants, including leaders and representatives from Native Nations across the United States, to address emerging challenges and opportunities in energy development in Indian Country.

ICAST served as a co-host and key facilitator of the symposium, connecting Tribal leaders, federal partners, industry representatives, and University of Oklahoma researchers in collaborative dialogue focused on energy sovereignty, innovation, and policy. Discussions centered on Tribal sovereignty, energy system innovation, economic development, governance frameworks, funding mechanisms for tribal energy projects, and the role of federal policy in shaping infrastructure and operations in Native communities.

The symposium featured presentations from the Bureau of Indian Affairs, the Oklahoma Geological Survey, and tribal utilities advancing microgrid development and energy market access, along with OU researchers sharing work on energy systems, sustainability, and infrastructure resilience. Tribal leaders representing the Caddo Nation, Cheyenne and Arapaho Tribes, Citizen Potawatomi Nation, Kiowa Tribe, and Southern Ute Department of Energy highlighted strategies for expanding energy portfolios and advancing self-determined development.



Fossil Energy and Carbon Management Tribal Working Group (FECM - TWG)

The Institute for Community and Society Transformation (ICAST) and the Native Nation Center for Tribal Policy Research (NNCTPR) hosted the U.S. Department of Energy's Fossil Energy and Carbon Management Tribal Working Group (FECM-TWG) on September 23-25 for their quarterly meeting. The Federal Government holds treaty obligations and a trust responsibility to uphold Tribal sovereignty and support the revitalization of Tribal communities, including efforts in economic growth and energy development. In response, the Department of Energy formed the FECM-TWG in the Fall of 2024. Through outreach and coordination, this group helps to ensure that Tribes can access available funding and resources to utilize the development of Tribal energy resources for sustainable Tribal economies.

Attendees represented a range of Tribal Nations and federal partners, including the Department of Energy, Crow Tribe, Ute Mountain Tribe, Navajo Nation, Iñupiat Community of the Arctic Slope, Coushatta Tribe of Louisiana, and the Office of Indian Energy Policy and Programs, among others, reflecting broad national engagement in Tribal energy issues.

During this meeting, the FECM-TWG had the opportunity to learn about some of the innovative energy and carbon management research at the University of Oklahoma. Dr. Steven Crossley discussed a recent NSF project to develop new technology for utilizing methane as a feedstock for hydrogen production and Dr. Tim Filley discussed work on methane detection and management. The FECM-TWG attended part of the College of Earth and Energy's Enhanced Oil Recovery and Carbon Management Symposium. They also toured the Oklahoma Geological Survey labs (Dr. Carrie Miller-DeBoer) as well as the Integrated Core Characterization Center (IC3) labs (Dr. Son Dang and Dr. Mark Curtis).



Celebrating Research Translation at OU Symposium

Hosted by NSF ART - InTRO: Intensifying Translational Research in Oklahoma

The ART InTRO: Celebrating Research Translation Symposium brought together researchers, clinicians, students, and community partners to highlight innovative approaches to translating research into real-world impact. The event showcased interdisciplinary collaborations focused on advancing health, technology, and community-centered solutions while emphasizing the importance of connecting research discoveries with practical application. Through presentations, discussions, and networking opportunities, attendees explored how translational research can address complex challenges and improve outcomes across Oklahoma and beyond.

The symposium also celebrated the growing partnerships and initiatives emerging through ART InTRO, fostering meaningful dialogue between academic researchers and community stakeholders. Participants shared success stories, emerging ideas, and strategies for strengthening research translation efforts across disciplines.

By creating a space for collaboration and knowledge exchange, the event reinforced the university's commitment to accelerating innovation, expanding research impact, and supporting solutions that directly benefit communities.

ICAST was proud to support and participate in the symposium as part of its ongoing mission to advance interdisciplinary research and foster collaborative innovation across the university. Through engagement with researchers and institutional partners, ICAST helped highlight the importance of cross-campus collaboration and translational research initiatives that connect scientific discovery with societal impact. The event also provided an opportunity to strengthen relationships with faculty and researchers working in areas aligned with ICAST's strategic research priorities.



ICAST Arts & Humanities

Faculty Fellows

This section highlights the accomplishments of the ICAST Arts & Humanities Faculty Fellows over the past year, showcasing the innovative research, creative scholarship, and community-engaged initiatives advanced through the fellowship. It features the fellows' contributions to interdisciplinary collaboration, public engagement, and the integration of arts and humanities perspectives into addressing complex societal challenges, demonstrating the impact of their work across the university and beyond.



Maria Kaoutzani, Ph.D.
School of Music

Dr. Maria Kaoutzani is an Illinois-based composer whose interdisciplinary work blends contemporary classical music, rock, and electronic influences. Her recent work includes a concerto for Grammy Award-winning ensemble Eighth Blackbird and the Cincinnati Symphony Orchestra, as well as residencies with National Sawdust and the Hartford Women Composers Festival. As an Arts and Humanities Faculty Fellow, Kaoutzani is developing Pearl: A Song Cycle, a multimedia work exploring artists' experiences with mental health and identity through personal narratives, rock instrumentation, strings, saxophone, and electronic elements. She holds a Ph.D. in Music Composition from the University of Chicago and is a founding member of composer collective Kinds of Kings.

As the ICAST Technology and Society Faculty Fellow, Dr. Hunter Heyck advanced research, education, and university policy initiatives related to technology and society. Fellowship support enabled significant progress on two book projects, resulting in publishing contracts with Routledge and Johns Hopkins University Press, as well as the completion of a book chapter and presentation of related scholarship at a national conference. Dr. Heyck also developed and secured approval for a new interdisciplinary undergraduate certificate in AI, Ethics, and Society, along with two new courses that will launch during the upcoming academic year. In addition, his leadership in technology policy contributed to the adoption of a Faculty Senate resolution addressing high-risk digital systems, helping establish a foundation for future university policy related to AI and emerging technologies.



Hunter Heyck, Ph.D.

Dept. of History of Science,
Technology, and Medicine

FY 26 Program Highlights

ICAST FACULTY FELLOW PROGRAM

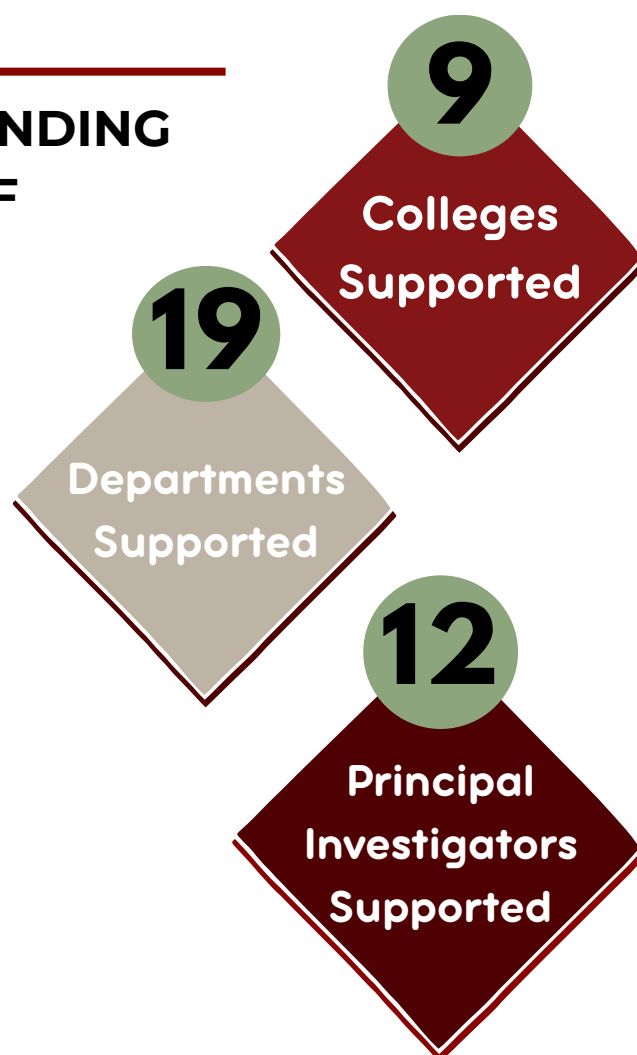
Building on the success of its inaugural year, ICAST continued its Faculty Fellows Program in FY'26, supporting faculty leaders who are advancing multidisciplinary research and fostering new collaborative opportunities across the University of Oklahoma. Faculty Fellows work to develop communities of practice, convene interdisciplinary teams, and position researchers to pursue large-scale external funding opportunities.

- Faculty Fellows receive up to \$10,000 in support as course release or stipend, along with dedicated guidance from ICAST leadership and administrative staff
- Fellows also benefit from opportunities to promote their work, expand their research networks, and build communities of scholars around shared areas of interest

As the program enters its third year, ICAST is poised to work with a new cohort of Faculty Fellows who work across disciplines to lead innovative initiatives and develop competitive research programs. At time of printing, new applications were under review, and selected Faculty Fellows will serve from Fall 2026 through Summer 2028.

2026 ICAST SEED GRANT FUNDING ACROSS THE UNIVERSITY OF OKLAHOMA

The ICAST Seed Grant Program supports innovative, transdisciplinary research teams working to address complex societal challenges. By providing early-stage funding, the program helps faculty build new collaborations across colleges, disciplines, and campuses while generating the foundation for future external funding opportunities. In FY'26, the program attracted proposals from a diverse range of fields, demonstrating ICAST's growing reach and its commitment to fostering research partnerships that transcend traditional disciplinary boundaries.



Extramural Funding Snapshot

\$68 M
Proposals

\$10.5 M
Awards



ICAST



\$45 M

Submitted
Proposals

76

No. of Submitted
Proposals

\$3.5 M

Funded Awards

CASR



\$14 M

Submitted
Proposals

20

No. of Submitted
Proposals

\$6 M

Funded Awards

ECEI



\$7 M

Submitted
Proposals

18

No. of Submitted
Proposals

\$1 M

Funded Awards



Driving **Innovation.**
Advancing **Knowledge.**
Strengthening Our **Future.**



Investments in Emerging Research

ICAST Seed Grant Funding

The 2026 ICAST Seed Grant program supports multidisciplinary research teams addressing community and societal transformation, with the goal of enhancing competitiveness for external funding. Congratulations to this year's ICAST Seed Grant Team Awardees.

Project Title	Lead PI
Leveraging Migration Ecology and Social Vulnerability to Characterize Bat Pathogen Spillover Risk	Daniel Becker, Ph.D.
Trust in Elections in the Digital Age	Hannah Chapman, Ph.D.
ViTal Mind: Benchmarking a Deployed Dialectical AI Platform for Research-Grade Health Literacy and Evidence-Grounded Behavior Change Across Oklahoma	Samuel Cheng, Ph.D.
Develop Data-Driven Models of Cognitive Flexibility for Enhancing Learning and Adaptive Behavior	Farnaz Zamani Esfahlani, Ph.D.
Turning Orphaned Wells into Tribal Assets: An Integrated Quantification and Carbon Registry Framework for the Caddo Nation	Tim Filley, Ph.D.
SR-4-Fit: Interpretable Rule-Based Learning for Trustworthy Decision-Making to Investigate National Trends in Child Neglect Recurrences in Child Protection Services	Dean Hougen, Ph.D.

Looking Back at FY'25 Seed Grant Impacts

FY'25 ICAST Seed Grant recipients expressed excitement about the opportunity to advance their research in ways that align with community impact, highlighting how the funding supports new directions and fosters meaningful collaboration. With these grants, ICAST reaffirms its commitment to supporting interdisciplinary innovation and research that addresses societal challenges.



“

ICAST Seed funds have enabled us to convene new and existing partners to advance future collaborations and funding opportunities. During a period of transition and funding uncertainty, we are especially grateful for support that strengthened partnership building, branding, outreach, and dissemination for new initiatives.

-**Jessica Blanchard, Ph.D.**

”



“

The ICAST Seed Grant helped us further develop this research direction by supporting the setup of the smart building testbed and the development of machine learning methods for data analysis and control in load flexibility management. It also supported graduate student training and helped us build preliminary outcomes for future work on smart building systems and grid-responsive operation.

-**Qi Li, Ph.D.**

”



“

ICAST seed grant funding has allowed me to expand my research interests, network with colleagues from across the university and work with new faculty collaborators. These seed-grant opportunities gave me time to focus on developing early-stage projects and then to share our progress widely. It's rare to be given the space and encouragement to think outside of disciplinary boundaries to study complex problems.

-**Constance Chapple, Ph.D.**

”



“

The ICAST Seed Grant provided a critical opportunity to advance a lab-developed engineering innovation into a practical breath analysis solution with potential health applications, accelerating the translation of interdisciplinary research into real-world impact.

-**Binbin Weng, Ph.D.**

”



“ The ICAST Seed Grant provided the critical support needed to transform an early-stage idea into the beginning stages of a working AI-powered museum learning platform. Through artist engagement, technology development, and real-world evaluation, the project has generated new opportunities to enhance how visitors connect with art and artists.

-Ghulam Jilani Quadri, Ph.D. ”



“ This ICAST Seed Grant transformed our initial research concept into a collaboration between OU and Gathering Place, generating actionable ideas to enhance visitor experiences and neighborhood satisfaction. The award has also created new opportunities for future partnerships that can positively impact one of Oklahoma's most treasured public spaces.

-Francesco Cianfarani, Ph.D. ”

Impact Report

FY'25 Seed Grants

▶ **19** Departments Involved

▶ **9** Colleges Involved

▶ **9** Total external funding opportunities pursued

▶ **12** Disciplines Involved

ICAST First Time PI and Graduate Student Research Awards

ICAST continued its First-Time PI and Graduate Student Research Scholarship program, offering three rounds of \$1,000 awards to support research and travel for projects aligned with ICAST's strategic focus areas.

ICAST Area of Interest	Awardee	College/Dept.
Health and Well-Being	Akram Falahati Grad Student Researcher	Health and Exercise Science
Technology and Society	Ziyang Xu Grad Student Researcher	College of Arts and Sciences
Technology and Society	Afshin Shayeghi Moghanlou Grad Student Researcher	Geography and Environmental Sustainability
Opportunity and Access	Wonkjung Jang, Ph.D. First Time PI	College of Education
Opportunity and Access	Hannah Chapman, Ph.D. First Time PI	International and Area Studies
Technology and Society	Aikaterini Kyprioti, Ph.D. First Time PI	Civil Engineering and Environmental Science

ICAST SUPPORTED EVENTS AND ACTIVITIES

Scholarship & Creative Activities

- Funded research processes and infrastructure for CASR, ECEI, and Native Nations Center for Tribal Policy Research
- Organized, hosted and presented at the Native Renewable Energy Symposium in October 2025
- Developed and conducted an ICAST Finding Funding workshop at OU's Early Childhood Education Institute (ECEI)
- Developed and conducted ICAST Workshops on the Norman campus for affiliates on Finding Funding and Re-Tooling & Re-Submitting proposals
- Supported Deepfakes in Homeland Security event at OU Health with the National Counterterrorism Innovation, Technology, and Education Center (NCITE)
- Provided special initiatives consultations with the Center for Faculty Excellence (CFE)
- Wrote letters of support for a variety of Foundation and Federal Agency proposals
- Supported the Mental Health Awareness Campaign on the OU Health Campus
- Supported various networking and collaboration events at other VPRP Institutes
- Provided letters of support for the Japan Foundation, Klingenstein 3rd Generation Foundation, U.S. Department of Education, and National Science Foundation
- Attended NNCTPR Workshops and special events
- Provided support to the ICAST Communities of Interest
- Provided evaluation activities support to OU faculty researchers
- Supported VPRP Office with special proposal evaluations, limited submission reviews, and research award evaluations
- Provided support to the DISC AI Working group

Community Engagement

- Co-hosted the State of Precarity in Oklahoma Workshop with United Way
- Supported the ART:InTRO program at the annual Oklahoma Innovation Expo
- Supported the Fossil Energy and Carbon Management Tribal Working Group meeting and event on the OU Norman campus
- Co-hosted and organized a Native American Energy in Transition 2-day symposium with the Caddo Nation to support tribal energy development and sovereignty in Oklahoma

Financial Support

- Year two of the ICAST Faculty Fellow Program (\$20K)
- Year two of the First Time PI and Graduate Student Researcher grants (6 \$1K awards)
- Two Arts & Humanities Forum ICAST Summer fellowships (\$16K)
- Director stipend for Carceral Studies Consortium Director (\$12K)
- Bridge funding for OK-AIR research center
- Event support for the annual Sustainability Forum (\$2K)

Thematic Research Areas

This section highlights the collective impact of the ICAST Faculty Fellows over the past year, showcasing the breadth of their interdisciplinary research, collaboration, and engagement activities. Rather than individual profiles, it emphasizes key outputs and outcomes generated through the fellowship, including research productivity, external funding efforts, student mentorship, and community and scholarly engagement aligned with ICAST's strategic focus areas.



Dr. Eric Day, Professor of Psychology and Industrial and Organizational Psychology doctoral program director at OU, focuses his ICAST fellowship on artificial intelligence (AI) and the future of work, examining how AI can enhance creativity, productivity, and meaningful work in organizational settings.

“

"Serving as an ICAST Faculty Fellow has strengthened my research and provided opportunities to showcase my students' work. I am grateful for ICAST's support in advancing our AI research."

”

Dr. Dan Li is an Associate Professor of Health Promotion Sciences in the Hudson College of Public Health at OU Health Sciences and Co-Director of the Children's Environmental Health Center in the U.S. Southern Great Plains. Her research focuses on mental health promotion and reducing disparities among minority and marginalized communities. She is also a National Certified Counselor and Licensed School Counselor (K-12) in North Carolina.



“

"Being an ICAST Fellow has been transformative for my growth as a scholar, helping me build meaningful collaborations across campuses and expand interdisciplinary research in school mental health and AI. Beyond resources and support, ICAST fostered a strong sense of community and momentum that will continue to shape my work beyond the fellowship."

”

ICAST Faculty Fellow

Innovation Metrics and Impacts

The accomplishments of ICAST Faculty Fellows reflect the strength of interdisciplinary collaboration and community-engaged scholarship across the university. The metrics and outputs below highlight research productivity, external funding, publications, presentations, student engagement, and broader impacts generated through Faculty Fellow activities during the past year.



16

Cross-Department Collaborations Initiated

Collaborations including connections from OU Norman, OU Tulsa, and OU Health



23

Grant Proposals Submitted

5 external grants
18 internal grants



25

Publications Produced

8 Presentations at the national, regional, state and local levels



35

Students Mentored

14 Doctoral Students
17 Graduate Students
4 Undergraduate Students



9

Community & Industry Partnerships Initiated

Partnerships included local school districts, science centers, and industry partners



\$6,281,466

Dollar Amount Pursued

Collaborations & Team Building Highlights

Our Team Building Highlights showcase the innovative work of ICAST affiliates across disciplines. Featured projects reflect the breadth of research, collaboration, and community impact driven by our members - ranging from groundbreaking studies and new partnerships to seed-funded initiatives that are shaping future opportunities. Together, these highlights illustrate the momentum and creativity fueling ICAST's mission.

Technology and Society



Aikaterini Kyprioti, Ph.D.
Principal Investigator

TREE-CARE: Treefall Risk Eval and Empowerment for Community Assessment and Resilience Enhancement

Extreme weather poses a persistent challenge for Oklahoma communities, and trees are often at the center of it. When ice storms and strong winds cause trees to fail, the consequences extend well beyond the trees themselves — damaged property, blocked roads, disrupted power, and recovery efforts that can stretch for days or weeks.

TREE-CARE, an NSF funded Smart and Connected Communities project led by the University of Oklahoma, takes on this problem through convergent research across five thrusts. AI and machine learning models trained on street-view, satellite, and GIS data identify trees, classify their species, and assess their proximity to infrastructure. Mechanics-based fragility models translate tree condition, species traits, and seasonality into failure probabilities under simulated ice storm and wind scenarios. Social science research examines how residents and stakeholders perceive treefall risk and make management decisions, while economic analysis quantifies the cost of the service disruptions that follow. A fifth thrust converts these findings into practical guidance and policy recommendations.

Partner communities — including Norman, a designated Tree City USA, the city of Yukon and Ponca City — serve as testbeds, with a Community Advisory Board, annual stakeholder meetings, and collaborations with Tribal Nations, emergency managers, utilities, and the Science Museum of Oklahoma shaping the work throughout. The resulting framework is designed to scale to other regions and hazards.



Matthew Jensen, Ph.D.
Principal Investigator

Immersive Cyber AI Professional Development

Dr. Matt Jensen, along with Dr. Alan Johnston, from the University of Alabama developed a training program to equip homeland security professionals with the knowledge and practical skills needed to recognize and respond to the growing threat posed by synthetic media. As artificial intelligence continues to advance, deepfakes are increasingly being used for fraud, impersonation, disinformation, reputational damage, and operational disruption, creating new challenges for public safety, investigations, and decision-making.

Designed specifically for homeland security stakeholders, this hands-on course combines technical foundations with real-world applications. Participants learn how modern video and audio deepfakes are created, examine realistic threat scenarios, evaluate the capabilities and limitations of current detection and mitigation tools, and explore strategies for integrating deepfake awareness into investigative, evidentiary, analytic, and policy workflows.

By the end of the training, participants were better prepared to identify synthetic media threats, assess their potential impact, and implement practical approaches to reduce risk and strengthen organizational resilience.



2026 NCITE Cybersecurity Training and Information Session

Health & Opportunity

Improving Cancer Outcomes for Native American Communities (ICON)

Funded by the National Institute for Minority Health and Health Disparities, the Stephenson Cancer Center's initiative to Improve Cancer Outcomes in Native American Communities (ICON) is a 5-year effort to develop research to address significant sources of cancer disparities in Tribal communities. ICON supports bidirectional, meaningful, generalizable, and Tribally-engaged research to reduce the major impact cancer has in the lives of American Indian and Alaska Native persons in Oklahoma and beyond. Current ICON projects include efforts to (1) understand environmental risk for cancer, (2) improve access to cancer screening, and (3) increase care coordination between Indian Health Service/Tribal/Urban (ITU) systems and the Stephenson Cancer Center (SCC). ICON's work is united by a focus on improving community engagement with Native Nations.



Paul Spicer, Ph.D.
Principal Investigator



Jessica Blanchard, Ph.D.
Principal Investigator

Partnership to Support Indigenous Driven Genomic Research (PIER)

In 2025, Southcentral Foundation (SCF), an Alaska Native-owned health system in Anchorage, was awarded a UMI award from the National Institutes of Health's National Human Genome Research Institute (NHGRI) within the Building Partnerships and Broadening Perspectives to Advance Ethical, Legal, and Social Implications (ELSI) Research (BBAER) Program. SCF's BBAER project, the Partnership to Support

Indigenous-Driven Genomic Research (PIER) is led by SCF Senior Researchers Dr. Vanessa Hiratsuka (Diné/Wintu) and Ms. Julie Beans (Yup'it of Andreafski/Oneida of Wisconsin). To address Tribal health disparities, genomic research — whether at the community level or via large repositories with data and biological specimens from American Indian/Alaska Native (AI/AN) people from a multitude of Tribes — will be conducted from an approach defined by AI/AN communities and led by and in partnership with AI/AN people. PIER will strengthen meaningful collaboration with AI/AN communities and AI/AN-serving health systems in Alaska and Oklahoma with the overall aim of promoting Indigenous-driven approaches to genomic research.

Education and Well-being

Creating Healthier Air in Oklahoma Head Start Classrooms

The Oklahoma Advancing Indoor Environment Research (OK-AIR) Initiative brings together researchers from the University of Oklahoma system and national partners to improve indoor air quality in Head Start and Early Head Start classrooms across Oklahoma. Supported by the Oklahoma Partnership for School Readiness Clearinghouse, the Preschool Development Grant, and a U.S. Environmental Protection Agency (EPA) Center award, the project partnered directly with educators to co-design practical air-quality solutions and implementation strategies tailored to early childhood settings.

Early findings show that portable HEPA filtration substantially reduced fine-particle pollution in classrooms. Intervention periods were also associated with lower detection of common respiratory and gastrointestinal pathogens and fewer illness-related absences, although these nonrandomized comparisons cannot establish causation. Additional analyses found that wildfire smoke infiltrated classrooms and that greater regional wildfire activity was associated with increased illness-related absences. Researchers also identified Oklahoma as one of the states with the highest environmental health vulnerability among young children, reinforcing the need for continued investment in healthier learning environments.

By combining environmental monitoring with child health, attendance, and implementation data, OK-AIR is providing evidence-based guidance for early childhood programs, public health agencies, and policymakers. The initiative serves as a model for cross-campus collaboration that translates environmental health research into practical solutions benefiting children, educators, and families across Oklahoma.



Changjie Cai, Ph.D.
Principal Investigator





Brittany Hott, Ph.D.
Principal Investigator

Second Step® to Enhance Rural Student Achievement and Wellbeing

Through a \$3.9 million grant from the U.S. Department of Education's Institute of Education Sciences (IES), faculty at the University of Oklahoma, in partnership with Committee for Children—a national nonprofit dedicated to promoting children's safety and well-being—and Mineola Independent School District, developed a comprehensive coaching model designed to support educators serving rural schools.

Too often, rural schools are underrepresented in educational research and rural educators are expected to implement practices that have not been validated within rural communities. This project addresses that gap by partnering directly with rural schools and building upon the strengths of rural communities, including strong relationships, agile leadership structures, and educators' deep commitment to the children and families we serve.

Over the past two years, the research team, led by Dr. Brittany Hott, Professor in the Department of Educational Psychology, and Dr. Courtney Dewhirst, Associate Professor in the Department of Instructional Leadership and Academic Curriculum, has developed and validated two innovative school climate assessment instruments: the Rural Assessment of School Learning Environment (RASLE) and the Wellbeing for Early Rural Learners (WERL). The team also completed a series of pilot studies and launched the first cohort of a large-scale impact study. Early findings are promising, demonstrating significant improvements in both student academic achievement and student well-being. We hope to provide research-based tools and supports that are specifically designed for—and validated with rural educators.

Environmental Collaborations



Daniel Becker, Ph.D.
Principal Investigator

Leveraging Migration Ecology and Social Vulnerability to Characterize Bat Pathogen Spillover risk

Emerging infectious diseases pose significant threats to public health, with many zoonotic pathogens originating in wildlife. Bats are important reservoirs for viruses and bacteria capable of causing severe human disease, including coronaviruses, rabies virus, Bartonella, and hemoplasmas. This project uses the Mexican free-tailed bat (*Tadarida brasiliensis*) as a model to better understand when bats carry and transmit zoonotic pathogens. These migratory bats

travel thousands of kilometers between Mexico and the southwestern United States, forming some of the largest maternity colonies in North America, including populations across Oklahoma and Texas. Research has shown that infection risk in bats increases during spring and fall migration due to physiological stress and population changes. By examining patterns of pathogen infection alongside bat movement, human exposure, and community vulnerability, this work aims to improve prediction and mitigation strategies for future zoonotic disease spillover events.

Turning Orphaned Wells into Tribal Assets: An Integrated Quantification and Carbon Registry Framework for the Caddo Nation

In partnership with the Caddo Nation, University of Oklahoma researchers are developing a framework to transform orphaned and abandoned oil and gas wells into carbon credit opportunities. The project builds on ongoing methane leak detection, soil and water sampling, and environmental modeling efforts across Caddo Nation wells to establish the scientific foundation needed for carbon credit certification. By integrating field data, predictive modeling, legal analysis, and carbon market protocols, the team aims to create a pathway for registering well-plugging projects with leading carbon registries. This work supports environmental restoration, reduces methane emissions, and advances Tribal economic development through the creation of a scalable carbon services model for the Caddo Nation and other Tribal communities.



Tim Filley, Ph.D.
Principal Investigator

Large Convergence Research Efforts

NRT Diana: An Interdisciplinary Training Program to Accelerate Fundamental Science Translation

The University of Oklahoma's NRT DIANA program is a \$3 million U.S. National Science Foundation-funded initiative that prepares graduate students in Materials Science and Engineering through interdisciplinary education, collaborative research, and industry partnerships. The program emphasizes cutting-edge research on molecular transport across structured interfaces while equipping students with business and communication skills to translate discoveries into real-world applications. NRT DIANA also hosts the Advanced Materials Workshop and NRT Summer School, with ICAST Director Shane Connelly serving as the program assessor.



Alberto Striolo, Ph.D.
Principal Investigator

NSF Accelerating Research Translation: Intensifying Research Translation in Oklahoma (ART:InTRO)

The Accelerating Research Translation: Intensifying Translational Research in Oklahoma (ART:InTRO) initiative is a National Science Foundation-supported project that advances the translation of university research into real-world solutions that benefit communities, industry, government, and Tribal Nations. By fostering a culture of use-inspired and translational research, ART:InTRO helps move promising discoveries beyond academic publications and toward practical applications, products, and services.

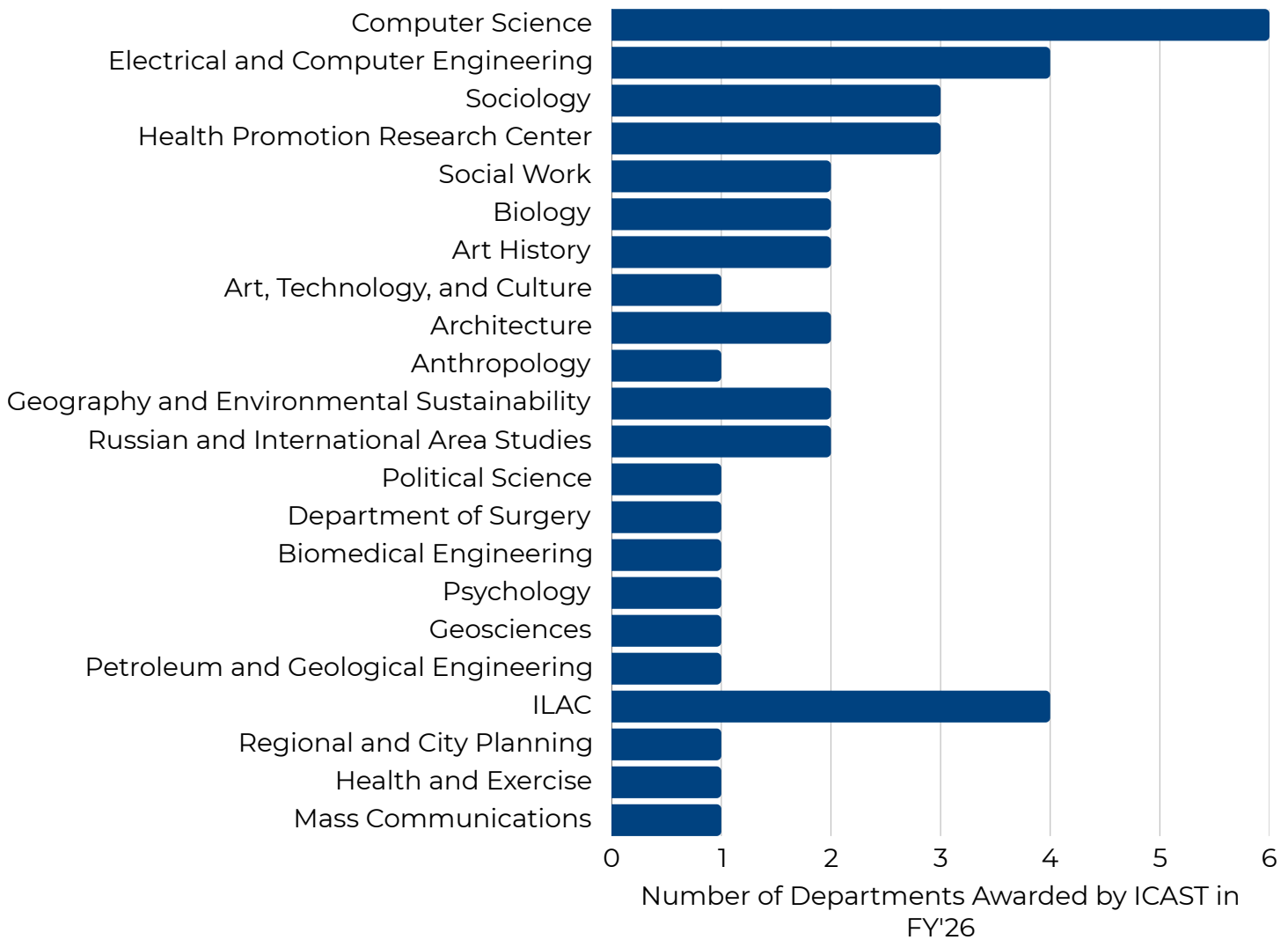


John Klier, Ph.D.
Principal Investigator

The initiative provides researchers with the training, resources, and partnerships needed to accelerate research translation through the ART Academy, which offers professional development in research translation, collaboration, ethics, and workforce development. ART:InTRO also supports graduate students and postdoctoral scholars pursuing careers in translational research, helping cultivate the next generation of innovators. ICAST Director Shane Connelly and Brittany Hott serve as Co-Principal Investigator and program evaluator on the project, contributing to the initiative's research translation and evaluation efforts.

Collaboration Impact Overview

This chart highlights the multidisciplinary reach of ICAST-funded research projects and awards, showcasing the wide range of departments represented across collaborative initiatives. The distribution demonstrates ICAST's role in bringing together diverse expertise from across campus to address complex community and societal challenges through interdisciplinary research, innovation, and partnership.



VPRP AWARDS FOR EXCELLENCE IN RESEARCH AND CREATIVE ACTIVITY

EXCELLENCE IN TRANSDISCIPLINARY, CONVERGENT RESEARCH

The Southern Plains Transportation Center

Musharraf Zaman, Syed Ashik Ali, Baharak Sajjadi, Mohammad Shams Ud Duha, Royce Floyd, Aikaterini Kyprioti, Tamera McCuen, Renee McPherson, Michael Molina, Arif Sadri, Yan Zhang

EXCELLENCE IN RESEARCH IN THE SOCIAL SCIENCES

Adam Feltz, Dodge Family College of Arts and Sciences

NEAL LANE AWARD FOR EXCELLENCE IN RESEARCH IN THE NATURAL SCIENCES

Xinyu Dai, Dodge Family College of Arts and Sciences

EXCELLENCE IN RESEARCH, DESIGN, AND CREATIVE EXPRESSION IN THE HUMANITIES AND THE FINE ARTS

Wanda Katja Liebermann, Christopher C. Gibbs College of Architecture

EXCELLENCE IN RESEARCH IN ENGINEERING AND APPLIED SCIENCE

Qinggong Tang, Gallogly College of Engineering

EXCELLENCE IN RESEARCH SERVICE AND ADMINISTRATION

Steven Foster, Dodge Family College of Arts and Sciences

LIFETIME ACHIEVEMENT AWARD

Ming Xue, College of Atmospheric and Geographic Sciences

COMMUNITY PARTNERS: Advancing Shared Impact

ICAST's success is built on the strength of our partnerships. Through meaningful, ongoing research collaborations with industry leaders, nonprofit organizations, government agencies, school systems, Tribal Nations, healthcare organizations, and community groups, we work together to address complex challenges and create lasting, positive change across Oklahoma and beyond. Our faculty, researchers, and partners combine research expertise with community knowledge to develop evidence-based solutions that improve lives and strengthen communities. We are deeply grateful for the trust, collaboration, and shared commitment of each of our community partners. Their dedication and leadership make this work possible, and we sincerely thank every organization for the invaluable role they play in advancing our shared mission of creating healthier, more resilient, and more equitable communities.

How We Partner

Collaborating for Community-Driven Solutions and Resilient Futures



Our Commitment: Partnerships, inclusivity, and respect guide everything we do. Together, we create solutions that are culturally responsive, equitable and built to last.

ICAST will continue fostering multidisciplinary team development, proposal activities, and strategic collaborations aligned with external funding opportunities, while expanding affiliate membership, networking sessions, and seed grant support. We aim to strengthen collaborations with OU Health campus, faculty and departments on the Norman and Tulsa campuses, and other centers and institutes in support of OU's strategic research initiatives in health, energy, national security and weather resilience.

Areas of interest include

- Early childhood education intersection with environment and health
- Rural and special education, mental health, and school well-being
- Human-centered computing and AI ethics
- Digital health access and equity
- Family and military readiness
- Societal impacts of energy research
- Social innovations addressing environmental challenges that impact communities

Looking Ahead to FY'27

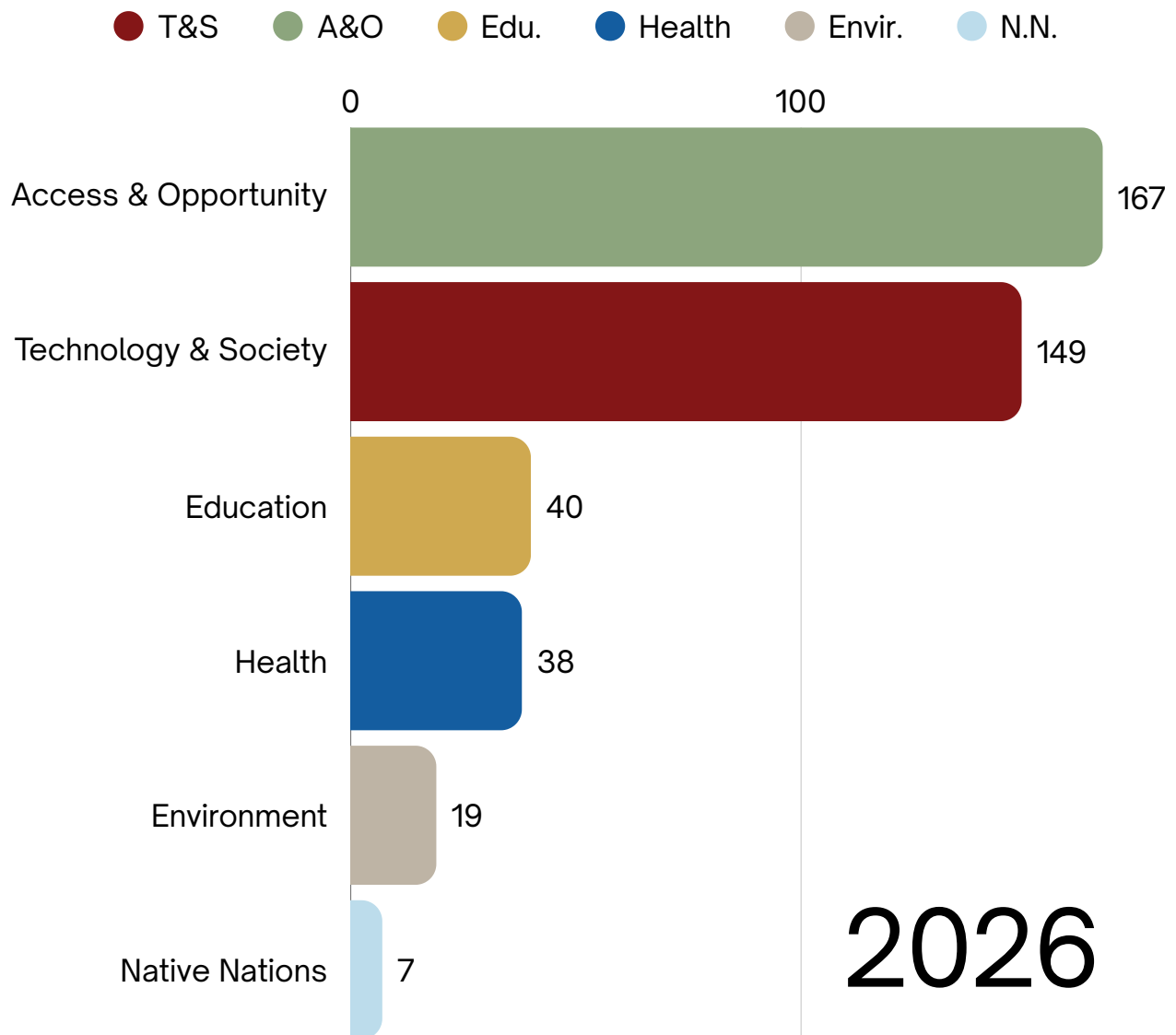
Stay connected with upcoming ICAST events and opportunities to collaborate, with dates and times announced in the monthly ICAST Bulletin.

- ICAST Speaker Series
- ICAST Hosted Workshops
 - Working with Social Scientists
 - Finding Funding
 - Re-Tool & Re-Submit
- ICAST 6th Annual Networking Event



ICAST Affiliate Publications

We extend our warmest congratulations to ICAST affiliates on their recent publications. Your dedication to advancing knowledge and contributing meaningful research continues to strengthen our community and inspire collaboration. This year, affiliates have produced **420 publications**, reflecting the depth and breadth of expertise across disciplines. We are proud to celebrate these achievements and the impact they bring.



2026

Want to learn more?

Curious to see the breadth of research happening across our affiliate network? A sample of affiliate publications is now available, showcasing the innovative ideas and impactful work driving progress in our community.



NOTES



INSTITUTE FOR COMMUNITY AND SOCIETY TRANSFORMATION

The UNIVERSITY of OKLAHOMA

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