



INSTITUTE FOR COMMUNITY  
AND SOCIETY TRANSFORMATION  
*The UNIVERSITY of OKLAHOMA*

FY 25



# ANNUAL REPORT



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# ACKNOWLEDGMENT



## **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 "Hasinai" 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

The Institute for Community and Society Transformation (ICAST) has seen another year of excellence and accomplishment in research, scholarship and creative activities. ICAST supported some major new multidisciplinary proposals and initiatives, two faculty fellows, new workshops on finding funding and connecting with foundations, exciting collaborations with Native Nations and more.

We are proud of ICAST's reach and impact across all colleges on the Norman campus as well as departments and programs in Tulsa and on the Norman campus as well as departments and programs in Tulsa and on the OU Health campuses. We provided \$127,000 in seed grant funds to nine multi-disciplinary teams and \$198,000 in operations and staff support for ICAST's five affiliated centers, institutes and consortia. Additionally, ICAST funded two summer fellowships offered by the Arts and Humanities Forum and first-time PI and Graduate Student research awards. Together with its affiliates, ICAST submitted \$76,189,861 in proposals and secured \$7,370,987 in external funding to advance research in education, health in Native American communities, renewable energy, and artificial intelligence, among others. Our award-winning faculty, researchers, and students continue to produce large numbers of impactful publications, exhibitions, speaker series, and other creative works.

We are deeply grateful to the members of our ICAST family for your enthusiastic participation, support and collaboration! We extend our thanks to the Office of the Vice President for Research and Partnerships for their support and guidance, which have made it possible for us to thrive. ICAST's future is bright, and we are committed to fostering and supporting social sciences, humanities and the arts, and data science in collaboration with other OU institutes, centers and community partners. We look forward to discovering new opportunities, growing our communities of practice and expanding our network to support ICAST's leading-edge research, scholarship and creative activities. All of this strengthens our capacities for addressing major societal challenges.

Sincerely,



Shane Connelly, Ph.D., George Lynn Cross Research Professor,  
Psychology Director, Institute for Community and Society  
Transformation (ICAST)





# ABOUT ICAST

ICAST is dedicated to providing innovative, transformative approaches to complex and pressing issues facing society today. While many of these grand challenges require new technological advancements, they also require broadening access and deepening understanding of human behavior, social systems, cultures and communities. Humans living and working together in communities of all types will ultimately determine the nature of acceptance, adoption or rejection of such advancements. Drawing on the expertise of our affiliates from every college across the university, ICAST creates meaningful impact through their discoveries and understandings in education, health, artificial intelligence, indigenous cultures, organizational and information systems, workforce adaptations and more.

**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.

## — 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 and adherence to ethical principles within and across disciplines.

### Humility

We are lifelong learners who do not have all (or even most) of the answers, and we commit to remaining open to the experience, knowledge, and ideas of all involved in our work. We acknowledge and promote community strengths.

### Collaboration

We strive to create authentic, respectful, and engaged relationships with community partners and transdisciplinary scholars, reflecting a commitment to a common goal.

### 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



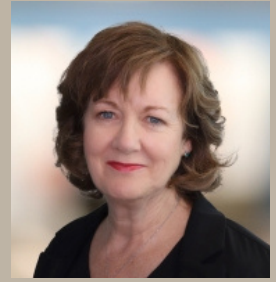
**Shane Connelly, PhD**  
Director



**Brittany Hott, PhD**  
Associate Director



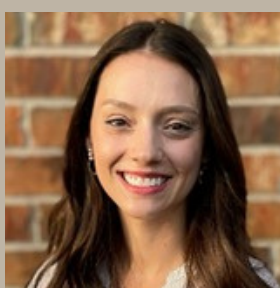
**Matthew Jensen, PhD**  
Associate Director



**Kate Gallagher, PhD**  
Associate Director



**Kathy Volz**  
Program Manager



**Kelly Peters**  
Admin Coordinator



**Dan Li, PhD**  
Faculty Fellow

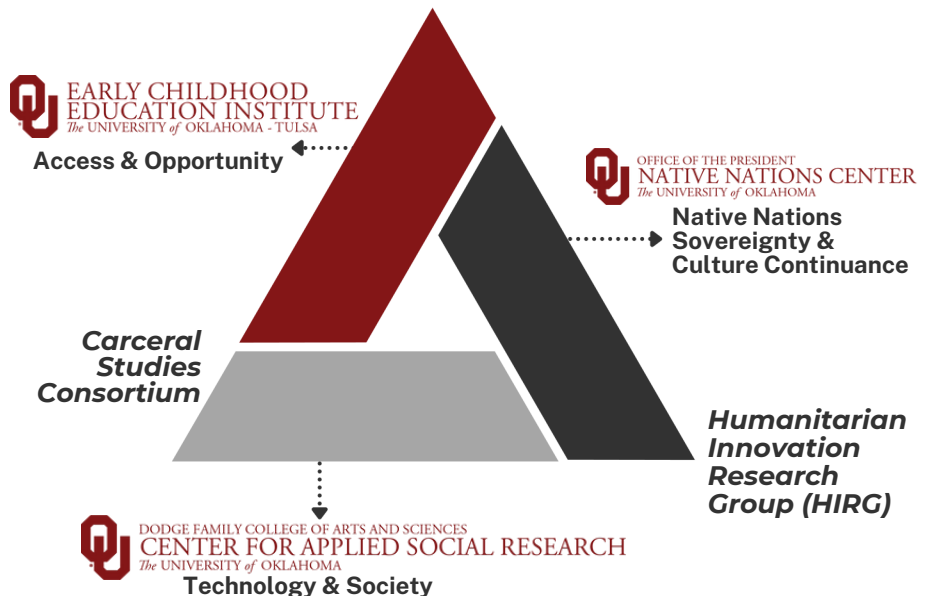


**Eric Day, PhD**  
Faculty Fellow

## Affiliated Centers & Institutes

The University of Oklahoma hosts research centers and institutes that cover a diverse range of disciplines and specialties across OU Norman, Health Sciences and OU Tulsa. 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-school research initiatives, programs, and institutes.

### ICAST Strategic Areas of Emphasis and OU Partners





## **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. We work closely with community partners and drive improvements in early childhood education and improve the lives of the children it serves.

## **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. We aspire to embody research excellence in service of 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 transformation.

## **Humanitarian Innovation Research Group (HIRG)**

Founded in 2020, 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.



**BECOME AN ICAST AFFILIATE**

[https://ousurvey.qualtrics.com/jfe/form/SV\\_ebpYW1jfn1eAqGO](https://ousurvey.qualtrics.com/jfe/form/SV_ebpYW1jfn1eAqGO)



# A Year in Review

## Annual ICAST Networking Event

ICAST held its 4th annual in-person networking event last November to foster collaboration, teamwork, and research advancement. The event featured presentations from seed grant teams and dynamic roundtable discussions on a range of topics, including Supporting Healthy & Helpful AI in Workplaces, Schools & Mental Health, Early Childhood Education & Health, LGBTQ Research & Engagement, Tribal Engagement, Transportation Planning, Public Health, Community & Economic Development, Transnational & Transdisciplinary Approaches to Disaster Preparedness & Response, and Carceral Studies. This variety of discussions catered to the varied interests of our affiliates and other participants.

The event also introduced participants to ICAST's mission and resources, as well as facilitating connections among faculty members to form collaborative teams for pursuing shared multidisciplinary interests, external funding, and scholarship/creative activity. The ICAST team enjoyed sharing the value and impact of these initiatives.

## ICAST Workshops

This Spring, ICAST hosted interactive workshops to help affiliate researchers identify and secure funding. The ***Foundations Funding Workshop***, led by Darrin Walters of the OU Foundation, focused on connecting with private foundations. The ***Finding Funding Workshop***, led by ICAST Program Manager Kathy Volz, guided participants in building personalized funding plans and conducting real-time searches across internal, federal, and international opportunities.

## Student Impact

Student engagement is a core element in future research. Our numbers below highlight the impact of ICAST on students, showcasing their engagement in interdisciplinary research with the ICAST team.

10

Undergraduate Students

43

Masters Students

26

Doctoral Students

9

Research Scientists



## INAUGURAL NATIVE RENEWABLE ENERGY SYMPOSIUM



On September 12–13, 2024, representatives from 16 Native American tribes, federal officials, academic experts, and industry leaders convened at the University of Oklahoma’s Sam Noble Museum for an inaugural ***Native Renewable Energy Symposium***. Sponsored and led by the Caddo Nation, this historic, tribe-initiated gathering was hosted in collaboration with ICAST, the Native Nations Center, and OU’s NSF RANGE team, tTRANSition to Green Energy in gas-producing regions (RANGE).

The symposium brought together more than 120 participants, marking a pivotal moment in advancing renewable energy initiatives across Indian Country. Designed to foster cross-sector collaboration, the event focused on strategic planning and funding pathways. Presenters emphasized the critical role of tribal leadership in shaping energy policy and implementing long-term, community-driven solutions. Participants stressed the importance of sustained partnerships between tribes, academic institutions, government agencies, and private industry. A recurring theme was the need for forward-looking strategies that prioritize long-term impact and resilience.

Highlights from the symposium included presentations on financing options available through the U.S. Department of Energy’s Loan Programs Office and innovative solar energy partnerships—most notably the SAKU initiative between the Caddo Nation and solar provider EightTwenty. OU researchers from NSF RANGE (clean hydrogen), IREES (methane monitoring), the Water Center, and a new EPA-sponsored Air Quality Center shared updates on tribal collaborations and received invitations to pursue future projects with Native Nation partners.

The Native Renewable Energy Symposium demonstrated the power of tribal leadership and cross-sector partnerships to drive economic and environmental transformation through research. It also reaffirms the collective commitment to a cleaner, more sustainable energy future for Native Nations in Oklahoma and beyond.

## NEW ICAST FACULTY FELLOW PROGRAM

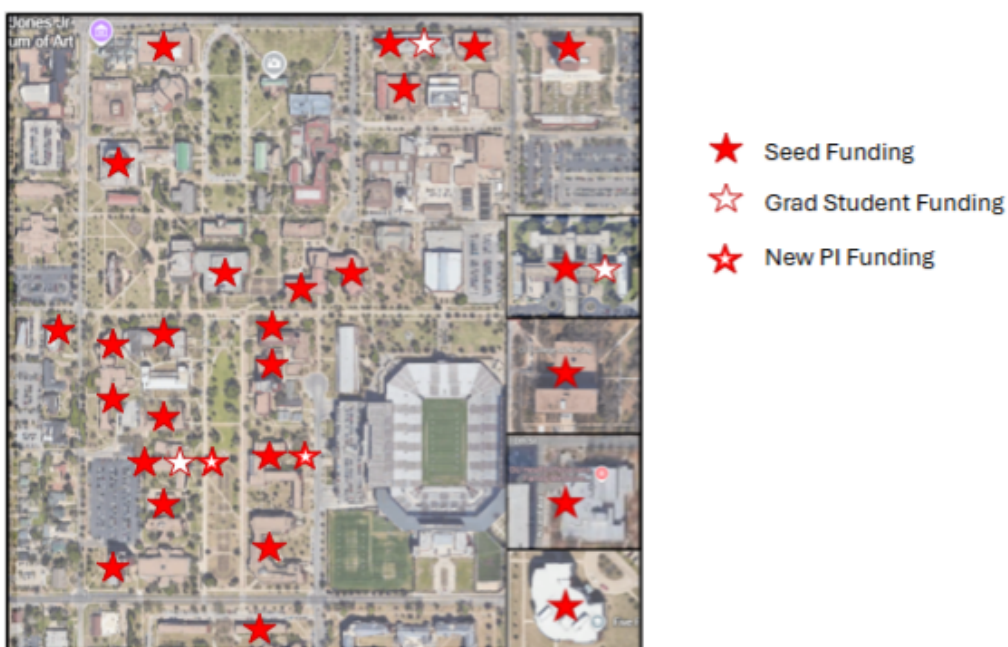
ICAST successfully launched a new faculty fellow program, awarding two OU faculty members support for growing multidisciplinary research around their areas of expertise. Dr. Dan Li from Health Promotion Sciences in the Hudson College of Public Health at OU Health Science and Dr. Eric Day from the Department of Psychology worked to develop communities of practice and multi-disciplinary teams to build new collaboration opportunities.

Recipients receive \$10,000 to support a course release, stipend, or research activities.

- Support from ICAST directors and administrators for pursuing a large-scale funding opportunity in the coming year.
- Promoting the work and achievements of Faculty Fellows
- Building a community of scholars and researchers with shared interests.

## ICAST SEED GRANT FUNDING ACROSS THE UNIVERSITY OF OKLAHOMA

The ICAST Star Map highlights the wide-reaching impact of the institute's support across OU. Each star represents a location where ICAST has helped advance interdisciplinary research, creative activity, or community engagement. This visual showcases the range of departments, centers, and initiatives ICAST partners with. Together, these collaborations reflect ICAST's mission to catalyze innovation and amplify campus-wide impact.



The four insets highlight key areas of the University: the college of Nursing and the Department of Family Medicine at the OU Health Campus, the Tulsa Campus and the Norman Research Campus.

- **Colleges Supported: 11**
- **Departments Supported: 26**
- **Principal Investigators Supported: 66**



# FY 25 Highlights

**\$76.2M**

**PROPOSALS**

**\$7.4M**

**AWARDS**

**ICAST**

**\$44M**

Submitted Proposals

**48**

No. of Submitted Proposals

**\$3.1M**

Funded Awards

**CASR**

**\$28.3M**

Submitted Proposals

**31**

No. of Submitted Proposals

**\$2.7M**

Funded Awards

**ECEI**

**\$3.9M**

Submitted Proposals

**15**

No. of Submitted Proposals

**\$1.6M**

Funded Awards



# RESEARCH SEED FUNDING

The 2025 ICAST seed grant funding promotes the creation and development of multidisciplinary research teams in areas related to community and societal transformation, enhancing the competitiveness of OU's multi-disciplinary research teams for external funding. The opportunity prioritizes proposals aligned with interest areas connected to ICAST themes.

PROJECT TITLE	TEAM MEMBERS	AWARD AMOUNT
Enhancing Smoking Cessation through the X-Hale Breath Analyzer Integration with the Insight mHealth Mobile Intervention Platform	<b>Drs. Binbin Weng &amp; Michael Businelle</b>	\$19,500
Leveraging Large Language Models to Enhance Art Education	<b>Drs. Robert Bailey, Peter Froslic, &amp; Ghulam Jilani Quadri</b>	\$19,500
Data-Informed Load Flexibility Management in Smart Building Systems	<b>Drs. Qi Li &amp; Li Song</b>	\$19,500
Bridging Edges: Reconnecting Maple Ridge and Gathering Place in Tulsa	<b>Drs. Ronald Barnes, Francesco Cianfarani, &amp; Joseph Havlicek</b>	\$19,500
Investigations into the Correlates of Rural Violence in Oklahoma	<b>Drs. Constance Chapple, Julie Gerlinger &amp; Christina Miller</b>	\$19,500
Center for the Ethics of Indigenous Genomic Research	<b>Drs. Jessica Blanchard &amp; Vanessa Hiratsuka</b>	\$19,500

# ICAST CONTRIBUTIONS TO IREES SEED GRANTS

Project Title	Team Members	Award Amount
The OU Microplastic Research Center: The Importance of Soil Environments and Climate Change	<b>Drs. Tingting Gu, Mark Nanny, &amp; Ji Hawn Park</b>	\$1,667
A Deep Learning Approach to Identify Center Pivot Irrigation in the High Plains Aquifer and Quantify Hydrological Dynamics	<b>Drs. Lori Han, Laura Bray, &amp; Robert Nairn</b>	\$1,667
Producer Knowledge and Perceptions of Biochar for Improving Soil Health and Combating the Invasive Eastern Redcedar in Rural Oklahoma	<b>Drs. Todd Fagin &amp; Jason Vogel</b>	\$1,667

The ICAST Seed Funding program awarded **\$127,000** in support of innovative research projects. Funding was distributed across **6 ICAST research teams** and **3 IREES teams**, bringing together **23 researchers** from across the University.



# Looking Back at FY'24 Seed Grant Impacts

FY'24 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.

## Mitigating Deepfakes in Platforms and Organizations

**Yifu Li:** “The ICAST Seed Grant was instrumental in jumpstarting our interdisciplinary research on deep fake comments in U.S. rulemaking. It enabled us to develop and validate novel tools for spam detection and large language model-based comment summarization. We have had two manuscripts currently under review and are laying the groundwork for a full NSF proposal.”

**Rui Zhu:** “ICAST provided crucial early-stage support that strengthened the foundation of our research on Mitigating Deepfakes in Platforms and Organizations. The grant has significantly accelerated the trajectory of our work, paving the way for impactful future applications in digital security and trust.”

## Societal Takes on Deepfakes: Detecting and Combatting Deepfakes

**Katerina Tsetsure & Mark Raymond:** “The ICAST seed grant allowed two faculty members and two graduate students from two separate Colleges at OU to collaborate. We are grateful for the opportunity to explore how the two disciplines, international relations and mass communication, can utilize their strengths to deliver a truly multidisciplinary approach to understanding the current challenges and opportunities AI brings to the world.”

## Engineering Just Futures: Preparing Engineers to Integrate Technical, Sociocultural, and Environmental perspectives

**Jacob Pleasants:** “The ICAST seed funding allowed us to pilot an innovative educational program and study its effects. We learned a great deal about what sorts of educational experiences resonate with students (and why) as well as how to scale up our pilot program.”





## Community Informed AI-based Treefall Vulnerability Assessment within the Built Environment Under Extreme Weather Events

**Dimitrios Diochnos:** “I look forward to diving deeper into semi-supervised learning using tools from computer vision that we had the opportunity to review, test, and refine through the noble support of the ICAST Seed Grant.”

**Katerina Kyprioti:** “The ICAST Seed Grant provided the critical early support needed to launch our interdisciplinary collaboration, allowing us to gather preliminary data and refine our research questions. This foundation not only accelerated our current work but also positioned us to pursue larger grants and long-term impact in our field.”

## Creating Opportunities to Navigate Health and Safety Hazard in Ottawa County, Oklahoma by Designing a Geospatial Database

**Todd Fagin:** “In addition to providing a means to foster new research initiatives with valued colleagues, the ICAST seed grant enabled us to partially fund three undergraduate research assistants. These students provided invaluable assistance in compiling project-related datasets, while the seed grant provided them with practical research experience to assist them in future endeavors.”

**Jackie Vadjunec:** “I particularly appreciate ICAST's seed grant approach, as it also allows, encourages, and supports faculty to incubate new ideas and develop firm footing for future collaboration and grant work well beyond the life of the seed funding.”

**Laurel Smith:** “The ICAST/DISC seed grant offered the opportunity to work closely with a geospatial data analyst and a land system scientist who possess skills wildly different from my own. It also provided the means to fortify a working relationship with a community-based organization. Taken in tandem, these two elements led to our successful application to participate in the NEH Community Deep Mapping Institute during 2025.”

# New ICAST First Time PI and Graduate Student Research Awards

This year ICAST offered affiliates a new scholarship opportunity for their roles as first time PIs and Graduate students on research projects. The opportunity consisted of four rounds of awards offered at \$1,000 each to assist with research or travel costs related to their thesis, dissertations, and projects. The research projects all related in some way to ICAST's strategic areas of focus.

PROJECT TITLE	TEAM MEMBERS	AWARD AMOUNT
Amplifying Indigenous Micronesian Intelligence for Data Science (MINDS) with Culturally Relevant Data	<b>Dr. Richard Velasco,</b> First Time PI	\$1,000
Expulsion and Suspension of Oklahoma's Young Children from Early Childhood Care and Education Study	<b>Dr. Courtney Dewhirst,</b> First Time PI	\$1,000
Assessing the Existing Infrastructure and Developing a Comprehensive Safety Action Plan, Safe Routes for All, and Safe Routes to School Plan for the City of Shawnee, OK	<b>Dr. Ladan Mozaffarian,</b> First Time PI	\$1,000
Fostering Parental Engagement in Early Care and Education Services	<b>Ronald Ssentuuwa,</b> Graduate Student Researcher	\$1,000
On Socio-Economic Development of the Yazd Region in Iran	<b>Siavash Mandegari,</b> Graduate Student Researcher	\$1,000
How Secondary Teachers are Using GenAI in Writing Instruction in the Context of their Classrooms	<b>Brianne Johnson,</b> Graduate Student Researcher	\$1,000
The "Jea" Construction, Utilization and Cosmology of an Indigenous Achuar House in the Ecuadorian Amazon	<b>Felipe Flores,</b> Graduate Student Researcher	\$1,000



# EVENTS AND ACTIVITIES ICAST SUPPORTED

- Launched the ICAST Faculty Fellow Program (\$20K)
- Established First Time PI and Graduate Student grants (six \$1K awards)
- ICAST engagement at new OU Faculty luncheon
- Participated in OADII's Integrating Technology & Policy to Strengthen National Defense symposium
- Provided Arts & Humanities Forum with two ICAST Summer fellowships (\$16K)
- Connected affiliates and faculty with Center for Public Management for funding and graduate research assistant opportunities
- Tribal Clean Energy Summit and Symposium poster at event hosted by the Native Nations Center and IREES
- Director stipend for Carceral Studies Consortium Director
- Attended the Tribal Equity Energy Summit via invitation from the Citizen Potawatomi Nation (CPN)
- Supported Gibbs Design Activism Award (5K) and served as reviewer on the evaluation panel
- ICAST provided letters of support for multiple proposals to the National Science Foundation (NSF), National Institutes of Health (NIH), Department of Education (DOE), and National Endowment for the Humanities (NEH). Architecture Research Symposium (judges)
- Supported networking events of other VPRP Institutes throughout the year
- Supported research processes for CASR, ECEI and Native Nations Center for Tribal Policy Research
- ICAST Fellow support - Supported Helpful and Health AI in the Workplace: A Day of Research Talks and Conversations symposium and served as panelist for the symposium
- ICAST Fellow support OK-AIR Kickoff & Networking Event for the Children's Environmental Health Center in U.S. Southern Great Plains at OU Health Campus
- ICAST provided support to the Innovations and Best Practices in Disaster and Related Displacement Prevention and Preparedness: Japan and the United States (\$5K)
- Organized, hosted and presented at the Native Renewable Energy Symposium in September 2024
- Presented an ICAST Grant Forward Workshop at OU Early Childhood Education Institute (ECEI)
- Developed and presented ICAST Workshops to affiliates on Foundations Funding & Grant Forward
- Invited to present at the Ethical Tribal Engagement Series hosted by the OU Native Nations Center for Tribal Policy Research
- Welcomed two new ICAST team members. Welcome to our new Program Manager, **Kathy Volz** and ICAST Associate Director, **Dr. Kathleen Gallagher!**

# ICAST Faculty Fellow Highlights

## Eric Day, PhD

Dr. Eric Day, Professor of Psychology and doctoral program coordinator of the Industrial/Organizational (I/O) Psychology doctoral program at the University of Oklahoma, is a leading voice at the intersection of psychology, technology, and workplace innovation. A long-standing member of OU's academic community and former Chair of the Department of Psychology, Dr. Day currently serves as a Faculty Fellow for OU's Institute for Community and Society Transformation, where his fellowship has sparked new research directions, collaborations, and broader interdisciplinary dialogue.

"I'm grateful to the ICAST leadership for the opportunity to serve as Faculty Fellow," Dr. Day shared. "It's given me a deeper connection to OU's research mission and a renewed sense of energy as a faculty member."

A notable outcome of his ICAST fellowship is the launch of a new research program in collaboration with colleagues in the Price College of Business, focused on the intersection of artificial intelligence (AI) and workplace automation. This work explores how organizations and workers can harness AI technologies to foster creativity, productivity, and meaningful work while navigating the challenges that come with technological integration.

In April, Dr. Day organized the inaugural AI Research Day under the theme Supporting Helpful and Healthy AI in the Workplace. The event brought together a cross-disciplinary group of OU researchers, along with keynote speakers from Vanderbilt University and the University of Texas Rio Grande Valley. Co-sponsored by ICAST, the Department of Psychology, and Price College, the symposium served as a springboard for collaborations around AI's role in shaping the future of work.

Dr. Day's impressive academic portfolio includes research sponsored by major federal agencies such as the NSF, NASA, and the Department of Defense. He has received multiple awards for research and mentoring, including the OU President's Distinguished Faculty Mentoring Award and the SGA's Outstanding Faculty Award. Recently, he and colleagues Michael Wenger and Dingjing Shi received the OU Vice President for Research and Partnerships' Award for Excellence in Research Grants for their FAA-sponsored project exploring links between physiological measures and skilled performance. Looking ahead, Dr. Day aims to continue expanding his research on AI in the workplace and to build a community of interest at OU around "Helpful and Healthy AI." His goal is to foster partnerships that not only enhance academic inquiry but also attract interest from industry and federal funding agencies.



## Dan Li, PhD

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

As an ICAST Faculty Fellow, Dr. Dan Li has established a thriving research lab focused on mental health in school settings, bringing together a dynamic community of students and scholars across disciplines. The lab is currently leading a meta-analysis on school absenteeism interventions and offering meaningful research experiences to undergraduate students, including presentations at OU's Undergraduate Research Day.

The ICAST fellowship has supported several high-impact collaborations. In Spring 2025, Dr. Li led the submission of a major NSF proposal aimed at promoting school mental resilience in response to climate and extreme weather events across the Southern Great Plains. This project brought together an interdisciplinary team from multiple colleges at OU as well as external partners from the University of Wisconsin–Madison and the University of North Texas. Over the past year, Dr. Li also contributed to proposals submitted to NASA, NIOSH, and the Oklahoma Department of Commerce, collectively totaling nearly \$3.8 million in requested funding.

**"It is truly an honor to serve as an ICAST Faculty Fellow. I deeply appreciate the leadership team and staff at ICAST for their tireless support of my research and for fostering a thriving community of interest."**

As Co-Director of the Children's Environmental Health Center in the U.S. Southern Great Plains, Dr. Li has helped expand community-academic partnerships aimed at addressing children's health and absenteeism through low-cost, evidence-based interventions. "Our goal is to scale and sustain these efforts across early childhood and K-12 settings," says Dr. Li. Looking ahead, Dr. Li plans to expand the lab's outreach and visibility by hosting annual presentations or workshops, engaging more community partners, and continuing to foster interdisciplinary research that advances school mental health and resilience.

For Dr. Li, the ICAST fellowship represents more than just funding. "Being an ICAST Faculty Fellow allows me to serve as a bridge between ICAST's mission and real-world community impact. It's a platform through which I can amplify community voices, bring them into academic conversations, and return those insights back to the communities we serve."



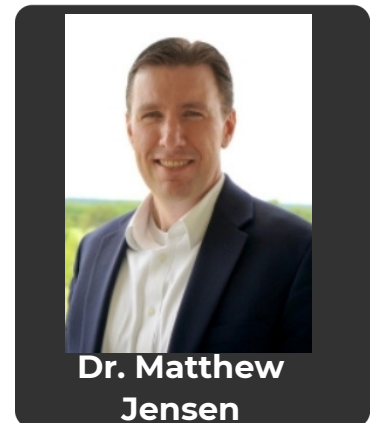
# Collaborations and Team Building Highlights

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

### Responding to Opinion Spam in US Forest Service Rulemaking

The US Forest Service faces the complex challenge of engaging diverse stakeholders in rulemaking while balancing legal, political, and participatory demands. This includes addressing contentious issues, enabling meaningful public input, incorporating expert insights, and complying with regulatory standards – all of which are susceptible to manipulation through coordinated opinion spam, especially with the rise of generative AI. Given that restricting public comments may be counterproductive, the proposed project aims to develop and refine technical tools and theoretical frameworks to manage such over-voicing effectively while still encouraging broad, genuine public engagement.



### Temporal Networks of Environmental Refugee Relocation: Security and Socioeconomic Impacts



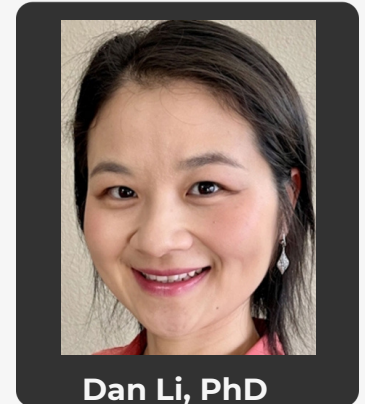
With projections of as many as 1 billion climate refugees on the move by 2050, a substantial refugee crisis is looming because of climate change and its cascading effects. Where to assign refugees with diverse backgrounds is a multifaceted decision, as multiple parties are involved in the negotiation, and national security and bureaucratic interests are often at odds with refugee interests. Climate refugee displacement will occur over a period of decades, which requires new decision-making frameworks able to handle decades-long, adaptive, decentralized, and equitable decisions. As such, this project integrated (i) social science research in refugee assignment and resettlement with (ii) network optimization for temporal decision-making in climate refugee reassignment driven by long-term climate change.

# Health & Opportunity

## Air Quality in OK Childhood Settings (OK-AIR)

OK-AIR is a research initiative evaluating the impact of low-cost, low-burden interventions—such as air purifiers—on the health and well-being of both teachers and young children in early childhood education settings. Despite the heightened vulnerability of young children, indoor air quality in these environments remains significantly under-researched. By addressing this overlooked aspect of classroom quality, OK-AIR examines its implications for child development and teacher well-being and retention.

Enhancing air quality supports healthier learning environments—helping children thrive and enabling educators to stay engaged and effective. OK-AIR is led by a transdisciplinary team of researchers, including Diane Horm, Changjie Cai, Craig Van Pay, Elnaz Ghorbani, Stephanie Farris, Mingze Zhu, Kristen Shelton, Jason Vogel, Bukunmi Akanji, and the broader OK-AIR research team.



## Improve Cancer Outcomes in Native American Communities (ICON)



A five-year effort to develop research to address significant sources of cancer disparities in American Indian and Alaska Native (AI/AN) communities. ICON is housed within the Native American Center for Cancer Health Excellence (NACCHE) at the Stephenson Cancer Center, Oklahoma's only NCI-Designated cancer center and the state's largest clinical oncology practice and cancer research enterprise. Funded by the National Institute for Minority Health and Health Disparities, ICON includes projects 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. Over the past decade Stephenson Cancer Center investigators have been at the forefront of address AI/AN cancer health disparities, with 43 extramurally funded projects, totaling nearly \$41 million, conducted in partnership with 29 different Tribal Nations or other Tribal organizations in both rural and urban settings. In an effort to continue this tradition of research excellence, ICON's Community Outreach and Engagement core (led by Drs. Paul Spicer, Mark Doescher, Jessica Blanchard, and Vanessa Hiratsuka) is actively working to grow existing partnerships and engagement opportunities to support cancer research that reflects Tribal priorities.



## **The Center for the Ethics of Indigenous Genomic Research (CEIGR, funded by NHGRI)**

American Indian and Alaska Native (AI/AN) concerns about genomic research have been well-documented. Failure to engage Tribes about these concerns perpetuates barriers to participation in genomic research. CEIGR seeks to make progress on these issues through community-led ethical, legal, and social implications research and a commitment to training the next generation of leaders in the field, from both the academy and the community. Since 2018, the Genomics & Ethics Program for Native Students has provided Indigenous-based, mentor-linked learning opportunities for undergraduate and graduate students interested in ethical, legal, and social questions related to genetics research in Native communities.



## **Education and Well-being**

### **Second Step® to Enhance Rural Students' Achievement and Wellbeing**

In partnership with Mineola Independent School District in Texas, this five-year, \$4 million project—funded through the Education Innovation and Research competition—aims to develop a multi-tiered coaching program that leverages rural strengths and context to support implementation of the Second Step® digital curriculum. The research team, led by Drs. Brittany Hott, Courtney Dewhirst, Sarah Heiniger, and Jacquelyn Purser, completed the development phase in May 2025, with promising preliminary results. The team also validated two school climate and student well-being measures, the first of their kind available for kindergarten through second grade. The second-year impact study will launch in Fall 2025 with new district partners, with additional districts joining each subsequent year of the project.



**Brittany Hott, PhD**



## **Project CREATE: Collaborations with Rural Educators to Enhance Advocacy, Training, and Engagement**

Project CREATE, supported by the Oklahoma State Regents for Higher Education and led by Drs. Brittany Hott, Julie Atwood, Bre Martin, and Kevin Muns, involved developing, and piloting, a low-cost, high-impact professional development package designed to support rural Oklahoma special education teachers who are certified through alternative pathways or in their first three years of teaching. National educator shortages are at an all-time high, with almost half of novice teachers leaving the field of education within five years of service and almost 40% of special educators exiting the field within their first three years of service. The special educator shortage is even more pronounced in Oklahoma where our state ranks 49th in education in the U.S. Results of Project CREATE are highly encouraging with 94% of participants continuing to serve their districts and 100% continuing to serve rural districts in Oklahoma during the 2025-2026 school year.

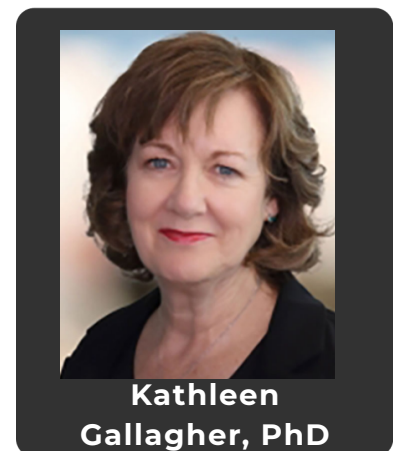
## **Quality Matters: Exploring Families' Perceptions of Infant and Toddler Care**



This Society for Research in Child Development (SRDC) - funded project leverages community-based partnerships to explore families' perceptions of quality in infant and toddler programs across Oklahoma. Through interviews and focus groups, Dr. Kelly's study will examine how families' perceptions vary by care type – such as center-based, home-based, or informal care – and identify what families value in caregiving environments. Results from the project will inform local practices to better serve Oklahoma's children and families, contribute to national conversations on Early Childhood Education quality, and lay the groundwork for future research that integrates multiple stakeholder perspectives.

## **Supporting Families' Access to Quality Care for Infants and Toddlers: A Systems Approach**

Supported by the Oklahoma Partnership for School Readiness through the federal Preschool Development Grant Birth to Five initiative and led by Drs. Kathleen Gallagher, Cara Kelly, Craig Van Pay, and Diane Horm, this project examines systemic barriers that limit families' access to high-quality infant and toddler care. Using an ecological framework, the work will engage families, program leaders, and system stakeholders in surveys, interviews, and focus groups to better understand families'; priorities, values, and challenges in finding care. A family needs assessment protocol will be co-designed and validated with input from advisory boards and members-checking, accompanied by a policy brief and community reports. The results will provide Oklahoma's early learning systems with practical tools and evidence to guide policy and program improvements, reduce barriers, and support the expansion of family-centered, high-quality early childhood education.



# Environmental Collaborations

## **The Energy Transition and Public Finance in Fossil Fuel Reliant Communities**

A nationwide analysis of the local public finance implications of oil refinery closures and conversions. State-of-the-art economic methods will be used to compare otherwise comparable regions with and without closing or converting oil refineries. Drs. Christopher Malloy and Mahendra Jamankar will actively engage key stakeholders in two states with important oil refinery activity (Oklahoma and California), allowing for community-led analysis of the characteristics of local government finances that improve resilience to public revenue losses following refinery closures. Development of a new dataset which comprehensively tracks oil refinery openings, temporary closures, and permanent closures across the U.S. and presentation of preliminary work at the Resilient Energy Economies 2025 Convening Workshop. The team also submitted an abstract of their preliminary results to the Manchester Workshop on the Economics of Energy Transition and will have a draft of their analysis in December 2025.



## Large Convergence Research Efforts

### **WxFORGE - Forging New Frontiers in Extreme Weather Resilience and Innovation**

WxFORGE, led by Dr. Hans Butzer, Dr. Angela Person, Jeffrey Seymour, David Pounds, and Todd Enlow, is building an innovation ecosystem to strengthen infrastructure resilience through research, technology transfer, and coalition-building. With over 60 partners—including universities, industry, finance, Tribal Nations, municipalities, and nonprofits—WxFORGE aims to:

- Advance new materials, designs, and construction techniques to withstand extreme weather
- Create a collaborative knowledge hub for data integration and solution adoption
- Mobilize public-private investment to scale affordable, market-ready technologies
- Train a skilled workforce in resilient materials and construction

Although not funded, ICAST will work with IPPRA to pursue alternative support for elements of the project.



## **NSF ART: Intensifying Translational Research in Oklahoma (InTRO)**

ICAST leadership team members Brittany Hott and Shane Connelly contributed to OU's first year of the NSF ART grant, supporting seed grant evaluation and selection, ART academy classes program evaluation, research ecosystem connections, and planning for the 2025-2026 seed grant cohort.

## **GCR: Transition to Green Energy in Gas-Producing Regions (RANGE): How the Convergence of Engineering, Social Sciences and Geoscience can Enable Carbon-Free H<sub>2</sub> Technologies**

The NSF-RANGE project used a convergent framework for producing affordable low-carbon energy and improving energy resilience for communities in Oklahoma. Hydrogen as a fuel presents opportunities for many industrial sectors, such as manufacturing and transportation, to transition away from carbon-intensive fuels. The multidisciplinary RANGE team focuses on co-development of STEM research goals alongside understanding the current and future energy needs of local communities. In addition to developing novel technical advancements for producing, transporting and storing H<sub>2</sub>, the team engaged with Native Nations in Oklahoma to better understand their energy needs and goals and surveyed residents across the state to assess their knowledge and attitudes towards H<sub>2</sub>, renewable energy, and the need for expanding clean energy options in Oklahoma.





# Awards and Recognition

## PROVOST FACULTY AWARDS

### DAVID L. BOREN AWARD FOR OUTSTANDING GLOBAL ENGAGEMENT

Carol Rose Little, Department of Modern Languages, Literatures, and Linguistics, Dodge Family College of Arts and Sciences

### HENRY DANIEL RINSLAND MEMORIAL AWARD FOR EXCELLENCE IN EDUCATIONAL RESEARCH

Brittany Hott, Department of Educational Psychology, Jeannine Rainbolt College of Education

### AWARD FOR EXCELLENCE IN RESEARCH IN THE SOCIAL SCIENCES

Lauren Ethridge, Department of Psychology, Dodge Family College of Arts and Sciences

### AWARD FOR EXCELLENCE IN RESEARCH, DESIGN, AND CREATIVE EXPRESSION IN THE HUMANITIES AND THE ARTS

Marcelo Rioseco, Department of Modern Languages, Literatures, and Linguistics, Dodge Family College of Arts and Sciences

### VPRP AWARD FOR EXCELLENCE IN TRANSDICIPLINARY, CONVERGENT RESEARCH

Binbin Weng, School of Electrical and Computer Engineering, Gallogly College of Engineering

Chenghao Wang, Ming Xue, Xiaoming Hu, School of Meteorology, College of Atmospheric and Geographic Sciences; School of Meteorology

David Ebert, School of Electrical and Computer Engineering, Gallogly College of Engineering

Timothy Filley, Department of Geography and Environmental Sustainability, College of Atmospheric and Geographic Sciences and School of Geosciences, Mewbourne College of Earth and Energy

### VPRP AWARD FOR EXCELLENCE IN RESEARCH GRANTS

Kendra Williams-Diehm, Department of Educational Psychology, College of Education

Elena Zgurskaya, Department of Chemistry and Biochemistry, College of Arts and Sciences

Brittany Hott, Department of Educational Psychology, Jeannine Rainbolt College of Education

Paul Spicer, Department of Anthropology, Dodge Family College of Arts and Sciences

Eric Day, Department of Psychology, Dodge Family College of Arts and Sciences

Joseph Ripberger, Department of Political Science, College of Arts and Sciences



**Shane Connelly,**  
PhD

### Director of ICAST Named Inaugural OU Recipient of SEC Faculty Achievement Award

Dr. Shane Connelly, a nationally recognized expert in Industrial/Organizational psychology, has been named the University of Oklahoma's 2025 SEC Faculty Achievement Award recipient. A George Lynn Cross Professor and Director of the OU Institute for Community and Society Transformation, Connelly has authored over 150 publications and secured more than \$15 million in research funding from agencies such as NIH, NSF, and the U.S. Army. Her research explores leadership, ethical decision-making, and ideological communication, and she is widely active in national psychological associations and editorial boards.



## **Dr. Kathleen Gallagher new Director of ECEI and Associate Director of ICAST**

In August 2024, Dr. Gallagher became the new Director of the Early Childhood Education Institute and Associate Director of ICAST. She serves as Principal Investigator on numerous ECEI studies, oversees operations, and leads community partnership efforts. Kate also holds the George Kaiser Family Foundation Endowed Chair of ECEI and a professorship at OU-Tulsa, where she teaches courses on child development, assessment, and research for the undergraduate and doctoral ECE programs.



**Kathleen  
Gallagher, PhD**

## **VPRP AWARDS FOR EXCELLENCE IN RESEARCH AND CREATIVE ACTIVITY**

### **EXCELLENCE IN TRANSDISCIPLINARY, CONVERGENT RESEARCH**

AIMNet: A Transdisciplinary Methane Monitoring Platform Integrating IoT Sensing, Environmental Modeling, and Interactive Data Visualization Technologies: Binbin Weng, Ming Xue, Chenghao Wang, Xiao-Ming Hu, David Ebert, Tim Filley

### **EXCELLENCE IN RESEARCH IN THE SOCIAL SCIENCES**

Lauren Ethridge, Department of Psychology, Dodge Family College of Arts and Sciences

### **NEAL LANE AWARD FOR EXCELLENCE IN RESEARCH IN THE NATURAL SCIENCES**

Daniel Becker, School of Biological Sciences, Dodge Family College of Arts and Sciences

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

Marcelo Rioseco, Department of Modern Languages, Literatures, and Linguistics, Dodge Family College of Arts and Sciences

### **EXCELLENCE IN RESEARCH IN ENGINEERING AND APPLIED SCIENCE**

Bayram Saparov, Department of Chemistry and Biochemistry, Dodge Family College of Arts and Sciences

### **EXCELLENCE IN RESEARCH SERVICE AND ADMINISTRATION**

Todd Fagin, Department of Geography and Environmental Studies, College of Atmospheric and Geographic Sciences

### **LIFETIME ACHIEVEMENT AWARD**

Daniel Resasco, School of Sustainable Chemical, Biological, and Materials Engineering, Gallogly College of Engineering

## **COMMUNITY PARTNERS**

ICAST has established a vibrant network of community partners, encompassing many Oklahoma K-12 public school districts, the Citizen Potawatomie Nation (CPN), the Caddo Nation and Caddo Nation Economic Development Authority (CNEDA), EightyTwenty Solar, Arrowood Kakinah Enterprise, EnDev Resources, Inc., Slumberkins, Oklahoma Head Start Collaboration Office and several Head Start agencies across Oklahoma, Tulsa Educare, OK Partnership for School Readiness, Committee for Children, United Way of Norman, We Rock the Spectrum, Private Energy Companies, OU's Center for Public Management, and other various private and non-profit organizations.



**Kandace Keahbone and Roberta Carson -  
Ethical Tribal Engagement Showcase**

This diverse range of partners reflects ICAST's commitment to collaboration, integrating varied perspectives and expertise to foster a more comprehensive and inclusive approach to community transformation and innovation.

# FUTURE DIRECTIONS



**Dr. Christina Miller, Consul General  
Naganuma in Houston,**

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 partnerships with OU Health Sciences, the Native Nations Center, and other OU institutes, support Principal Investigator leadership, and respond to affiliate feedback with new initiatives.

Areas of interest include

- Early childhood education intersections 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 to impacting communities.



**ICAST Director Shane Connelly, PhD. and  
Kandace Keahbone**

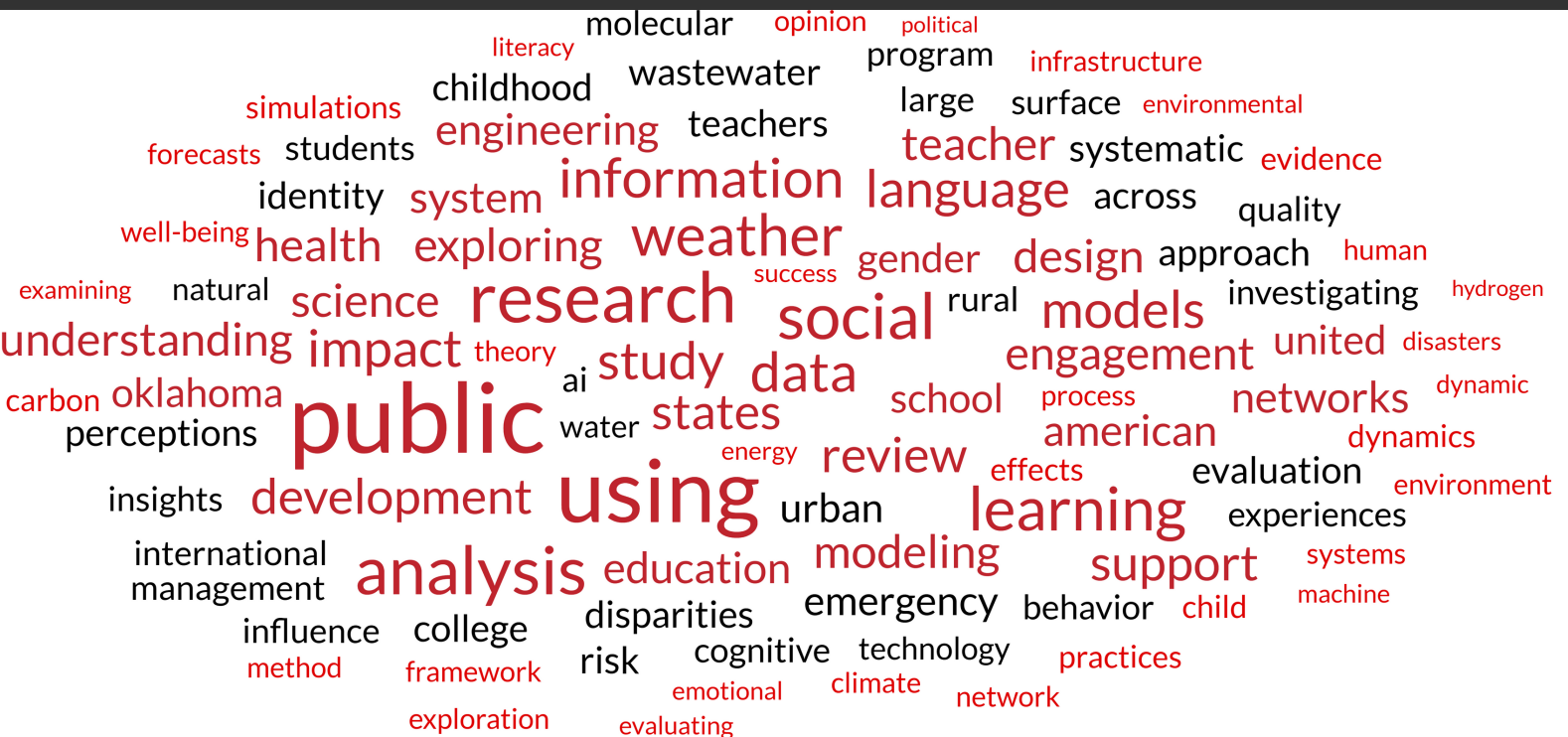


**OK-Air Kick-Off Event hosted by the Children's  
Environmental Health Center at OU-HSC**

## ICAST AFFILIATE PUBLICATIONS

The ICAST Affiliate Publication Word Cloud highlights the most common themes and areas of focus found within recent affiliate research publications. Larger words represent topics that appear more frequently across the body of work, showcasing the collective strengths and shared priorities of the ICAST community. This visualization makes it easy to identify trending research areas, recurring keywords and the interdisciplinary connections that drive innovation within the network.

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 **293 publications**, reflecting the depth and breadth of expertise across disciplines. We are proud to celebrate these achievements and the impact they bring.



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.

Scan the QR code to explore the full list and see how affiliates are making meaningful contributions across disciplines.





## NOTES



## NOTES



# INSTITUTE FOR COMMUNITY AND SOCIETY TRANSFORMATION

*The UNIVERSITY of OKLAHOMA*

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