



AISES Research Program **Policies and Procedures**

Guiding documents for
National Conference Research Competition,
National Conference Professional Research Program and
National American Indian Science & Engineering Fair.

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Updated February 2026

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Welcome & Overview

Welcome to the 2026 AISES National Conference Research Competition! This guide provides complete policies, procedures, and expectations for all participants—students, professionals, and judges.

Use this guide to:

- Understand submission requirements and deadlines
- Learn about the Four Strands framework
- Prepare your presentation
- Navigate the competition process
- Find answers to detailed questions

This document complements the online resources available at aises.org/research-competition, including the Abstract Submission Guide and FAQ pages.

Program Mission & Values

The AISES Research Program brings together Indigenous researchers from middle school through professional careers to share work that strengthens communities and advances science.

Our Mission

Strengthen the Indigenous STEM ecosystem by bringing together researchers across career stages to share work, build relationships, and be recognized for their contributions. Our evaluation honors multiple ways of knowing, values cultural grounding alongside scientific rigor, and celebrates both technical excellence and relational accountability.

Our Values

Our community operates from these shared values:

- Recognizing the whole researcher, not just technical results
- Honoring multiple ways of knowing
- Balancing community accountability with scientific rigor
- Valuing growth and authenticity
- Centering relational responsibility

Student Research Competition

A competitive program for middle school through doctoral students where research is evaluated using our Four Strands framework. Selected presentations receive recognition and awards.

Professional Research Program

A non-competitive program for postdoctoral researchers and professionals to share research, exchange ideas, and mentor emerging researchers. All accepted abstracts present; no judging or awards.

What Makes AISES Different

We don't just evaluate "good science." We recognize researchers who are curious about meaningful questions, connected to their identity and communities, skilled in their methods, and committed to making a difference.

Key Links, Dates & Timeline

Website: conference.aises.org

Email: research@aises.org

Research Abstract Submission Portal: aises.stemwizard.com

Judge's Interest Form: aises.stemwizard.com

STEMWizard Platform

STEMWizard is our online submission and evaluation platform. Students submit their abstracts through STEMWizard, and potential judges submit their interest forms through the same platform. After acceptance, students and judges use STEMWizard for presentation materials and scoring. All participants receive login credentials and platform instructions upon submission or acceptance.

Abstract Submission, Selection & Notification

Abstracts are reviewed on a rolling basis. Presentation capacity is limited; early submissions receive guaranteed review. Notifications sent approximately 2 weeks after the respective deadline.

- **Priority Deadline 1:** Friday, July 24
- **Priority Deadline 2:** Friday, August 14
- **Final Deadline:** Friday, September 4

Conference Dates

October 15-17, 2026 | Portland, OR

- **Research Presentations:** Thursday, October 15 & Friday, October 16
- **Student Awards Recognition:** Saturday, October 17

Judges Application

Join our judging community to evaluate student research and strengthen the Indigenous STEM ecosystem. Professional presenters and advanced graduate students are especially encouraged to serve as judges.

- **Interest Deadline:** Friday, September 4
- **Judges Training:** Prior to conference; materials provided in advance

Eligibility & Participation

Participant Eligibility

Student Research Competition

The student research competition is open to students at all levels from middle school through doctoral programs:

Middle School Students (Grades 6-8)

- Students currently enrolled in grades 6, 7, or 8
- Research conducted individually or as part of a class/program
- Appropriate supervision and support from educators or mentors

High School Students (Grades 9-12)

- Students currently enrolled in grades 9, 10, 11, or 12
- Research conducted individually, through science programs, or with mentors
- Independent research or class-based projects both welcome

Undergraduate Students

- Students currently enrolled in associate's degree programs (2-year institutions)
- Students currently enrolled in bachelor's degree programs (4-year institutions)
- All years of study (first-year through senior year)
- Students who graduated within the past academic year may present research completed as undergraduates

Master's Students

- Students currently enrolled in master's degree programs (MA, MS, MEd, etc.)
- All stages of master's study
- Students who graduated within the past academic year may present research completed during their master's program

Doctoral Students

- Students currently enrolled in doctoral programs (PhD, EdD, DNP, etc.)
- All stages of doctoral study (coursework through dissertation defense)
- Students who graduated within the past academic year may present dissertation research

Professional Research Program

Eligible Participants

The professional research program is open to postdoctoral researchers, faculty at any rank or institution type, research scientists and engineers, and STEM professionals in industry, government, tribal organizations, or independent practice.

Program Structure

The professional research program is non-competitive. All accepted abstracts present. There is no judging, scoring, or awards. The program focuses on knowledge exchange, cross-disciplinary collaboration, and mentoring emerging Indigenous STEM researchers.

AISES Membership

AISES membership is required to participate in the research program. All presenters (students and professionals) must be current AISES members at the time of conference registration.

Membership benefits include:

- Eligibility to present at the research competition
- Professional development opportunities
- Networking with Indigenous STEM professionals
- Access to scholarships and career resources
- Connection to chapters and communities nationwide

How to become a member:

- Join online at aises.org/membership
- Membership must be active before conference registration deadline
- Student memberships and professional memberships available

Research Project Eligibility

Research eligible for this competition is defined by the quality of inquiry and learning, not by completion status or location. We recognize that meaningful research happens in diverse settings and at various stages—from initial curiosity to published findings. The following guidelines are intentionally broad to welcome the full spectrum of Indigenous STEM research.

Timeline & Stage

Research may be at any stage of development. We value the full research journey—from initial questions to final results—and recognize that learning happens at every stage.

- **When:** Research may be ongoing, recently completed, or completed within the past 2 years
- **Stage:** Works in progress, preliminary findings, pilot studies, completed projects all welcome
- **Status:** Research does not need to be "finished" to present; you can share what you're learning along the way

Location & Setting

Research can be conducted in any setting where rigorous inquiry takes place. Indigenous research happens in diverse locations, from university labs to tribal lands to community centers.

- Academic institutions (schools, colleges, universities)
- Tribal colleges and universities
- Community organizations and tribal facilities
- Tribal nations or Indigenous communities
- Research labs, field sites, clinical settings
- Independent research settings
- Virtual or computational environments

STEM Discipline

All fields welcome including biological sciences, health sciences, physical sciences, earth and environmental sciences, engineering and technology, computer science, mathematics and statistics, social sciences, and interdisciplinary work. If your research involves scientific inquiry, technological innovation, engineering problem-solving, or mathematical/computational approaches, it belongs here.

Research Methodologies

We value research conducted through any rigorous methodology appropriate to your questions and community context. This includes Western scientific methods (laboratory experiments, field observations, quantitative analysis), Indigenous methodologies (Traditional Ecological Knowledge, community-based approaches, oral history), and integrated approaches that bridge multiple knowledge systems. What matters is methodological soundness and alignment with your research values and goals.

Collaborative Research

Collaborative research is welcomed and encouraged. Indigenous research often emerges from relationships and partnerships—between students and mentors, among research teams, or with communities. The following guidance helps clarify roles and expectations for collaborative work.

Primary Presenter

Must meet eligibility requirements (student or professional), presents the research at the conference, and receives any recognition or awards (student competition). Each presenter must submit their own individual abstract reflecting their unique contribution and perspective.

Additional Contributors

- Co-researchers, collaborators, or team members who contributed substantively to the work
- Should be acknowledged in the abstract submission
- May or may not attend the conference
- Faculty advisors and mentors are acknowledged but not listed as presenters

Proper Attribution

In your abstract and presentation, acknowledge research advisors and mentors, co-researchers and collaborators, community partners and knowledge holders, Elders and cultural advisors, funding sources, and institutional support. Acknowledgment is not the same as co-presentation—you can and should credit those who supported your work while clearly presenting your own contribution and learning.

Previously Presented Research

You may present research that has been shared at other conferences, science fairs, competitions, class presentations, community events, or published venues. Many researchers find value in presenting the same work through different lenses and to different audiences.

Your AISES Presentation Requirements:

- Use the "What, So What, Now What" framework (may differ from other venues)
- Address the Four Strands evaluation criteria (student competition)
- Situate yourself in your work and connect to community impact

What This Means

The same research presented through our Indigenous-centered framework often reveals new insights and connections. Many students discover they can articulate why their work matters, how their identity shapes their research, and how they're accountable to communities in ways they hadn't emphasized elsewhere.

Concurrent Submissions

You may submit the same research to multiple conferences or competitions simultaneously. If your abstract is accepted at AISES, you commit to presenting it even if accepted elsewhere.

Ineligibility & Exclusions

Research is ineligible if it does not meet ethical standards, violates academic integrity, or represents conflicts of interest. These guidelines protect both researchers and communities while maintaining the integrity of the competition.

Academic Integrity

- Work must be your own with proper attribution to collaborators
- Plagiarized work or work substantially conducted by others is ineligible
- You must demonstrate meaningful involvement and learning from the research

Ethical Requirements

- Research involving human subjects must have IRB approval or exemption
- Research involving animal subjects must have IACUC approval
- Research with controlled substances must be properly authorized
- Research involving sacred or sensitive knowledge must have appropriate permissions and protocols

Conflicts of Interest

- Judges may not present in the student competition
- AISES staff directly coordinating the competition may not compete
- Advisory board members overseeing the competition may not compete

Abstract Submission, Review & Selection

All researchers—students and professionals—submit abstracts using our "What, So What, Now What" framework. This Indigenous-centered approach asks you to situate yourself in your work and connect your research to community impact, moving beyond traditional academic abstracts that focus solely on methods and results.

Why This Framework

In Indigenous research, you are not separate from your work. Your experiences, relationships, and standpoint shape your research and whom it serves. This framework makes those connections visible and honors the full story of your research—who you are, what you discovered, and why it matters.

Abstract Framework

WHAT: Situating Yourself and Your Research (~100 words)

- Who you are and how you came to this research
- Your relationship to your research topic—personal experience, community connection, or curiosity that led you here
- The specific question or problem you're investigating
- Demonstrates: Interest in STEM, Engagement & Belonging

SO WHAT: Your Project and Findings (~100 words)

- The methods or approaches you used
- What you found or learned
- What your findings mean—the story they tell
- Demonstrates: STEM Competencies & Confidence

NOW WHAT: Community Impact and Next Steps (~100 words)

- Who benefits from this knowledge and how
- The potential impact on your community, the field, or broader society
- Your next steps—for the research, for application, or for sharing this knowledge
- Demonstrates: Future Intentions

Total Length: Approximately 300 words across all three sections

Required Abstract Components

Every abstract submission must include all of the following components. Incomplete submissions will not be reviewed.

Presenter Information

- Primary presenter name
- Tribal affiliation (optional—share if comfortable and relevant)
- Email address
- Phone number
- Institution/school
- Career level
- Additional presenters (if applicable)

Research Details

- Research title (200 character limit)
- Primary research category (select from 6 community impact areas)
- 3-5 keywords

Three-Section Abstract

- WHAT section (~100 words)
- SO WHAT section (~100 words)
- NOW WHAT section (~100 words)
- Each section limited to approximately 800 characters with spaces

Presentation & Context

- Research acknowledgments (optional but encouraged, 300 character limit)
- Presentation format preference (oral, poster, or no preference)
- Special considerations (optional, 500 character limit)

Agreements

- Confirmation of original work and proper attribution
- Community permissions obtained (if applicable)
- Agreement to present if accepted
- Understanding of policies and procedures

Community Impact Categories

Select the primary community impact area that best aligns with your research. These categories reflect how research serves communities rather than traditional academic disciplines.

Health Research & Medical Sciences

Focus on health research and medical innovations, including studies addressing health challenges in Native communities, traditional healing practices, community-based health interventions, as well as general medical research, clinical studies, laboratory research, and health sciences.

Environmental Science & Natural Resources

Focus on environmental research including studies of Indigenous lands, waters, and natural resources, environmental stewardship, and traditional ecological knowledge, as well as general environmental science, climate studies, conservation research, geology, and natural resource management.

Food Systems & Traditional Knowledge

Focus on research related to Indigenous food systems, traditional ecological knowledge, heritage crops, and cultural practices, as well as general agricultural research, plant sciences, animal sciences, nutrition studies, and food science.

Education & Community Capacity Building

Focus on enhancing educational opportunities, preserving Indigenous languages and cultures, and building community capacity. Research on effective pedagogy, STEM education, digital access, workforce development, and educational technologies.

Technology & Infrastructure Development

Focus on advancing technological solutions and infrastructure development. Research on renewable energy systems, water treatment, telecommunications, transportation, housing innovations, and engineering solutions.

Scientific Research & Discovery

Focus on fundamental scientific research, including studies in chemistry, physics, biology, mathematics, and other fields that contribute to scientific understanding through Indigenous perspectives and may benefit communities.

Keywords

Keywords help us connect your research with relevant judges and other researchers. They also help conference attendees find presentations related to their interests.

Provide 3-5 keywords that describe your research:

- 3 keywords required
- 2 additional keywords optional
- 50 character limit per keyword

Effective Keywords

- Use specific terms rather than broad categories
- Include methods, topics, or focus areas
- Think about what someone would search for to find your work
- Consider including: specific organisms/systems, techniques/methods, geographic areas, community focus, theoretical frameworks

Examples:

- Good: "Navajo corn genetics," "water quality monitoring," "diabetes prevention," "renewable energy," "STEM education"
- Too broad: "agriculture," "health," "environment," "education"
- Too specific: "Comparing protein expression levels in Zea mays cultivar X under drought stress" (save detail for abstract)

Submission Deadlines & Capacity

All abstracts will be submitted via our STEMWizard platform (aises.stemwizard.com). Abstracts are accepted through Friday, September 4, 2026. Presentation capacity is limited; early submission is strongly encouraged.

Priority Deadline 1: Friday, July 24, 2026 (11:59 PM PST)

- Guaranteed review
- Accepted presenters receive complimentary conference registration

Priority Deadline 2: Friday, August 14, 2026 (11:59 PM PST)

- Priority review
- Accepted presenters receive 50% registration discount

Final Deadline: Friday, September 4, 2026 (11:59 PM PST)

- Accepted if space available
- Standard registration rates apply

Why Early Submission Matters:

- Presentation slots are limited
- Early submissions receive guaranteed or priority review
- More time for us to thoughtfully organize sessions and match judges
- Better opportunity to connect you with relevant mentors and judges
- Higher likelihood of your preferred presentation format

STEMWizard Submission Process

All abstracts are submitted through STEMwizard, our online submission platform. STEMwizard allows you to create an account, save drafts, and submit your complete abstract.

Getting Started

1. Create a STEMwizard account (or log in if you already have one)
2. Verify your AISES membership is current
3. Begin your abstract submission

Tips for Success

- Draft your abstract sections in a separate document first, then copy into STEMwizard when ready
- Save frequently, even though auto-save is enabled
- Review carefully before submitting—check for completeness, accuracy, clarity
- Submit before the deadline for your desired priority tier

Incomplete Submissions

Submissions are considered complete only when all required components are provided. Incomplete submissions will not be reviewed until complete.

Review Process & Guidelines

Student Research Competition

Process: Abstracts reviewed for quality, alignment, and fit. Limited capacity. Selection is competitive. Priority given to early submissions, high-quality abstracts, and diversity across career levels and fields.

Review Criteria: Completeness, alignment with AISES mission and conference theme, evidence of Four Strands framework, and presentation readiness. Note: Numerical scoring happens during presentation evaluation, not at abstract stage.

Professional Research Program

Review Process: Abstracts reviewed for clarity and appropriateness. All complete, appropriate submissions typically accepted if space allows. Non-competitive knowledge exchange.

Review Criteria: Completeness, clarity, relevance to Indigenous STEM, and appropriateness for professional audience.

Presentation Format Assignment

Final format (oral or poster) determined by reviewers based on research characteristics, presenter preference (when possible), career stage, and conference balance. Format assignment included in acceptance notification.

Notifications & Next Steps

Timeline

Notifications sent approximately 2 weeks after submission deadline. Review conducted on rolling basis; timeline may vary based on volume.

Acceptance Notifications

Assigned presentation format, day/time, registration instructions and discount code (if applicable), preparation guidelines, technical requirements, and confirmation deadline.

You must confirm participation by conference registration before your assigned deadline. If you cannot present, notify research@aises.org immediately.

Non-Acceptance

Primary reasons: capacity reached, incomplete submission, research not ready, or misalignment with mission. Notifications include reason when possible. Questions: research@aises.org.

Waitlist

Maintained for both programs. If slots become available, waitlisted applicants contacted in priority order. Response required within 24-48 hours. Notifications typically late September through early October.

Special Circumstances

Accessibility accommodations

Indicate needs in special considerations or contact research@aises.org.

Sacred/sensitive knowledge

Flag in special considerations.

Changes after acceptance

Contact research@aises.org immediately if research or circumstances change significantly.

Frequently Asked Questions

Can I edit after submission?

Yes, until your deadline. After the deadline, abstracts will be locked.

What if I miss my priority deadline?

Submit by next deadline or final deadline. Registration discount based on deadline actually met. Capacity decreases as deadlines pass.

How do I choose a category?

Select category reflecting primary impact. If uncertain, "Scientific Research & Discovery" welcomes fundamental research across fields.

How many abstracts are accepted?

Student competition: 80-120 presentations. Professional program: 95%+ of complete submissions. Early submission increases acceptance likelihood.

Can I submit multiple abstracts?

One abstract per person.

What if accepted but can't attend?

Notify research@aises.org immediately. Late cancellations (within 2 weeks) impact waitlisted researchers.

Do I need IRB approval?

Human subjects research requires IRB approval or exemption. Contact research@aises.org with questions about specific situations.

The Four Strands Framework

The Four Strands evaluation framework is grounded in Indigenous research principles that recognize the researcher, community, and work as interconnected. Unlike traditional evaluation that focuses solely on technical merit, this framework engages the whole researcher across four equally important dimensions.

The Four Strands

- 1. Interest in STEM**
Curiosity, passion for learning, meaningful questions, connection to community needs
- 2. Engagement & Belonging**
STEM identity, community connections, Indigenous identity integration, recognition of Indigenous knowledge
- 3. STEM Competencies & Confidence**
Research skills, integration of knowledge systems, problem-solving, confidence in abilities
- 4. Future Intentions**
Clear goals, persistence mindset, commitment to community impact, growth orientation

Framework Across Career Stages

The Four Strands remain consistent from middle school through graduate level, but **expectations deepen** as researchers develop:

Middle/High School

Beginning awareness of self in research, emerging cultural pride, developing STEM identity, exploring possibilities

Undergraduate

Growing epistemological awareness, developing critical consciousness, strengthening cultural integration, articulating community accountability

Graduate

Sophisticated epistemological understanding, critical positionality analysis, explicit community accountability mechanisms, strategic vision for Indigenous STEM leadership

Core Principles

- **You are not separate from your research.** Your experiences, relationships, and standpoint shape your work and whom it serves.
- **All four strands are equally weighted.** There is no hierarchy between technical excellence and community connection, between advanced methods and authentic growth. Students demonstrate different strengths at different stages—all profiles are valuable when researchers can articulate their journey authentically.
- **Relational accountability takes different forms.** Community-partnered research shows accountability through formal partnerships and protocols. Individual/lab-based research shows accountability through clarity of purpose, connections to STEM community, and plans to share/apply results. Both are valid.
- **We value growth and authenticity, not perfection.** At every level, we're looking for researchers who can articulate their journey, demonstrate self-awareness, and show commitment—not those who have it all figured out.

How the Strands Interconnect

The Four Strands don't stand alone—they work together as an interconnected system. Research on STEM persistence, particularly for Indigenous students, shows that these dimensions strengthen each other. Understanding these connections helps both students and judges recognize what excellent Indigenous research looks like.

- Interest grows when students feel Belonging
- Competencies develop within Belonging
- Intentions strengthen through Interest and Belonging
- Science Identity emerges from all four strands working together

Key Principles

Judges apply the rubric with these foundational principles in mind, ensuring culturally grounded and developmentally appropriate evaluation.

- **All strands equally weighted** - No hierarchy between technical skills and community connection
- **Career stage adjustments** - Expectations differ for middle/high school, undergraduate, and graduate students
- **Authenticity valued** - Growth and genuine articulation matter more than perfection
- **Holistic evaluation** - Judge the whole researcher across all four strands

What This Means

For judges

Look for evidence across all four strands, not just one or two, recognizing that strength in one area often reflects strength in others. Students showing all four strands, even if some are stronger than others, demonstrate the interconnected development we value. The most compelling presentations often show how the strands work together—curiosity supported by community, skills developed through belonging, or future plans rooted in both interest and accountability.

For students

You don't need to be perfect in all four areas. Showing how the strands work together in your journey demonstrates sophisticated understanding—for example, explaining how community support (Belonging) helped you develop new skills (Competencies), or how your growing confidence fueled deeper questions (Interest leading to more Interest). Your growth across all four dimensions is more important than mastery in any single one, and authentic articulation of your journey matters more than having everything figured out.

For parents, educators, and mentors

Supporting students across all four strands is more powerful than focusing on just one. When you affirm students' questions and cultural identity (Belonging), celebrate their skills and problem-solving (Competencies), nurture their curiosity (Interest), and help them envision futures that serve communities (Intentions), you strengthen the entire system. The most effective support recognizes that students develop best when they can be fully themselves, and when their research connects to things that matter to them and their communities.

STRAND 1: Interest in STEM

Interest in STEM evaluates genuine curiosity, passion for learning, and the ability to ask meaningful questions. This strand recognizes that excellent research begins with authentic wonder and questions that matter to the researcher and their communities.

At undergraduate level, we expect students to articulate why their research questions matter beyond personal interest and show awareness that multiple ways of knowing exist.

At graduate level, we additionally expect epistemological awareness—understanding of different knowledge systems and how questions reflect assumptions about what counts as knowledge.

Four Elements (Each scored 1-10)

Does the researcher demonstrate genuine curiosity and wonder about their topic?

<i>Middle/High School</i>	Personal connection and authentic questions ("What made you curious about this?")
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<i>Undergraduate</i>	Thoughtful curiosity with emerging depth; questions that go beyond surface exploration and connect to broader issues
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<i>Graduate</i>	Sustained passion evidenced through research trajectory, intrinsic motivation beyond degree requirements, and long-term commitment
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Is there evidence of passion for learning and discovery?

<i>Middle/High School</i>	Excitement about discovery and willingness to try new things
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<i>Undergraduate</i>	Developing intellectual independence; ownership over research direction and evidence of critical thinking
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<i>Graduate</i>	Evidence of long-term commitment to this research area, passion persists despite challenges, and motivation rooted in genuine interest and community impact rather than degree requirements alone.
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Does the researcher generate their own meaningful questions?

<i>Middle/High School</i>	Questions emerging from personal observation or experience
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<i>Undergraduate</i>	Show awareness of different knowledge systems and recognition that Indigenous knowledge is legitimate
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<i>Graduate</i>	Critical questioning of research origins (Whose questions am I asking? Why?), and sophisticated understanding that Indigenous and Western knowledge systems represent different but equally valid epistemologies.
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Is the research connected to community needs or priorities?

<i>Middle/High School</i>	Connection to family, school, or local community
<i>Undergraduate</i>	Articulation of why research matters beyond personal interest, connection to broader community issues
<i>Graduate</i>	Deep understanding of how research serves community sovereignty, addresses power dynamics, or builds community capacity

Strong Evidence by Career Stage

<i>Middle/High School</i>	<ul style="list-style-type: none">● My grandma taught me..." counts as knowledge and expertise● Questions emerge from family stories, community observations, cultural practices● Excitement about topic is visible and authentic● Can explain what made them curious in their own words
<i>Undergraduate</i>	<ul style="list-style-type: none">● <i>Questions go beyond "what" to "why it matters"</i>● <i>Shows awareness that multiple ways of knowing exist</i>● <i>Can articulate personal connection and broader significance</i>● <i>Evidence of engaging with existing knowledge (literature, community wisdom, cultural teachings)</i> <p>● <i>Example: "I'm studying diabetes not just because it affects my family, but because understanding social determinants could inform tribal health policy. I've learned from both public health research and from elders about historical trauma's role."</i></p>
<i>Graduate</i>	<ul style="list-style-type: none">● <i>Questions go beyond "what" to "why it matters"</i>● <i>Shows awareness that multiple ways of knowing exist</i>● <i>Can articulate personal connection and broader significance</i>● <i>Evidence of engaging with existing knowledge (literature, community wisdom, cultural teachings)</i> <p><i>Example: "I'm studying diabetes not just because it affects my family, but because understanding social determinants could inform tribal health policy. I've learned from both public health research and from elders about historical trauma's role."</i></p>

Limited Evidence

- Research appears externally motivated without personal connection
- Cannot articulate why questions matter personally or to communities
- Questions disconnected from any community need or priority
- No recognition of different knowledge systems (undergraduate/graduate)
- Unable to explain epistemological foundations of their work (graduate)

How to Demonstrate

In your abstract's WHAT section:

- Explain how you came to this research
- Share what sparked your curiosity (personal experience, community observation, cultural teachings)
- Articulate why these questions matter to you and your communities
- (Graduate) Discuss how your questions engage with different knowledge systems

In presentation:

- Share your personal journey to these questions
- Show enthusiasm for your topic
- Explain what you're excited to learn
- (Undergraduate/Graduate) Connect questions to broader issues and community priorities
- (Graduate) Demonstrate awareness of epistemological assumptions

STRAND 2: Engagement & Belonging

Engagement & Belonging evaluates STEM identity, community connections, and how Indigenous identity and knowledge are integrated into research. This strand recognizes that strong researchers see themselves as scientists and can be fully Indigenous while doing STEM.

At undergraduate level, we expect students to show growing confidence in claiming researcher identity and intentional integration of cultural identity with their research.

At graduate level, we expect critical examination of positionality, power dynamics, and explicit accountability mechanisms.

Four Elements (Each scored 1-10)

Does the researcher demonstrate STEM identity (seeing themselves as a scientist/researcher)?

Middle/High School Pride in their work; affirms identity as scientist/researcher

Undergraduate Growing confidence in claiming researcher identity, ownership of their work

Graduate Sophisticated understanding of themselves as knowledge creators, not just consumers; awareness of their role in knowledge production

Is there evidence of community engagement or relationship-building?

Middle/High School Connections to family, mentors, or peers who support their work

Undergraduate Developing relationships with research mentors, community partners, or STEM peers

Graduate Explicit articulation of relational accountability: who they're accountable to, how accountability is maintained, evidence of reciprocity

Is identity integrated and honored in the research approach?

Middle/High School Cultural pride and comfort being Indigenous in STEM

Undergraduate Intentional integration of cultural identity with research, ability to be fully Indigenous while doing STEM

Graduate Critical analysis of how their identity shapes their work, understanding of power and privilege, articulation of cultural protocols honored

Is Indigenous knowledge or community wisdom recognized and valued?

<i>Middle/High School</i>	Acknowledgment that elders/community members have valuable knowledge
<i>Undergraduate</i>	Articulation of why research matters beyond personal interest, connection to broader community issues
<i>Graduate</i>	Deep understanding of how research serves community sovereignty, addresses power dynamics, or builds community capacity

Strong Evidence by Career Stage

<i>Middle/High School</i>	<ul style="list-style-type: none">• "I'm a scientist!" said with pride• Mentions family members or community who encouraged them• Can be themselves (Indigenous) while doing science• Recognizes that traditional knowledge is real knowledge
<i>Undergraduate</i>	<ul style="list-style-type: none">• Identifies as researcher with growing confidence• Can articulate how their identity shapes their work• Has meaningful relationships with mentors or community partners• Integrates cultural perspective when relevant

Example: "As a Diné woman studying water quality, I bring both my training in chemistry and my understanding of water as a living relative. I worked closely with my tribe's environmental department, and they helped shape which testing sites would be most meaningful for our community."

<i>Graduate</i>	<ul style="list-style-type: none">• <i>Critical understanding of positionality and power in research</i>• <i>Explicit accountability mechanisms (community review, data sovereignty agreements, reciprocity)</i>• <i>Can articulate how cultural protocols are honored</i>• <i>Shows sophisticated navigation between knowledge systems</i>
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Example: "I position myself as both an insider (tribal member) and outsider (university researcher). I've established a community advisory board, all data belongs to the tribe, and I'm accountable to them for how findings are used. My methodology integrates both quantitative analysis and traditional ecological calendar observations."

Limited Evidence

- Hesitant to claim researcher identity
- Research conducted in isolation without relationships
- Indigenous identity and research kept entirely separate
- No recognition of diverse knowledge systems
- Unable to articulate who they're accountable to (graduate)

How to Demonstrate

In WHAT section:

- Share who you are and how your identity connects to your work
- Acknowledge relationships and knowledge holders
- (Graduate) Articulate your positionality and accountability

In presentation:

- Show confidence in your researcher identity
- Acknowledge collaborators and community
- Integrate cultural perspective when relevant
- (Graduate) Discuss protocols, reciprocity, and power dynamic

STRAND 3: Competencies & Confidence

STEM Competencies & Confidence evaluates research skills, methodological approaches, and the researcher's confidence in their abilities. This strand recognizes that strong researchers demonstrate appropriate skills for their level while showing growth and the ability to integrate multiple knowledge systems.

At the undergraduate level, we expect students to use sound methodology with clear justification and demonstrate growing confidence in explaining their work and articulating skills developed.

At the graduate level, we expect methodological coherence with stated values and ability to articulate epistemological foundations of methods.

Four Elements (Each scored 1-10)

Does the researcher demonstrate appropriate research skills and methods?

<i>Middle/High School</i>	Age-appropriate methods executed reasonably well
<i>Undergraduate</i>	Sound methodology for their level, thoughtful approach, ability to explain why methods were chosen
<i>Graduate</i>	Sophisticated methods with clear justification, coherence between stated values and methodological choices

Is there integration of multiple knowledge systems or methodologies when appropriate?

<i>Middle/High School</i>	Openness to learning from different sources (books, elders, experiments)
<i>Undergraduate</i>	Beginning attempts to bridge Indigenous and Western approaches when relevant
<i>Graduate</i>	Sophisticated integration of knowledge systems, methodological coherence with epistemological stance, ability to navigate and resist Western academic norms when appropriate

Does the researcher show effective problem-solving and critical thinking?

<i>Middle/High School</i>	Ability to troubleshoot when things don't work as expected
<i>Undergraduate</i>	Thoughtful analysis, making connections, questioning assumptions
<i>Graduate</i>	Critical examination of assumptions, sophisticated analysis that considers multiple perspectives, ability to identify and address limitations

Does the researcher demonstrate confidence in their STEM abilities?

<i>Middle/High School</i>	"I did this!" pride in their work
<i>Undergraduate</i>	Growing confidence in explaining work, owning their competence
<i>Graduate</i>	Confident without arrogance; able to articulate both strengths and areas for growth

Strong Evidence by Career Stage

- Middle/High School*
- Used appropriate methods for their age and resources
 - Can explain what they did in their own words
 - Tried to fix problems when they came up
 - Proud of what they accomplished

- Undergraduate*
- Methods appropriate and well-explained
 - Shows critical thinking about approach
 - Can articulate what skills they developed
 - Demonstrates growing confidence

Example: "I used both water quality testing (EPA methods) and traditional indicators my grandmother taught me (certain plants that only grow in healthy water). When my pH results seemed inconsistent, I recalibrated my equipment and retested. This project taught me both lab skills and how to integrate different knowledge sources."

- Graduate*
- Methodological sophistication with clear epistemological grounding
 - Can defend methodological choices in relation to research questions and values
 - Demonstrates ability to work across knowledge systems rigorously
 - Critical self-awareness of strengths and limitations

Example: "I use mixed methods because my epistemological stance recognizes multiple ways of knowing. Quantitative surveys measure prevalence, but qualitative storytelling circles honor narrative as knowledge and center community voice. I had to resist pressure from my committee to 'just use statistics' because this methodological integration is essential to my values and the community's needs."

Limited Evidence

- Methods unclear or poorly matched to question
- Cannot explain methodological choices
- No evidence of problem-solving
- Lacks confidence or appears arrogant
- Methods contradict stated values (graduate)

How to Demonstrate

In WHAT section:

- Explain methods clearly and why you chose them
- Describe problem-solving and what you learned
- Articulate skills developed
- (Graduate) Connect methods to epistemological stance

In presentation:

- Present confidently
- Explain methodological choices
- Demonstrate understanding of your field
- (Graduate) Discuss methodological coherence with values

STRAND 4: Future Intentions

Future Intentions evaluates commitment to continued STEM engagement, community impact, and growth orientation. This strand recognizes that strong researchers have plans, demonstrate persistence, and show commitment to serving communities through their work.

At the undergraduate level, we expect students to articulate specific next steps for research or career and concrete plans to share findings or apply results to serve communities.

At the graduate level, we expect strategic vision for leadership, specific accountability to community, and understanding of research as long-term commitment beyond degree.

Four Elements (Each scored 1-10)

Does the researcher articulate clear goals or next steps?

<i>Middle/High School</i>	Ideas about next steps: continuing the research, sharing with others, or exploring related interests.
<i>Undergraduate</i>	Concrete next steps: specific plans for research continuation, career direction, or application of findings.
<i>Graduate</i>	Strategic vision that connects research to larger goals, leadership trajectory, community benefit

Is there evidence of persistence mindset and commitment to continue?

<i>Middle/High School</i>	Willingness to keep trying even when things are hard
<i>Undergraduate</i>	Commitment to STEM path, persistence through challenges
<i>Graduate</i>	Demonstrated long-term commitment beyond degree completion, understanding of research as ongoing relationship

Is there demonstrated commitment to community impact or service?

<i>Middle/High School</i>	Wanting to share what they learned or help their community
<i>Undergraduate</i>	Concrete plans to share findings or apply results to serve communities
<i>Graduate</i>	Explicit accountability mechanisms, capacity-building plans, commitment to community sovereignty and self-determination

Does the researcher show growth orientation and openness to learning?

<i>Middle/High School</i>	Excitement to continue learning
<i>Undergraduate</i>	Awareness of what they still need to learn, openness to feedback
<i>Graduate</i>	Sophisticated understanding of themselves as continuous learners, awareness of limitations and areas for growth

Strong Evidence by Career Stage

<i>Middle/High School</i>	<ul style="list-style-type: none">● Has ideas about next steps (test more, share with class, enter science fair)● Wants to share what they learned● Excited about learning more● Connects work to helping family/community
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<i>Undergraduate</i>	<ul style="list-style-type: none">● Specific next steps for research or career● Plans to share findings with community● Shows persistence through challenges● Connects work to future goals
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Example: "I'm presenting these findings to our tribal council and developing a fact sheet for community members. Next semester I'm applying to graduate programs in public health because I want to come back and work for our tribe's health department. This research showed me I can contribute to solving problems our community faces."

<i>Graduate</i>	<ul style="list-style-type: none">● Strategic vision for Indigenous STEM leadership● Concrete accountability to community beyond graduation● Long-term commitment evident (not ending with degree)● Capacity-building plans (training community members, data sovereignty)
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Example: "This research is laying groundwork for a community-based participatory health program I'll develop with our tribe. I'm training two tribal members in data collection so capacity stays in community. After my PhD, I'm returning home to establish a research institute that centers Indigenous methodologies. My dissertation is one piece of lifelong commitment to health sovereignty."

Limited Evidence

- Vague or absent future plans
- Research appears one-time effort
- No plans to share findings or serve communities
- Unable to connect to longer journey
- Research ends with degree (graduate)

How to Demonstrate

In NOW WHAT section:

- Share specific next steps
- Explain how findings will be used or shared
- Articulate long-term goals
- Connect to community impact
- (Graduate) Describe accountability mechanisms and capacity-building

In presentation:

- Show this is part of longer journey
- Demonstrate commitment to continued learning
- Explain how work serves broader goals
- (Graduate) Articulate strategic vision for leadership

Scoring Guidelines

Scoring Scale (All Career Levels)

Each element scored 1-10:

- **9-10:** Strong evidence—clear, compelling demonstration
- **7-8:** Solid evidence—good demonstration with strong elements
- **5-6:** Some evidence—moderate demonstration, shows potential
- **3-4:** Limited evidence—minimal demonstration
- **1-2:** Insufficient evidence—little to no evidence present

Adjust expectations to career stage

What constitutes "strong evidence" differs for middle school vs. graduate students, but the scoring scale remains the same.

Career Stage Expectations

Middle/High School

- Emerging curiosity and cultural awareness
- Beginning STEM confidence
- Age-appropriate methods
- Exploring possibilities

Undergraduate

- Developing epistemological awareness
- Growing cultural integration
- Thoughtful methodology
- Articulating community accountability

Graduate

- Sophisticated epistemological understanding
- Critical positionality analysis
- Methodological coherence with values
- Strategic vision for leadership

Relational Accountability Across Research Types

Community-partnered research: Shows through formal partnerships, community guidance, protocols honored, reciprocity

Individual/lab-based research: Shows through clarity of purpose (who benefits?), STEM community connections (mentors, peers), plans to share/apply results

Both demonstrate relational responsibility—form varies, intentionality remains constant.

Pre-Submission FAQ

For Undergraduate & Graduate Student Researchers

How do I submit my abstract	Submit your abstract through our online portal at aises.stemwizard.com . You'll need: <ul style="list-style-type: none">• Abstract• Research category selection• Keywords
What should my abstract include?	Structure your abstract in three sections: <ul style="list-style-type: none">• WHAT: Your research question and why it matters (personal connection, community relevance)• SO WHAT: Your methods and findings (integration of different knowledge systems)• NOW WHAT: Your next steps and community impact (who benefits and how)
Do I need to be presenting original research?	You should be actively engaged in research, but it doesn't need to be complete or publishable. We value research at all stages.
What happens after I submit?	Accepted presenters receive: <ul style="list-style-type: none">• Conference registration discount code• Assignment to oral or poster presentation• Detailed rubric and presentation guidelines• Access to preparation workshops
What are presentation formats?	Oral: 10-minute presentation + 5-minute Q&A Poster: 2-hour session with informal discussions
How will I be evaluated?	Using a 160-point rubric across 4 strands: <ul style="list-style-type: none">• Interest in STEM (curiosity, passion, meaningful questions)• Engagement & Belonging (identity, community connections)• STEM Competencies & Confidence (skills, integration of knowledge systems)• Future Intentions (next steps, community impact, vision)
Do I need to attend the full conference?	You must be present for your assigned presentation time. We strongly encourage attending the full conference to network and learn.

For Educators

How can I support my students?	<ul style="list-style-type: none">• Help them brainstorm research topics connected to their interests and community• Review their abstracts for clarity and authentic voice• Encourage them to integrate cultural perspectives meaningfully• Support their presentation practice and confidence building
Can I submit on behalf of my student?	No. Students must submit their own abstracts to ensure authentic voice and ownership.
What if my student needs help with the abstract format?	The WHAT/SO WHAT/NOW WHAT structure is explained in detail at conference.aises.org . We also offer writing workshops.
Should my student mention their Indigenous identity?	Only if they're comfortable. The rubric values Indigenous identity as a strength, but students share only what feels authentic.
Can multiple students from my school submit?	Absolutely! We welcome and encourage multiple submissions.
What's different about this evaluation approach?	This rubric evaluates the whole researcher - not just technical skills. We value cultural identity, community connections, epistemological awareness, and commitment to community impact alongside scientific competence.
How can I help my student integrate cultural perspectives?	Ask about family knowledge, traditional practices, or community connections related to their research. Help them see Indigenous peoples as scientists and knowledge holders.

For Potential Judges

Who does judging involve?	Evaluating undergraduate and graduate student presentations using an Indigenous-centered rubric during the conference.
Who can serve as a judge?	Indigenous STEM professionals, allied professionals, faculty, postdocs, and advanced graduate students committed to supporting Indigenous students.
What's the time commitment?	Approximately 4-6 hours over two conference days, attending assigned oral and poster sessions.
Will I receive training?	Yes! All judges participate in comprehensive training on: <ul data-bbox="643 1115 1292 1287" style="list-style-type: none">● The four-strand rubric framework● Indigenous research ethics and protocols● Scoring presentations (160-point system)● Providing culturally grounded feedback● Calibrating expectations by career level
What's the four-strand framework?	We evaluate presentations across 4 equally weighted strands (0-40 points each): <ol data-bbox="643 1430 1471 1675" style="list-style-type: none">1. Interest in STEM - Curiosity, passion, meaningful questions2. Engagement & Belonging - Identity, community connections3. STEM Competencies & Confidence - Skills, knowledge integration4. Future Intentions - Next steps, community impact <p data-bbox="591 1713 1417 1780">Each strand has 4 sub-questions scored 1-10, totaling 160 points possible.</p>

How is this different from traditional judging?	This rubric honors students as whole people - evaluating their epistemological awareness, cultural grounding, community accountability, and vision alongside technical competence.
Do I need to be Indigenous to judge?	No, but all judges must be committed to Indigenous-centered evaluation and willing to learn about Indigenous research approaches.
What's provided to judges?	<ul style="list-style-type: none">● Complimentary conference registration● Detailed rubrics by career level● Judge training (virtual and in-person)● Scoring sheets and materials● Student abstracts one week before conference
How do I apply?	<p>Apply through our STEMwizard platform) by September 4 at aises.stemwizard.com. The application takes approximately 15-20 minutes and asks about:</p> <ul style="list-style-type: none">● Your STEM field and areas of expertise● Experience working with different career levels (middle/high school, undergraduate, graduate)● Familiarity with Indigenous research approaches● Availability during conference presentation times