2027 Emerging Researchers National (ERN) Conference in STEM

Abstract Submission Guidelines

The Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM) is hosted by the American Association for the Advancement of Science (AAAS), Center for STEMM Education and Workforce (CSEW) Programs and the National Science Foundation (NSF) Directorate for STEM Education (EDU).

Abstract Submission Deadline

All poster and oral presentation abstracts must be submitted through the online abstract submission process: https://abstracts.emerging-researchers.org/.

Application Window: Opens: August 3, 2026, **Closes:** September 4th, 2026 at 11:59pm EST. Abstracts submitted by mail, fax, or email will not be accepted.

Notifications regarding abstract acceptance will be emailed during the week of October 12th.

Student Eligibility

The conference is open to students who:

- Are currently registered in an undergraduate or graduate program at a U.S. college or university; and
- Have conducted undergraduate or graduate research in the following broad science, technology, engineering, or mathematics (STEM) categories:

1. Biological Sciences
2. Chemistry and Chemical Sciences
3. Computer Sciences and Information Management
4. Ecology, Environmental, and Earth Sciences
5. Geosciences
6. Mathematics and Statistics
7. Nanoscience or Materials Science
8. Neuroscience
9. Physics
10. Science and Mathematics Education
11. Social, Behavioral, and Economic Sciences
12. Technology and Engineering
13. Forensic Sciences

14. Data Science

Presentation Schedule

All poster and oral presentations will be scheduled for **Friday, March 5th or Saturday, March 6th, 2027.**

During the submission process, applicants will select either a poster or oral presentation as their preferred presentation type. If an abstract is accepted, this is the type of presentation the student will be expected to deliver at the conference. No changes are allowed.

Note: All graduate student presentations will be oral presentations only.

Criteria for Abstract Acceptance

All abstracts must include the following:

- Hypothesis or statement of the problem being investigated, and why the research is important
- Methods and controls
- Results and discussion of findings
- Conclusions, future research directions, and key references
- Acknowledgement of funder(s)

A guide to developing the abstract, along with a sample abstract, is included at the end of these guidelines.

Note: Accepted poster and oral abstracts will be listed in the ERN Conference App during the convening. Cash awards will be given for the top poster and oral presentations, with undergraduate and graduate students reviewed in separate award categories. Awards will be announced at the closing banquet on Saturday, March 6th, 2027.

Submission Guidelines

Abstract submissions must also adhere to the following:

1. Each student may submit only one poster or oral abstract as primary author but may be listed as a co-author on a second abstract.
2. Students working in the same lab must independently submit original abstracts. Identical abstracts submitted by different students will be automatically rejected.
3. The primary author will present the project at the conference. Co-presentations are not permitted.

4. Students must obtain approval from their faculty advisor(s) or research mentor(s) before submitting. Failure to do so will result in immediate rejection of the abstract.
5. Abstracts must meet high standards for grammar, spelling, and sentence structure, and should be carefully edited and proofread prior to submission.

Abstracts **must** be written by the student and reviewed by the faculty research advisor or mentor. If you have engaged in collaborative research, your abstract should be reviewed by all listed collaborators/co-authors before submission.

Abstract Review Process

All abstract submissions will be reviewed for:

- Originality and innovation
- Scientific content supported by quantitative information and references
- Merit of the research
- Quality of written content
- Adherence to guidelines and format

Abstracts are reviewed by a panel of scientists in the appropriate STEM discipline, according to the criteria above.

All review decisions are final. Due to the conference timeline, there is no appeals process and no opportunity to resubmit a rejected abstract.

Once accepted, conference staff will group abstracts with similar themes into oral or poster sessions.

The presentation session schedule is final, and session times cannot be changed.

Reasons Abstracts May Be Rejected

Abstracts will be rejected for one or more of the following reasons:

1. **No hypothesis or statement of the problem** — The rationale for the research and/or the research question(s) are not clearly explained.
2. **No methods** — The methods are not clearly presented or appear inappropriate.
3. **No results / insufficient data** — The investigators did not present evidence of results, research status, or outcomes, or provided insufficient data to support their conclusions.
4. **No conclusions or expected outcomes** — The investigators did not describe conclusions or expected outcomes relative to their hypothesis.

Abstract Acceptance Notifications

Notification of abstract status will be sent by email, so it is important that students and faculty/mentors keep a valid, current email address on file. Authors should notify AAAS of any changes to their email or other contact information (contact information is available on the ERN Conference website).

Notifications regarding abstract acceptance will be emailed during the week of October 12th.

Travel Award Application Process

If you wish to apply for a travel award, this application must be submitted at the same time as the abstract.

- The deadline to apply for a travel award is midnight (PST) on **September 4th, 2026 11:59 pm EST**
- Travel award notifications will be emailed during the week of **October 12th, 2026.**

For Travel Award criteria, visit the Travel Awards page at https://emerging-researchers.org/2027-travel-award-information/.

Abstract Development Guide and Sample Abstract

1. Abstract Title

The abstract title should be no longer than 100 characters, including punctuation and spaces. Use title case, not sentence-style capitalization.

Example: *The Science of Education, Life, and the Computer Era*

2. Primary Author and Presenter

The primary author is the person submitting and presenting the abstract.

Example: *John Doe*

3. Primary Author's Institution

This should be the institution where the student is currently enrolled.

Example: *HRD University*

4. Co-Author(s)

Approval must be obtained from all co-authors listed on the abstract; failure to do so will result in immediate rejection. Co-authors are not permitted to co-present with the primary author — no co-presentations are allowed during the conference.

If there are no co-authors, this field may be left blank.

Example: *Jane Doe, Howard University, DC; Mary Doe, Morgan State University, MD; James Doe, Savannah State University, GA*

5. Abstract Information (Abstract Body)

3,000-character limit, including spaces and punctuation. All abstracts must include:

- Hypothesis or statement of the problem being investigated, and why the research is important
- Methods and controls
- Results and discussion of findings
- Conclusions, future research directions, and key references
- Acknowledgement of funder(s)

Abstracts should not include embedded images, charts, or graphs.
If your abstract includes symbols, notations, or mathematical equations, please also upload a copy in Word format during submission (also without embedded images, charts, or graphs).

6. Acknowledgements

Students must list the funder(s) of their research project with grant numbers. If there is more than one funder, list each separately. Students may also acknowledge individuals and organizations that supported your project (e.g., institutional support, lab technicians, and collaborators that provided technical assistance or valuable feedback).

Example: *This study was supported, in part, by a grant from NSF/AAAS (Grant No. ABC-9765) (awarded to John Doe, PhD, Director for the Center of Biotechnology and Biomedical Sciences, HRD University, Washington, DC.*

7. Abstract Approved By

All abstracts must be approved by the student's faculty advisor or mentor. This name will be listed in the ERN Conference app and website.

Example: *Fake Advisor, fakeadvisor@email.org*

Printed Abstract Sample

The example below shows how a completed abstract appears in the ERN Conference app and website. (Note: the abstract body must be no longer than 3,000 characters, including spaces and punctuation.)

Support for the Inverse of Bergmann's Rule in Slevin's Bunchgrass Lizard
Ivan V. Monagan, Jr., Virginia State University
Co-Author(s): Christian d'Orgeix, Virginia State University, VA

Bergmann's rule is an ecogeographic principle postulating an intraspecific increase in body size with increasing latitude or elevation, each correlating with decreasing environmental temperature. Body size's effect on thermoregulation is the primary physiological basis for this rule: a decreased surface-area-to-volume ratio in larger animals improves heat retention and the ability to sustain internal temperature. This rule is generally supported in homeotherms (e.g., birds and mammals), which generate body heat through metabolism. Its application to ectotherms (e.g., reptiles), which rely on external heat sources, remains controversial — larger ectotherms in cooler environments would require more time to absorb sufficient heat for daily functions compared to smaller conspecifics.

However, research on several spiny lizards (genus Sceloporus) supports Bergmann's rule. We used Slevin's bunchgrass lizard (Sceloporus slevini), a species occurring at both high and low elevations, to test whether ectotherms show a size relationship reversed from Bergmann's prediction. Body size was measured to the nearest 0.01 mm using digital calipers across five populations spanning high, mid-range, and low elevations in southeastern Arizona. Differences in body size by elevation were assessed using one-way ANOVA, with pairwise comparisons via Tukey's test where overall ANOVA results were significant. We found a significant size difference between high- and low-elevation populations: snout-vent length was significantly smaller at higher elevations than at lower elevations ($F_{4,100} = 5.40$, $p = 0.001$) — an inverse of Bergmann's rule. Faster thermoregulation via smaller body size and a higher surface-to-volume ratio offers a physiological explanation for this pattern. Future work will examine factors such as sexual selection on male body size and female fecundity, which may help explain why not all ectotherms follow the inverse of Bergmann's rule.

References:

Angilletta, M.J., Niewiarowski, P.H., Dunham, A.E., Leache, A.D. & Porter, W.P. 2004. Bergmann's Clines in Ectotherms: Illustrating a Life-History Perspective with Sceloporine Lizards. American Naturalist, 164(6):168–183.

Ashton, K.G. & Feldman, C.R. 2003. Bergmann's Rule in Nonavian Reptiles: Turtles Follow It, Lizards and Snakes Reverse It. Evolution, 57:1151–1163.

Bergmann, C. 1847. Über die Verhältnisse der Wärmeökonomie der Thiere zu ihrer Größe. Göttinger Studien, 3:595–708.

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