

Research Opportunities for Science Educators (ROSE)



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Mission

The ROSE Program energizes and enhances science teaching in New Mexico by leveraging the research resources of the University of New Mexico (UNM) and the educational resources of the State of New Mexico Public Education Department (PED). The central activity is an authentic research experience in which teachers (ROSE Scholars) join ongoing projects for first-hand participation in discovery-based research. The embedded Scholars see firsthand “how science is done” and the interdependence of various disciplines and subfields while working with faculty and student researchers. Scholars are selected based on the underrepresented minority (URM) and economically challenged student populations of their schools and their own scientific interests and background. They return to their classrooms bringing new ideas, tools and enthusiasm to share with students. From this core experience, ROSE will assist Scholars statewide in building a community to share experiences and educational resources.

ROSE will

- improve the quality of science education in NM schools by refreshing knowledge and inspiring confidence in middle and high school teachers

- forge connections between UNM and schools by acquainting teachers with university resources and educating UNM faculty on issues facing the schools

- incorporate K-12 and higher education faculty into a collaborating community of STEM educators statewide.

ROSE Annual Report for 2025

Executive Summary

The ROSE program had a small but successful summer research session in 2025, with 20 Scholars and 16 faculty mentors participating. Scholar comments from anonymous surveys during and after the session were overwhelmingly positive about their experience and its effect on their teaching. One Scholar wrote that “It was an experience that actually changed my mind about teaching, everyone was so passionate about science and research. I was going to quit after this year, but realized last summer this is what I love and am having the best year in my science classes.” The 2025 Scholar cohort teaches >2,000 students each year, and the program total (Scholars participating over 5 years) now teach >5,000 students each year. Another Scholar wrote that “My research poster is hanging in my classroom, and I use it to remind students that we are all lifelong learners, and that true growth comes when we feel outside of our comfort zone.”

Because PED is no longer supporting Scholars with stipend payments, Scholar recruiting efforts and acceptances decreased relative to summer 2024. The program accepted 20 of 48 applicants (~40%), mostly from schools with high enrollments of Yazzie/Martinez students (Indigenous, Hispanic, English Language Learners) and/or economically challenged students. Geographic diversity was also a selection criterion, and 2/3 of the Scholars came from districts outside the Albuquerque metropolitan area- from Shiprock to Lovington. Roughly half of the cohort was new to ROSE, while the other half was returning for a second or third summer.

As usual, Scholars’ summer research projects spanned a range of disciplines (Chemistry, Biology, Engineering, Medicine, Toxicology) and approaches (computational, lab experiments, field work). One Scholar wrote that “The ROSE program really influenced my teaching this semester. Being out in the field collecting litterfall, observing soil, and identifying plants and animals gave me a new appreciation for hands-on science. I felt more connected to the content myself, and that inspired me to bring the same energy into my Biology classroom.” Additional ‘cohort activities’ included tours of research labs, a visit to the Museum of Southwestern Biology, a software tutorial on molecular visualization, two discussions on how to integrate research into classroom activities and regular social events..

At the suggestion of Scholars, a Facebook group was created to promote communication among the teachers and between the teachers and UNM. So far, this has been more useful for UNM-Scholar communication than for ‘community-building’ among the Scholars.

The loss of PED funding for Scholar stipends, which had been variable but significant, prevent the program from expanding and also led to more reliance on funding from NSF and NIH research grants; at the same time, federal policy changes have decreased or eliminated some funding opportunities for programs like ROSE. Going forward, obtaining stable funding at an appropriate level remains a priority for the ROSE program.