

Research Opportunities for Science Educators

The ROSE Program: Annual Report for 2022

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Executive Summary

ROSE expanded in all respects in 2022, its second year of existence- the number of Scholars increased from 8 to 20, the number of PI mentors increased from 5 to 12, and the duration was extended from 4 weeks to 5. The NM PED provided stipends for all 20 Scholars, while UNM units provided dormitory housing, graduate student stipends, catering and miscellaneous expenses and logistical support. Scholars were recruited from across NM, with 2/3 teaching outside the Albuquerque metro area, while biology and engineering faculty joined the original core of chemistry faculty as research mentors. A website (UNMROSE.unm.edu) was created to publicize the program and recruit Scholars.

The on-campus research session ran from June 6 to July 8, with 12 of the Scholars staying in UNM dormitories. Projects included computational simulations, chemical synthesis and characterization, and organismal biology. Scholars presented their results to each other as posters which could be taken back to their classrooms for the academic year. In addition to the research aspect, Scholars participated in panel discussions with UNM faculty and staff on college application and preparation and attended a workshop on molecular visualization software they can use for teaching. The PI mentors reported good experiences for their research groups, with benefits including better communication and fresh perspectives on their science. The Scholars reported a high level of satisfaction (average 4.8 out of 5) with the research experience, and all (100%) indicated they would recommend ROSE to other teachers.

Contact with Scholars continued during the academic year, although to variable degrees. A few classroom visits were arranged, and two virtual meetings of Scholars. In the follow-up survey in October 2022, Scholars indicated that the ROSE experience had improved their knowledge and confidence in the classroom (90%), that they used examples from their research in teaching (80%), and that they used research tools including software into their lesson plans.

Priorities for the coming year include establishing an ongoing funding model, improving Scholar recruiting procedures, expanding ‘cross-talk’ and networking across research groups, enhancing academic year connections and communications and developing longer-term methods to evaluate program impact on teachers.