

APR18-2018-000229

Abstract for an Invited Paper
for the APR18 Meeting of
the American Physical Society

Recruiting teachers in high-needs STEM fields¹

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The United States faces persistent shortages of appropriately trained middle and high school STEM teachers in high-needs fields, particularly physics, chemistry, and computer science. The American Physical Society, American Chemical Society, Computing Research Association and Mathematics Teacher Education Partnership surveyed over 6000 current and recent majors in our disciplines. The project also involved Monica Plisch and co-author Casey Brown. Our main findings included

- Around half of STEM majors indicate some interest in teaching, suggesting a significant pool from which more STEM teachers could be recruited.
- Undergraduate STEM majors underestimate teacher compensation, and the salaries they report would interest them in teaching are close to actual salaries.
- Students are most inclined to consider teaching in departments where the faculty discuss teaching as a career option.

Our recommendations to professional societies and disciplinary departments are to

1. Impress upon university faculty and advisors in STEM disciplinary departments the importance of promoting middle and high school teaching with their undergraduate majors and graduate students, and of providing them accurate information about the actual salary and positive features of teaching.
2. Support high-quality academic programs that prepare students for STEM teaching, and expand good models to more universities. Strong programs provide improved coursework, prevent certification from requiring extra time, and support their students and graduates financially and academically.
3. Support financial and other support for students pursuing STEM teaching.
4. Advocate for increases in annual compensation, including summer stipends, on the order of 5K–25K for teachers in the hardest to staff STEM disciplines.
5. Support programs that improve the professional life and community of STEM teachers.

¹Work supported by the American Physical Society and the American Chemical Society