Preparing Physics Students for the STEM Workforce

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PHYSICS DEPARTMENT SITE VISIT LOCATIONS

<table>
<thead>
<tr>
<th>Institution</th>
<th>Type</th>
<th>Highest physics degree</th>
<th>Approx. no. bachelor’s per year</th>
<th>No. physics bachelor’s/yr (3 yr avg, 2008-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bates College</td>
<td>Public</td>
<td>Bachelor’s</td>
<td>2200</td>
<td>11</td>
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<td>College of Charleston</td>
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<td>Bachelor’s</td>
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<td>Univ. of Wisconsin Eau Claire</td>
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<td>23</td>
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<td>Gettysburg College</td>
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<td>Bachelor’s</td>
<td>450</td>
<td>8</td>
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<td>Miami Univ. (Ohio)</td>
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<td>Master’s</td>
<td>3400</td>
<td>14</td>
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<td>57</td>
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<tr>
<td>University of California at Davis</td>
<td>Public</td>
<td>PhD</td>
<td>6350</td>
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</tr>
</tbody>
</table>

National, 3.8 physics bachelor’s degrees are earned per 1,000 total bachelor’s degree earned (approximately 6,300 physics degrees per 1.7 million total degrees in 2011).  

GOALS
- Identify characteristics of physics departments graduating students that enter the STEM workforce after a bachelor’s degree and are intentional about career preparation  
- From these characteristics, determine best practices for physics departments preparing students to enter the STEM workforce  
- Equip physics departments with best practices and related tools for preparing physics undergraduates for the STEM workforce, thereby increasing the number and diversity of physics graduates joining the STEM workforce after the bachelor’s degree  

APPROACH
- Identify diverse physics departments graduating students that enter the STEM workforce (using data from the Statistical Research Center) and are intentional about career preparation (as indicated on department website)  
- Develop effective practices through site visits of eight departments  
- Compile and synthesize data to determine trends and common practices  
- Explore how alumni can help physics departments meet local industry needs by piloting alumni boards at two institutions  
- Discern effective practices through site visits of eight departments  

COMMON FEATURES AMONG PHYSICS DEPARTMENTS VISITED
- Articulated faculty and staff commitment to the success of every physics student, regardless of post-degree ambitions and level of academic achievement  
- Flexible curriculum/multiple degree tracks within the physics program  
- Varied and high quality lab courses in the physics curriculum  
- High value placed on student research and many opportunities for physics students to participate in research on and off campus  
- Strong ties between the physics department and local industry  
- Career information incorporated into physics classes (e.g. seminars)  
- Strong physics department community that engages students of all levels  
- Faculty remain connected to physics department alumni (often informally)  

WHAT HAPPENS AFTER THE PHYSICS BACHELOR’S DEGREE?

More than 2/3 of graduates enter the workforce. Of these, more than half go into the private sector, nearly 1/3 go into STEM positions.

ACKNOWLEDGEMENTS

We thank two Society of Physics Students interns for their help with this project: Amanda Piatko, University of Southern Mississippi (summer 2011 intern) and Shouvik Bhattacharya, Minnesota State University, Moorhead (summer 2012 intern).  

This work is supported by the National Science Foundation under Project No. 1011892, Expanding the STEM Workforce by Equipping Physics Bachelor’s Degree Recipients and their Departments to Address the Full Range of Career Options.