**Summer 2021 Research Engagement**

### Collaborators:

<table>
<thead>
<tr>
<th>Research Labs and Programs</th>
<th># Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>AALP</td>
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<tr>
<td>CISTAR</td>
<td>6</td>
</tr>
<tr>
<td>IOT4Ag</td>
<td>6</td>
</tr>
<tr>
<td>Pathways</td>
<td>13</td>
</tr>
<tr>
<td>SoCET</td>
<td>3</td>
</tr>
<tr>
<td>RETHi</td>
<td>3</td>
</tr>
</tbody>
</table>

$: few students were part of multiple research labs and programs

### SURF Professional Development Participants:

<table>
<thead>
<tr>
<th>Research Labs and Programs</th>
<th>AAMP-UP</th>
<th>ASPIRE</th>
<th>DURI</th>
<th>ME Projects</th>
<th>nanoHuB</th>
</tr>
</thead>
<tbody>
<tr>
<td># Students</td>
<td>25</td>
<td>7</td>
<td>6</td>
<td>96</td>
<td>10</td>
</tr>
</tbody>
</table>

### SURF 2021 Cohort Demographics

- **Purdue**
  - 129: 83%
  - External: 27: 17%

- **Domestic**
  - 120: 77%
  - International: 36: 23%

- URM*
  - 65: 42%

- First-Generation Students: 13 (14%)

- First-Time Researchers:
  - 58 (37%)

*: URM definition adopted from NSF  #: Students with no prior college level research experience
Purdue Engineering Student Participation by Major

SURF 2021 Participation by Major

SURF 2021 Research Themes

Overall Participation based on Faculty's College Affiliation

<table>
<thead>
<tr>
<th>College Affiliation</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>COA</td>
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<tr>
<td>COE</td>
<td>125</td>
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<tr>
<td>COS</td>
<td>17</td>
</tr>
<tr>
<td>PPI</td>
<td>3</td>
</tr>
<tr>
<td>COVM</td>
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</tbody>
</table>

Purdue Engineering Undergraduate Research Office

Engineering the Built Environment

SURF 2021

Research Themes

- Composites & Structural Materials and Alloys
  - AAE, ABE, CE, CEM, FYE, ME, MSE
- Machine Learning, Deep Learning & Cyber Security
  - AAE, CHE, CS, DS, ECE, FYE, IE, ME
- Biological Simulation, Signaling & Technology
  - ABE, CEM
- IOT for Agriculture, Sensors & Microsystems
  - ABE, ME, ECE, AAE, CHE
- Cellular Biology & Genetics
  - ABE, BCHM, BME, CHE, CS, FYE, CHM, AAE, NE, PHYS
- Fluid Modeling & Simulation
  - CHE, BME, MSE, CHE, ABE, ME, FYE, ECE, CHM, AAE, NE, PHYS
- Biomedical Sensing, Imaging and Technology
  - ABE, BCHM, BME, CHM, ECE, FYE, ME, PHRM, PHYS
- Chemical Catalysis & Synthesis
  - ABE, CHE
- Environmental Characterization
  - AAE, ABE, BIOL, CE, CS, ECE, EEE, NE
- Fabrication & Robotics
  - AAE, CS, ECE, ME
- Energetic Materials
  - CHE, FYE, MSE
- Computer Architecture
  - ECE
- Material Modeling & Simulation
  - AAE, ECE, MA, NE, PHYS
- Human Factors & Education
  - BME, CE, CHE, ECE, EEE, ME,
- Engineering the Built Environment
  - AAE, CS, FYE, ME