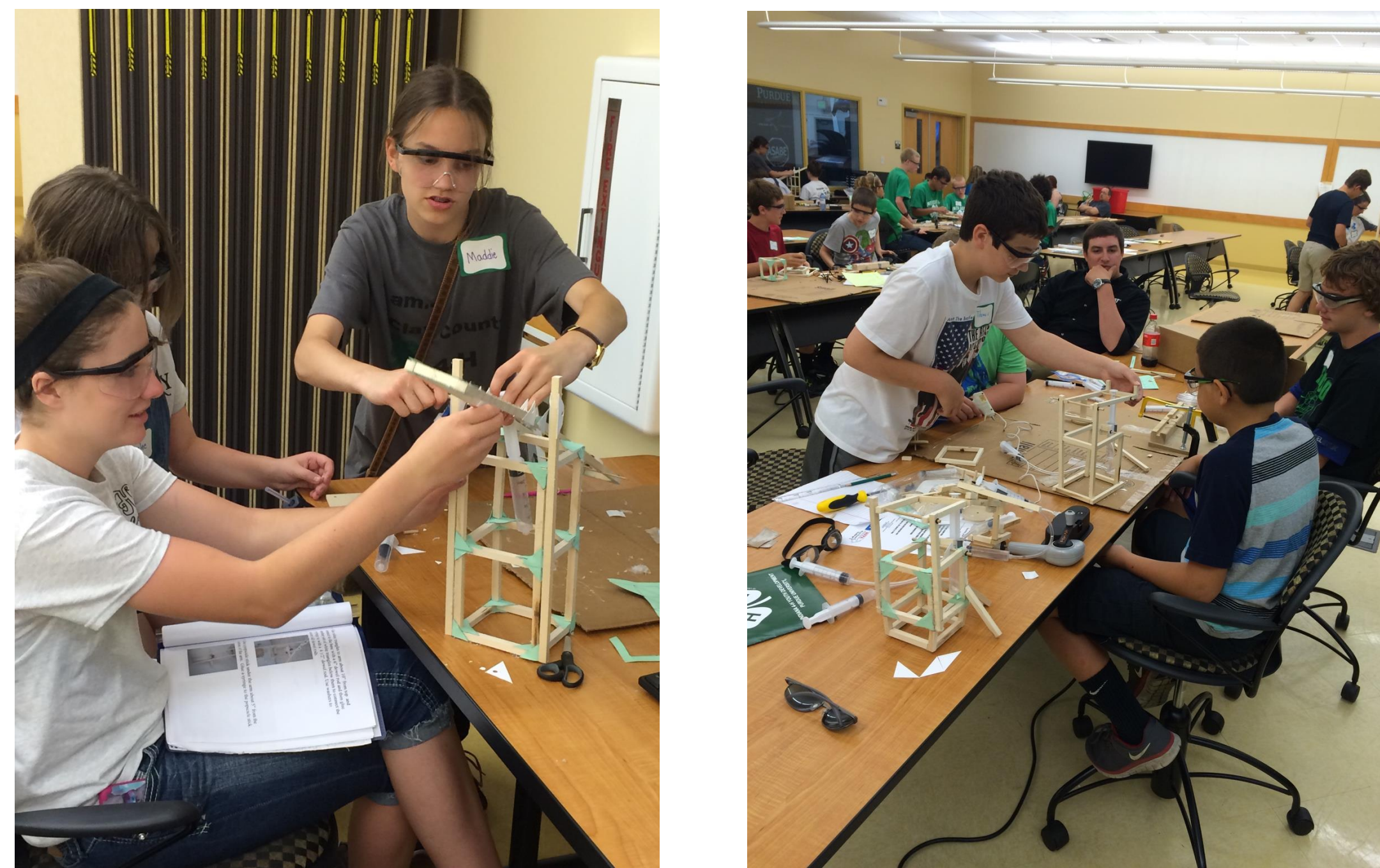


José M. García. Ph.D. *Assistant Professor of Mechanical Engineering Technology, Purdue University*

Erika Bonnett. *Extension Specialist 4-H Science Initiatives and 4-H Youth Development*

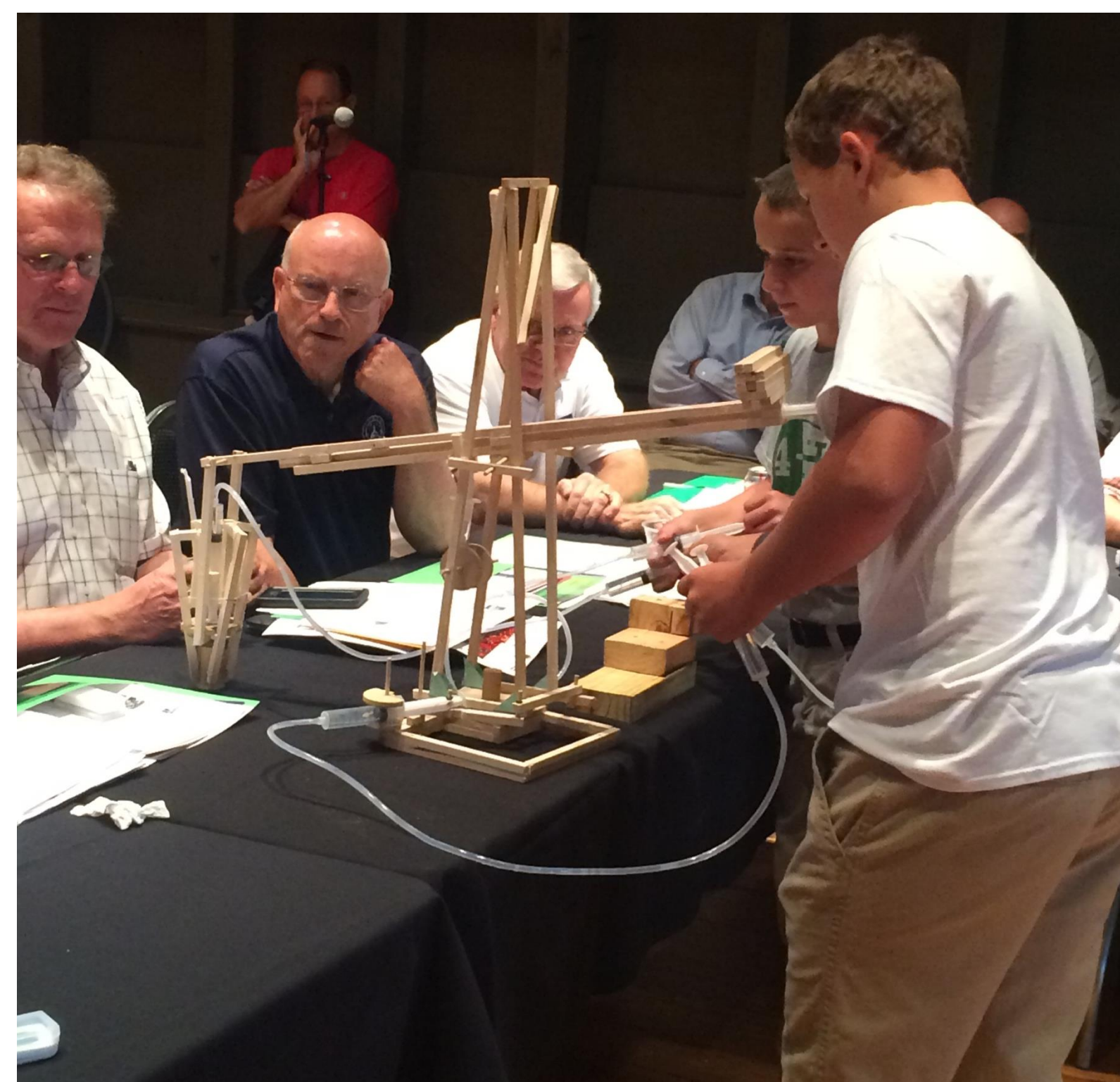
**Introduction**

The NFPA Fluid Power Challenge is continuing to expand, going beyond schools and into youth development programs. The inaugural 4-H Fluid Power Challenge provided Indiana 6-8th graders an opportunity to learn about hydraulics, fluid power, and other STEM skills.



**Making waves**

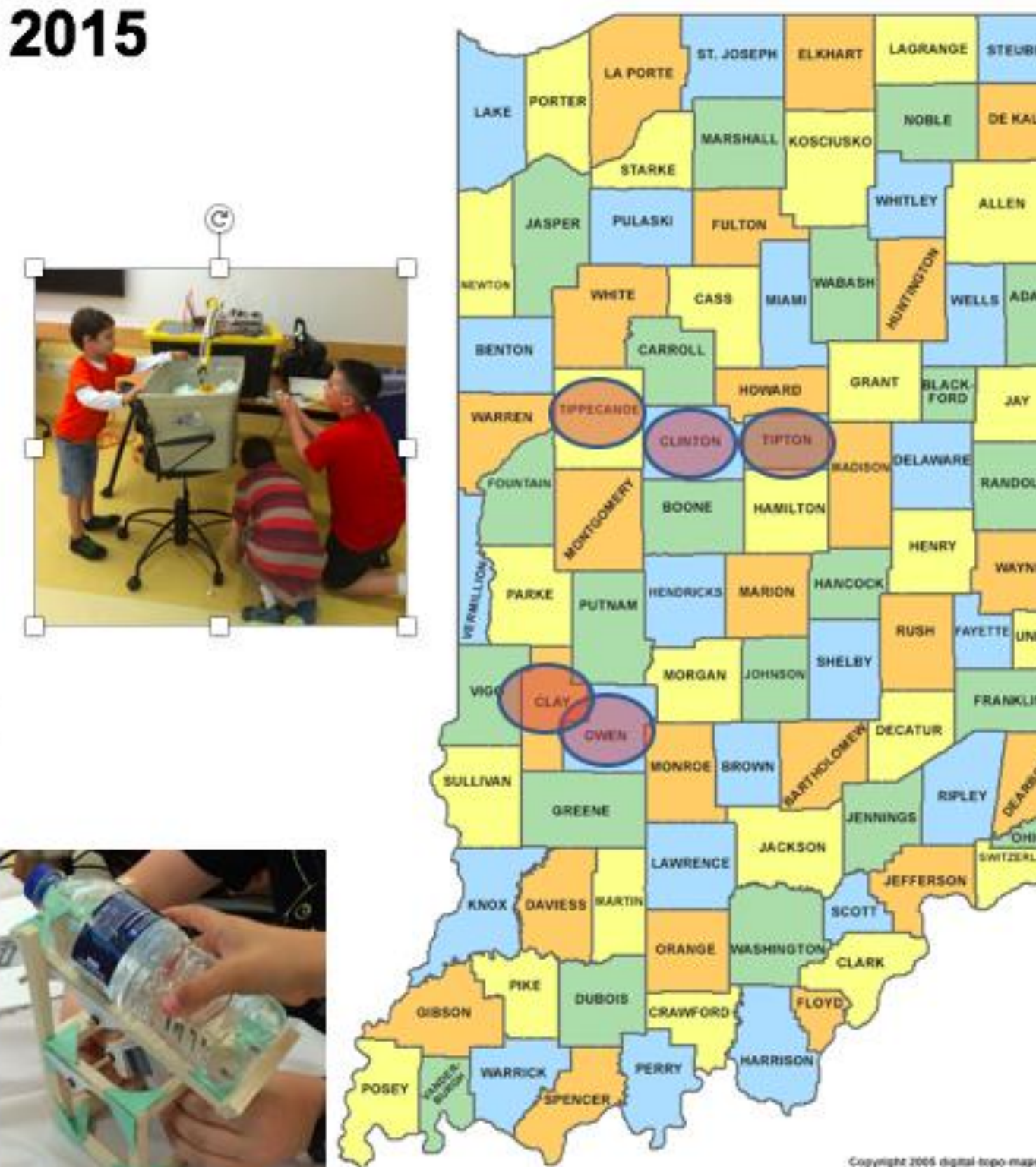
This event ultimately brought the Challenge into the public eye when two teams also selected to demonstrate their designs and share their experience at the Indiana Legislature Rural Caucus at the Indiana State Fair. This not only brought attention to the Fluid Power Challenge, but also brought 4-H, STEM education, and youth interest in fluid power in front of policymakers.



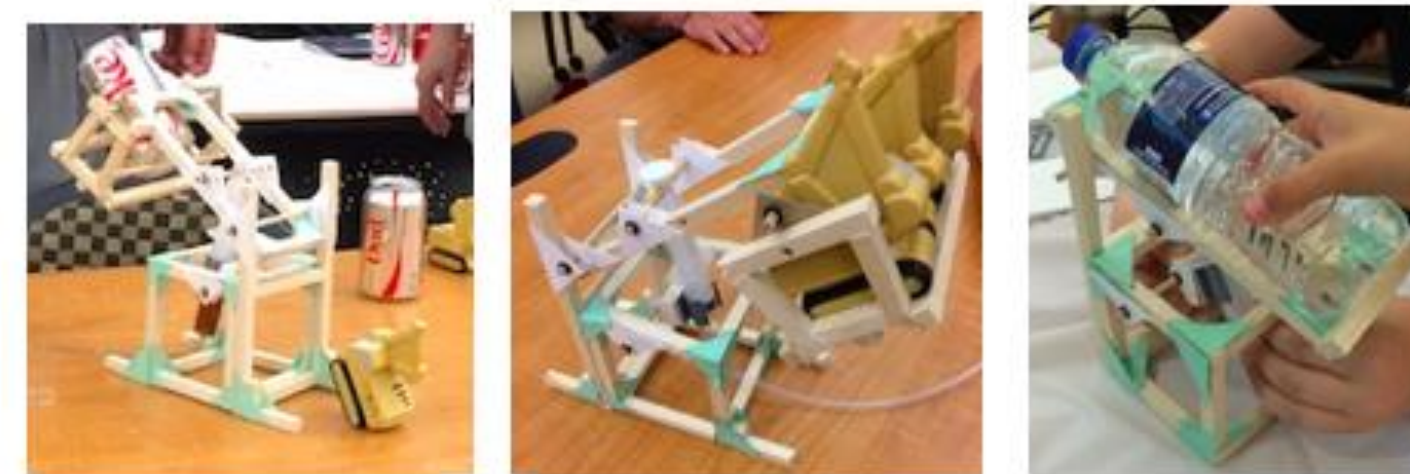
**Outreach**

**Workshop Day: May 9, 2015**

- Owen County
- Tippecanoe County
- Hendricks County
- Clay County
- Warren County
- Shelby County
- Floyd County



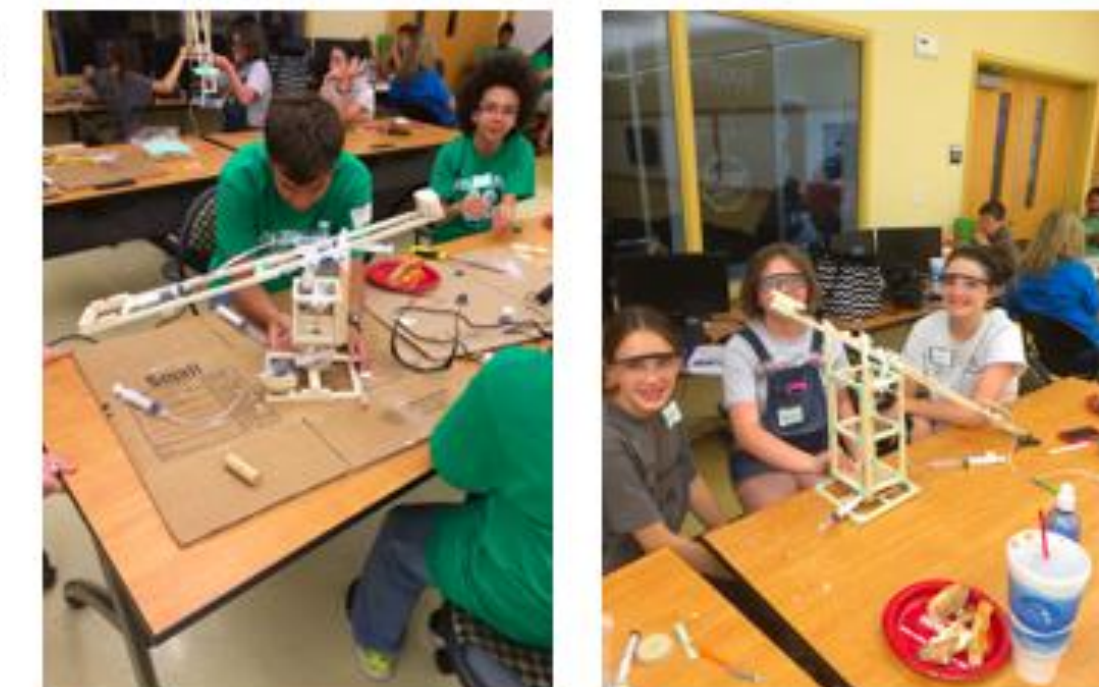
**Started convocating in April**



**Applications**

**Challenge Day: June 13, 2015**

- 8 Teams**
- ~36 Students**
- 3 Facilitators**
- 1 Program Coordinator**
- 1 Faculty**
- 3 Outside Judges**
- Purdue ADM Agricultural Innovation Center**



Nine teams from across Indiana came to Purdue's campus for a day-long introduction to fluid power. The students created a pre-designed lifting device and were accompanied by graduate and undergraduate students from the Purdue Polytechnic Institute to learn the basic skills they would use to create their challenge devices. Teams continued to work on the design of the robotic manipulator at home and were asked to document the creation of their prototype with a design portfolio.

**Preliminary Results**

Double its size and centrally located in Columbus, IN

February 27, 2016 Workshop Day  
April 9, 2016 Challenge Day



**Current Testing**

- Part of the Land Grant System, 4-H Youth Development is part of the Land Grant University in each State
- For Indiana, Purdue University is the home for 4-H Youth Development for Indiana
- Three mission areas in which 4-H surrounds our curriculum and project development, Science, Healthy Living and Citizenship

