

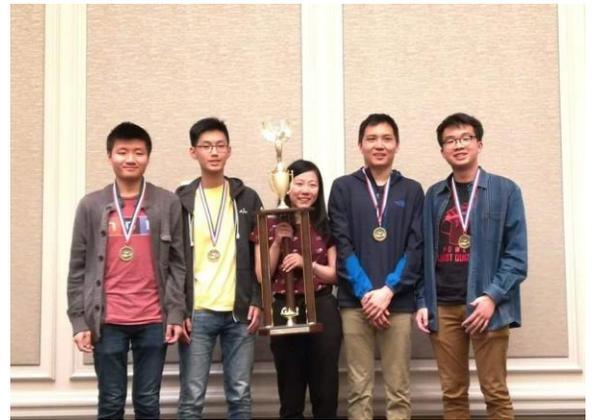


TJ Partnership Fund Excellence Grant Report *2018-2019 Initiatives and Statistics*

This year, the TJ Partnership Fund provided **23** grants supporting TJ's Academic Mission and Excellence to a variety of organizations, including professional development, equipment maintenance, TJ events, and TJ student groups. In the Fiscal Year 2019 (FY19), the TJ Partnership Fund approved a total of **\$450,339.40** in Excellence grant funds.

Quizbowl: A TJ student run organization that competes nationally in trivia, including literature, science, fine arts, current events, popular culture, sports, and more.

- FY19 Impact
 - PF grant funds benefited **30 students** who participated in the High School National Championship Tournament or PACE National Scholastic Championship, two end-of-year national Quiz bowl tournaments.
 - The TJ Quizbowl team took home a national title.



Chess Team: A TJ student run organization that hosts and competes in regional, state, and national chess tournaments.

- FY19 Impact
 - PF grant funds directly helped **24 students** at state and national competitions. The grants covered registration, lodging, and plane fares for these students.
 - The TJ Chess Club placed first at Nationals in Schaumburg, IL, making it the number one team in the nation.

"TJ had secured the first-place trophy once again. One would expect the players to sit back, relax, perhaps reflect on the stressful past two days. Yet, in TJ's team room, a group of students with red Thomas Jefferson Chess shirts huddled on the floor. Two chess boards set out, they enjoyed a fast-paced game of bughouse. As checks came and threats were averted, their voices rose and fell like waves. ***As a team, they were in their true element.***" – Khushmeet Chandi, TJ '21

Computer Security Club: A TJ student group that conducts cyber security research and participates in competitions.

- FY19 Impact
 - PF grant funds contributed directly to the purchase of server space for a Capture-the-Flag competition and to purchase prizes to be awarded to winners which benefited approximately **125 people**.

“Our students are in *high demand at top computer science research universities* thanks to the broad range of valuable educational experiences they enjoy while at TJ thanks in no small part to your support.” – Dr. John Zacharias, Computer Systems Laboratory Research Director

Rocketry Club: A TJ student group that designs and creates model rockets to fly and compete in local and national competitions.

- FY19 Impact
 - **Over 60 club members** used PF grant funds to purchase and access resources for their rockets.

tjSTAR: An annual STEM symposium where students and community members can share their research.

- FY19 Impact
 - **Over 1,200 students, teachers, staff, and community members** benefited from PF grant funds.

Unmanned Aerial Vehicle (UAV) Club: A TJ student club that designs and builds an Unmanned Aerial Vehicle to compete in national competitions.

- FY19 Impact
 - A group of approximately **25 students** in TJ UAV Club, along with UAV Club sponsors and parent volunteers benefited from PF grant funds. These funds allowed the club to attend a competition at the end of the school year.
 - The team was able to compete in an international competition.



Robotics Club: A TJ student run group that participates in the First Tech Challenge International competition and hosts community outreach events.

- FY19 Impact
 - The team was able to **reach over 6,000 students, teachers, and community members** through 30 events, including STEM fairs and national advocacy.



Conrad Challenge: A team-based competition that encourages STEM critical thinking through real world problems.

- FY19 Impact
 - PF grant funds helped a team of **5 students** travel to the national competition and supplied the resources necessary to compete.

“The five of us realized that this wasn’t an event to showcase our hard work, it was to encourage it. ***This competition was the beginning not the finish.***” – Mohammad Sarwar

“As soon as we got news that our team had advanced to the international final round, we were worried about how much it would cost. We had entrance fees, airplane tickets, week-long hotel stay, and provisional parents to pay for!... It was such a relief to know that we could focus ***on preparing mentally for the competition, instead of stressing about the money.***” – Sophia Troshynski

Prototyping Research Lab: A TJ student research lab and elective that focuses on the design process and manufacturing, including the tools involved.

- FY19 Impact
 - PF grant funds enabled the replacement of the Computer Numerical Control (CNC) machine, benefitting approximately **100 students**.



Professional Development: PF grant funds allowed for TJ staff travel to a Challenge Success Team meeting with schools across the nation.

- FY19 Impact
 - **28 staff members** were offered the opportunity to participate in professional development activities across the nation.



Ann Bonitatibus
@TJAnnB



Our TJ Challenge Success Team enjoyed meeting other school teams at conference in Concord, MA today. Great to be with so many peers dedicated to wellness and balance. @chalsuccess



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Tissue Culture Hood Replacement: An essential piece of equipment in the Biotechnology and Life Science Laboratory used for the tissue culture of mammalian cells.

- FY19 Impact
 - **70 students** used the Tissue Culture Hood in their research this year, and many more will use the equipment in future years.

Student research projects included:

- Studies in Alternative Medicine: The Effects of Caterpillar Fungus on MCF-7 Breast Cancer Cells
- The Effect of Corticosterone on the Differentiation and Dopamine Expression of PC12 Cells
- The Effect of Papain on the Viability of LS174T Cells

ACM Subscription: ACM is among the top peer-reviewed journals in Computer Science. This subscription allows TJ students and staff access to top quality, current research through the TJ library.

- FY19 Impact
 - PF grant funds benefited approximately **300 individuals**, primarily TJ Seniors in Computer Science Research Laboratories and Computer Science Faculty.

“It is the most comprehensive, technical and advanced CS journal available through the TJHSST library. This journal potentially opens up new lines of research in that it allows students and faculty to stay current with cutting edge research.” – Paul Kosek, Lab Technology Teacher

Investment Club: A TJ student run club whose purpose is to teach students essential lessons in how to invest and to foster a sense of community and purpose between members.

- FY19 Impact
 - PF grant funds benefited **60 students**, who were able to increase their investment knowledge and skills.

TJ Band: The TJ Band offers comprehensive programs and high-quality music education.

- FY19 Impact
 - PF grant funds purchased new instruments, benefiting approximately **150 band students** and **15 band staff**.
 - PF grant funds helped the TJ Band continue to be one of the top performing programs in the country.

Utility Vehicle: Used by the Athletic Training Staff to serve athletes in providing medical attention and to transport the necessary medical supplies and equipment to various locations around the TJ Campus.

- FY19 Impact
 - PF grant funds helped the Athletic Training Staff and **over 900 student athletes** across the year.

CubeSat: The TJREVERB CubeSat project began in 2016 and was recently selected by NASA for a ride sharing opportunity to the International Space Station. The data collected will allow students to conduct research related to orbit determination and satellite communication methods.

- FY19 Impact
 - PF grant funds have benefited approximately **250 students** over the past 3 years of this project.
 - For this project, students were able to work with professors from a variety of research institutes, including Virginia Tech, George Mason University, and MIT.

