

# NEWSWORTHY

*The Newsletter of the Thomas Jefferson High School for Science and Technology Partnership Fund, a non-profit foundation dedicated to supporting the unique learning opportunities available at TJ and maintaining the special relationship of alumni to the School*

## Dramatic New Spaces to Open This School Year

**RENOVATION UPDATE** Upon the completion of Phase I of TJ's transformative renovation last November, students moved into spacious new Research Lab and Chemistry/Geosystem wings and visited their counselors in a new Administrative wing. Phase II is expected to be completed by April, opening up most of the new building's interior, including: the new Design & Tech/Physics wing; IBET, humanities, and world language classrooms; the lecture hall; the Global Learning Center (library); two attractive courtyards, one with a greenhouse, the other with an amphitheater; Internet cafes; and additional common areas.

Some new spaces will open even sooner. By the end of September, students will have access to a completely renovated Gym I, with new locker rooms and weight rooms. By Thanksgiving, they'll enter the school through a majestic Jeffersonian dome that opens into a two-story atrium lobby, with direct access to the Research Lab wing.



Inside the new dome. See our website for the latest renovation pictures.

**CAMPAIGN UPDATE** All of us at the Thomas Jefferson Partnership Fund (PF), TJ's non-profit foundation, have enjoyed sharing TJ's new Research Lab Wing with the School's many loyal supporters, from parents whose children graduated long ago to alumni who are returning to campus as TJ parents. If you weren't able to join us for the Ribbon Cutting ceremony that formally opened the new wing, an Alumni Day tour, or the January Open House -- or even if you were -- we hope you can make our upcoming Fall Open House (date TBA).

We're thrilled to announce that the Campaign for TJ has now raised over half of the \$8 million TJ needs to continue as the nation's leading STEM high school, progress that would not have been possible without the tremendous support of parents, corporations and foundations, and our newest and most enthusiastic supporters, TJ's devoted alumni.

With reunion classes leading the way, class giving has skyrocketed to a total of \$400,000 (see pages 20-21). For the first time ever, the alumni giving total for this past school year nearly equalled the total raised from parents. In another first, an anonymous alum made an outright gift of \$100,000 to the Campaign, the largest gift by an alum to date. We're confident that such a significant gift will inspire other successful alums to consider investing in the future of education with a donation to the Campaign for TJ.

With grants to TJ now totaling over \$2 million, the Campaign continues to be the engine behind the modernization of TJ's research curriculum and capability. The latest \$500,000 grant, given in May, was used to purchase advanced instrumentation for Biology, Physics, and Geosystems classes and several Research Labs, including a \$100,000 confocal microscope and the instrumentation necessary to convert an existing scope into a fluorescence microscope, both to be shared by the Biotechnology (see March 2015 issue) and Neuroscience Research Labs (see page 4). A separate \$60,000 grant enabled the purchase of iPad and Kindle carts for humanities and other classrooms.

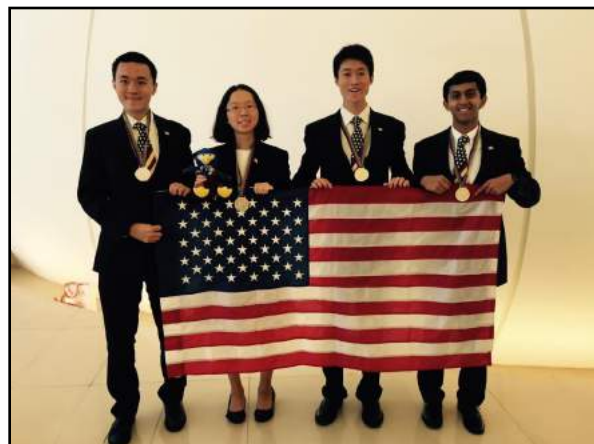
## TJ STUDENT WINS SILVER MEDAL AT INTERNATIONAL CHEMISTRY OLYMPIAD

TJ is one of a small group of high schools that consistently sends students to the highest level of national Olympiad competition and frequently sees some of those students go on to represent their country in international competition. This year, Janice Ong, TJ '15, flew to Baku, Azerbaijan, to take part in the 47th International Chemistry Olympiad (ICHO) as a member of the US team. She came home exhilarated from her "once-in-a-lifetime experience," excited about "how much more there is to learn." To top it off, she received a silver medal and earned the second-highest score on the US team.

In order to obtain one of four coveted spots on the US Chemistry Olympiad team, Janice needed to outscore the competition on a series of increasingly challenging and competitive exams. TJ's Chemistry Olympiad sponsor, Mr. Hadan Kauffman, administers two school-wide preliminary exams in January and February. Based on the results of these exams, about a dozen TJ students qualify to take the Chemistry Olympiad Local Exam, taken each year by 16,000 students nationwide. The top two scorers on that exam are eligible to take the national exam, given to DC-area students at a local university.

The three-part national exam takes four hours and 45 minutes and includes theoretical questions and a lab practical. More than 1,000 students take this exam at their local testing site each year. For the second year in a row, Janice scored among the top 20 students in the country on the national exam, earning a spot at the rigorous two-week study camp held at the US Air Force Academy. The camp is very intense, with lectures, lab work, and 25 hours of exams on advanced Chemistry topics. Based on her performance on the study camp assessments, Janice was one of four students selected to represent the US at the International Chemistry Olympiad.

"Chemistry Olympiad has been a very intellectually rewarding experience for me," Janice said. "It always feels like the farther you go into the subject, the more nuanced your understanding becomes - you realize there are breaking points for many of the approximations you used to rely on, and you learn how to work around them; you start to see organic molecules not just as structures but begin thinking of ways they might be synthesized. The last time a TJ student made the US team for the ICHO was in 1999, so I was really excited and honored to represent the US and TJ at the International Chemistry Olympiad and enjoyed meeting many other students who share the same passion about the subject. In addition to meeting people from around the globe, my team members and I visited the city of Baku and Azerbaijani landmarks such as the Maiden Tower. The exams themselves were long and probably the hardest ones I've taken, but it has been a really good experience to be challenged to such a level this early in my career."



The US Chemistry Olympiad team, at the closing ceremonies for the 47th International Chemistry Olympiad in Baku, Azerbaijan, July 29, 2015. From left to right: Bryce Cai, Janice Ong, TJ '15, David Wang, and Sooraj Nath Boominathan. (Photo courtesy Janice Ong)

### Biology Olympiad Wrap-Up

Last year, William Long, TJ '15, traveled to Bali, Indonesia for the International Biology Olympiad (IBO) as a member of the US Biology Olympiad (USABO) team, where he was awarded 5th place in individual competition (see August 2014 issue). It was his second time as a national finalist. This year, Neeraj Prasad, TJ '17, made it to the study-camp national finals.

TJ's Biology Olympiad team administers the USABO Open Exam in February to all interested students. In 2015, 95 TJ students took the first-round exam, which was taken simultaneously by almost 10,500 high school students nationwide. Twenty-six TJ students scored in the top ten percent nationally, qualifying them to take the semifinal exam in March. The top-20 scorers on that exam were invited to Purdue University for ten days of instruction that included "animal and plant dissections, molecular biology lab practice, and lectures on topics ranging from Biochemistry to the fruit fly," according to Neeraj, followed by two days of testing that included a three-hour theoretical exam and a six-hour practical.

### Physics Olympiad Wrap-Up

The TJ Physics Team, which proudly states on its website that TJ has produced "more members of the US Physics Team than any other high school in the nation," administers the preliminary ( $F=ma$ ) and semifinal exams each spring. In 2015, approximately 4,400 students from around the country participated in the  $F=ma$  exam, with the top 360 scorers -- including eight from TJ -- invited to take the semifinal exam. The top 20 scorers on the semifinal exam were then invited to attend the US Physics Olympiad (USAPhO) study camp at the University of Maryland, where the US team that competes at the International Physics Olympiad (IPhO) is chosen. Three study camp participants were from TJ: Shankar Balasubramanian, TJ '15, Allen Cheng, TJ '16, and Charles Wang, TJ '18. "My initial impression of Physics was pure apprehension," Shankar said, "but Physics team helped me realize that Physics is as intuitive as any other subject. I learned to enjoy the subject by interacting with my peers -- discussing concepts, working out devious problems, bouncing off ideas. . . . For all that and for providing me with opportunities such as attending camp, I thank my fellow officers and passionate members. I am forever in debt."

## TJ FRESHMAN IS BRAIN BEE NATIONAL CHAMPION

Soren Christensen, TJ '18, just returned from representing the US at the 2015 International Brain Bee (IBB). (Check the online edition for the latest results.) In order to qualify for the IBB, Soren had to win the TJ Brain Bee, the DC Regional Brain Bee -- sponsored by the Society for Neuroscience -- and finally the National Brain Bee.

The IBB, founded in 1999 by University of Maryland Neuroscience professor Dr. Norbert Myslinski (pictured with Soren at the National championships) is the world-wide neuroscience competition for high school students. There are currently about 150 local Brain Bee coordinators in 30 countries that conduct annual competitions for approximately 30,000 student competitors. The Brain Bee covers brain development and function, including sensations, intelligence, emotions, movement, and consciousness; diseases and disorders of the brain -- Alzheimer's disease, Parkinson's disease, stroke, schizophrenia, epilepsy, depression, and addictions -- research techniques, and medical technology. The local competitions are based on *Brain Facts*, a publication downloadable from the Internet and available in 20 languages. The National Bee includes six sections given over two days: a written section; a laboratory practical with real human brains; a nervous system tissue-identification challenge using microscopic images; MRI brain image analysis; patient diagnosis, where actors simulate patients with various brain disorders; and an oral Q and A section. To prepare for the national and international competitions, Soren supplemented *Brain Facts* with another book, *Neuroscience: The Science of the Brain*, and various Internet sources.

Soren became interested in neuroscience while in middle school. "After reading about happiness and all of the different disorders that cause people to not be able to feel good, I couldn't stop myself from learning more about the huge, growing variety of topics neuroscience has to offer," Soren explained. As soon as he got to TJ, he joined the Neuroscience Society, an 8th period club that begins the year by having the students lecture each other on different neuroscience topics that will show up on the TJ Brain Bee. "After attending my first meeting, I was hooked. Although I was skeptical about actually winning, I really wanted to try my best and see how far I could go."

In addition to the right to represent the US at the IBB, Soren's winnings from the National Brain Bee included \$1,500 and a Society for Neuroscience-sponsored summer research fellowship with a distinguished neuroscientist. Soren worked this summer with Dr. Juan Saavedra in the Department of Pharmacology and Physiology at Georgetown University Medical Center.

As a national winner, Soren is disqualified from competing in the Brain Bee a second time. However, he is already looking forward to the possibility of conducting his senior research project in TJ's Neuroscience Lab (see page 4). "There are so many cool animals, devices, and materials in there," he said.

### Computing Olympiad Wrap-Up

A US Computing Olympiad (USACO) season typically consists of five online preliminary contests, followed by the US Open national championships. Contests are offered in bronze, silver, and gold divisions. All participants start in the bronze division, and those who score particularly well are promoted to the next division. TJ students typically hear about the US Computing Olympiad (USACO) online contests through Senior Computer Team, which tracks students' progress in these and other contests on their website. Based on their performance in online training pages and preliminary contests, and in particular on their performance at the US Open, approximately 20 students are invited to a camp for finalists at Clemson University. After competing in six more contests at Clemson, the top performers are selected to represent their country at the International Olympiad in Informatics (IOI). This year, Corwin de Boor, TJ '15, and Shwetark Patel, TJ '18, were among the two dozen USACO finalists.

### Math Olympiad Wrap-Up

Whether or not they participate on TJ's Varsity Math Team, most TJ students take at least one of the two preliminary Math Olympiad exams offered during the school day in February: AMC 10, which may be taken by any 9th or 10th grade student, and AMC 12, which may be taken by any student. The top scorers on both exams qualify to take the American Invitational Mathematics Examination (AIME), a 15-question, three-hour exam. This year, TJ had an amazing 118 AIME qualifiers. Top AMC 10/AIME scorers qualify to take the US Junior Math Olympiad (USAJMO), and top AMC 12/AIME scorers qualify to take the US Math Olympiad (USAMO); both are six question, two-day, nine-hour essay/proof exams. In addition to five USAJMO qualifiers, TJ had thirteen USAMO qualifiers this year, more than any other high school.

Students scoring in the top twelve on the USAMO are automatically invited to attend the Mathematical Olympiad Summer Program (MOSP) study camp. Top-scoring non-seniors are also invited. The intensive program prepares students in areas of mathematics that are traditionally emphasized more in other countries than in the US, and results in the selection of the six-member team that represents the country at the International Mathematical Olympiad (IMO). Four TJ students were invited to participate in MOSP this year: Sam Hsiang, TJ '16, Akshaj Kadaveru, TJ '18, Katherine Cheng, TJ '18, and Lilian Wang, TJ '18.



**YOUR DONATIONS AT WORK: NEUROSCIENCE LAB**



Lab Director Mark Hannum's Neuroscience Lab, the only high school lab devoted to neuroscience research, now accommodates more students and a wider range of projects than it did before the move.

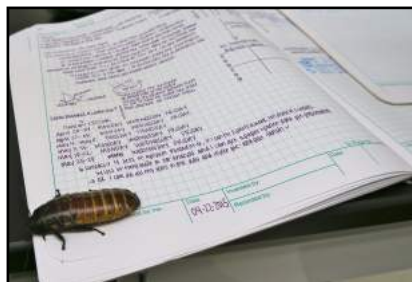
"The number of students in our Lab has doubled in recent years, a trend that mirrors the growth in college-level neuroscience programs, which itself reflects the government's commitment to making brain research a priority. Because our unique schedule doesn't allow us to add sections -- seniors in the Lab meet for two class periods for one semester rather than one class period for a full year -- the only way to accommodate increased interest is to place more students in each section. The much larger room with its dedicated classroom space that we now occupy allows us to accommodate students' growing interest in the field. The mobile lab benches we recently acquired have also been essential to supporting the Lab's growth.

"Most of the Lab's projects involve specimen research, including:

- Multiple projects studying the effect of neurotransmitters or environmental disturbances on crayfish aggression or habituation (below).



- The effect of cortisone, diphenhydramine, and serotonin reuptake inhibitors (SSRI) on the habituation of the sea slug *Aplysia*.
- High-frequency stimulation of the nerve chords of the Madagascar hissing cockroach (below) to test potential pain therapy; analyzing the effect on learning or memory of disrupting its circadian rhythm or altering its diet.



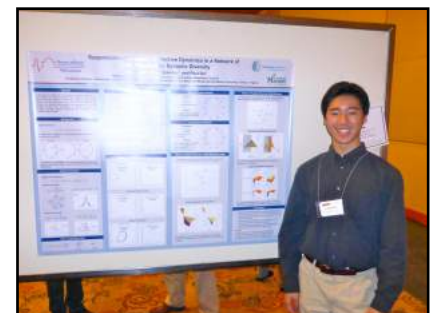
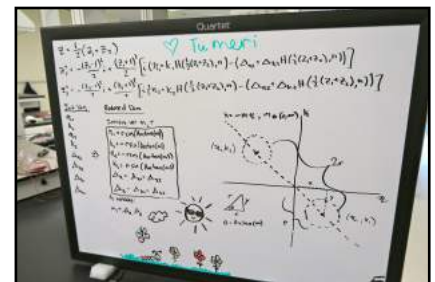
"Generous Campaign for TJ donations allowed the Lab to purchase a microelectrode array for use in specimen projects. The array, acquired last fall, has already allowed students to better visualize the spatial and temporal synaptic connections in developing neuronal networks and to record the tiny electrical impulses around groups of cultured cells.

"Some of this year's Campaign donations are funding the Lab's most exciting acquisitions in years, a \$100,000 confocal microscope and a \$50,000 upgrade to an existing scope to turn it into a fluorescence microscope, with the accompanying software, filters, imaging chambers, and cameras for both. These microscopes, which are due to arrive this Fall and will be shared with the Biotechnology Lab, will dramatically enhance our ability to closely observe cells and nerves, critical to so much of the work in this Lab.

"Other projects involve the area of research known as brain-machine interface. Students are integrating advanced Electroencephalograph (EEG) technology (above left) with machine-learning algorithms of their own design in order to translate users' brain waves into wheelchair and other machine commands. Projects focus on optimizing user training

or the artificial intelligence that translates thoughts into movement.

"Another research area is the exploding field of computational neuroscience: Students are using simplified differential-equation based neuron models to analyze neural network patterns (below).



"Senior Lucas Lin's project improved upon existing mathematical models used to simulate populations of neurons, providing insight into how the collective behavior of neurons can be altered by changes in individual neurons, with potential applications for understanding conditions such as epilepsy. With his travel costs and fees covered by a Partnership Fund grant, Lucas was able to present his project at a Society for Industrial and Applied Mathematics conference in Snowbird, Utah, where it received top honors alongside the work of post-doctoral students (above).

"One of my long-term goals for the Lab is to use my background in computational neuroscience to help students compare the Lab's various experiments against computational models, eventually using a feedback loop to keep the models informed by student-collected data. I hope to acquire a high-performance computer for the Lab to enhance our capability in this area."

**YOUR DONATIONS AT WORK: MOBILE & WEB APPLICATION DEVELOPMENT LAB**



Lab Director Paul Kosek talks about his new Research Lab.

“The Mobile & Web Application Development Lab (Mobile App, for short) was created last year in response to increasing student interest in the field. Until the 2014-2015 school year, students interested in app development either worked on their project in the Computer Systems Lab or in extracurricular clubs. Now we are able to offer Mobile App Development and Web App Development electives, along with equipment purchased and arranged specifically for the purpose of supporting app development projects.

“Our new Lab gives students the ability to transform themselves from experienced users of the mobile technology that is increasingly part of their lives to the creators of it. As students become developers of behind-the-scenes network programming, they cease to take our growing inter-connectivity for granted and begin to think more about how they can add to and improve upon existing technology.



“In our Lab, students study software development and learn about interfaces for, and accessibility of, apps for smartphones, tablets, embedded systems, and the web. We investigate a wide array of topics involving interfaces, accessibility, human-computer interaction, user-centered design, privacy, security, and networking connectivity.

“The research and development we do follows all phases of the software development life-cycle: Students are planning and using requirements analyses, then designing, implementing, integrating, testing, deploying, and finally maintaining their work product. Moreover, because students do their development work with their product's presumed target audience in mind, the process generates a feedback loop that reinforces learning and scientific communication skills.



“This year’s senior research projects include an app that generates sheet music from microphone input; an app that uses Bluetooth, an accelerometer, and a gyroscope to generate art from a figure skater's movements (with poster, above); an analysis of computer vision techniques; a web app that autocorrects drawings; and another that performs sequence alignment on DNA samples.



“Thanks to generous Campaign for TJ donations, we will soon have enough tablets, graphics cards, and unlocked mobile phones for every student in the elective and research classes (it’s difficult to share devices when so much of the work must be done on the device itself). We also appreciate the Bluetooth beacons that will allow students to test apps that provide information tailored to the user’s precise location, for example, a specific department within a retail store.

“In the near future, I’d like to acquire some virtual reality-embedded devices so that students can explore the use of this cutting-edge technology in their applications.”



## WEST COAST ALUMS STAY CONNECTED VIA REMOTE PARTICIPATION IN TJSTAR



**tjSTAR** is TJ's day-long symposium run like a professional conference. Seniors and freshmen present research project results; corporate sponsors and others display and demonstrate technology; and professionals from government, industry, and academia discuss their work and help students explore career options. Alumni from all fields discuss their work and their unique TJ-enabled career paths.

Disney producer **Jason Hintz Llopis, TJ '89**, participated in three tjSTAR blocks: In a sequel to an earlier tjSTAR visit (see August 2012 issue), he described the exciting work at Disney Research; using the new system donated by Cisco, he moderated a remote panel of Hollywood-based alums; and he participated on an alumni career panel.

Joining him on the panel was **Dr. Courtney Dressing, TJ '06**, who went from conducting senior research under TJ's Astronomy Lab Director Lee Ann Hennig to obtaining her PhD in Astronomy & Astrophysics from Harvard and a fellowship at Caltech this fall, and **Elizabeth Winston, TJ '90**, whose TJ background and MIT Math degree launched her career as a law professor specializing in intellectual property and patent law.

#### **Alumni in Hollywood:**

It was at UVA's McIntyre School of Business that Hintz Llopis realized he wanted to work at the intersection of business and media. Because he was fortunate enough to intern at Disney, he landed a job there after graduation, working as a creative manager on animated films. The technical background he obtained at TJ was key to his career development, as it was during his time at

Disney that the computer revolution transformed the business of animation.

For the last seven years, he has been a producer with Disney Research, an academic arm of Disney that supports all five of Disney's major business segments. In this role, he works with PhDs on "tech transfer," solidifying their results and applying them to improve the entertainment experience (see also November 2014 issue). Research is more important to the entertainment industry than ever, he said, because of the constant pressure to thrill and move audiences in new ways. From rendering animated faces more emotional and realistic to creating robots that can play catch with untrained humans, and from personalizing the theme-park experience to allowing kids to digitally change attributes of their favorite characters, Disney research continues to "push the envelope."

The Hollywood alums calling in from LA pointed out other influences technology has had on the entertainment industry. **Ron Hohaus, TJ '86**, is a Wharton MBA in the entertainment finance field who worked for Marvel Studios and was CFO at Summit Studios when it released "Twilight." Although, as he says, he's a "suit," not a "creative," he enjoys working alongside creative people as he navigates the industry's complex financial deals. The rise of digital technology has had a huge impact on the movie business, he explained, noting that the collapse of the DVD market, which provided a revenue stream for films that weren't cinematic blockbusters, has placed tremendous pressure on studios to come up with blockbusters.

**Scott Zabielski, who was in TJ's Class of 1997** but moved prior to graduation, attributes much of his early success to his work with former Video Tech Lab Director Ed Montgomery. After attending USC Film School, he worked his way from reality shows to comedy. Last year the award-winning Super Bowl *Doritos* ad that he created in only two weeks brought him instant stardom. The low cost of video-editing tools and the reach of *YouTube* means that anyone can get discovered, he said, encouraging students to just dive in.

#### **Alumni in Silicon Valley:**

**Tim Abbott, TJ '03**, who has Bachelor's and Master's degrees from MIT, told students about dropping out of grad school to start a company in the midst of the financial crisis. With TJ **classmate Jeffrey Arnold**, Abbott co-founded software start-up *Ksplice*, acquired by *Oracle*, and workplace chat platform *Zulip*, acquired by *Dropbox* in 2014. Abbott, who now works with Arnold at *Dropbox* and noted that a large number of his MIT classmates are also in the software industry, said that "the TJ network is almost as good as MIT's."

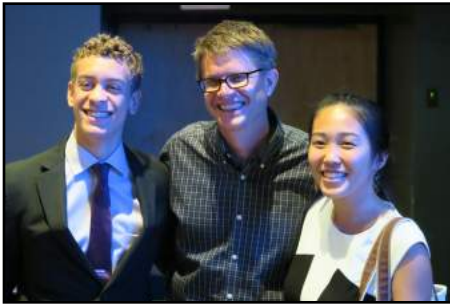
**Anne Toth, TJ '89** (see also November 2014 issue), explained how she became one of the nation's experts on Internet privacy, her so-called "career by accident." After considering law school and dropping out of public policy school, she was hired by Internet start-up *Yahoo* as "data miner number two," where she was tapped to research privacy issues. She became *Yahoo's* head of privacy, the first ever at an Internet company. Much of her work involved testifying on Capitol Hill, where she found TJ to be her single most important credential. After holding the same position at *Google+*, she brought her expertise to a start-up, workplace communication platform *Slack*.

Toth discussed the privacy implications of ubiquitous data collection, issues of diversity and inclusion in the workplace, and addressed work-life balance questions. "The most important career decision anyone makes is choosing a partner," she said.

**Sander Daniels, TJ '01**, whose Internet company *Thumbtack* employs 1,000 people around the world helping to connect small businesses with customers (see May 2013 issue), sees the TJ network as a key resource. His first eight employees were TJ grads (his wife also graduated from TJ).

Both Toth and Daniels have hosted Bay Area TJ alumni events, and all three noted the trend of TJ tech grads migrating westward. These alums have all seen firsthand the way that technology has changed the world by allowing individuals and small teams to create powerful new products.

## TJSTAR KEYNOTE A HIT; SPONSORS GIVE MORE THAN FUNDS



Flanked here by seniors Adrian Robertson, left, and Helen Zhang, Paul Anderson promised that he would oblige all photo requests.

### Keynote: Bozeman Science

The 7th annual tjSTAR kicked off with the introduction of **Keynote speaker Paul Anderson** of Bozeman Science by lead student organizer Anna Tsustui, TJ '15. Anderson, beloved by students for the clarity of his hundreds of science videos complemented by his down-to-earth demeanor, is traveling the world speaking to students of all ages while on leave from his teaching post in Bozeman, Montana.

Anderson immediately ingratiated himself with his audience of juniors and seniors (he gave a different talk to underclassmen later in the day) by telling them what they love to hear the most, that they are unlike any audience he's ever had. This is the "first place I've been where students brought me in, and it's touching to me," he began. In chats over *Skype*, students had discussed with him the topics they wanted him to address, he explained, beginning with the story of his life and career.

Anderson's first slide -- of an embryonic cell meant to illustrate his own beginnings-- elicited a great reaction. "That's what makes you a different school. Stem cell jokes are killing it," he deadpanned. His parents gave him science books as presents and his favorite place was always the library, he went on. He became a science teacher in order to inspire kids to stay interested in learning (the hardest thing he ever had to do was stand up in front of his first Physics class) and began making videos in response to student requests. His first videos were awful, but student criticism improved them. At the recommendation of a friend, he put them on *YouTube*, where he was

discovered by legions of students and teachers.

His AP Biology videos are required watching for TJ students, who find them clear and entertaining. According to SGA President Anant Das, TJ '15, who led the effort to bring Anderson to TJ, his diagrams of hard-to-visualize processes like cellular respiration are extremely helpful.

Anderson made the point that STEM alone is not enough. Art is incredibly important; so are reading, writing, and humanities, he continued, and empathy, struggle, and failure. To make his point, he referenced Daniel Pink's book *Drive*, which, because it was the school's One Question reading two years ago, was familiar to every TJ upperclassman. His reaction: "This school is so weird. I love this school."

As requested by the TJ students who invited him, he concluded his talk the same way he concludes every video: "Thanks for coming," he said, "I hope that was helpful."



### Sponsors Give, Participate

This year's sponsors helped make tjSTAR possible by covering the costs of lunch, t-shirts, programs, and more. In addition, our wonderful corporate sponsors enriched our program through their participation as speakers and panelists and/or by manning displays and demonstration booths.

Dr. Ananthakrishna Sarma, Senior Scientist at **Leidos**, explained the company's OMEGA model weather simulator, a tool that not only supports weather forecasting, but also predicts the dispersion of such hazardous materials as radioactive plumes and has other government and commercial applications.

When a student asked whether OMEGA was an open-source platform, Dr. Sarma responded "it's not open source, but if you want to work on it we can make that happen."



**SpaceX** Government Affairs Manager Stephanie Bednarek (left) spoke about advanced rockets and spacecraft in one session, and the "audacious goals" of aviation-like spaceflight and enabling human life on Mars in another (see August 2014 issue). She also sat on two panels: space-related careers; and STEM pathways for women, where she was joined by **General Electric's** leadership trainee Jessi Tseng; and **Microsoft's** Citizenship Director Donna Woodall and researcher Shawndra Hill, who gave a separate talk about women in computer science.

Bednarek also took the occasion to present a \$3,000 Women in Engineering Scholarship, the first high school scholarship ever awarded by **SpaceX**, to Annie Brown, TJ '15 (right), who intends to study computer engineering at University of Illinois (see "SpaceX," *Washington Post*, June 16, 2015).

Three young **Microsoft** employees participated in a panel discussion of the company's new hires program.

In the Exhibit Hall, **Ntrepid** demonstrated its isolation-based approach to malware mitigation, **Grant Thornton** showed how its key metrics deliver rapid software functionality to federal agencies, **Leidos** displayed its innovative solutions in national security, health and engineering, and **Microsoft** demonstrated its Surface Pro3, the Touch Development platform. Rounding out the list of generous 2015 tjSTAR sponsors were **K2M**, **Jane Street**, and **Northrop Grumman**.

## IBET ROBOT COMPETITION IS GREAT OPPORTUNITY FOR TJ FRESHMEN AND YOUNG VISITORS



In addition to their group research project, which students present at the tjSTAR symposium (see page 7), there is another culminating project associated with TJ's 9th grade Integrated Biology, English, and Technology (IBET) course: the IBET Robot Competition.

After studying electronics, coding, Computer-Assisted Design (CAD), and basic prototyping techniques, students design, construct, and program their own robots. They test their robots, make adjustments, test them again, and finally compete with them against others in their IBET section. Class winners in each event then compete for individual and class bragging rights at the year-end 8th period IBET Robot Competition, one of TJ's signature events.

The event features a speed competition, a tug-of-war (above), and an obstacle course. With IBET Tech teacher Craig Lewis announcing the play-by-play, the action simultaneously shown on a big screen, music playing, and freshmen in class t-shirts shouting for their classmates, Gym 2 feels like the *Verizon Center*.

Students who entered their robots in the Beauty Pageant sit behind their elaborate creations, many of which have moving parts, flashing lights, or other extras. These fully functioning robots are competing for the Beauty Bot awards.

### Sharing the Spirit

This year, 40 elementary school students from Crestwood ES and Belle View ES were invited to watch the robots compete to be the fastest, strongest, smartest, and handsomest, while experiencing TJ's

infectious STEM spirit. The idea came out of TJ's Faculty Diversity Committee, a group made up of teachers, an administrator, and a member of TJ admissions office that seeks to promote TJ to underrepresented groups and schools and to share our students' love for STEM education. The visit was organized by TJ English teacher and Diversity Committee member Stephanie Glotfelty.

The young students, who arrived in time for 7th period, received a Research Lab tour, courtesy of TJ students, and spent some time in front of the green screen, courtesy of TJ Network/Systems Administrator Andrew Hamilton. They then broke up into four groups for 8th period activities that included a behind-the-scenes look at the Computer Systems Lab's server room, a College & Career Center visit, and a chance to ask questions of student panelists.

The youngsters had front-row seats for much of the competition action, and when there was a lull, they examined the beauty contestants and voted for their favorites using Beauty Bot ballots (below).



### Winning Robot's Secret

All students begin with two servos (a type of motor), an *Arduino* board (circuit board on the *Arduino* open-source electronics platform), and a few additional components. They then put together the *Arduino* board, the servos, the wheels, etc, and design a case for a functioning robot. Finally, they program the *Arduino* chip to control the robot. The obstacle challenge is to hit four boards positioned near the entry corner, followed by as many additional boards as possible (for a total of



Visiting youngsters get a close look at freshman Eric Link's winning robot.

ten), and for a bonus, to ascend a small ramp at the opposite corner.

After watching freshman Eric Link's robot hit the first four boards and move on to the rest, IBET Tech teacher Craig Lewis said, "I have to say I am very impressed. In all my years at TJ, I've never seen anything like it."

Eric's Grand Prize winning robot not only moved forwards and backwards, but sideways in both directions thanks to a third wheel in the back of the robot. His robot's primary wheels are omni wheels, which are equipped with specialty rollers that allow the robot to slide sideways when a third wheel is engaged. To stay within the two-servo limit, Eric programmed the *Arduino* to ensure that only two servos would be active at one time. Two servos move the omni wheels forward and backward when those wheels are engaged, but turn off when another one comes on to power the back wheel.

Eric, who competes on TJ's FIRST Robotics Competition team, said he had "very little" experience with *Arduino* before arriving at TJ. "I always want to be trying something that has not been tried or done before," he said. "I was very happy when I achieved ten blocks, as that was my personal best. The competition was a lot of fun, and I'm glad that the school and the IBET technology teachers provide the opportunity to compete."

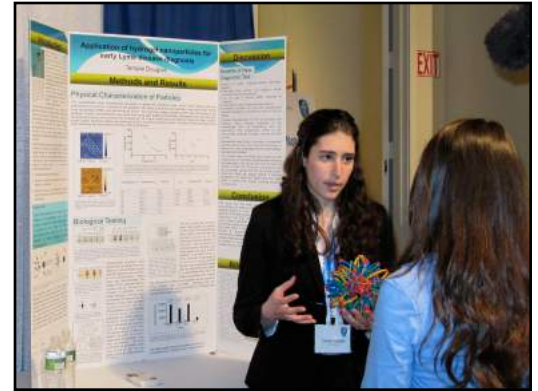


**LYME DISEASE DIAGNOSTIC TOOL EMERGES FROM SUMMER RESEARCH**

When Temple Douglas, TJ '10, was a senior, she was recognized as an Intel Science Talent Search Finalist for her work on a novel method for early detection of Lyme disease (pictured at right in 2010). Spurred by family members' battles with the disease -- her family lives in rural Loudoun County -- she came up with the idea of using nanoparticles to detect Lyme disease bacteria in a patient's urine, which could provide an accurate diagnosis at an earlier stage than existing tests. Douglas worked on her project as a participant in George Mason University's Aspiring Scientists Summer Internship Program (ASSIP) when a rising senior and continued that work during her senior year via TJ's Mentorship Program. She returned to GMU the summer after her 2010 graduation and again for a few weeks during the summer of 2012 to conduct further work on the test.

Douglas is listed along with GMU researchers on the patent for the diagnostic process, filed November 2009. The "Nanotrap Lyme Antigen Test," which is now commercially available, promises to revolutionize Lyme disease detection.

At a ceremony on June 23rd, the Fairfax County Board of Supervisors recognized Douglas for her contribution to public health (see Connection article, July 1, 2015).



**TJ STUDENT RESEARCHERS ARE POWERFUL FORCE AT GMU SUMMER PROGRAM**

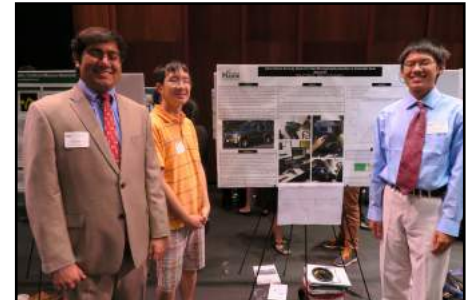
Established in 2007, George Mason University's Aspiring Scientists Summer Internship Program (ASSIP) places high school and college students alongside experienced researchers who mentor the students as they complete projects in several GMU departments, from Bioengineering to Environmental Science and Policy.

Of the program's 86 students, 28 were from TJ. Projects included Senior Michael Rodriguez's 3-D computer models for analyzing carbon dioxide emissions, and shading and skylines, respectively (below left -- Michael Piccione, on a grant from GMU, was one of his advisors in the Department of Geography and GeoInformation Science); senior Ross Dempsey's projects in the Department of Physics and Astronomy involving simulated dynamical (chaotic) systems (below center); and juniors Suhas Sastry, Eric Wang, and William Xu's Electrical and Computer Engineering projects proposing current and future message authentication systems to prevent cars from being hacked (below right).



Nineteen of the current and former TJ students participating in ASSIP 2015 gather after the poster session with Engineering Design Lab Director Michael Piccione, at left, and Principal Evan Glazer, in back.

At the poster session held at GMU's Hylton Performing Arts Center on August 14th, ASSIP co-founder Lance Liotta, MD, PhD, recognized all the student researchers, noting that through programs like this one, students can become true scientists, with the full complement of needed skills. Successful scientists are "writers and lawyers and artists and showmen," he said, because they must demonstrate, explain, and defend their work. They're also creative, innovative, and not afraid to take risks. "Experiments do fail," he added. "The work lies in how you extract information out of failure."



## STEMBASSADORS REACH OUT TO HIGH-POVERTY SCHOOLS

For the third year, student STEMbassadors from TJ and other area high schools helped out at a variety of elementary and middle school summer programs, including several at Title I schools (Title I is a federal grant given to the neediest schools). Some of these programs target youngsters with weaker skills who might otherwise do little reading and math over the summer. Such programs can make the difference between a child slipping further behind and staying at grade level or even pulling ahead. "Gain or maintain," is their unofficial motto.

Lynbrook ES is located three miles from TJ on Backlick Road in Springfield. Eighty-eight percent of its largely Hispanic student body receives free or reduced-price meals, an indicator of poverty. Six student STEMbassadors provided extra hands for Lynbrook teachers this summer, including two from TJ, Helen Zhang, TJ '15, and Rebecca Clark-Callender, TJ '15. Helen assisted Ms. Cuzzolino with her class of a dozen rising second-graders; Rebecca (absent the day of this visit) assisted Ms. Rowell's class of rising first-graders and Ms. Coons' class of rising second-graders. The STEMbassadors helped the students use classroom laptops, practice their reading aloud, work on math assignments, and assist teachers in the lunchroom (children receive breakfast and lunch each day) and on the playground. Having a high-school student in the classroom meant that the youngsters had another person to help them sound out a difficult word or explain a math concept one more time, not to mention another great role model. Asked on one of the last days of the program to comment on the experience, Helen observed, "the kids really have made a lot of progress."



## ALUMS JUDGE "SHARK TANK" GLOBAL STUDIES FINAL

In 2014-2015, Emily Orser's AP English Language/Global Studies class, team-taught with Monte Bourjaily's AP Government class, piloted a social entrepreneurship curriculum introduced by non-profit *LearnServe International*, a group dedicated to empowering high school students to address global problems. The final project took the form of an "elevator pitch" made to a panel of judges in the style of TV's "Shark Tank." Instead of for-profit businesses, students pitched non-profit social ventures, and instead of a panel of celebrity investors, the panel of judges featured one parent and five alumni, all of whom had business and/or international experience.

Students learned about issues of global importance and then selected a problem for concrete local action. One team created a website where individuals could report instances of corruption they had observed; another team met with FCPS Family Life curriculum administrators in an effort to improve sex education; a third group proposed having autistic students author letters to Members of Congress to raise autism awareness; a student working alone proposed guidelines for the use of animals in research conducted by TJ students. Altogether, fourteen teams pitched their solutions, with a few minutes for questions after each.

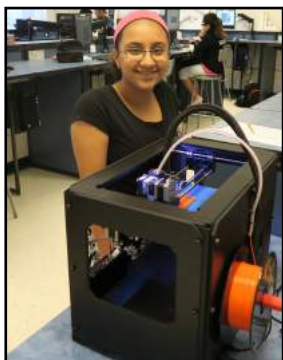
The judges, who were impressed but not surprised by the quality of the presentations, were asked to evaluate students on innovation (how new, clever, and different was their proposed solution), visual presentation (how clear, organized, and eye-catching were their slides), and traction (how concise, direct, and motivating was their plan and call to action). Although the judges did not formally grade the students, they were asked to agree on a Judges' Choice Award for the presentation that most effectively demonstrated a problem, a viable solution, and an effective plan for implementing it. Choosing a winner was difficult, but the judges were quick to form a consensus about the "Shark Tank" style final -- they loved it.

This year's volunteer judges were, from left to right:

- Sheena Gill, TJ '00 General Counsel, *C2 Technologies, Inc.*
- Michelle Walters Klancnik, TJ '94, Founder/President, *Tay-Sachs Awareness & Prevention Organization*
- Mo Kim, TJ '89, Owner/VP Operations, *Rinker Design Associates*
- Justin Valentine, TJ '97, Senior Consultant, *World Bank*
- Michael Martinka, TJ '87, Parent '17, Executive VP, *Ntrepid*
- Jennifer Simpson, Parent '15, Executive VP, *National Fish & Wildlife Foundation*



MIDDLE SCHOOL TECH INSTITUTE OPENS DOORS TO A FUTURE IN STEM



For fifteen years, TJ's Middle School Tech Institute (MSTI) has opened middle schoolers' eyes to the breadth of STEM pursuits, surprising them with what they can accomplish in just one week. With many courses taught by TJ faculty, several TJ students assisting, and topics that showcase the School's inquiry-based approach to learning, MSTI encourages kids to consider applying to TJ and to think about careers in science, engineering, and technology.

This summer's classes featured long-time favorites, "Intro to 3D Printing," an introduction to Computer-Aided Design (CAD) software and 3D printing, where students design, model, and print solutions to specific problems (top left and right); "Infectious Biological Outbreak," where students work as epidemiologists, tracing outbreaks and developing techniques to control them; and "Got an App for That?" where students build apps for Android smart phones using Applinventor software (middle left and right); and many others.

For the first time, MSTI also included a class created, taught, and funded by a corporate sponsor. The **International Council on Systems Engineering (INCOSE)** revved students' competitive engines with its class, "Rockets, Systems, and Simulations: Becoming the Engineer's Engineer" (bottom right).

**A Jack Kent Cooke Foundation** "Learning through Inquiry, Fellowship, and Tutoring" (LIFT) grant brought 100 low-income middle-school students to MSTI this summer and will make the program accessible to another 100 students next year. The students will also receive TJ test-prep sessions, materials, and academic advising. The LIFT program's goal is to at least triple the percentage of low-income students at TJ over two years. The grant of approximately \$100,000 is part of \$500,000 the Foundation is donating to six selective public high schools across the country as part of its commitment to provide high-achieving, low-income students with a better chance at success. Over its fifteen-year history, the Foundation has awarded \$130 million in scholarships and over \$80 million in grants.

For the fifth year, **Northrop Grumman** generously donated \$25,500 to provide 100 MSTI scholarships for distribution to students from under-represented minority groups. With additional scholarships underwritten by **INCOSE** and **Washington Space Business Roundtable**, both returning for their second year as sponsors, scholarships were available for over 200 students to attend MSTI free of charge.



Northrop Grumman's Nirmala Sundararaman, Meredith DeMoss, and Kathy Moon, left to right with Principal Glazer, accept a poster signed by MSTI students in appreciation of the company's generous support.



DeAnthony Heart, MITRE Senior Systems Engineer and STEM Co-chair for INCOSE Washington Metro Area (second from left), stands with students from his "Engineer's Engineer" class.



"High-quality summer learning programs can spark student curiosity and passion, augment academic achievement, nurture intellectual peer support, and influence educational and career trajectories. In focus groups conducted by the Jack Kent Cooke Foundation, high-achieving students have consistently identified rigorous summer enrichment programs as among the most important and valuable experiences during their middle and high school years."

Jack Kent Cooke Foundation

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*The support for our unique institution from so many members of our community, and from those outside our community who believe in our mission, is nothing short of extraordinary. We thank you sincerely for all you have made possible.*

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 Joon & Helen Park  
 Paul & Eun Park  
 Samuel & Jeannie Park  
 Sangho Park & Jimin Cho  
 Sung Joon & Eun Young Park  
 Sungjoo & Kate Park  
 Yeoup Ryu & Juhee Kim  
 Younjin Shin  
 Lawrence Sizemore & Kyong-Hee Lee  
 Jaebin Song & Margaret Kim  
 Seungyoung & Moim Suh  
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 Glen & Chong Teasley  
 Sangwoon Yang & Ockin Yoo  
 Doo Yun & Myung Yun

**Russian Language Exchange Program Donors**

Mary Anderson '08  
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 Sandeep Khosla & Rachna Mohindra

Vance & Lola McCray  
 Ramaswamy & Pramila Parthasarathy  
 Karl & Christine Rohrer  
 Jeff & Carolyn Strong

**ALUMNI CAMPAIGN GIVING**

Through June 30, 2015

*With appreciation for this tremendous and unprecedented display of alumni support.***Anonymous****1986**

Kelly Hammond  
Kenneth P. Hitz  
Michael P. Jacobson  
Stephen R. Smoot

**1987**

Michael E. Martinka  
Kenneth D. Stillson

**1989 (25th Reunion)****Total: \$82,932**

David Aronstein  
Marla Ballenger  
Steven Brown  
Steve Choi  
Dawn K. Cooley  
Laurent Delfosse  
Eric Dietrich  
Gail R. Goldstein  
Tarun Gupta  
Rebecca Hansberry  
Jason Hintz Llopis  
Vivian Hwang  
Ian Jaranson  
Philip Moortgat  
Robert C. Perez  
Lynellen D. Perry  
Erik A. Petersen  
Victoria Clifford Pierce  
Daniel M. Pringle  
Elizabeth A. Rettenmaier  
James P. Sarvis  
Thomas H. Song  
Anne Toth  
Julie Walker  
Alex C. Wu  
Torunn I. Yock

**1990**

Suzy Beeler  
Andrew Kirmse  
Michael T. Lin  
Jacob Rose  
Jesse Stapleton  
Catherine D. Symington  
Elizabeth A. Wiersema

**1991**

Marc E. Bejarano  
Peter J. Buck  
Steve Cereghino  
Jennifer K. Hood-DeGrenier  
Shuichi Koga  
Quang Le  
Ethan Lewis  
Michael B. Miller

**1992**

Ryan M. Barker  
Benjamin C. Clopper  
Susan Danewitz  
Joel Dawson  
William D. Edwards  
Andrea L. Frome  
Lisa M. Grogin  
Chi-Tsui Liang  
Sarah S. Milla  
Kirsten L. Oleson  
Mark L. Schofield  
Nelson L. Thaemert  
Cynthia L. Thomes  
Brendan A. Zinn

**1993**

Elizabeth A. Brown  
Susan K. Chasnov  
Carolyn Coberly  
Eric F. Garbin  
Nan-Ping N. Huang  
Susan McGovern  
Matthew Probst  
Andrew Stark  
Jennifer L. Stone

**1994 (20th Reunion)****Total: \$38,304**

Everett Alcorn  
Michelle J. Avery  
Ankush K. Bansal  
Brian B. Bhurwani  
Sen Blankinship  
Christina Bond  
John A. Breslin  
John Briar  
Katherine R. Brin  
Jordanna Brodsky  
Brandy M. Brooks  
Tinelle Davies  
Anne E. Delanoy  
Suzzette DeMers  
Jessica K. Devin

**1994 (continued)**

Thai A. Du  
Valerie L. Easterwood  
Beth Finn  
Janice Fraser  
Jonathan Goines  
Ilana S. Greenstein  
Russell S. Groves  
Amy Gruhl  
Miguel A. Gutierrez  
Dana Hamerschlag  
Tiffany M. Hensley  
Sean E. Hesselbacher  
Matthew L. Hettermann  
Sarah Howard  
Grace H. Im  
Lenny Jiang  
Jennifer L. Jordan  
Christopher Kenny  
Heidi Keup  
Paul Kim  
Jennifer Klar  
Elissa H. Lee  
Ashley D. Leonard  
Matthew M. Leonard  
Kunying D. Liang  
Kerry Litonjua  
Joanne H. Liu  
Vandana L. Madhavan  
Wendy L. Mao  
David Markle  
Jack W. Pan  
Richard P. Perrin  
Sara Peterson  
Enayet M. Rasul  
Fernando J. Rodriguez  
Brittany E. Rose  
Thomas Rylander  
Robert Sarvis  
Elizabeth Schmidt  
John M. Schmidt  
Padma B. Shah  
Rajiv Sharma  
Chad C. Smolinski  
Sarah L. Soroos  
Cem H. Soykan  
Dustin E. Thomason  
Sarah B. Trigilio  
Chris Vander Mey  
Nathan J. Williams  
Bess B. Worley  
Maureen L. Yacobucci  
Paul H. Yoo

**1995**

Antonio Arancibia  
Rafael Arancibia  
Yonatan A. Arbel  
Ajay K. Batra  
Sarah E. Chadbourn  
Patricia Chou  
Cynthia G. Clopper  
Nirav N. Desai  
John H. Deyoung  
Sonal Goda  
Kevin J. Gormley  
Sean C. Griffin  
Brian Gullede  
Melissa Hajj  
John Harding  
Stacey R. Harris  
Wendy Kwan  
Kathy A. Le  
Kevin B. Lee  
Roberta Leu  
Matthew Marcinek  
Barbara L. McCluer  
Satish Nagula  
Thuy L. Ngo  
Jeremy C. Nightingale  
Amy Novak  
Timothy A. Palmer  
Beatriu Reig  
Ana V. Sady-Dubon  
Eric Scarazzo  
Barbara A. Spignardo  
Deborah G. Stadler  
Barry Steinglass  
Leah Stewart  
Ryan Vervack  
Kathryn A. Wanschura  
Michael J. Westover

**1996**

Justina Ju  
Michael B. McElroy  
Michael Mizrahi  
Gregory S. Scherrer  
Halden Scott  
Brian Szczepanski

**1997**

Armand B. Alacbay  
 Andrew D. Berkheimer  
 Tara I. Bognar  
 Mamie H. Dong  
 Eddy Kangnavong  
 Melissa K. Keene  
 Chi-Yu Liang  
 Brendon Murray  
 Mark Pearson  
 Neha Yadav

**1998**

Suhail Afzal  
 David R. Almassian  
 Paul Bracher  
 Tiffany Campion  
 Elizabeth K. Cassano  
 Stephen W. Chang  
 Mollie M. Ifshin  
 David N. Jacobson  
 Andrew Meyers  
 Glen E. Michael  
 Ashley H. Shoemaker  
 Christopher M. Spiller  
 Edward G. Tompkins  
 James E. Tysse

**1999 (15th Reunion)****Total: \$4,590**

Louise S. Bald  
 Samuel Bresnahan  
 Quan P. Doan  
 Sarah B. Donovan  
 Timothy A. Dumm  
 Benjamin Grosz  
 Tamara L. Metz  
 William Meyers  
 Michael Osleber  
 Adele Peterson  
 David F. Salinas  
 Jeremy Skog  
 Anne P. Starling  
 Monica N. Sullivan Berton  
 Rachel N. Thessin  
 Christopher A. Voekler

**2000**

Eric J. Clopper  
 Allison Crow  
 Todd Defilippi  
 Myles W. Gardner  
 Julia A. Marsh  
 Derek K. Miller  
 Shannen L. Naegel  
 Emily H. Neubig  
 Lesley Park  
 Ashleigh L. Sanders  
 Hiroshi Shirako  
 Rahul Singh  
 Jessica A. Somers  
 Jorge L. Vittes  
 Mario E. Vittes

**2001**

Ana M. Avramovic  
 Michael Coblenz  
 Kristin M. Hicks  
 Jaroslav E. Keybl  
 Alisa Khan  
 Geraldine Loveless  
 Adam D. Stockton  
 Marian R. Stokes

**2002**

Kunal V. Gullapalli  
 Erica Kelly  
 Jessica M. Kingsley  
 Jeffrey S. Klein  
 Alana B. Marcus  
 Tanya T. Mejia  
 Stephen C. Munchak  
 Cesar P. Pena  
 Shujun Tian  
 Patrick H. Waters

**2003**

Waqas H. Ali  
 Matthew R. Colyer  
 Kellen M. Hertz  
 Steven J. McHail  
 My-Linh T. Nguyen  
 Emily Pitler  
 Timothy M. Reichart  
 Pamela K. Sertzen  
 Mathew D. Sirignano

**2004 (10th Reunion)****Total: \$4,960**

James T. Allman-Gulino  
 Keith Bare  
 Jennifer Conant  
 Benjamin S. Gelb  
 Jeff W. Grafton  
 Willie Haw  
 Marita C. Lawler  
 Melissa Reilly-Diakun  
 Ethan Silver  
 Jana L. Spencer  
 Liang Zhang

**2005**

Brad P. Blomstrom  
 Kurt E. DeSoto  
 Kimberly A. Everett  
 Bryan E. Fleming  
 Kristin Hawkins  
 Jason Y. Ji  
 Sam M. Nguyen  
 Erin M. Shannahan  
 Kevin A. Silas  
 Timothy D. Smith  
 Timothy Stanonik

**2006**

Rahul Agarwal  
 Ashleigh Allen  
 Courtney Dressing  
 Kenneth Gold  
 Long Ouyang  
 Elizabeth Stone  
 Megan Zagrobelny

**2007**

Lynn Jepsen  
 Kevin Pujanauski

**2008**

Mary Anderson  
 David Dy Tang  
 Christine Hiemstra  
 Chet Markwalter  
 Amilie Napier  
 Hannah Saperstein

**2009 (5th Reunion)****Total: \$675**

Prashasti Agrawal  
 Varun Bansal  
 Kevin Deisz  
 Kamila Goldin  
 Rukmini Goswami  
 Esther Kim  
 Natalie Kirchner  
 William Minshew  
 William Pitler  
 Sarah Schmoltner  
 Narendra Tallapragada  
 Christina Wallin  
 Kelly Watson

**2010**

Kelsey Dressing  
 Jeremy Ho  
 Brian Levinstein  
 Carolyn McKenna  
 Grace Wang

**2011**

Andrew Cheong  
 Nathaniel Skolnik  
 Marc Wechsler

**2012**

Zhereng "JJ" Zhang

**2013**

Woo-Ju Kim  
 Patricia Tran

**2014**

Rishi Gupta

## TJ PARTNERSHIP FUND 2014-2015 VOLUNTEERS

### BOARD OF DIRECTORS

#### Officers:

Chairman: Srikant Sastry, Parent '17  
Secretary: Floortje Blindenbach-Driessen, Parent '16, '18  
Treasurer: Nicole Morson, TJ '07

#### Representatives:

Principal: Evan Glazer, ex officio  
School Liaison: Tinell Priddy, Asst. Principal for Science & Tech.  
Faculty Representative: Lee Ann Hennig, Astronomy Lab Director  
Alumni Association Representative: Jennifer Jordan, TJ '94  
PTSA President: Eric Malès, Parent '15, ex officio  
Immediate Past Chair: Tom Valery, Parent '14, '14, ex officio  
Colonial Athletic Boosters Rep: Heather Erskine, Parent '18

#### Committee Chairs:

Capital Campaign Chair: Mark Skolnik, Parent '11  
Communications Chair: Hilde Kahn, Parent '12, '14, '17  
Events Chair: Megha Chokshi, Parent '17  
Finance and Audit Committee Chair: Dan Bommer, Parent '15  
Volunteer Chair: Ashok Anant, Parent '17

#### Advisory Board Chairs:

Alumni Association Board Chair: Kevin Gormley, TJ '95  
Corporate Advisory Board Co-Chairs: Jennifer Clifford Simpson, Parent '15, Craig Bennett, Parent '15, and Sadayappan (Chida) Chidambaram, Parent '16  
Parent Advisory Board Chair: Jerri Xu, Parent '17

### CORPORATE ADVISORY BOARD

Co-Chairs: Jennifer Clifford Simpson, Parent '15, Nat'l Fish & Wildlife Found.;  
Craig Bennett, Parent '15, CBA Architects;  
Chida Chidambaram, Parent '16,  
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Meredith DeMoss, Northrop Grumman  
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Nagendra Goel, Parent '18, Go Vivace Inc.  
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Sean Mallon, CIT GAP Funds  
Kati Mangrio, Parent '18  
Ram Mattapalli, Parent '18, Zolon Tech, Inc.  
Michael Martinka, TJ '87, Parent '17, Ntrepid

Marina Moses, Parent '14, '16, American  
Academy of Microbiology  
Srikant Sastry, Parent '17, PF Board Chair,  
Grant Thornton  
Marie Talwar, Parent '17, General Electric  
Ramji Venkatachari, Parent '17, Insystech, Inc.  
Tinell Priddy, TJ Assistant Principal

### ALUMNI ASSOCIATION BOARD

Co-Chairs: Kevin Gormley, TJ '95, and  
Jennifer Jordan, TJ '94  
David DyTang, TJ '08, At-Large  
Beth Finn, TJ '94, Reunion Liaison

Sonal Goda, TJ '95, At-Large  
Jason Hintz Llopis, TJ '89, Reg. Coordinator  
Han Kim, TJ '10, Communications  
Nick Turner, TJ '96, Communications

Liz Zagraniski, TJ '04, At-Large  
Ted Zagraniski, TJ '00, At-Large

### ALUMNI EVENT VOLUNTEERS

#### NYC Alumni Happy Hour (9/14)

Chair & Host: Brent Metz, TJ '98  
Meredith Broadbent, Parent '08  
Sonal Goda, TJ '95  
Seain Gutridge, TJ '89

#### LA Alumni Lunch (9/14)

Chair: Danny Kim, TJ '10

#### '89 Reunion (9/14)

Co-Chairs: Seain Gutridge, TJ '89 &  
Maura McNerney, TJ '89

#### '94 Reunion (10/14)

Co-Chairs: Beth Finn, TJ '94 & Suzzette  
Rodriguez Hurley DeMers, TJ '94

#### Alumni Day (11/14)

Chair: Sonal Goda, TJ '95  
Shawn Adams  
Adriane Assang, Parent '18  
Lucy Chu, TJ '14  
Megan Do, TJ '16  
Heather Erskine, Parent '18  
Andrew Hamilton, TJ '09  
Christopher Jordan  
Jennifer Jordan, TJ '94  
Hilde Kahn, Parent '12, '14, '17  
Ying Luo, Parent '18  
Liz Zagraniski, TJ '04  
Ted Zagraniski, TJ '00

#### '04 Reunion (11/14)

Co-Chairs: Carly Rush, TJ '04 &  
Jackie Bello, TJ '04

#### '09 Reunion (11/14)

Chair: Andrew Zukosky, TJ '09

#### Bay Area Alumni Meet-up (2/15)

Chair & Host: Sander Daniels, TJ '01

#### Alumni Phonathon (3/15)

Beth Finn, TJ '94  
Sonal Goda, TJ '95  
Kevin Gormley, TJ '95  
Liz Zagraniski, TJ '04  
Ted Zagraniski, TJ '00

### OFFICE/RESEARCH VOLUNTEERS

Floortje Blindenbach-Driessen, Parent '16, '18  
Heather Erskine, Parent '18

Robin Hatanpaa, Parent '13, '15  
Hilde Kahn, Parent '12, '14, '17

Jo Koeniger, Parent '16  
Kati Mangrio, Parent '18

**EVENT & APPEAL VOLUNTEERS****Freshman Orientation (8/14)**

Floortje Blindenbach-Driessen, Parent '16, '18  
 Jennifer Jordan, TJ '94  
 Hilde Kahn, Parent '12, '14, '17  
 Jo Koeniger, Parent '16

**Freshman Parent Reception (9/14)**

Chair & Host, Floortje Blindenbach-Driessen,  
 Parent '16, '18  
 Ashok Anant, Parent '17  
 Megha Chokshi, Parent '17  
 Heather Erskine, Parent '18  
 Hilde Kahn, Parent '12, '14, '17

**Back-to-School Night (10/14)**

Chair, Hilde Kahn, Parent '12, '14, '17  
 Ashok Anant, Parent '17  
 Floortje Blindenbach-Driessen, Parent '16, '18  
 Megha Chokshi, Parent '17  
 Shiraz Chokshi, TJ '17  
 Mary Ann Cotton, Parent '16  
 Bob Erskine, Grandparent '18  
 Heather Erskine, Parent '18  
 John Erskine, TJ '18  
 Yolanda Gruendel, Parent '18  
 Vivian Hu, TJ '17  
 Jillian Khoo, TJ '17  
 Rajini Kopparapu, Parent '18  
 Shawn Lukas, Parent '15  
 Alexa Nguonly, TJ '18  
 Ellen Ranard, Parent '07, '10  
 Tiffany Sun, TJ '17  
 Sally Stumvoll, Parent '15  
 Jessica Wu, TJ '15  
 Jerri Xu, Parent '17  
 Emma Zhang, TJ '17  
 Ying Zheng, Parent '17

**Ribbon Cutting & Lab Tours (11/14)**

Ashok Anant, Parent '17  
 Megha Chokshi, Parent '17  
 Heather Erskine, Parent '18  
 Bob Erskine, Grandparent '18  
 Hilde Kahn, Parent '12, '14, '17  
 Jefferson Society Tour Guides

**Diwali Celebration (11/14)**

Chair: Megha Chokshi, Parent '17  
 Hosts, Jay & Natasha Marwaha, Parents '10, '18  
 Ashok Anant, Parent '17  
 Nags Arkalgud, Parent '15  
 Dhruv Gupta, TJ '16, Namaste Club performers  
 C. Kotnana, Parent '18

**Open House & Lab Tours (1/15)**

Ashok Anant, Parent '17  
 Shruti Anant, TJ '17  
 Grace Becker, Parent '15, '18

JT Blau, TJ '04

Floortje Blindenbach-Driessen, Parent '16, '18  
 Sarah E Brummett, TJ '05  
 Shannon Casey, TJ '07  
 Chida Chidambaram, Parent '16  
 Shinbe Choi, TJ '18  
 Kyle Ferris, TJ '10  
 Jennifer Jordan, TJ '94  
 Hilde Kahn, Parent '12, '14, '17  
 Kyounghee Malawi, Parent '14  
 Julia Markham, TJ '91  
 Ravi Nara, Parent '17  
 Thuy Nguyen, Parent '16, '18  
 Seamus O'Connor, TJ '03  
 Raghav Ramraj, TJ '16  
 Jennifer Clifford Simpson, Parent '15  
 Seyun Sul, Parent '18  
 Jerri Xu, Parent '17  
 Ted Zagraniski, TJ '00  
 Jefferson Society Tour Guides

**International Partner Visit (2/15)**

Jane Yang Li, Parent '09, '14  
 Laura Luo, TJ '10, '17  
 Hilde Kahn, Parent '12, '14, '17  
 PTSA Volunteers  
 Jerri Xu, Parent '17

**Lunar New Year Celebration (3/15)**

Chair: Jerri Xu, Parent '17  
 Calvin Chen, TJ '16, Panelist  
 Weiwen Chen, Parent '18  
 Lan Fan, Parent '17, '18  
 Qing Gou, Parent '18  
 Grant Li, TJ '18  
 Jeffrey Liu, TJ '16  
 William Liu, TJ '15, Panelist  
 Yan Liu, Parent '18  
 Angela Ma, TJ '15, Panelist  
 Anh-Huy Nguyen, TJ '18  
 John Nguyen, TJ '16  
 Thuy Nguyen, Parent '16, '18  
 Thuy-Vi Nguyen, TJ '16, Panelist  
 S Niu, Parent '17  
 Franklin Wang, TJ '18  
 Jessica Wang, TJ '17  
 Hai Yan Wu, Parent '16  
 Jessica Wu, TJ '15, Panelist  
 Katherine Yan, TJ '15, Panelist  
 Nancy Yang, Parent '17, '18  
 Wendy Yin, TJ '18  
 Yuyan Zhou, Parent '16  
 Danielle Zhu, Parent '16, '18  
 Peter Zou, Parent '17

**Phonathon (4/15)**

Phonathon Chair: Megha Chokshi, Parent '17  
 Ashok Anant, Parent '17

**WEBMASTER**

Susanna Bradbury, TJ '17

Floortje Blindenbach-Driessen, Parent '16, '18  
 Beth Finn, TJ '94  
 Heather Erskine, Parent '18  
 Aparna Gupta, Parent '15  
 Won Huh, Parent '17  
 Hilde Kahn, Parent '12, '14, '17  
 Kaylee Kim, Parent '18  
 Mili Ahn Kim, Parent '18  
 Jo Koeniger, Parent '16  
 C Kotnana, Parent '18  
 Sandy Kumar, Parent '16  
 Hyun Joo Kweon, Parent '17  
 Hyangran Lee, Parent '18  
 Margaret Mukerjee, Parent '18  
 Anna Ryjik, Parent '15  
 Avani Saini, Parent '15  
 Roma Saxena, Parent '18  
 Tae Eun Seo, Parent '17  
 Yeonjoo Seo, Parent '18  
 Jennifer Clifford Simpson, Parent '15  
 Seyun Sul, Parent '18

**Junior Lab Appeal (Spring 2015)**

Chair: Jo Koeniger, Parent '16  
 Astronomy: Lori Barbour, Parent '16  
 Biotechnology: Kelly McLaughlan, Parent '16  
 Computer Sys.: Mary Ann Cotton, Parent '16  
 Energy Systems: Petra Oaks, Parent '16  
 Engineering Design: Karen Eisgruber,  
 Parent '16, Astrid Tisseront, Parent '16  
 Mobile App: Enit Lulushi, Parent '16, '18  
 Neuroscience: Shalini Bhatia, Parent '10, '16  
 Oceanography: Lisa Guide, Parent '16,  
 Sreevani Putalapattu, Parent '16  
 Prototyping: Marcella & Ed McDonald,  
 Parents '15, '16, Carla Martinese, Parent '16,  
 Physics: Jamie Korelitz, Parent '12, '16

**Freshman Welcome (4/15)**

Ashok Anant, Parent '17  
 Chida Chidambaram, Parent '16  
 Megha Chokshi, Parent '17  
 Hilde Kahn, Parent '12, '14, '17  
 Ravi Nara, Parent '17

**Cluster Party Reps (Spring 2015)**

Chair: Hilde Kahn, Parent '12, '14, '17  
 Ashok Anant, Parent '17  
 Chida Chidambaram, Parent '16  
 Heather Erskine, Parent '17  
 Aparna Gupta, Parent '15, '17  
 Thuy Nguyen, Parent '16, '18

**tjSTAR Reception (6/15)**

Chair: Megha Chokshi, Parent '17  
 Ashok Anant, Parent '17  
 Shiraz Chokshi, TJ '17  
 Kati Mangrio, Parent '18

**tjSTAR Reception - June 11th**

**Keynote:** Student Keynote speaker Pooja Chandrashekar, TJ '15, told the audience of current, past, and future parents, alumni, and corporate partners gathered at the Tysons Hilton how TJ has enabled her success. Pooja, whose many accomplishments are legendary, discussed a small sample of them: her award-winning research project on mild traumatic brain injury conducted at MITRE through TJ's Mentorship Program; her nationally recognized creative writing encouraged by her humanities teachers; and her work with ProjectCSGIRLS, the non-profit she founded to encourage girls in computer science.

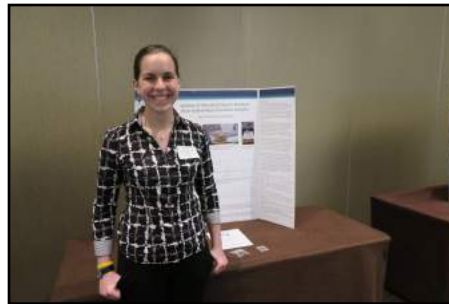
**Tommy Awards:** Introducing Tommy Award recipient Teresa Carlson was another TJ student who has already done a lot to encourage girls in STEM, Maddie Zug, TJ '15. Maddie investigated gaps in computer science education with a *Google Trailblazer* grant; co-founded Coding Lady Colonials, an 8th period club for girls in computer science; and helped run this year's phenomenally successful HackTJ (see June 2015 issue).

Carlson, a Vice President with Amazon Web Services, the nation's leading cloud services provider, was recognized for founding a program that pairs young women entering STEM fields with female mentors.

Also receiving a Tommy Award was Longfellow MS math teacher Vern Williams. Beloved by legions of TJ students who passed through Longfellow MS or attended one of his summer enrichment camps, Williams was honored for his dedication to challenging gifted young students, many of whom he inspired to study math-related fields and choose math-related careers.

Andre Kessler, TJ '11, was one such student. In his personal introduction, he described how, inspired by Mr. Williams in 7th grade, he went on to teach at Williams' summer camp the summer before his sophomore year at TJ. Kessler, who distinguished himself at TJ in math, physics, computer science, and debate and who recently graduated from MIT, where he conducted research and taught other undergraduates, will be a software engineer at tjSTAR sponsor SpaceX this fall.

- #1: Rebecca Merriman-Goldring, TJ '15
- #2: Jamie Korelitz, Parent '12, '16; Kathleen Dempsey, Parent '16; Mary Jo Clark, Parent '10, '12
- #3: Maddie Zug, TJ '15, Teresa Carlson, Pooja Chandrashekar, TJ '15
- #4: Andre Kessler, TJ '11, Vern Williams
- #5: Principal Evan Glazer, Luke Glazer



**Research Lab Project Displays**

- ASTRONOMY & ASROPHYSICS  
Alec Jessar
- AUTOMATION & ROBOTICS  
Josh Levy & David Everhart  
(not attending, Kai Smith)
- BIOTECHNOLOGY & LIFE SCIENCES  
Rhea Sharma & Alexis Williams
- CHEMICAL ANALYSIS & NANO CHEMISTRY  
Rebecca Merriman-Goldring
- COMPUTER SYSTEMS  
Anshula Gandhi
- ENERGY SYSTEMS  
Anant Das & Helen Zhang
- ENGINEERING DESIGN  
Mikaela Ruiz-Ramón & Haley Stumvoll
- MICROELECTRONICS  
Matt Savage
- MOBILE & WEB APPLICATION DEVELOPMENT  
Maddie Zug
- NEUROSCIENCE  
Lucas Lin
- OCEANOGRAPHY & GEOPHYSICAL SYSTEMS  
Zoe Wang & Lindsay Williams
- PROTOTYPING & ENGINEERING MATERIALS  
Sriram Iyer
- QUANTUM PHYSICS & OPTICS  
Charlie Maier
- "JUMP" (UNDERCLASSMEN PROJECT)  
Ava Lakmazaheri

**Upcoming Events**

**Freshman Parent Reception**

Saturday, September 19th, 1:00 - 3:00 pm  
McLean private residence

**2014 Alumni Reunions**

**TJ '90 (25th):** Homecoming Weekend  
10/23 4:00pm Happy Hour & Game  
10/24 Family activities: TJ tour, DC tour  
10/24 Main Event - Dinner

**TJ '95 (20th):** 10/9-10/10 (Columbus Day)

**TJ '00 (15th):** 11/28 (Thanksgiving)

**TJ '05 (10th):** 11/27-11/28 (Thanksgiving)

**TJ '10 (5th):** TBA

**Alumni Day:** Sat. 11/28 (Thanksgiving)

TJ could not fulfill its mission without the voluntary contributions of parents, grandparents, friends, alumni, and corporate partners. To learn how you can support TJ through the Partnership Fund, please visit us at [tjpartnershipfund.org](http://tjpartnershipfund.org), or contact Development Director Aristia (Tia) Kinis at [akinis@fcps.edu](mailto:akinis@fcps.edu) or 703-750-8317.

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PF Communications

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