

May 27, 2025

Mr. Robert Malone
Exempt Organizations and Government Entities
Internal Revenue Service
TEGE Referrals Group – MC 4910 DAL
1100 Commerce Street
Dallas, TX 75242

VIA EMAIL

Re: Request for Investigation into the Activities of the Thomas Jefferson High School for Science and Technology Partnership Fund, Inc. (EIN: 54-1964039).

Dear Mr. Malone:

Defending Education is a nationwide, nonpartisan membership organization comprised of parents and students. We write to respectfully request that the Internal Revenue Service open an investigation into the Thomas Jefferson High School for Science and Technology Partnership Fund, Inc., (the “Fund”), EIN 54-1964039.¹

An investigation is warranted because the Fund appears to have generated at least \$3.6 million in revenue through a series of business arrangements with foreign entities that are unrelated to any purpose listed in Section 501(c)(3) of the Internal Revenue Code. For instance, the facts strongly suggest that the Fund operated as a pass-through to sell the intellectual property of Thomas Jefferson High School (“TJ”)—America’s premier public high school and a legally distinct entity—to organizations linked to the Chinese government, in exchange for capital improvement funding for the school. The facts also suggest that the Fund entered business contracts with those same organizations to provide public employees to help them “clone” TJ and establish identical state-sponsored schools in China. In return, the organizations provided additional funds that were allocated for renovations to TJ. The Fund reported all this revenue as tax-exempt income related to “charitable” purposes in the 990s it submitted to the IRS. And although the Fund claims to be “separate and independent” from TJ, the beneficiary of these arrangements, the Fund uses TJ’s office space, email accounts, administrative services, and other operational resources.

¹ In addition to submitting IRS Form 13909, *Tax-Exempt Organization Complaint (Referral)*, Defending Education is providing this information to the Commission “in letter format,” for convenience. Internal Revenue Service, *IRS Complaint Process – Tax-Exempt Organizations*, perma.cc/9QCJ-PS3T.

At a minimum, these facts raise the troubling prospect that the Fund failed to pay taxes on business income that was unrelated to its stated charitable purpose; violated the private benefit doctrine by diverting resources and giving intellectual property to entities with no relationship with its stated mission; filed inaccurate tax-exempt reports with the IRS; and improperly used public resources for non-charitable purposes.

I. Factual Background

Thomas Jefferson High School for Science and Technology has long been recognized as the nation’s best public high school for math and science.² TJ is a magnet school in Alexandria, Virginia, that is part of the Fairfax County Public Schools system (“FCPS”). In 1999, alumni and parents of current TJ students established the Thomas Jefferson High School for Science and Technology Partnership Fund as a 501(c)(3) tax-exempt organization. As laid out in its articles of incorporation, the Fund’s purpose was to “establish and maintain a self-sustaining fund to fulfill the ongoing needs of the educational programs of [TJ].”³ The articles of incorporation further specified that the Fund was “organized exclusively for educational and scientific purposes.”⁴

The Fund’s annual Form 990 submissions state that “[i]n accordance with the Partnership Fund’s Articles of Incorporation,” the Fund has “three areas of focus: (1) maintenance of the academic excellence of [TJ], (2) promotion of stem education and outreach across [TJ] communities, and (3) expansion of [TJ] alumni engagement.”⁵ According to the Fund’s website, it pursues these goals primarily by “raising funds and donating them directly to the school through grant requests and other initiatives.”⁶

TJ and the Fund describe themselves as separate entities, but their operations substantially overlap with one another. Internal documents and communications obtained by Defending Education through Virginia FOIA requests show that TJPF employees have access to a host of taxpayer-funded tools: including operational services, HR resources, official “fcps.edu” email addresses, a business phone linked to the school district, office space on TJ’s campus, and office resources. *See, e.g.*, Ex. A; Ex. B; Ex. C; Ex. D. An email sent by a Fund employee shows the Fund arranging onboarding activities for one of its new staffers with a TJ administrator, who coordinated

² See Haley Strack, *The CCP Cloned America’s Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU.

³ Norma Margulies, *We Need an Audit of the TJ Partnership Fund*, The Fairfax Times, (Apr. 29, 2022), perma.cc/RV72-DQN4.

⁴ Norma Margulies, *We Need an Audit of the TJ Partnership Fund*, The Fairfax Times, (Apr. 29, 2022), perma.cc/RV72-DQN4.

⁵ *E.g.*, Thomas Jefferson High School for Science and Technology Partnership Fund, Form 990 (2019), Part III, Line 1.

⁶ Thomas Jefferson High School for Science and Technology Partnership Fund, *Welcome to the TJHSST Partnership Fund*, perma.cc/CY76-C2PL

standard FCPS procedures like fingerprinting, a background check, and obtaining an access badge for the new staffer. *See* Ex. B.

In spring 2013, TJ announced an ambitious renovation project that included large-scale structural, aesthetic, and technological changes to the school’s facilities⁷ and would cost more than \$8 million to complete.⁸ The plan called for renovations to be finished by fall 2016.⁹ In June 2013, the Partnership Fund launched a fundraising drive called “Campaign for TJ.”¹⁰ “The campaign was established to raise money for the TJ renovation project.”¹¹ Shortly thereafter, the Fund commenced its financial relationships with Chinese institutions.¹²

2014-2018 contracts with Ameson Foundation and Tsinghua University High School. In April 2014, TJ’s then-principal, Evan Glazer, emailed TJ’s faculty stating, “I wanted to alert you this week 4/17 and 4/18 the Thomas Jefferson Partnership Fund (TJPF) signed agreements with Ameson Foundation and Tsinghua University to provide professional development and support in their efforts to build STEM programs.” Ex. F. Both organizations have “deep ties to the CCP” (Chinese Communist Party).¹³ Ameson’s founder and Executive Vice Chair, Sean Zhang, “is tied to the CCP’s United Front Work Department,”¹⁴ which is a department of the Chinese government that Congress has concluded “reports directly to the CCP’s Central Committee.”¹⁵ Tsinghua University High School (“Tsinghua”) is an elite, public secondary school run by the Chinese government that provides a pathway to the prestigious government university after which it is named.

⁷ Tim Peterson, *Renovation Keeps Rolling at Thomas Jefferson High School for Science and Technology in Alexandria*, Alexandria Gazette, (Nov. 20, 2014), <https://perma.cc/KY4Z-H2KQ>.

⁸ Haley Strack, *The CCP Cloned America’s Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU.

⁹ Tim Peterson, *Renovation Keeps Rolling at Thomas Jefferson High School for Science and Technology in Alexandria*, Alexandria Gazette, (Nov. 20, 2014), <https://perma.cc/KY4Z-H2KQ>.

¹⁰ Defending Education, *Fairfax County Public Schools’ top STEM academy Fund received over a million dollars in funding from Chinese organizations, documents show*, (Mar. 7, 2023), perma.cc/HP9C-PTAL.

¹¹ Defending Education, *Fairfax County Public Schools’ top STEM academy Fund received over a million dollars in funding from Chinese organizations, documents show*, (Mar. 7, 2023), perma.cc/HP9C-PTAL.

¹² Haley Strack, *The CCP Cloned America’s Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU (“It was during this time that TJPF struck up partnerships with the Ameson Foundation and Tsinghua University — two institutions with deep ties to the CCP — ostensibly to help fund TJ’s renovation project.”).

¹³ Haley Strack, *The CCP Cloned America’s Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU.

¹⁴ Haley Strack, *The CCP Cloned America’s Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU.

¹⁵ Press Release, United States House of Representatives Select Committee on the CCP, *Select Committee Unveils CCP Influence Memo, ‘United Front 101,’* (Nov. 27, 2023), <https://perma.cc/EF4W-Q64K>.

TJ's agreements with Ameson and Tsinghua spanned four years, from 2014 to 2018. Contemporaneous documents largely focused on the benefits the arrangement would provide for the Chinese entities. For instance, a 2014 newsletter from the Fund proudly stated that the partnership would "allow TJ to share best practices to assist them as they (Tsinghua University High School) develop their own STEM models. These relationships help to fulfill a long-term goal of the school, that of sharing TJ's uniquely successful approach to teaching science and technology with other schools in order to expand educational opportunities for students, no matter where they reside."¹⁶ The newsletter also stated that "Chinese educators, concerned that their educational system's emphasis on speed and memorization over discussion and debate may not produce tomorrow's most successful students, are increasingly eager to adopt the best instructional models from abroad."¹⁷ The Fund's newsletters and annual reports listed the Chinese entities as "international partners" and "donors" to the Campaign for TJ¹⁸ See Ex. G at 12. Ex. H at 8.

Tsinghua contributed \$300,000 to the Fund soon after the terms of the "partnership" were finalized, see Ex. G at 1, and it made identical contributions in each of the next three years.¹⁹ In all, TJ received \$1.2 million from Tsinghua University High School and \$900,000 from the Ameson Foundation from 2014 to 2018. In return, the Fund gave the organizations literal and metaphorical blueprints for creating identical versions of TJ in China. The documents from the Fund included TJ's curriculum, course syllabi, lab photographs, thumb drives containing student research projects, and even its floor plans. *E.g.*, Ex. J. The Fund added TJ watermarks to the documents to assure their foreign partners of their authenticity. See Ex. K; Ex. L. In a January 2018 email, TJ's director of student services summarized the information as a "[TJ] Handbook." Ex. M.

The Fund also hosted site visits from Chinese officials, which it used TJ personnel and other resources to conduct. "During such visits, TJ staff were asked to speak with, host, and present to Chinese officials."²⁰ See Ex. N. According to a March 2015 article in the Fund's newsletter, the first site visit took place in February 2015, just months after the agreements were signed. Tsinghua officials received "an intensive

¹⁶ Defending Education, *Fairfax County Public Schools' top STEM academy Fund received over a million dollars in funding from Chinese organizations, documents show*, (Mar. 7, 2023), perma.cc/HP9C-PTAL.

¹⁷ Defending Education, *Fairfax County Public Schools' top STEM academy Fund received over a million dollars in funding from Chinese organizations, documents show*, (Mar. 7, 2023), perma.cc/HP9C-PTAL.

¹⁸ Haley Strack, *The CCP Cloned America's Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU.

¹⁹ See, e.g., Thomas Jefferson High School for Science and Technology Partnership Fund, Form 990 (2016).

²⁰ Haley Strack, *The CCP Cloned America's Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU.

introduction to [TJ’s] unique approach to high school education” from “a broad cross-section of TJ faculty and staff” over the course of “eight very full school days.”²¹ At the end of the article, the Fund mentions in passing that “[a]s part of [the Fund’s] agreement with [Tsinghua], TJ faculty and staff may also travel to Beijing during school breaks. In addition, [Tsinghua] has made a significant contribution to the Campaign for TJ.” Ex. O. The agenda for a February 2017 site visit called for TJ teachers to give the delegation “a tour of [TJ’s] campus” and a presentation that provided an “overview of TJ organization, operation and management, admin framework, [and] division leadership,” an “overview of teacher evaluation,” and an “overview of TJ admissions.” Ex. N at 3-5. In the words of the Fund’s Manager for Outreach and Partnerships, the services rendered to the foreign entities included “extensive advise [sic] on how to manage a school like TJ.” Ex. M.

Documents obtained by Defending Education give the appearance of negotiated fee-for-services transactions. *See* Ex. I (“They have said they would make a donation to [the Fund] for this seminar and time at TJ.”). In an email from the Fund’s then-executive director Aristia Kinis to the director of TJ’s neuroscience lab, Kinis stated, “[t]o be clear, the [Fund] is not trying to disrupt the school or inconvenience [teachers], we’re just trying our best to maximize revenue for the school based on our campaign needs and the current group of interested donors. I did my best to structure the most beneficial deal that was feasible, given the interest in the ‘marketplace’ and the situation with FCPS.” Ex. E at 2.

2016-2021 contract with Shirble HK. The Fund negotiated a contract with a third Chinese entity, Shirble HK, in 2016. Shirble HK, also known as Shirble Department Store Holdings, is limited liability company that was incorporated in the Cayman Islands in November 2008.²² Shirble’s website, which has since been taken down, stated that the “[c]ompany and its subsidiaries (collectively, the ‘Group’) are principally engaged in department store operations, property development and provision of property development consulting services in the People’s Republic of China (the ‘PRC’).”²³ From 2016 to 2021, the Fund—through TJ—appears to have provided intellectual property and consulting services to Chinese officials in largely the same the way that it did under its contracts with Tsinghua and Ameson. For instance, the Fund paid TJ teachers by the hour to draft summaries of their courses, including “the curriculum design/pace of the year, equipment/books/materials needed, class layout, and possible student

²¹ Defending Education, *Fairfax County Public Schools’ top STEM academy Fund received over a million dollars in funding from Chinese organizations, documents show*, (Mar. 7, 2023), perma.cc/HP9C-PTAL.

²² Defending Education, *Fairfax County Public Schools’ top STEM academy Fund received over a million dollars in funding from Chinese organizations, documents show*, (Mar. 7, 2023), perma.cc/HP9C-PTAL.

²³ Defending Education, *Fairfax County Public Schools’ top STEM academy Fund received over a million dollars in funding from Chinese organizations, documents show*, (Mar. 7, 2023), perma.cc/HP9C-PTAL.

projects/paper topics for [Shirble’s] own version of the classes.” *See* Ex. P. During that period, Shirble HK gave the Fund \$1.5 million.

Contemporaneous emails sent by TJ officials and Fund employees describe their arrangement with the foreign entities as a contractual business agreement in which TJ—a public institution—was required to provide certain deliverables in exchange for the payments that the nonprofit Fund later characterized as charitable “donations.” For example, a 2018 email sent by TJ’s assistant principal stated that “PF [Partnership Fund] *has a contract* with Ameson that *they will pay \$1M in exchange for help* in getting their schools up and running in China. Called the Thomas Schools.” Ex. Q (emphasis added). A 2017 email sent by a Fund employee similarly stated, “[p]er *our contract* with Tsinghua University High School, *we are required* to send two educators to them for a week.” Ex. R (emphasis added); *see also* Ex. R (February 2, 2018, email stating “[t]his is the last year of *our current contract* with [Tsinghua]” (emphasis added)). Those “educators” appear to have come from TJ, as there are no “educators” among the eight employees listed on the Fund’s 990s. Neither the Fund nor TJ has publicly explained how the nonprofit, which FCPS insists is “a separate and independent 501(c)(3) entity, which is not overseen by FCPS,”²⁴ could contractually bind the school to provide consulting services to third parties. Nor have they explained “by what authority [the Fund], operating as an independent nonprofit, handed over the intellectual property of a legally distinct public high school.”²⁵

Although the Fund executed independent contracts with each of the three entities, documentary evidence shows that the foreign organizations viewed their agreements as components of a broader arrangement and that the Fund and the TJ officials involved likely shared that understanding. Ameson’s founder Sean Zhang said the 2014-2018 arrangement was the “beginning to our seven-year collaboration” with TJ. Because Ameson only had a four-year agreement with TJ, Zhang’s reference to a “seven-year collaboration” only makes sense if one views Ameson’s contract as the beginning of the “collaboration” and Shirble HK’s 2016-2021 contract as the collaboration’s conclusion.

II. Legal Analysis

The facts described above may constitute several grounds for the IRS to issue a finding of noncompliance and revoke the Fund’s tax-exempt status under Section 501(c)(3). The Fund’s business activities and related tax reporting are difficult to reconcile with federal laws and regulations regarding taxation of unrelated business income earned

²⁴ Haley Strack, *The CCP Cloned America’s Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU.

²⁵ Haley Strack, *The CCP Cloned America’s Leading STEM High School — and U.S. Educators Helped*, National Review Online, (Oct. 10, 2024), bit.ly/4gtQxvU.

by 501(c)(3) organizations; the requirement that 501(c)(3) organizations operate within the scope of their stated mission and exclusively for charitable, educational, or other exempt purposes; and tax-exempt organizations' duties to file accurate and complete annual reports with the IRS and to avoid the misuse of public funds.

Failure to adhere to charitable purposes. The tax code requires 501(c)(3) organizations to operate exclusively for charitable, educational, or other exempt purposes and to adhere to the purposes outlined in their articles of incorporation. *See* 26 U.S.C. §501(c)(3). Violations of this requirement inherently jeopardize the organization's tax-exempt status. Indeed, "[t]he presence of a single non-exempt purpose, if substantial in nature, will destroy the exemption." *Orange Cnty. Agr. Soc., Inc. v. Comm'r*, 893 F.2d 529, 532 (2d Cir. 1990).

An organization violates this rule whenever it confers benefits to private entities, unless those benefits are incidental to activities that further the organization's core purpose. Unlike the private inurement doctrine, which applies only to benefits conferred upon shareholders or insiders at nonprofit organizations, the "private benefit doctrine" applies to unrelated activities undertaken for the benefit of any third party. Thus, any benefits provided to Ameson, Tsinghua, and Shirble implicate the private benefit doctrine.

Furthermore, the Fund's contracts with Ameson, Tsinghua, and Shirble are plainly "substantial." *Orange Cnty. Agr. Soc., Inc.*, 893 F.2d at 532. In 2018, Shirble and the Ameson Foundation were the Fund's two largest sources of revenue. Moreover, the nature of the arrangements raises serious doubts that the benefits conferred upon the foreign entities were "incidental" to a proper purpose. Take the consulting services envisioned by the contracts, for instance. Giving someone "extensive advice," *Ex. M*, usually is not considered a mutually beneficial transaction in the business sense. If the Fund had executed agreements to conduct an exchange program where foreign students and TJ students visited each other's institutions and learned from one another, then any benefits received by the foreign students or foreign schools might properly be considered "incidental" to the Fund's primary purpose of furthering the education of TJ students.

Likewise, if the agreement contemplated an exchange of expertise between TJ administrators and their foreign counterparts, any benefit conferred upon the latter might appropriately be viewed as incidental to the main goal of improving the education TJ provides to its students. But, as described above, no such exchanges of expertise occurred. To the contrary, the Fund stated that the animating principle of its engagement with the Chinese-linked entities was "to expand educational opportunities for students, no matter where they reside."²⁶ Although the Fund depicted that objective as consistent with its

²⁶ Defending Education, *Fairfax County Public Schools' top STEM academy Fund received over a million dollars in funding from Chinese organizations, documents show*, (Mar. 7, 2023), perma.cc/HP9C-PTAL.

“long-term goals,” its articles of incorporation and Form 990s suggest otherwise. The Fund was “organized *exclusively*” to “fulfill the ongoing needs of the educational *programs of [TJ]*.”²⁷ It was not established to reprise TJ’s playbook in service of generic “educational opportunities” for unidentified students on the other side of the world—and it certainly was not established to do so in exchange for payment.

Finally, the non-incidental nature of the private benefit is reinforced by the Fund’s deliberate watermarking of TJ documents and intellectual property for “authenticity,” which evinces an intent to ensure their usability by the Chinese entities who received them.

Unrelated business income. The tax code’s rules on unrelated business income earned by tax-exempt organizations parallel the law’s requirement that 501(c)(3) organizations adhere to their stated charitable purposes. 26 U.S.C. §512 requires tax-exempt organizations under Section 501(c)(3) to pay taxes on any income generated from business activities that are unrelated to organization’s tax-exempt purpose. Organizations that ignore these requirements can be forced to pay excise taxes and can also be stripped of their tax-exempt status entirely. *See* 26 U.S.C. §4958.

Whether the revenue the Fund derived from its relationships with foreign entities is taxable as unrelated business income “depends upon (1) whether [the Fund’s activities were] a ‘trade or business,’ (2) whether [they were] regularly carried on, and (3) whether [they were] substantially related to [the Fund’s] tax-exempt purposes.” *United States v. Am. Coll. of Physicians*, 475 U.S. 834, 838–39 (1986). The Fund engaged in a “trade or business” when it executed contracts for services and transferred commercially valuable IP to the foreign entities and received revenue from those same entities. *See* 26 U.S.C. §513(c) (defining “trade or business” to include “any activity which is carried on for the production of income from the sale of goods or the performance of services”). And it “regularly carried on” the business in question through its continuous, seven-year relationship with the Chinese entities.

Thus, the only issue left to resolve is whether the Fund’s business activities in question had a substantial “causal relationship to the achievement of exempt purposes (other than through the production of income).” *Belco Credit Union v. United States*, 735 F. Supp. 2d 1286, 1299 (D. Colo. 2010) (citing 26 C.F.R. §1.513-1). Put differently, the Fund properly classified its revenue-generating activities as tax-exempt only if those activities, standing alone, bear any meaningful connection to the Fund’s stated purpose of “fulfill[ing] the ongoing needs of the educational programs of [TJ.]” It is difficult to envision a scenario in which “the needs of the educational programs of [TJ]” are

²⁷ Norma Margulies, *We Need an Audit of the TJ Partnership Fund*, The Fairfax Times, (Apr. 29, 2022), perma.cc/RV72-DQN4 (emphasis added).

fulfilled by the creation of new schools thousands of miles away from Alexandria, Virginia.

Inaccurate reporting and improper use of public funds. 26 U.S.C. §6033 requires tax-exempt organizations to file accurate and complete annual returns via Form 990. If the Fund's \$3.6 million in revenue from the three Chinese entities should have been treated as taxable business revenue or was otherwise inconsistent with the Fund's charitable purposes, as outlined above, then the Fund's repeated characterizations of this revenue as non-taxable charitable contributions provoke significant concern about the Fund's compliance with Section 6033. Tax-exempt organizations also may not use resources provided by another entity in a manner inconsistent with their exempt purposes. *See* 26 C.F.R. §1.501(c)(3)-1(d)(1)(ii). If the IRS concludes that the Fund illicitly used its nonprofit status as a pass-through for TJ's business transactions with Chinese government entities (such as the sale of TJ's intellectual property), then the Fund's use of TJ's resources in furtherance of those activities may run afoul of §1.501(c)(3)-1.

* * *

For these reasons, Defending Education respectfully asks the IRS to open an investigation into the activities and tax-exempt status of the Thomas Jefferson High School for Science and Technology Partnership Fund.

Sincerely,



Nicole Neily
President
Defending Education

Exhibit A

From: Courtney, Samantha [REDACTED]
Sent: Wednesday, January 10, 2018 1:32 PM EST
To: St John, Pamela [REDACTED]; Love, Cathie [REDACTED]; Collins, Brenda L. [REDACTED]
CC: Bonitatibus, Ann N [REDACTED]; Ritt, Jane [REDACTED]; Kinis, Aristia [REDACTED]
Subject: RE: HR8: Fareed ('Reed) Sayed

Hi Pam,

Yes, he is a volunteer here at TJ.

Thank you!
Sam

Samantha Courtney

[REDACTED]
Office: 703.750.8318

From: St John, Pamela
Sent: Wednesday, January 10, 2018 1:28 PM
To: Love, Cathie [REDACTED]; Collins, Brenda L. [REDACTED]
CC: Bonitatibus, Ann N [REDACTED]; Ritt, Jane [REDACTED]; Kinis, Aristia [REDACTED]; Courtney, Samantha [REDACTED]
Subject: RE: HR8: Fareed ('Reed) Sayed

Is this a volunteer?

Pam St John
Talent Acquisition & Management Specialist
Department of Human Resources
Fairfax County Public Schools
[REDACTED]
Fax 571-423-5001

From: Love, Cathie
Sent: Wednesday, January 10, 2018 1:23 PM
To: St John, Pamela; Collins, Brenda L.
Cc: Bonitatibus, Ann N; Ritt, Jane; Kinis, Aristia; Courtney, Samantha
Subject: FW: HR8: Fareed ('Reed) Sayed

This HR8 is for a finance person who will be working in the Partnership Fund office at TJ. They would appreciate if he could start next week.

Cathie Love
Admin. Asst. to Dr. Ann N. Bonitatibus, Principal
Thomas Jefferson High School for
Science and Technology
6560 Braddock Rd., Alexandria, VA 22312
[REDACTED]
www.tjhsst.edu

From: Ritt, Jane
Sent: Wednesday, January 10, 2018 1:01 PM
To: Love, Cathie [REDACTED]
Subject: HR8: Fareed ('Reed) Sayed

Hi Cathie,

The TJPF has found a new applicant for our full-time Staff Accountant and Financial Analyst position. Will you please submit the paperwork to have him fingerprinted with the County? We hope to have in the office by next week if possible.

His contact information is:

Fareed Sayed
Mobile Phone: [REDACTED]
Email [REDACTED]
Title: TJPF Staff Accountant and Financial Analyst

Thank you!

Best,
Jane

Jane Ritt
Thomas Jefferson Partnership Fund
STEM Outreach and Administrative Coordinator
Mobile: [REDACTED]
Office: [703-750-8317](tel:703-750-8317)

Exhibit B

From: Love, Cathie <[REDACTED]>
Sent: Monday, August 14, 2017 12:26 PM EDT
To: Grosicki, Gary J. [REDACTED]
Subject: RE: Two volunteer HR8s

[My pleasure](#)

From: Grosicki, Gary J.
Sent: Monday, August 14, 2017 12:26 PM
To: Love, Cathie [REDACTED] >
Subject: RE: Two volunteer HR8s

[Thanks Cathie](#)

From: Love, Cathie
Sent: Monday, August 14, 2017 10:49 AM
To: St John, Pamela; Collins, Brenda L.
Cc: Bonitatibus, Ann N; Grosicki, Gary J.
Subject: Two volunteer HR8s

These HR8s are for the Partnership Fund Board members.

Natalie Givans is a renewal. She was, and may still be a volunteer for JLC, but is now the PF Board Chair.

Miguel Browne is the PF Board Vice Chair.

Cathie Love
Admin. Asst. to Dr. Ann N. Bonitatibus, Principal
Thomas Jefferson High School for
Science and Technology
6560 Braddock Rd., Alexandria, VA 22312
[REDACTED]; fax 703-750-5036
www.tjhsst.edu

From: Courtney, Samantha <[REDACTED]>
Sent: Monday, August 14, 2017 1:47 PM EDT
To: Love, Cathie <[REDACTED]>; Grosicki, Gary J. <[REDACTED]>
CC: Kinis, Aristia <[REDACTED]>
Subject: RE: Two volunteer HR8s

Thank you, Cathie!

Best,
Sam

Samantha S. Courtney
TJ Partnership Fund // Campaign for TJ
Thomas Jefferson High School for Science & Technology
Mobile [REDACTED]
Office: 703.750.8317

From: Love, Cathie
Sent: Monday, August 14, 2017 1:12 PM
To: Grosicki, Gary J. <[REDACTED]>; Courtney, Samantha <[REDACTED]>
Subject: FW: Two volunteer HR8s

From: Collins, Brenda L.
Sent: Monday, August 14, 2017 1:06 PM
To: Love, Cathie <[REDACTED]>
Cc: Bonitatibus, Ann N. <[REDACTED]>; Grosicki, Gary J. <[REDACTED]>; St John, Pamela <[REDACTED]>
Subject: RE: Two volunteer HR8s

Good afternoon:

Please expect updated badge from client services for Natalie Givans within seven business days.

Volunteer information emailed to Miquel Browne. After fingerprint and background clears you will receive the badge.

Brenda Collins
Business Operations Assistant
HR Talent Acquisition & Management - Support Employment
Fairfax County Public Schools
[REDACTED] Fax: (571) 423-5014
8115 Gatehouse Road
Falls Church, VA 22042
www.fcps.edu



From: Love, Cathie
Sent: Monday, August 14, 2017 10:49 AM
To: St John, Pamela; Collins, Brenda L.
Cc: Bonitatibus, Ann N; Grosicki, Gary J.
Subject: Two volunteer HR8s

These HR8s are for the Partnership Fund Board members.

Natalie Givans is a renewal. She was, and may still be a volunteer for JLC, but is now the PF Board Chair.

Miguel Browne is the PF Board Vice Chair.

Cathie Love
Admin. Asst. to Dr. Ann N. Bonitatibus, Principal
Thomas Jefferson High School for
Science and Technology
6560 Braddock Rd., Alexandria, VA 22312
[REDACTED] fax 703-750-5036
www.tjhsst.edu

Exhibit C

From: Marilena Barletta <[REDACTED]>
Sent: Wednesday, May 16, 2018 11:43 AM EDT
To: Bonitatibus, Ann N <[REDACTED]>
CC: Natalie Givans <[REDACTED]>, Kinis, Aristia <[REDACTED]>, Zabel, Sally <[REDACTED]>
Subject: Re: tjSTAR VIP Invites

Of course, I understand. I believe the PF should be able to pull the names and contact info together for you. I am not sure we have access to the actual invite sent to VIPs, but I can forward last year's invite to parents as I think the language might be helpful. Also, we need to make sure parking is restricted in the visitor lot for VIPs and Volunteers only. I will forward that email shortly.
Marilena

Marilena Barletta

Personal Contact Information

Sent from my iPhone

On May 16, 2018, at 11:33 AM, Bonitatibus, Ann N <[REDACTED]> wrote:

Thanks, Marilena.

No, this task was not on my radar- falls into the Year One category of not knowing what I don't know about past practice. Cathie is out most likely for the rest of the year. Does the PF office have a list handy with the dignitaries and/or a sample of the invitation sent? I will also reach out to Cathie to see if she can access anything,

Personnel

Ann

Ann N. Bonitatibus, Ed.D.
Principal
Thomas Jefferson High School
for Science and Technology
6560 Braddock Road
Alexandria, VA 22312
703-759-8300

From: Marilena Barletta <[REDACTED]>
Sent: Wednesday, May 16, 2018 11:22 AM
To: Bonitatibus, Ann N
Cc: Natalie Givans; Kinis, Aristia; Zabel, Sally
Subject: tjSTAR VIP Invites

Hi Ann,

In past years, we have invited FCPS officials and school board members, as well as the equivalent officials from Arlington, Falls Church, Loudoun and Prince Williams counties to tjSTAR (the actual day symposium, not reception). Evan (with Cathie Love's help) handled sending the invitations in the past. I am not sure if you have this on your radar, but I wanted to make sure that you knew about this, and if you needed help to offer that in whatever manner you need. For obvious reasons, I think it is important to invite these individuals, so again if you need help let me, Tia or Sally know (they are cc'd here).

Thanks,
Marilena

Marilena Barletta

Personal Contact Information

Exhibit D

From: Grosicki, Gary J. <[REDACTED]>
Sent: Saturday, February 18, 2017 10:48 AM EST
To: Zabel, Sally <s[REDACTED]>
CC: Kosatka, Brandon [REDACTED]; Kinis, Aristia [REDACTED]>
Subject: RE: Gifts from TUHS in your mailbox

Thank you Sally. As per usual, you did a great job! We are lucky to have you working on behalf of the school and our students.

Gary

From: Kosatka, Brandon
Sent: Saturday, February 18, 2017 10:24 AM
To: Zabel, Sally [REDACTED]
Cc: Grosicki, Gary J. [REDACTED]>
Subject: RE: Gifts from TUHS in your mailbox

Thank you so much!

Honestly, no thanks are needed – I just hope that I was able to answer any last-minute questions they had...

Until next time,

BK

Brandon Kosatka, Director of Student Services
Thomas Jefferson HS for Science and Technology
6560 Braddock Road Alexandria, Virginia 22312
[REDACTED] 7 [REDACTED] [REDACTED] <http://www.tjhsst.edu/studentservices/>

From: Zabel, Sally
Sent: Friday, February 17, 2017 3:41 PM
To: Luo, Xuan; Behling, Clinton J.; Burnett, Mary Susan; Piccione, Michael; Grosicki, Gary J.; Kosatka, Brandon; Torbert, Shane M; Zacharias, John; Gravitte, Pamela A.; Holman, Aubrie; Kosek, Paul C.; Bell, David P; DelaCuesta, Charles M.; Lampazzi, Alfred; Dell, John C; Kennedy, Brian J.; Wu, Lisa L; Cobb, Andrea D; Culbertson, Rob; Seyler, Jared; Del Cerro, Sonia; Forbes, Duncan; Scholla, Stephen; Frank, Shawn J; Galanos, Ria
Cc: Kinis, Aristia; Courtney, Samantha
Subject: Gifts from TUHS in your mailbox

Hi everyone,

I left small thank you gifts from our visiting educators from Tsinghua University High School in your mailboxes. They all wanted to thank you for your hospitality as well as letting them ask questions and sit in on your classes!

Sally

Sally Zabel
TJ Partnership Fund // Campaign for TJ
Thomas Jefferson High School for Science & Technology
[REDACTED] (office)
[REDACTED] (mobile)

Exhibit E

From: Kinis, Aristia
Sent: Wednesday, November 19, 2014 5:14 PM EST
To: Hannum, Mark <[REDACTED]>
CC: Courtney, Samantha <[REDACTED]>
Subject: TJPF opportunities: Overview of February + Summer Options

Mark,

Following up on our discussion from earlier today, here is what I know, what I guess, and what I think (some educated combination of all three) regarding Tsinghua's February visit to TJ and the scope of summer opportunities that the PF would like to fund and/or collaborate .

February Visit

- **Background:** TJPF signed an agreement with Tsinghua University and Tsinghua University High School last June that outlined a \$1.2 MM donation by Tsinghua to the TJPF over four years. The first installment (\$300K) was paid last June, making them the largest campaign donor to date. The agreement made clear (with much input from lawyers) that the TJPF cannot legally contract on behalf of TJ or FCPS or FCPS staff. The agreement did not promise or guarantee anything (with much input from lawyers) but instead indicated that TJPF would try, to the best of its abilities to facilitate a cooperative relationship between Tsinghua and TJ that would be mutually beneficial to both groups, including "making best efforts to arrange visits (both to our campus and to theirs) and to facilitate sharing TJ practices and experience and philosophy. They want to establish and grow a long term relationship with TJ and ultimately, as their students advance, they hope that our students and their might learn from one another. In the meantime, they'd like to learn, if possible, from our faculty, educators and administrators.
- **Logistics:** It's not definitive, but Tsinghua is targeted a 10-day trip in early February. Roughly Feb 2- 10. They are likely to be a group of 6. I have made it clear that we (ie the PF and the TJ school staff) are not hosting in homes or not responsible for logistical things like transportation. At one point that was raised in an LD meeting, so I want to reiterate that's not the nature of the visit. They will likely be a group of 6 altogether.
- **Purpose:**
 - Visit (tour) labs, observe the work, and interact with LDs to learn and establish initial relationships that could eventually be continued via Skype, etc. They are most interested in the following areas: Astronomy & Astrophysics, Automation & Robotics, Computer Systems, Mobile & Web Application Development and Prototyping & Engineering Materials but they are 100% open to our recommendations, availability, bandwidth, and interest.
 - Learn about our research "program"how are students conducting research, how do we facilitate and encourage inquiry, experimentation, etc.
 - Learn about what makes for a good physical lab...lab design and equipment considerations
- **LD role and opportunity:** The PF would like to create paid opportunities during non-contract time (1-2 hours after school at school (or nearby) in a conference room, some (2-3) mid/upscale "dinners" that are both social and content driven, and then over the weekend) for LDs (and perhaps other select staff) to prepare brief "presentations" (or free associate in front of a white board) about TJ's model, their lab, or how they guide good student research, as well Q&A sessions. That said, to be clear, there will be some visiting and observation that occurs during the school day (similar to how we accommodate other groups) but we will limit disruption on teaching/learning and try our best to accommodate opt-out and any concerns over inconvenience, etc.

Summer Opportunities

1. **Student Research Institute** (HS level not MSTI). Paid opportunity for LDs. Roughly 4 weeks in July for students (TJers, FCPS and other regional county students, and some select international students) to conduct research under the supervision and guidance and teachings of our educators, in the new lab facilities.
2. **One- Two week trip International Trip** (China or potentially another region, depending how things shake out with UAE, India, etc). Paid opportunity for LDs and some select other staff. Paid salary and travel expenses. Visit Tsinghua (or other PF donor/ partner) observe, answer questions, some presentations (I'll do my best to limit that). I envision this timing wise to be directly at the end of our academic calendar, before July 4.
3. **Remote "consulting" to provide professional training and be helpful to outside educators**. Paid opportunities for LDs.
 - a. Run min-workshops (one -two hour sessions, maybe a handful over a few days, or scattered over a few weeks) either on our campus or via telepresence (from one's couch or vacation local) on a variety of topics related to TJ's model, the labs, student research. The target audience would be other educators who want to learn more about our model (some would be Chinese /International partners, but some may be US based entities—I've heard interest expressed from groups in California, Texas, etc)
 - b. Create some thought pieces or deliverables. I need to do more legal due diligence on this one in particular, but some "materials" that provide recommendations and advice on a variety of topics that I've mentioned throughout this email.
 - c. (Related to this #3 overall, I could potentially see some opportunities between February and the summer, if people are interested in some "consulting" gigs over the weekends or at night. IE- if someone makes a good connection with one of the Tsinghua visitors and wants to do a few Skype conversations, the PF would pay them to develop and grow the relationship).

If you have any questions shoot me an email or call my cell (202-403-4272). If you want to call me real time during

the meeting tomorrow, I'd be happy to weigh in on anything you and Tinell want to punt to me. (Also before is fine too, whenever you need something, don't hesitate).

If you or anyone else has any issues or concerns with any of this, I am happy to discuss and change things up. I haven't had the benefit of many conversations with Evan, Tinell, Lee Ann, or you to see if any of this is outrageous. To be clear, the PF is not trying to disrupt the school or inconvenience LDs, we're just trying our best to maximize revenue for the school based on our campaign needs and current group of interested donors and parties. I did my best to structure the most beneficial deal that was feasible, given the interest in the "marketplace" and the situation with FCPS. FCPS has been briefed, and Mark Skolnik and I have had multiple meetings with school board members and county reps (Chair Karen Bulova) to keep everybody in the loop and to ensure there is widespread awareness and support.

Best,
Tia

Aristia Kinis
Thomas Jefferson High School for Science and Technology
Partnership Fund // The Campaign for TJ
703-750-8317 (office)
[REDACTED] (mobile)
<http://tjpartnershipfund.org/>

Exhibit F

From: Kinis, Aristia
Sent: Monday, April 21, 2014 9:56 PM EDT
To: Glazer, Evan M. [REDACTED]
Subject: Re: PF agreements signed this week

Thanks for following up. I plan to keep you in the loop. No one has reached out to me about this yet.

I also have a google news alert for Tsinghua and nothing has come up yet regarding TJ.

Aristia Kinis
Thomas Jefferson High School for Science and Technology
Partnership Fund // The Campaign for TJ
[703-750-8317](tel:703-750-8317) (office)
[REDACTED] (mobile)
<http://tjpartnershipfund.org/>

On Apr 21, 2014, at 8:53 PM, "Glazer, Evan M." [REDACTED] wrote:

Tia,

Just following up. Did you obtain an inquiries/interest from TJ staff regarding my note?

Evan

Evan Glazer, Ph. D.
Principal, Thomas Jefferson High School for Science and Technology
web: www.tjhsst.edu
email: [REDACTED]
[REDACTED]

From: Glazer, Evan M.
Sent: Friday, April 18, 2014 2:36 PM
To: TJHSST Scitech TECHALL
Cc: Kinis, Aristia
Subject: PF agreements signed this week

Dear SciTech faculty,

I want to alert you this week (4/17 and 4/18), the Thomas Jefferson Partnership Fund (TJPF) signed agreements with the Ameson Foundation and Tsinghua University to provide professional development and support in their efforts to build STEM programs. The TJPF knows they cannot expect school staff to conduct any work during their FCPS contracted time beyond their normal duties. Hence, they plan to hire an additional staff member to coordinate these kinds of efforts, as well as contract TJ staff (current or retired) independently, particularly during the summer. Any professional development or extension programs created locally will also be available to the general public for a fee to cover workshop/course costs, so these agreements are not exclusive in nature.

Please direct any questions to Tia Kinis, Development Director of the TJPF (cc'd above).

Thanks,
Evan

Evan Glazer, Ph. D.
Principal, Thomas Jefferson High School for Science and Technology
web: www.tjhsst.edu
email: [REDACTED]
phone: [REDACTED]

Exhibit G

NEWSWORTHY

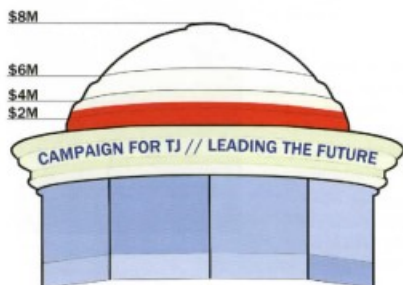
The Newsletter of the Thomas Jefferson High School for Science and Technology Partnership Fund, a non-profit foundation dedicated to supporting the unique learning opportunities available at TJ and maintaining the special relationship of alumni to the School

First Phase of Renovation Nears Completion

RENOVATION UPDATE Excitement is building in anticipation of the Big Move. It's expected that by mid-November, faculty, staff, and students will have moved into three brand-new areas: the Research Lab wing, the Chemistry and Geosystems wing, and the administrative wing that includes new student common areas. The iconic front entrance dome will also be completed (see more pictures at tjpartnershipfund.org.)

Construction crews worked all summer on the additions. Due to the heavy construction, all administrative offices were moved to the trailers adjacent to Weyanoke ES and visitors were asked to call in advance to ensure access to school grounds.

The 2014-2015 school year also promises to be a busy one for the construction crews, with the demolition of most of the building's interior. To allow school to continue uninterrupted, a total of 64 "learning cottages" will be in use at TJ, 20 of them in the Weyanoke ES area. In appreciation for everyone's terrific attitude as work goes on around them, Principal Glazer has arranged for a little treat. When the new drop-off area in the back of the building has been completed, TJ will add a much-anticipated amenity, food trucks.



CAMPAIGN UPDATE The Campaign for TJ, which is raising funds to fill new and renovated spaces with equipment, technology, and more, had an amazing 2013-2014 fiscal year. It passed the watershed \$2M mark at the end of May and received two major gifts in June when Cisco Systems pledged \$500,000 worth of technology (see page 3) and China's Tsinghua University made a \$300,000 donation (see page 8).

Individual giving for the year was impressive, with freshman parents contributing \$250,000; past parents, \$178,000; and grandparents and friends (including faculty and staff), \$33,000. Nearly 300 individuals – current and past parents, alumni, grandparents, and friends – pledged or donated \$1,000 or more.

This outpouring of generosity from the entire community made possible the single largest grant to the School, \$670,000,

which helped purchase equipment, technology, lab furniture, and fixture upgrades for the new Research Labs. After years of waiting, school leaders are beginning to see their dreams come true. Following the Partnership Fund-sponsored tjSTAR symposium and reception, both of which featured student research (see pages 2-3), Lee Ann Hennig, Astronomy Lab Director and Research Labs Chair, wrote:

"We are proud of our students' efforts and accomplishments and welcome opportunities that showcase their enthusiasm and interest. We are also grateful for the tremendous effort that the Partnership Fund has devoted to our students' experiences over the years and especially in the current Campaign to truly set our school on a unique track for excellence. We look forward to the newly renovated TJHSST and its amazing promise to enhance and continue our mission."

Exhibit H

THANK YOU TO OUR DONORS

*This list recognizes donors who contributed \$1,000 or more during FY18.

\$500,000+

Shirbie

\$100,000- \$500,000

Ameson Foundation

\$25,000-\$100,000

Yext

Northrop Grumman Corporation

Paul and Karen Misener

\$10,000-\$25,000

U.S. Department Of State

United Way of the National Capital Area

Natalie Givans and Bruce Anderson

Mantech International Corporation

\$5,000-\$10,000

Satish and Shuchi Satwah

Amazon.com

Babur and Tara Lateef

Fannie Mae

Grant Thornton LLP

Kenneth Hiltz '86

Sergiy Kyrychenko

Manganaro Midatlantic, LLC

Thomas Song '89

\$1,000- \$5,000

Heather Nester

CACI International Inc.

Phone2Action

Michael and Mary Jo Patterson

Lockheed Martin Corp.

David and Mary Godofsky

Jane Street LLC

Alan and Kusum Krishnan

Miguel Browne and Silvija Strikis

Educational & Charitable Funds Committee

Donald and Jean Bradley

Jordan Feil '98

Beth Finn '94

Albert and Enit Lulushi

Dinesh and Kanthi Kumar

Capital One Services

David Jacobson '98

Jennifer Stone '93

John Ahn and Lauren Kim

Monique Baroudi '92

Mapbox Inc

William and Jennifer Mead

SpaceX

Sonavi Chitko

James A. Rose, Jr. and Michele Fair

Melanie Kynard and Calyes Kynard II

Vandana Madhavan '94

Stephen and Raylene Rozzi

Ira and Cynthia Strassberg

Charles and Nancy Givans

Michael and Son Hui Greenwood

Chia and Alice Lee

Yan Yuan and Jason Wu

Manda Fang and Jin Lin

Naveen Meduri and Rathna Ethirajulu

Chintan and Shikha Dixit

Sara and Robert Clarke

Richard Huang '98

Jitong Li and Xiaochun Ji

Nhan Nguyen and Tiffany Ngo

Kyle Lamson '07

Qinhui Chang and Chunming Lu

Kooifun Ooi and Yeekion Yap

Aiqun Wang and Xiaodong Fu

Paul Cullen

Lawrence Yang and Motoko Shimizu

Benjamin Grosz '99

Jody and James Christensen

Appian Corporation

Kavitha Arora and Anuj Kumar

Trichur and Savitha Balakrishnan

Balsamiq Studios LLC

Wayne and Heather Berry

Blue Cloak, LLC

Logan Breed '95

Debbie and Alan Burkle

Justin Chiarodo '96

Kip Compton '90

Rhett Dillingham '96

Fidelity Charitable Gift Fund

Global Reconnaissance Technologies

Michael and Jennifer Gold

Jeff Grafton '04

Wayne Greeberg

Weijiang Gu and Jimei Xiao

Bruce and Catherine Haynes

Lillian and Jack Huang

Menyoung Lee '06

Seokho and Bohee Lee

Yuanzheng Ma and Juan Fu

Zhongping Mao and YueXing Fang

John and Eileen Miller

Satish Nagula '95

Manh and Thuy Nguyen

Robyn and Eric Nguyen

Jeremy Nightingale '95

Octo Consulting Group Inc

Michael Osleber '99

Sandhya and Sanjay Patil

Andrew and Elizabeth Pendergrass

Adele Peterson '99

Peter Phelps and Catherine Dragon

Emily Pitier '03

Laks and Padmaja Prabhala

Yeswanth and Aarti Shenoy

Sangchul Song and Hyesook Lee

Sam Sun and Sharon Peng

Maneera Tandon '95

Vanguard Charitable Endowment Program

Michael Westover '95

Brian and Karla Whalen

Hui Yu and Brant Wang

Ian Zuckerman '03

Exhibit I

From: Zabel, Sally [REDACTED] >
Sent: Friday, November 17, 2017 2:40 PM EST
To: Grosicki, Gary J. [REDACTED]
CC: Kinis, Aristia [REDACTED]
Subject: RE: STEM seminar - Beijing visitors

Hey Gary,

No problem at all.

Please let me know what the A-team says...and if they have further questions.

1. This is a group of 25 high-level STEM teachers from Beijing. The Beijing district knows that we work with Tsinghua University High School (also in Beijing) on visits and has asked if we could accommodate this group of teachers as a one-off. (This is not associated with or asked through our connections with TUHS – they just know we host this sort of thing because of that.) They are spending roughly 2 weeks in DC in late NOV and early DEC to visit different area schools and learn different STEM practices that they can employ.
2. They have said that they would make a donation to the TJPF for this seminar and time at TJ.
3. Benefits for this are:
 - a. The monetary donation (mentioned above)
 - b. Allows the TJPF to position itself as a host for seminars at TJ – meaning that we don't have to only have long-multi year contracts with international partners for donations to come in. We have the ability to work with smaller groups on a much smaller scale partnership (a few hours).
 - c. This also allows us to keep a good rapport with our educator and STEM colleagues in TX (the guy coordinating is the COO and CFO for Space Services Holding – Harvin Moore)

From: Grosicki, Gary J.
Sent: Friday, November 17, 2017 10:39 AM
To: Zabel, Sally [REDACTED] >
Subject: RE: STEM seminar - Beijing visitors

Hi Sally,

I will have to run it by the A team on Monday. Please let me know the following:

1. Who are they and who do they represent?
2. Are they current or potential benefactors to the TJPF?
3. What are the benefits to TJ and TJPF that may accrue from this visit moving forward?

Thank you.

Gary

From: Zabel, Sally
Sent: Friday, November 17, 2017 10:33 AM
To: Grosicki, Gary J.
Subject: STEM seminar - Beijing visitors

Hi Gary,

We have a group of 25 STEM educators from Beijing who are visiting the USA and would like to visit TJ during Nov 27-Dec 7. They would like to have a 2(ish) hour long seminar about how TJ teaches STEM education (I know its general, but they are looking for ways to improve their STEM education). I thought this was something that Mark or a Vice Principal could possibly lead, depending on his/her schedule.

I wanted to work with you first on this as for timing of this. Are there dates that this wouldn't work? Are there dates that this is better? Obviously, I would need to work with the teacher or Vice Principal who would lead this. But, I know TJ has weeks where its not good for visitors to come due to testing, etc.

Please let me know your thoughts. We would, of course, be willing to pay the teacher who leads the seminar for their time and effort they put into the planning and execution.

Sally Zabel
Thomas Jefferson High School for Science and Technology
Partnership Fund // The Campaign for TJ
Manager, Outreach and Partnerships
703-750-8316 (office)
[REDACTED] (mobile)
tjpartnershipfund.org

From: Grosicki, Gary J. [REDACTED] >
Sent: Friday, November 17, 2017 5:54 PM EST
To: Bonitatibus, Ann N <[REDACTED]>
Subject: Fw: STEM seminar - Beijing visitors

Hi Ann:

Please see below regarding a request for a "one of" visit by a large delegation.

I will put this on the Ateam agenda, but if you would prefer to discuss at a different time just let me know.

Thanks

Gary

Best Regards//

Gary Grosicki

Assistant Principal
Science and Technology Division
Class of 2019
Thomas Jefferson High School for Science and Technology

From: Zabel, Sally
Sent: Friday, November 17, 2017 2:40:16 PM
To: Grosicki, Gary J.
Cc: Kinis, Aristia
Subject: RE: STEM seminar - Beijing visitors

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No problem at all.

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Sally Zabel
Thomas Jefferson High School for Science and Technology
Partnership Fund // The Campaign for TJ
Manager, Outreach and Partnerships
703-750-8316 (office)
[REDACTED] (mobile)
tjpartnershipfund.org

Exhibit J

From: Glazer, Evan M. [REDACTED]
Sent: Wednesday, March 15, 2017 12:56 AM EDT
To: Grosicki, Gary J. [REDACTED] >
CC: Kosatka, Brandon <[REDACTED]>
Subject: RE: items needed for Ameson

Gary,

Please see my comments below.

Evan

Evan Glazer, Ph. D.
Principal, Thomas Jefferson High School for Science and Technology
web: www.tjhsst.edu
[REDACTED]
phone: [REDACTED]

From: Grosicki, Gary J.
Sent: Tuesday, March 14, 2017 11:27 AM
To: Glazer, Evan M.
Cc: Kosatka, Brandon
Subject: FW: items needed for Ameson

Hi Evan,

Please review the list and let me know that I have permission to share these items with the TJPF/Ameson.

Thank you.

Gary

From: Zabel, Sally
Sent: Monday, March 13, 2017 3:43 PM
To: Grosicki, Gary J. [REDACTED] >
Subject: items needed for Ameson

Hi Gary,

Ameson has made a request for all documents we can get them off a "front office" sort that they can use for setting up their school.

This would include:

Attendance policy – yes, this is part of SRR
Teacher evaluation – not sure, it's not on the public domain. We'd have to ask HR.
Student evaluation if they aren't doing well in a class(es) – not sure what this means
Teacher employee contracts/letters – I'd say no
Scheduling – for teachers and for students – not sure what they want – Brandon can provide heuristics
Enrollment/application for students – Brandon can provide
Teacher application – ask them to fill one out online, and they'll see it
Courses (list) – yes, see the course guide
Course calendar – not sure what that is
Diploma requirements – yes, ask Brandon
Grading Policies – sure
Student handbook/school handbook – yes, it's SRR, as well as the TJ faculty handbook
Administration handbook – we don't have one, maybe the TJ faculty handbook
Transcript example – yes, Brandon
Guidance office – what is offered, and intervention strategies -- Brandon
Report Card example – Brandon

Any other Administrative paperwork that you think would be important to pass along. – Check out the admin portal from the last couple of years. The only thing we can't share is info with teachers names, floor plans, and other specifics that would reveal confidential info about staff or students.

I can give you a thumb drive to put it on...or you can send me via Dropbox....whatever is easiest (just know too big of an email attachment crashes emails....)

Thanks!

Sally Zabel
TJ Partnership Fund // Campaign for TJ
Thomas Jefferson High School for Science & Technology
703-750-8316 (office)
[REDACTED] (mobile)

Exhibit K

Thomas Jefferson High School for Science and Technology

Dr. Brian Kennedy, Director, Chemical Analysis and Nanochemistry Research

Chemistry Programs and the Chemical Analysis and Nanochemistry Research Laboratory

- A. Curriculum and schedule for each grade
- B. Establishment, implementation, and evaluation process for each student's project
- C. Information on number of students for each team project and Information on how many projects are guided by the Chemistry Lab Director
- D. Information on how students are selected for the Chemistry Lab
- E. Information on how the Chemistry Lab Director provides targeted guidance for each project
- F. Chemistry Lab Management system.



A. Curriculum and schedule for each grade.

- Chemistry 1 – Grade 10 (or during Summer after 9th Grade)
- AP Chemistry – Grade 10 – 11
- Organic Chemistry – Grade 11 or 12
- Chemical Analysis and Nanochemistry Research – Grade 12.

Curriculum Overview:

Chemistry 1 Honors focuses on investigating the world of matter and energy through critical inquiry, problem solving, and research. Due to its enabling roles in fields from the life sciences and agriculture to engineering, materials science, and nanotechnology, chemistry is often regarded as the “central science.” This unique centrality is emphasized through class dialogue, activities, and laboratory experiments in which students observe and analyze chemical systems in order to bolster conceptual understanding. As fundamentals are developed, students continue to deepen their grasp of the molecular basis of macroscopic properties and phenomena and examine principles and questions of increasing complexity. Upon completion of first-year chemistry, students take the Chemistry SOL end-of-course test.

Advanced Placement Chemistry provides an opportunity for students to make a more comprehensive investigation of some aspects of chemistry than is normally possible in the first-year chemistry course. This college-level course is especially appropriate for students planning careers in chemistry, chemical engineering, or medical science. A lab fee may be required at the discretion of the teacher. Upon completion, students take the Advanced Placement Chemistry examination.

Advanced Placement Chemistry represents a full year (two semesters) of college chemistry. The purpose of this course is to prepare students to take the Advanced Placement examination, for which college credit and/or placement may be given if a qualifying score is achieved. Advanced Placement Chemistry is a second-year, laboratory-centered course that provides an opportunity for students to undertake a more comprehensive investigation of some aspects of chemistry than is usually possible in the first-year Chemistry 1 course. It is designed for students who have completed a core science curriculum and are now ready to pursue more advanced and specialized studies. All students are required to take the Advanced Placement exam.

Introduction to Organic Chemistry and Instrumental Analysis is designed for those students who plan to pursue careers in chemical sciences, biological sciences, engineering, or medicine. Students with interests in other sciences gain valuable experiences in dealing with sophisticated topics. The course is also designed to aid students in the development and generation of ideas for Senior Research. Topics include nomenclature, characterization, reactions, synthesis, selected topics related to biochemistry and applications of ChemBioDraw Ultra for molecular modeling. The students will also be exposed to the theory, operation and data interpretation of chemical instrumentation such as infrared and Raman spectroscopy, UV-Vis

spectroscopy, fluorescence, liquid and gas chromatography, refractometry, mass spectroscopy, and nuclear magnetic resonance spectroscopy. Approximately one-third the class time will be spent in the laboratory so students gain valuable hands-on experience.

Chemical Analysis and Nanochemistry Research provides students the opportunity to complete research projects of their own design. Research can take the form of Project-Based learning, design of novel research areas, or applications of chemistry to solve existing problems. This is an advanced study, college-level class where the primary goal of such advanced study will be for students to develop a deep conceptual understanding through research investigations. The Chemical Analysis Research Laboratory integrates many aspects of Chemistry, including Inorganic and Organic Synthesis and Characterization, chemical nanotechnology, utilization of instrumentation such as Fluorescence, Raman, Fourier Transform-Infrared Spectroscopy (FT-IR), Gas Chromatography, Ultraviolet and Visible Spectroscopy, as well as Instrumentation Development. Such skills and experiences are valuable for those interested in pursuing careers in the natural and physical sciences or areas such as medicine or engineering.

B. Establishment, implementation, and evaluation process for each student's project

The following are essential expectations and submission requirements for all students:

Every student in the Chemical Analysis Research Lab program must fulfill a number of requirements. Grades will be based upon the degree to which these are met and the quality of the work actually done. Each student will be required to:

- Maintain an individual Project Portfolio in a 3-ring binder (1.5"). Use this to compile all handouts, articles, student work, etc. as related to Senior Research. It should be very neat and organized with dividers and labels. Use a separate binder for course information, labs, and other assignments.
- Maintain an individual Technical Journal that is completed according to prescribed guidelines. Use a bound composition notebook.
- Prepare Progress Reports - periodic statements of accomplishments, goals and objectives, as requested.
- Perform Literature Searches of peer-reviewed scientific journals.
- Present seminars on the project and topics of special interest
- Prepare a Research Project Brief (individual) [Primarily the Summer Assignment.]
- Prepare a Research Proposal (individual or group of two)
- Complete Scientific Research (individual or group of two).
- Prepare Visual Displays using Microsoft Publisher, one-page color news style posters of your research.
- Adhere to all necessary Lab Safety and Chemical Hygiene issues.
- Write a Final, Technical Research Report (counts as Final Exam = 20% of grade)
- Prepare a final formal Presentation and Poster summarizing the research project.
- Participate in TJ STAR and Science Fair competitions, compete for Intel Awards, etc.

Students are evaluated in the following areas, several times per quarter:

- Research Progress
- Daily Preparedness and Use of Time
- Independence and Higher Level Thinking Skills
- Chemical Hygiene and Lab Safety
- Research Journal

C. Information on number of students for each team project and Information on how many projects are guided by the Chemistry Lab Director

The number of students has ranged from 25 – 50 per year over the past 15 years. In a given school year, 3-8 have been involved in off-campus research through the TJ Mentorship Program. For in-school research, students may elect to participate in a team project of two students, or do individual projects. Most commonly, students want to pursue their own interests and ideas so completed individual projects. So, in a given school year the number of projects may range from about twenty to up to forty.

D. Information on how students are selected for the Chemistry Lab

Students must complete AP Chemistry prior to being admitted to the lab, exceptions will not be made, and strongly recommended as a pre- or co-requisite the Organic Chemistry elective. Work on projects usually begins during the Junior year in the form of topic research and proposal writing. This enables adequate time for acquisition of materials and thorough development of ideas. Students must expect to begin literature searching, idea development and proposal writing prior to the start of their senior year. Since Chemistry overlaps with many science and technology areas, students are encouraged to collaborate with other technology labs in the development of their ideas and in the completion of projects.

Guidelines for Admission:

- 1) Approval by Lab Director for all components and pre- or co-requisite courses.
- 2) Submission of preliminary proposal in accord with Research Lab requirements (see separate handout).
- 3) Acceptance of preliminary proposal in terms of viability, resource availability, etc. Students must be certain that TJHSST has the equipment needed for proposed research. Limited funding may be available for basic supplies and chemicals.
- 4) Completion of preliminary proposal over the summer, due in late-August.

TJHSST has the following equipment that students can consider to be used to develop projects and experiments:

- Ultraviolet-Visible Spectroscopy (UV/Vis and Spec 20's)
- Infrared Spectroscopy (FT-IR)
- Refractometry (mainly used to measure refractive index of pure liquids)
- Micro- and Macro-scale inorganic/organic synthesis and characterization methods
- Fluorometry (fluorescence techniques)
- Raman Spectroscopy
- Electrochemistry (simple eg., pH)
- Gas chromatography/mass spectrometry (requires advance completion of Organic elective)

- Liquid chromatography (requires advance completion of Organic elective)

E. Information on how the Chemistry Lab Director provides targeted guidance for each project.

The following is a summary timeline of events for students:

- 1) Term 1 – Project Development and Introduction to Advance Laboratory Techniques
 - a) Develop project ideas and Research Proposal
 - b) Introductory Analytical Chemistry Laboratory Experiments:
 - (1) Measurement of Iron in Vitamin Tablets by Visible Spectroscopy
 - (2) Synthesis and Characterization of an Inorganic Nickel Coordination Complex
 - (3) Physical Properties and Analysis of Organic Molecules
 - (4) Infrared Spectroscopy (sampling methods for solids and liquids)
 - (5) Determination of Riboflavin using Fluorescence spectroscopy
 - (6) Microscale Synthesis of Isopentyl Acetate and Analysis Using Infrared Spectroscopy
 - c) Group presentation of major instrumentation theory and interpretation of data
- 2) Term II – Project Proposal Action Plans and Begin Research
 - a) Final development of Group Project Proposals
 - b) Ordering of materials
 - c) Development of Student Newsletter depicting research project using Microsoft Publisher
 - d) Begin Research
 - e) Apply for Science Fairs and Awards programs (Intel Science, Siemens-Westinghouse, etc.)
- 3) Term III – Continue and complete research
 - a) Research Project Completion
 - b) Presentation of Research Project Results (Powerpoint,)
 - c) Competition in local, regional, state science fairs
 - d) Writing of Final Research Report
- 4) Term IV – Final Research and Project Sharing
 - a) Finalize Research lab work
 - b) Complete and Submit Final Research Report (= Final Exam so counts as 20% of Final Grade)

- c) Develop Final Research Project into 80 minute mini-lab for implementation in either Chemistry I or AP Chemistry (could also be two 80-minute portions)
- d) Exchange and completion of other group mini-labs

e) Final Presentations and Research Symposium

Chemical Analysis and Nanochemistry Senior Research at TJHSST is a culminating educational experience for seniors. It is a culminating senior research experience in that students will have already completed coursework to include Honors Chemistry, AP Chemistry, and Introduction to Organic Chemistry with Instrumental Analysis. As classmates within the Senior Research course students are challenged to work in collaboration with their peers to develop and complete an innovative chemistry-based research project.

Sample projects include areas related to nanochemistry, chemical sensor development, water and soil remediation, green chemistry, polymers and organic synthesis, inorganic synthesis, and a variety of instrumentation-based applications. A unique opportunity for current students involves the development of a comprehensive air quality monitoring program for our school while it is undergoing extensive renovations over the next four years.

Recent and current projects:

- Development of low-cost, highly efficient quantum dot dye-sensitized solar cells.
- Synthesis and degradation of biodegradable polymers.
- Fabrication of permeable reactive barriers for groundwater remediation.
- Green synthesis of gold, silver, and copper nanoparticles.
- Alternative cathodic electron receivers in microbial fuel cells.
- Synthesis, analysis, and measurement of antioxidative effects for natural food protection.
- Anodic wave voltammetry for lead analysis in river sediment.
- Indoor air quality monitoring: CO₂, CO, moisture, particulates, and mold.
- Using lightsticks and luminescent measurements to evaluate antioxidant effects.
- Development of Raman and SERS Techniques for Pigment Sample Analysis
- Green Synthesis and Fluorescence Analysis of Coumarins
- Optimizing Cyclodextrin-Based Metal Organic Frameworks for Carbon Dioxide Adsorption Efficacy
- Synthesis and Characterization of Iodinated Trispyrazolylborates and Their Complexes
- Synthesizing γ -Al₂O₃ to Adsorb Heavy Metal Ions from Solution
- Exploring the Correlation Between Mineral Deficiency in Honey and the Prevalence of CCD in the Region

F. Chemistry Lab Management system.

Figure 1 provides a floor plan layout for the Chemistry Research Lab. In general, the design for the layout was developed to provide specific areas for each of the following:

- 1) Student Lab Bench and Research area space, which includes drawers for storage of materials, glassware, and student safety apparel (goggles, gloves, aprons).
- 2) Instrument placement – benchtop space designed to be 36” deep to allow for more instrument space.
- 3) General storage of extra materials and equipment (e.g., beakers, flasks, cuvettes, pipets, tubing, electronics, etc.).
- 4) Special Project Rooms: Designed to house specific equipment and future equipment or student interests. Project Room 1 currently contains laser spectroscopy equipment while Project Room 2 contains the Raman Spectrometer. Such rooms were designed to provide isolated space for such equipment.
- 5) Chemical Storage and Preparation Room: Designed to store all chemicals and student project materials. Room also contains lab refrigerator/freezer, deionized water maker, and laboratory dishwasher, and has additional space for storage of bulk materials and labware.
- 6) Chemical Inventory: Updated several times per year according to county guidelines and regulations. No one is allowed to purchase chemicals that are not approved by Fairfax County Public Schools, although special permissions may be requested. Prohibited items include carcinogens, toxins, etc. that may provide immediate or long-term health issues.
- 7) Lab Safety Equipment - the following items are standard in all lab rooms:
 - a. Eyewash Stations.
 - b. Safety Shower
 - c. Fire Blanket
 - d. Fire Extinguisher
 - e. Gas Shutoff.

While working in the lab students are expected to first put on their safety apparel that is to remain on while obtaining project bins from the Chemical Storage Room, and stay on until they are ready to leave the lab area. Detailed Lab Safety Rules are provided in Table 1.



Security - Critical Infrastructure

Figure 1. Layout of Chemical Analysis Research Laboratory.

Table 1. Detailed Lab Safety Rules.

Science is a laboratory class that conducts hands-on investigations. You will be doing many laboratory investigations that require the use of potentially hazardous chemicals, materials, and equipment. Safety in the science classroom is the #1 priority for students, teachers, and parents. To ensure a safe science classroom, a list of rules has been provided to you in this student safety contract. These rules must be followed at all times. Two copies of the contract are provided. [Adapted from Flinn Scientific Student Safety Contract 2015 with permission. FCPS August, 2016].

General

1. Follow all instructions and directions carefully. Read all labels and equipment instructions before conducting investigations in the lab.
2. Act responsibly in the lab at all times. Do not roughhouse or joke around in the lab.
3. No eating or drinking in the lab.
4. Never work unsupervised in the lab.
5. Do not touch any lab equipment or materials until you have been instructed to do so.
6. Unauthorized experiments are not permitted. Do not alter your lab procedure without the approval of your teacher.
7. Keep your lab area clean and clutter free before, during, and after an investigation.
8. Avoid touching your eyes, nose, or mouth when conducting an investigation in the lab.
9. Know the location and procedure for operating all safety equipment in the lab.
10. Notify your teacher if you notice anything that may be unsafe.
11. Handle all lab waste material as instructed.
12. Wash hands with soap and water before leaving the lab when appropriate.
13. Do not go in the lab prep room or storage room without your teacher's permission.
14. Know the lab procedure for fire drills or other lab interruptions: turn heating elements off, close all containers, and shut off gas.
15. Be careful when using sharp objects in the lab. Always carry sharp objects by the handle with the sharp end pointing away from yourself and others.
16. Inform your teacher about any medical condition(s) that may affect your ability to work in the lab. Always check with your physician about working in the lab if you have a medical condition.

Clothing and Personal Protective Equipment

17. Goggles must be worn at all times when working with chemicals, heat, and glassware. Appropriate dress is required for participation in lab activities (see below).
18. Lab aprons are provided and should be used for investigations in the lab involving chemicals, dissections, biological agents, and heat.

Accidents and Injuries

19. Promptly report ALL accidents, injuries, and spills to your teacher.

Handling Chemicals

20. Long hair, loose clothing, and jewelry should be pulled back. Closed-toe shoes are required.
21. A fume hood must be used for chemicals that need ventilation.

22. When cleaning up after a lab:
 - a. Clean your lab station.
 - b. Handle waste chemicals as instructed.
 - c. Wash hands with soap and water.
23. Do not touch or taste any chemicals. If instructed to smell chemicals, waft the vapors from a container. Do not directly smell chemicals from any container.
24. Only use a rubber bulb or pipette pump to fill a pipette. Never use your mouth.
25. View test tube contents from the side, not above. Follow your teacher-demonstrated technique for mixing chemicals in a test tube.
26. Spills must be cleaned up appropriately. In case of a spill, report it to your teacher immediately.
27. Acids and bases should be handled with caution. When diluting an acid, always add the acid to the water.
28. In case of injury, notify your teacher.
29. If a chemical gets on your skin, rinse it with water.
30. If a chemical is splashed into your eyes, flush your eyes in the eyewash station for 20 minutes. If wearing contact lenses, remove them as soon as possible.

Handling Glassware

31. Always check glassware for cracks or chips before use. Never use damaged glassware.
32. Report any broken or cracked glassware to your teacher. Broken glass should be disposed of as instructed.

Heating and Using an Open Flame

33. Long hair, loose clothing, and jewelry should be pulled back before using heat or open flames.
34. Never leave an open flame or anything being heated unattended.
35. Stay focused and attentive at all times when using an open flame. Never reach over an open flame.
36. When heating a test tube, use a test tube clamp and always point the open end of the test tube away from yourself and others.
37. Do not heat flammable liquids with an open flame. Never dispense flammable liquids anywhere near an open flame or heat source.
38. Glassware and metal stay hot long after heating and look the same as cool equipment. Set them aside to cool on an insulated surface before handling.
39. When using a hot plate, do not touch the heating surface.
40. Unplug the hot plate when finished and set aside to cool.
41. In case of injury from heat, notify your teacher.
 - a. Cool burns by placing the affected area under cold water.

Handling Electrical and Other Equipment

42. Always use the plug - not the cord - to remove an electrical plug from the socket. Be sure that your hands are dry when touching an electrical switch, plug or wall socket.
43. Visually inspect equipment before plugging it into a wall socket. Never use equipment with frayed wires, exposed wires, or loose connections.
44. Report damaged equipment immediately to your teacher.
45. Discharge electrostatic equipment only as instructed.
46. Beware of sharp edges on all lab equipment and use care in working with these

objects.

47. Handle heavy objects carefully at all times.

48. Never look directly into a laser or point a laser at a person.

Handling Biological Material

49. Slide and petri dish preparation require the use of goggles. Goggles may be temporarily removed when viewing specimens through microscopes, but should be worn at all other times when working with biological agents.

50. Gloves are required to be worn when using preserved specimens.

51. Clean all work surfaces and wash your hands with soap and water after performing experiments involving preserved or live specimens or bacteria.

52. All biological materials should be disposed of as instructed.

Student Agreement:

I agree to follow all of the safety rules of this contract. I realize that I am responsible for following these rules to ensure my own safety and the safety of others. I will work with my teacher and classmates to maintain a safe lab environment. I will follow the oral and written instructions provided by my teacher. I am aware that any violation of this safety contract that results in unsafe lab conditions will warrant disciplinary actions, including but not limited to: being removed from the lab, detention, suspension, and/or expulsion.

Printed Student Name: _____

Student Signature: _____

Date: _____

Parent/Guardian Agreement:

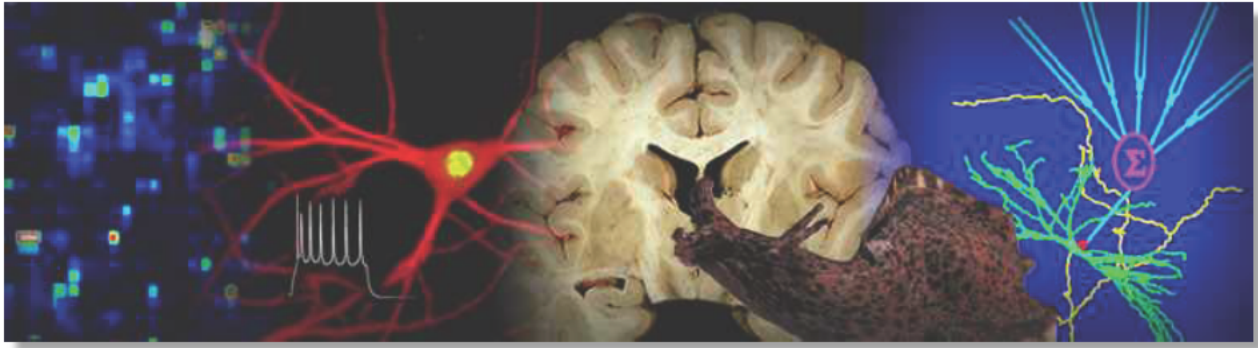
I have read the safety rules of this contract and I am aware of measures taken to provide a safe lab environment for my child. I will direct my child to uphold this agreement and follow these rules in the lab.

Printed Parent/Guardian Name: _____

Parent/Guardian Signature: _____ Date: _____

Exhibit L

School Year | 2015



NEUROSCIENCE RESEARCH LAB

STUDENT HANDBOOK

MARK HANNUM, DIRECTOR



Thomas Jefferson High School for Science and Technology

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Introduction

Welcome to the Thomas Jefferson High School for Science and Technology Neuroscience Research Laboratory! Your semester working in the lab is going to be a dynamic and interactive learning experience that confers a strong background in the fundamentals of basic neuroscience, experimental design, and the personal dispositions of scientists.

Neuroscience, as a field, is focused on understanding the brain, central nervous system, and how these amazingly complex systems develop. Neuroscientists seek to understand the impact of the brain on behavior and cognitive functions, as well as the implications and causes of neurological, psychiatric, and neurodevelopment disorders. In its early days Neuroscience was considered a sub-discipline of Biology, however as the field has matured, it has become its own stand-alone interdisciplinary science that combines other disciplines such as mathematics, linguistics, engineering, computer science, chemistry, physics, and psychology. It is into these subjects in which you are about to embark.

The goal of all of the senior research labs at TJHSST is to provide students with an opportunity to experience “real” science. To do this you will have to continue to work towards a mastery of the core knowledge base and intellectual foundations of Neuroscience including its basic principles and research approaches. You will be asked to develop your own research project, manage its progress, and develop a level of competence in the operation, interpretation, and evaluation of research. You will have to become a flexible, adaptive thinker and make use of the critical thinking skills you have developed over time. You will learn that the scientific endeavor does not end with the experiment, and that scientific discoveries that aren’t communicated, were never done. Consequently, you will be asked to develop the professional communication and technology skills of a researcher. It is also an expected outcome of your experience in the laboratory that through the development of all of these skills and dispositions you will gain personal insight into a career choice, be it in the field of Neuroscience, or in the wider areas of Science, Technology, Engineering, and Mathematics.

Your time in the TJHSST Neuroscience Lab should be exciting, difficult, rewarding, and fun. I look forward to working and growing with you this year.

A handwritten signature in black ink that reads "Mark S. Hannum". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Mark S. Hannum
Director, Neuroscience Research Laboratory

Daily Procedures and Expectations

Classroom Rules

- Lab Safety is always the first priority;
- Disrespectful behavior is not allowed. Respect yourself and others;
- Heed the teacher, not the clock – do not leave the lab at the end of the day without checking with me first;
- Food is never allowed in the research portion of the lab. Food must be kept in the classroom section;
- Adhere to 8th period attendance policy.

Attendance

Regular attendance is required for success in any research endeavor. Because of the nature of the schedule in the Neuroscience lab it will be impossible for you to finish your project if you miss too many workdays. This includes 8th Periods. It is my expectation that you will be working in the lab *most* 8th periods. If you need to speak to another teacher or you would like to participate in another activity you must sign up for that activity in the 8th period system. If you are not in the lab, I will mark you absent and you will be subject to the normal school consequences.

Cleaning Up Supplies/Equipment

Each person is responsible for his or her own mess. Students will not be allowed to leave the room until all materials are put away. A short (and not comprehensive) end of class checklist may include:

- Turning off all electrical equipment such as amplifiers;
- Cleaning and putting away all glassware;
- Returning all chemicals to the storage cabinet;
- Putting all laptops back into cart and locking cart;
- Cleaning all forceps, scissors, and scalpels;
- Turn off compressed air supplies at the tank;
- Putting all chairs on tables.

General Weekly Schedule

Anchor Days

- Lab meeting time. Each group will share what they accomplished in the preceding week, and any difficulties they may have had during that time. They will present some solutions to these problems as well as what they are planning to do during the upcoming week;
- General lab cleaning;
- Proactive animal care;
- Making of solutions and equipment maintenance;
- Updating lab notebook if necessary.

Red/Blue Days

- Actively conducting experimentation and/or analysis.

Lab Safety

Laboratory Safety is extremely important and must occupy your attention at all times. Your personal laboratory safety depends mostly on you! With good judgment, the chance of an accident in the lab is very small. However, research and teaching workplaces are full of potential hazards that can cause serious personal injury and/or damage to equipment. It is expected that each student will work in a responsible manner and exercise good judgment and common sense. If at any time you are not sure how to handle a particular situation, ask the lab director for advice. It is always better to ask questions than risk harm to yourself, others, or damage the equipment. Working alone and unsupervised in this lab is forbidden. The following are general guidelines for lab safety and although not comprehensive to all lab situations or projects, they do provide a general outline for safety protocols.

Emergency Response

- Notify the lab director immediately after any injury, fire, spill, or explosion;
- Know the location of the fire extinguisher and eye wash and know how to use them;
- Know the building evacuation procedures.

Important Emergency Contact Numbers (as dialed from Neuroscience Lab Phone)

Name	Phone Number
Mark Hannum Lab Director	9 -(202) 246 - 6692
TJ Security Office	8331 2031 2331
Ann Tipton Sci/Tech Office	8358
TJ Main Office	8300
EMS	9-911
National Poison Control Center	9-1-(800) 222 - 1222

Personal Safety

- Never eat or drink in the working area of the lab;
- Read labels carefully;
- Do not use any equipment unless you are trained and approved as a user by the lab director;
- Wear safety equipment such as gloves, glasses, or lab coats when using any hazardous or toxic agent.
- Closed toe shoes are required in the lab;
- If you have long hair or loose clothes, make sure it is tied back or confined;
- Clean up your work area before leaving for the day;
- Wash hands before leaving the lab and before eating.

Physical Safety

- Keep the work area clear of all materials except those needed for your work. Backpacks and other large objects must be kept in the hallway;

-
- When using compressed air use only approved nozzles and never direct the air towards any person;
 - Minimize the number of extension cords in use, and make sure that all extension cords that extend across aisle ways are taped securely to the floor;
 - When using power strips, keep them away from water tanks, or mounted make sure they are firmly attached to the walls. Only use power strips that have an internal fuse or surge protector.
 - Never modify, attach, or otherwise change any high voltage equipment.

Chemical Safety

- Treat every chemical as if it were hazardous;
- Make sure all chemicals are clearly and currently labeled with the substance name, concentration, date, and name of individual responsible for the substance;
- Never return chemicals to reagent bottles;
- Use volatile and flammable compounds only in a fume hood. Procedures that produce aerosols should be performed in a hood to prevent inhalation of hazardous materials;
- Never allow a solvent to come in contact with your skin. Always use gloves.
- Never smell a solvent!! Read the label;
- Dispose of waste and broken glassware in proper containers;
- Check glassware for cracks and chips each time you use it;
- Never pipette by mouth;
- Clean up spills immediately.

Biological Safety

- Dispose of all “sharps” in the proper containers;
- If you prick yourself with a syringe, or cut yourself with a cutting instrument notify the lab director immediately;
- Never use dull or damaged cutting instruments;
- Follow all established protocols for the care and handling of laboratory animals;
- Dispose of all biological waste including animal carcasses in a zip lock bag and place it in the appropriate freezer bin.

Visitors in the Neuroscience Lab

It is very common in all of the senior tech labs to periodically have visitors who are touring the building. Whomever is working nearest the door should greet them, introduce yourself, and then ask the visitor to introduce themselves. You can then direct them to me. Aside from being good hosts to all visitors it is important that we help all visitors to the lab, including other TJ students, understand and follow all of the safety procedures outlined in the preceding sections.

Substitute Teachers

On days that the lab director is out of the building a substitute teacher will oversee the lab. It is expected that normal lab activities would continue without interruption on these days. Any accidents or emergencies should be reported to the substitute as soon as they occur.

First Quarter in Lab

<i>Item</i>	<i>Percent of Grade</i>
Research Proposal (Including Gantt Chart)	
• Draft	20
• Final	
Electronics Quiz	10
Weekly Progress	
• Lab meeting participation	70
• Maintaining quality lab notebook	
• Keeping to stated research schedule and goals	

Second Quarter in Lab

<i>Item</i>	<i>Percent of Grade</i>
Weekly Progress	
• Lab meeting participation	40
• Maintaining quality lab notebook	
• Keeping to stated research schedule and goals	
Final Research Paper	20
Final Research Presentation	20
Final Research Poster	20

International Science and Engineering Fair

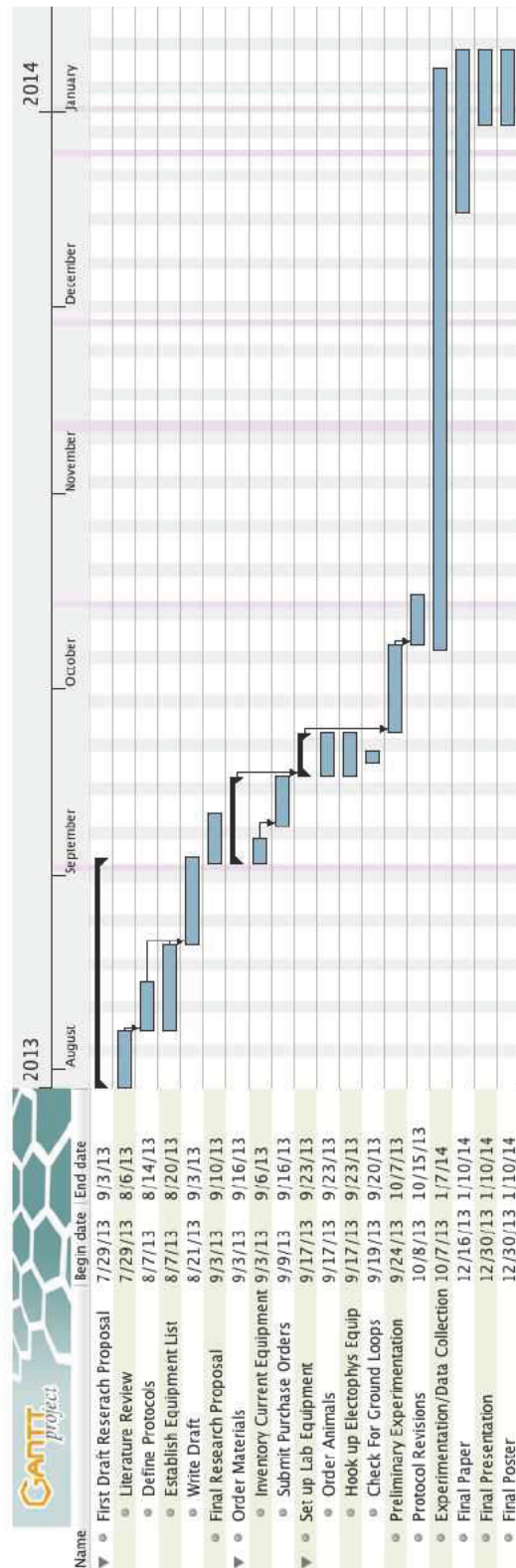
It is my expectation that all students working in the Neuroscience Lab during first semester will submit a project for the TJ Science and Engineering Fair. Unlike most senior tech lab students, your projects fit the timeline for submission to this fair very nicely and therefore there is no reason why you should not participate in this part of the scientific process.

All the necessary information and forms to participate in TJ Science and Engineering Fair can be found on the Science Fair link on Blackboard.

Timeline for Lab Work

Setting and keeping to a research timeline is one of the most important aspects of the scientific endeavor. As part of your initial research question submission you will be required to submit a preliminary Gantt chart that will lay out a timeline of events and due dates.

Sample Gantt Chart



This chart was made using *GanttProject*, which you can get for free at www.ganttproject.biz.

Appendix

The following pages contain guidelines for the deliverables for the Neuroscience tech lab. Please refer to these pages before any deliverables are due to make sure that you meet all the expectations of the assignment.

The most current versions of these guidelines can be found in the shared Dropbox.

Research Proposal Guidelines

The research proposal is intended to provide a framework for your research project. It should describe the research topic area (with background references), the specific problem you are addressing and the method you will use. Describe the significance of your research project, relative to the scientific community and/or within the Neuroscience lab. In particular, if your project continues work done by previous groups then provide a short description of their goals, methods, and results. Make clear how your work will advance the knowledge in this area.

<i>Item</i>	<i>Description</i>
Format	<ul style="list-style-type: none"> • Should not exceed 7 pages • Times New Roman • 12pt font • 1.5 line spacing • 1 inch margins • Title and author(s) name(s) in header of each page after first page • Page numbers in footer

Research Proposal Outline

<i>Item</i>	<i>Description</i>	<i>Length</i>
Title	<ul style="list-style-type: none"> • Title • Author name(s) • Date 	-
Introduction	<ul style="list-style-type: none"> • Background information on topic. • Overview of previous work in this area (especially if it was done in the TJ Neuroscience Lab. • Significance of the proposed research to the general scientific community or specifically the TJ Neuroscience Lab. 	1 - 2 paragraphs
Objective	<ul style="list-style-type: none"> • Short description of the goal of the project • A clear statement of your hypothesis 	1 – 2 sentences
Research Plan	<ul style="list-style-type: none"> • Describe methods to meet goals of the project • Include description of equipment and procedures 	2 – 5 paragraphs
Experimental Design	<ul style="list-style-type: none"> • A very concise statement of your independent variable, dependent variable, levels, and any statistical tests you will use to measure significance. A table is a good way to show all of this. 	
Timeline and Long Term Planning	<ul style="list-style-type: none"> • Gantt Chart 	Chart
Conclusions	<ul style="list-style-type: none"> • Restate goals and how you are going to achieve them. 	1 – 2 sentences
References	<ul style="list-style-type: none"> • Given in alphabetical order according to surname of first author. • Cannot be Internet sites, although you should/can list those you used to locate major ideas or concepts. • Follow format described in <i>References Guide</i> below. 	< 1 page

Maintaining Laboratory Notebooks

Maintaining a laboratory notebook provides you with a complete record of what you did, and what you accomplished in the lab. It is far more than just a place to make data tables; it is a collection of all of your thoughts, ideas, mistakes, and innovation. It will provide insight for future lab students and will have a direct impact on their success. Finally, maintaining a good laboratory notebook is an essential skill that must be developed and requires practice and diligence to perfect. If you suspect you have a future career in a scientific field, then how you maintain a notebook will be directly related to your success in the your field.

What should you put on the outside of your notebook?

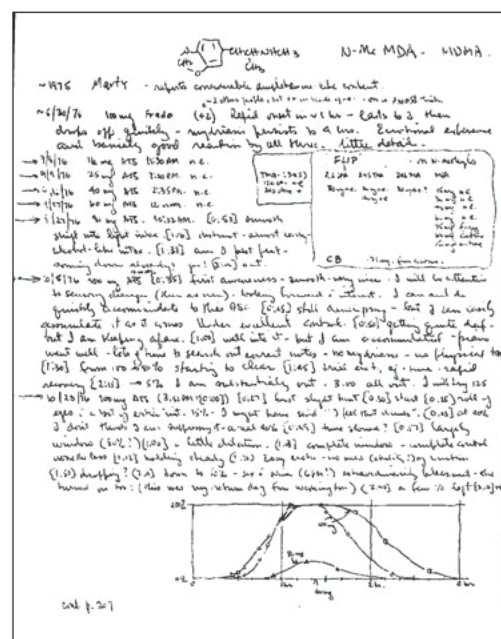
- Names of all members of your group and the semester/ year in which you are working.
- On the spine of the book, you need to have the semester, year, and general topic so you can find it on the shelf with other books. (See library in lab for examples)
- Feel free to Bling it out. Put stickers, drawings of aplysia eating snowmen, whatever you like. Science is at its heart a creative process, so start it off right with some customization of your notebook.

Some important ground rules on using your notebook:

- Write legibly! You don't have to make it a work of art, and you want to capture your thoughts quickly and efficiently as they come, but if you can't read what you just wrote its of no use to you. There is no reason to ever recopy notes from earlier days. Keep the notebook completely chronologically organized.
- Every time you start writing in your book, note the date. (MM/DD/YYYY)
- If you make a mistake, draw a thin line through the word or number. Never use whiteout or correction tape to cover writing up. What you think is a mistake now, could be a Noble Prize in the future.
- Never remove pages from your notebook. This makes it look like you are hiding something.
- Never remove the book from the lab.
- Pick a good pen to write with. Never use a pencil. Remember that your notebook is going to have water, aplysia ink, cockroach guts, coffee, and drool spilled on it and you want what you have written to survive.

What should you put on the inside of your notebook?

- Detailed notes on all discussions and thoughts on experimental goals.
- Detailed experimental protocols that could be easily followed by another researcher.
- Full justification of all experimental details (species used, temperature, reagents, etc.).
- Annotate all calculations so that all numbers, concentrations, etc. are fully explained and would be interpretable by another researcher.



-
- Full details for all experimental organisms. Who provided aplysia, leeches, etc. give source, delivery conditions, and catalog numbers.
 - Record reagent details including vendor name, catalog numbers, website, chemical structure, purity grade, date of mixing/production, expiration date and type of water (dionized, distilled, tap, artificially sea water).
 - Record names of people you are working with for data collection, statistical advice and all notes from phone conversations and emails.
 - Make quick drawings of experiment set-ups.
 - Attach photographs that document key experimental details.
 - Names of all computer programs, and organizational system for computerized data and reports.
 - Make daily entries, even if mundane.
 - If using Excel (or similar program) to collect data, you should print out data tables and paste them into your notebook. Make sure to glue these in firmly.
 - Detail all mistakes, problems with procedures, and lapses in data collection.
 - At the conclusion of your time in the lab you should write out a directory of all computer files that you used.

References

- Purrington, Colin. *Maintaining a Laboratory Notebook*. Retrieved Fri. 9 Aug. 2013
<http://colinpurrington.com/tips/academic/labnotebooks>
- Couch, Brett. *A Guide to Keeping a Biology Lab Notebook*. Retrieved Fri. 9 Aug. 2013
<http://blog.lib.umn.edu/jveldof/calculator/BiologyLaboratoryNotebooks.pdf>
- Office of Technology Commercialization, University of Minnesota. *Maintaining Laboratory Notebooks*. Retrieved Fri. 9 Aug. 2013
<http://www.research.umn.edu/techcomm/documents/LabNotes.pdf>

Final Paper Guidelines

This guide provides an overview of both the structure and content of your final paper. It is expected that your final paper be a culminating event of your time at Thomas Jefferson, and thus should be executed with great thought and effort.

This paper will make up one third of your final grade for second quarter; the other two thirds coming from your submitted PowerPoint presentation and poster. Points for each of the sections below will be scored according to the flowing general scheme:

<i>Quality of Work</i>	<i>Percent Earned</i>	<i>Description</i>
Excellent	100	Superior quality of work
Above Average	85	Lacking a few major items, ideas, etc.
Below Average	75	Insufficient work, explanation
Poor	65	Appears as though minimum effort was put forth
Missing	0	Skipped a section entirely

Your paper must contain the following sections, formatting, or components. Please follow these guidelines carefully. They are based on guidelines used by several leading Neuroscience Journals and will provide you with good practice for future scientific paper submission.

Formatting/Submission

<i>Item</i>	<i>Description</i>	<i>Points Possible</i>
Submission	<ul style="list-style-type: none">Paper is submitted on timeUploaded to shared DropboxHard copy printed and turned in	20
Proper Format	<ul style="list-style-type: none">Times New Roman12pt font1.5 line spacing, with pages numbered1 inch margins	20

Organization of Paper

<i>Item</i>	<i>Description</i>	<i>Points Possible</i>
Title Page	<ul style="list-style-type: none">TitleAuthor name(s) and affiliationsNumber of pagesNumber of figuresAbstract (see below)	15
Abstract	<ul style="list-style-type: none">250 word maximum. Written in complete sentences.Abstract should be clearly written and readily comprehensible to a broad readership.Provides a concise summary of the objectives, methodology, key results, and conclusions of the investigation.	20

Introduction	<ul style="list-style-type: none"> • 500 words maximum • Summarizes and describes the goals and purpose of investigation. Includes what your intended outcomes were at the start of the project. • Gives a description of what hypotheses were tested. • Explains how your project will address your purpose and gives intended outcomes. 	15
Background	<ul style="list-style-type: none"> • Provides complete explanation of the background to the topic. This should be extensive and detailed. • Gives a description of and explanation of the instrumentation you used, including a description of how the instrumentation works. • Summarizes all referenced background articles. 	40
Methods/ Materials	<ul style="list-style-type: none"> • Provides usable procedure that is brief, but still sufficient to allow other investigators to repeat the research. • Gives a description of how you collected your data. • Includes instrumentation and parameters, conditions, concentrations, etc. • Materials can be listed in bullet form. 	30
Results	<ul style="list-style-type: none"> • Present clearly but succinctly the experimental findings. Only results essential to establish the main points of your work should be presented. • Numerical data should be provided and analyzed using appropriate statistical tests. 	50
Discussion/ Analysis	<ul style="list-style-type: none"> • 1500 words maximum • Offer a summary of most important results with evaluation and analysis. • Provides in-depth discussion of your results and guides reader to ramifications of your work. • Provides ideas for future/continuing work. This can be a separate section if appropriate. 	50
References	<ul style="list-style-type: none"> • Have at least five references • Given in alphabetical order according to surname of first author. • Cannot be Internet sites, although you should/can list those you used to locate major ideas or concepts. • Follow format described in <i>References Guide</i> below. 	20
Figures/ Tables	<ul style="list-style-type: none"> • Small tables can be included in the main body of text, however larger tables of data should be placed at the end of the paper. • Makes use of proper in-text references. EX: in-text reference <i>In Figure 1, the diameter of the regenerated central ganglion is apparent.</i> • Captions are given BELOW all Figures • Captions are given ABOVE all Tables 	15
TOTAL POINTS		295

Final Presentation Guidelines

This guide provides an overview of both the structure and content of your final presentation. You will give your talk during tJStar in June to a wide audience including underclassmen. It will be important that you design your talk for this wide, non-technical audience.

Your presentation must contain the following sections, formatting, or components. Please follow these guidelines carefully.

Formatting/Submission

<i>Item</i>	<i>Description</i>	<i>Points Possible</i>
Submission	<ul style="list-style-type: none">• Presentation is submitted on time• Uploaded to shared Dropbox	20
Proper Format	<ul style="list-style-type: none">• Hard copy printed and turned in• Assume 1 or 2 slides per min. You will have approximately 15 min. to give your talk plus time for questions.• All fonts are 18pt or larger• Use bullet points instead of long sentences• No more than 4 points per slide• Use of simple, light-colored background on slides with contrasting font color.	20

Organization of Presentation

<i>Slide Type</i>	<i>Description</i>	<i>Points Possible</i>
Title Slide	<ul style="list-style-type: none">• Title• Author name(s) and affiliations	10
Outline	<ul style="list-style-type: none">• Provide organization for your talk.• Follow this order for the rest of the talk.• Only place main points on this slide.	10
Research Question	<ul style="list-style-type: none">• Explain what you tried to investigate• State both what you proposed and what you actually did.	15
Methods	<ul style="list-style-type: none">• Explain the process you used to perform your investigation• Explain the equipment you used.• Have a physical demonstration (show a live cockroach, have an aplysia out, show a dissected leech, etc).	20
Give Results	<ul style="list-style-type: none">• Graphs are better than tables• Show statistical test to prove validity if you have them.	20
Discussion	<ul style="list-style-type: none">• What were you expected results?• Put results in context• What went wrong/ how to improve• Future directions	20
Summary	<ul style="list-style-type: none">• Sum everything up one more time	10
Dedications	<ul style="list-style-type: none">• Thank some people that helped you• Remember your parents might be there....	5
Questions	<ul style="list-style-type: none">• Give the audience a chance to ask some questions	10
TOTAL POINTS		160

Final Poster Guideline

This guide provides an overview of both the structure and content of your final poster. This poster will remain in the lab for years and will serve as a public embodiment of your work for future neuroscience lab students.

How do you compress all of your work from that past twenty weeks into one, small poster? A good scientific poster is just an illustrated abstract. It tells a short story that highlights a few major points and tries to arouse the reader to ask questions. It should be composed of two types of information:

- 1) Simple, effective displays of data;
- 2) Small blocks of supporting text.

Points for each of the sections below will be scored according to the flowing general scheme:

<i>Quality of Work</i>	<i>Percent Earned</i>	<i>Description</i>
Excellent	100	Superior quality of work
Above Average	85	Lacking a few major items, ideas, etc.
Below Average	75	Insufficient work, explanation
Poor	65	Appears as though minimum effort was put forth
Missing	0	Skipped a section entirely

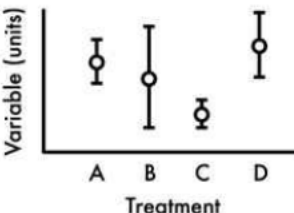
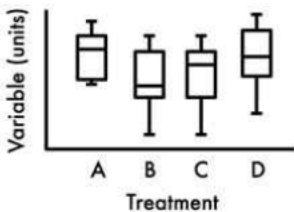
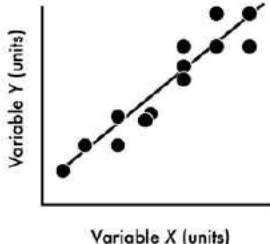
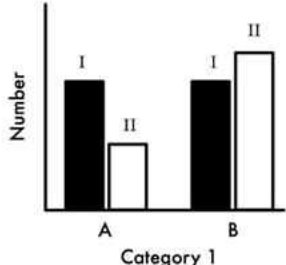
Formatting/Submission

<i>Item</i>	<i>Description</i>	<i>Points Possible</i>
Submission	<ul style="list-style-type: none">• Poster is submitted on time• Uploaded to shared Dropbox	20
Proper Format	<ul style="list-style-type: none">• Font Sizes:<ul style="list-style-type: none"><i>Title</i> 85 pt.<i>Author</i> 56 pt.<i>Sub-Headings</i> 36 pt.<i>Body Text</i> 24 pt.<i>Captions</i> 18 pt.• Dark type on light background• 2 – 3 colors• Correct use of figures/pictures/graphs• Images have scale bars• Clear flow of information	20

Sections To Include**

<i>Item</i>	<i>Description</i>	<i>Points Possible</i>
Title	<ul style="list-style-type: none"> Convey the interesting “issue,” the general approach, and the system. 	10
Introduction	<ul style="list-style-type: none"> Place your issue in context of published, primary literature Pitch your novel hypothesis Briefly! Describe your experiment approach <i>Do not make this your abstract (there shouldn't be an abstract section)</i> 200 words or less. 	15
Materials and Methods	<ul style="list-style-type: none"> Describe experiment equipment (great place for a picture!) and procedure Mention any statistical analyses that you used and how they allowed you to address hypothesis. 200 words or less. 	30
Results	<ul style="list-style-type: none"> Did your experiment provide you with conclusive results Give both qualitative and descriptive results Present data analysis that specifically addresses your hypothesis; refer to supporting charts or images Make figures stand on their own and convey all text Should be largest section 200 words 	50
Conclusions	<ul style="list-style-type: none"> Restate major results and quickly state if your hypothesis was supported. State relevance of your findings to other published work State relevance to real organisms and future directions 200 words or less 	50
References	<ul style="list-style-type: none"> 5 – 10 citations Follow format described in <i>References Guide</i> 	20
Acknowledgments	<ul style="list-style-type: none"> Thank individuals for specific contributions (equipment donations, statistical advice, laboratory assistance, editing) Mention sources of funding (TJ Partnership Fund, NSF, etc) 40 words or less 	10
Further Information	<ul style="list-style-type: none"> Your contact information (email address) Url, or QR code to TJ Neuroscience Lab website 	Optional but fun!
TOTAL POINTS		225

Notes on Diagrams and Charts**

Type	Hint	Example
Line Plots	<ul style="list-style-type: none"> Use to show means Must contain error bars Comparison of means can be done with unpaired t-Tests, ANOVA, etc 	 <p>A line plot with four data points labeled A, B, C, and D on the x-axis. The y-axis is labeled 'Variable (units)'. Each point has a vertical error bar. The values are approximately: A=1.5, B=1.0, C=0.5, D=1.5.</p>
Box Plots	<ul style="list-style-type: none"> Use to show medians Give sample sizes Comparison of medians can be done with Wilcoxon rank sum test, Wilcoxon signed rank test, and Kruskal-Wallis test, etc 	 <p>A box plot with four boxes labeled A, B, C, and D on the x-axis. The y-axis is labeled 'Variable (units)'. The boxes represent the median, quartiles, and range of the data for each treatment.</p>
Scatterplots/ Regression plots	<ul style="list-style-type: none"> Use to show relationships between continuous variables Provide correlation coefficients and statistical significance Regression equation not important unless part hypothesis Include caption describing why reading should care 	 <p>A scatterplot with 'Variable X (units)' on the x-axis and 'Variable Y (units)' on the y-axis. There are 10 data points showing a clear positive linear trend. A regression line is drawn through the points.</p>
Bar Graphs	<ul style="list-style-type: none"> Use to show count Don't go crazy with colors, stick to overall color theme Comparison of counts can be done with chi-squared tests 	 <p>A bar graph with two groups of bars labeled A and B on the x-axis. The y-axis is labeled 'Number'. Group A has two bars: a black bar labeled 'I' with a value of 4 and a white bar labeled 'II' with a value of 2. Group B has two bars: a black bar labeled 'I' with a value of 4 and a white bar labeled 'II' with a value of 5.</p>

References

- Purrington, Colin. *Designing conference posters*. Retrieved Wed. 7 Aug. 2013 <http://colinpurrington.com/tips/academic/posterdesign>.

Free Online Poster Templates

- <http://colinpurrington.com/tips/academic/posterdesign#templates>
- http://www.posterpresentations.com/html/free_poster_templates.html
- http://www.makesigns.com/SciPosters_Templates.aspx

Other Online Poster Help

- <http://www.cns.cornell.edu/documents/ScientificPosters.pdf>
- <http://www.flickr.com/groups/pimpmyposter/>
- <http://betterposters.blogspot.com/>
- <http://www.colorschemer.com/online.html>

Reference Guide

<i>Type of Reference</i>	<i>Example</i>
Journal article	<ul style="list-style-type: none">• Hamill OP, Marty A, Neher E, Sakmann B, Sigworth F (1981) Improved patch-clamp techniques for high-resolution current recordings from cells and cell free membrane patches. <i>Pflugers Arch</i> 391:85-100.• Hodgkin AL, Huxley AF (1952a) The components of membrane conductance in the giant axon of <i>Loligo</i>. <i>J Physiol (Lond)</i> 116:473-496.• Hodgkin AL, Huxley AF (1952b) The dual effect of membrane potential on sodium conductance in the giant axon of <i>Loligo</i>. <i>J Physiol (Lond)</i> 116:497-506.
Book	<ul style="list-style-type: none">• Hille B (1984) <i>Ionic channels of excitable membranes</i>. Sunderland, MA: Sinauer.
Chapter in Book	<ul style="list-style-type: none">• Stent GS (1981) Strength and weakness of the genetic approach to the development of the nervous system. In: <i>Studies in developmental neurobiology: essays in honor of Viktor Hamburger</i> (Cowan WM, ed), pp288-321. New York: Oxford UP.

Exhibit M

From: Kosatka, Brandon <[REDACTED]>
Sent: Wednesday, January 24, 2018 8:19 AM EST
To: Zabel, Sally <[REDACTED]>
CC: Grosicki, Gary J. [REDACTED]
Subject: RE: Ameson Visit - trip to China

Sally,

Thanks for your email and so great to hear from you.

When Paul and I spoke a few weeks ago when I shared with him that I was somewhat hesitant. They seem to have a pretty hefty list of wants. The design and construction of the building alone is something that could take several weeks to try and convey. Add to that the generic advice about how to run a school like this from stem to stern - that'd take a year to articulate and convey. It just seems like a lofty and, quite frankly, intimidating task.

After I had an opportunity to talk it over with my wife and to think about the need to take personal leave to participate, I'm going to have to decline the generous offer to travel to China. I have little doubt that it would be an excellent opportunity and experience but, with a considerable amount of things that needed tending to (Master Schedule, Summer School, Staffing, etc.), I simply cannot commit.

I understand from Gary (CC'd) that they are going to be coming to TJ in a few weeks and we've been asked if we might be available to help field some of their initial questions when they are here visiting. Perhaps that might serve as an opportunity for them to realize that one week with a few folks from the building is a tall order to essentially 'download' the *How to clone a TJHSST Handbook*...

I'm happy to stop by if desired/needed...just wanted to respond ASAP after I had a decision and while I was out of the building - this was the most efficient way...

BK

Brandon Kosatka, Director of Student Services
Thomas Jefferson HS for Science and Technology
6560 Braddock Road Alexandria, Virginia 22312
[REDACTED] 7 [REDACTED] [REDACTED] <https://tjhsst.fcps.edu/>

From: Zabel, Sally
Sent: Wednesday, January 17, 2018 12:31 PM
To: Kosatka, Brandon
Subject: Ameson Visit - trip to China

Hi Brandon,

I know Paul Cammer spoke with you about possibly going to China in March to meet with the Ameson team. They are looking to learn more about our construction and administration. This March visit to China would be a continuation of our meeting here in February.

I believe (hope) we will be able to cover a lot of their construction questions between yourself and Shawn Frank in February during their visit.

They also hope to get extensive advise (quoting that phrase) on how to manage a school like TJ. This includes everything from the general philosophy down to how to send grade reports home. They have no idea how to do any of this and are looking for input.

Tia and I (and Paul Cammer on behalf of Ameson) believe you are the perfect person for these topics due to your role at TJ.

Do you have availability during March (anytime) to go to China for a 5 day business trip? A shorter trip? Let me know....

Sally

Sally Zabel
Thomas Jefferson High School for Science and Technology
Partnership Fund // The Campaign for TJ
Manager, Outreach and Partnerships
703-750-8316 (office)
[REDACTED] (mobile)
t [REDACTED] nd.org

Exhibit N

From: Zabel, Sally [REDACTED] >
Sent: Tuesday, January 10, 2017 11:48 AM EST
To: Grosicki, Gary J. [REDACTED]
Subject: RE: help with schedule for Tsinghua
Attachment(s): "TUHS Feb 2017 Draft Agenda.docx"

Hi Gary,

This was exactly what I needed. Thank you!

I have drafted a schedule (attached) and would like to review it with you. I have NOT run this by teachers/staff members schedules when their names are highlighted (teachers are free during the time, but I haven't spoken to them about speaking on a topic or to the group; I am not sure of Assistant Principal's schedules at all, so all are highlighted).

Before starting to line up people to speak and mark their calendars, I wanted to run this by you (and possibly Mark too) and make sure it makes sense from your perspective with what their goals are as well as not trying to overwhelm them too much/giving them enough knowledge of TJ that nothing is too confusing. Please let me know your edits – I'll be at TJ tomorrow (WED) and can meet in person if easier.

Below are the goals that they sent me for their time here. The educators they are sending have experiences in the following of their labs: Chemistry, Robotics, Physics, Energy Systems, Lego Lab.

The objects and requests for our teachers' visiting this time are as following:

1. How to evaluate the work of the lab teachers?
2. What is the bonus system in labs for teachers who made great contribution?
3. Visit and observe Microelectronics lab and Mobile and Web Application Development Lab.
4. Communication with Director of Chemistry lab:
 - a) Possible project development based on current experimental instruments in Tsinghua University High School.
 - b) Curriculum design
 - c) Integration of chemistry-related theory courses and experimental skills
 - d) Cross-discipline project design (Chemistry and other labs)
5. Communication with Directors of Energy System and Robotic & Automation
 - a) Discuss the possible development of the current projects in the two labs.
 - b) Request TJ directors to provide suggestions about the current curriculum design in the two labs.
 - c) Introduce the current evaluation system in the two labs in Tsinghua. Listen to the TJ directors' suggestions about how to evaluate students' achievement and abilities detailedly.

From: Grosicki, Gary J.
Sent: Monday, January 09, 2017 6:41 PM
To: Zabel, Sally
Subject: RE: help with schedule for Tsinghua

Hi Sally,

I think this one document has what you need. Let me know if not.

Cheers

From: Zabel, Sally
Sent: Monday, January 09, 2017 2:44 PM
To: Grosicki, Gary J. [REDACTED] >
Subject: RE: help with schedule for Tsinghua

Thank you so much; I am working remotely today, but will be in tomorrow.

You can also just put copies in my mailbox.

From: Grosicki, Gary J.
Sent: Monday, January 09, 2017 2:44 PM
To: Zabel, Sally
Subject: RE: help with schedule for Tsinghua

Yes. I'll get you copies of this stuff.

Thanks

GJG

From: Zabel, Sally
Sent: Monday, Janua
To: Grosicki, Gary J. [REDACTED] >
Subject: help with s

Hi Gary,

I am working on the schedule for the Tsinghua visit and hope you can help with some holes.

I found on the Intranet where I can find out what teacher is in what classroom during which period; is there a spot I can find out what class is being taught during what period? And, with that, can I find what teacher teaches what class?

If this is easier to show me in person, just let me know. I really only need the Sci/Tech teachers/classrooms/schedules....not the entire school

I kept coming up with questions like the ones below, but think that the above would solve for all:

Who are the IBET Engineering teachers this year – last year it was LaFever (who I know is no longer here), Lewis and Seyler.

Who teachers Biology 9 – last year it was Holman, James, and Larson. Wasn't sure if James still did it...

Sally Zabel
Thomas Jefferson High School for Science and Technology
Manager, Outreach and Partnerships
Partnership Fund // The Campaign for TJ
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[REDACTED]
tjpartnershipfund.org

AGENDA

Tsinghua University High School

February 13-17, 2017

Monday, February 13, 2017

10am - 10:15am *Introductions, Agenda Overview, Logistics (Sally)*

10:15 - 11:00am *Overview of TJ Organization, operation and management, admin framework, division leadership, etc (Gary)*

11am - 12:00 *Tour of TJHSST Campus (Jefferson Society guide)*

12pm - 1:00pm: *Lunch (provided by PF; PCR)*

1pm - 2:00pm: *Overview of Teacher Evaluation (Pam Gravitte)*

2pm - 3:00pm: *TJ's Mission, Vision, and Philosophy (Evan Glazer or Gary or Pam)*

3pm - 4:00pm: *Overview of TJ Admissions (Jeremy Shugart, Director of Admissions)*

5pm - 7:30pm: *Welcome Dinner (Asian Bistro; Old Town Alexandria)*

Tuesday, February 14, 2017

9am - 9:15am *Morning Tea/Breakfast...*

9:15 - 10:15am *Overview of TJ Diploma requirements, IBET, Core/Elective Sciences, and Research labs (Mark Hannum)*

10:15am - 10:30am *Break*

TJ IBET Observations

10:30am - 11:15am *Engineering/Tech 9 (Geiger, Piccione, Seyler, rooms 33, 34, 42)*

11:15am - 11:30am *Break*

11:30am - 12:00pm *Biology 9 (Holman, Rosenblum, Larson, rooms 22, 29, 45)*

12pm - 1:00pm: *Lunch (provided by PF; PCR)*

1pm - 2:15pm *Mobile and Web Design Research Lab Observations (Kosek, room 202)*

Astronomy Research Lab Observations (Henning, 248)

2:15pm - 2:30pm *Break*

2:30pm - 3:15pm: *Digital Electronics (Micro Electronics Lab) (Bell, 208)*

3:15pm - 4:00pm: *Robotics Micro Systems (Dela Cuesta, 207)*

AGENDA

Tsinghua University High School
February 13-17, 2017

Wednesday, February 15, 2017

9am – 9:15am *Morning Tea/Breakfast...*

9:30am – 10:15 *Chemistry 1 and AP Chemistry (Larson, Chhabra, Kauffman, Taylor, 51, 52, 53, 54)*

10:15am – 10:30am *Break*

10:30am – 11:15 *Geosystems (Culbertson, Cullen, Woodwell, 249, 250, 251)*

11:15am – 12pm *AP Physics (Dell, 235)*

Physics 1 (Forbes, Scholla, 236, 237)

12pm – 1:00pm: *Lunch (provided by PF; PCR)*

1pm – 2:15pm: *Energy Systems Research Lab Observations (Piccione, 9)*

Neuro Research Lab Observations (Hannum, 5)

2:30pm – 4:00pm: *Curriculum Design and student evaluation in labs (Mark Hannum?)*

Thursday, February 16, 2017

9am – 9:15am *Morning Tea/Breakfast...*

9:15am – 10:15am *Audio Electronics (MicroElectronics Lab) (Bell; 208)*

Chemistry Research Lab observations (Kennedy, 3)

10:15am – 10:25am *Break*

10:25am – 12:00 *Robotics Research Lab observations (Dela Cuesta, 207)*

Mobile and Web Design Research Lab observations (Kosek, 202)

12pm – 1:00pm: *Lunch (provided by PF; PCR)*

1:00pm – 2:15 *Engineering Design Research observations (Lewis, 206)*

Oceanography Research Lab observations (Wu, 2)

2:15pm – 2:25 *Break*

2:30 – 3:30pm **Possible: They have a lot of questions for Kennedy. Possible time for him to come in and speak with them? Hannum is also free to be here too if needed.*

5pm – 7:30pm: *Farewell Dinner (Grace's Mandarin; National Harbor)*

AGENDA

Tsinghua University High School
February 13-17, 2017

Friday, February 17, 2017

9am – 9:15am *Morning Tea/Breakfast...*

9:15am – 10:15 *Observe Quantum Physics Optics Research Lab (Luo, 7)*
Prototyping Research Lab (Behling, 8)

10:15am – 10:25 *Break*

10:25am – 11:15 *Observe Bio Tech Research Lab (Burnett, 201)*
Observe Energy Systems 1 (Piccione, 9)

11:15am - 12:00 *Senior Lab Application Process (Gary?)*

12pm – 1:00pm: *Lunch (provided by PF; PCR)*

1pm – 1:30pm *Observe Computer Systems Lab Research (Torbert, 200)*

1:30 – 2:15pm *Mentorship Presentation (Fred Lampazzi)*

2:15pm – 3:00pm *Student Research Presentations*
(gather student presenters from LD's)

3pm – 4 *Final Q & A with Gary/Sally*

Exhibit O

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

Interior Demolished as Phase II Begins



The above photo, taken in February, 2015 by a student-built drone (see December 2014 issue) shows TJ's demolished interior; with the new dome at top, new triangular Administrative Wing to the dome's left and new Research Lab Wing to its right (part of the new Chemistry/Geosystems Wing is at bottom). In inset photo, students navigate the hallway connecting the temporary front entrance (left) with the Research Lab Wing.

RENOVATION UPDATE - With the demolition of the school's interior, Phase II of TJ's transformative renovation has begun. This phase involves completely reconstructing both levels of the school's classrooms over the next calendar year, with the dome entrance opening upon its completion.

The temporary hallway (pictured, inset) allows students to walk safely from the temporary front entrance to the research labs and newly constructed cafeteria (opening in April).

The new Research Lab Wing and two other new wings completed during Phase I of the renovation were showcased at the November, 2014 Ribbon Cutting (see December 2014 issue) and the January, 2015 Open House (see back page). At both events, large numbers of loyal past parents mingled with current parents, alumni, and friends of TJ.

CAMPAIGN UPDATE - Recent giving highlights include a \$100,000 gift from the Ameson Education and Cultural Exchange Foundation (see page 2) and a year-to-date alumni giving total that is almost double the total at the same time last year. These and other donations made this winter have lifted the Campaign for TJ over the \$4 million mark, bringing us halfway to our highly ambitious \$8 million goal!



As guests of a TJ grandparent and Cosmos Club member, the Tsinghua University and Tsinghua University High School (THS) educators enjoyed a Sunday brunch at the DC club. From left to right, Peter Zhao (THS English); Nan Qiu, (THS Physics); Prof. Ben Koo (Tsinghua Univ. Industrial Engineering); Jie Cao (THS IT); Jane Yang Li, Parent '09, '14; Prof. Emeritus Walter K. Kahn, Grandparent; Hilde Kahn, Parent '12, '14, '17; Dr. Paul Cammer (Special Advisor to the Principal, RDFZ HS, Beijing, and retired TJ Neuroscience Lab Director); Shuming Sun (THS IT); Han Xu (THS Curriculum Dev.)

TSINGHUA FACULTY LEARNS THE TJ WAY

In February, five educators from the main campus of Beijing's Tsinghua University High School (THS) and one from Tsinghua University visited TJ for an intensive introduction to our unique approach to high school education. The visit encompassed eight very full school days, exposing the Chinese educators to a broad cross-section of TJ faculty and staff. For example, one day included a session with five Lab Directors, a session with senior research lab students, an alumni presentation, and a tour of the Science Fair, and the following day featured a Lab Director session, classroom observations of a research lab and two AP science classes, an overview of TJ Diploma requirements, and a presentation on evaluating student research.

The educators, who aim to learn how best to adopt aspects of the TJ curriculum and operation, were overwhelmed with information but extremely appreciative of both the formal presentations and the warm welcome they received from the entire TJ community. PTSA and Chinese community volunteers provided several home-cooked lunches and led the guests on evening and weekend outings to DC sights, shopping destinations, Hope Chinese School, and more.

As part of the TJPF's arrangement with THS, TJ faculty and staff may also travel to Beijing during school breaks. In addition, THS has made a significant contribution to the Campaign for TJ to assist the School with its growth and development (see also Back-to-School 2014 issue).



After the IBET presentation where she was joined by Craig Lewis (Lab Technology), Mary Beth Kochman (English), and Kerry Hamblin (counselor), Biology teacher Barbara Wood (far left) shows a video to the Tsinghua visitors.



Assistant Principal Tinell Priddy receives a token of appreciation from the Director of THS Golden Sail Orchestra during the orchestra's 8th period concert at TJ on February 11th. The orchestra, which specializes in Chinese folk music played on traditional instruments, was on a multi-city US tour.



Representatives from Ameson and Thomas Jefferson Partnership Fund (TJPF) sign an agreement on February 25th. From left to right, in front row, Tom Valery, TJPF Immediate Past Chair and Prof. Sean Zhang, Ameson Executive Vice Chair; in back row, Zhu Xiao Di, Ameson Deputy Director; Tia Kinis, TJPF Development Director; Stephen Smith, Ameson Director; Dr. Evan Glazer, TJ Principal; and Samantha Courtney, TJPF Development Manager.

TJ TO ASSIST EDUCATIONAL EXCHANGE FOUNDATION WITH STEM HIGH SCHOOL PLANS

Since 2005, TJ has hosted Chinese exchange students traveling under the auspices of the Ameson Education and Cultural Exchange Foundation (Ameson), a non-profit, non-governmental organization headquartered in DC that is dedicated to promoting cultural exchange and educational cooperation between China and the rest of the world. In what Sean Zhang, Ameson's Executive Vice Chair, called "a new beginning to our seven-year collaboration," TJ Partnership Fund (TJPF) committed to assist Ameson as it embarks on launching its first STEM high school in China.

Pursuant to the agreement, TJPF will facilitate Ameson's research into best practices, selection of faculty, and ongoing progress evaluations as the foundation begins to establish the Thomas Jefferson International Schools, private high schools modeled on TJ's curriculum, administrative practices, and evaluation system. This agreement between Ameson and TJ's non-profit foundation serves to further their mutual goal of expanding access to educational opportunities for young people.

To support TJ's efforts to improve the research capabilities of its newly expanded labs, Ameson has made a significant charitable gift to the Campaign for TJ.



PRINCIPAL DELIVERS STEM SYMPOSIUM KEYNOTE

On Saturday, March 7th, media and events company *WashingtonExec*, with Presenting Sponsor *Leidos* and Platinum Sponsor *Vencore*, held its second annual K-12 STEM Symposium. The free, all-day event, which took place at Herndon's Nysmith School, included exhibits, speakers, panel experts, and STEM activities organized under the theme, "The Parent Factor: How to Engage Your Children in STEM."

TJ Principal Dr. Evan Glazer delivered the keynote address, "The Tiger, Dolphin, and Jellyfish Parent – Which One is Best for STEM?" Dr. Glazer discussed research on the tiger (authoritarian), dolphin (authoritative), and jellyfish (permissive) parenting styles, noting that what matters most is parents' attitudes toward their child's learning. "How you respond to your child's curiosity sets the stage. Your attitude when a child struggles matters," he said, emphasizing that research shows that when parents model the values needed to succeed in STEM, including intellectual curiosity and perseverance, these values rub off on their children.

TJ was also well-represented among the dozens of non-profit organizations, agencies, and corporations showcasing their educational programs at the event. Volunteer TJ parents and students, including STEMbassador representatives, spoke to parents of younger children about encouraging STEM-related pursuits, and several TJ students manned booths, including ProjectCSGIRLS founder Pooja Chandrashekar, TJ '15, who also spoke at the event (see BTS 2014 issue), Malaria Free World founder Kritika Singh, TJ '16, (see December 2014 issue) and Satvika Kumar, TJ '16 (pictured, above right, with two Core Team members in front of their Symposium booth and profiled at right).



STUDENT THINKS UP NEW WAYS TO BREAK DOWN STEM BARRIERS

Junior Satvika Kumar's non-profit organization, Learning Pathways Project (LLP), aims to reduce the gender gap in STEM education through the innovative development of learning tools and programs. LLP reached over 500 girls in 2014 and is off to a great start in 2015. Satvika (above, at right) attended the STEM Symposium to promote her group's first major event, #firsthack, a hackathon for kids not yet in high school.

#firsthack

#firsthack, which will take place at Nysmith on Saturday, April 18th, will introduce young students (5th to 7th grade) to real-world programming challenges. Every student team will be paired with a high school student volunteer. By experiencing their first hackathon under the guidance of experienced, young mentors, #firsthack team members will learn the skills needed to create innovative solutions and to pitch their ideas, along the way gaining an understanding of how applied technology works and discovering exciting possibilities in CS.

Satvika got the idea to start an educational non-profit after receiving an Educational Enhancement Through Technology grant that she used to create an app prototype. She demonstrated the prototype at the June 2013 JOSTI conference, an annual meeting TJ hosts for overseas educators (see August 2014 issue).

To use Satvika's app, a student loads a list -- for example, the multi-step

processes involved in cellular respiration, learned in Biology -- onto her phone. The app scrambles the list and prompts the student to order it under time pressure. By allowing students to conveniently review material whenever they have a few spare minutes, the app discourages cramming and encourages long-term retention.

Last spring, Satvika's app won first place for her Congressional District in the inaugural House Student App Challenge. This past November, the Thiel Foundation awarded her a \$1,000 demo pitch prize at its Vegas Summit, recognizing the app for "capitalizing not only on time spent daily on mobile devices, but also youth interest in gaming applications."

Satvika, who appreciates how important mentors and supporters are for girls who hope to succeed in STEM, notes the encouragement and direction she has received from many adults in the TJ community. Energy Systems Lab Director Adam Kemp, Computer Science teachers Steve Rose and Ria Galanos, and Counselor Kacey McAleer provided direction and support. Biology teacher Dr. Barbara Wood served as her long-time research mentor, and Principal Glazer guided her as she moved from grant applicant to JOSTI presenter and beyond.

Satvika also credits her entire core team with the group's success: Shankar Balasubramanian, TJ '15, Curriculum Development; Bitia Golshani, Langley '16, Strategy & Communications (above, at left); Anjali Khanna, TJ '16, Communications; Christina Wei, TJ '16, Outreach; Rachel Li, TJ '16, Product Development (above, center); and Bhuvanesh Murali, TJ '16, Product Development Lead.

"TJ has provided me with the best opportunity to develop my entrepreneurial, leadership, and teaching skills in my effort to bring better educational opportunities in computer science and STEM fields to girls globally. Furthermore, working with talented peers at school has made it a really fun and enjoyable experience," Satvika said.

YOUR DONATIONS AT WORK: BIOTECHNOLOGY & LIFE SCIENCES LAB



Dr. Andrea Cobb, Biotechnology Lab Director, explains why her lab is the most sophisticated high school biotechnology lab in the country.

"Thanks to generous private donations over the years, our Lab was already equipped with several advanced devices that exist at few -- or no -- other high schools, for example, a flow cytometer, Sonifier, and real-time polymerase chain reaction (RTPCR) thermocycler.

"However, the renovation and accompanying Campaign for TJ has helped us quickly acquire some truly exciting new pieces of equipment, including:

- hands-free faucets for maintaining aseptic technique;
- two new environmental growth chambers for algae and plant research;
- a bioanalyzer, aka "Lab on a Chip," which can characterize the concentration, size, and quality of up to a dozen tiny samples of proteins, RNA or DNA simultaneously as a preparatory step for further analysis;
- a proteomics system, which sorts proteins from an organism or cell type by pH and then by molecular weight, with software that identifies biomarkers and modified proteins and quantifies proteins whose levels have changed relative to constitutive proteins;
- a deep-well quantitative RTPCR system, which can process twice as many samples as the Lab's older unit, for analyzing products of stem cells, genetic mutations, and variations in gene expression; and
- a personal genome machine (and accompanying preparatory and analytical tools) that can sequence in three hours

what it took the human genome project fifteen years to do!

"However, a biotechnology research lab of this caliber is not complete without state-of-the-art microscopes critical for visualizing cellular processes. Still on our Needs List are a live cell fluorescence microscope and a confocal microscope, both of which are to be shared with the Neuroscience, Oceanography, and Quantum Physics Labs. To get the most out of these expensive and sensitive microscopes we also need new computers with high-end imaging capability and training on both systems for the staff of all four research labs.

"I'd also like to mention that I'm particularly excited about the potential impact on our lab of the School's planned collaborative research network, JCIRN. Students could make excellent use of an online network of qualified, vetted, willing advisors for their research. They could also profit from tutorials on advanced techniques and use of specialized equipment. The possibilities really are endless."



Senior research students work on projects in the Biotechnology Lab, clockwise from left: Placing a plant sample in the homogenizer; removing a sample from an incubator; working under one of the Lab's flow hoods; preparing to place samples in the fluorometer; and removing samples from dry ice in preparation for use in the personal genome machine (described above).



YOUR DONATIONS AT WORK: AUTOMATION & ROBOTICS LAB



Charles dela Cuesta, Robotics Lab Director, discusses what he appreciates most about his new Lab:

"My goal has always been to be able to give those kids who are really

passionate about robotics a place where their ideas can come to life. I can already see the ways in which the new facility is empowering those kids while also encouraging more interest in the subject across the board.

"Robotics is at the intersection of several disciplines – design, electronics, programming, prototyping, and systems engineering. Students use CAD to design the robot, programming to tell it what to do, prototyping to build the housing, and electronics and systems engineering to build the components. Our Lab attracts programmers who want something more tangible to work with and electronics types who want to go beyond the circuit board. There's a lot of overlap with students who are interested in prototyping, and a lot of collaboration with that Lab. The multi-disciplinary nature of the work means that ideally a group of kids with different interests works together on a robot.

"I'm very excited about finally having some space that we can devote to robot

testing. In our old Lab, every time students needed to test a robot, they had to move desks, equipment, and projects out of the way, mark off the space, and introduce whatever obstacles or other items the robot needed to work with. Now we have devoted project space, testing space, and instructional space. With our 10-foot ceiling (plus several feet above the rafters) we can accommodate taller robots, taller robot goals/obstacles, and flying robots, with the added benefit that we also have what may be the most pleasant working environment anywhere in the building.

"We're making good use of our new power tools and laser cutter. We're still hoping to acquire some more fabricating equipment. Of course, we appreciate the specialized lab benches, storage shelving, and other furniture we were able to acquire thanks to Campaign for TJ donations. These important components define our various spaces and turn our warehouse-sized room into a research lab."



At top and above left and right, Robotics elective students work at the Lab's new specialized lab benches. At right, students test a robot, and at left, check on a 3-D printer (also shown from above.)



PROFESSOR CHRIS LOVE, TJ '95, IS MAKING A "3-D PRINTER" FOR BIOLOGIC MEDICINES

One of eight faculty members to be awarded tenure by MIT's School of Engineering last year, J. Christopher (Chris) Love, TJ '95, leads a team of interdisciplinary researchers who combine principles and techniques from surface chemistry, materials science, physics, and chemical engineering to develop new micro- and nanotechnologies for addressing biological questions in immunology, microbiology, systems biology, and bioprocess engineering.

The Love Lab's general areas of current research are:

1. improving global access to biologic drugs used to treat cancers and inflammatory diseases, including manufacturing on demand;
2. developing approaches to understand B cell and T cell responses in autoimmunity (multiple sclerosis and Type 1 diabetes), vaccinology, and food allergy; and
3. understanding how rare cells can inform better drug discovery and patient care in cancer.

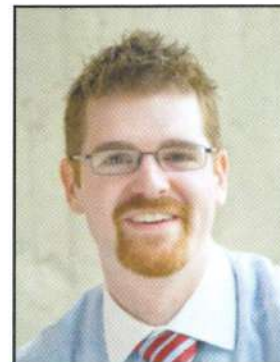
In the fall of 2013, the Love Lab received a \$10.4 million contract from the Defense Advanced Research Projects Agency (DARPA) to develop a way to make small batches of biologic drugs (drugs made from living cells, in this case yeast) in 24 hours versus the 6 to 12-month time-frame of current processes. The research team's goal is to create a tabletop drug manufacturing system that could be deployed virtually anywhere (prototype at right, picture courtesy *Boston Globe*). According to Dr. Love, the ability to make such drugs quickly, precisely, and on-site could revolutionize drug manufacturing the way 3-D printers are revolutionizing the manufacture of solid parts. In addition to being able to make drugs for soldiers wounded in action, the process could be used to produce specialized therapeutics for patients with rare conditions and to improve access in the developing world where cold storage and transportation issues limit drug availability.

Dr. Love obtained his Bachelor of Science degree in Chemistry from UVA in 1999 and his PhD in Physical Chemistry from Harvard in 2004. He then held a postdoc position in immunology at Harvard Medical School. Currently an associate professor in MIT's Department of Chemical Engineering, Dr. Love is also associated with the Koch Institute for Integrative Cancer Research at MIT, the Broad Institute of MIT and Harvard, and the Ragon Institute of MGH, MIT and Harvard. In 2010, he was featured in *Popular Science* as one of its "Brilliant 10," and has received numerous awards for teaching and scholarship.

While a TJ student, Dr. Love was already making headway toward a career in novel research techniques. As a summer intern at MITRE, he wrote a paper on theoretical designs for molecules that could act as electrical devices, later published as "Overview of Nanoelectronic Devices," *Proceedings of the IEEE* 85(4), 521-540 (1997). Dr. James Ellenbogen, Director of MITRE's Nanosystems Group, sent it to Harvard's Professor George Whitesides, the world's most cited living chemist, who five years later became Dr. Love's thesis advisor.

Dr. Love credits TJ's Mentorship Program with giving him an early opportunity to discover his passion and talent for research. "My experience at TJHSST provided both self-confidence and professional networking through the Mentorship Program that were instrumental in my development as a young scientist. I was encouraged to engage as a high school student directly in challenging questions in the field of nanoelectronics at its inception, and to develop a scientific curiosity that has continued with me in my career," he said.

In fact, in Dr. Love's opinion, there is no high school quite like TJ: "During my graduate training, I was working with, or at the same school as, about ten others from TJHSST. These individuals are now leading top research programs in biology, materials science, and chemistry, or are successful entrepreneurs in start-up companies. More recently, I hired a TJ '09 grad to work in my lab, where he spent a productive year before embarking on a PhD program at Harvard. I am not sure that there is a single high school program that has had as deep an impact on the current culture of academic research and entrepreneurship as TJ."





ALUM'S DC-AREA DATABASE START-UP HAS ARRIVED

SQL or NoSQL? That is the question. If you spend your workdays trying to answer questions like this one, then you are probably already familiar with *FoundationDB*, a Tysons-based tech company that offers a novel answer.

FoundationDB's solution is to combine the scalability and fault tolerance of NoSQL (a database mechanism for storage and retrieval of large quantities of data) with the strong data consistency guarantees provided by ACID (Atomicity, Consistency, Isolation, and Durability, properties that together guarantee reliability). The company's ambitious premise is that their database platform will serve as the foundation for the next generation of distributed applications and systems.

Lately, they seem to have a lot of believers. In November, 2013, the company received \$17 million in Silicon Valley venture capital, and a month later *Tech Cocktail DC* named *FoundationDB* one of "10 DC Startups Destined to Breakout in 2014," noting its "well funded, amazingly talented team ... I don't think there is much stopping them from being an absolute monster of an enterprise tech company."

Following the December, 2014 release of its third-generation product, which it claimed "averages 14,400,000 random writes per second on a fully-ordered, fully-transactional database with 100% multi-key cross-node transactions," *TechCrunch* called it "impressive stuff ... And obviously a great fit with the forthcoming Internet of Things, and the enormous amount of data that billions of connected devices will soon be constantly capturing."

Even if you're a developer who understands the issues -- many TJ parents and DC-area alumni are -- and are familiar with the company and its product, you still may not know that its Co-Founder and CEO David Rosenthal (pictured in col. 1, at right) is a TJ alum.

At TJ, Rosenthal and some friends created a computer game that won the grand prize at the 1999 Independent Game Festival. He credits that game with securing his admission to MIT, where he obtained a Computer Science degree in 2001.

One of Rosenthal's TJ '98 friends, David Scherer (col. 1, at left), was still an undergraduate at Carnegie Mellon University when he dropped out to found a start-up built around one of the first products that could create real-time web analytics. He brought Rosenthal in as his first employee. The start-up, *Visual Sciences*, acquired by *WebSideStory* and then by *Omniture*, was ultimately acquired by *Adobe* in 2008 for about \$1.8 billion.

When Rosenthal and Scherer started looking for a database on which they could build a new company they found a lot of the NoSQL databases inadequate. That's when they decided that their next venture would solve that problem. Together with a neighborhood friend of Scherer's, the two founded *FoundationDB* in 2009.

Two early hires were TJ grads, Ben Collins, TJ '01, and Ian Peters, TJ '98, both of whom happen to be married to TJ classmates. Coincidentally, Rosenthal is also married to a TJ grad. In fact, his 2008 wedding to Sloane Kuney, TJ '02, was featured in *The Washingtonian*, which noted that the couple's first date was an outing to view the "Transit of Venus" at a celestial observatory.

TJ connections were also helpful when it came to locating the capital to power their ideas. Classmate Howard Lehrman, Co-founder and CEO of Yext (profiled in the November 2013 issue), introduced the team to his contacts in Silicon Valley.

Rosenthal recognizes that TJ has played a major role in both his personal success and his company's success: "When I met a guy also named Dave in the back of my pre-calc class and realized that we

both liked to write computer games, I didn't think that it would turn into the two of us starting three software companies together over almost 20 years. But it did. The TJ connection has been a great part of staying in this area. Not only are TJ alums on our leadership team, but we've also had four TJ interns over the years. So, make friends. Some of the most capable people I know I met at TJ."



BAY AREA MEET-UP DRAWS OVER 100 ALUMS

Alums from all over the Bay Area and representing virtually all classes converged on the San Francisco offices of *Thumbtack*, a successful Internet-based start-up co-founded by Sander Daniels, TJ '01 (above, see May 2013 issue for more info), for an evening of networking and catching up.

Alums watched a video of TJ scenes put together by producer Jason Hintz Llopis, TJ '89 (see bio in December 2014 issue), heard briefly from Daniels, and hung out from 6:30 pm until almost midnight while enjoying food and adult beverages generously provided by their host, whose *Thumbtack* leadership team includes several other TJ alums.

As Daniels explained to everyone in attendance, the TJHSST Alumni Association is excited to start educating alumni about what's currently going on at the school and to get alumni more and more involved with the school and with each other. After the event, Daniels, who has hosted several past meet-ups commented, "People love coming to these -- they love TJ and all the friends they see and new people they meet here."

2004 REUNION, ALUMNI DAY BRING THEM BACK

Reunion Wrap-up: Reunion chairs Carly Rush (top picture, second row, far right) and Jackie Bello (front left), daughter of retired English teacher Judy Bello, organized two amazing events to coincide with Alumni Day and Thanksgiving weekend. The Class kicked off the weekend with a get-together in the private area of Clarendon's O'Sullivan's Irish Pub, hung out at Alumni Day, and got down to true reunion business on Saturday night.

The Saturday evening Main Event was held at the Josephine Butler Parks Center, a Renaissance-revival mansion that won Best of D.C.'s Best Wedding Venue for 2014. The mansion, located alongside DC's Meridian Hill Park near U Street Metro station, was packed with happy alums dressed their best and enjoying hors d'oeuvres, desserts, an open bar, music, photos, and plenty of catching up. The fired-up Class of 2004 surely set the standard for 10th reunion attendance. They're also an impressive group, with accomplishments in all areas, from service to athletics (facing page).



There were far too many attendees for any one space in the mansion to accommodate them all, but that didn't stop the crowd from squeezing onto the second-floor landing for an attempt at a class picture.



Sonya Hsieh, Christine Park, Jennifer Luu, Juliana Schroeder, and Clare Murphy Konrad smile for the camera.



Dan Kuebrich, Ran Liu, and Erik Silk pause between conversations.

Alumni Day in Brief: Drawn by the chance to visit their old hangouts for the last time and the exciting opportunity to tour the brand new Research Lab Wing and Chemistry/Geosystems Wing, 170 alumni descended upon their *alma mater* on the Saturday after Thanksgiving for the annual Alumni Day.

Alumni learned who they had chosen as this year's Alumni Stars and which teachers they had elected into the TJ Teacher Hall of Fame (below). There were boxed lunches and TJ logo merchandise, courtesy of Colonial Athletic Boosters, available for purchase. As always, the main attraction, in addition to the new labs, was the faculty who showed up and, of course, each other.

Teacher Hall of Fame

Dr. Omar Acio (2012)
Mr. Luc Beeckman, ret. (2013)
Mr. Gerry Berry, ret. (2012)
Dr. Paul Cammer, ret. (2013)
Ms. Genevieve Delfosse (2014)
Dr. John Dell (2012)
Ms. Pat Gabriel, ret. (2013)
Ms. Carolyn Gecan, ret. (2012)
Ms. Pat Groves, ret. (2012)
Ms. Jane Gullickson, ret. (2012)
Ms. Lee Ann Hennig (2014)
Mr. Jim Jarvis, ret. (2013)
Mr. Jay Lamb, ret. (2012)

Dr. John Liebermann, ret. (2014)
Mr. Don Majeske, ret. (2012)
Mr. Patrick McCarthy, ret. (2012)
Mr. Dennis McFaden, ret. (2012)
Mr. Ed Montgomery, ret. (2013)
Ms. Barbara Nelson, ret. (2012)
Ms. Mary O'Brien, ret. (2014)
Dr. Jonathan Osborne (2014)
Mr. Jim Rose, ret. (2013)
Ms. Bettie Stegall, ret. (2013)
Mr. John Struck (2013)
Mr. Michael Stueben (2012)
Dr. Shane Torbert (2014)
Ms. Milde Waterfall, ret. (2013)



Clockwise from left: Owen Thomas '90 bro-hugs brother Peter Thomas '88; alumni listen to Alumni Day presentations in Gym II; Astronomy Lab Director Lee Ann Hennig welcomes a visit from former Astronomy research lab student Catherine Witherspoon, '13; alumni tour the JUMP (Jefferson Underclassmen Multidiscipline Projects) Lab, which gives non-seniors a place to conduct research during 8th period.



CLASS OF 2004: SOME ALUMS TO WATCH

Joyce Meng:

While a student at the University of Pennsylvania, Meng founded *Givology*, a 100% volunteer-run online giving marketplace for education. With seventeen chapters

around the world, *Givology* links interested donors to initiatives such as teacher training, library construction, and textbook purchases.

In addition to serving as CEO of *Givology* since its founding six years ago, Meng is a co-founder of *Generation Enterprise*, a non-profit aimed at teaching low-income youth the skills they need to launch their own businesses, and a co-founder of *Vernier Capital*, a global hedge fund. Meng, recognized by *Forbes* magazine as one of its "30 under 30 in Education" for 2014, is also one of eight TJ graduates to study at the University of Oxford on a Rhodes Scholarship.

Nick Meyer:

Meyer is co-founder and Chief Technology Officer at *Sup*, an iPhone app which lets users direct -- by swiping or using other cues -- a ten-second video in

which their friend, at the other end of the phone, is the lead actor.

An earlier app co-founded by Meyer, *Milewise*, was acquired by *Yahoo* in May, 2013. The app, which helped serious travelers find the least expensive flights -- whether they were paying cash or using frequent flyer miles -- was dissolved when the leadership team joined *Yahoo*'s NYC office where Meyer met his *Sup* co-founders.

Meyer is known in tech circles as one of four '04 alums who created the massively multiplayer online strategy game *Kings of Chaos* in their junior year at TJ. The others are Rocco Repetski (DC area engineer), Ben Gelb (hardware engineer at *Google*), and Aman Gupta (VP of Technical Infrastructure at *GitHub*).

**Kathryn Minshew:**

Minshew is founder and CEO of *The Muse*, a website that serves as a career-development platform for millennials and

digital natives, with job postings, online classes, an inside look at companies that are hiring, and *The Daily Muse*, its daily publication.

Named twice to *Forbes*' "30 under 30 in Media" and to *Inc.*'s "15 Women to Watch in Tech," Minshew has appeared on *The TODAY Show* and *CNN*, and contributes to the *Wall Street Journal* and *Harvard Business Review*. Before founding *The Muse*, she was a management consultant at McKinsey & Co. and worked on bringing vaccines to Rwanda and Malawi as part of the Clinton Health Access Initiative.

Vlad Tenev:

With his Stanford roommate, Tenev co-founded *Robinhood*, an iPhone app available since December, 2014 that allows individuals to invest

in publicly traded companies without paying a commission. The company, which has raised over \$16 million in start-up capital, has been covered widely in the financial press for its disruptive potential and ability to bring younger, less wealthy investors into the market.

The pair's first financial services start-up, *Celeris*, allowed them to apply their significant quantitative skills -- Tenev was working towards his PhD in math at the time -- to perfecting trading algorithms. Their second, *Chronos Research*, worked with major investment banks.

Dan Shin: CEO of *Ticket Monster*, one of South Korea's biggest online businesses, Shin was featured in the last issue of this newsletter (see December 2014).

**Chris Mocko:**

Product Editor at *Square, Inc.*, former Product Manager at *Intuit* and creator of a successful *Facebook* app, Mocko is best known for his athletic feats. In

2012 *Mashable* named him one of the "35 Fittest People in Tech."

A Division I cross-country and track standout at Stanford, Mocko is one of the nation's elite distance runners. With wins at the Oakland Marathon (2012), Napa Valley Marathon (2011 & 2012, 2nd in 2014), and San Francisco Half-Marathon (2013 & 2014) under his belt, he is currently training for the 2016 Olympic trials.

Neil Arora:

Fluent in Mandarin, Arora has lived and worked in Beijing since 2009. Currently President of Momi Bay Group, which focuses on US/China investment

opportunities, he was previously Vice President at CSC Group, where he was the sole Westerner and the youngest vice president in the history of the \$10 billion, 600-person Chinese private equity fund, one of the largest in China.

Gary Shambat:

Shambat, who earned his PhD in Electrical Engineering from Stanford on a National Science Foundation Fellowship, has developed both

extremely low power lasers and extremely high-speed LEDs, and demonstrated for the first time sophisticated optical devices operating inside biological cells for sensing applications. Shambat, who now works for a Bay Area tech start-up, has seen his research featured in *wired.com*, *Forbes* magazine, and the *SF Chronicle*.

START-UP BROTHERS GOT THEIR START AT TJ

In 2009, **Sam Odio, TJ '03** (pictured at right), headed West to pursue his tech dreams, where he went through *Y Combinator*, the best-known Silicon Valley start-up accelerator, and started a company that was acquired by *Facebook*. At least that's the short story, as told by his older brother, Daniel (pictured below), the other serial entrepreneur in this high-powered TJ family.

The longer story begins at TJ, where in his senior year Odio founded *OdioWorks* as a budget competitor to *Geek Squad* and similar computer consulting firms that at the time were charging \$70-\$80 per hour. His older brother Daniel was instrumental in encouraging him. As Odio puts it, Daniel said, "Sam, we're going to do this in a day. We're going to get this company registered. We're going to get you some press. I'm going to teach you how to market your business. You'll take it from there."

Odio brought the computer consulting business with him to UVA, sold it, and keeping *OdioWorks* as the name of the parent company, started *DinarProfits.com*, a currency exchange business so profitable that it paid for his education -- concurrent Bachelor's and Master's degrees at UVA's McIntire School of Commerce -- and gave him the capital to start his next venture.

Odio's breakthrough success, *Divvyshot*, was a photo-sharing site for high-resolution photos, launched to 1,000 users in March, 2009. *Divvyshot* was heralded as the cleanest photo sharing site of its generation when it was acquired by *Facebook* a year after its founding. However, *Facebook* was looking for more than the technology. "Buying *Divvyshot* is a talent acquisition for *Facebook*," *TechCrunch* explained in its April, 2010 article on the deal. "Founder Sam Odio and the two other *Divvyshot* team members will be joining *Facebook* and working on *Facebook Photos*, which is the largest photo-sharing service in the world."

After only a year at *Facebook*, where he implemented facial recognition tagging, among other innovations and improvements, Odio left to start his next business, *Freshplum*, which he founded with a partner in 2011. *Google Ventures*-backed *Freshplum* gives online businesses an alternative to promotional codes shoppers use to obtain discounts. In contrast to those codes, typically used by existing customers or those likely to purchase without the discount, *Freshplum*'s promotions offer exclusive discounts to visitors who look like they wouldn't otherwise make a purchase.

In 2014, online advertising powerhouse *TellApart* acquired *Freshplum* and its team so it could deliver those personalized offers through retargeted *Facebook*, display, and email ads that follow potential customers after they leave a shopping site. According to a July, 2014 *TechCrunch* article, "*Freshplum* figures out who to target with what deal, and *TellApart* tracks them down across the web."

Daniel Odio, TJ '94, attended UVA's business school nine years ahead of his brother. After spending a couple of years using his fluent Spanish and Portuguese to help *General Electric* open offices in Argentina and Brazil, he decided to start his own business. He founded both a tech-savvy commercial real estate brokerage and a residential brokerage that disrupted the DC area industry by offering generous rebates to buyers.

After selling the real estate companies, Odio co-founded an app platform startup called *PointAbout*, which with its product *AppMakr* built the *Washington Post*'s first iPhone app, *Newsweek iPad* app, and many others. It was at that point that Odio realized he would need to follow his younger brother to the West Coast in order to more easily attract venture capital.

AppMakr's growth led to Odio's most recent startup, *Socialize*, which created a "Social SDK" (software development kit) that allows app developers to add social features to their mobile applications such as likes, comments, shares, and ways to view other users' in-app activity. This not only allows users to connect with each other but also connects the app with its user base. *ShareThis*, which was providing the same service to web developers but lacked a robust mobile platform, acquired *Socialize* in March, 2013. Odio is now Senior VP of Strategic Partnerships for *ShareThis*, where he continues to work with his *Socialize* team, and *Socialize* is now in over 900 apps, with over 67 million users.

"TJ was absolutely instrumental to me. I had all sorts of 'start-ups' when I was at TJ," Odio said. For example, he purchased and resold parking spaces in nearby residents' driveways, and purchased and resold candy to fellow riders on his Herndon bus. Several years ago he made a couple of appearances at tjSTAR (TJ's research symposium, which often features alumni), where he gave students simple resale ideas they could implement in order to find out whether they too were cut out for business.

Now, Odio is hoping to be able to give back in a more significant way, by helping to organize seed funding and mentors for would-be student entrepreneurs. He recently started a conversation on the TJHSST Alumni Facebook page to encourage entrepreneurship at TJ. "Here's my opening idea: What if a bunch of alums became LPs to a 'microlending' 8th period club at TJ?"

Anuraag Yachamaneni, TJ '16, Co-President of StartupTJ, responded immediately, followed by Mayank Jain, TJ '12, whose coding event start-up began with *HackTJ* (see June 2014 issue). Jain brought in Robbie Clark, TJ '12, who is forming a club at UVA to educate students about the venture capital process and invest in early startups from the UVA community. Odio immediately set up a *hackpad* (similar to *GoogleDocs*), invited a dozen alumni entrepreneurs, including his brother, added Anuraag, Clark, and others, and the conversation began. From the looks of it, Odio is making things happen again, this time for TJ.



GOT TURF? WHY THE CAMPAIGN FOR TJ IS RAISING FUNDS FOR TURF FIELDS**Q: Why does TJ need turf fields?**

A: Unlike fragile grass fields, turf allows for play in most weather conditions. Installing turf at TJ will ensure that our football, soccer, lacrosse, and field hockey teams, as well as our award-winning marching band, get more valuable practice time. It will also keep more games at home. Turf also helps meet the shortage of reliable community field space, which is one reason that the County supports installing two turf fields (when space permits) at the few remaining high schools without them.

Q: When will our turf fields be installed?

A: We hope that the stadium turf field will be installed during the summer of 2016. If the County is not able to work that installation into their schedule, then we will get both fields the following summer at the completion of the renovation.

Q: What contribution is expected from the TJ community?

A: The task force report recommended that the TJ community contribute 25% of the cost of two new turf fields. The average cost of installing one field is \$800,000, so we must raise approximately \$400,000.

Q: What about bathrooms?

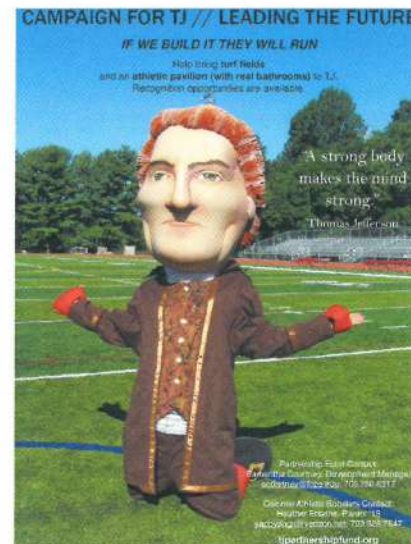
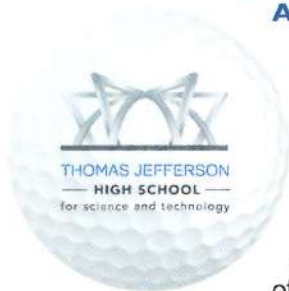
A: TJ's playing fields are located a good distance from the school building but are equipped with only portable toilets. This embarrassing inconvenience easily could be remedied by the construction of an athletic pavilion with indoor bathrooms and an improved snack bar. The cost of such a pavilion is estimated to be \$250,000 to \$350,000, depending on exact site and building specifications, and must be funded entirely through private contributions.

Q. What can I do to make these important improvements a reality?

A: **Donate.** Because a percentage of all Campaign for TJ gifts automatically supports athletic needs, the Campaign has already raised over \$250,000 toward athletics. If donating at the \$1,000 level or above, you may direct your donation to athletic needs. Donations and pledges may be made online or by check. **Help the Athletic Boosters turf TJ.** Contact Mindy Conway, CAB "Turf TJ" Chair at minconway@verizon.net or Heather Erskine, CAB/Partnership Fund Liaison at yappydogs@verizon.net

Q: Can my company place its name on the athletic pavilion or at one of the turf fields?

A: Yes. You can get your company's name in front of the next generation of leaders through a gift to the Campaign for TJ. (For a non-tax-deductible fee, companies or small business owners may hang an advertising banner on the fence around the stadium field.) To discuss these and other opportunities, or anything related to the Campaign, please contact Partnership Fund Development Manager Samantha Courtney at scourtney@fcps.edu.

**CAMPAIGN FOR TJ GOLF TOURNAMENT
A GREAT TIME FOR A GOOD CAUSE**

Come out and support TJ athletics by participating in our second annual Campaign for TJ Golf Tournament, held this year on **April 6, 2015 at Reston's Hidden Creek Country Club**. Colonial Athletic Boosters and the Partnership Fund co-host the tournament, bringing parents, corporate partners, and alumni together for a fabulous day of friendly competition.



In addition to the excellent 18-hole course, carts are provided, along with breakfast, snacks and sodas on the course, followed by a buffet dinner. Members of TJ's champion Varsity Golf Team (right) will be available for putting and Par-3 contests. Raffles, prizes, and a silent auction round out the fun.

Register online at: <http://events.constantcontact.com/register/event?llr=wjx5flab&oeidk=a07eai0s2bw62bc2804>

To sponsor (or register by mail): <https://files.ctctcdn.com/635abebc201/52f17d1c-7802-4eeb-b03c-bd8bc6f89754.pdf>

TJ Community Events

Diwali: The third annual TJ Diwali Celebration drew the largest crowd to date. A fantastic multi-course buffet provided at cost by Mayuri Restaurant and a Namaste I-Nite preview were the highlights of an evening that included plenty of dancing to the DJ's traditional and modern mix.

Diwali Committee ("DC," top): Front row, from left, Jay and Natasha Marwaha, Parents '10, '18, Hosts; Medha Gupta; Shiraz Chokshi, '17; Joya Bhattacharyya, '17; Dhruv Gupta, '16, Namaste President; Divya Gupta, Parent '16; Megha Chokshi, Parent '17, PF Events and DC Chair. Behind from left, Hilde Kahn, Parent '12, '14, '17, PF Communications; Nags Arkalgud, Parent '15, DC; Manmohan Gupta, Parent '16; C. Kotnana, Parent '18, DC; (not pictured, Ashok Anant, Parent '17, PF Volunteer Chair and DC).

Lunar New Year: The second annual TJ Lunar New Year Celebration was a Sunday brunch featuring performances, prizes and informative speakers. A TJ administration panel answered a variety of questions, an alum told students how to make the most of their time at TJ, and a junior/senior panel provided perspective and advice to a crowd that included many freshman families. Over 350 parents, students, alumni, family members, and special guests attended, 100 more than last year!

Lunar New Year Planning Committee (bottom): Front row, from left, Danielle Zhu, Parent '16, '18; Yuyan Zhou, Parent '16; Nancy Yang, Parent '17, '18; Jerri Xu, Parent '17, Lunar Planning Comm. Chair; Hilde Kahn, Parent '12, '14, '17; Lan Fan, Parent '17, '18; Thuy Nguyen, Parent '16, '18; Yan Liu, Parent '18; Behind, from left, Peter Zou, Parent '17; Stan Niu, Parent '17 (not pictured, Hai Yan Wu, Parent '16; Weiwen Chen, Parent '18).

tjSTAR Reception

**Thursday, June 11, 2015, 6-8pm
Hilton Hotel Tysons Corner**

Join research faculty and school administrators, corporate partners, alumni, parents and friends of TJ as we celebrate student research and honor this year's Tommy Award recipients.

Enjoy a taste of tjSTAR (TJ's own science and technology research symposium, held this year on June 9th) as select students representing each of our 14 labs explain their research projects.

Watch your email for an invitation to this very special annual event.



Celebrating Diwali

November 15, 2014
Home of Jay & Natasha
Marwaha, Parents '10, '18
McLean, VA



Celebrating Lunar New Year

March 8, 2015
China Garden Restaurant
Rosslyn, VA



Research Wing Open House

Friday, January 9, 2015, 5-7 pm
TJ's New Lab Wing

Over 200 guests, including alumni and parents of alumni, current parents, and members of the local corporate community, came out on a frosty afternoon to see TJ's brand new research lab wing.

Guests could choose whether to join one of several tours led by Jefferson Society tour guides or stroll through the labs at their own pace (a Korean language tour was also offered). Lab Directors were on hand to discuss current projects, and in the Prototyping Lab a vendor demonstrated the speed and accuracy of his company's industrial-grade router, cutting a programmed shape out of plywood four times, one after the other, in a total of two minutes, instead of the hour that students using earlier machines would have taken. Partnership Fund volunteers mingled with guests, answering questions about recent acquisitions and future needs, while everyone enjoyed hors d'oeuvres and soft drinks.

Middle pictures: Assistant Principal Scott Campbell with Srikant Sastry, Parent '17, Partnership Fund Board Chair; Principal Evan Glazer with Assistant Principal for Science & Technology Tinell Priddy.

If you missed last November's Ribbon Cutting and the January Open House, but are anxious to see the new labs up close, don't despair. There will be additional opportunities to tour both the Research Lab Wing and the new Chemistry/Geosystems Wing, dates and times TBA.

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, or contact Development Director Aristia (Tia) Kinis at akinis@fcps.edu or 703-750-8317.

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tjpartnershipfund.org/newsletter/latest-issue

Exhibit P

From: Scholla, Stephen <[REDACTED]>
Sent: Tuesday, June 11, 2019 2:15 PM EDT
To: TJHSST SciTech Physics [REDACTED]
Subject: Fwd: Physics/AP Physics write up - TJPF
Attachment(s): "TJ Chem for PF B Kennedy.pdf","ATT00001.htm"

Team Leaders,
Here's a request that I'm forwarding on to you.
Steve

Sent from my iPhone

Begin forwarded message:

From: "Zabel, Sally" [REDACTED] >
Date: June 11, 2019 at 2:10:27 PM EDT
To: "Scholla, Stephen" [REDACTED] >
Subject: Physics/AP Physics write up - TJPF

Hi Steve,

I hope you are doing well.

I have a special request for you. Our current International Partners, Shirble, have specifically asked to know more about some of our courses as they are going to work on building some of their own, similar to ours.

They would like to know more about the curriculum design/pace of the year, equipment/books/materials needed, class layout, and possible student projects/paper topics for their own version of the classes.

We have had Brian Kennedy write up information like this about his lab for the International Partners in the past. I have attached it here as an example for you. Don't feel like you have to follow his example exactly, but it gives you a good example of what we are looking for.

If you can write up a similar information packet for your Physics/AP Physics class, the TJPF would like to pay you at a rate of Pay Band 11 for up to 15 hours total of work. We would ask that the project be done over the summer, and given back to us by August 15.

Please let me know your thoughts and if this is possible.

Thanks,
Sally

Sally Zabel
Thomas Jefferson High School for Science and Technology
Partnership Fund // The Campaign for TJ
Manager, Outreach and Partnerships
703-750-8316 (office)
[REDACTED]
tjpartnershipfund.org

Exhibit Q

From: Love, Cathie [REDACTED]
Sent: Tuesday, January 02, 2018 1:36 PM EST
To: Bonitatibus, Ann N [REDACTED] >
Subject: A Team notes
Attachment(s): "A Team notes 1-2-2018.doc"

Cathie Love
Admin. Asst. to Dr. Ann N. Bonitatibus, Principal
Thomas Jefferson High School for
Science and Technology
6560 Braddock Rd., Alexandria, VA 22312
[REDACTED]
[REDACTED]
www.tjhsst.edu

A Team
1/2/2018

Weekly Schedules

Team reviewed out of office obligations. School Board visitor on Thursday. BK out Fri afternoon; Take Tues finance interviews OFF calendar. Keep Friday block.

L Team Agenda

- Master schedule docs – review, educate all staff about master schedule building process
- Reminder: SIIP midyear update due 1/18
- Strategic Planning day on 1/29 (within SIIP goals); MH finalizing survey/plans/distribution, etc.

J Day still not decided upon; need strong regs about what can be done and where—communicate safety issues for students' planning. Cooking is against regulations even outside.

Master schedule routines

- Reviewed AB/BK building a master schedule working document.
- Discussed initial tallies for courses/governors school standards to be followed.
- Courses v. Teachers based on enrollment, not on favorite teachers. No justification needs to be given; our obligation is to meet needs of building/students.
- Placement testing—timeline to be done; why do we do it? Not doing placement tests (CS, math, physics, world language)? To be discussed with DMs at L Team on a future date.

Focus Groups

AB hasn't melded everything yet. Going to meet with support staff soon. AB shared a draft power point. Core mission—some tension and confusion. This process can refute and validate issues. Will share with staff by the end of January; will affect the planning process. Some of these things might influence our current goals.

Diploma Requirement (BK)

- State just changed standards of education; County in process of interpreting what it means; will go in effect next year—major changes were approved: sequential elective requirement (what does that mean?), incoming freshmen will be required to have a sequential set of electives in their schedule and world language will not count. Graduation requirements changing once this standard is explained.
- Numbers of credits is not changing, social studies going from 4 to 3. District might be changing. State approved some changes. A lot of our electives may not appear to be sequential; may need to explain it.
- Changes could affect staffing and starts with incoming freshmen next year. Staffing might not play out until that class is in their third year.
- There are VA state requirements and Local requirements (hopefully will include TJ). May need to request exceptions.
- Admissions regs are being overhauled.

Master Schedule Priorities (BK)

Big ticket items to be discussed.

Jan 22 Homeroom (BK)

Homeroom for course planning, mental wellness screening, etc.

Curriculum Night (BK)

DMs want to discuss today with A Team at lunch/JLC today: focus on curriculum, empower divisions to educate parents about courses, expectations. Building the schedule/timing/food. Gymnastics tournament the same night. Parking problem? Strong turnout but not everyone showing up at once. Student Services working on podcast to develop course guides, updating websites. Depts. do 10-15 min. presentation on the hour/half hour. Still working on plan/logistics.

AP/IB Opt Out forms (BK)

- 1396 students taking APs exams. Letters went out before break to every student currently enrolled in an AP class; opt out current class, let us know now. No one has to take their AP exam.

- Additional weight still applies whether they take the test or not. If you don't take the exam during the year you are in the course and take it the next year, the student has to pay for it. My School Funds does the billing.

Ameson/TJPF (GG)

PF has contract with Ameson that they will pay \$1M in exchange for help in getting their schools up and running in China. Called the Thomas Schools. Curriculum has already been done; now want to talk about building schools. An hour to meet with them? On 1/23 or 24. GG meeting with Sally Z.

Exhibit R

From: Grosicki, Gary J.
Sent: Friday, February 02, 2018 5:03 PM EST
To: Bonitatibus, Ann N <[REDACTED]>
Subject: FW: TUHS next week - future partnership

FYI

From: Zabel, Sally
Sent: Friday, February 02, 2018 11:57 AM
To: Grosicki, Gary J. [REDACTED]; Hannum, Mark [REDACTED]; Stickler, Shawn [REDACTED]; James, Jennifer [REDACTED]
Subject: TUHS next week - future partnership

Hi everyone,

This is the last year of our current contract with TUHS. I know they have been asking you all when you are in China about the future of the partnership – and I assume they will continue to bring it up while they are here next week.

I don't want any of you to feel odd getting this question.

A quick response for you is: "I know Sally and Tia are eager to speak with you further about the future of the partnerships. I have heard they have ideas about workshops that could be hosted to help you all with in-depth topics."

To note: The contract is between the TJPF and Tsinghua University High School – not TJ itself. The school does not sign the contract; only the TJPF does, so please – don't promise them anything. Just direct them to me and Tia Kinis for any "future of the partnership" questions.

Thanks!

Sally Zabel
Thomas Jefferson High School for Science and Technology
Partnership Fund // The Campaign for TJ
Manager, Outreach and Partnerships

[REDACTED]
tjpartnershipfund.org