United States Air Force Academy Class of 1968
50th Reunion Class Gift

Class of 1968 Cyber Competition Team Endowment

Invitation to Our USAFA '68 Classmates

Executive Summary: Your '68 Class Gift Committee invites you to join us in funding the USAFA Cadet Cyber Competition Team with a $500,000 endowment, as our 2018 50th Class Reunion Gift. The gift is designed to provide an estimated perpetual $25,000/year in travel, award and other expected cadet expenses not funded by the government.

Why a '68 Class Gift?: In 1964 we came to USAFA to be part of something bigger than ourselves that would make a real difference in protecting our country. Now, in 2016, we know that we '68ers did our part in uniform…we served with integrity and excellence…and it's time for others to follow our example. We're not getting any younger, and we suspect that you may be spending a bit more time thinking about your legacy—the mark you're still making and will leave behind some day with those who love you, in your chosen profession(s), and perhaps upon the youngsters who are following you in an Air Force uniform; thus this invitation. We're not professional fundraisers. We are your classmates. We're not asking you for anything. We are inviting you to join us in a unique, timely, and important Class of 1968 – only opportunity.

Process: In November 2015 a group of our '68 classmates from around the country, following procedures suggested by the USAFA Endowment, created a core gift committee. Over the next nine months, the committee met with Endowment and Academy staffs to identify a list of over 25 potential projects. We then set about to identify the specific project that best met the criteria we selected to guide us: (1) Recognizes the Class, (2) Visibility, (3 & 4) Meaningful to Our Class and USAFA, and (5) creates an Enduring Legacy. We held meetings with faculty and with senior USAFA and Endowment staff and saw a lot of great ideas that were not yet ready for funding. After many discussions and differences we finally reached unanimous agreement to make this one '68 Class Gift proposal. We owe you this invitation, and we hope you will join us.

Why the Cadet Cyber Competition Team?
- ➢ Meaningful: With the Chief of Staff of the Air Force and USAFA already committed to the Air Force Cyber Center on the USAFA campus, we already know from the USAFA Chief Scientist that the Cyber Center will engage "all cadets all 4 years." Today, there's already a Cadet Cyber Club — yet another opportunity for our Cyber

Competition Team endowment to encourage more cadets to engage. Right now, USAFA is well *behind* West Point, Annapolis, and even the University of Colorado at Colorado Springs in cyber center action. Fortunately, each of these is ready to be a willing partner, as is the Colorado Springs headquarters of Air Force Space Command, which leads Air Force cyber warfare efforts. As USAFA Superintendent **Lt Gen Michelle Johnson** was recently quoted in the Colorado Springs *Gazette* "We're crawling." But USAFA is committed to the Cadet Cyber Competition Team. While the Team is doing well now, the Class of 1968 has the opportunity to help USAFA do even better in the cyber arena, an area that is most visible yet least expensive – intercollegiate and military competition (beyond the scope of normal academic programs).

➢ Enduring: Cyber warfare will be a pillar of all future wars, and is already a constant threat (e.g., the 2009 *Stuxnet* attack on Iran's nuclear centrifuges and North Korea's 2014 attack on Sony Pictures). We of '68 have a timely and lasting endowment opportunity to make a real difference in the future readiness of the U.S. Air Force to fight those wars. We compare today's cyber warfare preparation to what many Army generals thought of airplanes in the 1930s. They had no idea. You know it, just as you've lived through milestone warfighting advances such as GPS, smart bombs, global space-enabled communication, stealth aircraft, RPAs, and now high-threat cyber warfare. Douhet's Quotation, which we all memorized as Doolies, applies directly to cyber warfare. (Hint – "Victory smiles upon those who anticipate the change…") So we invite you to join us in planting the seeds of future victories in war, where "…the fields of friendly strife…" now definitely include cyber fields. We don't want to invest in a cold stone memorial celebrating ourselves while cadets walk past indifferently—we want to make a lasting legacy difference in the aspirations and skills of cadets who will win those wars and protect your grandchildren! Here is an opportunity to play a direct substantial role in producing future warfighters who will "Fight to Win" – which happens to be the motto of our 50-year Legacy Class of 2018.

➢ Visibility: The Cyber Competition Team is notably already a winner among 10-12 annual cyber competitions. They have defeated West Point and Annapolis and finished 2nd in the National Collegiate Cyber Defense Competition. We're investing in a proven winner—and a valuable recruiting tool for the Academy. Our support will be made visible to the 100 or so cadets who try out for the team, and will be noted by all cadets who either take the Computer and Network Security major or just take the required courses in computer science and IT.

➢ Recognizes '68: Endowment staff advises that '68, if it can reach the $500,000 endowment figure, *will be the only recognized donor to this effort,* which may include physical recognition in Fairchild Hall, awards to team members, and even team or competition naming opportunities, as well as news releases and Internet postings about team events and wins. As team members graduate and succeed as joint cyber warfighters, they'll surely remember and tell others of the boost in skills and inspiration given to them by the Class of 1968.

You'll have questions and good ideas, and are welcome to contact any of us individually or to email us at 1968usafa@gmail.com. To help, we're providing a separate sheet covering some Q&A topics. We think '68 is still great, and that together we can and will do this. Thanks for your consideration.

Your U.S. Air Force Academy Class of 1968 50-Year Gift Committee
Bill Maywhort (Chairman), Bill Begert, Garry Dudley, Bill Eckert, Gary Hoffman, Mike Parkinson, Steve McPhail and Alan Price

1 Attachment: Q&A Sheet and Additional Quotes & Thoughts AND a Note from the Dean

Q: How many cadets participate in the Cyber Team?
A: The team itself includes 15-25 cadets but this is not the limit of cadet involvement. More than 100 cadets compete for positions on the team. All cadets are introduced to the team in required computer science classes and the team members serve as instructors in the summer cyber program.   They are cadet instructor pilot equivalents and each year train at least 200 new 3-degrees in cyber operations and tactics.

Q: Why does the Cyber Team need money?
A: The USAFA Cyber Competition Team has been operating since 2011`. During that time team activities have been funded with both government money and private money. While classrooms, equipment and coaching for the Cadet Cyber Competition Team are provided by the Academy's academic funding, that funding does not include team travel, team awards and some other ancillary expenses. Team travel is required because some of the competitions are conducted on "closed computer systems." For these closed-system competitions the team must travel to the location of the system in order to compete. Over the past few years the primary funding has come from private gift money in the form of sporadic individual contributions in varying amounts. There is currently no reliable or predictable source of funding.

Q. How are the Army and Navy teams funded?
A: The USMA team is funded using a model that combines military and private money very similar to the one used at USAFA. The USNA team is funded entirely with privately donated funds.

Q: How much does the Cyber Team need to continue operating?
A: The team currently budgets $25,000 per year for travel including the CyberStakes live competition our endowment would guarantee that need is met.

Q: If '68 creates an endowment to fund the Cyber Team what will happen to the money that is currently used to support the team?
A: Since the team is currently funded by private donations it is impossible to tell what those donors may do.   They may, of course, move their donations to other programs but they may also continue to donate to the Cyber team with either one-time gifts or a contribution to increase the '68 endowment.

Q: What will happen to the Cyber Team if we don't support it?
A: The Cadet Cyber Competition Team does not now and never has received direct DoD or other government funding. It is funded entirely from the discretionary money given to the Superintendent from private donations.   If that discretionary money were cut or if it must be used for other purposes, the Team could simply cease to exist.

Q: What's the role of the USAFA Endowment in this?
A: Your '68 classmates aren't professional fundraisers, so your committee has appreciated the advice and patience of the Endowment staff in (1) explaining how the endowment process works, (2) helping us make contact with appropriate faculty and staff, and (3) advising us how to avoid legal errors, potential tax risk, and many other things they know that we didn't. If we reach a $500,000 endowment for the Cadet Cyber Competition Team, the USAFA Endowment will administer those funds according to our '68 class guidance in perpetuity and at no cost to the '68 Class Gift Fund—a pleasant surprise to us. You'll also have opportunities at any time to make later voluntary donations or bequests.

Q: What if we in '68 can't reach the $500,000 perpetual endowment figure?
A: In this case, your '68 classmate committee will examine class options, which could include (1) annual funding of the Cadet Cyber Competition Team until the '68 Gift Fund is exhausted, or (2) reduced annual funding, with the understanding that the Endowment would then seek another class to partner in full annual funding of the team. Right now, the Endowment is offering this endowment opportunity to '68 because your committee thinks we can do it.

However, if another class comes along and can promise $500,000 for sure, then we could simply lose the opportunity to be the "only recognized donor."

Q: What if we over-fund it?
A: Your class committee, in coordination with Endowment staff and USAFA Computer Science Department, would review the requirement and decide on next steps, such as (1) authorizing the faculty to use excess funds to support the Cadet Cyber Club or other extracurricular cadet cyber activities, (2) purchase of exceptional cyber equipment for use by cadets beyond what USAF funds will pay for, (3) purchase of equipment for the new Air Force Cyber Center at USAFA of a quality beyond what USAF standards and funds will pay for (as was done by many grads, classes, and USAFA supporters for the Center for Character and Leadership Development's new Polaris Hall) .

Q: What if we endow it and later the Cyber Team ceases to exist?
A: Given senior USAF and USAFA interest in cyber on this campus, this would be quite a surprise. But since we are convinced that cyber will be a pillar of all future wars, in this odd situation your '68 class gift committee would intend to authorize the Endowment and the Computer Science Department to support other extracurricular cadet cyber activities, and then in the most extreme future case, revert the remainder of the funds to the Dean's Discretionary Fund.

Q: In one competition there were over 350 teams. Is there a governing body that organizes all these competitions?
A: There are no national or international bodies to govern cyber competitions. Of course, this may change in time but for now this is one reason competitions must be completely funded by the participating schools.

Q: Just how big is the cyber threat?
A: We're not experts in cyber, and it's a pretty arguable topic, but here's one classmate's perspective: *Most cadets and USAF junior officers think war is fought from a cockpit. But America fights wars jointly. And it does almost everything with huge dependence and associated vulnerabilities (ours and sophisticated potential enemies') in computers. Wars will be won and lost in the cyber realm. Societies will be incapacitated in the cyber realm. Imagine modern warfare without satellite access. Imagine your family's daily life without electricity. Someday, in/from large cities, hundreds of thousands will die because of cyber-attacks, as they did from fire-bomb and then nuclear attacks by our Army Air Forces in World War II—something most Army generals in the 1930s had no clue about. Douhet was right.*

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Additional Quotes and Thoughts

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"These characteristics and conditions present a paradox within cyberspace: the prosperity and security of our nation have been significantly enhanced by our use of cyberspace, yet these same *developments have led to increased vulnerabilities and a critical dependence on cyberspace, for the US in general and the joint force in particular."*
—Joint Publication 3-12 (R),
     Cyberspace Operations, 5 February 2013

"If the nation went to war today, in a cyberwar, we would lose," Mike McConnell *told a U.S. Senate committee. "We're the most vulnerable. We're the most connected. We have the most to* lose*."* (Rear Admiral (Ret) Mike McConnell was director of national intelligence from 2007 to 2009 - now Vice Chairman at Booz Allen Hamilton.)
Cyberwar, S. (2016). *Security expert: US would lose cyberwar*. *PC World*. Retrieved 8 September 2016, from
http://www.pcworld.idg.com.au/article/337282/security_expert_us_would_lose_cyberwar/

"Assuring the USAF Core Missions in the Information Age" – from the Air and Space Power Journal
By Lt Gen William J. Bender, USAF & Col William D. Bryant, USAF
http://www.au.af.mil/au/afri/aspj/article.asp?id=336

The Stars and Stripes contains a few comments from Gen Hyten, Commander, Space Command. . .
http://www.stripes.com/news/air-force/air-force-to-develop-cyber-squadrons-general-says-1.391974

18 Jan 2017

Dear Mr. Dudley

Thank you for your recent communication about the interest of the Class of '68 in supporting cadet programs. This letter responds to your inquiry about the Cyber Competition Team.

USAFA's Cyber Competition Team consists of 15-25 cadets from all classes and a variety of academic majors (not all technical majors). The highly skilled team members compete in approximately a dozen cyber competitions each year. What is a cyber competition? Cyber competitions, involve individuals and teams applying highly technical computer and networking skills to solve challenging problems. Some competitions are limited to service academy cadets or other U.S. undergraduate students. However, in many competitions, our cadets compete against other undergraduates, graduate students, and industry professionals from nations all around the world. Many competition problems are the very same type of problems Airmen must solve while conducting cyber operations in defense of our nation, including offensive cyber operations conducted against our nation's adversaries. In fact, many former Cyber Competition Team members have gone on to become Air Force Cyber Operations officers, directly applying the skills they developed to the defense of our nation in cyberspace.

In addition to competing year-round, members of the Cadet Cyber Team also form the core of USAFA's Basic Cyber training instructor cadre. They are the cadet instructor pilot equivalent for our cyber training. The Basic Cyber course introduces approximately 200 new 3-degrees to cyber operations techniques, tactics, and procedures during one of several week-long summer sessions. Having a highly trained and experienced cadre of cadet instructors ensures cadets taking Basic Cyber have the best possible learning experience. Members of the team also participate in Air Force CyberWorx projects that can have a significant impact on addressing the Air Force's toughest cyber challenges. Finally, a top-performing cyber team helps USAFA attract high school students with great cyber and STEM talent from throughout our nation.

Since its establishment in 2011, USAFA's Cyber Competition Team has performed very well and has been ranked among the top teams in the world. The team's primary expenses include travel to a few competitions per year (cadets compete from USAFA in most competitions) and high-end training.

I am extremely proud of the cadets on the Cyber Competition Team as well as cadets on the other Dean's Teams. They represent the Air Force Academy and the broader Air Force exceptionally well. I hope you and your classmates will take the opportunity to learn more about these teams on your next visit to your alma mater. Thank you for all you do for your Air Force Academy!

ANDREW P. ARMACOST, Brig Gen, USAF
Dean of the Faculty