

THE PATUXENT PARTNERSHIP ANNUAL REPORT

2021



LIKE NO OTHER CONNECTION

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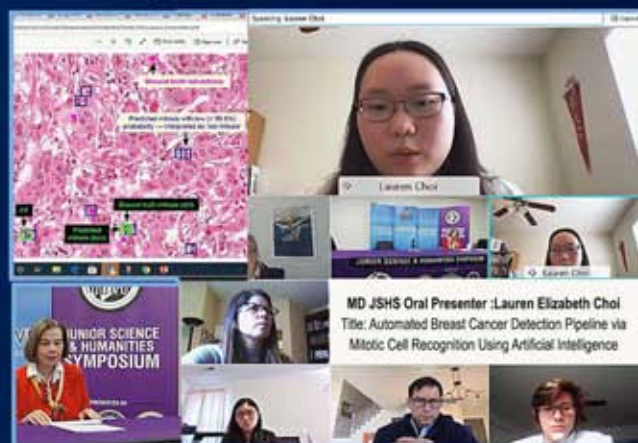
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RADM Frank Morley & Bonnie Green - TP Webinar & discussion March 23rd, 2021



JSHS MD Regional Competition presentations - March 15th & 16th, 2021



R to L: Bonnie Green - TPP | Kee Abell - NAWCAD | Andrew Koch - growingSTEMS, NAWCAD | Zach Stachelczyk - growingSTEMS/RoboBees | NAWCAD | Tim Miedinski - growingSTEMS/RoboBees | Erik W. - growingSTEMS, NAWCAD | Tom Pielan - KBR

DEVELOP + CONNECT + ACHIEVE



TPP programs, forums, panels and other activities create opportunities for the exchange of ideas and information, fostering growth and opportunities for our members.



The Patuxent Partnership (TPP) is a non-profit member organization that fosters collaboration between government, industry, and academia to advance education, and to advance science, technology and technology transfer. We increase STEM outreach and workforce development through an array of initiatives, and work to support economic growth in our area.

While COVID still limited TPP in person programs for much of 2021, TPP continued to use our 'virtual' format. The purpose remained the same - programs on topics of interest to our members, and the subject matter experts to discuss these topics. While online programs presented some obstacles, we worked to overcome these challenges. TPP programs and outreach have served to focused on a broad spectrum of topics, from Naval X and Tech Bridges to America and the South China Sea, and AI at War. TPP has continued to provide valuable information and resources to our members and the broader community.

Our collaboration with academia supports the growth of our ecosystem and our community, increases STEM research and engineering, as focuses on STEM careers important to the Navy and the defense community workforce. Our speaker programs, forums, and networking promote the exchange of ideas, information, and data related to technologies. We continue to support the Naval Aviation Systems Consortium through the use of Other Transaction (OT) Authority.

Our ongoing Partnership Intermediary Agreement (PIA) with NAWCAD support their mission and keeps the community informed. Our Educational Partnership Agreement (EPA) with NAWCAD and St. Mary's College of Maryland (SMCM) supports research, programs and internships. From applied physics to human factors, SMCM faculty and staff are supporting NAWCAD and the community. We are working to engage with Indian Head through our EPA and our PIA, to identify partnering opportunities and to increase the connections between Indian Head and Pax River.

TPP and CSM have had a strong working relationship for the many years. The TPP Pathways Scholarship at CSM supports mechanical and electrical engineering. This \$10,000+ annual commitment covers two full scholarships. One of the scholarship requirements is that students agree to apply to the UMD Engineering programs taught here in Southern Maryland. Most of the graduates ultimately go to work for the Navy at Pax River, and we are working to increase that pipeline.



A message from our EXECUTIVE DIRECTOR & BOARD PRESIDENT

Dear TPP Members, Friends and Colleagues,

FY21 has been a year of adapting to the evolving new normal. As COVID19 and the Delta Variant continue to affect our way of life, it has meant becoming more creative and resilient, and embracing change.

If 2020 highlighted areas of strengths and weaknesses, 2021 has been a year of growth and change. After much deliberation TPP is moving forward with new technology support services and hardware upgrades. The remainder of 2021 will see us upgrading, adapting and testing this technology. This will better allow us to stay connected with you, our members. If we have learned anything over the past year or so, it is how dependent we are on secure and stable means of communication.

Whether you love it or hate it, Teams, Zoom and WebEx are part of every workday. TPP has held a few in-person programs, and that window of opportunity is not guaranteed to stay open. We continue to build and host online programs when we expect a large attendance, such as Industry Days. We miss the in-person connections with all of you, but there is a silver lining to this cloud. Our online programs have been accessed by record making attendance and by far-flung audiences. Our TPP-ANA panels have been incredibly engaging, with close to 400 attendees for a recent program. Who can deny the convenience factor of joining your favorite program while still wearing your gym shorts?

TPP values the opportunity to work with all of you in industry, government, academia, along with organizations such as the Southern Maryland Navy Alliance, the St. Mary's County Chamber of Commerce and Leadership Southern Maryland, as we continue to expand our network and our impact.

We continue to support the Naval Aviation Systems Consortium (NASC) in support of the technology needs of the Naval Air Warfare Centers (NAWCs) and the Naval Air Systems Command (NAVAIR) through the use of Other Transaction (OT) Authority. We work with CMG, the Consortium Manager, and NAWCAD.





Our Education Partnership Agreement (EPA) with St. Mary's College of Maryland (SMCM) and NAWCAD, focused primarily on the classic sciences, continues to flourish. The EPA facilitates research work and internship opportunities. TPP again was awarded the MD JSHS grant for 2020-2021. Partnering with NAWCAD and SMCM, TPP organized an online 2-day symposium. Three students received regional awards and went on to compete in the National competition, where several students received additional awards.

The Patuxent Partnership Physics Scholarship is the latest of many ways TPP has worked closely with SMCM, and supports STEM education in an area of critical interest to the Navy. The \$10,000 scholarship 2021-2022 scholarship was awarded to first year student Caitlin Kubina, of Columbia, Maryland.

Our programs with the Center for the Study of Democracy are 'virtual' for now, and we look forward to in person programs in the coming year.

Our work has broadened to include Apprenticeship programs and Work Development opportunities through Tech Jobs Rule. STEM-ING, Robotics, and STEM outreach continue.

TPP has supported The RoboBees, now known as 'growingSTEMs', for 20 years. This year TPP Board Members, along with the Director of the Strategic Education Office, toured the growingSTEMS facility, known as the 'HIVE,' in Hollywood, MD, with Erik Wood, the Director of Programs.

The TPP Annual Dinner at the Pavilion in beautiful Historic St. Mary's City, was a highlight of the year. We had almost 300 member guests who enjoyed time to network and talk with friends.



After dinner VADM Francis "Spanky" Morley provided remarks about the work he is doing and how it related to the work at Pax River.

The last 18 months have shown us that 'Change' brings new meaning to our mission to Develop, Connect and Achieve.

Our Southern Maryland region continues to build, adapt, and move forward, and TPP is pleased to be a part of it. We appreciate and value your participation in our programs, your support of our work, and your feedback and suggestions.

Thank you all for the privilege of serving you and working with you. We look forward to the coming year, which promises once again, to be full of surprises.

Bonnie Marie Green
Bonnie Marie Green
Executive Director

Raymond J. Wernecke
Ray Wernecke
President, Board of Directors

OUR MEMBERSHIP

3000+ Members



OUR MEMBERSHIP

TPP is all about you, our members. You are actively engaged in improving our quality of life through education, workforce development and retention, community support, and cultural activities. You are invested in a wide range of activities and collaborations with TPP to increase interest and involvement in STEM activities throughout the community. You support TPP programs and activities, and you give us constructive feedback about how we can improve. TPP members volunteer to serve as judges, observers, and mentors for STEM activities. We could not do it without you.

Many TPP members are Navy focused, primarily NAWCAD and NAVAIR. Others are engaged across the Department of Defense, the Department of Homeland Security, and other Federal, State and local organizations. Still others support these efforts through education and outreach. We work to provide something for everyone.

Programs and Events

TPP members participate to member-only events and programs, such as the TPP Annual Dinner and the TPP Holiday Party. Many TPP programs offer reduced or free registration to members. TPP members sponsor programs and this year, for the first time, we had sponsors for our dinner.

Publicizing Events and News Articles

Members may share information on events through our Community Events Calendar and News section on the TPP webpage. The information also may be included in the weekly TPP Newsletter and distributed to our entire membership.

Networking

With 200+ corporate partners, and over 3,000 registered members and program participants, TPP offers excellent networking and partnering opportunities. Prior to most events, we share attendee information online. When we meet in person for TPP events, members are provided with nametags that include corporate affiliation information, making the networking process easy. The once hated nametag has become respectable!

Access to Members-only resources

This members-only section of the TPP website offers access to corporate capabilities and documents submitted by our members, whitepapers and briefings from TPP programs and symposiums, and other information may be found there.

OUR BENEFACTORS

TPP Benefactor membership is by invitation. In addition to those benefit opportunities previously listed, benefactors are afforded additional benefits and visibility. These include prominently displaying Benefactor Corporate Logos on the TPP homepage, with a link to the Benefactor's webpage. Benefactors information is included on programs and in the TPP annual report, and are recognized at TPP sponsored programs.

TPP Member Of The Year Award

The Patuxent Partnership Member of the Year Award recognizes a corporate member that best exemplifies outstanding leadership, community support, and commitment to education and the economic growth and development of Southern Maryland.

Previous awardees include Whitney Bradley & Brown Inc. (WBB), Naval Systems, Inc. (NSI), Aviation Systems Engineering Company, Raytheon, HTii, Northrop Grumman Corporation, AVIAN LLC, and Lockheed Martin.

Candidates must demonstrate strength in business performance, employee culture, community affairs, and volunteer activities, to be considered for the award. Nominees must be TPP members in good standing for a minimum of one year.



Whitney Bradley & Brown Inc. (WBB) accepting their Member of the Year Award 2019, at the TPP Annual Dinner 2021

OUR BENEFACTORS



OUR PROGRAMS

Center for the Study of Democracy

TPP and the Center for the Study of Democracy (CSD) at St. Mary's College of Maryland have a history of collaboration that goes back almost 15 years, jointly sponsoring and presenting programs of interest to our members and the broader community. Traditionally, we co-sponsor an annual Patuxent Defense Forum, a Patuxent Policy group and other programs throughout the year, on issues ranging from foreign policy to national security, energy, and of course, national defense. Programs were limited in 2021 due to COVID-19, but our 'virtual' format served us well.

CSD and TPP collaborated on three programs this year:

- **Rocks & Rules: America and the South China Sea** - October 21, 2020, with Gregory Poling, Senior Fellow for South East Asia and Director, Asia Maritime Transparency Initiative.
- **Things Go Awry: Integrating Anthropology in Military Organizations** - February 3, 2021, a lecture by Dr. Kerry Fosher, who works with USMC.
- **My Journey To NASA and Becoming a Soft Power Advocate** - February 10, 2021. MG Charles F. Bolden USMC (ret), former NASA Administrator, astronaut, and TPS graduate.

Association of Naval Aviation /Squadron #18

TPP has partnered with the Association of Naval Aviation's Squadron #18 (ANA) Patuxent River for more than 12 years, hosting over 40 panel presentations to date. These panels focus on topics of interest to the Naval Aviation community. These programs are an outstanding opportunity to share the Navy's significant contributions and what is happening "inside the gate" with our members and others. The Marine Corps also participates in some panels. TPP member organizations sponsor the panels. ANA provides scholarships to local students.

This year TPP and ANA have partnered on the following virtual programs this year:

- **Jets, Props, and Vertical Lift: Dominant Power Projection and Sea Control** - December 14, 2020, featuring Keynote Speaker: Air Boss, VADM Kenneth Whitesell.
- **The Future of Marine Corps and Navy VTOL**, - February 22, 2021, with Keynote Speaker: Mr. William "Bill" Taylor, DASN (Air-Ground).
- **The Carrier Air Wing with VADM Jeffrey Hughes** - May 25, 2021. Deputy Chief of Naval Operations for Warfighting Development, N7, Office of the Chief of Naval Operations.

Subject Matter Expert (SME) Webinars

- **Peter Franchot, Maryland Comptroller**, October 15, 2020, Virtual. Comptroller Franchot talked about the State of Maryland budget, value of Navy and Federal installations, and the impact of COVID on the budget and revenues.
- **VADM Michael T. Moran** Principal Military Deputy, ASN (RD&A), February 17, 2021. VADM Moran briefed attendees on topics of particular interest to naval aviation, that are under his purview.
- **RADM Francis D. Morley**, Director, Navy International Programs Office - March 23, 2021. RADM Morley discussed Navy international programs, working with partners, and foreign military sales.



Gregory Poling
Rocks & Rules: America and the
South China Sea

"THINGS GO AWRY: INTEGRATING ANTHROPOLOGY IN MILITARY ORGANIZATIONS"

Lecture and Discussion by
Dr. Emily Fisher

DATE: Wednesday, February 10, 2021
TIME: 12:00 p.m.
LOCATION: Virtual Event
Link: <https://bit.ly/anthropology>

Anthropology has a critical role to play in military organizations, but it is often overlooked. Dr. Emily Fisher, an anthropologist and former military officer, will discuss the challenges of integrating anthropology into military organizations and the importance of understanding the cultural context of military operations. She will also discuss the role of anthropology in understanding the needs of military personnel and the importance of integrating anthropology into military planning and operations.

Dr. Fisher is a senior research anthropologist at the Center for the Study of the American Military, a research center at the University of Maryland, College Park. She is also a senior research anthropologist at the Center for the Study of the American Military, a research center at the University of Maryland, College Park. She is also a senior research anthropologist at the Center for the Study of the American Military, a research center at the University of Maryland, College Park.

MY JOURNEY TO NASA AND BECOMING A SOFT POWER ADVOCATE

Lecture by Major General (Ret.) Michael J. McHugh, USAF, as moderated by The Patient Partnership

DATE: Wednesday, February 10, 2021
TIME: 1:30 p.m.
LOCATION: Virtual Event
Link: <https://bit.ly/softpower>

Major General (Ret.) Michael J. McHugh, USAF, will share his journey from a military officer to a soft power advocate. He will discuss his experiences at NASA and the importance of soft power in international relations. He will also discuss the role of the military in soft power and the importance of understanding the cultural context of international relations.

TPP/ANA PANEL

"Jets, Props and Vertical Lift: Dominant Power Projection and Sea Control"

Registration is FREE
Wednesday, February 10, 2021
12:00 p.m. - 1:30 p.m.
via WebEx webinar platform

Panelists will discuss the challenges of power projection and sea control in the 21st century. They will also discuss the role of the military in power projection and sea control and the importance of understanding the cultural context of international relations.

Keynote / Moderator: Admiral Mark A. Mitsch, USN, Ret.

Panelists: Admiral Robert A. Papp, USN, Ret.; Admiral Michael G. Smith, USN, Ret.; Admiral Robert A. Papp, USN, Ret.; Admiral Michael G. Smith, USN, Ret.

REGISTER TODAY! LIMITED AVAILABILITY

TPP/ANA-MCAA PANEL

"The Future of Marine Corps and Navy VTOL"

Registration is FREE
Wednesday, February 10, 2021
1:30 p.m. - 3:00 p.m.
via WebEx webinar platform

Panelists will discuss the future of Marine Corps and Navy VTOL. They will also discuss the role of the military in VTOL and the importance of understanding the cultural context of international relations.

Keynote / Moderator: Admiral Mark A. Mitsch, USN, Ret.

Panelists: Admiral Robert A. Papp, USN, Ret.; Admiral Michael G. Smith, USN, Ret.; Admiral Robert A. Papp, USN, Ret.; Admiral Michael G. Smith, USN, Ret.

REGISTER TODAY!

TPP/ANA PANEL

"Distributed Maritime Operations: Who you gonna call? The Carrier Air Wing"

Registration is FREE
Tuesday, May 18, 2021
12:00 p.m. - 1:30 p.m.
via WebEx webinar platform

Panelists will discuss the challenges of distributed maritime operations. They will also discuss the role of the military in distributed maritime operations and the importance of understanding the cultural context of international relations.

Keynote / Moderator: Admiral Mark A. Mitsch, USN, Ret.

Panelists: Admiral Robert A. Papp, USN, Ret.; Admiral Michael G. Smith, USN, Ret.; Admiral Robert A. Papp, USN, Ret.; Admiral Michael G. Smith, USN, Ret.

SPONSORED BY BGI



Peter Franchot
Maryland Comptroller



VADM Michael T. Moran
Principal Military Deputy, ASN (RD&A)

SECURITY COOPERATION UPDATE 2021

RADM Morley will address current Department of the Navy security cooperation efforts, foreign military sales, and international engagements as we transition administration and work through COVID-19.

Rear Admiral Francis Morley, Director, Navy Security and Programs Office, Office of the Secretary of the Navy

DATE: Tuesday, March 23rd
10am - 11am (EST)
via WebEx webinar platform

Registration is FREE
Log in details for the webinar will be sent to attendees on Monday, March 22nd.

Registration @ <https://paxpartnership.org/tp-event/tp-cdm-morley/>

REGISTRATION NOW OPEN!



ANA Panel February 2, 2021

The Future of Marine Corps and Navy VTOL

From top panelists:
Capt Eric Soderberg
Col David Walsh
Capt. Todd Evans
Col Jack Perrin

Mark 'Slick' Converse, Director, Integrated Warfare Programs - Cypres International
Jennifer Brown, Programs & Membership Director - The Patient Partnership
Bonnie M. Green, Executive Director - The Patient Partnership
RADM Bert Johnston (Retired)

OUR PROGRAMS

TPP/Women in Defense Panel
Clockwise from top:
Ms. Emily Harman,
Ms. Christina
Johannsen,
Dr. Theresa Shafer,
Ms. Shannon
Katulich



• **TPP/Women in Defense (WID) Panel:** Virtual. TPP and WID partner on topics of mutual interest. The celebration of Women's History Month Panel, took place on March 24, 2021. Our panelists were Ms. Emily Harman, Founder, Onward Movement; SES (ret), and former Director, Office of Small Business Programs, Dept of Navy; Ms. Christina Johannsen, President, St. Mary's Young Professionals; Ms. Shannon Katulich, President, Chesapeake Bay Chapter, Women In Defense; Theresa Shafer, PhD, Director of Engineering Education and Research Partnerships, Strategic Education Office, NAWCAD.

• **AI at War: How Big Data, Artificial Intelligence, and Machine Learning Are Changing Naval Warfare.** Virtual - July 14, 2021. This was a book discussion with authors CAPT George Galdorisi, USN (ret), Director of Strategic Assessments and Technical Futures for the Naval Information Warfare Center Pacific and CAPT Sam Tangredi, USN (ret) Leidos Chair of Future Warfare Studies and Director of the Institute for Future Warfare Studies, U.S. Naval War College. Topics of critical interest to naval aviation.

• **UAS Safety Panel Discussion - Virtual - July 27th.** This panel was moderated by RADM Tim Heely, USN (ret), Senior VP of Strategy, Vanilla Unmanned, and former board member, Association of Unmanned Vehicle Systems International (AUUSI). In addition to serving as moderator, Heely provided a perspective for small UAS. Panelists: Robert Bader, UAS and Targets Chief Airworthiness Engineer, NAVAIR Airworthiness & CYBERSAFE Office (ACO); CAPT Stewart Harro, Managing Director Air Safety, FedEx Express; Jay Kinser, Manager, Strategic Programs Branch, FAA, UASTPP.

• **Navy Working Capital Fund, August 11, 2021, at USMSM.** This in person briefing was given by former TPP board president Gene Townsend on the Navy Working Capital Fund (NWCF). This was the first TPP in person program since the start of COVID-19 and the attendees were keenly interested in learning and understanding the NWCF. Townsend, who previously served as Comptroller of NAWCAD (1977-1996), Chief Financial Officer for three defense companies and one IT startup, currently teaches business and finance, and continues to be actively involved in many community organizations in southern MD, is a subject matter expert on this subject. He covered the background, how it works, constraints and benefits, and answered a variety of questions.

"AI at War: How Big Data, Artificial Intelligence, and Machine Learning Are Changing Naval Warfare"

TPP is pleased to host authors:

CAPT (ret) Sam Tangredi
Leidos Chair of Future Warfare Studies and
Director of the Institute for Future Warfare
Studies, U.S. Naval War College

CAPT (ret) George Galdorisi
Director of Strategic Assessments and
Technical Futures for the Naval Information
Warfare Center Pacific

TPP - AI AT WAR
BOOK DISCUSSION
(Virtual program)
Wednesday, July 14th
12 - 1pm ET

FOR MORE INFORMATION AND
TO REGISTER:
<https://partnership.org/event/ai-at-war-book-discussion/>

THE PATUXENT PARTNERSHIP
LINKING AND GROWING CONNECTIONS

UAS SAFETY PANEL DISCUSSION

MODERATOR

RADM Tim Heely,
Senior VP of Strategy,
Vanilla Unmanned and former
board member for Association
of Unmanned Vehicle Systems
International (AUUSI)

Panelists: Robert Bader, UAS and Targets Chief Airworthiness Engineer, NAVAIR Airworthiness & CYBERSAFE Office (ACO); CAPT Stewart Harro, Managing Director Air Safety, FedEx Express; Jay Kinser, Manager, Strategic Programs Branch, FAA, UASTPP.

NAVY WORKING CAPITAL FUND

Briefing with Gene Townsend, former
Naval Air Warfare Center Aircraft Division

CONNECT

- **China: An Existential Threat to the Global Order with Dr. Dale Moore** - August 26, 2021 - USMSM. TPP board member Dr. Dale Moore discussed the substantial policy changes and investments China is making, intended to disrupt the status quo, create a new China-centric global order, and provide both military and economic offsets for future advantage to bring it to fruition. He is the Founder and President of The Moore Group LLC.

- **3D Media Briefing & Demo** - August 31, 2021 - Hybrid at TechPort. Daryl Roy, founder and CEO, 3D Media talked about the work 3D Media does with the USAF, how they build fully immersive VR training simulators, and their use of cutting edge metrics to grade and evaluate users. Roy shared several other projects 3D Media is engaged in, and the value of the SBIR program. It was hosted in person from TechPort, with a group participating virtually from "the Grove" in Orlando and there were online viewers. This program was a collaboration of the Southern Maryland Tech Bridge and the Central Florida Tech Grove, a partner to the Orlando Tech Bridge.

- **Southern Maryland: Where Time and Tide Meet (Part 1),** September 8, 2021 - Virtual - Lucille Walker, Executive Director, Southern MD Heritage Area provided attendees with deeper insights to our Southern Maryland Heritage areas, where the stories of the people, the land, and the waters of Maryland, have been intertwined for thousands of years. It was the first in a three part series, with a particular focus on St. Mary's County. The history and culture of this area is very much a part of our lives today. with in person programs and activities starting up again.

- **Cyber Threats September 14, 2021 - USMSM.** Mr. Franco Cappa, CISA/DHS and Agent Philip Todd, FBI talked about the increasing cyber threats to government and industry. Cappa and Todd shared information about Federal services and resources available to critical infrastructure operators and organizations. Todd also covered Counterintelligence threats and highlighted some of the recent foreign threats identified and investigated by the FBI.

- **CMMC: Facts, Fiction & What You Need to Know Now,** September 30, 2021 - Virtual - Rick Hill, Senior VP and James Norris, of HumanTouch, discussed CMMC compliance, why CMMC will not go away, why compliance matters and why it matters now.



NAWCAD PROGRAMS

NAWCAD INDUSTRY DAY

Wednesday, April 15, 2020
8 a.m. - Noon
One-on-Ones
12:30 - 4 p.m.

THE PATUXENT PARTNERSHIP
NAWCAD

University System of Maryland
Southern Maryland building
Building 2
Center Hall
44219 Airport Road
California, MD 20619

REGISTER:
www.patuxentpartnership.org

4 CLPS

NAWCAD Industry Day

Through our Partnership Intermediary Agreement with NAWCAD, TPP supports NAWCAD Industry Day events. These Industry Days facilitate dialogue between representatives from NAWCAD labs, contracting experts, and NAWCAD leadership, and over 300 industry government representatives.

NAWCAD Industry Day – April 20, 2021 - Virtual- Mr. Jeff Guarnero, Head, NAWCAD Procurement Group/CCO; Ms. Leslie Taylor, Executive Director, NAWCAD; Mr. CJ Utara, Executive Director, Systems Acquisition Group (SAG); Executive Director, Mr. Rick Tarr, Director, Tech Transfer Office, NAWCAD; Mr. Lawrence Butts, Deputy Director, Office of Small Businesses Program, NAWCAD; Mr. Al “Bunky” Hensler, Division Head, AD 2.5.1 Procurement Group; Mr. Christopher C. Supko, Director, DoD Trusted Capital.

Southern MD Tech Bridge with Rick Tarr, Director of Southern Maryland Tech Bridge - Virtual - October 6, 2020. An update on Naval X and Tech Bridges—what is happening and what it means for Pax River, and why it matters.

NAWCAD/TechBridge ANT-X/ATE 21: Call to Industry: Advanced Naval technology Exercise/(ANTX) Test-EX (ATE) on February 9 - featuring RPED team Mr. Tony Schmidt and Ms. Christina Allee. This event offers academia and industry partners unique Navy assets only available through partnership with the Department of Defense. This includes a holistic Live, Virtual, Constructive (LVC) environment to conduct testing, experimentation, and demonstration. The main ATE event at both Webster Field and Patuxent River Naval Air Station from May 10 - May 21, 2021. ATE is a forum for rapid prototyping, risk-mitigation early in the development cycle, and introduction of advanced capability to the warfighter.



NAWCAD Industry Day-Webex April 20th, 2021 Clockwise from top left: Mr CJ Utara, Mr. Jeff Guarnero, Mr. Christopher Supko, Mr. Al “Bunky” Hensler, Mr. Lawrence Butts, Ms. Leslie Taylor.

NAWCAD/TechBridge ANT-X/ATE 21

THE PATUXENT PARTNERSHIP
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“Call to Industry: Advanced Naval Technology Exercise (ANTX)/Test-Ex (ATE)”

TPP hosts a webinar on behalf of NAWCAD/Tech Bridge featuring RPED team
February 9, 2021 3-4pm (EST) – virtual platform

Learn about the opportunities & proposal requirements from the NAWCAD RPED team.
Call for new academia and industry participants in the next Advanced Naval Technology Exercise (ANTX)/Test-Ex (ATE) event in May 2021.

Main ATE event in Lexington Park, MD, at Webster Field and Patuxent River Naval Air Station from May 10 - May 21, 2021.

APPLICATION

If you would like participate, please submit your application through IMPAX: <http://impax.technavio-anta.com>

IMPORTANT DATES

28 Feb 2021: Submission deadline (2359 EST)
17 March 2021: Anticipated IT Invitation Sent Out (2359 EST)
10 April 2021: Response to Invitation Deadline (2359 EST)
10-21 May 2021: ATE Event Dates

REGISTRATION

Register here: <https://patuxentpartnership.org/tp-event/ate-ate-21/>
Log in details for the webinar will be sent to attendees on Monday, February 8th.



REGISTER TODAY!

COLLABORATIONS



The Patuxent Partnership continues its association with Consortium Management Group Inc (CMG), on behalf of The Naval Aviation Systems Consortium (NASC). CMG manages the Consortium and administers the OT Agreement with NAWCAD.

NASC, initially executed in July 2019, is a five-year, no ceiling agreement which covers the full spectrum of the Navy's aviation-technology domains. Through its unique structure, NASC Consortium members are able to work with the Government to identify opportunities, target their technology offerings, expand into new markets and grow their businesses.

NASC is an agile, collaborative enterprise composed of leading companies and academic institutions with expertise in technology domains of interest to the Naval Air Warfare Centers and the Naval Air Systems Command. (CMG) manages NASC and administers its Other Transaction Agreement with the Navy to facilitate rapid acquisition of cutting-edge technologies and to accelerate delivery of new capabilities to the Warfighter.

The Patuxent Partnership has co-hosted and supported several events with CMG – including an Industry Day and smaller meetings for NAWCAD cohorts in Pax River, MD. Additional information may be found at www.NASCsolutions.org.



STEM EDUCATION INITIATIVES

The Patuxent Partnership devotes substantial time, effort and resources to education and workforce development. Developing our future workforce is of critical importance. Our strategic goals include STEM outreach and broader education initiatives, growing the pipeline for engineering and other careers, and providing programs of importance to our members and the workforce supporting NAWCAD and NAVAIR, and their professional development. TPP supports economic development and the diversification of our Southern Maryland economy.

TPP has had an Education Partnership Agreement (EPA) with NAWCAD and SMCM for over ten years. This EPA supports research, internships, technology innovation, skilled artisan development, STEM-ING and other areas of interest. It includes supporting unmanned systems education (quadcopters) in the tri-county high schools, outreach on camps, internships and other education activities, and includes most recently, an apprenticeship program. We work with the NAWCAD Strategic Education Office to advance other STEM education and outreach activities as they are developed. A number of TPP member organizations directly support STEM initiatives such as growingSTEMS.

TPP works with other nonprofit organizations, public and private schools in Southern Maryland, St. Mary's College of Maryland (SMCM), the College of Southern Maryland (CSM), and the University System of Maryland at Southern Maryland (USMSM). We have worked with the Fort Meade Alliance on several initiatives, including **Project Scope** online security clearance program, accessible to all.

Security clearances are essential to many jobs in the Fort Meade Region and across Maryland, and the Fort Meade Alliance created Project SCOPE to help students in high school and college, as well as transitioning workers and military veterans, to understand, navigate and master the security clearance process. At present, the Academy of Finance at Chopticon is incorporating security clearance information through Project Scope.



TECH JOBS RULE

WHERE EDUCATION GOES TO WORK

Become a part of this innovative apprenticeship program designed to further train and prepare students to fill workforce shortages in the STEM or manufacturing career fields.

Students can apply for this program after completing 1-2 years of training at the Forrest Center.



TECH JOBS RULE APPRENTICESHIP PROGRAM

This year TJR has had 14 companies participating and 20 student apprentices, which has grown from our pilot year of 8 student apprentices with 3 participating companies and WOLF

TechJobs Rule is a recent initiative that was developed with the Strategic Education Office of NAWCAD, the James A. Forrest Technology Center (Forrest Center), and The Patuxent Partnership. TPP works with member companies interested in developing apprenticeship programs for students interested in STEM careers, but not necessarily interested in attending college. The companies assess the demand for skilled workers in specific areas. When there is a need for specific work expertise, paid apprenticeship opportunities are established. The talented high school students who are interested in learning skilled work in manufacturing and STEM fields, and meet the requirements, are given paid apprenticeship opportunities with local industry and government.

Students who will be entering their final year of high school, and have completed at least one to two years at the Forrest Center, are eligible to apply for these apprenticeship opportunities. Forrest Center Programs that support TechJobs rule include Aviation, Automotive Refinishing & Repair, Automotive Technology, CADD, Carpentry, Diesel Technology, Electrical Wiring, Engineering, IT Networking, Production Engineering (Manufacturing) and Welding.

growingSTEMS, formerly known as The RoboBees, is a nonprofit education organization engaging students in robotics. **The RoboBees** - TPP has supported the Robobees for almost 20 years, during which time they have won over 38 different awards, including Chairman's Awards, Engineering Inspiration Awards, and Event Winners! Many of the volunteers at growingSTEMS previously participated in The Robobees as students. Now, they are giving back. On April 26th, TPP Board Members, along with Mr. Kee Abell, head of the Strategic Education Office at NAWCAD, toured the HIVE, the growingSTEMS facility in Hollywood, MD. Erik Wood, the Director of Programs, and several volunteers, gave a tour and some demonstrations. For the 2020-2021 year TPP contributed \$5000! TPP benefactors Northrup Grumman and Boeing also provided support to growingSTEMS.



The RoboBees, FIRST Team 836, is one of several thousand FRC teams worldwide. In 2021 the RoboBees participated in the Infinite Recharge At-Home Skills Competition, based in part on the 2020 competition. The RoboBees were the only finalists from Maryland and one of the top three teams in the Maryland, Virginia, and DC region. growingSTEMS inspires students to study STEM subjects and helps young adults to pursue STEM-related fields in college, through scholarship, support, and outreach, and serves as an important part of our STEM Pipeline.

STEM related Initiatives: - From 2006 through 2021, TPP has sponsored a STEM based Camp with St. Mary's County Public Schools (SMCPS). For many years it was a Summer Space Camp, with a focus on NASA and space exploration. More recently, it has been a TechAdventures Camp, incorporating aviation, rocketry, coding, robotics, space science and space citizenship, cyber and other STEM related topics. This year we cosponsored both a TechAdventures Camp and an Environmental Science Camp with SMCPS. NAWCAD also supported this summer camp, including the donation of some extra kits from STEM-ING, such as "Slime in a Jar," which greatly appealed to the students.

Cyber Patriot is the National Youth Cyber Education Program. It was created by the Air Force Association to inspire K-12 students to careers in cybersecurity or other STEM disciplines critical to our nation's future. The National Youth Cyber Defense Competition, the nation's largest cyber defense competition, is at the heart of the program. Cyber Patriot encourages students to learn about cyber security and fosters their interest in cyber career opportunities. This supports the critical need for cyber professionals in government and in the private sector. TPP and TPP Benefactor Northrop Grumman support Cyber Patriot. The state Cyber Patriot competition takes place in January.

Science Fairs & Expos play a critical role in getting students interested in STEM and STEM related careers. Students explore topics of interest, make prototypes, conduct lab experiments, collect data and present results. The science fairs and expos in St. Mary's, Calvert, and Charles counties showcase middle and high school projects and reflect the broad interests of the students. TPP recognizes their work with awards in junior and senior divisions. Frequently, some of our local award winners go on to compete at the regional level. TPP members volunteer as mentors and judges, and we appreciate their commitment.

Robotics programs and activities take place in every school in Southern Maryland. Starting in elementary school robots provide a fun, challenging and successful way to engage and educate our students. It gets them interested in robotics, coding and other subjects that are important to the Navy and the broader community. It introduces students to STEM-related careers. Currently, more than 1300 students are involved in competitive robotics in Southern Maryland.

The National Academy of Finance (NAOF) at Chopticon High School prepares students for careers in financial services. TPP has been part of the NAOF since its inception. TPP serves on the Program Advisory Council for NAOF, and is actively engaged with students and faculty. TPP worked with NAOF to introduce Project Scope, educating students about security clearances. NAOF students are required to participate in an internship opportunity, providing real world experience that demonstrates the value of their classroom instruction. TPP sponsors a NAOF intern each summer. COVID prevented the internship opportunity this year. We look forward to re-engaging with next year.



Photos from top:
1- Bonnie Green & Erik Wood in the machine shop
2- Kee Abell, (NAWCAD) Tom Phelan, (KBR) & Andrew Koch (NAWCAD)
3- One of many awards The RoboBees have won and the awarded robot built by RoboBees

STEM EDUCATION INITIATIVES/continued

STEM-ING is designed to introduce middle school girls to STEM-related careers. TPP has worked with NAWCAD in supporting the STEM-ING program since its inception, while NAWCAD provides most of the volunteers. As a partner and sponsor of this event, TPP and others provide volunteers, and the financial support needed to ensure the program's success and growth. TPP supports fundraising and secures sponsors for the various workshops. STEM-ING was virtual this year. While we did not have as many students for the virtual workshops, as we have when it takes place in person at SMCM, we had broad participation and engagement. This is a labor of love for the many volunteers and TPP is honored to be a partner.

The Pathways to Engineering Program at CSM provides a path for students seeking engineering degrees from the A. James Clark School of Engineering, University of Maryland (UMD) in Southern Maryland. TPP provides two full scholarships each year for students in the Pathways to Engineering Program at CSM. One of the scholarship requirements is that recipients must agree to continue in the UMD engineering program offered in Southern Maryland. The Pathways/UMD engineering partnership provides opportunities for local students to continue their education while remaining in Southern Maryland. NAWCAD supports students entering the UMD engineering degree program offered here with its own pathway intern program. It includes tuition assistance and part time employment that may lead to full time work for the Navy, upon graduation. While participation is not guaranteed, there is a 90%+ acceptance rate by NAWCAD.

Southern Maryland Math Circles is a math program that engages students in a non-classroom structure. Sponsored by TPP member RED-INC, it is led by Dr. David Kung from the Mathematics Department at SMCM, with support from other faculty and students. The sessions bridge the gap between classroom curriculum and the exploration of open-ended math problems that challenge students of all ages. RED-INC sponsorship enables students to access to this extracurricular program free of charge.

The TPP UAV Quadcopter Program began as part of a grant to TPP from the Office of Naval Research. The ONR STEM workforce development grant supported the development of curriculum and other initiatives designed to encourage students to study STEM courses and ideally, go to work for the Navy. The quadcopter program was created to foster an interest in autonomous technology, particularly UAV technology and engineering. While the ONR grant has ended, student interest in UAVs continues to grow. The program is open to all high school students in the tri-county area. Training sessions are provided at the students' assigned school. TPP worked with member Aviation Systems Engineering Company (ASEC) to develop an online training program available to all students, which ASEC updated for us this year. This online training is being utilized at other schools throughout the country. While the program activities could not take place during remote learning, TPP looks forward to reengaging with schools in the tri-county area. NAWCAD works with TPP on the quadcopter program.

The Applied Physics Endowed Fund at St. Mary's College of Maryland was established by TPP in 2012, to support the development of an applied physics curriculum. The fund supports research, internships, and professional development opportunities through collaborative efforts between SMCM, NAWCAD, and the DoD community in Southern Maryland. Many of the SMCM graduates go to work for the Navy at Patuxent River and elsewhere. Our support of the physics curriculum at SMCM directly supports STEM workforce and development. Faculty engagement in research at NAWCAD is another benefit. TPP recently established a SMCM Physics Scholarship.

NAWCAD awarded a grant to TPP some years ago to develop an Aviation Classroom Experience (ACE). Previously located at CSM and recently moved to St. Mary's Ryken High School in Leonardtown, MD, it introduces students to Naval Aviation and autonomous systems aligning with their Project Lead the Way engineering program. It supports the pipeline for STEM education, fosters student interest in aviation, and in Navy careers.

MD JUNIOR SCIENCE & HUMANITIES SYMPOSIUM



The Junior Science and Humanities Symposium (JSHS) is a U.S. Army, Navy, and Air Force sponsored STEM competition which promotes original STEM research and experimentation at the high school level; and publicly recognizes students for outstanding achievement.

TPP was again awarded the MD JSHS, for the third year. It is one of many collaborations with NAWCAD and SMCM under our Education Partnership agreement. Initially, we had looked forward to an in-person competition, having pivoted to virtual just before the March 2020 competition. Unfortunately, that was not possible. Instead we had a two day virtual symposium on March 15-16.

Colonel Tyler R. Schaff, Commander of the 316th Wing and installation commander for Joint Base Andrews-Naval Air Facility was the keynote speaker. He emphasized the importance of STEAM -M (Medical) studies,

encouraging students along that path and stressing the importance of STEM careers.

There were 20 student finalists who presented their oral and poster presentations. The depth of their research, knowledgeable demonstrations, modeling, their collaboration with teachers, mentors, research labs, and the diversity of the topics chosen, was outstanding. The judges had difficult decisions to make in selecting the five winners. Those students went on to compete in the National JSHS, where two of them received awards.

Ms. Bonnie M. Green, the TPP Executive Director, said in her introduction: "We continue to encourage all students on their path of STEM learning and we wish them all the best for their future endeavors. We hope these MD JSHS students will consider STEM careers with the DOD community, where they will be essential to the growth, development and security of our nation."



Photos: Clockwise: TPP's Ms. Jennifer Brown, Ms. Bonnie Green, Capt. (ret) Barbara Ives - Colonel Tyler R. Schaff - Moderator: Ms. Ellen Servetnick, - Speaker: Mr. Andrew Koch - Moderator Dr. Theresa Shafer - Judge - Dr. David Barrett - 3rd Place: Lauren Choi - 1st Place winner: Abar Sheikh - 2nd Place: Boaz Yoo

IPA PROGRAM

The Intergovernmental Personnel Act Mobility Program strengthens the government's capabilities and the accomplishment of agency mission requirements. The program allows for the temporary assignment of personnel between the federal government and eligible non-profit organizations. The IPA program is instrumental in the transfer and use of new technologies and other science and technology requirements, and promotes collaboration among government agencies.

TPP was authorized to participate in the IPA program in 1999, initially to support the Navy at Pax River. TPP subsequently has developed long-term relationships with various federal departments and agencies, including the Departments of Defense and Homeland Security.

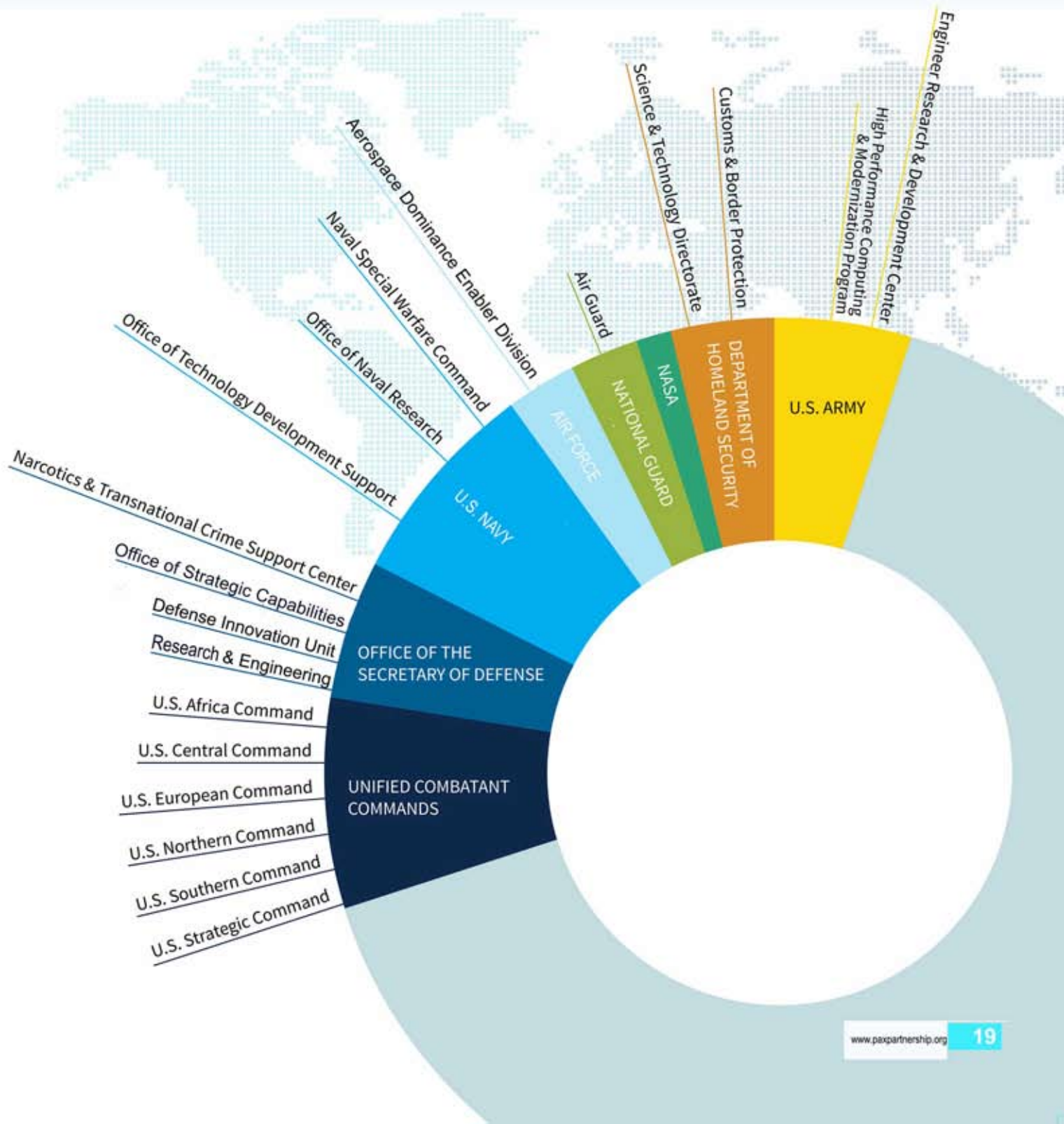
TPP employs subject matter experts and details them to government agencies where they serve in senior positions to facilitate technology transfer and foster knowledge sharing across, within, and among government agencies, academia, and private industry. Many of our IPAs provide science and technology support.



They are recognized experts in their fields, current in the latest technologies, and experienced senior-level managers.

TPP IPAs provide insights derived from their work regarding emerging technologies and trends in science and technology development. They help us strengthen our programs and foster big-picture discussions with our partners, members, and the DoD, as well as participating in some of our programs.

IPA DISTRIBUTION



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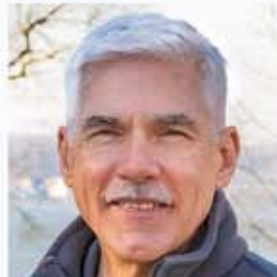
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COMMITTEES

BOARD GOVERNANCE

The Board Governance Committee ensures that the board composition and structure is in compliance with the bylaws, containing a diverse group of directors capable of accomplishing the mission and objectives of the organization. The committee provides the Board with periodic review of board composition and terms, identifies new board member candidates, and keeps the Board aligned with its roles and responsibilities with the organization's purpose.

FINANCE

The Finance Committee ensures the organization's financial stability by providing oversight on its budget and finances. The committee's primary role is to provide the expertise needed to assure the full Board that the organization is on sound financial footing. To perform this role effectively, committee members work as a team with the Executive Director, Finance Director, auditors, and other financial professionals.

ACADEMIC & OUTREACH

The Academic & Outreach Committee identifies and recommends initiatives, programs and financial support aligned with our mission and the TPP strategic plan. Committee members provide regional support for STEM education-related activities and identify new opportunities to support STEM workforce development.

IPA COMMITTEE

The IPA Committee focuses on the work of our IPAs, strengthening our relationships with government agencies, academia and our members.

MEMBERSHIP COMMITTEE

The Membership Committee focuses on the recruitment of new members, engagement of current members, and assistance to members in partnering with each other and the greater Southern MD community. It also brainstorms ways to demonstrate the value of TPP membership.

STRATEGIC PLANNING

The Strategic Planning Committee is responsible for developing the organization's mission, vision, and goals through the creation and implementation of a comprehensive strategic plan to be implemented by the Board of Directors, our "North Star". The committee regularly reviews the organization's goals to ensure the strategic plan is in alignment with ever changing objectives of the community and Navy partners.

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TPP ANNUAL DINNER PARTY, SEPTEMBER 2ND, 2021 AT HISTORIC ST MARY'S CITY.

On a late summer evening, as the sun was setting on Historic St. Mary's City, TPP hosted its first annual dinner in 841 days. The 300 members and their guests, and our special guest and dinner speaker VADM Frank "Spanky" Morley, gathered for cocktails on the lawn. This was followed by dinner in the pavilion.

It was a beautiful evening and the weather was ideal. It was an opportunity not only to recognize TPP activities and to celebrate our members, it was a time to renew acquaintances and to celebrate one another. It was about surviving 18 months of COVID and looking forward. TPP and our members are focused on the future.

TPP Executive Director Bonnie Green welcomed everyone and made introductions. The National Anthem was sung by TPP board member Matt Scassero, followed by the invocation offered by former TPP board member Joe Anderson. Their participation has become a tradition of the TPP Annual Dinner. After dinner, TPP BOD President Ray Wernecke introduced the winner of the 2019 Member of the Year Award, WBB.

The highlight of the evening was VADM Frank Morley, who was in great form. He regaled everyone with stories of his time at Pax River (and yes, everyone now has a visual of VADM Dave 'Decoy' Dunaway, USN (ret) on his paddleboard). Then Morley's talk became serious, as he discussed the challenges facing naval aviation and the way forward.

TPP thanks our dinner sponsors for their support.

Platinum Sponsors: KBR, Northrop Grumman, NSI and Guidehouse. Silver Sponsors: Bell, Lockheed Martin and Resource Management Concepts, Inc.

ANNUAL DINNER 9/2/2021



Photos: TPP Annual Dinner September 2nd, 2021, at Historic St. Mary's City with guest speaker VADM Frank Morley.



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