

VISION STATEMENT

The Integrated Precision Warfare (IPW) Division of NDIA is the premier professional organization dedicated to advancing the art and science of precision engagement concepts and technologies.

IPW's mission is to advance offensive and defensive precision engagement concepts and technologies. IPW facilitates classified dialogue from the strategic to operational to tactical and technical levels between industry, academia and government organizations regarding our Nation's strategic competition.



Mr. James Geurts



MajGen Arnold Punaro
(USMC, Ret)

Impacts of New Administration on Integrated Precision Warfare

By John Sordyl, IPW Secretary

The Integrated Precision Warfare (IPW) Division of the National Defense Industrial Association (NDIA) is pleased to announce the must-attend Integrated Precision Warfare Review 2021 (formerly the Precision Strike Annual Review, PSAR).

IPWR-21 will focus on complete weapon systems (conventional, non-kinetic, and nuclear) and their interplay with Space and Cyber domains.

No other professional forum will bring together members of government, industry, and academia in a collaborative setting to discuss their interests with regards to the complex and evolving field of precision strike weapons and their enabling integrated systems.

Join us as we convene *virtually* on **6-7 April 2021**.

Under the theme of **Impacts of New Administration on Integrated Precision Warfare**, IPWR-21 will focus on the Biden administration's acquisition strategy, policy, and programs to deliver precision capabilities that meet warfighter needs in a complex environment of accelerating change.

The precision warfare community recognizes the daunting threats facing U.S. and Allied forces around the globe while striving to deliver capabilities that are critical to the success of our men and women warfighters, and this is a critical and irreplaceable venue to work through the most pressing challenges faced by these warriors.

This year's agenda is built around a two-day, interactive virtual session featuring the perspectives of leading government, industry, and academic experts.

Mr. James "Hondo" Geurts, performing the duties of the Undersecretary of the Navy, will provide the Navy perspective as the Biden Administration implements its plans to defend America's interests and advanced American leadership in the world.

MajGen Arnold Punero (USMC, Ret) will provide a "view of the Hill" that is essential for the Integrated Precision Warfare community to understand.

BrigGen Robert Spalding (USAF, Ret) will provide a perspective



BrigGen Robert Spalding
(USAF, Ret)



Ms. Erin Hahn

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Chairman's Column

Improvise, adapt and overcome... words emblazoned into the psyche of our military professionals to the dark corners of the globe. These words juxtaposed to a professional defense association would have seemed incongruous before last year.

2020 called upon each of us to look inward and focus on what's important. For the Integrated Precision Warfare (IPW) Division, bringing people together to solve the challenges facing our warfighters is what's important.

It remains critical to collaborate, but how? Under lockdown, with prohibitions on gathering, restrictions on travel, and real disruptions due to virus infection rates and quarantines, "coming together" seemed a bridge too far.

Yet our competitors did not shut down. They continue their incessant march towards hegemony in the Asia-Pacific. So we improvised to provide virtual meetings, we adapted to bring classified Q&A's via DVD and together we overcame the shutdown to keep the IPW conversation going.

The New Year brings new promise and a commitment to build on the momentum we generated at our Precision Strike Technology Symposium 2020 last October. IPW is now pleased to bring you our Integrated Precision Warfare Review 2021 (IPWR-21) as a two-day virtual event on 6-7 April 2021.

This year's theme is **"Impacts of New Administration on Precision Warfare"** with powerful insights from defense leaders, including Mr. James "Hondo" Geurts, performing the duties of the Undersecretary of the Navy; USN Vice Adm. Johnny Wolfe, Director for Strategic Systems

Programs; and, USAF Lt. Gen. James Dawkins, Jr. Deputy Chief of Staff for Strategic Deterrence and Nuclear Integration.

For our Fall marquis event, the Precision Strike Technology Symposium 2021, IPW Division is planning on returning to the in-person classified format, conditions permitting. We will make every effort to provide a safe forum to exchange ideas on the challenges posed by our peer threats.

In addition to our two major events, IPW Division is committed to providing access to key government and industry leaders via three classified formats:

First, we are resuming our classified roundtable series. Look for roundtable events in the Metro DC area this spring. These are unique opportunities to participate in small format classified discussions with defense leaders regarding their critical concerns.

Second, IPW Division is partnering with the US military services to expand their 'reach' into the Defense Industrial Base for experimentation exercises. Through our kick-off event, service leaders will have the opportunity to influence a broader audience across the Industrial Base and explain the focus and expectation for the exercise. In addition, IPW Division will provide a classified follow-up for each experimentation area, discussing the challenge, experiment and outcomes.

Finally, IPW Division is pleased to announce resumption of our Command Visits in 2022. We are planning a Winter Command Visit to Huntsville, AL. The event will provide attendees the opportunity to meet with leadership, tour a member defense industry facility in the

See **Chairman's Column**, cont. on pg. 7

Advanced Precision Strike for the Multi Domain Fight

Last year, the Precision Strike Association (PSA) and the Strike, Land Attack, Air Defense Division (SLAAD) merged into the Integrate Precision Warfare (IPW), a new division of the National Defense Industrial Association (NDIA). The IPW Division focuses on DoD's kill chains by supporting the development of systems and networks that find, fix, track, target, attack, and assess hard and soft targets via both kinetic and non-kinetic means.

IPW Chairman Ken Masson said “the two organizations joined forces and looked forward to a great year, but things didn't work out as we had envisioned. However, IPW and NDIA sought new ways to provide value and deliver opportunities for the exchange of ideas. We needed to innovate and adapt because in the current environment, opportunities are few and far between.”

IPW conducted a re-designed Precision Strike Technology Symposium (PSTS-20) that reflected the need to take all necessary precautions and social distancing measures for the safety of the attendees as the coronavirus pandemic took hold. IPW convened virtually on 20 October 2020 for an unclassified webinar. The next day a classified roundtable discussion was held, and the recorded proceedings were distributed later in the year.

While COVID-19 has altered the operation of the precision strike community, the challenges posed by China and Russia remains unabated.

Under the theme of *Advanced Precision Strike for the Multi Domain Fight*, PSTS-20 focused on the tactical and technological challenges faced by our warfighters and the defense industry in this era of great power competition.

The agenda for the unclassified webinar was built around a half-day, interactive virtual session featuring the keen observations of **Dr. Will Roper**, who at the time served as the Assistant Secretary of the Air Force for Acquisition, Technology and Logistics.



Dr. Will Roper
Asst AF Sec (ATL)



ADM Scott Swift, USN



Dr. Dean Wilkening



Wes Hallman

ADM **Scott Swift** (USN, Ret) provided his perspective on the implications of the strategic and operational environment in the Pacific theater while **Dr. Dean Wilkening**, with The Johns Hopkins University Applied Physics Laboratory, discussed conventional prompt strike 2030 and beyond.

Wrapping up the unclassified webinar was NDIA's **Wes Hallman**, Senior Vice President, Policy, who outlined the current health and readiness of the Defense Industrial Base.

The first day of PSTS-20 also featured a special event: bestowing of the coveted William J. Perry Award to Dr. Roper. (See pg. 5 for details.)

Dr. Roper said “you don't have to twist my arm to talk about precision strike and its importance in the past, today and in the future of warfare.” He believes new disruptive weapons are needed to change the game if we are to compete long-term against adversaries like China and Russia.”

Roper said his job as the USAF's top procurement executive was “to create a purchasing system that was truly competitive and able to deliver effects at a pace our warfighters need and are relevant to the pace of global technological changes. That is no small order.”

Roper has been a fierce advocate for moving toward digital engineering in aircraft, weapons and space programs to reduce acquisition times and sustainment costs. He spearheaded a new embrace of commercial industry and rapid prototyping. Other areas that Roper promoted were hypersonics to ensure conventional, long-range strike and development of a Next Generation Air Dominance (NGAD) fighter.

The webinar shifted to discussion of the strategic and operational environment in the Pacific Theater by ADM Scott Swift, who served until his retirement as the commander of the U.S. Pacific Fleet. Now head of the Swift Group, he laid out an operational and geopolitical context to the challenges the United States faces in the Pacific Region.

He said the National Security Strategy (NSS) “is insufficient, not quite there, when measured against a peer competitor like China, which clearly has a grand strategy.” Swift said “it is really important to think strategically, but plan operationally, and act tactically, as the NSS lacks a “regional” strategy.

“This disconnect will continue to be a major stumbling block in our

ability to compete with our peer competitor,” he has concluded. “Key to going forward,” said Swift, “is establishing our deficiencies and speed up the innovations necessary to make sure we understand what our gaps are, and then fill them.”

APL’s Dean Wilkening looked ahead at conventional strike in the next decade and beyond and how the United States can change the “strategic equation”. He discussed the development of hypersonic weapons worldwide, the technology and the policy implications.

He said the US needs to deploy hypersonic weapons able to counter similar weapons being developed by China and Russia. Such weapons, he said, are needed to penetrate advanced air defense systems in a cost effective way and hold time sensitive targets at risk.

Wilkening said “the main purpose of US hypersonic weapons is to convince attackers of the risks and uncertainties involved in a rapidly expanding hypersonic battle, one in which adversaries do not hold a speed advantage.” At a minimum, he said, “the US needs to deploy medium-range hypersonic weapons able to do the lion’s share of the work and tend to be less expensive.”

NDIA’s Wes Hallman discussed the “headwinds, the multiple challenges, currently faced by the Defense Industrial Base.” He presented the results of a 2019 NDIA report that

outlined the challenging environment the industry has to operate within.

He said the US defense industry has been “heavily affected” by the COVID-19 public health crisis, with thirteen percent of responders to a survey believing that business won’t ever return to the pre-COVID level. Hallman said “that is very concerning.” He sees “a very, very challenging environment for the industry going forward.”

Hallman also saw challenges per regulatory changes and the budgetary environment in an election year. “Real purchasing power of DoD is not just flat, but actually going down per inflation. So I see future uncertainty across various sectors of the Defense Industrial Base.”

PSTS has always been a forum to discuss many of the sensitive aspects of the challenges faced by the Precision Strike Community, and it remains a critical and irreplaceable venue for such.

PSTS-20’s classified (SECRET//NOFORN) roundtable included essential technical briefs that showcased up-and-coming capabilities and enabling technologies designed to mitigate the issues facing our warfighters today.

From NAVAIR’s speed-to-the-fleet initiatives, manned-unmanned teaming for air combat, hypervelocity and hypersonic technology developments, and defense against the new technologies being fielded by our

adversaries, the SECRET//NOFORN nature of the PSTS-20 roundtable allowed for insight into the full spectrum of adversarial threats and trajectories along with a look into the most game-changing technologies currently being explored.

Many thanks are extended to the classified roundtable’s speakers: **USN RADM Brian Corey**, PEO UASW, **Scott Kelly**, SCO, **Dave Drewry, Jr.**, APL, **Barry Kiel**, SCO, **USAF Col Daniel Javorsek**, DARPA, **Chris DeMay**, APL, **Edward White**, APL, **Dr. Gillian Bussey**, Direc, JHTO, **Jeff Elder**, MTSI, **Dr. Brian Herdlick**, APL, **Justin Shoger**, APL, **BG (Ret) Peter Zwack**, and **Chris Palumbo**, APL.

Ken Masson said “2020 did not progress as anyone would have hoped, but we were resilient and found new creative ways to communicate and stay focused on our mission to support the national defense.”

He recognized NDIA officials and the PSTS-20 programs and event planning teams for their “tireless efforts to put together the virtual meeting and classified roundtable under difficult circumstances. Planning and executing these events is a labor of love and a team effort.”

Masson also thanked PSTS-20’s corporate sponsors, Northrop Grumman and Lone Star Analysis. “Without their support, this event would not have been possible.” ■

Impacts on IPW, cont. from pg. 1

on how the US can prevail against China’s soft power competition.

And Ms. Erin Hahn, a senior national security analyst at Johns Hopkins University’s Applied Physics Laboratory, where she is supervisor for the concepts and

assessments group, will lend her expertise to explore the essential and time-critical issues regarding legal and policy aspects of weapons autonomy.

Additional details will be forthcoming, and registration opens soon, so please plan to attend IPWR-21 on April 6-7. Visit the event site for

more information as it becomes available.

<https://www.ndia.org/IPWR21>. ■

Will Roper Receives 2020 Perry Award

In recognition of his superb contributions to the advancement of precision strike systems, the National Defense Industrial Association's Integrated Precision Warfare Division on Oct. 20, 2020, awarded the 2020 William J. Perry Award to Dr. William B. Roper, Jr., who at the time served as the Assistant Secretary of the Air Force for Acquisition, Technology and Logistics.

The Perry Award citation states: "Dr. Roper has amplified the necessity and criticality of precision strike through tireless advocacy and support. His leadership and career spent promoting precision strike with the whole government/industry team have continually and consistently pushed the zenith of precision strike higher."

In receiving the prestigious award, Dr. Roper said he "appreciated this recognition" and "accepted it on behalf of individuals and teammates who served with me."

He added: "I am really truly honored by the award. It brings back fond memories of my time with Secretary Perry, which was very formative for me. You got an ardent supporter in me to make sure that our precision strike capabilities remain world leading."

IPW Chairman Ken Masson said "one great honor in being part of IPW is recognizing distinguished leadership in the defense industry. Dr. Roper fits the Perry Award to a T. It is with great distinction and honor that we recognize Dr. Roper as the 24th Perry Award recipient."

Dr. Roper was awarded the annual Perry Award at the redesigned Precision Strike Technology Symposium (PSTS-20), an unclassified webinar that was convened virtually.

The award is named in honor of

former Secretary of Defense Dr. William J. Perry and recognizes exceptional contributions to precision strike systems in the private sector or public sector by an individual or team.

The recipient must have made significant contributions that have led to the strengthening of our national security by direct application of precision strike capabilities to DoD systems and/or to the enhancement of our industrial technology base for application to precision strike technology.

As the USAF's acquisition chief, Dr. Roper oversaw more than 500 acquisition and research and development programs worth in excess of \$60 billion. He served as the principal adviser to the USAF Secretary and Chief of Staff for R&D, test, production and modernization efforts.

Roper has been a fierce advocate for moving toward digital engineering in aircraft, weapons and space programs to reduce acquisition times and sustainment costs.

Another area that Roper promoted was hypersonics to ensure conventional, long-range strike.

Prior to his top-level USAF job, Dr. Roper was the founding Director of the Pentagon's Strategic Capabilities Office (SCO).

Established in 2012, the SCO imagines new—often unexpected and game-changing—uses of existing government and commercial systems: extending their shelf life and restoring surprise to the military's playbook.

SCO projects include new concepts such as hypervelocity artillery, multi-purpose missiles, autonomous fast boats, smartphone-navigating weapons, big-data-enabled sensing, 3D-printed systems, standoff arsenal planes, fighter avatars and fighter-dispersed swarming micro-drones.

Previously, Dr. Roper served as the Acting Chief Architect at the Missile Defense Agency (MDA) where he developed 11 new systems, including the current European Defense architecture, advanced drones, and classified programs.

Named after the former U.S. defense chief and precision strike weapons advocate, the other winners of the prestigious Perry Award include: Dr. Perry, the first recipient (1997); former Vice President Dan Quayle (1998); RADM Walter M. Locke, USN (Ret.) (1999); The Johns Hopkins University, Applied Physics Laboratory (2000); NAVSTAR Global Positioning System Joint Program Office (2001); Rep. James V. Hansen (R-UT) (2002); Terry Little, a well-respected acquisition reform pioneer (2003); USAF/USN/Boeing JDAM Program Team (2004); U.S. Warriors of Operation Enduring Freedom and Operation Iraqi Freedom (2005); The Tactical Tomahawk Team (2006); The Small Diameter Bomb Team (2007); Guided Multiple Launch Rocket & High Mobility Artillery Rocket System Team (2008); U.S. Special Operations Command Stand-Off Precision Guided Munitions (SOPGM) Quick Reaction Team (2009); Sniper Advanced Targeting Pod (2010); Project Dragon Spear Joint Acquisition Task Force (2011); Massive Ordnance Penetrator (MOP) Team (2012), JAMS/Lockheed Martin Hellfire II Team (2013); BLU-129/B Team (2014); Dr. Paul Kaminski (2015); James "Hondo" Geurts (2016), Charles "Tooba" Kelly (2017), ADM Scott Swift, USN (Ret.) (2018); and, Virginia "Ginny" Sniegon (2019). ■

2020 Johnson Technical Achievement Award Bestowed

The NDIA Integrated Precision Warfare (IPW) Division was pleased to present the 11th Annual Richard H. Johnson Technical Achievement Award to **Dr. Duane Brown** and **Mr. Danny Searle** during the organization’s December Board of Director’s meeting.

The Johnson Award recognizes outstanding personal technical achievement resulting in significant contribution to precision strike systems that advance the defense of the United States. Like Dick Johnson, for whom the award is named and is the first recipient, their accomplishments include stellar work on a large number of precision strike systems.



Dr. Duane Brown

Dr. Duane Brown is a NAVAIR Associate Fellow who is a nationally recognized expert in target coordinate mensuration techniques,

processing, analysis, and validation. He has been a leader in the targeting domain for over 21 years.

He serves as the DoD Technical Lead for the Common Geopositioning Services Project and is responsible for reviewing and assessing all technical approaches that address current and future processing changes.

Brown is our nation’s leading expert on understanding and assessing mensuration error for both processing and exploiting nodes. Using statistical techniques, he wrote an algorithm to estimate the actual mensuration error. Brown also instructs the targeting community on how to interpret and apply these assessments. Every exploitation sys-

tem currently uses either this algorithm or a variant of it.

His impact transcends a single program or service and thus widely supports the DoD warfighters, which is a major criterion for this award.

As data volumes have continued to expand, Dr. Brown has developed techniques to cope, producing 150 times the amount of data in one ninth of the time, compared to alternatives. He has also developed techniques to assess sensor model performance and sensor data quality. Critically, these techniques include assessments of uncertainty.

Dr. Brown serves as the Subject Matter Expert (SME) on multiple Intelligence, Surveillance, Reconnaissance, and Targeting (ISRT) research projects, including the Autonomous Targeting Acquisition Weapon (ATAW) System, which increases success rates and streamlines mission planning.

He developed the Portable Reference Imagery (PRI) format and received a related patent. PRI provides situational awareness for handheld devices and improves the utility of tactical video feeds.

He serves as the SME for the Distributed Targeting System (DTS) program, which has developed an automatic registration algorithm to support onboard targeting capability.

Dr. Brown currently leads a diverse group of scientists and engineers providing targeting support, data analysis, and mission planning support to multiple air platforms and weapon programs.

He is a targeting mentor supporting other analysts, teaching them how to interpret the results of their findings and reviews their final targeting products before delivery to warfighters. Mentoring is another

criterion of this award, based on Dick Johnson’s lifelong commitment to expanding the capabilities of his mentees.

Like Dick Johnson, Brown has been recognized with numerous awards and honors, including the Dr. L.T.E. Thompson Memorial Award, Naval Air Warfare Center – Weapons Division’s highest recognition for outstanding achievement, the Michelson Laboratory Award for technical excellence, and several patents.

For over 30 years, “Daniel B. Searle has been a leader in the development, sustainment, and innovation of precision targeting and advanced planning tools for the naval weapons community.



Danny Searle

During the mid-1990s, “Danny” Searle’s team pioneered Responsive Targeting and Real-Time Information in the Cockpit technologies for the advancement of dynamic weapon solutions. Those early prototypes enabled multiple rapid deployment solutions that enhanced mission effectiveness, survivability, and operational flexibility for air combat operations. The prototypes provided efficient sensor-to-shooter acquisition, processing, coordination, fusion, display, and utilization of off-board data for aircrew, unmanned aerial systems, and weapon operations.

These innovative solutions were pathfinders for many of today’s operational tools.

His team delivered the first Joint Targeting Workstation to the U.S. Navy and the National

Reconnaissance Office. This system was the legacy of the Navy's Precision Targeting Workstation, the recent Common Geopositioning Service, and now the current Common Geopositioning Services Web tool, which supports over 10,000 unique users each month. This broad impact has transcended any single program, which is one of the major benchmarks for this award.

As a core member of the Rapid Precision Targeting System (RPTS) in 1998, Searle and his team broke ground on new message formats and standards, which were major contributors to the current Net-Enabled Weapons technology advancements. Searle and his RPTS team were also critical to the stand-up of the first Flex Targeting cell in an operational environment.

Searle's leadership continues to provide a foundation for precision targeting and advanced planning technology solutions.

He facilitates a cross-systems command joint environment for mission planning, precision targeting, and related initiatives. He also serves in other coordinating and leadership roles within Naval Air Systems Command related to targeting and sensor-to-shooter data distribution. He has been responsible for merging intelligence exploitation and com-

munications technologies to provide information warfare solutions for rapid and dynamic targeting. His continued role has closed data and delay gaps across the kill chain.

He serves as the principal investigator for the Office of Naval Research's Dynamic Integrated Operations Future Naval Capability. This project is developing a decision engagement environment for continuous over-the-horizon weapon employment enabled by an advanced Machine-Intelligent suite of technologies.

In response to the Chief of Naval Operations' request for Anti-Surface Warfare (ASuW) weapons support technologies, Searle delivered the Surface Target Attack Monitor (STAM) quick reaction capability to the Fleet. STAM is a prototype over-the-horizon Offensive ASuW targeting capability to support employment of long-range Net-Enabled Weapons.

Searle has received numerous awards and honors, including the Dr. L.T.E. Thompson Memorial Award, Naval Air Warfare Center – Weapons Division's highest recognition for outstanding achievement, and the Michelson Laboratory Award for technical excellence in the precision targeting support he has given to the weapons community.

Richard H. Johnson, who was awarded the Johnson Trophy posthumously, was an exemplar of such achievements, having personally led the design or redesign of many highly effective precision strike airframes, including the Paveway LGB, HARM, Javelin, and JSOW. His designs, or imitations of them, appear in nearly every nation's military where precision strike systems are employed.

Dick Johnson was a highly productive engineer whose life was marked by decades of innovation. He was also a record-breaking pilot.

The Johnson Trophy is awarded annually based on deliberations of a distinguished jury of industry, government, and military members and of the IPW Nominating Committee. Nominations are open to any U.S. or allied individual.

The other winners of the prestigious Richard H. Johnson Technical Achievement Award include: Robert J. Whalen (2010); Robert H. Widmer (2011); Keith Sanders (2012); Gary Polansky (2013); Chris E. Geswender (2014); Wade Dyer and Paul Manz (2015), James 'Frank' Robbins (2016); Scott O'Neil (2017); Carl Avila (2018); and Wayne Willhite/William L. Thomas (2019). ■

Chairman's Column, cont. from pg. 2

Huntsville area and participate in an IPW Board of Directors meeting.

IPW Division is honored to help shape future defense capabilities, ensuring preeminence in military conflict. We are excited to resume classified roundtable events, large-scale classified symposia and in-depth cross-industry deep-dives that promote the creative exchange of ideas and collaboration for our National Defense.

Through these venues, we provide the DoD leadership with the combined knowledge and expertise of the aerospace and defense industrial base.

Join us in the effort to increase collaboration and the impact of the Integrated Precision Warfare community on the tools and methods our warriors take to armed conflict.

We continue to find ways to adapt and change based on the circumstances. We are, as always, committed to the ethical exchange of ideas to

ensure our warfighters have the very best of the Nation behind them.

Thank you for your involvement in Integrated Precision Warfare. We look forward to seeing you at IPWR-21 and at our Captains of Industry events throughout the year.

Ken Masson, Chairman
Integrated Precision Warfare Division
703 298-3098

Please join us virtually to learn about weapon systems —conventional, nonkinetic and nuclear— and more conversation about Space and Cyber domains. We'll be exploring these topics and more among a diverse group of precision warfare professionals.

Registration is happening now, so take a moment and secure your spot for this virtual event.

INTEGRATED PRECISION WARFARE REVIEW 2021

(IPWR-21)

6-7 April 2021

Impacts of New Administration on Precision Warfare

Confirmed Speakers

- Hon. James “Hondo” Geurts, Under Secretary of the Navy (Performing the Duties of), U.S. Department of Defense
- MajGen Arnold L. Punaro, CEO, The Punaro Group, LLC; Chairman of the Board, NDIA
- Ms. Erin Hahn
- Dr. Tom Karako
- Brig Gen Robert Spalding (USAF, Ret)
- Panel Session speakers — Dr. Michael Gleason & Ms. Robin Dickey

Agenda Preview

Day 1, Tuesday, April 6

- Keynote: Navy Perspective on the New Administration's Goals
- Lobbyist—The View of The Hill
- Legal and Policy Aspects of Weapon Autonomy
- Naval Operational Architecture

Day 2, Wednesday, April 7

- Nuclear Posture Review (NPR) Policy Update
- Army Futures Command for Innovative and Rapid Prototyping
- Winning Against China's Soft Power Competition
- Panel Session: Policy Aspects of Weaponizing Space

For additional details as they become available, please visit the event website at [NDIA.org/IPWR21](https://www.ndia.org/IPWR21) or contact Renata Casiel, Meeting Planner, (703) 247-2561, rcasiel@NDIA.org

CALENDAR OF EVENTS

Integrated Precision Warfare Review 2021 (IPWR-21)

Date: April 6-7, 2021

Location: Virtual Meeting

Precision Strike Technology Symposium 2021 (PSTS-21)

Date: October 19-21, 2021

Location: TBA

Sponsorships are available. For more information contact Renata Casiel at rcasiel@NDIA.org

The IPW Digest is an important vehicle for the Integrated Precision Warfare Division to share information and to engage in discussion. You have an opportunity to share your passion about a particular topic.

*Please contact IPW Secretary John Sordyl (jsordyl@williams-int.com), if you would like to have an article included in *The IPW Digest*.*