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No Playing Around When It Comes to Wargaming

Researcher Yuna Wong is pushing for more women to enter professional wargaming as a way to bring diversity of thinking to national security planners.



Mavens of Mathematics

We talked to several women who are making their marks at the Center for Communications and Computing. Learn their thoughts on life, math and how to win in STEM.



Leading Women of IDA

Women in various leadership positions share how their visions and experiences play into the ways they operate.



Four Women Answer Three Questions About Their IDA Roles

Meet some of the women who work to keep IDA up and running behind the scenes of security, systems design and implementation, communications and accounting.





IDA Insights is a digital magazine published by IDA, a private, nonprofit corporation that manages three federally funded research and development centers. Our mission is to answer the most challenging U.S. security and science policy questions with objective analysis leveraging extraordinary scientific, technical and analytic expertise.

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For Yuna Huh Wong, wargaming started as a hobby after she attended a 2011 wargaming conference. Soon after, Yuna began inviting gamers to her home to learn about and practice her newfound passion.

Yuna Huh Wong is an accomplished researcher for the Joint Advanced Warfighting Division of the Systems and Analyses Center, one of three federally funded research and development centers that IDA manages. In addition to research for sponsors in the Defense Department, Yuna teaches a course in artificial intelligence and national security at Georgetown University, where gaming topics such as disinformation, facial recognition technology and autonomous weapons systems are part of the class. She is also a wargaming enthusiast who is committed to increasing the number of women in the professional wargaming community. Yuna shares how she became interested in the field in the Eye on IDA video "Wargaming."

What Is Wargaming?

When asked to define wargaming in simple terms, Yuna holds up Peter Perla's "The Art of Wargaming: A Guide for Professionals and Hobbyists," published in 2011. In the book's introduction, Perla writes, "Wargaming is part of a larger toolkit of techniques useful for learning about warfare." Yuna adds that it's "a way to model warfighting without the weapons." The games approximate reality, allowing gamers to learn how different decisions affect outcomes without having to live with real-world consequences.

According to "A Brief History of Wargaming" by Albert Świdziński, wargames have been used both to entertain and to model combat for centuries. Historic strategic battle games like chess, go or chaturanga are often considered the first wargames. But games that more closely resemble the modern style of wargaming were developed in the early 19th century. In 1812, a Prussian artillery officer invented a game called Kriegsspiel ("wargame" in English) that is similar to many wargames played today.

In her office at IDA, Yuna displays game boards, game pieces and multi-sided dice that are used during play in modern wargames. Miniature forces and equipment are also commonly used. Participants generally work in teams to pull together and execute a plan based on a certain set of circumstances. Wargaming can be a primary asset for the military to prepare for various potential conflict scenarios.

Wargaming presents national security planners with situations and solutions they may not have already considered. Incorporating more women into professional wargaming adds diversity of thought and stimulates fresh ideas. Broadening the demographics of professional wargamers should also help address the shortage of experienced wargamers available to support defense wargames.

Overcoming Misperceptions

Yuna is aware of the challenges the craft of wargaming faces. It can be difficult to get professional wargames published because of proprietary concerns or because there is no immediate demand for them. This means that, over time, most of the work done in professional wargaming is lost. Although reports about wargames exist, the wargames themselves disappear. The commercial wargames that are published tend to have a number of limitations for professional use, such as an overly narrow focus on historical wars and game mechanics that are generally too complicated for professional use. At a time when there is both high demand for professional wargaming, but also generational turnover in the wargaming community, the challenge of transmitting knowledge and producing more skilled wargamers is especially acute. "I sometimes feel I'm not working fast enough," Yuna says in reference to her efforts to encourage a new generation of gamers, particularly among women.

There are also ongoing challenges to pushing beyond conventional wisdom or commonly accepted assumptions behind the habitual use of any tool, including wargaming. "Sometimes in



Members of the Women's Wargaming Network gather at an IDA-hosted event in July 2021 that provided an opportunity for in-person gaming during COVID-19 pandemic restrictions.

national security circles, they focus on the same courses of action," Yuna says. "There is always room for ways of trying to get more ideas into that space."

Like many fields in the national security sector, wargaming attracts more men than women. Less than one-fifth of senior officials at the Defense Department are women. According to 2014-2019 data from "The Great Wargaming Survey," an annual survey by the magazine Wargames, Soldiers & Strategy, less than 2% on average of respondents reported they were female. A video by Little Wars TV entitled "Why Don't More Women Play Wargames?" explores why women's participation is so low.

One reason women are typically underrepresented in wargaming is that they may not be introduced to gaming in the first place. Experience in the military and in hobby wargaming are indicators that a person may be more likely to participate in professional wargaming, but women are underrepresented in both these populations. Women are often overlooked or automatically excluded from wargame teams even when they have comparable levels of experience as men. When women seek out opportunities in professional wargaming, they can be given secondary roles such as note-taking or data collection rather than roles directly related to wargame design and adjudication.

Further, as Yuna found through her own experience, established participants in online hobby-gaming communities can be hostile to women who try to join. While professional wargamers have always encouraged Yuna's participation, she experienced sexual harassment and bullying from male gamers in online hobby-gaming communities. Yuna feels that increasing women's access to wargaming opportunities



Players at the 2021 Women's Wargaming Network event discuss rules before the game begins.

is not only fair – as everyone should have equal opportunity – but also beneficial for wargaming organizations because they can access a wider pool of talent.

Reversing the Tide

Yuna and others are committed to bringing more women into the wargaming space, and the tide is starting to turn. In 2020, Yuna and some of her fellow women wargamers founded the Women's

Wargaming Network. The network aspires to help women thrive in the community by developing skills and building connections with other professional wargamers.

Although the Women's Wargaming Network is still young, it is expanding and stabilizing. It is actively moving towards nonprofit status. Being a nonprofit would allow the WWN to formally give leadership positions to women and to enter into formal agreements with other organizations and government entities.

Pandemic-Induced Complications

The COVID-19 pandemic worsened conditions for professional wargaming by making it difficult to play and introduce games to new players. Even as the Women's Wargaming Network was born because of the pandemic, the ongoing pandemic makes it difficult for events to truly get off the ground.

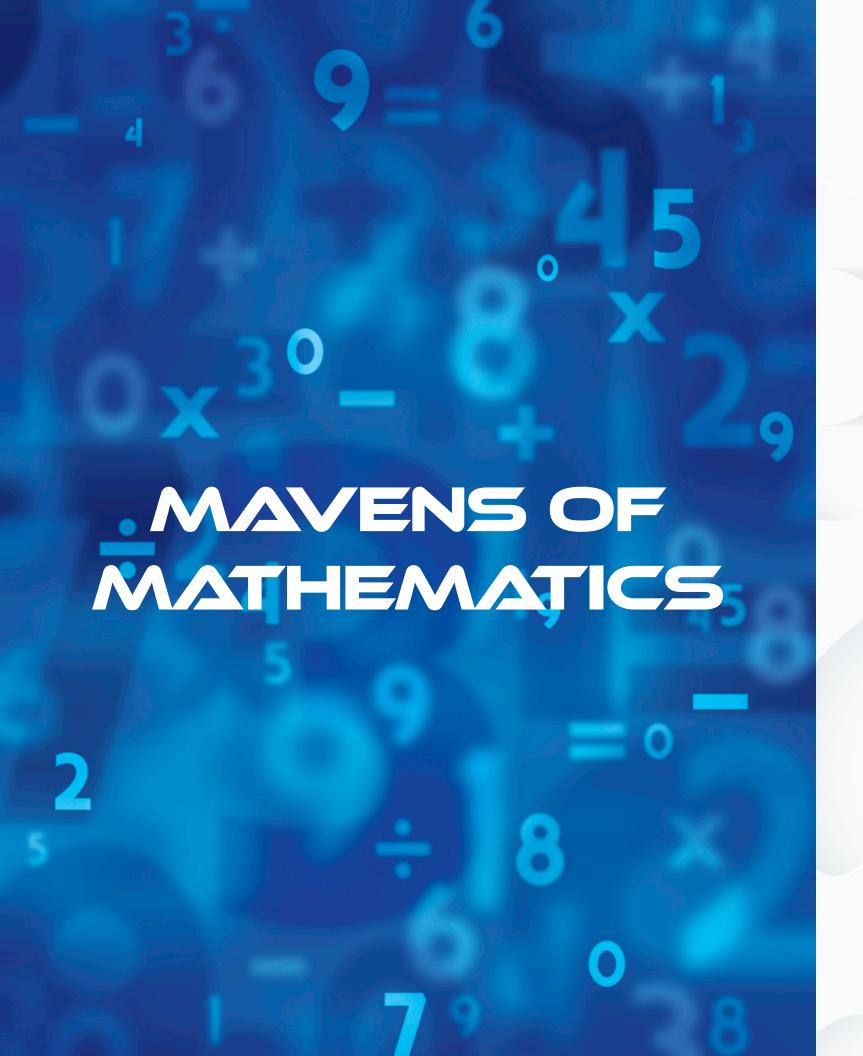
While the prolonged experiment of social distancing and virtual interactions pushed many in the professional wargaming crowd to adopt new online tools and forms of outreach, the classified nature of many professional games limits the transition of many of these virtual tools to professional wargaming. The pandemic also greatly limited one of the core ways that the professional wargaming crowd welcomes newcomers to the field: by meeting and playing games with one another.

Making Gaming Matter Again

The Defense Department has been actively trying to reinvigorate interest in wargaming, and Yuna sees herself and many others as part of that effort. In early 2021, she and then-IDA colleague Garrett Heath co-wrote a commentary for War on the Rocks, which posed questions about the quality of defense wargaming and the state of the defense wargaming workforce. Such questions

need to be answered to know if the Defense Department's efforts will be enough to bolster interest in wargaming and fortify workforce skills and capabilities.

IDA is also looking to expand its research into and use of wargaming within its organization. During her time at IDA, Yuna has run a few different wargames in support of research for IDA sponsors. IDA has recently hired new researchers with backgrounds in wargaming and defense planning who will likely also work on wargaming projects. In July 2022, IDA will host the 2022 Connections Wargaming Conference. The annual event has been a venue for wargamers to network since 1992. IDA is excited to host its next installation, which is being held in IDA's new Potomac Yard facility. Yuna hopes that events like these will help grow the community of professional wargamers and improve wargaming as a tool to help the Department of Defense address issues and challenges.



he Center for Communications and Computing has performed fundamental research in support of the National Security Agency's mission in cryptology since the 1950s. Areas of research focus are broad and employ a diversity of mathematical approaches, making recruitment of the best mathematical talent critical. Among former and current staff at the three locations that make up the Center for Communications and Computing are five remarkable women who have made their marks in mathematics.

Center for Communications Research, Princeton, New Jersey

Helene (Laney) E. Kulsrud was the first woman research staff member at IDA. When Laney retired in February 2019, her career at the Center for Communications Research in Princeton (CCR-P) had spanned more than 50 years. Laney earned her bachelor's degree in mathematics from Smith College and her master's in astrophysics from the University of Chicago. She joined the center in 1968.

When Laney was an undergraduate at Smith College, a women's college in Massachusetts, she was influenced by alumnae Betty Friedan and Gloria Steinem and professors at Smith who advocated for women's rights at a time when they were often ostracized from certain workplaces and professional spheres. Even in her early years at CCR-P, Laney was met with discrimination from male colleagues who often withheld credit, praise and leadership opportunities on the basis of her gender.

Laney was offered a position at CCR-P for her impressive expertise. The position provided her with an exciting opportunity to work with the



Researchers at the Center for Computing Sciences combine expertise in computer science, computer architecture, electrical engineering, information theory and other branches of mathematics and the sciences.

"I AM MOST PROUD OF MY WORK LEADING A TEAM OF PROGRAMMERS WHO CREATED A COMPUTER LANGUAGE AND COMPILERS."

largest, newest computers available at the time. At CCR-P, Laney developed important tools supporting scientific computer programming.

"I am most proud of my work leading a team of programmers who created a computer language and compilers, which allowed development of scientific codes with great parallelism and portability," she explains. "I also paved the way to using mathematics to manage massive data sets for data mining." This type of application of math to massive data sets has contributed to the current explosion in, and dependence on, artificial intelligence.

Laney served as a member of the board of the Cray User Group for more than 15 years and led the group for 4 years. According to its website, the group, established in 1978, provides "opportunities to share and discover ideas, solutions and developments in the effective use of computational tools." At the time, Cray (acquired by Hewlett-Packard Enterprise in 2019) was a leader in the design and manufacturing of high-performance computers, then known as "supercomputers." The user group was able to influence Cray's computer designs during Laney's time there.

While having begun her distinguished career as a lone woman in a male-dominated arena, Laney has been both a trailblazer and catalyst for change at CCR-P, as the center opened its doors to more women over her decades-long career. "I was delighted to be able to mentor several of the highly qualified young women hired by CCR and management became more sure of their equality," says Laney. In general, her advice to young women entering STEM fields is to plan carefully in order to balance their personal and technical goals, she says, and "keep your standards high."

Center for Computing Sciences in Bowie, Maryland

Hailing from academia, **Lindsey-Kay Lauderdale** first heard of career opportunities at IDA while attending the Mathematical Association of America's MathFest in 2014. She correctly surmised then that IDA would be a perfect place to apply



Lindsey-Kay Lauderdale is a mathematics professor and adjunct member of the research staff at the Center for Computing Sciences.

her background in mathematics, while also using new techniques and building up her professional credentials. Lindsey-Kay holds a doctorate in mathematics from the University of Florida. In her work at the Center for Computing Sciences (CCS), she is proud to have used her theoretical knowledge base from academia to solve problems and create state-of-the-art physical models.

Despite having a life-long passion for mathematics, the face of math changed for Lindsey-Kay upon becoming a research staff member at IDA. Whereas she had often found herself surrounded by male mentors and peers in the past, she says: "my perspective and experiences changed when I started working at IDA. There are many strong women leading projects and are well-respected; I have seen many of them engage with girls in STEM, and they are having a positive impact on them." Lindsey-Kay urges the next generation of women in STEM to

"MY PERSPECTIVE AND EXPERIENCES CHANGED WHEN I STARTED WORKING AT IDA."

seek out and surround themselves with people who will accept and support them as they are.

Julia C. Lipman explains that "tech-bro culture" — a term sometimes used to describe the wider male-dominated computing world — "was at its apex when I finished grad school."
Julia earned her doctorate in computer science from the University of Michigan in 2007. "I knew I wanted to end up somewhere that was more like a university than a startup." She found what she was looking for in the culture at IDA, which she believes provides an inclusive equilibrium of opportunities to be collaborative along with plenty of space to be an individual.

Over the course of her career at IDA, she has gone from viewing computers as useful yet mysterious abstractions to confidently "moving closer and closer to the machine," as she puts it. Her proudest accomplishments thus far have been "reverse engineering embedded firmware, hand-assembling machine code and finding bugs in the deep recesses of software."

Most of Julia's role models in STEM have been men. She states, "It never occurred to me growing up that I couldn't be just like the men I idolized." One of her major influences was the <u>legendary mathematician</u> Paul Sally at the University of Chicago. He once told her something that Julia herself would reiterate to the next generation of women in STEM, "It's persistence that pays off in this game." Julia explains, "This game' being math. But also, all of STEM, and life."

Center for Communications Research, La Jolla, California

Nida K. Obatake is the first person hired under IDA's postdoctoral fellowship program. The program is part of an initiative to recruit and support highly qualified scientists from diverse



Researcher Karen Ball with Nida Obatake, who was an IDA postdoctoral fellow before becoming a research staff member at the Center for Communications Research, La Jolla.

backgrounds, experiences and perspectives. Successful candidates are appointed to permanent positions on the research staff following their fellowship.

What initially attracted Nida to IDA was "the promise of hard problems requiring a broad range of scientific tools." Nida earned her doctorate in mathematics from Texas A&M University in 2021, joining IDA shortly thereafter. "I was excited to apply my skills to a completely different area of mathematics than I had ever worked in throughout my academic career," Nida says. Having joined the Center for Communications Research in La Jolla (CCR-L) recently, Nida explains, "I am grateful that IDA crafted this initiative to recognize my diversity, both in identity and scientific strengths."

Nida's success and professional recognition have not come without some adversity. "The most frustrating obstacle I face is the minimization of my successes to my gender identity." Nida can recall times in the past when male colleagues would imply that recognitions she received were only due to her being a woman. "I found myself thinking, 'Would my accomplishments still be as impactful if I were a man?""

At times, imposter syndrome had even made Nida doubt her place in STEM altogether. "We women often undersell ourselves, chalking up big accomplishments as just 'doing our job.' We should, however, allow our professional success to be openly highlighted, so that we will be celebrated as STEM professionals *and* women."

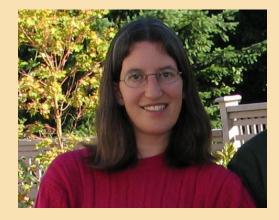
On the other hand, Nida explains how her short time at IDA has already consisted of research projects with majority-women teams. While she has encountered mixed ratios of genders in various environments during her STEM career so far, she is inspired by the sense of belonging that she has felt at IDA. "Working with supportive women has powerfully impacted my career," Nida says. "Together we have contributed important theorems and mathematical tools, all while supporting each other to excel." To the future generation of women in STEM, Nida stresses the importance of approaching challenges with confidence. "Surround yourself by those who build this confidence and boldly ignore those who get in the way."

JULIE B. KERR AWARD

IDA's corporate awards are named after past IDA presidents: Andrew J. Goodpaster, Larry D. Welch, W. Y. Smith and David S. C. Chu. IDA broke with that tradition earlier this year by announcing the Julie B. Kerr Award for Excellence in Research. This is the first IDA award named after a researcher and the first to recognize research in support of the mission of the Center for Communications and Computing. The winner of this bi-annual award will be announced later this year.

Julie Kerr was a researcher who is remembered for her many research contributions and for her warmth, kindness and upbeat attitude. Not only was Julie a brilliant mathematician in her own right, she was also a strong collaborator who elevated the contributions of everyone around her.

Her strength as a mathematician was recognized early. As an undergraduate, Julie was selected as runner-up for the 1992 Alice T. Schafer Prize for Excellence by the Association for Women in Mathematics. While she was a Ph.D. student at the University of Michigan, she participated in several SCAMPs at the Center for Communications Research, La Jolla, and



when she graduated in 1997, she joined the research staff full time. She spent a successful 10 years in La Jolla, where she was a key player in six of the mission breakthroughs memorialized there.

Julie had delightfully diverse personal interests, which included "ferrets, Esperanto, cello, origami and miniatures" (as she wrote in her 1996 resume) and being vegan. She pursued all of these and other interests with gusto and passion.

IDA named this award after Julie both as an expression of her coworkers' fond memories as well as to recognize that, had she lived longer, she would have been a strong contender for this award.

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When **Karen T. Ball** was coming out of her second year of graduate school, she was one of the youngest SCAMP participants of her year. SCAMP is an annual summer workshop where some of the most important collaboration at the centers occurs as teams work to solve difficult mathematical problems.

"It was definitely an experience of learning to swim by being dropped into the deep end," she says. But Karen rose to the challenge, successfully finding a group and making impactful contributions. She participated in SCAMP again the year she finished graduate school, and the rest is history. Karen applied for a permanent position in 2005.

When Karen arrived, only two other women were on the research staff at CCR-L. "I would occasionally look around the room and count the number of women. The numbers have gotten better over the years, though there are still more men than women on our staff." Karen's mother was a major influence on that front. As Karen states, "She always pushed me and my sister to do things in male-dominated fields."

About five years after joining CCR-L, Karen's team was awarded the National Intelligence Meritorious Unit Citation for a project she had been working on for the majority of her time at the center. Karen cites the best day of her career as the day in April 2009 when the project had its first operational success. She also cites the SCAMP summer program that she co-chaired in 2017 as another one of her proudest accomplishments as the research that the program produced remains integral to her current work and field. "I enjoyed being in on the research from the beginning and advising on how to take things further."

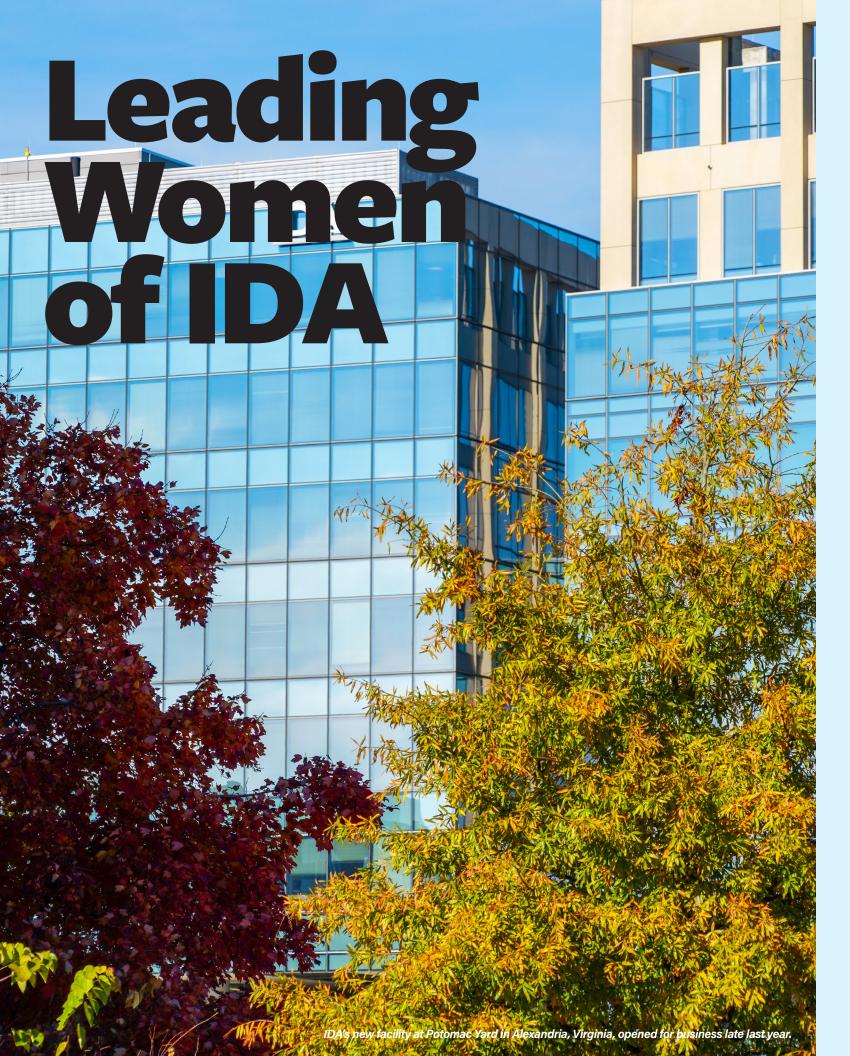
Meanwhile, to use the language of Laney Kulsrud, you might say that Karen's personal life has

"IT WAS DEFINITELY AN EXPERIENCE OF LEARNING TO SWIM BY BEING DROPPED INTO THE DEEP END."

been "planned carefully," to dovetail with her professional goals. Karen's decision to join CCR-L in 2005 was in part a decision to remain close to her family in San Diego, as opposed to taking a tenure-track position on the East Coast with her husband, a fellow mathematician. They decided to stay on the West Coast, even though it meant Karen would be leaving academia. "I have never regretted my decision to come to CCR-L. I enjoy and admire my colleagues."

Karen continues, "I have given talks to worldclass mathematicians on my work. I had the chance to lead a large research effort without having to give up being a researcher myself. I really appreciate being able to contribute to the larger mission of the sponsor."

The talent and versatility of these and other researchers at the <u>Center for</u> <u>Communications and Computing</u> are important to providing cutting-edge research in mathematics and computer science to the National Security Agency.



Corporate leadership:

Navigating changes wrought by country-wide developments, coupled with a new corporate president and a move to a modern facility.

IDA, like so many other businesses, has undergone a workplace evolution over the last few years, but unlike other organizations, IDA's evolution involved changes wrought by interests beyond the global COVID-19 pandemic and the quest for racial equality. In the midst of those developments, IDA was in the middle of an all-encompassing project to build a new facility in the Potomac Yard neighborhood of Alexandria, Virginia. The new building would house IDA headquarters and the entirety of the Systems and Analyses Center, the largest of three federally funded research and development centers, or FFRDCs, that IDA operates. IDA had broken ground on the construction project in August 2019. Then, at the beginning of 2020, IDA welcomed a new president, retired Air Force general Norton (Norty) A. Schwartz.

Norty picked up the mantle left by his predecessor, David S. C. Chu, to make IDA's name more widely known. IDA had historically prided itself on keeping a low profile. The quality of IDA's research work was consistently exceptional, but the publication or product that came out of that research belonged to the sponsoring agency, which meant IDA didn't publicize its work and was therefore far from being a household name among FFRDCs. Norty envisioned IDA's move to a larger, more modern building as a new start for IDA, one in which new sponsorships were possible. The transformation that had begun under different leadership was easily carried forward by Norty. He had been a member of

IDA's board of trustees and was well aware of IDA's goals and well positioned to move them forward.

Just a few short months after Norty's first company town hall, workplaces across the country began shutting down in the wake of COVID-19. Pandemic notwithstanding, construction continued on IDA's new facility, and staff successfully moved from 4850 Mark Center Drive, also in Alexandria, to 730 East Glebe Road in December 2021 as planned.

The building is a marvel to behold inside and out. A highly-efficient structure, natural light and glass lend to its modern sleekness. The <u>building</u> is <u>LEED certified</u> and meets WELL Building certification requirements, meaning it was built with employee health and environmental sustainability in mind.

It's an understatement to say that staff have "pivoted" to make things work during the pandemic, or that IDA has accommodated to changing times. A better word to describe the recent changes at IDA is "metamorphosis." The seeds of change were planted long ago by leaders who came before, but the corporate leaders profiled here are instrumental in seeing IDA through to the endgame of this multi-stage transformation.

Linda A. Huntt VICE PRESIDENT, MANAGEMENT

Linda assumed the role of vice president for management at IDA in 2016, the second woman to serve in a vice president role at IDA. The first was Linda's predecessor, Ruth Greenstein, who joined IDA in 1990 and served as both vice president for finance and administration and general counsel until her retirement.

Linda worked for nearly 18 years at Johns Hopkins University's Applied Physics Laboratory, which gave her ample experience in the world of nonprofit government research and development organizations. At the laboratory, she advanced through positions such as subcontracts representative, section supervisor, business manager and group supervisor before becoming operations executive, first in the National Security Technology Department and then in the Research and

"How can operations best support IDA's mission, and what does operations need to accomplish that?"

Exploratory Development Department.

In her role at IDA as vice president for management, Linda oversees corporate operations. When she joined IDA, she immediately embarked on a mission to ramp up IDA's business practices. Over the last six years, she has been instrumental in transforming IDA in a number of ways: embracing a corporate business model; navigating the effects of the global pandemic on the workplace; and overseeing the move to Potomac Yard.



IDA Vice President for Management Linda Huntt, Human Resources Director Irene Timm, and Finance and Administration Director and Chief Financial Officer Jean Conley work together on process modernization, risk management, hiring practices and other operational matters.

She is particularly proud of her role in revamping the employee performance appraisal process. The system was transformed from a backwards look at performance over the previous 12 months to a forward-looking, goal-oriented approach. Employees now receive real-time feedback throughout the year about their progress, which helps them shape their future careers.

Linda prioritizes transparency about the "whys" in all areas of change that the operations staff implements at IDA. She feels strongly about the need to advance IDA's broader research mission. Her approach also recognizes the value of the operations staff's contributions.

For Linda, the key to leadership success is seeking a balance between stated requirements and the good of the company overall. As a result, she asks herself and those around her, "How can operations best support IDA's mission and what does operations need to accomplish that?"

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Jean C. Conley

DIRECTOR OF FINANCE AND ADMINISTRATION, CHIEF FINANCIAL OFFICER AND TREASURER

Jean Conley joined IDA in 2019 from the MITRE Corporation, where she was vice president and chief financial officer. In her role at IDA, Jean is responsible for all financial and contractual operations of IDA. She took over at a crucial juncture in IDA's history — when IDA had embarked on a campaign to increase its visibility. IDA was previously known, at least internally, as the "quiet FFRDC," but times had changed. IDA had grown, transitioning from the Institute for Defense Analyses, an FFRDC whose primary sponsor was within the Office of the Secretary of Defense, to a company that managed three FFRDCs, two for the Defense Department and one for the White House Office of Science and Technology Policy.

"By coming to IDA with an outsider's perspective, I arrived with a natural bias for questioning the status quo" when it came time to create a more modern, efficient, automated way of operating at IDA. As a result, Jean says, "I was able to help trigger the Business Modernization Initiative."

With IDA's change to becoming a well-known name came a need for robust management and oversight of its financial and administrative business practices. Jean's purview includes strategic oversight, planning and operation of finance as well as the annual budget process, treasury, contracts, subcontracts, purchasing, facilities and administration.

When asked about her proudest accomplishments since joining IDA, Jean mentions IDA's Enterprise Risk Management Program. She implemented the program after arriving at IDA and has since managed it, taking on the de facto role of chief risk officer in the

New leadership roles bring fresh perspectives: business modernization and data management

In July 2021, IDA announced the appointments of Heather Wojton and Julie Lockwood, two members of IDA's research staff, to new leadership roles in the organization. Together they will be heading the Business Modernization Initiative and the Data Initiative, an ambitious pair of enterprise developments that will revitalize the ways in which projects, programs, finances and human resources are managed.

Business Modernization Director Julie A. Lockwood

is passionate about how business modernization advances — which encompass project and program management, human resources, finance and other areas — will enable IDA's success in its core mission.



The initiative envisions a connected, communicative, nimble IDA. Julie is collaboratively engaging staff from across the organization to achieve that goal. By giving all staff easier access to information, better-integrated workflows and more capable systems, they will find it easier to effectively manage or support research. For Julie, the question is, "How can we spend less energy on routine administrative tasks?" Doing so will free resources, reduce enterprise risk and position IDA for continued success.

Julie says, "modernization means providing the tools, processes and information we need to support our core mission most efficiently and effectively." By streamlining internal operations and providing a high level of information sharing,

staff will spend less time on administrative matters and more time focused on high-value activities.

As a researcher at IDA, Julie led efforts to encourage open-source model development, to bring machine learning techniques to military personnel analytics, to improve peer review and to expand access to resources for leveraging large data sets.

Data Strategy
Director and
Chief Data
Officer Heather
M. Wojton is
responsible for
enhancing IDA's
ability to efficiently
and effectively
accomplish
research and
business operations
by assessing and
evolving data
systems, data



management infrastructure and data-related practices.

Regarding her role, Heather explains: "I want to help IDA think about data in a new way. Data can change how we work and what we understand about ourselves if we take the time to understand what data we need to support our internal operations."

Heather joined IDA in 2015 as a researcher in the Operational Evaluation Division of the Systems and Analyses Center. She says her experience as a researcher "helped me develop project management skills, learn how to motivate my colleagues and build a broader network within the division and across IDA." Heather is an expert in quantitative research methods, including test design and program evaluation. She held numerous research and leadership roles, including assistant director of the Operational Evaluation Division, before taking on her new role.

process. The program defines a structure around which risk is managed throughout the company. The annual structure cycles through quarterly activities governed by IDA leadership. Since its inception, the program has come a long way in painting an accurate picture of enterprise risks that affect IDA and enabling alignment of resource requirements to key risk areas that could affect success of corporate objectives.

With regard to the future, Jean states, "My number one focus is on two strategic, IDA-wide initiatives — business modernization and data management." She goes on to say that she and her team will be "looking for every way possible to support and positively influence these critical, game-changing initiatives while also balancing our own day-to-day responsibilities."

Her attention will also be heavily focused on staff development and employee engagement. During a period of change, it's important that IDA creates and maintains a diverse, equitable and inclusive work environment for "our team, our partners and our key stakeholders across IDA."

Irene Timm DIRECTOR OF HUMAN RESOURCES

Irene has been a major force in IDA's quest to create a balanced and inclusive staff that integrates a fuller range of experiences and perspectives. IDA's approach towards hiring has gradually changed over the years, especially in the last two years with IDA's enterprise-wide DE&I initiative.

Irene joined IDA in 2016 with more than 20 years of experience in human resources management. In her time with the company, she has overseen changes in IDA's compensation and benefits, employee and leadership development, succession management, organizational effectiveness and diversity and inclusion.

Irene leads the development, implementation and evaluation of practices that support workforce planning and talent acquisition. She has been at the forefront of recent developments that are evolving IDA's culture in new and exciting ways. As IDA embraces "working from home" like so many other office-based organizations, Irene has been responsible for developing and executing IDA's human resources strategy for putting in place a telework policy, something IDA did not have before. Irene stresses the importance for leaders to look at the "big picture" across an organization, not just in individual realms.

Meanwhile, DE&I has become a household term at IDA, thanks to Irene. "You could say that advancing DE&I is one of my proudest accomplishments as HR director," she says. Irene is working to ensure that diversity, equity and inclusion are woven into every fiber of IDA's culture, are embedded into all of the organization's values and guiding principles, and are part of everything IDA does.

This broad DE&I initiative is transforming IDA's traditional recruiting and hiring practices with the clear intention to rectify an obvious imbalance in representation in research and leadership positions throughout the company. Under Irene's leadership, HR is expanding its traditional talent acquisition sources, broadening outreach, and actively developing more robust partnerships with diverse professional associations and institutions of higher learning, including, for example, historically black colleges and universities.

Irene leads IDA's internal DE&I working group with representative members from throughout the company with various backgrounds. One of the first tasks for the working group was developing an "aspire to" culture statement

"You could say that advancing DE&I is one of my proudest accomplishments as HR director."

to guide all other activities aimed at achieving these aspirational values. Irene underscores the importance of capturing employee voices in the statement about the importance of diversity, equity, and inclusion, which ties these principles to IDA's mission and outlines the organization's specific commitments to DE&I.

The working group's other accomplishments and on-going efforts include developing a comprehensive strategy for DE&I education, standing up a network of Employee Resources Groups (ERGs) to support IDA's staff and promote and sustain an inclusive work environment, and creating campaigns to recognize and celebrate diversity events.

One testament to IDA's commitment to DE&I is that IDA has dedicated substantial resources to support various DE&I initiatives, from setting up a dedicated budget for DE&I education, to creating a new, dedicated Diversity, Equity and Inclusion Program Manager position. In October 2021, IDA President Norton A. Schwartz joined CEO Action for Diversity & Inclusion as a signatory and made a pledge to foster DE&I.

Irene recognizes that evolving workplace culture doesn't happen overnight, and she is excited to continue leading IDA on the journey.



Women directors from the research side of IDA: Kristen Kulinowski leads the Science and Technology Policy Institute and Margaret Myers leads the Information Technology and Systems Division.

Research leadership: transitioning to leadership from a research world

At first, IDA's two women research directors seem quite different. Director of the Information Technology and Systems Division Margaret E.

Myers has roots in military service and considers herself an introvert. In contrast, Director of the Science and Technology Policy Institute Kristen M. Kulinowski came to IDA by way of academic research and government service and is an obvious and self-admitted extrovert. But the two are the only women of 12 research directors at IDA's three FFRDCs. Further, Margaret and Kristen were both recruited to IDA by their predecessors, who were themselves the first women directors in their positions.

Margaret E. Myers DIRECTOR OF THE INFORMATION TECHNOLOGY AND SYSTEMS DIVISION

Margaret Myers' predecessor was Priscilla Guthrie, who had been a long-time friend and colleague since their time in the Defense Department together. Priscilla recruited Margaret to the Systems and Analyses Center's Information Technology and Systems Division (ITSD), and then left the organization, leaving the door open for Margaret to eventually replace her in 2009. Margaret now leads a staff of nearly 100 who address cybersecurity and cyberspace challenges of national and global importance.

Prior to joining IDA, Margaret served as Principal Director for the Department of Defense Deputy Chief Information Officer

"The workplace has to change, and is changing."

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and as Director of Information Technology
Acquisition and Investment for the Office of the
Assistant Secretary of Defense for Command,
Control, Communications, and Intelligence.
Her government service also includes technical
leadership positions with the U. S. Army
Operational Evaluation Command and the
U. S. Army Information Systems Engineering
Command. She was appointed to the Senior
Executive Service in 1992.

Having served on active duty in the U.S. Army from 1975 to 1978, Margaret continued service in the Army Reserve before retiring from the Army in 2005 in the rank of colonel. Margaret also holds a doctorate in information technology from George Mason University.

Kristen M. Kulinowski DIRECTOR OF THE SCIENCE AND TECHNOLOGY POLICY INSTITUTE

Kristen was recruited to the Science and Technology Policy Institute (STPI) as a researcher in 2011 by then-director Sallie Keller, a former colleague in academia. Keller relinquished her role as STPI director soon thereafter, and Kristen eventually moved on to other pursuits. In 2020, she returned to IDA to lead STPI.

STPI is a federally funded research and development center under the sponsorship of the Office of Science and Technology Policy. Kristen leads a staff of 55 who are collectively responsible for analyzing national and international science and technology issues.

Before taking on her role as STPI director, Kristen was a member and acting head of the U.S. Chemical Safety and Hazard Investigation Board. Before that, she was a senior faculty fellow in chemistry at Rice University and served as the executive director for the Center for "Management here is more about making sure the very bright and talented staff have the tools, resources and support they need to do their best work."

Biological and Environmental Nanotechnology and the director of the International Council on Nanotechnology. She holds a doctoral degree in chemistry from the University of Rochester.

Where managing meets leading

Margaret garnered leadership skills from the Army that she has used in other civilian jobs, including at IDA, but she attests that leadership and management are two very different things. In the decade-plus since she took her current position, the most significant change to her division's operations has been the increased use of machine learning and data science to solve problems.

Margaret explains, "We have iteratively grown our expertise in finding relevant data, often from unanticipated and nontraditional sources, applying the right analytic tools, and helping sponsors visualize the outcomes to inform and improve their decision-making."

"We have iteratively grown our expertise in finding relevant data, often from unanticipated and nontraditional sources."

In terms of managing her division, this change has heightened Margaret's responsibility and eagerness to recruit the right kind of talent that can keep pace with innovative, data-driven work. In her time as director, Margaret has hired two-thirds of her current staff.

After fewer than two years directing STPI, Kristen can't speak to long-term changes to the extent that Margaret can, but the two directors' priorities look similar. Recruiting and retaining top talent is likewise integral to Kristen's long-term goals for STPI. She has already developed a general strategy for managing the wide range of talent among her staff. As she explains "What's different about STPI is the breadth of topics we explore in our analyses. Management here is more about making sure the very bright and talented staff have the tools, resources and support they need to do their best work."

Fomenting a favorable workplace environment

Margaret and Kristen also wholeheartedly agree on the environment that IDA needs to provide in order to secure the type of talent they are so eager to recruit. Both women are no strangers to being marginalized or undermined as a result of their gender as they had been at times during earlier periods of their careers. Margaret can testify to the "coping skills" that she and other women once had to learn to deal with discrimination they faced in the workplace. "Just dealing with it," though, is a thing of the past, Margaret believes.

One way she sees herself and her compatriots as different from younger generations in leadership or other traditionally male roles is that she just "dealt with" sexism in the workplace whereas today, women are unwilling to do so. "They want what they want, and they don't want to wait," Margaret says, referring to women today who speak out against discrimination more fearlessly than ever before. Plenty more women, as well as men, are now more attuned to the nuances of sexism, harassment and inequality in the workplace. To accommodate the demands of women today, "The workplace has to change, and is changing," says Margaret.

Like Margaret, Kristen has been victim to sexist incidents in her career, including a time she was told she could always get married if her plans for graduate school didn't "work out." STPI is now over 50% women, including two assistant directors, Asha Balakrishnan and Xueying "Shirley" Han. Kristen explains that more diversity education is facilitating a better work culture and environment at STPI. This includes, at times, discussions with staff about issues like sexism. Kristen describes these conversations as difficult but necessary.

"As leaders we are called to confront these issues directly. If we don't change the culture and have these conversations, it is a risk to the future of hiring at IDA," she says. Both Kristen and Margaret are well-aware of the harm that an inequitable culture at IDA would cause to recruiting and retaining indispensable talent.

"As leaders we are called to confront these issues directly. If we don't change the culture and have these conversations, it is a risk to the future of hiring at IDA."

Embracing leadership skills

Of course, directing a research organization extends well beyond hiring talent. Consolidated under a single director is a staff composed of experts not only with an expansive range of knowledge but also with a range of personalities. Margaret and Kristen describe how versatility and adaptability are not always easy, but they are necessary qualities to exhibit in their day-to-day leadership roles.

Throughout her career, Kristen has learned the importance of understanding that motives and values oftentimes vary from person to person in any given workplace, and that it is crucial to try to understand those differences. During a teambuilding exercise when Kristen was in a previous position, participants were asked about their core workplace values. She was surprised to hear major discrepancies in her answers compared to some of her colleagues. Kristen's answers included things like "integrity" and "excellence" while others had indicated that "connection," and "family" were at the top of their list of priorities. This exercise was key to Kristen understanding what is required to lead a team with diverse values and motivations.

Margaret has similarly found in her career that being flexible and rising above personal dispositions is crucial to her success as a leader.

Margaret first learned that she was an introvert when she took a Myers-Briggs personality assessment many years ago. Simply put, the assessment is a way of determining personality type based on an individual's preferred way of perceiving and dealing with the world around them. One aspect of the test determines whether your preference is to focus on the world around you (extroversion) or on your inner world (introversion). Margaret learned to overcome her natural introversion for the sake of meeting others' expectations for how a leader should act and helping them feel more comfortable. This meant being more outgoing than would otherwise be natural for her.

Although managing expectations, getting along with others and catering to the needs of others can be daunting, managing these tasks does not necessarily have to come at a personal cost. Having self-awareness and being in control of your reactions are important. According to Kristen, it was "empowering" for her to realize that she did not have to act upon every personal feeling she had to a situation. Clearly, both Margaret and Kristen are doing something right.



FOUR WOMEN ANSWER THREE QUESTIONS ABOUT THEIR IDA ROLES

lans for IDA's new facility in Potomac Yard, known as the technology corridor of Alexandria, Virginia, had been proceeding as planned after construction began in August 2019. Then, the COVID-19 pandemic hit. While much of IDA's staff were dealing with conference calls, Zoom meetings, travel restrictions and other disruptions to their projects, those responsible for ensuring construction went on as intended persevered. The ambitious construction schedule called for IDA to fully occupy the new facility in December 2021. Despite numerous hurdles, everything came together on time for that to happen.

Three months later, IDA's new facility seems to be measuring up to its promise. The building's two towers house IDA corporate staff as well as the Systems and Analyses Center, the oldest and largest federally funded research and development center IDA manages. With the ribbon-cutting ceremony behind us, we want to recognize some of the people behind the scenes who are helping to shape the environment essential to meeting IDA's national security research and analysis objectives. These women not only execute their corporate responsibilities well, they also contribute to advancing diversity, equity and inclusion, or DE&I, through representation, communication and mentorship.



Michelle Celich, who leads the information systems security team, and Assistant Chief Security Officer Sharon Cavitt work with each other and their respective teams to meet IDA's expanded security needs at Potomac Yard.

The beating heart of security

Sharon Cavitt, who joined IDA in 2018, is the assistant chief security officer. As Security's second in command as well as team lead for personnel security, Sharon works closely with others to deliver personnel, programs and systems security across the enterprise. With over 370,000 square feet of space, IDA's Potomac Yard facility is not only larger than before, but the building's amenities make meeting security requirements complicated. Navigating these issues means the entire security team is constantly on their toes.



What is the most rewarding aspect of your work at IDA?

I enjoy the collaboration among staff and leadership that happens here. It's rewarding to be recognized for having provided "great service" and having staff and leadership acknowledge my team for that.

What is a typical day like for you?

Busy! Always on the move!

My team interacts with all of the research supporting staff to meet their security needs, whether that be clearance processing, classified visit requests, security briefings, in-processing of new hires, supporting conferences/meetings or

providing overall personnel security support, to name just a few.

Considering all that has transpired in the last few years, what, if anything, has changed for you in your position at IDA?

My focus has been on mentorship and supporting my team, providing them the tools to work in any type of environment, whether that be on-site or remote. I have had a very fulfilling career in security, over 30 years. My goal is to find growth paths for those security professionals that are just getting started in their careers.

Keeping the workplace social at a time of physical distance

Margery W. Waithaka is a senior programmer/ analyst involved in system development and implementation within IDA's information technology directorate. While her inherently low-profile position might mean her contributions are lesser known outside of IT, Margery has made a name for herself by stepping up to lead IDA's Social Crew and to participate in IDA's burgeoning DE&I program. Margery joined IDA in 2014 as a programmer/analyst and advanced to senior programmer/analyst in five short years. A motorsport enthusiast, Margery is often seen riding her motorcycle to work on warm, sunny days, and among other things, she enjoys learning and speaking new languages.



Senior Programmer/Analyst Margery Waithaka is a prominent participant in social events planning and DE&I developments.

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What is the most rewarding aspect of your work at IDA?

The most rewarding aspect of my work at IDA are the friends I've made along the way. IDA is a wonderful place made so by the people that work here.

What is a typical day like for you?

My average day is full of collaboration. I'm involved in many projects that require cross-departmental resources and insights. I provide everyday support of crucial business systems for employee evaluation management, project planning and activity tracking. I may also be called upon to provide the design, development or resource allocation guidance for new projects and initiatives.

Considering all that has transpired in the last few years, what, if anything, has changed for you in your position at IDA?

Since the pandemic, I have taken on a more involved presence in the success of our team members, especially those earlier in their careers. Together with other mentors in system development and implementation, our diverse experiences have led to greater cohesion and collaboration.

On the forefront of social media

Nina K. Chambers joined IDA as a communications specialist in 2017. Nina had her work cut out for her, namely, bringing IDA into the age of social media. She has proved herself to be particularly well-suited to the task. In addition to building IDA's social media presence, Nina is the company's point of contact for public relations, alumni outreach and engagement analytics. In the last year, she's taken on increasing responsibility for managing the corporate communications directorate's progress on DE&I campaigns. Within the directorate, she monitors workflow for a host of communications to make sure they are delivered efficiently and on time.



Communications Specialist Nina Chambers is on a twopronged mission: increase social media engagement and promote DE&I messaging.



What is the most rewarding aspect of your work at IDA?

I'd say the most rewarding aspect of my work at IDA is the opportunity to work on a project from start to finish, collaborating with staff across the organization and learning something new along the way. I believe that learning is a lifelong process and that there is value in increasing your knowledge and identifying best practices that will guide your future work and lead to success.

What is a typical day like for you?

A typical day includes working on various internal and external communication projects, media and social monitoring, analyzing metrics and collaborating with my team. I'm often working on developing social media content, communicating with a team member about a project, monitoring our directorate's inbox and responding to situations as they may arise throughout the day.

Considering all that has transpired in the last few years, what, if anything, has changed for you in your position at IDA?

In the last few years, I have had increased opportunities to work on a broader range of projects. One area of focus that I've been involved with since June 2021 is coordinating the communication efforts for the organization's DE&I recognition and education efforts, ensuring that the

projects are completed on time, communicating with different groups, making sure that those involved have what they need to be successful and working closely with staff to authentically convey their work, backgrounds and perspectives.

Accounting for time

Michelle L. Styles Davis is the cash accountant for IDA's finance and administration directorate. Since joining IDA in 2013, Michelle has been promoted four times. Having started as an accounting generalist, she next became a financial analyst, a budget analyst, then a staff accountant before taking on her current position. Since 2017, Michelle's primary responsibility has been payroll. During Michelle's time at IDA, she earned a bachelor's degree in accounting from George Mason University, a master's degree in accounting from the DeVry University and a CPA license through the Virginia Board of Accountancy.



What is the most rewarding aspect of your work at IDA?

The most rewarding aspect of my work at IDA is the relationships I've built over the years. I have interactions with staff throughout the organization which has allowed me to meet remarkable, brilliant people.



Cash Accountant Michelle Styles Davis with Corporate Controller Jacqueline Z. Powell.

What is a typical day like for you?

My typical day is full of multitasking. I am involved in many core functions that support IDA's financial reporting and I work directly with staff who have finance-related questions and concerns.

Considering all that has transpired in the last few years, what, if anything, has changed for you in your position at IDA?

Since the pandemic, I've focused on implementing new methods for operational activities because our department was previously paper based. This has given me an opportunity to spend more time on process improvements and efficiencies that support IDA's Business Modernization Initiative.









