

# The APL Communications Department

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# COMM

## INTRODUCTION

APL's Communications Department is not yet a year old as of this writing. While it is too early to tell where we might be in another 21 years, the story of our founding and current trajectory might be interesting for future historians.

Less than a decade ago, APL (reasonably) called itself the stealth lab. There were many good and honorable reasons for this status. Much of our work was and is classified. Beyond that, much of our work shouldn't be discussed in detail widely. But that's not really why we were the stealth lab.

Our stealth came not from an intent to conceal but from a focus on service. A silent generation-type attitude that was dedicated to the work, its quality, and its impact. We were happy to stand in the background to support the broader team and government leads in a worthy endeavor.

These were good and honorable inclinations for their time, but times change. And in the early 2000s, they changed dramatically.

## CONTEXT

The changes had nothing to do with our mission: we were still making critical contributions to critical challenges in a variety of important ways. The world around us changed—the context in which we were

creating—and this in turn forced us to change the way we communicated.

One considerable context change was the growth of the Lab. Between 2000 and 2020 APL went from just over 3,000 to more than 7,200 staff members. That growth challenged old assumptions and methods when it came to collaboration and knowledge sharing internally. Cafeteria conversation could still lead to novel innovations—as was the case with satellite navigation<sup>1</sup>—but with so many staff members, four large cafeterias, and numerous food truck



lines, the probability of those chance encounters across disciplines was decreasing. Moreover, where it was once commonplace to just send an email to the entire staff, with so many staff members and so many projects, the quantity of email became unmanageable.

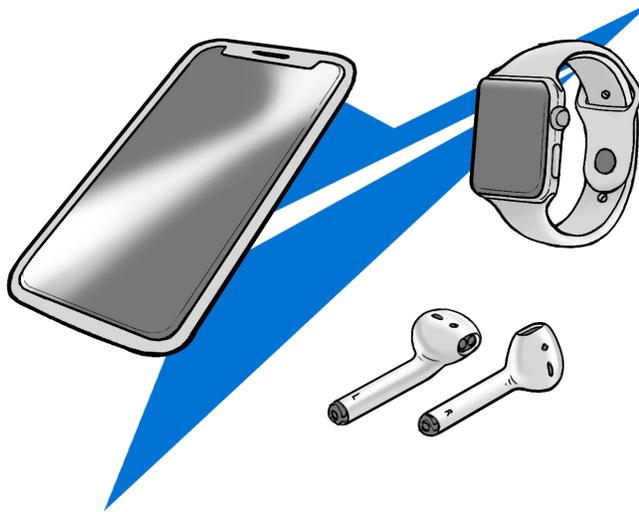
**“ Investments from commercial technology powerhouses had important effects on the international marketplace of technological ideas.”**

Another significant change was the sources of funding for research, development, and technological innovation within the United States. Since the Lab's founding, it had been the government—NASA, the Department of Defense, or the intelligence community, for example—that invested in novel research and development (R&D). Those investments had catalyzed everything from jet engines to the internet, but beginning in the 2000s the tech giants—places like Google, Apple, Amazon, and Facebook—began to invest heavily in R&D.<sup>2</sup>

These large investments from commercial technology powerhouses had a number of important effects on the international marketplace of technological ideas. Three of those directly influenced the Laboratory's approach to communications.

For one, the new players in the R&D space were incentivized to share their innovations in a way defense-affiliated labs never would be. To gain market share they were loudly proclaiming the novelty and advanced nature of their products—sometimes with an appropriate level of fanfare and sometimes not. APL sponsors could not help





but observe these advertisements and the news around new products. They came to see commercial companies as the new hotbed of innovation for national security. Current APL director Ralph Semmel once famously recounted a meeting with the front office staff of the chief of naval operations, where they proudly declared a visit to Silicon Valley, “where innovation was happening.” The notion that the CNO and his staff would literally fly over the Lab en route to “innovation” was attention grabbing. It demonstrated the urgency of putting the Lab on the newly developing innovation map.

Sponsors were not the only ones drawn in by the fanfare and stories of the great innovations happening in the tech sector. The nation’s top scientists and engineers—new graduates and experienced potential hires alike—were also clamoring to work at these new innovative and glamorous companies. Gone was the allure of formerly well-funded government R&D. Gone too were old assumptions about the culture—scientists and engineers were no longer solely the silent “nerds” in the background; they were more frequently becoming the rich and famous with enormous social media followings. The Lab had to change its communications to meet a reshaped and newly competitive marketplace for talent.

Beyond the new pressures to reshape the Laboratory’s public profile, the explosion in consumer technology drove a new focus on the visual interfaces of software as well as product design for hardware. To attract consumers, companies had to invest in easier to understand, aesthetically appealing products as well as elevated data presentation. Design quickly became a competitive advantage, as companies like Apple and Tableau demonstrated, and drove the

emergence of the field of human-machine interaction and new programs such as Stanford’s d.School for design thinking.

“**The commercial companies were the new hotbed of innovation.**”

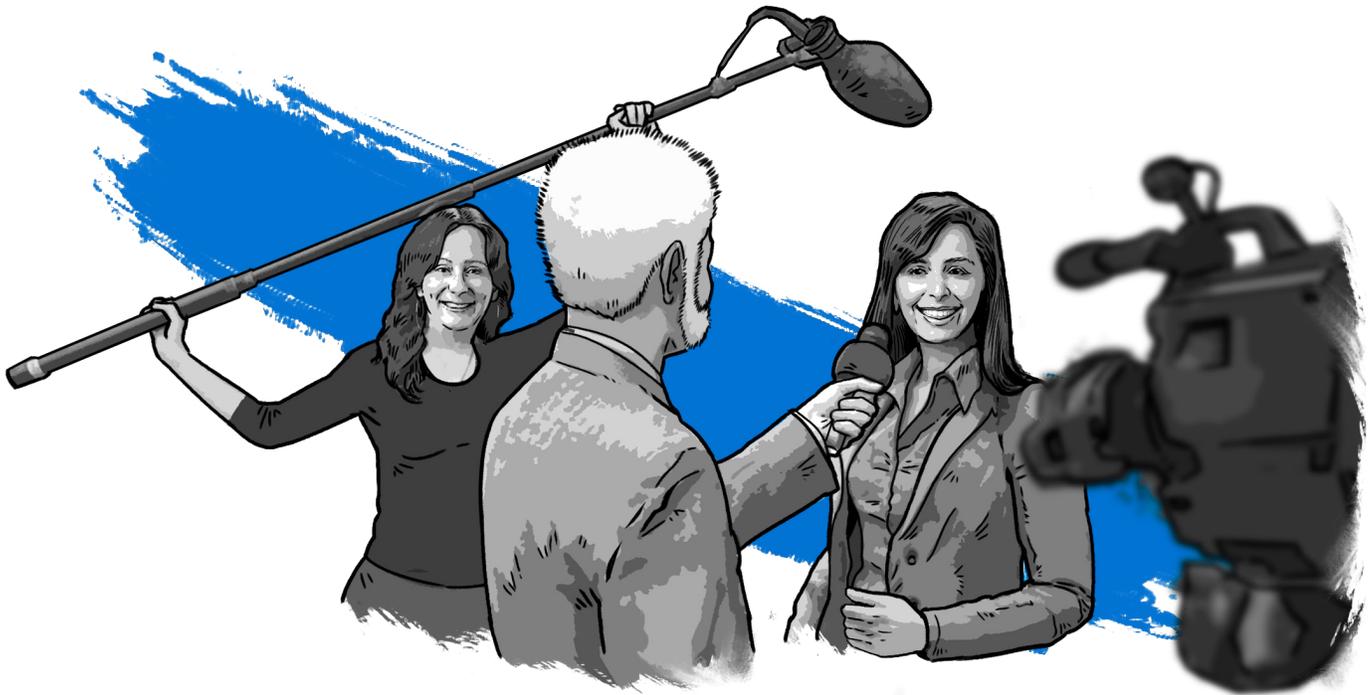
Concurrent with this increased focus on good design was a dramatic increase in the amount of data operational forces wanted to use in the field, as well as the rise of artificial intelligence to harness the data. To get the maximum utility out of the data and AI-enabled systems, and take a page from commercial industry, the community turned to design—user interface/user experience (UI/UX) design, data visualizations, and also virtual and augmented reality design.

## FOUNDATIONAL CORE

These contextual changes, the increase in staff, the reshaping of the innovation ecosystem, and the evolution of human-machine interaction, together with the Lab’s Centennial Vision (described in detail in the director’s letter) set the conditions that drove the creation of the Communications Department in 2020. The department was founded with an expectation that it would embrace a four-part mission:

1. To help technical staff members communicate their ideas and analysis effectively with sponsors in this new world
2. To help Lab leaders in the sectors and departments communicate effectively within their ever-growing teams
3. To support collaboration across the sectors and departments and around the Lab by effectively sharing knowledge
4. To share APL’s knowledge with the world and further awareness of its mission, goals, and achievements

While we expect these four core elements to remain long into the future, they will surely evolve in



unforeseen and hopefully exciting ways. At a minimum, the way in which we carry out this mission will undoubtedly change. Communications tools and techniques have been changing dramatically over the past two decades, and it doesn't look as though the pace of change will level off anytime soon, especially given the COVID-19 pandemic.

## FEATURES

Thinking about what should be reflected in an article about the founding of APL's Communications Department, this last point about COVID-19 is an important one. While we did not form the department because of COVID-19—the memo establishing the department came a mere 2 months before state stay-at-home orders went into effect—it has nevertheless shaped our founding and looks poised to shape our trajectory for quite some time.

Members of the Communications Department had to finalize planning for and stand up the department in the midst of the pandemic crisis. In the first quarter of the department's

existence, the senior leadership team has not been in the same room—unless you count a ZoomGov session as a virtual room. It has been a struggle for the department to operate under the maximum telework policy. And yet that struggle is shaping our cultural foundation in some admirable ways, which will hopefully still be recognizable as we progress to the Lab's centennial.

Foremost among those qualities is one of persistence through adversity. Coming together as a new team amid great uncertainty and societal change is not easy—especially for a team charged





with the responsibility to help others through a crisis with strategic communications. Given the circumstances, our founding could have devolved into chaos, missed deadlines, and hurt feelings if we had been unable to adjust quickly and persist. Instead, we met the deadline for the department's formation—a date set before we knew a pandemic was coming—and our foundation is now solidifying around a culture of hard work and perseverance.

In addition to these elements, the pandemic has driven an even greater spirit of creativity and experimentation. For example, in early March 2020, the Lab had plans for numerous in-person events, with posters and handouts printed and ready for an assembly. Not even 2 weeks later, we had partnered with the Information Technology Services Department to establish an entirely new process for virtual events and had hosted our first virtual conference. Just 5 months later, we celebrated our 100th virtual event: a 60-minute multimedia presentation of the annual APL Achievement Awards ceremony. What would have been unthinkable—a ceremony or event without a physical gathering for networking or interactions—is now not only routine but has evolved to the point where, in some instances at least, audiences prefer the new virtual format. Far beyond virtual events though, we have tried new technologies and processes, pushed with new techniques, and experimented with new approaches to creating social connection in a “socially distanced” environment. In many respects, we have lived out the adage “necessity is the mother of all invention,” and there have been some exceptionally creative inventions along the way.

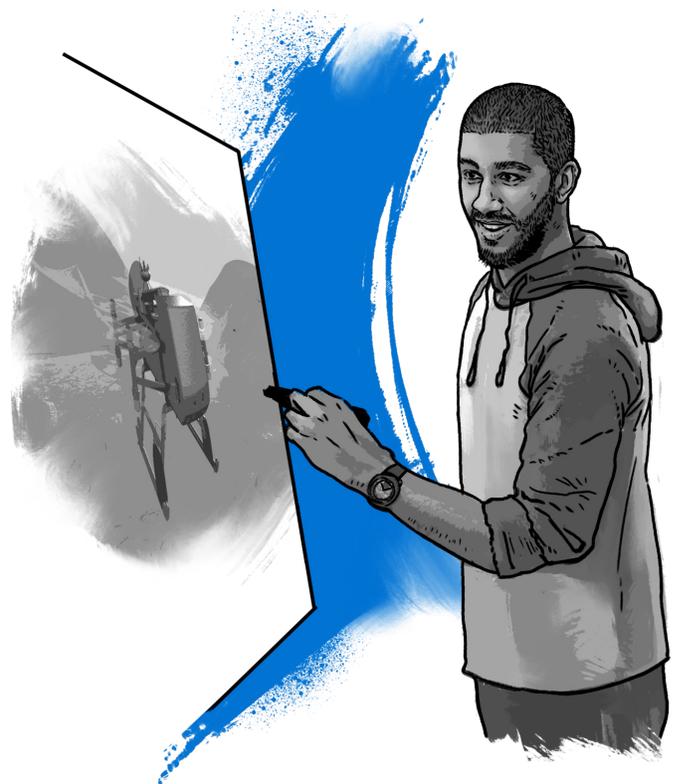
## FUTURE

It is my hope that the Communications Department will continue to partner across the Lab to compel-

lingly describe things as they are and help imagine what could be. The storytellers, editors, designers, and production artists who constitute this department should become significant co-creators in the Lab's future defining innovations. At a minimum, I know it is incumbent on the Communications Department to share the Lab's knowledge with the world.

“One constant will be the ultimate power of a good story.”

The ways in which we share the Lab's accomplishments and ideas will undoubtedly change with technology and with the innovations themselves. Today, for example, much of our work is with two-dimensional digital design and illustration. While this approach will remain important in the future, current trend lines point to ever-more realistic renderings of imagined futures. The rapid growth of 3-D illustration software, driven in large part by the gaming industry, provides exciting opportunities for everything from illustrating prototypes to developing training environments for humans and AI sys-



tems alike. Entirely synthetic and bespoke images, made without the benefit of a camera in only 30 minutes by a skilled designer with the help of machine learning, are already creeping into becoming the norm.

The ways in which we encounter new forms of communication, storytelling, and visual design will also change, especially with augmented and virtual reality systems. That said, it would be disappointing if, 20 years from now, all we had were new, larger screens positioned closer to our eyes. Designing an immersive experience will involve the screens for sure but should also incorporate all the senses, requiring a fusion of the skills of storytellers, visual designers, and audio/visual engineers who can

address haptic design and even olfactory design. Added with collaboration with psychologists and operational analysts, these partnerships could improve increasingly complex systems that our operators must use in the field.

The changes in technology and multimedia design in the future will certainly be exciting, but one probable constant—given centuries of history at this point—will be the ultimate power of a good story. Good stories have always had an ability to spread and to stick (regardless of their veracity, unfortunately). Current and future technologies will likely serve to accelerate the best stories and punish the poor ones. Even incredible discoveries, like Gregor Mendel’s foundational work in genetics,



was all but lost to humanity for decades because of his inability to communicate well.<sup>3</sup> Mendel's challenge is made all the more difficult today because of the cacophony of modern and future communications platforms. The partnerships of technical experts and communications experts will be essential to elevating Laboratory discoveries and developments so that those discoveries might have global impact.

## CONCLUSION

APL's Communications Department is still in its early days, and it is far too soon to tell what it will be like at the Lab's centennial. But communication is as old as humanity, and history shows that the technologies and methods of communications are ever changing. The Communications Department will be in a position to both shape and harness those changes so that the Lab might make critical contributions long into the future.

## References

- <sup>1</sup>W. H. Guier and G. C. Weiffenbach, "Genesis of satellite navigation," *Johns Hopkins APL Tech Dig.*, vol. 18, no 2, pp. 178-181, 1997, <https://www.jhuapl.edu/Content/techdigest/pdf/V18-N02/18-02-Guier.pdf>.
- <sup>2</sup>J. F. Sargent, "U.S. research and development funding and performance: Fact sheet," report no. R44307, US Congressional Research Service, Washington, DC, updated Jan. 24, 2020, <https://fas.org/sgp/crs/misc/R44307.pdf>.

<sup>3</sup>K. N. Smith, "Why everyone overlooked Gregor Mendel's groundbreaking paper," *Forbes*, Feb. 8, 2018, <https://www.forbes.com/sites/kionasmith/2018/02/08/why-everyone-overlooked-gregor-mendels-groundbreaking-paper/?sh=4a9dd7fc7d76>.

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Emelia S. Probasco is head of APL's Communications Department. She has a BS in political science from the United States Naval Academy, an MS in economic and social history from Oxford University, and an MS in forced migration from Oxford University, where she studied as a Rhodes Scholar. Her broad experience ranges from product and project management to strategic defense policy formulation and communication

strategy. Before joining the Lab, she served for 10 years as a surface warfare officer in the US Navy.

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*You might be wondering why this article looks a little different. An article about communications at APL wouldn't be complete without showing off some of the department's design and illustration skills, right? In addition to the bold artwork, the fonts and other design elements in this article highlight some of the branding elements that staff members, in collaboration with Johns Hopkins University communications professionals, have developed.*