

Lessons Learned in Executing Virtual Internships

Findings from Federal Agencies in
Summer 2020





Community of Practice

In spring of 2020, while facing the outset of the COVID-19 pandemic, Federal agencies made the decision to host summer 2020 internships virtually, but many were doing so for the first time. To support these efforts, the federal agencies that provide STEM internships formed a short-term community of practice focused on sharing lessons learned in the course of planning and executing virtual internships.



Lessons Learned

This document summarizes lessons learned from 26 organizations within the federal government* that provided virtual internships primarily in STEM fields during summer 2020.

*More information about the agencies that informed these lessons learned can be found on the final page of this document.



The Value of Virtual Internships



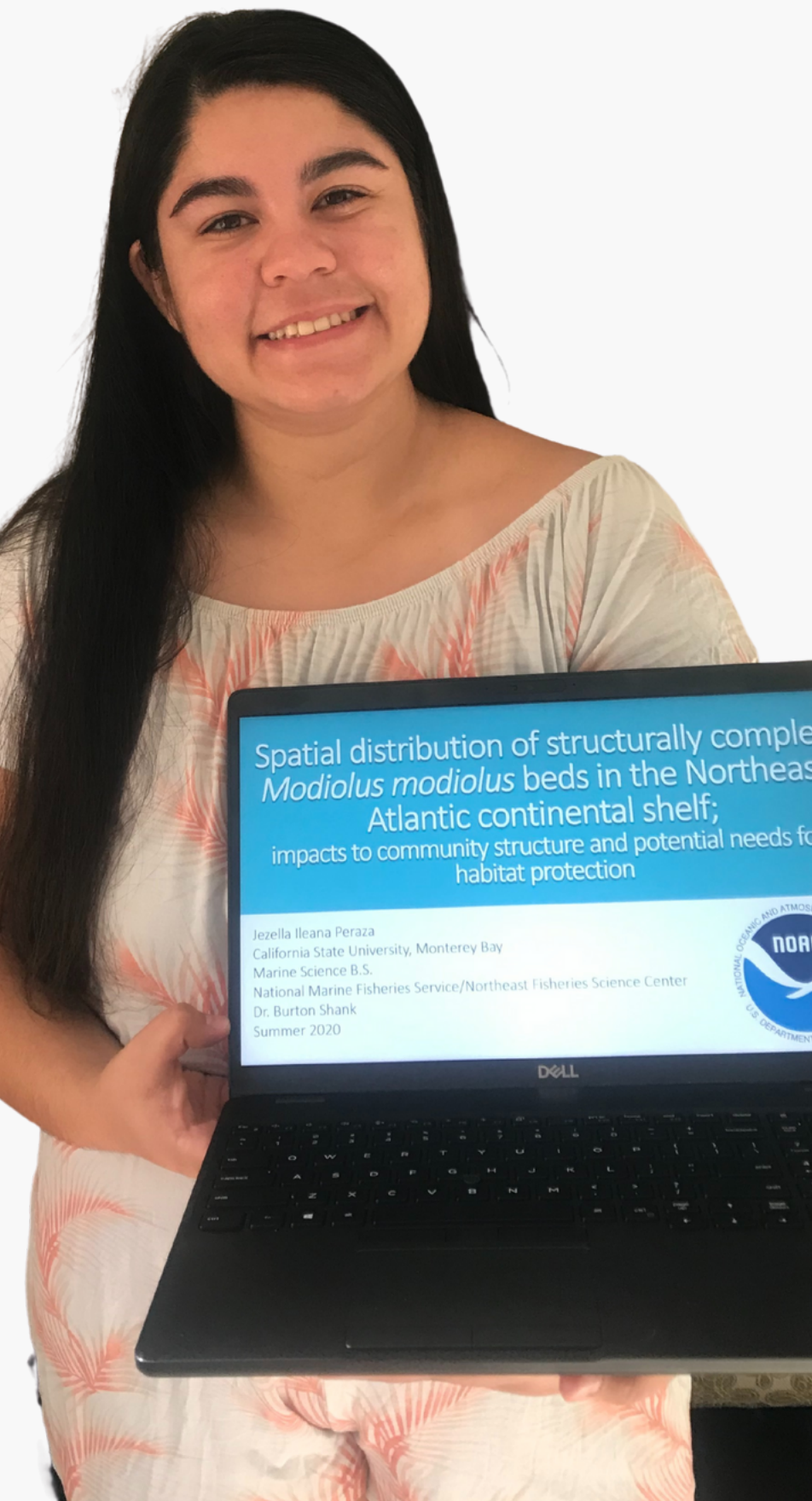
"It's magnificent that I am on the West Coast of the United States and am able to study benthic habitats on the East Coast. To most individuals, this would almost seem impossible, but because of technology and underwater imagery, I can make a profound impact related to NOAA's mission."

- Virtual Intern with the National Oceanic and Atmospheric Administration

In the spring of 2020, agencies faced many challenges migrating their staff to a remote working environment.



Faced with many obstacles, agencies wondered, “Is it worthwhile to stand-up an infrastructure to support virtual internships?”



Worthwhile Efforts

Broader Participation

Virtual internships broadened the pool of individuals who were able to participate in agency internships. For example, potential interns with childcare or other family responsibilities were more able to participate as they did not need to move away from home. Agencies learned that with thoughtful planning, virtual internships can provide enriching and engaging learning experiences that provide opportunities to a broader pool of talented students.

Interest in Sustaining Virtual Opportunities

Over 50% percent of organizations that offered virtual internships stated that they will continue to offer virtual internships or a combination of virtual/in-person (hybrid) opportunities if they can secure leadership approval, even if in-person internships are also available.

In-Person Versus Virtual

Many interns and mentors indicated that they had a preference for in-person internship opportunities. Virtual internships did not provide the same opportunities for hands-on research in a lab or the opportunities for face-to-face communication. However, when faced with the option to have a virtual internship or no internship at all, students generally agreed that the virtual internship was a valuable learning opportunity.



"At first, I felt overwhelmed at the thought of being a part of such a renowned group of engineers. This amazing opportunity has inspired me to have confidence in my abilities and to always be curious."

- Virtual Intern with the National Aeronautics and Space Administration

Infrastructure Challenges

Few agencies had established systems or resources for conducting virtual internships. To prepare for virtual internships in summer 2020, agencies had to address logistical hurdles.



● IT Equipment

IT equipment generally had to be shipped to virtual interns, rather than issued in-person. It was critical to ensure the shipped equipment could also be safely returned.

● Access and Resources

For students who had the broadband access needed to participate, agencies had to ensure interns had access to appropriate networks and IT systems, particularly digital collaboration tools to keep interns connected to their mentors, the internship management team, and fellow interns. This required special planning and coordination with security and IT teams to ensure appropriate background checks and clearance issues could be addressed while minimizing the need for in-person contact.



The Virtual Intern Experience

"I have been learning immensely in the technical as well as interpersonal field. From attending professional development seminars to learning a new designing software, it has been an exciting roller coaster endured from the comfort of a small corner of my room."

- Virtual Intern with the National Oceanic and Atmospheric Administration

NATURE OF VIRTUAL INTERNSHIP WORK



Loss of access to laboratory equipment and other resources (e.g. land, data collections, etc.) changed the types of projects interns could complete.

Mentors either had to find ways to bring resources to the student, or reorient a project so it could be conducted remotely, such as by conducting existing data analysis, literature syntheses, or developing outreach/communication tools.

It was critical for interns to work on projects that were of mutual benefit to intern and mentor (i.e. projects that help interns leverage existing skills and build new ones, while providing benefit to the mentor); maintaining a positive virtual relationship between mentor and mentee was easier when both parties were enthusiastic about their work.

“The virtual experience ... showed me that there are other ways of producing meaningful research. I love that this project can have laboratory, field, and virtual experiences, demonstrating the interconnectedness of all types of research science.”

- Virtual Intern with the National Oceanic and Atmospheric Administration


TIME COMMITTMENT

Summer internships with the federal government have often been offered as 40 hour per week positions for 10-12 weeks. In the virtual setting, many students were able to maintain these commitments.

Agencies found that additional part-time options may be advantageous for virtual interns in the future, particularly if the intent of the internship is to broaden access to those who traditionally have other responsibilities such as adult learners and caregivers.

Just like in the physical environment, interns should have clear understandings of expectations regarding the amount of time dedicated to meetings, professional development activities, and time dedicated to projects.

BUILDING INTERN- MENTOR RELATIONSHIPS



Agencies found that regular, scheduled meetings between intern and mentor helped prevent feelings of isolation and helped build trust.

It was important for mentors to maintain timely communication with interns so that they felt their work was valued.

"I've been enjoying mentoring my three interns, even if it is virtual, and I appreciate the internship program for giving me the opportunity!" - Summer 2020 NASA Mentor

BUILDING AN INTERN COMMUNITY & PROVIDING PROFESSIONAL DEVELOPMENT

In the past, in-person interns often experienced lab tours, in-person speakers, community-building activities (like lunches, dinners, and participation in local cultural events), and professional development activities that took place near or on the internship site. By moving to the virtual environment, internship coordinators were forced to rethink community-building and professional development opportunities that would typically take place on-site. Agencies found that students generally missed the in-person opportunities to socialize, but agencies found some productive (and creative) ways to socialize and provide professional development.

1

HELP INTERNS CONNECT

Prior to starting their internship or during the first week of the internship, some agencies created ways for interns to get to know one another through message boards, social media, and orientation sessions with icebreakers.

2

ENGAGEMENT OPPORTUNITIES

Professional development sessions, virtual tours, and informational webinars were made accessible to interns at all research sites. When internships were held in-person, professional development opportunities were often offered locally and only available to the group of students at a specific site.

3

SOCIAL ACTIVITIES

Some agencies hosted virtual coffee hours and streamed virtual movie nights for interns.

4

VIRTUAL SYMPOSIUMS

Some agencies required students to present about their internship experience at the end of the summer. Agency-wide virtual symposia allowed students to connect with one another across the country and find peers with similar interests/research topics, which did not traditionally happen in the in-person environment.



Supporting Mentors

Mentor Support

In summer 2020, mentors were grappling with a new working environment and new stressors. While some mentors were unable to take on an intern in the virtual environment due to limited time to support an intern in a virtual environment or an inability to reorient a planned intern project for the virtual environment, other mentors were able to take on the challenge of a virtual internship. The following practices were helpful in supporting virtual mentors.



Providing Training

Providing training for mentors on collaborative technologies so that student and mentor could both successfully use these technologies.



Sharing Resources

Creating a collaborative digital space for mentors to connect with one another and share resources.



Holding Meetings

Holding meetings with mentors (one-on-one or in groups) to provide information and discuss questions and concerns.



Showing Appreciation

Demonstrating appreciation for mentor efforts through e-mail or a thank-you virtual event.

Contact Us

For more information about internships with the Federal agencies that contributed to this report, please feel free to visit:

- National Aeronautics and Space Administration (NASA): <https://intern.nasa.gov/>
- National Oceanic and Atmospheric Administration (NOAA): <https://www.noaa.gov/education/opportunities/student-opportunities>
- US Department of Defense: <https://www.dodstem.us/participate/opportunities/>
- US Department of Energy: <https://science.osti.gov/wdts>
- US Environmental Protection Agency (EPA): <https://www.epa.gov/careers/student-internships>
- US Department of the Interior: <https://www.doi.gov/careers/>
- US Department of Transportation: <https://www.transportation.gov/careers/student-programs-dot>

Acknowledgment

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