



COVID-19 Response Report

Detoured, But Not Derailed:
U-I Engagement During a Pandemic



Strengthening
University-Industry
Partnerships

UIDP undertakes projects to help its academic and corporate members advance their interests through greater collaboration and partnerships between sectors.

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Dear Colleagues,

Since the onset of the COVID-19 pandemic, research-focused organizations have worked to energize our cross-sector collaborations and realign resources, focusing our technical expertise to help organizations adapt, accelerate the process of discovery, and enable researchers to develop solutions. The pace of change and depth of flexibility required to retool, refocus and redirect has challenged all of us; it's been a test of our resiliency and openness to change how (and where) we work.

Organizations like UIDP are a window into the ways our peers are handling a range of common issues unique to the COVID-19 challenge. One example is sustaining industry efforts to fill the talent pipeline and university efforts to enable student work experiences. March 2020 brought the close of in-person classes and beginning of large-scale industry work-from-home practices. Companies wondered whether to cancel their long-standing summer internship and co-op programs—and universities feared they would.

One UIDP member company asked UIDP to explore the situation. Within 24 hours, UIDP polled its industry members and reported that most were keeping their internship and co-op programs, many converting to virtual approaches to maintain these initiatives. Based on the data, the company that initiated the effort opted to keep its 2020 program, too.

With so many professionals in research working in isolation, the UIDP COVID-19 weekly discussions held throughout the spring were a reminder that most challenges are shared challenges. We learned that strategic partnerships endure through difficult days (non-COVID-19 research capacity at universities nosedived to 10% to 20% of the norm), but efforts to maintain strategic partnerships by other means are finding a foothold. The means to connect have changed, but the reasons to connect remain strong.

Sharing resources to achieve what we cannot do on our own has rarely been more relevant. Just as pooling supercomputing resources across national labs, world-class universities and innovative companies has given extraordinary power to scientists fighting this pandemic, we see a parallel thread in our society as we battle this pandemic together. We believe this report, outlining the major learnings and takeaways from candid calls attracting more than 300 professionals, will provide both insight and encouragement as we face this challenge together.



Anthony Boccanfuso
President and CEO
UIDP

The state of the union is disrupted but still moving forward. In March 2020, the world witnessed an unprecedented shift in how companies and universities do business. Company travel came to a grinding halt. In-person meetings and conferences went virtual or were cancelled. Universities moved students and researchers off campus, and business as usual ceased to exist seemingly overnight.

For companies and universities that focus on research and innovation, two major shifts happened simultaneously and swiftly. In response to the increasing number of cases of the COVID-19 virus and related hospitalizations, research activities were quickly evaluated and prioritized. Non-COVID-19 research was scaled back to redirect resources toward COVID-19 and to stop the spread of the virus. Meanwhile, creative, novel approaches emerged to meet the challenges associated with coronavirus. Companies and universities reacted with remarkable speed to identify researchers, resources, and specialized equipment to respond to the pandemic.

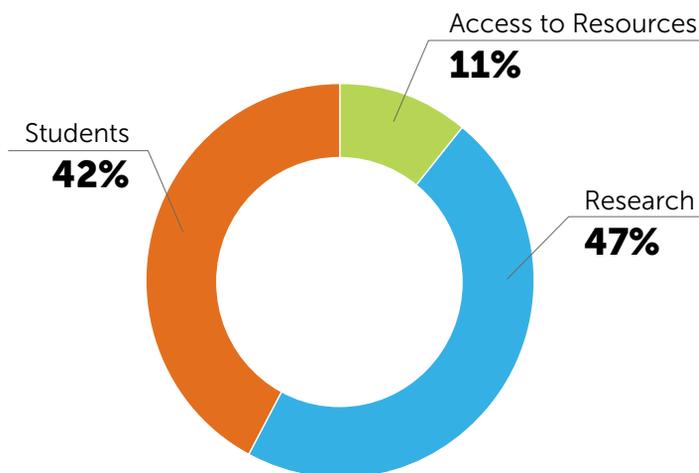
On April 30, 2020, UIDP launched a seven-week COVID-19 Response Discussion Series. Each week, representatives from top-tier innovation companies and world-class research universities came together to share their experiences and compare approaches. These discussions provided an opportunity for the UIDP community to identify actionable information that could be used in the moment to respond to challenging circumstances.

Two primary activities—industry-sponsored research conducted by universities and the talent pipeline that universities, in turn, provide companies—form the cornerstones of university–industry (U-I) collaboration activities. (The graph on the next page shows the expected focus of U-I collaboration for the second half of 2020. The statistics shown here are consistent with past surveys of UIDP member organizations. The distribution of collaborative activities does not appear to be affected by the pandemic.) With this in mind, the first half of UIDP’s series focused on sponsored research contracting and partnership management. The second half focused on understanding the impact that coronavirus would have on the talent pipeline, student recruitment, and transitioning to the new normal.

This report references statistics and general findings from the discussion series hosted by UIDP from April 30 through June 11, 2020. Unless otherwise referenced, the statistics included in this report are based on electronic surveys sent to UIDP members, polling, or free-form responses provided during the discussions. While not scientific surveys, the report information should be interpreted as an aggregation of the views of those working for large companies and research

universities during the height of the pandemic, while under widespread isolation directives. The views expressed do not necessarily reflect the views of any individual organization or UIDP. Rather, this report provides a glimpse of the perspectives expressed by experienced professionals at the nexus of U-I research partnerships who were working through these issues—and sharing on weekly calls—during this unparalleled period.

What is the most important aspect of university-industry collaboration over the next 6 months?



Survey fielded April 30-May 6, 2020

Key Themes

I. Essential Research Continues

First and foremost, university research was curtailed. During what attendees called the ramp down, most university representatives estimated that only 10% to 25% of their on-campus research could continue. Experiments that could be performed remotely or in isolation were allowed to continue. Agriculture schools were able to maintain 80% or more of their research due to the nature of the physical space required for these experiments. Similarly, computer science and computational research was able to continue, because researchers could access necessary equipment and resources to do the work.

According to the companies whose representatives attended the April 30 COVID-19 response call, 80% to 100% of industry research was able to continue, because it was either deemed essential or researchers were able to comply with social distancing and disinfecting requirements. Meanwhile, COVID-19–related research escalated wherever possible.^{1,2}

Criteria for Deeming University Research Essential

The following criteria were shared by university participants for deeming university research essential. Although criteria varied from university to university, the following factors were present (to varying degrees) in each university's response.

- **COVID-19–Related.** All universities prioritized COVID-19–related research over other projects. As a result, multipurpose labs were converted to be used for COVID-19 research projects, and other research in those labs was put on hold.
- **Student involvement.** Student involvement in research greatly increased the likelihood that a project would be deemed essential. Universities wanted to keep their students safe but also wanted to avoid causing delays in graduation dates whenever possible.
- **Industry contracts.** Industry contracts were prioritized by many universities. Industry funding of a research project did not guarantee it would be deemed essential, but the funding stream and applied nature of most industry-sponsored projects made them strong candidates for being declared essential.
- **Progress toward goal and imminent deadlines.** Research progress and pending deadlines were factors that many universities considered. Universities did their best to continue to deliver on promised deadlines. Research projects on tight or short deadlines were more likely to be prioritized. However, this goal was often in tension with other criteria.

- **Physical space.** The ability to maintain at least 6 feet of distance between all researchers at all times and the number of high-touch surfaces were carefully weighed. In labs where people could work at a safe distance (such as particle accelerators), experiments were often allowed to continue. Some labs switched to working in staggered shifts when it could be guaranteed that people from the two shifts would not intermingle.
- **Personal protective equipment (PPE).** In labs requiring PPE, the availability of PPE was considered. Researcher safety was a high concern. An additional consideration was the strain on availability of PPE and whether using it for research is justified.

Key Learning: Though each university had a unique response to the pandemic, the factors considered when identifying essential research were consistent – COVID-19–related, student involvement, industry contracts, imminent deadlines, progress toward goal, physical space, and availability of PPE.

II. The Impact of Work from Home

The next big challenge posed to U-I collaboration was the shift to working from home. On a positive note, researchers being forced out of their labs resulted in record numbers of research proposals and journal submissions during this period,^{3,4} according to university representatives who participated in the discussion. Unfortunately, preliminary data from a reputable research university suggests that female researchers were not able to devote as much time to proposal writing as their male counterparts during the stay-at-home mandate.^{5, 6, 7, 8}

Contracting personnel faced different challenges. First, any process that was previously an in-person process, such as obtaining physical signatures, had to be converted to an electronic process. For some companies and universities, the switch to electronic signatures was made long before this pandemic. For others, the situation catalyzed uptake of new software and new processes. Many companies and universities waived previous requirements for physical signatures. However, a minority of companies kept the requirement in place. The general sentiment was that physical signatures posed an undue safety risk during the outbreak.

Key Learning: Put emphasis on adopting policies and procedures to achieve outcomes.

III. Communication

The topic of communication between collaborative partners was raised multiple times during the COVID-19 Response Discussion Series. For the most part, universities were the primary drivers of communication, with some universities prioritizing keeping their industry partners well informed. On the company side, this was well received and strengthened their relationships. Other universities opted to limit communication to major updates. Company representatives did not mind this approach, either.

The most substantive complaint about communication arose during a discussion about talent recruiting. Company representatives felt that they could not adequately plan for their recruiting season without knowing whether or not students would be on campus. Company representatives felt inhibited by the level of uncertainty and long timelines for university decision making specific to fall recruiting.

Key Learning: Regularly communicate with your sponsors and keep them apprised of the situation.

IV. No-Cost Extensions

No-cost extensions (NCEs) were a topic of high interest. Participants estimated that most research projects could absorb two months of working from home without issue. After that period, most projects would be impacted. (The discussion on this topic took place about three weeks into the stay-at-home directive period.) Research projects that were nearing completion or that had an overall duration of less than two years were most likely to need an extension. These projects were the first to be evaluated and modified to address the lack of lab access.

Decisions about whether to request an NCE started with the principal investigators (PIs). In some cases, PIs requested NCEs regardless of the impact of the stay-at-home order on their research. When an excess of requests were received, university contracting offices had to triage the requests to identify those that actually needed extensions. University contracting officers noted that the uncertainty of the situation posed serious challenges in structuring amendments to contracts.

Many company representatives expressed a willingness to provide universities with NCEs, especially to cover student support. These NCEs solve short-term problems but will lead to funding shortfalls later.

Key Learning: Stay-at-home directives and concerns about viral spread created uncertainty around when research could resume. NCEs are one tool for adjusting sponsored research contracts and supporting students. However, without additional funding, there will be funding problems later in the contract period.

V. Force Majeure

During the COVID-19 Response Discussion Series, the strong opinion was that most companies and universities strive to be flexible instead of enforcing force majeure. While those on the call felt that coronavirus qualifies as a condition to allow the use of force majeure, the sentiment was that force majeure should be a last resort when all other options are exhausted. The expectation at the onset of the pandemic was that companies would invoke force majeure. Instead, force majeure was invoked by some universities when they felt that following through with their contractual commitments was impossible. Due to the uncertainty caused by coronavirus, representatives report that many new contracts now include clauses that address the challenges that came to light in 2020.

Key Learning: Organizations that recognize the long-term value of building partnerships are willing to be flexible when unexpected circumstances arise.

VI. Funding

According to surveys conducted by UIDP and other organizations, funding for U-I partnerships is expected to decrease in the next year. During UIDP's Discussion Series, a large amount of research dollars were available for COVID-19-related research. By and large, companies were also honoring their existing financial commitments to universities, although restructuring payment timelines was common.

The extent of the anticipated decline is unknown, and different industries are expected to be impacted in different ways, although declines are expected in both research and recruiting. While research funding levels are still not fully known, company representatives were pretty transparent about the fact that recruiting budgets have been slashed significantly due to the larger economic downturn caused by the pandemic.

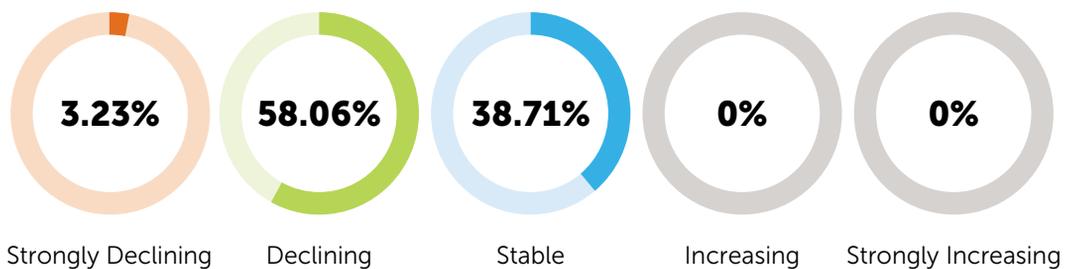
The decline in state funding for higher education is another funding challenge. UIDP used the COVID-19 Discussion Series as an opportunity to point participants to resources to benchmark and track rapidly changing conditions, such as this [tracker for higher education funding](#). This concern was of particularly high interest to certain company representatives that rely heavily on universities to train the workforce and to conduct basic research. The fact that many states announced large funding cuts to universities was disturbing to university and industry representatives alike.

Many UIDP members are searching for low-cost ways to stay connected with their research partners. Capstone projects, industry representatives serving as guest lecturers, and recurring collaborative research seminars were the most common suggestions offered when UIDP

members are asked about low-cost opportunities to stay connected. Most research universities have a large portfolio of industry partners; when asked how universities can assist their industry partners, the response was that universities could play a role in connecting companies to each other. Currently, companies are looking to forge relationships across industries that traditionally did not work together. In some instances, universities are uniquely positioned to play a match-making role for their close partners.

Key Learning: Due to funding uncertainty, companies and universities are working together to identify low-cost or no-cost collaborative opportunities. Such activities are important for maintaining U-I partnerships.

What is your current perception of industry investment in universities for the coming academic year?



Survey fielded July 6-13, 2020

VII. Level of Partnership

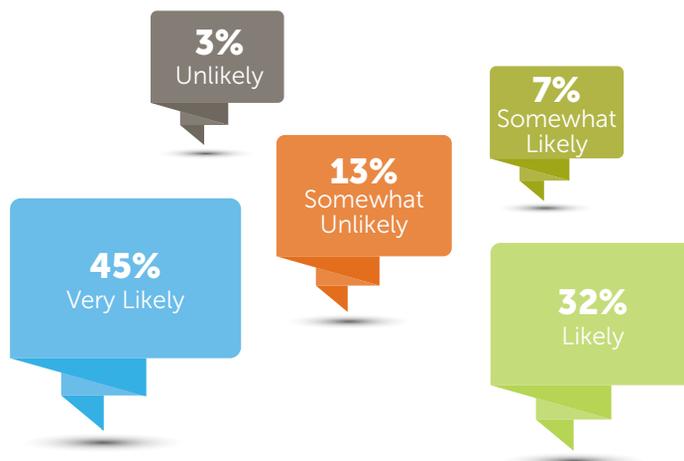
With the exception of COVID-19–related research, most companies and universities are working exclusively with their closest strategic partners. **One-off or transactional U-I collaborations are largely on hold.** UIDP has a long history of promoting deep, multifaceted, strategic U-I partnerships. Companies and universities who built strategic partnerships (as defined in UIDP’s [Partnership Continuum](#)) found that they were better equipped to handle the impact of the pandemic. As research capacity at universities and new research funding from companies declined, companies and universities focused on work with these established partners.

Surprisingly, however, most representatives expressed a willingness to pursue new partnerships. Despite the challenges of working from home, social distancing, and limited travel, they felt that trust could be built in a virtual work environment. The main reason that organizations are not currently pursuing new partnerships is a lack of funding and uncertainty about when universities will be operating at full research capacity.

Through related surveys, UIDP member organizations expressed that the new partnerships they formed for COVID-19–related research focused on connecting the strongest researchers in a particular area with each other rather than leveraging pre-existing master research agreements.

Key Learning: Companies and universities tended to scale back to focus on their close, multifaceted research partnerships. For COVID-19–related research, new partnerships were formed opportunistically with an emphasis on funding the strongest researchers in desired fields.

How likely are you to pursue new university-industry partnerships in the next 12 months?



Survey fielded July 6-13, 2020

VIII. Building Partnerships in a Virtual Work Environment

At their core, organization-level partnerships are rooted in personal and professional connections between the people at the organizations involved. The remote or virtual work environment that resulted from the pandemic has both opened and closed doors to building partnerships.

The pandemic has forced people to become more adaptable. Individuals across companies and universities were understanding about these circumstances, and discussion participants shared their willingness to work with their partner universities and companies to get things done. By and large, people were willing to accomplish tasks in new and different ways.

Trust is tantamount in U-I partnerships. Despite the technical challenges of working remotely, discussion participants felt that trust could be built via online-only relationships. Although, at the time of the discussion series, most participants had worked almost exclusively with people with whom they had prior relationships before the pandemic.

Discussion participants shared that there have been some growing pains in learning how to use multiple platforms and the lift to get their collaborative partners onto their platforms. They noted that a single platform is not sufficient to address all their needs. Even though a virtual environment may seem less personal, virtual meetings create opportunities to include people who may not have attended in person. Virtual meetings can also be more frequent, scheduled with less notice, and are lower cost than in-person meetings. Additionally, discussion participants shared that they have started conducting virtual site visits. **The most important lesson about virtual site visits is that they take just as much, if not more, planning than an in-person meeting.**

An unexpected challenge is that online meetings tend to be very business focused. Virtual meetings tend to follow a specified agenda or focus on sharing results. Consequently, informal or personal aspects of the meeting are lost. To build personal connections through online meetings, an intentional effort must be made. A challenge in the coming months will be to develop effective, virtual networking approaches and opportunities for unanticipated learnings and connections.

Key Learning: Trust, personal connections, new partnerships, and productive collaborations are all possible in a virtual work environment.

IX. Student Engagement

Traditionally, the top three reasons for companies and universities to collaborate have been **research, students, and access to resources (such as specialized equipment)**. At the height of the pandemic, participants in the COVID-19 Response Discussions were asked what the most important aspect of U-I collaboration would be over the next six months. Forty-two percent of respondents said that student recruitment and access to talent would be the most important. (See the pie chart in the introduction.)

The following opportunities for companies and students to interact were highlighted during the discussion series:

- Industry Sponsored Capstone Projects
- Industry Presentations to Student Groups
- Virtual Internships
- Co-op Programs
- Capstone Projects
- Micro Internships
- Micro Mentorship
- Industry Guest Lecturers
- Industry Sponsored Research
- Joint U-I Research Seminars

In mid-April, at the request of a member company considering the fate of its summer internship program, UIDP surveyed companies to ascertain whether they were going to keep their summer talent initiatives. The vast majority (86%) of respondents said their company would keep their internship program. The majority of those internships were converted to a virtual format (63%). In rare cases, the company worked to classify their interns as essential workers.



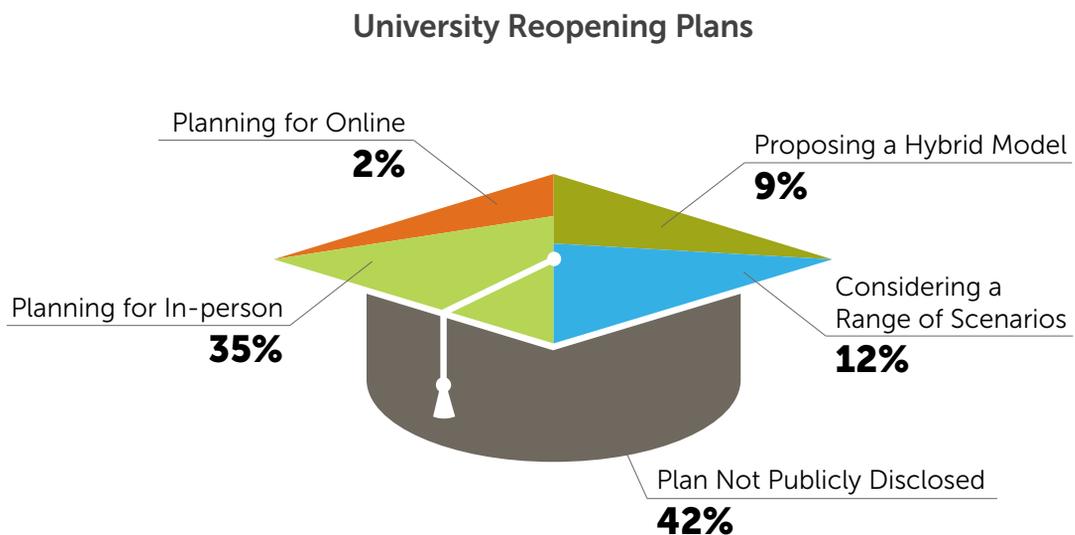
Survey, April 9-15, 2020

Key Learning: University message to companies - Do not disappear from university campuses; there are many options available.

X. Student Recruiting

For companies, recruitment strategy has been impacted at all worldwide locations due to COVID-19, and they are strategizing for the future. The people with the most experience in recruiting and workforce development emphasized the importance of employers staying present on university campuses and continuing to make connections with the future workforce. Even if an employer has limited job openings, it is important to maintain these connections. As a result, both companies and universities are exploring new and different ways to connect students and potential employers.

One big challenge for companies is the uncertainty that they have around whether students will be on university campuses. The graph below reflects public statements that UIDP member universities made at the time of the COVID-19 Response Discussion. In response to these statistics, company and university representatives felt that planning virtual recruiting events for the fall was most appropriate. University representatives noted that statements about students being back on campus should not be interpreted as a signal that classes would resume as normal. They conveyed that it would be more appropriate to interpret the “on-campus” responses as “hybrid” responses.



Reflects all UIDP member universities as reported as of May 27, 2020 in the data set published by the Chronicle of Higher Education.

A common response to the shift to virtual recruiting strategies is to develop new ways for universities to assist companies in identifying viable job candidates. Strategies provided by participants include:

- Hosting small informational online events with only qualified students in attendance;
- Preparing electronic résumé books for companies to review;
- Coordinating online interviews and job postings;
- Hosting online career fairs—both large and smaller, targeted career fairs;
- Increasing company touchpoints to students by leveraging career services offices and other offices on campus;
- Communicating effectively between companies and students to clearly define the new parameters of the virtual environment;
- Create opportunities for students and prospective employers to interact; and
- Assist companies in down-selecting candidates from a large talent pool to identify those who are the best fit for the company or available jobs.

Key Learning: Plan for a virtual recruiting experience by adopting new modalities and approaches.

Looking Forward

Coronavirus has changed the way that companies and universities approach their core missions, but the value proposition for U-I collaboration remains strong. Both companies and universities mobilized their connections and available resources to respond to the emerging challenges. Even though funding may decline and the methods of collaboration may change, the importance of companies and universities working together is not in question. COVID-19 Response Discussion participants have continued to express interest in understanding the impacts of the pandemic on U-I collaboration and UIDP’s work to develop well-vetted, actionable recommendations on this topic continues today.

References

¹ <https://www.nature.com/articles/s41390-020-1006-3>

² <https://www.colorado.edu/researchinnovation/research-innovation-covid-19-impact>

³ <https://www.nature.com/articles/d41586-020-01520-4>

⁴ [https://www.thelancet.com/pdfs/journals/langlo/PIIS2214-109X\(20\)30260-6.pdf](https://www.thelancet.com/pdfs/journals/langlo/PIIS2214-109X(20)30260-6.pdf)

⁵ The study shared during the COVID-19 Response Discussion has not yet been made public. However, similar assertions have been published using other data sets.

⁶ <https://www.nature.com/articles/s41562-020-0921-y>

⁷ Gender and COVID-19 Library and Group on Mendeley: <https://www.mendeley.com/community/gender-and-covid-19/>

⁸ <https://www.linkedin.com/pulse/impact-covid-19-women-academics-large-scale-study-bahar-mehmani/>

⁹ <https://www.chronicle.com/article/heres-a-list-of-colleges-plans-for-reopening-in-the-fall/>

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