

## 5

We need to generate more success for students and faculty in commercializing their research when that is desired and possible. To do this we must create a campus environment where opportunities are abundant, encouraged, and known, and this activity is recognized and rewarded.

Last year, we commissioned an economic impact study that found the University of Arkansas had an impact in excess of \$2.2 billion on the state of Arkansas. This figure is calculated by looking at things like the university's payroll, construction expenditures, and spending by students and visitors, among many other things. A significant portion of this number, relative to previous years, was due to our enrollment growth and one-time construction costs needed to support more students. We now expect to have a stable enrollment of around 27,500 to 28,000 students. So if we want to continue to drive economic activity in the state, which is just one of the ways we serve Arkansas, we need to maximize other opportunities. One area in which we have the capacity to do more is the commercialization of research. We can create better and more efficient pathways from discovery to the marketplace for our researchers. While we believe research and scholarship are ends in themselves, when there are commercial applications and faculty or students interested in taking discovery to market, we want to ensure we are an asset and ally in facilitating and expediting that process. It's good for our faculty, it's good for the state, and it can provide needed revenue for the university.

The first step in creating new knowledge and developing new technologies that can lead to commercialization is building a strong research engine. Simply stated, the higher your research volume, or expenditures, the more likely you are to generate intellectual property with commercial applications. Research volume is a function of the number of faculty who conduct funded research; the productivity and quality of those faculty; the infrastructure available to support them, including research space and instrumentation; laboratory support personnel; graduate students; and institutional

support for developing research proposals and managing research grants.

The \$23.7 million research and commercialization grant we received in fall 2018 from the Walton Family Charitable Support Foundation was a means of addressing some of these factors. This grant is being used to invest in signature research areas, outstanding faculty, and support staff needed to drive research and discovery. For instance, in the last year we've been able to address some of the issues related to institutional support for research. We have added a research and sponsored programs grant development specialist, a research development support specialist, and an industry relations staff position. In support of enhancing our commercialization capacity we have also hired a Technology Ventures director, associate director, and other key positions. All of these hires are designed to help our faculty and students be more successful at finding funding for their research, facilitating their work once the funding is found, and then commercializing their research if that is possible and desired.

We also established the chancellor's commercialization fund to nurture technologies with strong market potential. This is a new track that's been added to the Chancellor's Fund, established in 2016. The commercialization fund prioritizes mature projects with real-world applications. In its first year, we awarded nearly half a million dollars to 14 projects. Because five of the first 10 recipients of the original Chancellor's Fund successfully have since secured large external awards, we have every reason to believe this new fund will prove to be an effective and strategic investment in faculty commercialization efforts. Simply put, investing in our faculty pays dividends.

This first year of the grant was also an auspicious one: three startups licensed university inventions, two of which were faculty-led. Even better, the pipeline for new inventions grew considerably. We had a record-breaking year in terms of the number of invention disclosures, which is the first step toward patent filings. In fact, we went from 93 to 130 disclosures — an increase of 40%.

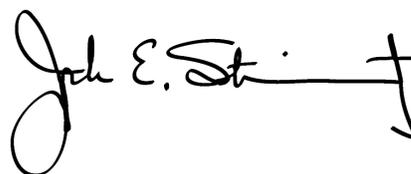
So, these are some important steps we've taken to help increase the productivity of faculty and students. As our research expenditures have increased 40% in the last five years, it's clear these steps are having the anticipated impact. Unfortunately, with enrollment and tuition growth flattening, growing the size of the University of Arkansas faculty, without external support for new hires, will be limited. That means we need to keep finding new and innovative ways to build our infrastructure to promote commercialization on campus. In action item #4, I outlined some ideas that would be effective ways to attract top researchers, including prioritizing hires in signature research areas and the creation of the Institute for Integrative and Innovative Research (I3R), so I won't recapitulate those points here.

I would, though, like to mention a few other things we can do to address faculty productivity. First, we should make sure our faculty hiring is focused on areas where faculty research productivity is strong, particularly where those areas also align with enrollment. This may mean the reallocation of some of our faculty positions from one area to another. We should also be recruiting and retaining faculty with stronger research portfolios than those who leave the university (or at least higher than the average current faculty member). Years ago, when I was a department chair, I used to tell my colleagues that we should always strive to hire faculty who are better than we are — this strategy will strengthen our university. The fact that we have had 14 NSF CAREER Award winners in the last two years suggests that we are already doing a pretty good job of recruiting stronger young faculty. We were also able to recruit a new ARA scholar this year and the start-up packages in the Walton gift should help us recruit other strong faculty into open positions. Finally, we need to recruit faculty who have a variety of backgrounds, including private sector experience.

This means we also need to be thinking about how we incentivize faculty, particularly when awarding tenure and promotion. Deans and department heads increasingly are advocating to include commercialization of discoveries, inventions, and innovations as a positive influencing factor in tenure and promotion review. And when we hire faculty, particularly those in the signature research areas, we should give weight to those who desire to bring their discoveries to the market and have had some success doing so. We need to be careful we aren't saying one thing about valuing commercializing research but then not considering commercialization activity when it comes to tenure and promotion. After all, we should be assessing a faculty member's overall impact when we conduct promotion and tenure reviews. I would argue that successfully moving a discovery to market has the potential to have a huge impact on society.

Ultimately, the correlation between research volume and commercialization is clear. We must increase the former to increase the latter. The \$23.7 million gift has enabled us to do some of the initial heavy lifting, but future progress will depend on our ability to recruit productive faculty, possibly through opportunities to work in signature research areas or the I3R. It will also require us to be more strategic in who we hire, and even reexamine the criteria for promotion and tenure. If we can reach a consensus on what this looks like, we will be able to free up an entrepreneurial energy and capacity that has been otherwise limited. And as I said at the outset, finding ways to fuel and harness this energy will be good for our faculty, our university, and our state's economy.

Yours,

A handwritten signature in black ink, appearing to read "Joe E. Steinmetz". The signature is fluid and cursive, with a long horizontal stroke at the end.

Joe Steinmetz,  
Chancellor, University of Arkansas