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To: The Senate Committee on Economic Development, Local Government, and Commerce
From: Sen. Dan Feyen
Re: Senate Bill 671

Mr. Chairman, members of the committee, thank you for holding this hearing today.

This bill is a common-sense solution to remove bureaucratic red tape that hinders successful research done within the University of Wisconsin System from fulfilling the Wisconsin Idea and benefitting those outside the walls of academia.

I find it helpful to first look at how these research contracts are handled now. Current law prohibits state employees from participating in a contract in which they have a financial interest. There is an exemption in current law for University of Wisconsin System employees and research companies in which they have an interest. In order to qualify for this exemption, UW System employees must have a management plan in place that is overseen by an appropriate supervisor. This individual is responsible for evaluating and managing potential conflicts of interest that arise from the employee's involvement with the company. If the contract between the employee and the company generates an excess of \$250,000 over 2 years then the contract must also be sent to the Board of Regents for a 45 day passive review.

This bill eliminates the 45 day passive review. It is important to note that the Board of Regents supports this bill. The passive review process does not further the goal of ensuring conflicts of interests are effectively managed; it simply adds a layer of bureaucratic red tape and unnecessarily slows down the progress of research and all of the good that these research advancements can bring to the citizens of Wisconsin.

I see this legislation as an economic development tool. We should be encouraging start-up companies and other entrepreneurial growth, encouraging professors and research companies to stay and grow in Wisconsin, and encouraging efficiency in all government processes whenever possible.

I think you will find the professors testifying after me here today able to speak to why these research contracts are important and why this update to the process preserves academic integrity while modernizing our statutes and aligning Wisconsin with other research institutes across the country.

Thank you for your time today. I welcome any questions you may have.

DAVE MURPHY

State Representative • 56th Assembly District

Senate Committee on Economic Development, Commerce and Local Government

Public Hearing, January 24, 2018

Senate Bill 671

Testimony of State Representative Dave Murphy

Mr. Chair and members of the committee, thank you for hearing Senate Bill 671 today.

Anyone who has started a business understands just how important it is to act quickly, especially when patents are involved. Unfortunately, Wisconsin delays the ability for a University of Wisconsin (UW) System employee to enter into a research contract with the university by up to 45 days. These delays don't occur elsewhere and drive research opportunities out of the state. In 2015 alone, UW-Madison saw nearly \$100 million less in private and non-profit research funding than other comparable universities around the country. SB 671 eliminates this unnecessary bureaucratic delay in the UW System research contracting process.

Our bill improves Wisconsin's ability to compete for private and non-profit research funding. Today, you will hear from people whose work is improving life here in Wisconsin with their businesses and scientific achievements. You'll hear directly about how this bill is needed to keep businesses and research like theirs here in our state. Unfortunately, the individual whose work inspired this bill, Professor Mark Cook, could not be with us today, having lost his battle with cancer this past September.

Current law generally prohibits state employees from participating in state contracts where they have a private financial interest and the ability to influence that contract. The law has a specific exemption for university employees when such contracts are between a UW System entity and a research company. This exemption allows UW faculty and research-focused employees who spin-off companies to engage in activity that benefits the interests of the public, the university, and the newly created business. The current exemption requires all contracts to be reviewed by the Board of Regents through a 45 day passive review process, which by default has become a 45 day delay in executing research contracts involving UW employees.

Managing conflicts of interest is something best done on the ground by people who are familiar with the individuals involved and engaged in the work being done. Every UW institution already has in place an efficient and effective means of managing conflicts of interest at the campus level. Our bill simply eliminates the 45 day delay and allows the institution to move forward with a contract when any interest that an employee has in the research company has been evaluated and addressed in a management plan. The Board of Regents will still maintain authority to override these decisions under statute if it ever becomes necessary to do so.

Current law also defines "research company" far too narrowly as only those engaged in "commercial activity." Our bill opens up the definition to encompass non-profit organizations in addition to commercial entities.

I'm proud to put forward this bill to address an out of date law that will advance modern research entrepreneurship in Wisconsin.

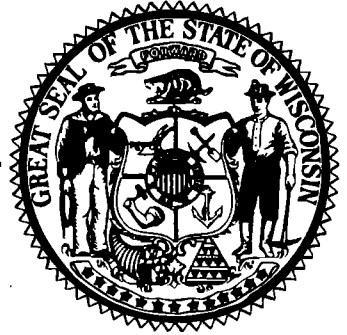
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FRED A. RISSER
Wisconsin State Senator

January 24, 2018



Senator Dan Feyen, Chair
Committee on Economic Development, Commerce and Local Government
306 South, State Capitol
Madison, WI 53707

Dear Chairman Feyen,

Thank you for holding a hearing on Senate Bill 671. I am pleased to have joined you in co-authoring this bill with Representatives Murphy, Berceau and others in the Assembly.

The purpose of this bipartisan bill is to modernize how state law regulates how the university contracts with companies in a faculty member or other university employee has a financial interest in and improve the ability of our university researchers and staff to attract outside funding for research projects.

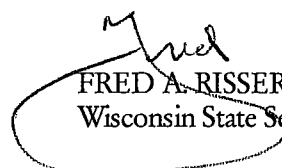
Current law requires any contract with companies that are connected to university employees that exceeds \$250,000 over a two-year period to undergo a 45-day essentially passive review by the UW Board of Regents, even after having been reviewed by other university officials. This limits the ability of the UW to quickly secure research and development funding from businesses and other sources. As a result, these companies have taken research initiatives, clinical trials, and funding to other states, our university has lost researchers to other universities, and UW-Madison recently lost its top ranking as the overall research institution.

SB-671 simply requires that the individual or body responsible for managing potential conflicts of interest at the applicable UW institution (UW-Madison for example) that employs the faculty or staff member with a financial interest in the company develop and issue a management plan evaluating and addressing the interest. I want to note that the Board of Regents will continue to have the statutory authority to overrule these decisions. This measure will also modify the definition of a research company to include non-profits as well as commercial entities as is current law. This is an important update as nonprofits fund many research activities.

The new procedures in SB-671 are more reasonable processes to review and address potential conflicts of interest, protect the university's and state's interest, and bring university procedures up to date, and up to speed, with modern research and business practices.

I appreciate your willingness to schedule this measure for a public hearing and I urge the committee to look favorably upon this important legislation.

Most Sincerely,


FRED A. RISSER
Wisconsin State Senator

FAR:tet

Cc: Senate Committee on Economic Development, Commerce and Local Government

Testimony for Public Hearing for Bill 671

From Professor Carol Hirschmugl and Dean Marija Gajdardziska-Josifovska

Thank you Chairman of the Committee, members of the committee for the opportunity to speak today.

I strongly favor the proposed changes as they will help foster economic growth in Wisconsin.

Please let me explain.

Hello, I am Professor Carol Hirschmugl from the Department of Physics, at UWMilwaukee and CEO of SafeLi LLC. UWMilwaukee is the 2nd largest university in Wisconsin. With Madison, we are one of only two public doctoral universities in the state. Recently, UWMilwaukee joined the ranks of Madison, and other top ranked universities across the nation, acquiring R1, research-intensive status. Only 115 universities nationwide fall in this category. We are very proud of the research that takes place across our campus. Because of our location, in the heart of the manufacturing sector of the state, we believe we are well positioned to collaborate with businesses in their Research and Development efforts. We are deeply committed to finding ways to commercialize the Intellectual Property on our campus in a manner that will add to our state's economic development and prosperity.

I chose to pursue my career at the university in Milwaukee 20 years ago, after many worldwide opportunities. Milwaukee is home to an excellent Physics department that has provided the environment in which I could thrive. Through my research with colleagues both in Physics and Engineering at UWM, we discovered a new material that we have now patented through the University of Wisconsin Milwaukee Research Foundation. That material has many potential commercial applications, which is what I am here to speak to you about today. Co-inventor Marija Gajdardziska-Josifovska, the dean of the Graduate School and Physics Professor at UWM, and I have been working closely with the UWM Research Foundation to learn about customer discovery, and therefore learn what is needed to bring a product to market. We also applied to, were accepted in and participated in the National Science Foundation ICORPs program, conducting over 150 customer-discovery interviews to hone our business plan. As a result of these activities, Marija and I have cofounded a company – SafeLi, LLC. Our product is a new anode for lithium ion batteries that would lead to safer, higher capacity and faster charging batteries. As Geoffrey Nicholson from 3M says, “Research is the transformation of money into knowledge. Innovation is the transformation of knowledge into money.” Marija and I now amend this quote to include “ICORPS is the transformation of Physicists into Capitalists.” Our next steps are to secure funding to bring our ideas to market. We are seeking funding from SBIR (Small Business Innovation Research) /STTR (Small Business Technology Transfer) DOE and NSF grants, “America’s Seed Fund”. Such funds will decrease the risk to venture capital and angel funding, that will be required to get our product to market. These mechanisms can provide up to \$1M in “seed” funding for a start-up. In particular, for the STTR grants, the firm must collaborate with a University, and must spend at least 30% of the budget

at the collaborating institution. The timelines on these grants are very limited, since their goal is to bring products to market quickly. Thus, the \$250,000/ 2-year cap can be easily reached in these circumstances. The requirement for a 45-day review of the program by the Board of Regents, can thus lead to problems when these grants are awarded. We are strongly in favor of reducing the burden of this step in the process.

To help bring these ideas to market, through the strong support of the UWM Research Foundation, our team has taken the first steps to commercializing this technology. We hope that the state government will, through proposed modifications to this bill, provide equal support to the development of high technology companies within the state.

PROFS

Representing UW-Madison Faculty.
Strengthening Wisconsin.



UW-Madison Professor Mark Cook, who passed away in September

PROFS Supports “Mark Cook Bill” (AB 758/SB 671)

PROFS strongly supports Assembly Bill 758/Senate Bill 671, dubbed the Mark Cook Bill, recently-introduced bipartisan legislation that would change state statutes that regulate how the university contracts with companies in which faculty or other university employees have a financial interest. PROFS convened a group of entrepreneurial faculty to develop the legislation.

UW-Madison Animal Sciences Professor Mark Cook served as chair of the PROFS Entrepreneurial Work Group, comprised of UW-Madison faculty who started successful companies. A self-described “chickenologist,” Mark created four companies from his research and his work led to 50 patents. He attracted and mentored other researchers who had a similar entrepreneurial spirit.

Mark’s spinoff Ab E Discovery, is “set to smash business as usual,” according to an article by the Wisconsin Alumni Research Foundation (WARF). Ab E Discovery, which will soon be breaking ground on Wisconsin operations, is advancing a natural, drug-free method to protect poultry, pigs, dairy and beef cattle against common infections.

Mark Cook died of cancer on September 9, 2017, at age 61. A native of Houma, Louisiana, Mark joined the faculty at UW-Madison in 1982. Upon his death, an article in the *Milwaukee Journal Sentinel* said Mark “embodied the Wisconsin Idea” – the belief that “education should influence people’s lives beyond the boundaries of the classroom.” Mark had a positive impact on everyone he met, including the students who learned from him and worked alongside him in his lab.

Mark was on the board of the Advocacy Consortium for Entrepreneurs (ACE) at UW-Madison and directed the implementation of Discovery to Product (D2P), a partnership of UW-Madison entrepreneurs and the Wisconsin Alumni Research Foundation (WARF).

Mark felt very strongly about the statutory changes contained in AB 758/SB 671. Mark recognized that Wisconsin law is out of step with the modern research and business worlds because it includes an overly cumbersome and lengthy process for allowing research companies to contract with the university when a faculty or staff member has a financial interest in the company.

Even relatively small contracts (any contract exceeding \$250,000 over a two-year period) must receive a 45-day review by the UW System Board of Regents despite previous review by university officials.

The law hinders the UW's ability to move quickly to bring in R&D expenditures from businesses and other funding entities. These funds are significant revenue sources at other universities. It is not a coincidence that the two universities that recently overtook UW-Madison in the overall research ranking do a much better job of attracting outside private funding for research projects.

Research companies connected to UW-Madison researchers have been forced to take initiatives such as clinical trials to other states. And top UW-Madison faculty have been recruited to universities where they can work more collaboratively with businesses and other funding entities.

PROFS thanks Representatives Dave Murphy and Terese Berceau and Senators Dan Feyen and Fred Risser, along with other co-sponsors, for introducing this important legislation to streamline the process. The legislation will eliminate the 45-day delay and instead create a much more reasonable process that will continue to address conflicts and protect the university's interests.

AB 758/SB 671 will require that the individual or body responsible for managing potential conflicts of interest at the UW institution (e.g. UW-Madison) that employs the faculty or staff member has an interest in the company issue a management plan evaluating and addressing the interest. Additional contracts will be allowed to proceed as long as such a plan is in place.

AB 758/SB 671 will also amend the definition of research company in the statutes to include non-profits as well as commercial businesses. Many non-profit entities fund a significant amount of research.

PROFS looks forward to working with other supporters of this legislation to ensure it becomes law.

Testimony for Senate Bill SB 671 by Richard Burgess, Jan 24, 2018

I am Dick Burgess, presently Professor Emeritus of Oncology at UW-Madison. I have been a professor and member of the McArdle Laboratory for Cancer Research since 1971. I was President of PROFS for about 3 years, 2001-04, and so have had the opportunity several times to come to a hearing such as this and testify on behalf of something that is important to the university and to me. Presently I am Vice-President for Science for the Wisconsin Academy of Sciences, Arts and Letters. I am also on the Advisory Board of WiSolve/ACE, a group dedicated to advocating for, supporting, and increasing successful entrepreneurial activity by the Faculty, Staff and Students at UW-Madison.

After a one-year sabbatical at a biotech company in Seattle in 83-84, I was offered a position with the company at three times my university salary. However, I decided I would rather be a professor at a first rate university and I wanted the university to be UW-Madison. I decided to return to UW-Madison but work to see that more of the discoveries here became products and services of benefit to the citizens of Wisconsin. To do this, I founded the UW Biotechnology Center in 1984 and was its Director for 12 years. I realized that even if I discovered a potential cure for a type of cancer, no one would ever benefit unless a company developed the discovery, went through the long and expensive clinical trials to get evidence that it really worked and then manufactured and sold the drug.

For many years, campus entrepreneurs, interested in possibly starting a company, wanted to do things correctly, not get in trouble. But without clear disclosure and oversight, we were afraid to act. (Like walking across a long footbridge with no railings, in the fog. You stay far from the edge). I was one of the initial members of the UW-Madison Conflict-of-Interest Committee (COIC) in the late 1990's. The development of the strong oversight and management of potential conflicts by the COIC, gave entrepreneurial members of the University community the guidance they needed to move forward.

As a result, in 2001, I co-founded a biotech company, which is still today located at the University Research Park, to develop more effective ways to combat antibiotic-resistant bacterial pathogens.

Many of my present activities are directed toward reducing barriers to university-business interactions. The present SB 671 is a perfect example. It takes advantage of the outstanding oversight activities of the COIC and does away with a nearly meaningless and outmoded State statute, that significantly delays and effectively discourages or prevents many productive company-university collaborations. I urge you to support SB 671.

Testimony for Senate Bill SB 671 by Thomas "Rock" Mackie, Jan. 24, 2018

My name is Rock Mackie and I am an Emeritus Professor of Medical Physics, Human Oncology and Engineering Physics at the University of Wisconsin-Madison and a former Director of Medical Engineering at the Morgridge Institute for Research. I am also a founder of the Advocacy Consortium for Entrepreneurship (ACE) a not-for-profit organization promoting entrepreneurship at the UW. ACE recently merged with WiSolve an organization to promote and teach entrepreneurship to UW graduate students and post-doctoral fellows and to facilitate internship consulting to Wisconsin technology startup companies.

Firstly, I would like to say that I am pleased that the bill honors the late Professor Mark Cook. Mark was a friend and fellow board member of ACE and believed that entrepreneurship was the ultimate extension of science and technology to benefit society. Mark founded many medical and agricultural UW startups in his career and believed as I do that another mission of our university is to instruct students and trainees in business and entrepreneurship.

Geometrics was the first company I co-founded in 1992. Back then it was not easy to spin off a company from the UW. The culture frowned upon it as detracting from the mission of research and education. We had developed an early 3D radiotherapy treatment planning system based on quantitatively using computed tomography (CT) scans. The system was being used to treat patients at the UW and we argued that formally getting FDA clearance would enable the system to be used more widely. The UW Hospital could not pay for the work to achieve this, requiring the formation of a company. University lawyers had to intervene to overcome objections from my chairman. The software eventually achieved about 40% market share and since the 90's has been used to plan treatments for millions of patients worldwide. Geometrics is now owned by Philips Medical Systems and the development and maintenance of the system is still done by their operation based in Fitchburg. So, this company started 25 years ago is also still contributing to the Wisconsin economy.

TomoTherapy was my second company. My research group had developed a way to achieve much more conformal dose distributions to treat cancer with radiation and to verify targeting by integrating CT on board. General Electric licensed the concept from WARF and my group got an industrial contract from GE between 1994 and 1997. In 1997, GE was #4 in the radiotherapy market and following Jack Welch's philosophy to be #1 or #2, decided to exit that market. Now having experience with business, I and another co-founder of Geometrics, Paul Reckwerdt, started TomoTherapy in 1997. TomoTherapy grew rapidly and did a billion dollar IPO in 2007. About one million patients have been treated on these systems in more than 30 countries around the world. All of the major radiotherapy clinics in Wisconsin use our

product. TomoTherapy merged with Accuray in 2011. Wisconsin has done well by Accuray. They moved the manufacturing of another product from Palo Alto to Madison. They spend more than \$25 M to parts suppliers in Wisconsin, with Waukesha County being the largest recipient.

Why do we need Bill SB 691? To me it comes down to the three C's, carefulness, cash and culture. The UW is mandated by the federal government to have a campus conflict of interest committee. Every academic entrepreneur has a management plan to ensure that the interests of the university and society are carefully maintained. Having a layer of Regents approval on contracts from spin-off companies over \$250,000 does not add to the carefulness but only adds bureaucracy and expense. TomoTherapy was reluctant to go to the time and trouble of having contracts with the UW but found it easier to get research done at other universities, such as Washington University in St. Louis. I know that there are other UW spin-off companies which have taken their research cash to other universities. This means lost money to the UW and loss of expertise to the Wisconsin company if the UW is more qualified. Contracts from any company over \$1 million will still be vetted by the Regents. Getting rid of the requirement for UW spin-offs to get approval for contracts of over a quarter of a million will improve the culture by presuming that the spin-offs are not any more likely than other companies to cause grief to the university.

I hope that you support the Mark Cook Bill – SB 691.

Testimony for Senate Bill SB 671 by Jamey Weichert, Jan 24, 2018

My name is Jamey Weichert and I am currently an Associate Professor of Radiology, Medical Physics and Pharmaceutics at the University of Wisconsin-Madison. I came to Madison from the University of Michigan in 1998 in part due to the success of WARF and the unique entrepreneurial landscape that existed at UW and Madison. Believing that I could raise development capital for my cancer imaging and therapy technology much faster in a business setting, I started Collectar in 2002 which has since raised well over \$100M in private and public development funds, conducted 9 clinical cancer imaging and therapy trials in over 100 patients, and hired over 30 highly skilled scientist and management level employees over half of which were brought in from out of state. It became difficult to run clinical trials at UW, in part, due to the \$250K limitation that we are attempting to address with this important Bill. In one trial, for example, it cost \$81K per patient. The \$250K limitation and its 45 day approval requirement would severely limit (would only be able to include 3 patients at UW) the number of Wisconsin cancer patients that could be accrued thus making it necessary to establish other trial sites out of state. I left Collectar a year and a half ago to start a new biotech company in Madison called Archeus Technologies which has licensed 4 of our own UW patents from WARF dealing with unique molecules capable of enabling the body's own immune system to kill cancer cells in a vaccine memory sense whereby tumor cells injected months after initial tumors were completely eliminated in most mice, failed to grow. This work at UW involves 5 separate research groups in immunology, radiology, medical physics, cancer biology, and radiation oncology working together to attack cancer. After just a year and a half of working together, this group just recently completed submission of 4 major grants totaling over \$13M in federal funding. Having been at 3 major research universities, the highly collegial attitude at UW-Madison is extremely unique.

I feel that undergrad and grad students actually seek me out due to my entrepreneurial experience. We have many bright students at UW many of whom are capable of starting their own companies. I do consider fostering an entrepreneurial spirit as one of my key teaching missions and at least 3 of 5 recent graduate students of mine have gone on to start their own biotech companies in Madison. In fact, Collectar hired 6 UW-Madison PhD students right out of school and it is likely that none of them would have stayed in Wisconsin upon completing their advanced degrees.

With federal cancer research grants currently being funded at the 7th percentile level, relative to 20th percentile when I came to Madison, integration of biotech companies with our universities is critical if we are ever going to find a cure for cancer. Accordingly, 5 biotech start-up companies have been formed by investigators on my floor in the UWCCC alone. All UW investigators involved with companies have very robust conflict management plans. We need to be aggressive in our efforts to facilitate this integration and approving Bill SB 691 is a step in that direction.