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Q&A on Critical Issues in University Intellectual Property

There are many nuances and far-reaching ramifications to the handling of invention disclosures at universities than is superficially evident. This question and answer session with Dr. Galen J. Suppes, Professor of Chemical Engineering at the University of Missouri elucidates some of the key issues related to patentable intellectual property at universities.

Dr. Suppes is an expert in the field of intellectual property as an award winning innovator with a score of patents to his credit. Lately, though, he is also frequently in the news owing to his ongoing legal row with the Curators of the University of Missouri over treatment of his intellectual property. Dr. Suppes is on the frontlines fighting for the rights of academic inventors and the more effective translation of faculty innovation into publicly available devices, technologies and treatments.

IP Advocate: Why is intellectual property handled differently at universities than at corporations? Why is intellectual property handled differently at universities than at corporations?

Dr. Suppes: The handling of patent-related intellectual property at universities typically is and should be different than at corporations.

In corporations, the intellectual property is preserved in corporately archived technology reports - the corporation trains new employees on the corporation's technology with the understanding that advances of the technology will remain the property of the corporation and may remain proprietary. The driving forces for producing innovation in a corporate environment also differs substantially from academic motivations.

Corporate researchers must be concerned with creating value for the shareholders of the corporation and as such, must innovate with an eye toward profit potential. Researchers in academia however, are driven by concern with societal benefit and, as befitting institutions of higher learning, inquiry for inquiries' sake. Patenting of technology is a valuable tool to maximize both corporate profit and social benefit.

Researchers are compensated differently based on their employment as well. Corporate researchers tend to have significantly higher salaries and no ownership rights in intellectual property developed. Conversely, research professors are salaried at a lower level, but are eligible for a portion of the royalties generated by their inventions.

By the very nature of their employment, corporate researchers are beholden to the shareholders and board of directors of their employer. These are the stakeholders who pay their wages and finance their research and will ultimately benefit from the fruits of their "works for hire". Therefore, they have to be incented to innovate with much higher salaries and other fringes than are available to a faculty inventor conducting taxpayer funded research in a public institution.

IP Advocate: How does a university setting differ?



Dr. Suppes: In Universities, the professor has traditionally been the core around which separate and distinct "islands of technology" are advanced. If the professor leaves the university, the technology, leaves with the professor because much of it resides in the intellect of the professor himself. At the university, the professor-inventor brings something different to the table than the PhD researcher does at a corporation. For this reason, the standard at universities is not that the university owns everything; but rather, that professors and other inventors have an agreement with the university. Typically, that agreement has two components.

The first component is that the Administration, referring to the decision-making components of a university administration or technology transfer office, will have the right to market and patent the technology.

The second component is that the Administration will release the invention back to the professor if the Administration fails to market the technology or fails to pursue patent in a timely manner.

In many cases Administrators are not familiar with academic traditions and do not understand that universities prosper only with the proper balance of Faculty Governance versus Administrative Governance. In these instances, faculty rights are often jeopardized and commercialization of inventions fails to meet its potential.

IP Advocate: What should it mean when a university's IP (Intellectual Property) Policies indicate that inventions will be "released" back to inventors if the administration fails to commercialize?

Dr. Suppes: It is easier to set bounds on reasonable definitions of "release" than to present an absolute definition.

A release is not a set of unilateral license terms set by the administration where an active or passive mandate is presented to the inventor to either accept the terms or receive nothing. In other words, the administration will abandon and lose any rights to obtain patent.

A release is not an agreement to license to the inventor which contains royalty payment rates or other conditions, such as requiring the inventor take out insurance to protect the university, that are more stringent than the administration negotiates with third parties that have proceeded to sustainably commercialize a technology and deliver royalties.

A release does not require the inventor to give up rights otherwise provided by the IP Policies such as the right to share royalties paid to the university as part of the license.

When a release agreement provides for royalty payments that are at least five times less than a typical third party license, that agreement may still not be a release, but it may be accepted as adequately fair by the university inventor rather than challenged.

IP Advocate: What are the obligations of university to conduct due diligence to protect invention disclosures if the university refuses to release the invention back to the inventor?

Dr. Suppes: If the administration fails to pursue patent there is a risk that a third party will file and receive patent on the same technology. This third party could then force the university to halt all externally-funded research in the patented area. The administration's first obligation is to avoid compromising the research program of the inventor by irresponsibly sitting on technology without pursuit of patent. A reasonable timeframe for the decision to either patent or release is three months from the date of invention disclosure. This is the typical review process time for a journal article or research proposal.

The administration can file for immediate provisional patent application protection or the inventor can immediately publish the important results. Both can prevent patent by a third party. The provisional patent application filing costs just \$110 if handled internally by the university. This application buys 12 months of protection to make a more informed decision prior to incurring greater patent-related costs. The next step would be the filing of a non-provisional patent application with fees less than \$1,000. Review of the non-provisional patent application by the U.S. Patent and Trademark Office (USPTO) can take up to 4.5 years with no additional fees during that time. The bottom line is that five years of protection is attainable at a low cost if the administration and inventor work together to minimize outside attorney costs.

IP Advocate: What does it mean to invent "within the scope" of your job?

Dr. Suppes: For the professor, but not for the teacher, librarian, or janitor, it is foreseeable that the administration or a university foundation could make funds available for invention "development". Those funds would have to be at a level consistent with promotion/tenure requirements of the professor. In engineering this would be more than

\$150,000 per year for at least 3 years. In these instances, it would be reasonable for the administration to enforce the definition of "within the scope" provided if and only if such an award is received by the professor.

IP Advocate: When does licensing technology for commercialization and revenue generation cross the line and become the selling of rights to acquire research and development funding?

Dr. Suppes: When a third party licenses technology from a university, unless otherwise restricted, that third party licenses the right to use that method/material for research, development and production. Prior to that licensing, the university inventor or professor may have been the only entity positioned to develop a research program around that invention. Because of this, the administration would be interfering with the ability of the professor to do his/her job unless the office obtained consent to license the right to do research from the professor. For this reason, the inventors must be an integral part of the licensing process.

By definition, if an invention is "within the scope" of a professor's job, then there is some aspect of that invention that the professor has a right to preserve pursuant to his/her job scope. For this reason, all license details should be reviewed with the university inventor prior to licensing. If research is required to advance an invention toward commercialization, the professor has the right to mandate that the license include research funding to his/her lab, and the administration is obliged to follow this mandate in order to avoid tortious interference with the professor's occupation.

If the thought process of an invention is past the point of research, not able to obtain research funding, and only relies only on development, it is likely not "within the scope" of that professor's job.

IP Advocate: Based on your experience, what are the best ways to avoid problems between research professors like yourself and administrators?

Dr. Suppes: The first ingredient in a collegial relationship between professors and administrators is a reasonable definition of "within the scope" of the professor's job. Under no instances should an employee be required to assign an invention to a university or corporation until due diligence has been performed to determine whether the invention was truly within the scope of his/her job.

The second ingredient is good communication. All questions should be answered in a timely manner from both sides. The process of protecting the invention and pursuit of commercialization should be clearly defined and followed. The invention should be released back to the inventor at least one month before the right to patent the invention is lost if the decision of the administration is to not pursue patent.

IP Advocate: Are provisional patent applications typically covered by IP policy if they are not specifically mentioned? What are your thoughts on best practices in regard to provisional patent applications?

Dr. Suppes: Some IP policies prohibit the employee from making patent applications in certain instances. Furthermore, most IP policies were written prior to the adopting of the provisional patent application process by the USPTO. Hence, provisional patent applications are not covered by the IP policy unless the policy specifically mentions "provisional patent", indicating that the IP policy of the university has been revised to properly consider how to handle provisional applications. Provisional patent applications are not published and they are not reviewed by the USPTO unless a subsequent non-provisional application is filed; hence, they are distinctly different from non-provisional patent applications.

Administrators should fully respect the right of professors to file provisional patent applications without any formal approval. Applications directly by professors should be encouraged since this would eliminate the possibility of negligence on the part of the administration by failure to file patent applications in a timely manner. In fact, best practice IP policies would place the burden of a timely filing of a provisional patent application on the inventor with the option of requesting the Technology Transfer Office file the application on behalf of the inventor. It would be reasonable to have the professor's research budget or departmental budget pay the \$110 provisional patent application fee.

IP Advocate: How does the decision of a university administrator to patent or not patent an invention impact academic freedom?

Dr. Suppes: Patent applications and patents are unique and valuable publications. Any administrator that directly or indirectly interferes with the right of a professor to apply for patent is violating the academic freedom of that professor. Any administrator that requires the professor to license the invention as a prerequisite of allowing patent application is violating the academic freedom of the professor. If the administration requires the professor to personally pay for a patent application for an invention that has not been released to the professor, that administrator is violating the academic freedom of the professor

IP Advocate: As a cautionary tale to other academic inventors, what were some of the tell-tale issues that led to the Curators of the University of Missouri v. Suppes case?

Dr. Suppes: First, I want to say that the practices I described in answering your other questions are all sustainable in a very collegial manner. Second, there is great opportunity for economic prosperity and for professors and administrators to work together to define relationships specific to different environments.

But in the years leading up to the case Missouri (MU) filed against me, there were ongoing actions which indicated that the administration was not only wrong, but that the administration went past wrong and entered the realm of absurd. My counter-suit against the university and my answer to their charges include reams of evidence to support my claims.

IP Advocate: What are some specifics of MU's behavior surrounding your innovations and intellectual property?

Dr. Suppes: First, there is circumstantial evidence clearly indicating that the administrators filed the lawsuit specifically to prevent faculty input, such as a ruling from the grievance committee, on the dispute. All previous input to the administration was either by Technology Transfer Office employees or committees designated and controlled by the administration.

Second, an inspection of the official copies of the infamous "altered" disclosure documents revealed that the administration had not signed the "review" section of these disclosures. This indicates that administrator review of the disclosures was superficial at best.

Third, while the IP policies, the Collected Rules and Regulations, of MU indicated that inventions would be released if not commercialized, records indicate that the release of inventions back to inventors essentially ended in 1998. The administrators have adopted an approach of systematically allowing invention documents to be abandoned beyond being patentable rather than releasing these back to inventors.

Fourth, MU's administration repeatedly refused offers I made over a period of years to have the disputes over the intellectual property decided by outside, independent arbitration. The administration also repeatedly refused to meet with me to discuss and resolve disputes. These repeated refusals to meet with me to resolve differences included refusals to meet even at the request of third party stakeholders of the disputed technology.

IP Advocate: The MU lawsuit was filed against you and also against Renewable Alternatives. What can you tell us about that?

Dr. Suppes: Renewable Alternatives (RA) is a company I founded that funded collaborative research with MU on the technologies in question and RA was paying one of the co-inventors of the technology \$80,000 per year for the specific task of advancing that technology in addition to other expenses of research.

MU administrators are demanding that RA assign over all intellectual property rights to the university. This is in spite of the fact that RA and MU administrators executed an Allocation of Rights Agreement before the collaborative research began that guaranteed RA the right to jointly own, with MU, intellectual property. This agreement was drafted by the National Science Foundation to specifically protect small businesses like mine from this type of aggressive posturing by university administrators.

The researcher I employed at RA had a part-time teaching engagement in another department during this time - it was not in the department that was conducting the research. When my employee discussed the disputed ownership issues with one of the university administrators, he was told that even if he had only a 5% part time appointment in the Department of Art, the university still owned any intellectual property he developed.

IP Advocate: The ongoing lawsuit aside, what's next for you?

Dr. Suppes: I am working hard at MU, pursuing green technology. A colleague and I licensed an innovation we co-developed with a research team. It's a process to use ground up corncobs to create natural gas that will power vehicles. We showcased a test vehicle in 2007 and now the licensor, ANG Containment and Delivery Systems, is planning on developing a production facility in Missouri to produce the fuel and the specialized tanks to contain it. This same technology can result in better batteries and super-capacitors.

IP Advocate: In closing, Dr. Suppes, based on your experiences, can you sum up your recommendations for best practices in treatment of IP not just at the University of Missouri, but nationwide?

Dr. Suppes: I think it really comes down to university administration, including technology transfer offices,

adopting a collaborative rather than a combative, approach with its faculty inventors. Keeping the lines of communication open, having open door policies with competent administrators interested in meeting with innovators are both critical.

There is a wide gap between the technical and industry specific knowledge of an inventor and technology transfer staff. Inventors know the marketplace for their research and by not including them in licensing negotiations, the university is risking the future of research and often becomes a roadblock that hampers rather than facilitates translation of inventions to the public.

I believe every university should allow inventors to file provisional patents on their work. This, at least, preserves the patent rights and protects future research efforts. Further, there should be provisions in every university IP policy that address release of rights back to inventors in a timely manner when the school decides not to pursue protection, the ability to disclose research results without assignment as a prerequisite and inventor involvement in the licensing process.

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