

Real World Student Collaborations in Law, Science, and Technology
The Technology Ventures Clinic at Arizona State University College of Law

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I. Description of the Technology Ventures Clinic. (See Diagram One attached.)

A. What is the Technology Ventures Clinic?

1. The Technology Ventures Clinic at Arizona State University (the “TVC”) is a unique interdisciplinary transactional clinic where law students work in collaborative teams with graduate students from three colleges at ASU: the W.P. Carey School of Business, the Ira A. Fulton School of Engineering, and the College of Liberal Arts & Sciences. In recent semesters, select undergraduates from the Barrett Honors College have also been allowed to participate.

B. What are Technology Ventures?

1. Arizona State University’s innovative technology transfer office, Arizona Technology Enterprises (“AzTE”) (see II.B. below) seeks to commercialize the intellectual property of the University. Technology venturing is the interdisciplinary and collaborative process of concept-intake, legal and business evaluation, strategic planning, and infrastructural support, provided by AzTE in conjunction with the TVC for all intellectual property arising out of the University setting. Staffed by professionals and student teams, AzTE and the TVC provide essential support, guidance, and strategic decisionmaking necessary for technology ventures to achieve commercial success.

2. Students, and the TVC, are essential components to the success of ASU’s technology venturing initiative. Student teams, composed of graduate and undergraduates from the schools listed in I.A.1 above, work closely with AzTE professionals in a variety of technology venturing stages. TVC teams are often the first-responders to disclosed intellectual property; processing and categorizing disclosures, evaluating technologies and other intellectual property for legal and commercial viability.

3. Specific activities of students in the TVC.

- A. Analyze technology portfolios.
- B. Identify portfolios for technology venturing.
- C. Develop commercialization strategies and business plans for technologies in the portfolio.
- D. Analyze markets and partners.
- E. Work with faculty to incubate ideas.
- F. Participate in the IP review process.

II. Creation of the Technology Ventures Clinic at Arizona State University.

A. Faculty and Technology Transfer Collaborations

1. The TVC had its genesis at the College of Law beginning in early 2003. Through a series of discussions among faculty from the College’s Center for Law, Science, and Technology (“LST”) and the Clinical Program, the faculty concluded that LST students had a wide variety of science and law courses to choose from to pursue their interests, but little in the way of practical opportunities. Thus, it was determined that a clinic that could provide students interested in law, science and technology with opportunities to do practical work in patent law was

a perfect fit for the LST's emerging curricula on intellectual property, entrepreneurship, biotechnology, and science-policy.

2. ASU, as a very large Research One University, includes a vast array of scientists, engineers, and other inventors regularly working on a variety of innovative projects. ASU faculty and staff produce a large amount of intellectual property that has potential societal value. Areas of particular concentration at ASU include silicon photonics, sensors, cancer vaccines, wireless networking capabilities, and innovative fuel cell technology. By 2003, ASU was in the process of overhauling its technology transfer processes and faculty at the College of Law saw this as an opportunity to integrate practical opportunities into the LST curricula.

B. Collaborating with your University's Technology Transfer Office.

1. The result of ASU's restructuring of its technology transfer operations was the founding of AzTE. As ASU's stand-alone technology transfer operation, AzTE was founded to make strategic, proactive assessments about University-owned intellectual property and its social and economic value. The decision was made at the University-level to require all intellectual property disclosures to go through AzTE.

2. In the Fall of 2003, after discussion with staff at AzTE and faculty at the College of Law, a decision was made to house the TVC at AzTE's offices, to make AzTE the single-source of clinic work, and to expand the TVC to include interdisciplinary teams from colleges other than the College of Law (see I.A.1). Throughout the Fall of 2003, staff at AzTE and faculty at the College of Law approached faculty and administrators at other academic units to gauge interest in the TVC. Based on these discussions, the decision was made to launch the TVC starting in Spring 2004 and include the schools listed in I.A.1 above.

III. Operation of the TVC.

A. The Initial Model – Problems and Opportunities for Growth.

1. Autonomous Teams. Under the initial model, student work teams included a student from each participating college. Team leaders or managers were not designated and work was not individually assigned to students based on educational backgrounds. The goal was to allow students to learn through a collaborative process and, as a result, individual expertise was initially viewed as unnecessary. Supervision of TVC work, including assignments and output, was done by the technology transfer professionals working at AzTE and the Director of AzTE.

2. Supervision. In the initial semester, the only faculty to designate a faculty supervisor for student participation was the College of Law. Professor Sylvester was the original supervisor and faculty director of the TVC during its founding in January of 2004. Despite this supervision, law students conducted TVC work at AzTE offices, were assigned work by AzTE personnel, and output was initially viewed by AzTE. Law students met once a week with Professor Sylvester, to review assignments, raise issues, and to review output.

3. Uneven Treatment of the TVC. During its initial semesters in Spring, Summer, and Fall of 2004, there was little coordination between participating educational units. Students from some disciplines participated in the TVC as paid interns, others as unpaid volunteers. The College of Law was the only academic unit to treat the TVC, in these first semesters, as a fully-supported course within a curricular program.

4. Tentative Successes. Despite the limitations of the early TVC, student enthusiasm was high and opportunities, for law students in particular, to gain practical experience in technology venturing, were many.

B. The Current Model – Improved Collaborative Learning.

1. Administrative Restructuring. The obvious limitations of the TVC's early semesters (lack of administrative, on-site support) were addressed during the Summer of 2004. The decision was made at the College

of Law to hire a full-time supervisor for the TVC that would be housed at AzTE but would be responsible to all of the academic units engaged in the project. Prof. Eric Menkhuis was brought on by the College of Law in Summer of 2004 and, with full cooperation and approval of AzTE and all participating academic units, hired on a year-to-year basis to supervise the TVC. Although Prof. Menkhuis' official position is at the law school, he is paid equally by all participants in the TVC, housed at AzTE, and is answerable to the all participants in the initiative.

2. Work Assignment and Team Re-Organization. Prof. Menkhuis immediately made three significant changes to the TVC. First, he determined that each student team required a "project owner" to lead assigned projects and create organizational structure and assignment responsibility within teams. In addition, he decided that he should assign projects and he did so based on student expertise. Finally, some students with generalized expertise were assigned positions as "floating consultants" to provide advice and guidance on specific issues that arose across assignments and teams.

3. Project Selection. Through Fall 2004 and into Spring 2005, Prof. Menkhuis also reformed the TVC project-assignment system by varying the kinds of assignments given to the TVC, expanding the scope of assignments to include more cradle-to-grave student interaction, and playing an essential mediating role between student teams and assigning AzTE personnel. Finally, it was determined that the TVC should improve its operational capability and project tracking requirements through creation of computer databases, including a "knowledge database" and work flow process. (See Diagram Two attached.)

4. Administrative Reform. As of Spring 2006, the TVC is finally on an equal footing between all academic units. No longer do students from separate academic units take the TVC for separate academic credits or payments. Commitments have been acquired, and buy-in maintained, that all academic units will provide equal credits for student work in the TVC. In addition, a Board of Advisors, including faculty supervisors from each participating academic unit, AzTE, and outside funding sources, has been established to advise and supervise the TVC.

IV. The TVC's Future

A. Challenges

1. Funding. As with many academic enterprises, continued funding for the TVC and its Supervisor is a priority. Year-to-year operational funding has been obtained since Prof. Menkhuis' hiring—but further funding to expand operational capabilities or to solidify the on-site Supervisor position is required.

2. Project Opportunities. Despite the opportunities for students in the TVC, the experience continues to be limited by the needs of its single client, AzTE. Expansion of client base and increasing the level of responsibility given to students is a continuing concern.

3. Collaboration and Administrative Obstacles. Despite commitments from academic units, continuing tensions about the nature of work, time away from other research activities (for non-law students) and numerous other administrative and collaborative difficulties remain.