

Best Practices in University Relations with Agilent Technologies (Discussion with Kent Carey 2/18/2011)

Agilent engages with universities in three different ways, unrestricted gifts, thought leader programs (aimed at leveraging existing products into new markets), and strategic extensions (aimed at generating the technology base for new product lines within existing businesses). All are focused on mutual benefit in the early stages of applied research. The general feeling is that universities can do basic research well on their own. Agilent can develop products well on their own. In between, there are many areas for interaction on applied research that are mutually beneficial.

GIFTS

The primary form of university interaction is through gifts in support of research that is of interest to Agilent. Agilent's University Relations team solicits proposals for research collaborations from employees twice each year. Typically these gifts are designed to support a graduate student for one year. Unrestricted gifts are preferred for establishing relationships for a number of reasons:

- These gifts support early stage work in areas where Agilent has interest for the future, but there is no clear path to commercialization.
- Gifts require no agreement and can therefore start quickly (as opposed to technology transfer agreements which take months to negotiate).
- The gift goes to supplement existing research work. Typically 90% to 100% goes to a professor's research team. (A technology transfer agreement usually incurs overhead of 50% to 60%.)

Proposals are ranked by a team of executives based on four criteria (in order of importance):

- Relevance.** Is this an area where Agilent may do business in the future?
- Relationship.** Is the internal Agilent champion in a position to use the knowledge gained through the relationship for the benefit of Agilent in the future?
- Thought leadership.** Does the professor leading the university research have a record of leadership in the area of interest?
- Cost efficiency.** Is the cost of building this relationship an efficient means for Agilent to explore this new area? (This criteria relates to globalization. Supporting research in one geographic area is often less expensive than supporting research in another. Other costs (such as travel to remote locations) also affect this evaluation.

Benefits:

The primary benefit to the university is financial support for research. Professors also get a much better understanding of industrial needs and requirements in their areas of research. Often, Agilent also brings additional technical knowledge to the relationship. Students get exposed to applied research and Agilent. Sometimes students who get research support also work at Agilent for summer internships or jobs post-graduation.

The primary benefit to Agilent is in-depth exposure to leading edge research and investigation of the potential for commercialization at this early stage. (Note: Since these are gifts, Agilent has no control over the direction the research takes and no rights to any resulting technology or ideas. Discussions with researchers can lead the research in new directions, and the university team is motivated to make the relationship work so that funding may continue into future years.) These relationships are also a means for Agilent to get early exposure to top students in their areas of interest (a recruiting asset).

Examples of relationships that developed to the mutual benefit of Agilent and the university with ultimate commercialization of the technology:

Photonics research at Agilent was an active area for university collaborations for two decades. Two relationships stand out.

One at the University of California at Santa Barbara started just as the university was hiring leaders from Bell Labs to create a research team and reputation in this area. Many small grants ultimately led to relationships with a number of professors and numerous contributions to Agilent's Lightwave Product line.

The other was the relationship with Stanford that resulted from Agilent's taking a leading position in the creation of the Photonics Center at Stanford. The Stanford Photonics Research Center builds strategic partnerships between the Stanford University research community and companies employing optics and photonics in their commercial activities. SPRC offers member companies facilitated access to Stanford faculty, students and researchers via faculty-led Working Groups, SPRC workshops and symposiums, research project collaborations and visiting researcher programs. SPRC promotes member company recruitment of Stanford students by coordinating customized recruiting events and providing convenient access to student resumes, as well as alerting students to job openings at member companies. Corporate members directly support photonics research activities at Stanford; in turn, members benefit from their exposure to current and emerging areas in Stanford photonics research. Agilent was one of the founding members and has maintained the highest level of membership since the center formed in 2001.

Another example of a mutually beneficial relations was research on precision microfluidics technology for sample injection into the Mass Spectrometer Liquid Chromatograph. Using microfluidic techniques for separation and sample preparation. Agilent researchers worked jointly with Dr. Albert Heck at the University of Utrecht on joint development of techniques, validation of those techniques and publication of the results of the work. Agilent incorporated the results of this work in their analytical instrument line.

THOUGHT LEADER PROGRAM

Agilent's Thought Leader Program is more marketing focused as opposed to investigating new technologies through research. Agilent products are used to perform research. When Agilent identifies a new area of research where Agilent products might be used, they will look for universities with leading edge research programs in this area. When prospective partners are identified, Agilent will strive to give a multi-year equipment grant to one or more of these leaders. These can be sizable grants depending on the equipment involved. Typically these range from \$100,000 to \$500,000.

These grants provide research teams with state-of-the-art equipment for performing their research. Agilent benefits from increased visibility for their products in the new research area.

Examples of thought leader programs are the application of quadrupole time-of-flight (QToF) mass spectrometer (MS) systems to protein analysis, pathogen detection in food processing and packaging, and extensions of measurement tools to synthetic biology.

Collaboration with Harvard's Wyss Institute on synthetic biology was announced in November. (details at <http://www.agilent.com/about/newsroom/presrel/2010/08nov-gp10023.html>). Under the multi-year agreement, Agilent will provide financial support, unique tools and materials to support Wyss' biomaterials evolution, programmable nanomaterials and biomimetic microsystems platforms. Agilent also will contribute its technical expertise to the collaboration.

One way that academic thought leaders are identified is through university liaison programs.

SUMMARY

The key to all Agilent relationships is collaboration that is mutually beneficial in areas of interest to the company. The output from the program is a range of relationships between researchers and managers at Agilent and university professors. These relationships can influence the direction of research and development within the company and also act as a starting point for recruiting new employees in these areas.

Most relationships do not lead to direct commercialization of university technology but they are valuable. The gift program has prospered for at least four decades in areas ranging from material science to electronics and life sciences. Universities benefit from the influx of money and equipment and the exposure of faculty and students to the requirements of technology commercialization. When commercialization is successful, universities gain credibility for their academic research. This track record of tangible contribution can be critical to getting research grants from government agencies and venture capitalists.