

“Collaboration among Universities/Research Institutes/industries”

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1. Collaboration among universities/research institutes/industries is extremely important. The Chinese University of Hong Kong, a comprehensive, research university, has had extensive and successful experience collaborating with other universities, research institutes and industries.
2. The collaboration takes many forms. A firm can make a donation to the university directly to support an institute, center or laboratory or even a research project of a faculty member (in which case the intellectual property belongs to the University). A firm can enter into a contract with the University to support a specific research project (with the intellectual property being allocated by prior agreement). A firm can sponsor a joint research center or institute at the University (e.g., Microsoft Research Asia). (Allocation of intellectual property is the most critical issue in the collaboration between universities and industries, followed by the openness of access to the results of the research.) The University also licenses patents and technologies to firms. A case in point is a non-invasive test for fetal diseases such as Downs Syndrome which has been licensed to a pharmaceutical firm. In addition, the University also encourages and facilitates and occasionally invests in, through its venture capital fund, in the further development and commercialization of technologies discovered and invented at the University. The University also performs clinical testing for firms in Hong Kong and in Mainland China, have been approved and authorized by the Food and Drug Administration of the People’s Republic of China to conduct such testing.
3. One problem that the University faces is that patenting (and its continuing maintenance) is expensive and we lack the expertise to decide whether a given discovery or invention should be patented. This is where experts with venture capital experience can be helpful. The University can probably also do much more in encouraging faculty members to collaborate with venture capital firms to further develop, outside the University, their discoveries and inventions.
4. However, very often, there is another important player, the government, in the picture. Very often, collaboration among universities/research institutes/industries can be greatly facilitated with government support, financial and otherwise. (Even in the U.S., there is for example, the Sematech consortium, formed with Government funding and private firm participation to conduct advanced research in semiconductor technologies.) Government financial support is absolutely essential to the support of basic research. Industries are not prepared to support basic research with its long gestation period and uncertain and unpredictable outcome. In other instances, support of the government can act as a critical catalyst, without which collaboration might not have been possible.
5. Our Institute of Space and Geo-Information Sciences has a collaborative project that is supported jointly by the Chinese Academy of Sciences, the Ministry of Science and Technology of the People’s Republic of China, the Innovation and Technology Commission of the Hong Kong Special Administrative Region, and the University itself. The Institute operates the only civilian satellite information receiving station within China but outside the Mainland. It can “see” within a

2,500-kilometer radius which covers Beijing to the north and Indonesia to the south. Our University also has collaborative research projects funded by the U.S. National Institutes of Health.

6. Our University is also the recipient of four “Area of Excellence” research project grants from the Hong Kong SAR Government. These “Area of Excellence” research projects have large and assured multi-year funding but require collaboration among universities.

7. The Innovation and Technology Fund of the Hong Kong SAR Government encourages universities/research institutes/industries collaboration by requiring co-funding, that is, a research proposal from a faculty member at a university will be funded only if there is a firm that is willing to co-fund the project. The amount of co-funding can be as low as 10 percent of the total cost of the research project and as high as 50 percent. The firm will then receive preferential access to the exploitation of the intellectual property generated from the research project. There have been quite a few very successful projects of this kind at the university, but of course these are mostly at the applied research or development stage.

8. It is essential that the collaboration be initiated at the level of the individual researchers. Presidents of universities and research institutes can sign all kinds of memoranda of collaboration and cooperation, but ultimately it is up to the rank and file researchers in the institutions to conduct collaborative research. Collaboration with industries in particular is almost always at the specific research project level.

9. In addition to research, there is one other area of possible collaboration between universities and industries, and that is human resources. Internship of university students, both undergraduate and graduate, at firms is well established. In addition, there can be much more collaboration between universities and industries in the design of curricula, especially for the professional schools, that help to educate students in the specific knowledge and skills that are needed for employment in industries. This is win-win-win all the way around. The universities can place their graduates much more easily; the graduates can more easily and readily find suitable employment; and industries will be more ready and willing to employ new graduates with no prior experience.