

Framework answers to IEP questions – Faculty of Chemistry

1. What should be done for receiving revenues from non-public sources (besides grants or contract research) from research work in both short-term and long-term perspective?

In terms of the use of sources of non-public funding, the faculty focuses primarily on contract research, in which the faculty achieves excellent results. Capacities of the faculty are filled in this regard. Other resources are possible mainly from the sale of licenses for patents and other intellectual property, which are mainly the results of project solutions. Very often, these projects are solved in cooperation with industry.

Since the Faculty of chemistry is rather small faculty, we focused on identifying few key technologies that can be commercialized. Among them mainly the Hydal is the most promising and most of the activities are focused in this direction.

The short-term activities therefore involves close collaboration with Nafigate company that bought the license to the patent. Currently there is number of project solving specific problems that constitute the major obstacles or allows for new applications.

The long-term activities involves high quality basic research in the areas of materials research that are mainly concentrated in Materials Research Centre. High-quality basic research is the prerequisite for applied research and following commercialization.

Long-term activities also involve providing of the support to the researchers. This is realized through Materials Research Centre that has the competent staff.

2. What kind of administrative support is needed to strengthen entrepreneurial competence of the faculty?

To strengthen these competencies, a Technology Transfer Center is established at the BUT level. This center has the necessary consultants like lawyers, specialists at technology transfer, project managers and economists. This center also provides training for people at faculties. The advancement of these competences also supports South Moravian Innovation Centre (JIC) that is located nearby.

On the faculty level, the administrative support is situated within the Materials Research Centre whose mission is to promote cooperation with practice. The Center has a business Manager, financial manager and currently also new position called Technology transfer manager was launched.

3. What steps are to be launched for setting up and support of spin-off firms or other forms of commercialisation of R&D&I results.

In this area, we cooperate with South Moravian Innovation Centre (JIC) (BUT is co-founder). This center provides several services involving consultation support to those who consider to start their business, interconnection to set up a working ecosystem, grant and loan consultancies, but also renting facilities, etc.

However, being rather small faculty we have not yet identified suitable topic that could be transferred to the spin-of company. We focus more on finding suitable partners to develop and

commercialize the research outcomes. This is done also through the cooperation with the above-mentioned JIC.

4. How do you see the role of the faculty administration in improving the performance of attracted research projects?

The faculty has to provide, and in the case of Faculty of Chemistry also really provides, with comprehensive project solution support. This support is centered at Project office at Materials Research Centre. This office helps with all the administration such as financial and personnel issues, communication with the grant providers and other administrative issues. Professional project managers solve these tasks, so the researchers can concentrate only on the scientific part.

Faculty also motivate the researchers to be active in the applying for projects. On the economic level, the project contribution of each researcher is significantly taken into account within the budget of the faculty. The best results of project solutions are evaluated and rewarded by financial prizes such as Dean's Award and motivational support system of BUT.

This also holds true in the case of international projects. Involvement in international projects is intensively supported by support for mobility through projects and organizational measures, e.g. compulsory internships for doctoral students.

5. What is the up to date status of the most promising industrial realizations with respect to their impact on society other than economic one?

The most developed technology with a direct impact on society is Hydral technology. This technology transforms waste streams of the food industry and agriculture into high value chemicals and materials that are 100 % biodegradable. The technology was patented (worldwide) and licensed to Nafigate Corporation. Several applications for this technology have been identified including disposable tableware, 3D printing and cosmetics (e.g. micro particles in peeling creams). The technology is in the TRL 9 phase. It is therefore a very developed technology, where the construction of a pilot line is expected in 2021.

6. How many sabbatical leaves were realized in the last 5 years abroad by the faculty staff?

In the last two years, at least six long-term internships to world-renowned research groups (including those lead by professors with an h-index of over 100) have been carried out. Three more are planned for 2021. Beside this, there are PhD students study stays abroad (at least 3 months, but often one year) that substantially improve the international environment of the faculty and collaboration. There are also tenths of short-term exchanges realized every year.