From state-of-the-art science to bachelor teaching

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We all encourage excellent performances, in our case those of students, and rightfully so. However, our educational system is not exactly setup to cater to individual, extracurricular activities; time and funding often being limiting. Hence, at the Institute for Life Sciences and Chemistry (ILC) of the University of Applied Sciences (UAS) we feel that investing in time and resources for honours students necessitates their activities to also contribute to other parties. To enable this, we developed a model in which all stakeholders, i.e. honours students, future students in the general BSc program and the professional practice benefit.

New techniques and applications emerge on a regular basis. Laboratories worldwide, future employers of our students, pick up these methods, test them and incorporate them into their routine repertoire. Understandably, these employers expect our students to be acquainted with these state-of-the-art techniques and applications but better still to have hands-on-experience. In our opinion, honours students play an important facilitating role in realizing the incorporation of new techniques into the bachelor curriculum.

For example, the CRISPR/Cas9 system was first described as a genome editing tool in 2012 (Jinek et al., Science). Its potential was immediately recognized and already thousands of laboratories worldwide, including our own research department, employ this technique. Supervised by our scientists/lecturers, honours students are currently performing reflective practice projects on CRISPR/Cas9. While learning this new application hands-on, giving them a head-start compared to their peers, they also pave the way for introduction of the CRISPR/Cas9 technology into the BSc curriculum, a.o. by testing protocols, writing teaching material and possibly in the future by supervising other students. Introduction of this technique into the general BSc curriculum will keep our students up-to-date, connected with the professional practice and will ultimately hopefully also yield products for our own research department, thus completing the circle.