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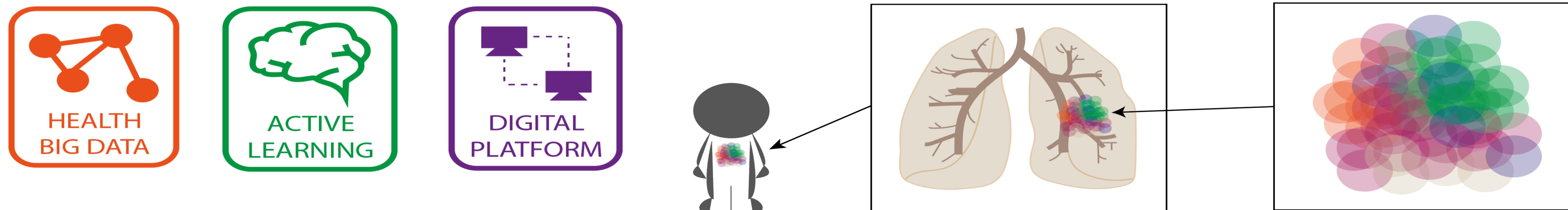
# Coopetition in higher education - An example from biology

**Margareta Krabbe**

Biology Education Center

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Multidisciplinary student competitions like iGEM ([www.igem.org](http://www.igem.org)) and SensUs ([www.sensus.org](http://www.sensus.org)) are great for motivation, but might introduce stress with students. Results and learning outcomes are found to be best in collaborative student groups and events. We are designing a student challenge using principles from the business model of coopetition (*a true word!*) by Brandenburger and Nalebuff "Coopetition= collaboration between business competitors, in the hope of mutually beneficial results"



## The HADACA challenge (Magali Richard, Université Grenoble Alpes)

Student teams from Sweden, Spain and France will use and partly develop advanced statistical methods (e.g. non-negative matrix factorization, surrogate variable analysis, principal component analysis, latent factor models) for separation/deconvolution analysis to quantify tumor heterogeneity in data from cancer research.

The teams will obtain support at their home universities in a preparatory phase and will travel to compete in a 5-day workshop Grenoble in November 2019.

## The perfect challenge:

- Is challenging, multidisciplinary and authentic
- Uses external incentives or rewards system (gold-medals, monetary prizes, certificates...)
- Has well-defined rules: winning criteria, policies, project themes, ranking procedures, violations and best practices
- Provides a controlled environment to avoid negative effects of competition. Teachers are present, but student's autonomy is respected
- Is transparent- rules, results and methods are shared
- Is a safe and social event! It provides participants with an meeting place in which the students can work, socialize and communicate with their team members, other teams, mentors, organizers, and audience.

### References:

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