

For a several research projects, we are looking for

Scientific assistants

in the next research fields:

1. Multiscale phenomena in biological processes

Biological material such as fruit will deform under external loads and can be damaged leading to commercial losses. The macroscopic mechanical behavior of such products is influenced by aspects on different special scales, from subcellular, cellular to tissue (meso) scale. In this project new methodologies will be developed to describe the deformations on the different scales. An important component is the construction of 3D models for cell topology based on micro and nano X-ray tomography.

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2. Mechanical weeding:

The goal of the project is to increase the efficiency and the robustness of mechanical weeding systems by active control of the weeding depth. The researcher will develop a sensor that measures the depth of the weeding element in a row and a system allowing for an automatical adaptation of the depth. The project encompasses both theoretical tasks as field work.

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3. Procesmodellering and -control of agricultural machinery based on vibrationanalysis and acoustical signals

In this project a data acquisition platformneeds to be developed. Based on the data, a mathematical model will be developed to relate process variables to characteristics of the end product. Finally, a controller will bedeveloped based on the signals. Nonlinearities and biological variation are key elements.

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