

Using Diana in Education and Research for Building Technology

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In recent years at the chair of Structural Mechanics of the Faculty of Architecture of Delft University of Technology Diana has been used in the master track Building Technology and for different research projects, done by PhD students and staff. The methodology used in education for designing is based on studio work and the supporting technological disciplines, such as structural computation and design, materials science and production, being integrated into one conceptual design process, digitally driven. In some studios students from different master programs, such as architecture, building technology and civil engineering work together in this integrated way. The collaborative digital design requires an integrated 3D approach with CAD (Computer Aided Design), FEM (Finite Element Method), CAMP (Computer Aided Modeling and Prototyping) and computer-aided construction cost planning and scheduling.

Research done by MSc and PhD students and staff is also supported by this integrated digital 3D process.

In this presentation we will give a brief overview of the latest use of Diana in education and research with respect to the relation between design process and analysis. Specifically we will focus on the data transfer between 3D CAD programs and DIANA, the user interface and the complexities for generating a proper FEM mesh for the design of complex 3D geometries and for simulations of loading tests of materials specimens, like glass, cardboard and composites.

