

**CHEMICAL AND BIOTECHNICAL INSTITUTE (CUB)  
UNIVERSITY OF APPLIED SCIENCES (HDA)  
Darmstadt (Germany)**

**NEW BUILDING**

**Client:** Hessian Ministry of Science and Art,  
Darmstadt

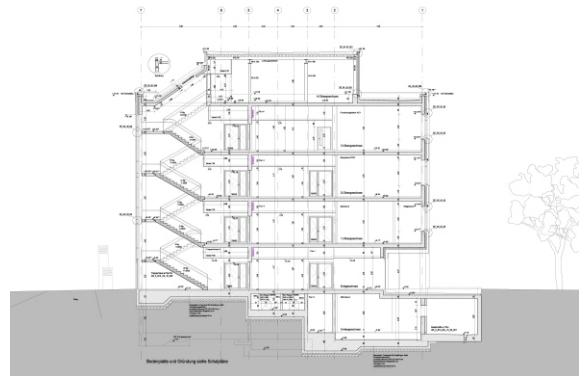
**Architects:** tönies + schroeter + jansen  
freie architekten GmbH, Lübeck

**Our services:**  
■ Full structural design  
■ Establishing the basis  
■ Preliminary design  
■ Final design  
■ Approval documentation  
■ Execution drawings  
■ Preparation of contract award  
■ Structural fire protection  
■ Earthquake engineering

**Brief description:** Construction of new college buildings with laboratories, technical department, lecture theatres, seminar rooms and offices

- 4-storey reinforced concrete skeleton construction, partly with basement, column grid 7,8 x 7,8 m
- floor plan of 75 x 24 m
- shallow foundations
- foundation over an average 60 cm thick base plate, to transfer point loads over a large area into the only low bearing capacity and sensitive to settlement to be able to discharge soil
- reinforcements of the base plate in the area of high loads
- white tank as building sealing against accumulating seepage water and from a building depth of 3 m as sealing against pressing water
- spans of slabs and beams from 7.2 up to 15 m
- flat slabs of up to 7.2 m
- stiffening through reinforced concrete walls and stairway core
- load-bearing columns to carry the loads from the concrete slabs and beams over the lecture theatre
- light hollow slab over the lecture theatre to carry the loads from the upper floor with heavy laboratory equipment
- bearing the loads of the laboratory area with its concrete slabs and a 16 m long cantilever
- 6 m long crane rail in laboratory area to transport heavy laboratory equipments
- flat roof with put on technical unit for the housing technology, as steel structure
- high level of installation
- high structural requirements on the vibration-free construction due to the labs (vibration decoupling of sensitive lab areas)

**Completion:** 2017



Pictures / Illustrations: ProfessorPfeiferandPartner PartGmbH, tönies + schroeter + jansen freie architekten GmbH