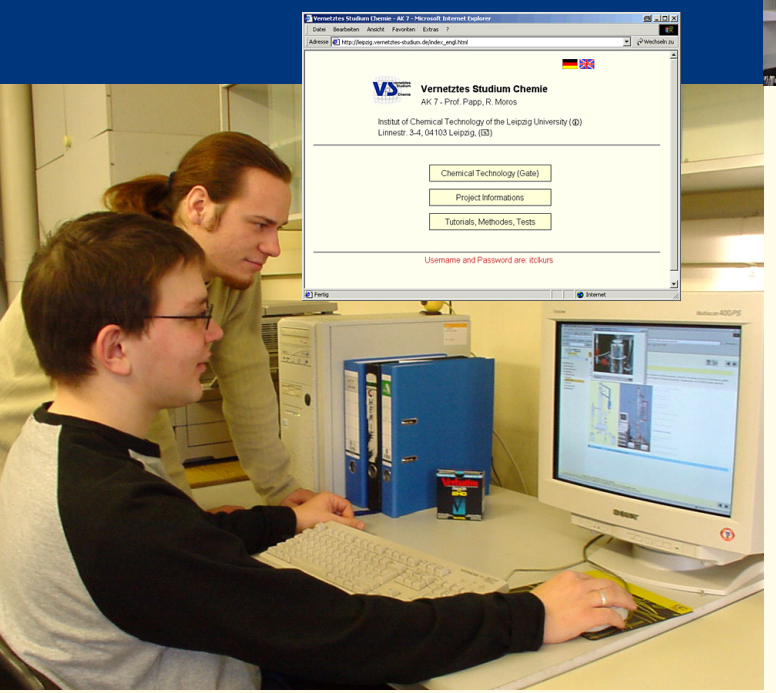
Project

Being part of the major project „Vernetztes Studium Chemie“ VIPRATECH aims at developing Internet based teaching aids to provide the means for a virtual laboratory course in chemical engineering and unit operations.

While VIPRATECH is meant primarily for chemistry students, contents are also available for people interested in improving their chemical knowledge.



With VIPRATECH students have the possibility to get informed about the theoretical background and the experimental setup before going ahead with the experiment. Additionally, VIPRATECH helps to visualize fundamental processes as well as to clarify theoretical concepts needed for the evaluation of the received experimental data. One major advantage is the possibility to deepen one´s understanding of the underlying concepts while surfing the net.

VIPRATECH a part of VSC Network consists of three parts:

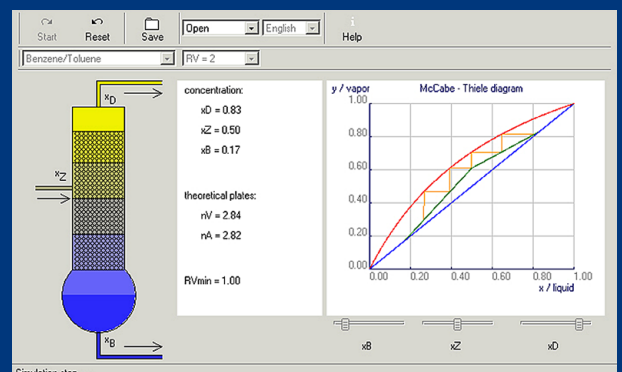
- Interactive Simulations
- Remote Process Control Interface
- Multimedia Text Book

Interactive Simulations

Residence Time Distribution: Laboratory Course

Interactive simulations for every real experiment have been developed. These simulations can be executed – independent of the location – in shorter time as the real experiment, at any moment during the day. Another advantage is the possibility to simulate processes which otherwise could not be realized – due to financial reasons or because of the risks involved.

Rektification: Interactive Simulation



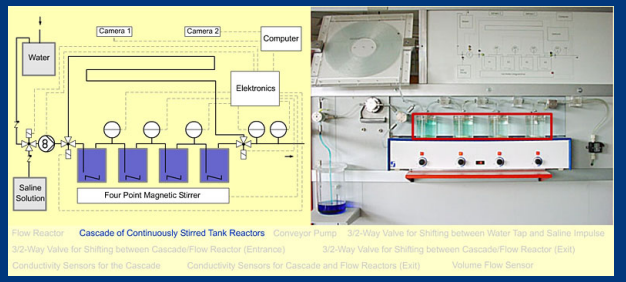
Remote Process Control Interface

Residence Time Distribution: Online Remote Control

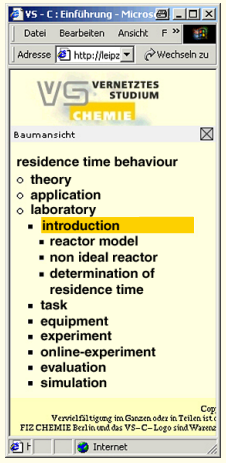
A remote access to selected real experiments of our laboratory course via the Internet has been realized including the possibility of remote controlled execution of these experiments. The student controls the experiment using only a standard web browser. Critical data will be collected and evaluated online. It is also possible to observe the experiment live using a live real-time video stream.

Multimedia Text Book

Multimedia text books present the underlying theoretical concepts, explain the experimental setup and give detailed instructions on how to use the equipment. Multimedia elements such as videos, animated films and interactive graphics support the accompanying text.

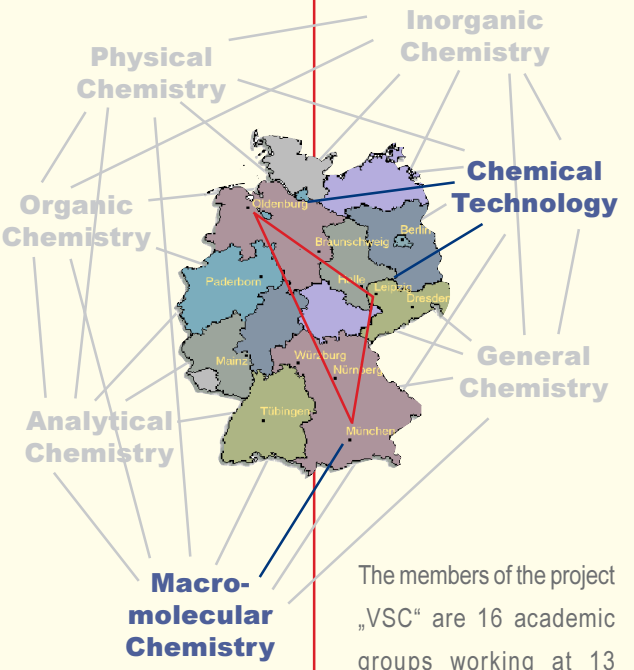


Description of an experiment by using of interactive pictures.



VIPRATECH is part of the major projekt „VSC“. Within this project are developed knowledge-based learning modules dealing with various topics in chemistry. Students will be able to navigate through this network of cross linked learning modules in order to find chemical information needed for their studies.

VSC Network



The members of the project „VSC“ are 16 academic groups working at 13 universities and other institutions in Germany. It exists a network of studies in chemistry (www.vs-c.de).

Web portal for chemical technology and macromolecular chemistry at the Universities of Leipzig, Oldenburg and Munic:

http://leipzig.vernetztes-studium.de

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Laboratory Courses via Internet

Institute of Chemical Technology

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