



## Interactive Visualization of Complex Structures in Modular Models for Systems Biology

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208x146x17 mm. Neuware - In recent years, the modeling of reaction systems has tended to become more complex.

Especially in systems biology researchers are faced with network models growing in size, complexity and scope that become hard to understand and navigate. The hierarchical and modular decomposition of such models (which results in modular models) and their consequent visualization can help to manage and understand them. In particular, visual representations allow researchers to access, integrate and analyze complex biochemical information, and thus support the process of decision making. This thesis exploits existing and contributes novel visualization and exploration techniques that can be used to support the modeling process of intracellular signaling systems. As stated in the following, several aspects are discussed. In close cooperation with modelers, formalized visual representations for dynamic and logical models have been specified. For each modeling approach a symbol set and specific visualization rules are provided. They are applied to the modular and hierarchical structures of complex signaling models and aimed at visualizing them in a biologically intuitive manner, but also at maintaining their systematic approach. For convenient use, not only a visual representation of the...



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