A primary vision of Integrative Bioinformatics is the creation of a virtual cell. Cell Modeling and Visualization is an immense interdisiplinary task. For this purpose, in the context of the German Conference of Bioinformatics (28.09. - 01.10.2014), the first CELLmicrocosmos neXt workshop will take place in Bielefeld at the 28.09.2014. During this event, 10 years of the CELLmicrocosmos project will be celebrated by presenting CELLmicrocosmos X and an additional hands-on workshop session.

Potential Topics

The submission is now open! All topics related to cell visualization, modeling and simulation are welcome! These topics include, e.g.:

- Integrative Bioinformatics
- Structural Bioinformatics
- Cell Modeling and Visualization
- Molecular Modeling and Visualization
- Membrane and Vesicle Simulation
- Network Analysis and Visualization
- Data Integration
- Text mining
- Microscopic Image Segmentation
- Interactive Web Visualization
- Stereoscopic 3D Visualization
- Subcellular Localization

Deadlines

- Submission: Sunday, 10th August 2014
- More on page 2 ...

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CELLmicrocosmos neXt workshop

next.CELLmicrocosmos.org

Call for Abstracts

The creation of a virtual cell is a complex interdisciplinary vision which implies the combination of various, often quite diverse research fields. Already the generation of microscopic images requires techniques combining biological, chemical as well as physical knowledge. But after the image generation process is finished, the *in silico* work begins, leading e.g. from a stack of microscopic images to a three-dimensional model at the mesoscopic level.

On the functional level, biological and chemical information represented by a huge number of databases can be used to acquire data such as biological networks, molecular concentrations, subcellular localizations or other publication-based data.

At the molecular level, there are many efforts to simulate, analyze and visualize membranes, proteins, vesicles, requiring large computer clusters and very specific chemophysical knowledge.

Usually, all these different approaches are not combined, because in silico experiments try to answer very specific questions. But how will it be possible to integrate these different approaches into a virtual cell environment for future scientific and/or educational purposes? Which new developments have to be taken into account? How is it possible to reasonably combine abstract and structural data? How can the commercialization of 3D stereoscopy support our efforts? And might it be possible to approach synthetic biology with virutal cell systems in the future?

To examine these questions and to find out in which way we can join our efforts, we invite contributions from different fields related to Bioinformatics and Chemoinformatics, which fit into the context of structural as well as functional modeling and visualization.

Important Dates

- 14.07. Call for Abstract published
- 10.08. Deadline Abstract Submission
- 25.08. Notification of Acceptance
- 28.08. Early Registration Deadline GCB
- 14.09. Final Version Submission
- 28.09. Workshop

v.1.1

CELLmicrocosmos next workshop