Image Analysis Tools Within an Integrated Development Environment for Ecological Modeling at Various Scales

Marcel Austenfeld¹, Wolfram Beyschlag²

1. eLK.Medien, University of Kiel, Germany

2. Dept. of Experimental and Systems Ecology, University of Bielefeld, Germany

maustenfeld@uv.uni-kiel.de

http://bio7.org/

Abstract

The integrated development environment Bio7 is an ongoing effort to simplify the modeling and analysis of complex ecological systems. The application itself is based on the Eclipse Rich Client Platform (RCP) and contains several different plugins for special simulation and analysis tasks. One of these plugins is an adaption of the scientific image application ImageJ embedded in a Graphical User Interface within the Bio7 application. Furthermore a bidirectional Java connection to the statistical software R is available and can be used to analyze image, matrix and vector data which can easily be transferred from and to ImageJ.

In this presentation the Bio7 RCP framework and the use of ImageJ in combination with R for image analysis tasks will be demonstrated. It will also be shown that Bio7 can be useful for disciplines beyond ecological modeling in order to describe complex biological processes at various scales. Possible future developments of the platform will be discussed.

Keywords

Rich client platform, ImageJ, R, ecological modeling



Euro-Biolmaging-Bioimage Analysis Workshop 2012, Barcelona