



South Bohemian
Research Center
of Aquaculture
and Biodiversity
of Hydrocenoses

Name of software (Czech): Expertomica PIE extractor

Name of software (English): Expertomica PIE extractor

Authors with affiliation: Petr Císař, Dalibor Štys (*University of South Bohemia in Ceske Budejovice, Institute of Physical Biology, South Bohemian Research Center of Aquaculture and Biodiversity of Hydrocenoses, Zámek 136, 373 33 Nové Hradky, Czech Republic*)

Description

Program for calculation of PIE (Point information entropy) from the time-lapse microscopy images of cells. For each image and each value of alpha parameter, single PIE value is calculated. The values of PIE are used for analysis of the cell behavior. Detail description of PIE and its calculation is given in D. Štys, J. Vanek, T. Nahlik, J. Urban and P. Cisar „The cell monolayer trajectory from the system state point of view“, *Mol. BioSyst.*, 2011, 7, 2824-2833, DOI: 10.1039/C1MB05083D

Input Data

Directory with subdirectories. Each subdirectory contains the time-lapse microscopy images recalculated by Expertomica EntropyCalculator (entropy images with different alpha parameter).

Output

Txt files with information about PIE for each image in the series for different alpha parameter. The PIE value is calculated for each color channel (red, green and blue) and for grayscale image, PIE is calculated with and without count of pixels.

Installation

Download and run Expertomica PIE extractor.exe and follow the instructions. The software will be installed into selected directory.

The installation contains:

Expertomica PIE extractor.exe – the software
Help-Expertomica PIE extractor.pdf – help
Testing data – folder with testing data

Requirements

Operation system: Windows XP, Vista (32, 64 bit) and 7 (32, 64 bit)

Testing

The directory “Testing data” contains the subfolders with entropy images. Just select the directory “Testing data” in Menu-project-load.