SPECIALIZED SOFTWARE FOR SAMPLES IMAGES TREATMENT
SCIENCEIMAGEPROBE V1.0

Description
The software ScienceImageProbe v1.0 is developed for automatic separation and counting of fluorescent microorganisms on images obtained using an epifluorescent microscope. The software is developed in language C++ and realizes restricted special functions for isolation and counting of fluorescent organisms and area occupied by them.

Characteristics

- Images input from BMP-files.
- Automatic isolation and counting of microorganisms stained in different ways.
- Manual correction of automatic counting.
- Automatic treatment of images series related to the same experiment.
- Presenting of counting results as a table.
- Saving of images of selected patterns.

Fig. 1. Primary image of bacterial aggregates in the view field of an epifluorescent microscope.
Fig. 2. Image of bacteria clusters (left), and the result of treatment of this image by the software.

Fig. 3. An example of counting fluorescent bacteria using the software.
**Technical appraisal and economic benefits**

This software allows to facilitate the researchers’ work and gives them a possibility to perform an automatic counting of bacteria after an experiment at any time convenient for researchers. The software increases the effectiveness of analyses, it is simple for mastering and use. Its main advantage and peculiarity is a possibility to improve automatic separation of adjacent patterns in comparison with existing analysis systems.

**Application areas**

This software can be used in biology and medicine to count fluorescent patterns and their area on samples images.

**Development stage**

This software is exploited industrially at the Limnological Institute of SB RAS. The experimental exploitation of the software was performed using materials of an expedition performed in March, 2003 as a part of an automatized system of accounting of Baikal microbial communities. This system allows to obtain samples images on the monitor of a computer using digital photo-camera «OLYMPUS CAMEDIA 5050 ZOOM» installed on the epifluorescent microscope «OLYMPUS IMT-2» and to treat and analyze them subsequently using the developed program ScienceImageProbe v1.0.

**Patent situation**

Patents can be issued, but not yet applied for.

**Commercial offers**

Sale of software.

**Estimated cost**

Agreed price.

**Contacts**

Tamara Ivanovna Zemskaya, Cand. in Biol. Sci., Scientific Secretary
Limnological Institute, Siberian Branch of the Russian Academy of Sciences
Ulan-Batorskaya St., 3, P.O. Box 278, Irkutsk 664033
Phone: (3952) 42-30-53
Fax: (3952) 42-54-05
E-mail: tzema@lin.irk.ru
http://www.lin.irk.ru