PURDUE INNOVATES | Office of Technology Commercialization

Plate Sieve â€“ Technology for Time-based analysis of microbial colonies

A novel computer-implemented system uses time stamps and location algorithms to efficiently monitor bacterial colony growth and generate colony maps for various research, medical, and drug development applications.

There is increasing use of technology and computers to document activity and growth of biological processes. The use of location algorithms to verify a bacterial colony on a plate allows a user to monitor colony growth over extended periods from hours to days. This would be fast and efficient in any research setting that utilizes bacterial colony identification systems.

In need for such a system, researchers at Purdue University have developed a computer implemented technology that uses time stamps and location algorithms to identify bacterial colonies on a plate and locate the same colonies on subsequent timed data points for a rectangular plate. This software displays colonies and all colony light scatter patterns for that plate on the screen while identifying each colony on an image of the plate that is being viewed. By using a processor, areas in the first and second image would correspond to possible microbial colonies, and hence, a colony map is generated. There are currently no existing technologies that compare to this technology, making this beneficial and novel for research with microbial colonies.

Advantages:

-Use of time stamps and location algorithms

-Efficient identification of colonies

-Generation of colony maps

Potential Applications:

-Research Labs

-Medical/Health

Technology ID

2015-ROBI-66979

Category

Artificial Intelligence & Machine Learning/Computer Vision & Image Recognition

Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

Authors

Valery Patsekin

Bartlomiej P Rajwa

Joseph Paul Robinson

Further information

Dipak Narula

dnarula@prf.org

View online

-Drug Development

TRL: 5

Intellectual Property:

Provisional-Patent, 2015-04-21, United States | PCT-Patent, 2016-04-21, WO | NATL-Patent, 2017-10-18, European Patent | NATL-Patent, 2017-10-19, United States | DIV-Patent, 2020-09-08, United States | Provisional-Patent, N/A, United States

Keywords: bacterial colony identification, microbial colony monitoring, location algorithms, time stamps, colony map generation, plate-based assay, computer implemented technology, biological processes documentation, colony growth, drug development research, Algorithm, Bacterial Identification, Biotechnology, Colony Analysis, Medical/Health, Software