



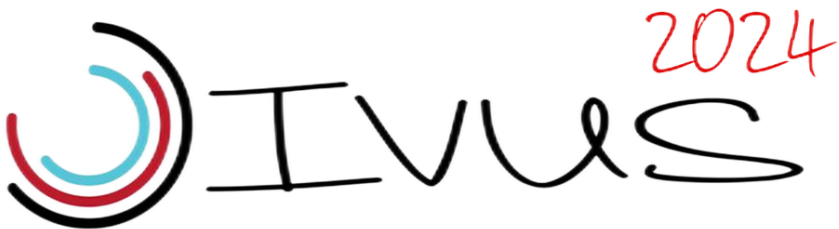
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29TH INTERNATIONAL CONFERENCE INFORMATION SOCIETY AND UNIVERSITY STUDIES

Abstracts

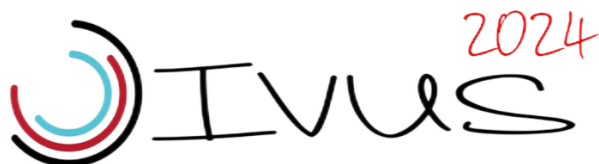
Kaunas, Lithuania

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May 17th, 2024

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Computational Analysis of the Influence of the Model Boundary Conditions on the Bacterial Self-Organization

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This paper deals with the effects of the type of boundary conditions on the spatiotemporal pattern formation in the computational modelling the bacterial pattern formation in a onedimensional-in-space domain. The computational model was derived from a mathematical model used in another research. By running tests with different boundary conditions, the output results were analyzed with a special emphasis on the edges of formed patterns. The numerical simulation, based on the governing equations of the reaction-diffusion-chemotaxis type, was carried out using the finite difference technique. The developed numerical simulator was validated by using published experimental data and known numerical solutions.