

List of files available at <https://imagine.ijs.si/>:

file name	description
Image classification suite MicroICS	
biofilm-classification-main	Required code to run MicroICS
Strain characterisation	
metadata_on_Listeria_strains_used	Epidemiology, sequencing, and genomic analysis results for the strains used.
biofilm_associated_proteins.fasta	A custom database of biofilm-associated and wall teichoic acid synthesis proteins was used with BLAST to identify homologues in the genomes of the selected strains.
wall_teichoic_acid_synthesis_associated_proteins.fasta	
Comparison of algorithms	
lsm_to_tif.ijm	ImageJ script to export images from multi-image LSM files to single-image TIFF format.
17_11_2023_3D_z_21	All 3D images of biofilms used for model comparison.
17_11_2023_3D_z_21_metadata.xlsx	Metadata associated with the dataset of images 17_11_2023_3D_z_21.
datafile_for_algo_comparison_and_stat_analy.tsv	Calculations of the features for the 17_11_2023_3D_z_21 dataset, used for classifier comparison and statistical analysis.
Visual_classification/visual_classification_results	Results of the visual classification of biofilm images conducted by three lab members.
Visual_classification/Prediction_set_shuffled_training_set_inference	Selected images used for visual classification.
datafile_17_11_2023_3D_z_21_with_exp_ctrl_results	The results of feature calculation for the training dataset 17_11_2023_3D_z_21_with_exp_ctrl (dataset 17_11_2023_3D_z_21 substituted with controls from the experiment) were used to carry out train the random forest classifier, and perform inference on images of biofilms with altered structure in the E8_images_for_prediction. Please see Janež, Škrlić, Osojnik et al. for details on data preparation for inference.
E8_images_for_prediction	Images used for inference testing (treatments with food extracts and corresponding controls).
Ctrl_predictions	Control images for optimisation for data preparation for inference.
User manual	Provides details on installing and using the MicroICS pipeline for both beginners and experienced users, especially those working in the field of biology.