



Master Programme
Life Science Informatics (LSI)

Notification
Topic of Master's Thesis

Last/first name: Camila Duitama González

Matrikel #: 3059171 E-Mail: s0caduit@uni-bonn.de

Address: Zülpicher Platz 9, Köln.

requests the following topic for her/his Master's Thesis in *Life Science Informatics*:

External Validation and characterisation of cancer subtypes using SBC (Survival

based Bayesian Clustering)

1st reviewer: Prof. Dr. Holger Fröhlich

2nd reviewer: Prof. Dr. Martin Hofmann-Apitius

Short description of the envisaged computer science content of thesis: Obtain and preprocess
an external Glioblastoma (GBM) dataset to perform and external validation of the SBC

clusters on the Verhaak study, ensuring that the training and testing subtypes have
distinct survival curves. This requires documenting the process in a public repository,
splitting the data into training and testing and developing a pipeline that automatises
the use of the SBC model on any other dataset and set of parameters.

Short description of the envisaged life science content of thesis: Characterise the obtained clusters and gene signature looking at other data modalities for consistent patterns. This requires looking for significant enrichment of the SBC patient clusters with other established patient stratification schemes, performing gene set enrichment on the SBC signature genes, looking into miRNA targets, Copy Number and Somatic Mutation patterns as well as single sample GSEA (ssGSEA) scores and interpreting other clinical factors present in the data.

Begin (date): _____

The thesis must be delivered within 6 months after the above date, unless this period has been explicitly prolonged by the examination board. A written application for prolongation is possible. If accepted, the deadline for submission may be extended up to 6 weeks.

1st reviewer 's signature

Student's signature

2nd reviewer 's signature

Is the topic of the Master Thesis potentially subject to intellectual property rights issues (mandatory information)?

Yes ☐

No ☐

Date of deadline for submission of Master's thesis: _____

Approved:

Prof. J. Bajorath
Head of the LSI Exam Board

Prof. M. Hofmann-Apitius
Member of the LSI Exam Board

Prof. T. Berlage
Member of the LSI Exam Board

All mandatory courses have been successfully completed _____

Full credit points in all modules have been obtained _____

Addendum to the Notification about the Topic of the Master's Thesis

The above mentioned Master's Thesis will be carried out at an institution outside of the University of Bonn.

Name of the Institute_____

Address of the Institute_____

The contact person at the Institute at which the Master's Thesis is carried out

is:_____

Phone:_____

Fax: _____

e-mail:_____

Approved:

Prof. J. Bajorath
Head of the LSI Exam Board

Prof. M. Hofmann-Apitius
Member of the LSI Exam Board

Prof. T. Berlage
Member of the LSI Exam Board