GUEST LECTURE SERIES „MEDICAL INFORMATION SCIENCES"

On behalf of the *Chair of Biomedical Informatics, Data Mining and Data Analytics* (Prof. Dr. Matthias Schlesner), and the *Chair of IT Infrastructures for Translational Medical Research* (Prof. Dr. Frank Kramer), we are pleased to inform you that there will be a new guest lecture series „Medical Information Sciences", starting this winter semester. This new format, covering a variety of topics within the scope of medical science and application, will be held on a weekly basis on Monday evenings during the winter term.

Today, we would like to inform you about next Monday evening's lecture, starting at 5:30 pm on December 12th in lecture hall N2045:

Dr. Zaynab Hammoud

(Junior Group leader of "MoMoTuBo" at the University of Augsburg)

„ From Graph Theory towards Modelling and Visualizing Biomedical Networks"

Graph theory has been used for the last few decades to understand the nature of interactions occurring within a certain population of a dynamic system, in particular to understand biological knowledge using analysis and visualization techniques. As science advances, this knowledge becomes more complex with an enormous volume, which imposes a need to adapt new methodologies supporting the complexity of the networks in question. In this lecture, the project Multipath will be presented, in which Multilayer Graphs were employed to model n-layer biological pathway networks, and integrate further knowledge influencing them. The Multipath project addresses data integration and reproducibility in research involving biological pathways. We will discuss the methods used to find the best suited model, the tools implemented to realise it, and their inference potentials in this domain. Furthermore, we will be introducing MoMoTuBo, a new junior group addressing challenges faced in building digital integrated molecular tumor boards.

Dr. Zaynab Hammoud is the junior group leader of the project "MoMoTuBo" conducted at the University of Augsburg. Coming from a Computer Science background, she finished her PhD in Medical Bioinformatics at the GAUSS University in Göttingen in 2021. Dr. Hammoud worked at the University Medical Center in Göttingen, before she joined the chair of "IT-Infrastructure for Translational Medical Research" at the University of Augsburg as a research assistant in 2018, then worked as a Post-Doc in the same institute for a year, and was assigned the junior group leadership of MoMoTuBo in March of 2022. Her work focuses on modelling, integrating and visualizing biological and biomedical networks including multi-omics data analysis to help inferring new knowledge and promote reproducible research in Bioinformatics and Medical Informatics.

Preceding the lecture, <u>informal individual meetings with the speaker</u> can be arranged in order to discuss related scientific questions and common grounds with regards to your research interests. Please send an e-mail to <u>office.bioinf@informatik.uni-augsburg.de</u> to make an individual appointment!

Date: December 12th 2022 (starting 5:30 pm)   Place: N2045

If you have any questions or notes, please feel free to contact us:
office.bioinf@informatik.uni-augsburg.de