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# INFORMATION ON BACHELOR'S THESES
# Research group "MICROBIOME & APPLIED BIOINFORMATICS"
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## PRACTICAL BACHELOR THESES
- My research group awards a limited number of practical bachelor's theses every year. The exact number and allocation depends on current projects and requests.
- Practical bachelor's theses are usually designed purely bioinformatically and include scientific projects that are worked on exclusively on the computer, e.g. by analyzing an existing data set, but not in laboratory experiments.
- Projects usually involve an introduction to bioinformatics and statistical methods. They do not require any prior knowledge, but a high level of motivation for bioinformatics projects.
- If you are interested, please contact me directly by email.

## THEORETICAL BACHELOR THESES
- Theoretical bachelor's theses are awarded in an unlimited number on topics that are proposed by the students themselves and specified after consultation with me.

### 1. General procedure
- I usually assign topics for theoretical bachelor's theses according to suggestions from students. To do this, you can contact me by e-mail with topic suggestions, on which I will give feedback for further research, if necessary also by phone.
- With this feedback, you can specify your topic after further research and send me a summary of contents (1-2 pages) by email, from which approximate suggestions emerge for:
  - Chapter titles and content in short keywords (*actual statements, not just topics!*)
  - Content blocks or sections of the work, including the main statements of the individual chapters
  - A meaningful, linked structure or a common thread that holds the work together and connects the individual chapters
  - An interesting, novel perspective on the chosen topic with a clearer statement, which is justified in the work on the basis of literature
- This summary does not have to be perfect, but it should serve as the basis for an oral discussion, in which we work out a structure together and define it as a template for the actual writing work. - This is where the actual writing begins.

- Further feedback on specific questions, problems, etc. is optional.
- *I recommend registering the thesis after the students have already started writing and can estimate the remaining work. The beginning of the work can be backdated.*
- You should send me the thesis that you think is finished by email as a Word Doc at least two weeks before the last possible formal submission deadline to the Examination

Office. This version is commented by me with suggestions for changes and serves as the basis for the grade of your thesis.
- However, you should incorporate my proposed changes into the final version for the Examination Office before officially submitting them, but you do not need to submit the thesis to me again.
- After submission to the Examination Office, you should then give an oral presentation of your thesis for my working group, which will also be included in the overall grade of the thesis.

## 2. Topics
- Are proposed by students and specified in consultation with me
- If possible, they should be related to the microbiome

## 3. Written work
- Format
  - Abstract, Introduction, [*Chapter headings by content, no method section*], Conclusion, References
  - In German or English
  - Orientieren Sie sich an Nature Reviews (z.B. https://pubmed.ncbi.nlm.nih.gov/32499497/)

- Length: max. 35 pages (without references)
  - *Basically flexible!*
  - Introduction: 1-2 pages
  - *Results section with 3-6 main chapters:* 25-30 pages
  - Conclusion: 2-4 pages

- References
  - Every sentence that contains a statement that is not absolutely obvious and generally accepted without compromise must be supported by a reference at the end.
  - Textbooks should not be cited as references.
  - Cite reviews for general, introductory statements of chapters or topics that you only touch on but do not discuss in depth ["(see (Schulze, 2021) for further details)"]. Otherwise, cite original papers.
  - Use a uniform format [e.g. name + year "(Schulze, 2021)"]

- **Use of AI**
  - The use of AI tools is generally permitted, provided that they do not impair your own intellectual performance in the preparation of the work.
  - The written work must specify which specific AI tools (including the name and version of the program, algorithm, etc.) were used for which specific work steps (e.g., translations, etc.) and at which points in the text.
  - If no AI tools were used, this must also be stated.

### 4. Oral presentation

- After submission of the written work.
- Preferably in English, otherwise also in German.
- For my working group, at the Group Meeting (Wednesdays at 1 p.m.)
- Flexible length (typically 25-45 minutes)
- The presentation should cover all the essential contents of the written work, but should be prepared in an appropriate way for an oral presentation, i.e. the slides should contain illustrations and not too much text per slide.
- The presentation should be given freely and not read.
- References should only be named to a limited extent, for particularly prominent or important data, and in this case on the specific slide to which the reference refers, not in a separate directory at the end of the presentation.