Information for

MASTER STUDIES in MOLECULAR BIOLOGY
with the specialization in MOLECULAR MEDICINE

March 2022

Prof. Barbara Hamilton
Prof. Ivan Yudushkin
Prof. Erwin Ivessa
StudienprogrammeleiterIn Molecular Biology
Coordinator Molecular Medicine

Consultation hour: by appointment (via Zoom) by appointment

Dr. Bohr-Gasse 9 / Ebene 6 / Zi. 6.111
Dr. Bohr-Gasse 9 / Ebene 2 / Zi. 2.118
1030 Wien
1030 Wien

Tel.: 01/4277-52814 (Hamilton)
01/4277-74340 (Yudushkin)
Tel.: 01/4277-61805
e-mails: barbara.hamilton@univie.ac.at
ivan.yudushkin@univie.ac.at
e-mail: n-erwin.ivessa@meduniwien.ac.at
Notice

This presentation is intended as general information for the Master’s students in Molecular Biology with the specialization in “Molecular Medicine”.

However:
Because of the current situation due to the coronavirus pandemic, definite infos cannot be given in each case, since nobody can say, what is going to come and when we will be back to normal.

Status of information: March 14, 2022

Some general notes:
• Reasonable forbearance / fairness will be exerted concerning deadlines due to the Covid-19 situation.
• Please note the announcements of the university and also check u:space / u:find and moodle regularly.

Thank you for your understanding!

General information of Uni Wien:
https://studieren.univie.ac.at/lernen-pruefen/vor-ort-studieren/#c716125
Information for
MASTER STUDIES in MOLECULAR BIOLOGY
with the specialization in MOLECULAR MEDICINE

March 2022

- VO Molekulare Medizin I (301585-1 only in SS)
- Wahlbeispiele (Elective courses) in Molecular Medicine (301858-1, 301859-1)
- Projekt- und Versuchsplanung (PVP) (301706-1 only in WS)
- Masterarbeit / Großpraktikum
**General information:**

No fixed office hour / consultation hour  
Preferred interaction with students: e-mail  
Personal meetings possible, but ONLY by appointment  
  (when operation back to normal)

Due to the large number of mails I obtain, the processing time may be rather long (in the range of weeks).  
I thank for your understanding and patience!

NO mere confirmation of the receipt of e-mails!

Rule for repeated sending of e-mails:  
Inquiry is OK! **BUT:**

**NEVER EVER** send attachments a second time!

If a matter is urgent:  
Please, write **URGENT** into the subject line!

Please, be **specific** in your mails!
Where do you find relevant informations: http://molekularebiologie.univie.ac.at/
<table>
<thead>
<tr>
<th>Alternative Pflichtmodulgruppe (4) Molekulare Medizin - Molecular Medicine</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMB IV-1</td>
<td>Molekulare Medizin für Fortgeschrittene - Advanced Molecular Medicine</td>
</tr>
<tr>
<td>MMB IV-2</td>
<td>Spezielle Themen der Molekularen Medizin - Current Topics in Molecular Medicine</td>
</tr>
<tr>
<td>MMB IV-3</td>
<td>Techniken in der Molekularen Medizin für Fortgeschrittene - Advanced Molecular Biology Techniques in Molecular Medicine</td>
</tr>
<tr>
<td>MMB IV-4</td>
<td>Wahlbeispiel Molekulare Medizin - Elective Laboratory Course Molecular Medicine</td>
</tr>
</tbody>
</table>

(Almost) exclusively in English!
301585-1 VO Molecular Medicine 1 - Monogenetic Diseases
(MolMedI; “Lecture series“):

- 2-h VO (2 ECTS); mandatory course in MMB IV-1
- Held as a block in SS: May/June, up to 3 x per week a 90-min lecture 
  (MON, WED, FRI afternoon)
- Each 90-min lecture given by a different lecturer; altogether 12 lecturers.
- In German and /or English (depending on the lecturer) → most will teach in English
- Exam in German and English (some only in English)
- Lectures may be
  - pre-recorded
  - presented live without recording
  - presented live with recording
- Information on how the lectures will be presented → see moodle (at short notice)
- ppt slides will be made available via moodle (if there is a recording, this one too)
- Students get access to moodle once registered to the VO (with some delay)
- EXAM:
  - Registration in univis / u:space !!
  - written; dates: June, November, January, March
  - Duration: 90 min
  - 9 questions → from 9 different lecturers !! (10 min / question)
<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Lecturer</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>WED</td>
<td>04.05.</td>
<td>Javier Martinez</td>
<td>RNA processing and disease</td>
</tr>
<tr>
<td>FRI</td>
<td>06.05.</td>
<td>Thomas Leonard</td>
<td>Biochemistry of proteins altered in monogenetic diseases I</td>
</tr>
<tr>
<td>MON</td>
<td>09.05.</td>
<td>Thomas Leonard</td>
<td>Biochemistry of proteins altered in monogenetic diseases II</td>
</tr>
<tr>
<td>WED</td>
<td>11.05.</td>
<td>Reinhold Hofbauer</td>
<td>Lipidstoffwechsel der Mitochondrien und assoziierte Gendefekte</td>
</tr>
<tr>
<td>FRI</td>
<td>13.05.</td>
<td>Roland Foisner</td>
<td>Premature aging and other lamin-linked diseases</td>
</tr>
<tr>
<td>MON</td>
<td>16.05.</td>
<td>Christian Seiser</td>
<td>Chromatin and disease</td>
</tr>
<tr>
<td>WED</td>
<td>18.05.</td>
<td>Mark Wossidlo</td>
<td>Epigenetic reprogramming in early mammalian development and the risk of epimutations</td>
</tr>
<tr>
<td>FRI</td>
<td>20.05.</td>
<td>Egon Ogris</td>
<td>DNA-Tumor Viruses, from Cancer Agent to Therapy I</td>
</tr>
<tr>
<td>MON</td>
<td>23.05.</td>
<td>Hans Rotheneder</td>
<td>DNA-Tumor Viruses, from Cancer Agent to Therapy II</td>
</tr>
<tr>
<td>WED</td>
<td>25.05.</td>
<td>Karl Kuchler</td>
<td>The ABC of Multidrug Resistance</td>
</tr>
<tr>
<td>FRI</td>
<td>27.05.</td>
<td>***</td>
<td>No lecture</td>
</tr>
<tr>
<td>MON</td>
<td>30.05.</td>
<td>Georg Weitzer</td>
<td>Genetisch bedingte Erkrankungen des Herzens</td>
</tr>
<tr>
<td>WED</td>
<td>01.06.</td>
<td>***</td>
<td>No lecture</td>
</tr>
<tr>
<td>FRI</td>
<td>03.06.</td>
<td>Elif Karagöz</td>
<td>ER quality control in health and disease</td>
</tr>
<tr>
<td>***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FRI</td>
<td>03.06.</td>
<td>Johannes Nimpf</td>
<td>Methoden in der Molekularen Genetik / Wie finde ich ein krankheitsauslösendes Gen?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Pre-recorded lecture)</td>
</tr>
<tr>
<td>THU</td>
<td>23.06.</td>
<td></td>
<td>EXAM</td>
</tr>
<tr>
<td>Pflichtmodulgruppe (4) Molekulare Medizin - Molecular Medicine</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMB IV-1</td>
<td>Molekulare Medizin für Fortgeschrittene - Advanced Molecular Medicine</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>MMB IV-2</td>
<td>Spezielle Themen der Molekularen Medizin - Current Topics in Molecular Medicine</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>MMB IV-3</td>
<td>Techniken in der Molekularen Medizin für Fortgeschrittene - Advanced Molecular Biology Techniques in Molecular Medicine</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>MMB IV-4</td>
<td>Wahlbeispiel Molekulare Medizin - Elective Laboratory Course Molecular Medicine</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pflicht-Module</th>
<th>Lernziele</th>
<th>Umfang</th>
<th>Lehrveranstaltungs-Typ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>prüfungs-immanent</td>
<td>nicht prüfungs-immanent</td>
</tr>
<tr>
<td>Neu:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spezielle Themen der Molekularen Medizin</td>
<td>Current Topics in Molecular Medicine</td>
<td>10 ECTS bis 8 SWSt</td>
<td>0-2</td>
</tr>
<tr>
<td>MMB IV-2</td>
<td></td>
<td>0-2</td>
<td>4-8</td>
</tr>
<tr>
<td></td>
<td>Die Absolventinnen und Absolventen gewinnen ... (bleibt unverändert).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Techniken in der Molekularen Medizin für Fortgeschrittene</td>
<td>Advanced Molecular Biology Techniques in Molecular Medicine</td>
<td>10 ECTS bis 8 SWSt</td>
<td>3-10</td>
</tr>
<tr>
<td>MMB IV-3</td>
<td></td>
<td>4-8</td>
<td>0-4</td>
</tr>
</tbody>
</table>
Why Wahlbeispiele (Elective courses)? (I.)

- Get to know labs
- Get acquainted with techniques in biochemistry, molecular and cell biology etc.
- Help for choice of a lab where to perform the Master’s thesis
- An exercise for performing scientific work and for scientific writing before the Master’s thesis
- When? → From the beginning throughout the Master’s studies, but ideally BEFORE starting the Master’s thesis
- NO retroactive acknowledgement of parts of the Master’s thesis as a Wahlbeispiel → see Großpraktikum (3 months / 15 ECTS)
  In case of retroactive registration of the Wahlbeispiel: acknowledgement possible ONLY as WZB
- Has to be a scientific „mini-project“
- Generally should be an unpaid internship
- No “lab manager“ or routine work (10,000 measurements of the same kind…)

Infos on MolBio website:

http://molekularebiologie.univie.ac.at/formulare/wahlbeispiele/
Why Wahlbeispiele (Elective courses)? (II.)

• Registration of Wahlbeispiele in univis / u:space possible, but not mandatory
• NO “Points“ business !!!  NO restrictions as to the numbers of places !!!
• Detailed procedere → see below! And also here: http://molekularebiologie.univie.ac.at/formulare/wahlbeispiele/

• Duration: “One Wahlbeispiel“ = 4 weeks (5 ECTS)
  → Eligible for MMB IV-3 (max. 10 ECTS) or MMB IV-4 (max. 5 ECTS)
  → Minimal variant: 2 Wahlbeispiele of 4 weeks each (2 x 5 ECTS) in two different labs
  → Maximal variant: 3 Wahlbeispiele of 4 weeks each (3 x 5 ECTS) in two different labs

2 Wahlbeispiele (8 weeks) in the same lab possible? → YES !

EXCEPTION:
NOT, if in the same lab the Master’s thesis (6 months) AND the Großpraktikum ( 3 months) are performed. In the latter case only 1 Wahlbeispiel (4 weeks, 5 ECTS) can be acknowledged.
**Different modes for performing Wahlbeispiele**

Labors (Arbeitsgruppen): A, B, C, ...

**Definition:** 1 Wahlbeispiel = 4 Wochen Forschungspraktikum (5 ECTS)

**Mindestanforderung:** 2 Wahlbeispiele in 2 verschiedenen Labors.

In einem dieser Labors kann dann auch Großpraktikum und Masterarbeit gemacht werden.

**MMB IV-3:** 1 (Pflicht) oder 2 Wahlbeispiele

**MMB IV-4:** 1 Wahlbeispiel (Pflicht)

**WZB**

<table>
<thead>
<tr>
<th>Wahlbeispiel1</th>
<th>A --&gt; MMB IV-3</th>
<th>A --&gt; MMB IV-3</th>
<th>A --&gt; MMB IV-3</th>
<th>A --&gt; MMB IV-3</th>
<th>A --&gt; MMB IV-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wahlbeispiel2</td>
<td>B --&gt; MMB IV-4</td>
<td>A --&gt; MMB IV-4</td>
<td>A --&gt; MMB IV-3</td>
<td>A --&gt; MMB IV-3</td>
<td>B --&gt; MMB IV-3</td>
</tr>
<tr>
<td>Wahlbeispiel3</td>
<td>no</td>
<td>B --&gt; MMB IV-4</td>
<td>B --&gt; MMB IV-4</td>
<td>B --&gt; MMB IV-4</td>
<td>C --&gt; MMB IV-4</td>
</tr>
<tr>
<td>Wahlbeispiel4</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>B --&gt; WZB</td>
<td>no</td>
</tr>
<tr>
<td>Großpraktikum</td>
<td>A, B oder C</td>
<td>A</td>
<td>B oder C</td>
<td>C</td>
<td>A, B oder C</td>
</tr>
<tr>
<td>Masterarbeit</td>
<td>A, B oder C</td>
<td>A</td>
<td>B oder C</td>
<td>C</td>
<td>A, B oder C</td>
</tr>
<tr>
<td>OK ?</td>
<td>OK</td>
<td>NO !</td>
<td>OK</td>
<td>OK</td>
<td>OK</td>
</tr>
</tbody>
</table>
Important information for courses in “Molecular Medicine“ (MolMed)
Within the Master’s studies in “Molecular Biology“:

301858-1 UE Wahlbeispiel (Elective course) Molekulare Medizin - Teil 1
301859-1 UE Wahlbeispiel (Elective course) Molekulare Medizin - Teil 2
301706-1 SE Projekt- und Versuchsplanung (PVP über ausgewählte Themen der Molekularen Medizin (offered and acknowledged only in WS)

“Wahlbeispiele MolMed“ (Elective courses; UE):

• Where?
  ❖ First priority: in the groups of lecturers of MolMedI and MolMedII (in SS: 301585-1 VO Molecular Medicine 1 - Monogenetic diseases; in WS: 301586-1 VO Molecular Medicine 2 - Molecular aspects of medical research)
  ❖ Other groups at Max Perutz Labs
  ❖ Groups at other institutions, e.g., VBC (IMP, IMBA), MedUni Wien, AKH, University of Vienna, TU, VetMed, BOKU, IST, …
  ❖ Groups at universities or scientific institutes in other cities or even abroad
  ❖ Companies

Note: It is strongly advised to clarify matters of confidentiality before-hand (especially when doing a Wahlbeispiel in a company), since after the Wahlbeispiel a report has to be submitted. → Confidentiality agreement?
• **When?** Wahlbeispiele can be performed anytime during the year (also during vacation times).
• Wahlbeispiele are always a personal agreement between a group leader and a student.

**How to find a Wahlbeispiel?**

• Look for suitable groups according to your interests, suggestions by fellow students etc., check websites of institutions / groups.
• Contact the group leader (by e-mail or personally) and indicate your interest for a Wahlbeispiel.

**Registration of the Wahlbeispiel**

• If you have been accepted by a group, please register the Wahlbeispiel with me **before** you start the Wahlbeispiel.
• Use the form "**Wahlbeispiel Molekulare Medizin - Anmeldung Teil 1**“, found on the MolBio website (under Molekulare Medizin):
  - [https://molekularebiologie.univie.ac.at/formulare/wahlbeispiele/](https://molekularebiologie.univie.ac.at/formulare/wahlbeispiele/)
• The form has to be filled completely and signed by the group leader.
• Mail the form to me: n-erwin.ivessa@meduniwien.ac.at

**Registration** cont‘d on next slide
Registration of the Wahlbeispiel, cont’d

- Please send me also a short outline of the planned Wahlbeispiel (1 page; topic, planned mini-project, methodology). **Exception:** Wahlbeispiele with groups at the Max Perutz Labs, and those of lecturers of MolMedI and MolMedII.
- A registration in u:space / univis is possible, but not a prerequisite for doing a Wahlbeispiel.

Timing of Wahlbeispiele

- Please make an effort to perform your Wahlbeispiele **before** you start your Master’s thesis
- Special regulations for **Wahlbeispiele in context of Großpraktikum / Master’s thesis:**
  - It is mandatory that you perform your Wahlbeispiel **before** Großpraktikum / Master’s thesis.
  - The **same** rules apply for these Wahlbeispiele as for all other Wahlbeispiele; e.g., registration with me, requirement of a proper report (protocol) within the deadline etc.
  - Wahlbeispiele performed in the context of Großpraktikum / Master’s thesis **cannot** be acknowledged retroactively (except as WZB).
Mitbelegung (Co-Registration) at MedUni Wien

All students who do Wahlbeispiele should have a Mitbelegung (Co-Registration) at the MedUni Wien. This is independent from the place / institution, where the Wahlbeispiel is actually performed. Here the guideline:

Case A: You have not yet applied for a Mitbelegung at MedUni → steps 1 and 2.
Case B: You have already a Mitbelegung at MedUni → step 2.

Step 1: Mitbelegung (Co-Registration) at MedUni Wien

Info from the MedUni see:

https://www.meduniwien.ac.at/web/studium-weiterbildung/anmeldung-zulassung/mitbelegung/

It is necessary to fill the form in the link above. You have to enter at least one number of a course that you want to attend or for which you want to take an exam on the form. For the number, please, write me an e-mail:

n-erwin.ivessa@meduniwien.ac.at

The numbers may differ, since we share the work load among colleagues in our center.

Mitbelegung cont’d on next slide
Mitbelegung (Co-Registration) at MedUni Wien, cont’d

You also have to state a reason, e.g., "Die LV wird an der Uni Wien nicht angeboten." – “The course is not offered at University of Vienna.”.

According to information of the MedUni Studienabteilung:
With just one co-registration students may take also other courses at MedUni.
The form does not have to signed (as stated on it). Instead, I will send you a confirmation with my signature.
Then mail the form together with my confirmation to the MedUni Studienabteilung (see also link on previous slide) – photos made with mobile phones are acceptable, if the information is legible:
studienabteilung@meduniwien.ac.at

**Attention:** In SS the Mitbelegung at MedUni is only possible until April 30!

**Step 2:** Registration for a course in MedCampus
When you have got the login details for MedCampus from the MedUni, please, register for the course that I have told you in step 1.
If you have a Mitbelegung already, please, write me an e-mail to obtain the number:
n-erwin.ivessa@meduniwien.ac.at
The numbers may differ, since we share the work load among colleagues in our center.
After completion of the Wahlbeispiel

Please send me by e-mail (n-erwin.ivessa@meduniwien.ac.at):

- Your Wahlbeispiel report ("Protokoll") as pdf; please send me only the final version that was seen and approved by your supervisor and group leader. If the document is very large (> 3 MB), please, use a platform or "cloud", from where it can be downloaded; e.g. dropbox, google drive etc. See also next slide!
- An Evaluation of your Wahlbeispiel; for this use the form "Wahlbeispiel Molekulare Medizin - Protokoll Teil 2", found on the MolBio website (under Molekulare Medizin):
  - https://molekularebiologie.univie.ac.at/formulare/wahlbeispiele/
  - This form needs to be completely filled with all dates required. It should contain the evaluation and needs to be signed by the group leader.

- Deadline for turning in the materials with me: **4 months** after completion of the lab work (this is just a guidance value). Since the Corona pandemic, this deadline is treated with some generosity, but, please, still stay within a reasonable time frame.

Grading of the Wahlbeispiel

- First of all, I will consider the evaluation of the group leader.
- I will also consider the quality of the Wahlbeispiel report that I obtain.
- Under certain circumstances, I may change the suggested grade in either direction. In this case, the student will obtain feedback from me explaining the reason(s).
What is a lab report ("Protokoll") and what should it contain?

Note: The lab report should be written in agreement with the supervisor and group leader.

• For a 4-week Wahlbeispiel: approx. 15 – 20 pages
• For an 8-week Wahlbeispiel. (2 Wahlbeispiele combined): approx. 20 – 30 pages
• Structure as a thesis or paper:
  ➢ Title page with name, Matrikelnummer, title of the project, lab (supervisor, group leader), date, duration
  ➢ Summary (Abstract), not more than 1 page
  ➢ Introduction
  ➢ Specific aims
  ➢ Materials and Methods (detailed!)
  ➢ Results, including figures (each figure requires a figure legend)
  ➢ Discussion (may be short)
  ➢ References (using an appropriate style of referencing)
• Experiments should be comprehensible:
  ➢ chronological order; or better:
  ➢ order by topic
• Please, no “papers“ (are too much condensed); no teamwork with other Wahlbeispiel students

This seminar (PVP; 1-h, 1 ECTS) can be done anytime during the year; however, it will always be acknowledged for the WS, when it is officially offered (LV-Nr.: 301706-1).

For PVP a powerpoint presentation of 15 min or more a student has given can be used. In this presentation, a concept for a project (from its intellectual point-of-view) as well as strategies how to realize the project (methods, experimental planning, expected outcome, pitfalls) should be given.

It is reasonable to do PVP in conjunction with one Wahlbeispiel, which summarizes the contents of the Wahlbeispiel (Introduction with topic, project planning and outline, results, discussion, outlook). The presentation could be done in a group meeting, where the Wahlbeispiel is performed (if possible).

For acknowledgment of PVP, please send me (n-erwin.ivessa@meduniwien.ac.at):

- Your presentation as ppt or pdf. If the document is very large (> 3 MB), please, use a platform or “cloud”, from where it can be downloaded; e.g. dropbox, google drive etc.
- An evaluation of your presentation, signed by the group leader (or by mail from her / his e-mail account). The evaluation should contain the date of presentation and a suggested grade.
What should a presentation contain?

Note: The presentation should be assembled in agreement with the supervisor and group leader.

• Title slide with project title, name, …
• Introduction – topic, project
• Specific aims
• Experimental planning, methodology
• Results (with figures)
• Discussion / conclusion
• Problems? Pitfalls? Alternatives?
• Outlook
### Wahlmodulgruppe Molekulare Biologie – Molecular Biology

<table>
<thead>
<tr>
<th>Wahlmodul</th>
<th>Description</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMB W-1</td>
<td>Großpraktikum Molekulare Biologie – Advanced Course in Compulsory Subject Molecular Biology</td>
<td>15</td>
</tr>
<tr>
<td>MMB W-2</td>
<td>Spezielle Fachverbreiterung (Theorie und Übungen) - Selected Subjects in Molecular Biosciences or Chemistry</td>
<td>15</td>
</tr>
<tr>
<td>MMB W-3</td>
<td>Spezielle Fachverbreiterung (Bioinformatik) - Selected Subjects in Bioinformatics</td>
<td>15</td>
</tr>
</tbody>
</table>

### Wahlmodulgruppe Wissenschaftliche Zusatzqualifikationen für Biologinnen und Biologen – Additional Scientific Skills for Biologists

<table>
<thead>
<tr>
<th>Wahlmodul</th>
<th>Description</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>WZB</td>
<td></td>
<td>30</td>
</tr>
</tbody>
</table>

**Master’s thesis ... 30 ECTS**
Großpraktikum:
http://molekularebiologie.univie.ac.at/formulare/leitfaden-grosspraktikumvertiefungsuebung/

Masterarbeit:
http://molekularebiologie.univie.ac.at/fileadmin/user_upload/z_molekularebiologie/Infos/Regeln_MasterArbeit.pdf

Formulare / forms:
http://molekularebiologie.univie.ac.at/formulare/

ZUSATZINFOS ZUR ÜBERNAHME DES MASTERARBEITSTHEMAS:
Ausfüllhilfe Formular "Übernahme der Masterarbeit"
Beiblatt für externe Masterarbeit

If you have questions that are not covered in this presentation, or specific questions to one of the courses that are in my responsibility or to Wahlbeispiele, please, write an e-mail:
n-erwin.ivessa@meduniwien.ac.at

Viel Erfolg und Spaß beim Master-Studium!