# Hannover Medical School
# Hannover Biomedical Research School

# Curriculum

## MD / PhD Program “Molecular Medicine”

## PhD Programs “Infection Biology” and “DEWIN: Dynamics of Host-Pathogen Interactions”

## PhD Program “Regenerative Sciences”

## PhD Program “Auditory Sciences”

## PhD Program “Epidemiology”

## PhD Program “BIOMEDAS (Biomedical Data Sciences)”

Winter and Summer Semester 2025 / 2026

***www.mhh.de/hbrs***

**HBRS Curriculum** **Hannover Medical School**

# Academic Year

## Winter Semester 2025 / 2026

Start: October 13th, 2025
(Opening ceremony October, 6th)

End: March 13th, 2026

**MD / PhD "Molecular Medicine" intermediate examination: from January 12th to March 3rd, 2026 (students organize the date)**

**PhD "Infection Biology" / "DEWIN" intermediate examination: March 10th, 2026**

**PhD "Regenerative Sciences" intermediate examination: tbd**

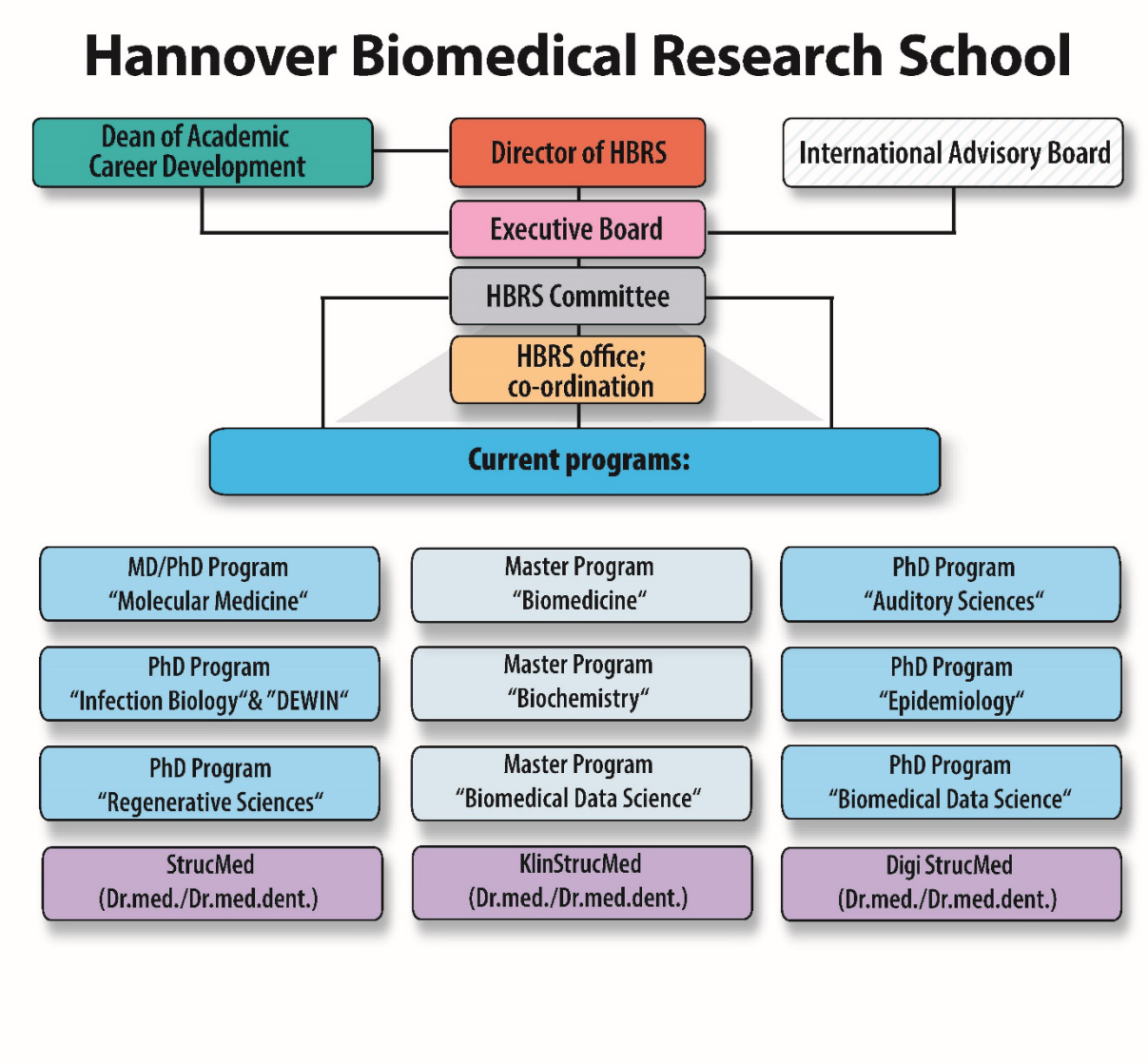
**PhD "Epidemiology", PhD "Auditory Sciences" and PhD "BIOMEDAS" intermediate examination: To be decided on an individual basis, depending also on status of PhD thesis.**

## Summer Semester 2026

Start: April 13th, 2026

End: July 17th, 2026

# Organization of Hannover Biomedical Research School

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Prof. Dr. Hildegard Büning
Dr. Gerald Dräger
Dr. Stefan Kalies
Prof. Dr. Cornelia Lee-Thedieck
PD Dr. Ruth Olmer
Prof. Dr. Dagmar Wirth

Student members / class representatives:
Clara Luise Plötner & Nabhonil Chatterji (class of 2024), Leonhard Becker & Marc Vives Enrich (class of 2023);
CarlosAlberto Hernandez Bautista & Vojtech Hradil (class of 2022);Viola Wroblewski & Aileen Schmidt (class of 2021)

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PD Dr. Verena Scheper
Prof. Dr. Kerstin Schwabe
Prof. Dr. Athanasia Warnecke
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Dörthe Meyerdierks & Robyn Kettlitz (student representatives)

Prof. Dr. Thomas Schulz (guest)
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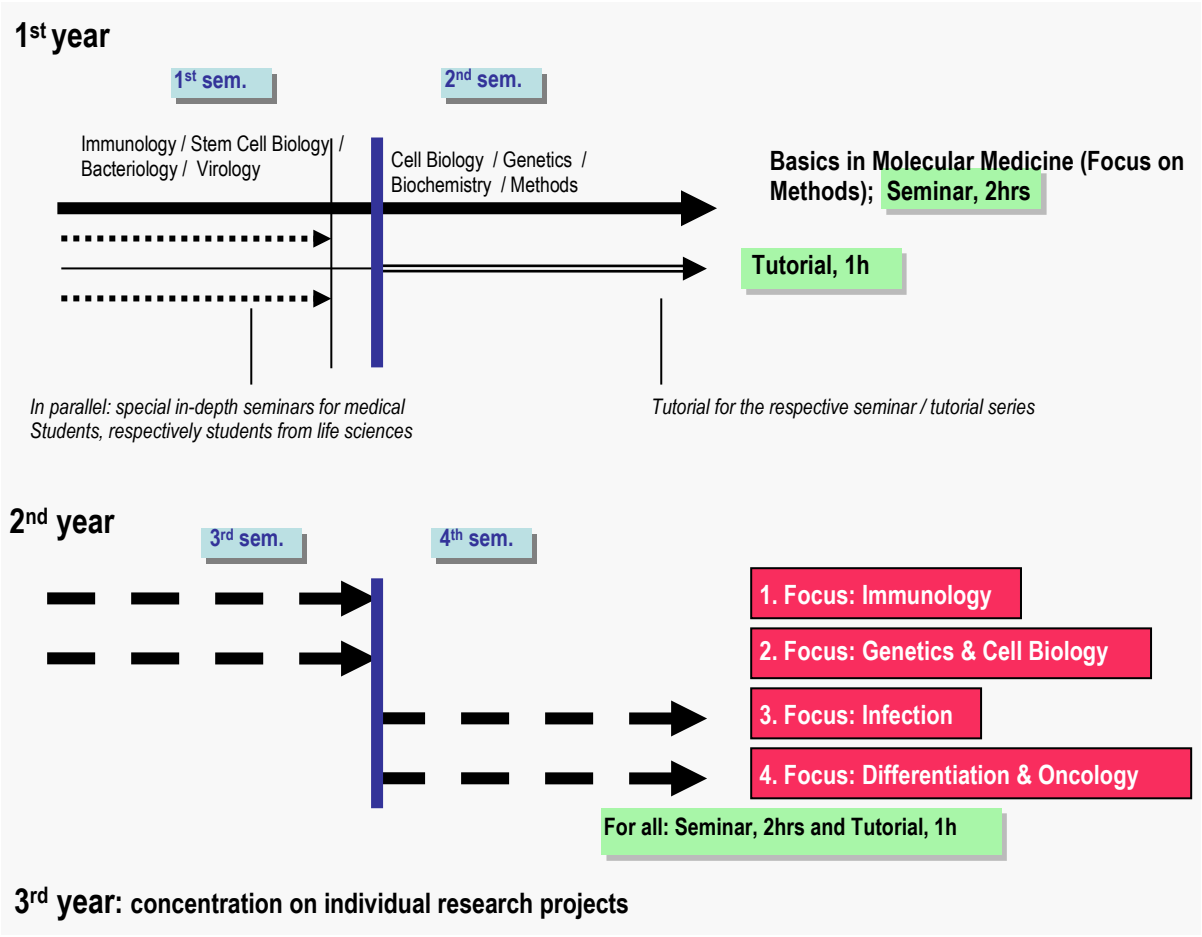
# Content:

# Curriculum MD / PhD "Molecular Medicine"




# Structure of the MD/PhD program "Molecular Medicine"

| Year 1 | Year 2 | Year 3 |
|---|---|---|

- Sem. + Lect. in basic sciences Monday (4.30 - 6.00 pm; 6 cp)
- Tutorials Mondays; until Christmas separate tutorials for medical students and life scientists (3.15- 4.15 pm; 2 cp)

- Complex and clinical system; choice between the foci Immunology, Infection, Oncology and Differentiation, Cell Biology / Genetics, Biochemistry Mondays, Seminar and Tutorial (3.00 - 6.00 pm; 8 cp)

- 3-year PhD project work (125 cp)
- Three presentations in department over three years (10 cp)
- Three presentations of manuscripts at the departments Journal Club over three years (3 cp)
- Public annual presentation / project report (10 cp)
- Talk / presentation at international congress (2 cp)
- Project-orientated seminars / courses; including practicals (80 h, 8 cp)
- Participation in summer schools / interdisciplinary seminars (e. g. soft skills) / congress (60 h, 6 cp)

cp: credit points

Intermediate exam after 18 months

PhD thesis and final exam after 3 years

# Curriculum PhD “Infection Biology” and “DEWIN”

## 1st Year

| 1st Semester | 2nd Semester |
|---|---|
| Weekly seminars: Immunology / Microbiology / Virology / Cell Biology | Project reports & special topic lectures |

## 2nd Year

| 3rd Semester | 4th Semester |
|---|---|
| Presentation of original manuscripts & research topics | Project reports |

## Structure of the PhD Program “Infection Biology“ and “DEWIN”

| Year 1 | Year 2 | Year 3 |
|---|---|---|
| • Sem. + Lect. Monday (4.30 - 6.00 pm; 6 cp)<br>• Journal Club in students own department (15 h) + attendance of 15 scientific lect. at MHH / HZI / TiHo (such as SFB-Sem. or Immunol. Colloquium; 2 cp) | • Seminar based on reviews and original manuscripts (Monday 4.30 - 6.00 pm) (4 cp)<br>• Presentation of one original manuscript and one research topic during these seminars (4 cp)<br>• Journal Club in students own department (15 h) + attendance of 15 scientific lect. at MHH / HZI / TiHo (such as SFB-Sem. or Immunol. Colloquium; 2 cp) | |

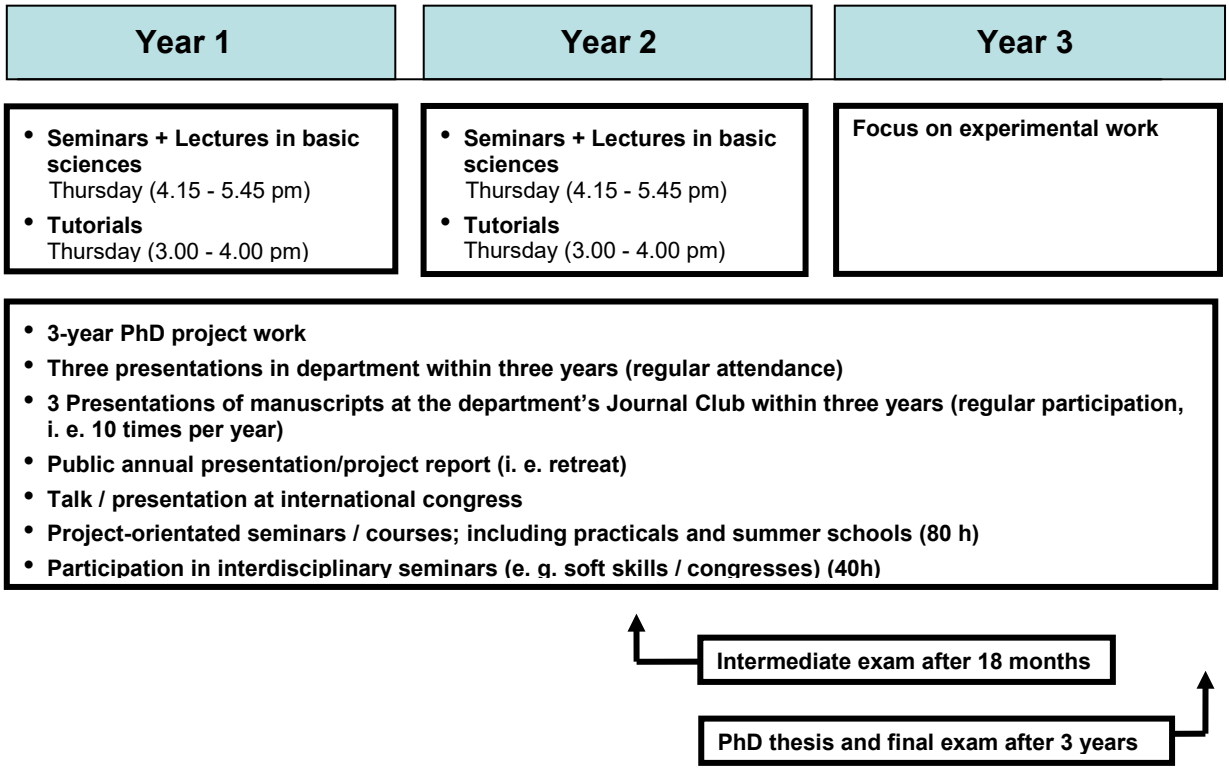
- 3-year PhD project work (125 cp)
- Public presentations/project reports (i. e. Retreat) (10 cp)
- Three presentations in department over three years (10 cp)
- Three presentations of manuscripts at the departments Journal Club over three years (3 cp)
- Talk / presentation at international congress (2 cp)
- Practical courses (80 hours) (10 cp)
- Participation in summer schools / interdisciplinary seminars (e. g. soft skills) / congress (20h) (2 cp)

cp: credit points

Intermediate exam after 18 months

PhD thesis and final exam after 3 years

# Structure of the PhD-Program "Regenerative Sciences"




**You may replace up to 30 hours of the Thursday seminars and tutorials by the additional offers**

**"Meet the Investigator" or "Method based seminar"**

see page 46

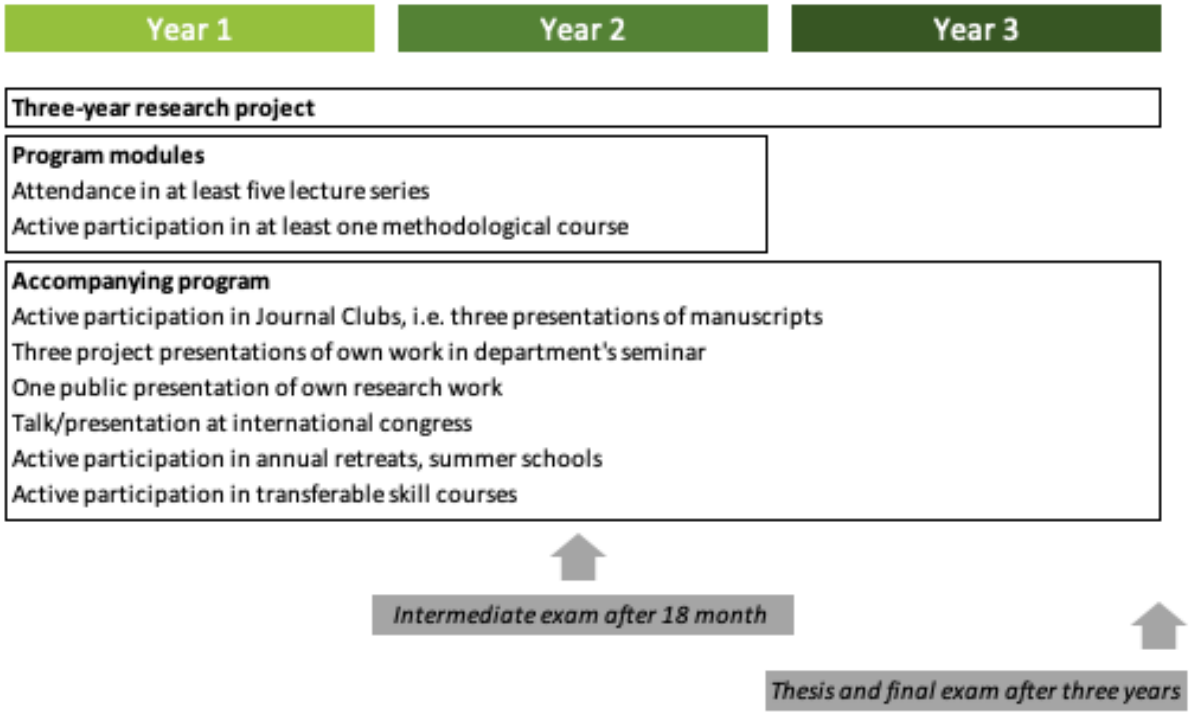
# Structure of the PhD-Program "Epidemiology"

| Year 1 | Year 2 | Year 3 |
|---|---|---|
| • research project<br>• accompanying program | • research project<br>• accompanying program | • focus on research project |
| | Intermediate exam after 18 months | PhD thesis, public defence after 3 years |

- three-year research project
- annual project presentations/thesis committees within three years
- active participation in journal/coding/science clubs and presentation of manuscripts
- active participation in scientific conferences (talk / poster presentation)
- public presentation/project report on annual PhD-Retreat (three times during PhD)
- attendance of soft skill courses
- attendance of modules (lectures, field work, and courses)

Total: Accompanying training program of a minimum of 300 teaching units (à 45 min)

# Structure of the PhD-Program BIOMEDAS ("Biomedical Data Science")



# !!Obligatory!!

## Good Scientific Practice

**For all HBRS PhD and StrucMed students**

**Introduction, Overview, Basics, Data Management, Ethics**

***Lecturers: Dr Olga Halle, Dr Stephan Halle***

**Tuesday, 28 October 2025**

2.00 pm - 3.30 pm First Seminar: Good Scientific Practice
Introduction and Data Management
Lecture Hall A, building J2

**Wednesday, 29 October 2025**

2.00 pm - 3.30 pm Second Seminar: Good Scientific Practice
Scientific Misconduct and Plagiarism
Lecture Hall A, building J2

**Thursday, 30 October 2025**

2.00 pm - 3.30 pm Third Seminar: Good Scientific Practice
Ethics and Statistics; Dr Stephan and Dr Olga Halle
Lecture Hall A, building J2

# *MD / PhD "Molecular Medicine"*

## 1st Semester

**Note: The curriculum of the first year is orientated towards basics and methods in the different disciplines.**

**Seminar together with PhD students from Infection Biology: Lecture hall A, building J2**

***Tutorials only MD / PhD "Molecular Medicine"*: Hannover Biomedical Research School, building J4, level 01 (2nd floor), seminar room 1140**

| HBRS Opening: Monday, 6 October 2025, 5.00 pm (building J6, lecture hall R) | | | | |
|---|---|---|---|---|
| **General introduction (lectures, expectations, etc.), answering of final open questions, election of class speaker** **I04-01-1140** | | Monday, 13.10.2025 | 3.45 - 4.15 pm | Susanne Kruse |
| **Cytotoxic T cell responses (Focus Immunology I)** | Seminar | Monday, 13.10.2025 | 4.30 - 6.00 pm | Berislav Bosnjak |
| **Super resolution light microscopy** **I04-01-1140** | MM Seminar / Tutorial | Monday, 20.10.2025 | 3.15 - 4.15 pm | Rudolf Bauerfeind |
| **Innate immunity (Focus Immunology II)** | Seminar | Monday, 20.10.2025 | 4.30 - 6.00 pm | Annett Ziegler |
| **Hannover Unified Biobank** **I04-01-1140** | MM Seminar / Tutorial | Monday, 27.10.2025 | 3.15 - 4.15 pm | Thomas Illig |
| **B cells and antibody responses (Focus Immunology III)** | Seminar | Monday, 27.10.2025 | 4.30 - 6.00 pm | Siegfried Weiß |
| **Molecular Imaging** **I04-01-1140** | MM Seminar / Tutorial | Monday, 03.11.2025 | 3.15 - 4.15 pm | Eda Cim |
| **T cell development and T cell responses (Focus Immunology IV)** | Seminar | Monday, 03.11.2025 | 4.30 - 6.00 pm | Hristo Georgiev |
| **Electron Microscopy** **I04-01-1140** | MM Seminar / Tutorial | Monday, 10.11.2025 | 3.15 - 4.15 pm | Stephanie Groos |
| **Haematopoiesis - Episode 5 and Team Clock (Focus Immunology V)** | Seminar | Monday, 10.11.2025 | 4.30 - 6.00 pm | Christine Falk |

***Now you have the choice between either Oncology *or* Microbiology:***

## In Seminar room I04-01-1140 (Oncology):

| | | | | |
|---|---|---|---|---|
| **Flow Cytometry and Cell Sorting** | MM Seminar/ Tutorial | Monday, 17.11.2025 | 3.15 - 4.15 pm | Matthias Ballmaier |
| **Tertiary Lymphoid Structures: development and role** | Seminar | Monday, 17.11.2025 | 4.30 - 6.00 pm | Tamar Kapanadze |
| **Gene Technology and Biosafety** | MM Seminar/ Tutorial | Monday, 24.11.2025 | 3.15 - 4.15 pm | Ruth Knorr |
| **Leukemia: a clinical view** | Seminar | Monday, 24.11.2025 | 4.30 - 6.00 pm | Matthias Eder / Hanna Kirchhoff |
| **Organoids: Bridging the gap between in vitro models and cutting-edge research** | MM Seminar/ Tutorial | Monday, 01.12.2025 | 3.15 - 4.15 pm | Manuela Büttner |
| **From Overexpression to Suppression: The Lentiviral Toolbox in Action** | Seminar | Monday, 01.12.2025 | 4.30 - 6.00 pm | Tobias Mätzig |
| **Clinical Immunology: Pathogenesis of an autoimmune disease (Lupus erythematosus)** | MM Seminar/ Tutorial | Monday, 08.12.2025 | 3.15 - 4.15 pm | Torsten Witte |
| **Gene expression analysis in cancer research** | Seminar | Monday, 08.12.2025 | 4.30 - 6.00 pm | Michael Morgan |
| **Informal get-together and biscuits: Feedback/ Discussions/ Questions** | | Monday, 15.12.25 | 3.15 – 4.15 pm | Susanne Kruse and Catharina Mehl |
| **Induced pluripotent stem cell resources for the treatment of congenital diseases** | Seminar | Monday, 15.12.2025 | 4.30 - 6.00 pm | Nico Lachmann |
| No tutorial | | Monday, 05.01.26 | | |
| **Mouse models** | Seminar | Monday, 05.01.2026 | 4.30 - 6.00 pm | Teng Cheong Ha |

## In lecture hall A (Microbiology):

| | | | | |
|---|---|---|---|---|
| **Flow Cytometry and Cell Sorting**<br>**I04-01-1140** | MM Seminar/ Tutorial | Monday, 17.11.2025 | 3.15 - 4.15 pm | Matthias Ballmaier |
| **Salmonella**<br>**(Focus Microbiology I)** | Seminar | Monday, 17.11.2025 | 4.30 - 6.00 pm | Guntram Graßl |
| **Gene Technology and Biosafety**<br>**I04-01-1140** | MM Seminar/ Tutorial | Monday, 24.11.2025 | 3.15 - 4.15 pm | Ruth Knorr |
| **Introduction to Medical Microbiology**<br>**(Focus Microbiology II)** | Seminar | 24.11.2025 | 4.30 - 6.00 pm | Dirk Schlüter |
| **Organoids: Bridging the gap between in vitro models and cutting-edge research**<br>**I04-01-1140** | MM Seminar/ Tutorial | Monday, 01.12.2025 | 3.15 - 4.15 pm | Manuela Büttner |
| **C. difficile and host responses at the intestinal barrier**<br>**(Focus Microbiology III)** | Seminar | Monday, 01.12.2025 | 4.30 - 6.00 pm | Matthias Lochner |
| **Clinical Immunology: Pathogenesis of an autoimmune disease (Lupus erythematosus)**<br>**I04-01-1140** | MM Seminar/ Tutorial | Monday, 08.12.2025 | 3.15 - 4.15 pm | Torsten Witte |
| **Malaria**<br>**(Focus Microbiology IV)** | Seminar | Monday, 08.12.2025 | 4.30 - 6.00 pm | Nishanth Gopala Krishna |
| **Informal get-together and biscuits: Feedback/ Discussions/ Questions**<br>**I04-01-1140** | | Monday, 15.12.25 | 3.15 – 4.15 pm | Susanne Kruse and Catharina Mehl |
| **Role of the commensal bacteria for human health**<br>**(Focus Microbiology V)** | Seminar | Monday, 15.12.2025 | 4.30 - 6.00 pm | Marius Vital |
| No tutorial | | 05.01.2026 | | |
| **Klebsielle pneumoniae**<br>**(Focus Microbiology VI)** | Seminar | Monday, 05.01.2026 | 4.30 - 6.00 pm | Leonard Knegendorf |

| Location seminar: Lecture hall A, building J2<br>Location tutorial: seminar room 1140, building J4, level 01 (2nd floor) | | | | |
|---|---|---|---|---|
| **Organoid models** | MM Seminar/ Tutorial | Monday, 12.01.2026 | 3.15 - 4.15 pm | Lika Drakhlis |
| **Virus Taxonomy and Viral Diseases (Focus Virology I)** | Seminar | Monday, 12.01.2026 | 4.30 - 6.00 pm | Anke Kraft |
| **Immunotherapy and cancer vaccines** | MM Seminar/ Tutorial | Monday, 19.01.2026 | 3.15 - 4.15 pm | Tetyana Yevsa |
| **Known and Emerging RNA Viruses, and Novel Antivirals (Focus Virology II)** | Seminar | Monday, 19.01.2026 | 4.30 - 6.00 pm | Thomas Pietschmann / Sibylle Haid |
| **Stem Cells and Immune Cells – Conjoined Twins for Optimization of Implants** | MM Seminar/ Tutorial | Monday, 26.01.2026 | 3.15 - 4.15 pm **I01-01-1031 (building J1, level 01, Kurslabor 26)** | Andrea Hoffmann |
| **Peculiarities of DNA Virus in Transcription and Replication (Focus Virology III)** | Seminar | Monday, 26.01.2026 | 4.30 - 6.00 pm | Daniel Depledge |
| **Non-viral gene therapy** | MM Seminar/ Tutorial | Monday, 02.02.2026 | 3.15 - 4.15 pm | Juliane Schott |
| **Roundabout: Virus Assembly, egress and cell entry (Focus Virology IV)** | Seminar | Monday, 02.02.2026 | 4.30 - 6.00 pm | Katinka Döhner |
| **Group 1: Presentation of your own project (à 5 minutes)** | | Monday, 09.02.2026 | 3.15 - 4.15 pm | Students |
| **Oncogenic Viruses (Focus Virology V)** | Seminar | Monday, 09.02.2026 | 4.30 - 6.00 pm | Saskia Stein |
| **Group 2: Presentation of your own project (à 5 minutes)** | | Monday, 16.02.2026 | 3.15 - 4.15 pm | Students |
| **Viral Pathogenesis and Host Defence (Focus Virology VI)** | Seminar | Monday, 16.02.2026 | 4.30 - 6.00 pm | Abel Viejo Borbolla |
| **Group 3: Presentation of your own project (à 5 minutes)** | | Monday, 23.02.2026 | 3.15 - 4.15 pm | Students |
| **Cell Biology I** | Seminar | Monday, 23.02.2026 | 4.30 - 6.00 pm | Hans Jörg Hauser |

# *MD / PhD Molecular Medicine*

## 2nd Semester

***MD / PhD MM*: Please attend all of the seminars and tutorials listed below.**

| | | | | |
|---|---|---|---|---|
| **4.) General Cell Biology** | | | | |
| **The cell cycle and its implications in diseases (Focus Cell Biology I)** | Seminar | Monday, 23.02.2026 | 4.30 - 6.00 pm Lecture hall A | Hansjörg Hauser |
| | Tutorial | 13.04.2026 | 3.15 - 4.15 pm I04-01-1140 (TBC) | Hansjörg Hauser |
| **Molecular mechanisms of gene regulation (Focus Cell Biology II)** | Seminar | Monday, 13.04.2026 | 4.30 - 6.00 pm Lecture hall A | Dagmar Wirth |
| | Tutorial | Monday, 20.04.2026 | 3.15 - 4.15 pm I04-01-1140 | Dagmar Wirth |
| **The structure of the cell's interior (Focus Cell Biology III)** | Seminar | Monday, 20.04.2026 | 4.30 - 6.00 pm Lecture hall A | Theresia Stradal |
| | Tutorial seminar room I04-01-1140 | Monday, 27.04.2026 | 3.15 - 4.15 pm I04-01-1140 | Theresia Stradal |
| **(Now for MD / PhD MM only) All seminars and tutorials in seminar room I04-01-1140** | | | | |
| **5.) Biochemistry and Genetics; methods** | | | | |
| **Single-cell RNA sequencing (scRNA seq)** | **Seminar** | Monday, 27.04.2026 | 4.30 - 6.00 pm | Matthias Bruhn / Abdus Salam |
| **Transcriptomics** | Seminar & Tutorial | Monday, 04.05.2026 | **3.15 - 6.00 pm I04-01-1140 / I03-01-2020 (TBC)** | Oliver Dittrich-Breiholz |

| | | | | |
|---|---|---|---|---|
| **Physical Methods in Biochemistry: Characterization of Protein - Protein Interactions** | Seminar | Monday, 11.05.2026 | 4.30 - 6.00 pm | Ute Curth |
| | Tutorial | Monday, 18.05.2026 | 3.15 - 4.15 pm | Ute Curth |
| **The adaptive immune system and immunological methods** | Seminar | Monday, 18.05.2026 | 4.30 - 6.00 pm | Agnes Bonifacius / Sabine Tischer-Zimmermann |
| | Tutorial | Monday, 01.06.2026 | 3.15 - 4.15 pm **I01-01-1040 (building J1, level 01, Kurslabor 25)** | Agnes Bonifacius / Sabine Tischer-Zimmermann |
| **No lectures, public holiday** | | Monday, 25.05.26 | | |
| **Oncogenic fusion proteins as drivers of myeloid blood cancers** | Seminar | Monday, 01.06.2026 | 4.30 - 6.00 pm **I01-01-1040 (building J1, level 01, Kurslabor 25)** | Florian Perner |
| **Targeted protein degradation as a tool to study direct oncogenic functions** | Tutorial | Monday, 08.06.2026 | 3.15 - 4.15 pm | Florian Perner |
| **Proteomics** | Seminar | Monday, 08.06.2026 | 4.30 - 6.00 pm | Andreas Pich |
| **Metabolomics** | Tutorial | Monday, 15.06.2026 | 3.15 - 4.15 pm | Heike Bähre |
| **Stem cells** | Seminar | Monday, 15.06.2026 | 4.30 - 6.00 pm | Axel Schambach |
| | Tutorial | Monday, 22.06.2026 | 3.15 - 4.15 pm | Axel Schambach |
| **Genome-wide association studies and functional validation** | Seminar | Monday, 22.06.2026 | 4.30 - 6.00 pm | Dhanya Ramachandran |
| | Tutorial | Monday, 29.06.2026 | 3.15 - 4.15 pm | Dhanya Ramachandran |
| **Non-coding RNA theme** | Seminar | Monday, 29.06.2026 | 4.30 - 6.00 pm | Jan Fiedler (Fraunhofer Institute) |
| | Tutorial | Monday, 06.07.2026 | 3.15 - 4.15 pm | Jan Fiedler |
| **Location: Hannover Biomedical Research School, HBRS seminar room 1140, building J4, level 01 (2nd floor)** | | | | |

# *MD / PhD program "Molecular Medicine"*

## 3rd Semester

**Note: The curriculum of the second year is more orientated towards research and applied aspects in the different disciplines.**

### Focus: Immunology, Genetics and Cell Biology

**Location: Hannover Biomedical Research School, building J4, level 01 (2nd floor), seminar room 1031**

| | | | | |
|---|---|---|---|---|
| **Opening of term** | | **06.10.2025** | | |
| **1. Immunology** | | | | |
| **Immune response in HIV** | Seminar | Monday, 13.10.2025 | 4.30 - 6.00 pm | Georg Behrens |
| | Tutorial | Monday, 20.10.2025 | 3.30 - 4.15 pm | Georg Behrens |
| **Tumor immunity and oncogenic signalling** | Seminar | Monday, 20.10.2025 | 4.30 - 6.00 pm | Christine Falk |
| | Tutorial | Monday, 27.10.2025 | 3.30 - 4.15 pm | Christine Falk |
| **Inborn errors of immunity-cellular and molecular mechanisms of immunodeficiency and immune dysregulation** | Seminar | Monday, 27.10.2025 | 4.30 - 6.00 pm | Georgios Sogkas |
| | Tutorial | Monday, 03.11.2025 | 3.30 - 4.15 pm | Georgios Sogkas |
| **Major histocompatibility complex in tolerogenic cell therapies** | Seminar | Monday, 03.11.2025 | 4.30 - 6.00 pm | Constanca Ferreira de Figueiredo |
| | Tutorial | Monday, 10.11.2025 | 3.30 - 4.15 pm | Constanca Ferreira de Figueiredo |

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|---|---|---|---|---|
| **Neuroimmune interactions in asthma bronchiale** | Seminar | Monday, 10.11.2025 | 4.30 - 6.00 pm | Armin Braun (Fraunhofer Institute) |
| | Tutorial | Monday, 17.11.2025 | 3.30 - 4.15 pm | Armin Braun (Fraunhofer Institute) |
| **Mononuclear-phagocyte system: development and the role in homeostasis** | Seminar | Monday, 17.11.2025 | 4.30 - 6.00 pm | Jaba Gamrekelashvili |
| | Tutorial | Monday, 24.11.2025 | 3.30 - 4.15 pm | Jaba Gamrekelashvili |
| **Protective adaptive immunity to viral infections** | Seminar | Monday, 24.11.2025 | 4.30 - 6.00 pm | Agnes Bonifacius et al. |
| | Tutorial | Monday, 01.12.2025 | 3.30 - 4.15 pm | Agnes Bonifacius et al. |
| **Immunodermatology** | Seminar | Monday, 01.12.2025 | 4.30 - 6.00 pm | Lennart Rösner |
| | Tutorial | Monday, 08.12.2025 | 3.30 - 4.15 pm | Lennart Rösner |

| | | | | |
|---|---|---|---|---|
| **2. Genetics and Cell Biology** | | | | |
| **Molecular Mechanisms of vascular aging in health and disease** | Seminar | Monday, 08.12.2025 | 4.30 - 6.00 pm | Yulia Kiyan |
| | Tutorial | Monday, 15.12.2024 | 3.30 - 4.15 pm | Yulia Kiyan |
| **Small GTPases as targets of bacterial toxins** | Seminar | Monday, 15.12.2025 | 4.30 - 6.00 pm | Harald Genth |
| | Tutorial | Monday, 05.01.2026 | 3.30 - 4.15 pm | Harald Genth |
| **Molecular mechanisms in cardiorenal syndrome** | Seminar | Monday, 05.01.2026 | 4.30 - 6.00 pm | Maren Leifheit-Nestler |
| | Tutorial | Monday, 12.01.2026 | 3.30 - 4.15 pm | Maren Leifheit-Nestler |
| **RNA Biology in Eukaryotes** | Seminar | Monday, 12.01.2026 | 4.30 - 6.00 pm | Halyna Shcherbata |
| | Tutorial | Monday, 19.01.2026 | 3.30 - 4.15 pm | Halyna Shcherbata |

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|---|---|---|---|---|
| **Micro RNAs from disease mechanisms to therapeutic approaches** | Seminar | Monday, 19.01.2026 | 4.30 - 6.00 pm | Shambhabi Chatterjee |
| | Tutorial | Monday, 26.01.2026 | 3.30 - 4.15 pm **I11-S0-1420** | Shambhabi Chatterjee |
| **Interaction between signalling, metabolic pathways and miRNA in HCC** | Seminar | Monday, 26.01.2026 | 4.30 - 6.00 pm **I11-S0-1420** | Asha Balakrishnan |
| | Tutorial | Monday, 02.02.2026 | 3.30 - 4.15 pm | Asha Balakishnan |
| **From gene to function - gene hunting in the area of whole-genome sequencing** | Seminar | Monday, 02.02.2026 | 4.30 - 6.00 pm | Svjetlana Lovric |
| | Tutorial | Monday, 09.02.2026 | 3.30 - 3.15 pm | Svjetlana Lovric |
| **Glycosylation and diseases** | Seminar | Monday, 09.02.2026 | 4.30 - 6.00 pm | Christoph Garbers |
| | Tutorial | Monday, 16.02.2026 | 3.30 - 3.15 pm | Christoph Garbers |
| **Location: Hannover Biomedical Research School, building J4, level 01 (2nd floor), seminar room 1031** | | | | |

## *MD / PhD program "Molecular Medicine"*

# 4th Semester

## Infection and Immunity, Differentiation and Oncology

| | | | | |
|---|---|---|---|---|
| **1. Differentiation and Oncology** | | | | |
| **Liquid biopsies and biomarkers** | **Seminar (online)** | Monday, 13.04.2026 | 4.30 - 6.00 pm | Anja Thorenz |
| | **Tutorial (online)** | Monday, 20.04.2026 | 3.30 - 4.15 pm | Anja Thorenz |
| **Cell Signaling in Stem Cell Aging and Myeloid Neoplasms** | Seminar | Monday, 20.04.2026 | 4.30 - 6.00 pm | Tina Schnöder |
| | Tutorial | Monday, 27.04.2026 | 3.30 - 4.15 pm | Tina Schnöder |
| **Epigenetics in cancer** | Seminar | Monday, 27.04.2026 | 4.30 - 6.00 pm | Ulrich Lehmann-Mühlenhoff |
| | Tutorial | Monday, 04.05.2026 | 3.30 - 4.15 pm | Ulrich Lehmann-Mühlenhoff |
| **Tumor vaccinations** | Seminar | Monday, 04.05.2026 | 4.30 - 6.00 pm | Thomas Wirth |
| | Tutorial | Monday, 11.05.2026 | 3.30 - 4.15 pm | Thomas Wirth |
| | No Seminar | Monday, 11.05.2026 | | |
| **AAV** | Seminar & Tutorial | Monday, 18.05.2026 | **2.00 – 4.15 pm** | Hildegard Büning |
| **Onco-Immunology: Translational research at the interface between immunology and oncology** | Seminar | Monday, 18.05.2026 | 4.30 - 6.00 pm | Friedrich Feuerhake |
| | Tutorial | Monday, 01.06.2026 | 3.30 - 4.15 pm | Friedrich Feuerhake |
| **No lectures, public holiday** | | **Monday, 25.05.26** | | |
| **Adoptive T cell therapies in hematopoietic stem cell transplantation** | Seminar | Monday, 01.06.2026 | 4.30 - 6.00 pm | Martin Sauer |
| | Tutorial | Monday, 08.06.2026 | 3.30 - 4.15 pm | Martin Sauer |

**Location: Hannover Biomedical Research School, building J4, level 01 (2nd floor), seminar room 1031**

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|---|---|---|---|---|
| **2. Infection and Immunity** | | | | |
| **HLA-mediated adverse drug reactions** | Seminar | Monday, 08.06.2026 | 4.30 - 6.00 pm | Christina Bade-Döding |
| | Tutorial | Monday, 15.06.2026 | 3.30 - 4.15 pm | Christina Bade-Döding |
| **Genetic engineering of cells and mice for development of disease models** | Seminar | Monday, 15.06.2026 | 4.30 - 6.00 pm | Dagmar Wirth |
| | Tutorial | Monday, 22.06.2026 | 3.30 - 4.15 pm | Dagmar Wirth |
| **Vaccine Responsiveness** | Seminar | Monday, 22.06.2026 | 4.30 - 6.00 pm | Peggy Riese / Stephanie Trittel (HZI) |
| | Tutorial | Monday, 29.06.2026 | 3.15 - 4.15 pm | Peggy Riese / Stephanie Trittel (HZI) |
| **Host-pathogen interactions** | | Monday, 29.06.2026 | 4.30 - 6.00 pm | Eva Medina (HZI) |
| | Tutorial | Monday, 06.07.2026 | 3.15 - 4.15 pm | Eva Medina (HZI) |
| **Location: Hannover Biomedical Research School, building J4, level 01 (2nd floor), seminar room 1031** | | | | |

# Retreat

**March 5th-6th, 2026 at TWINCORE for all classes**

# Intermediate Exam

**January 12th to March 3rd, 2026, for the class of 2024**

# PhD Final Exams

**June 19th, 2026**
**November 13th, 2026**

# *PhD programs "Infection Biology / DEWIN"*

| **1st Semester**<br>**Seminars:** Mondays, 16:30-18:00 hrs<br>**Location:** Lecture Hall A, Building J2 | | | | |
|---|---|---|---|---|
| **DATE** | **TYPE** | **FOCUS** | **LECTURER** | **SUBJECT** |
| 06.10.2025 | HBRS Opening: 17:00 - 19:00 hrs (Building J6, Lecture Hall R) | | | |
| 13.10.2025 | Seminar | Immunology I | Bosnjak | ICytotoxic T cell response |
| 20.10.2025 | Seminar | Immunology II | Ziegler | Innate Immunity |
| 27.10.2025 | Seminar | Immunology III | Weiß | B cells and antibody responses |
| 03.11.2025 | Seminar | Immunology IV | Georgiev | T cells and T cell responses |
| 10.11.2025 | Seminar | Immunology V | Falk | Haematopoiesis - Episode 5 and Team Clock |
| 17.11.2025 | Seminar | Microbiology I | Graßl | Salmonella |
| 24.11.2025 | Seminar | Microbiology II | Schlüter | Introduction to Medical Microbiology |
| 01.12.2025 | Seminar | Microbiology III | Lochner | C. difficile and host responses at the intestinal barrier |

| DATE | TYPE | FOCUS | LECTURER | SUBJECT |
|---|---|---|---|---|
| 08.12.2025 | Seminar | Microbiology IV | Nishanth | Malaria |
| 15.12.2025 | Seminar | Microbiology V | Vital | Role of the commensal bacteria for human health |
| 05.01.2026 | Seminar | Microbiology VI | Knegendorf | Klebsielle pneumoniae |
| 12.01.2026 | Seminar | Virology I | Döhner | Roundabout: Virus Assembly, egress and cell entry |
| 19.01.2026 | Seminar | Virology II | Schmidt | RNA-binding Proteins in viral infections |
| 26.01.2026 | Seminar | Virology III | Depledge | Applications of Nanopore Sequencing to the RNA biology of DNA viruses |
| 02.02.2026 | Seminar | Virology IV | Port | Establishing in vivo infection models to study emerging zoonotic viruses |
| 09.02.2026 | Seminar | Virology V | Pietschmann | Known and Emerging RNA Viruses, and Novel Antivirals |
| 16.02.2026 | Seminar | Virology VI | Kreibohm | Mpox in Germany and its clinical consequences |
| 23.02.2026 | Seminar | Cell Biology I | Hauser | The cell cycle and its implication in diseases |

| **2nd Semester**<br>**Seminars:** Mondays, 16:30-18:00 hrs<br>**Location:** Lecture Hall A, Building J2 | | | | |
|---|---|---|---|---|
| **DATE** | **TYPE** | **FOCUS** | **LECTURER** | **SUBJECT** |
| 13.04.2026 | Seminar | Cell Biology II | Wirth | Molecular mechanisms of gene regulation |
| 20.04.2026 | Seminar | Cell Biology III | Stradal | The structure of the cell's interior |
| **Times & Location:** Mondays, 16:30-18:00/18:30 hrs, MHH, TPFZ/I-11, Seminar Room S0-1410 | | | | |
| **DATE** | **FOCUS** | **SUPERVISOR** | **STUDENT** | **SUBJECT** |
| 27.04.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 04.05.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 11.05.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 18.05.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 01.06.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 08.06.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 15.06.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 22.06.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 29.06.2026 | Project Presentation | | | |
| | Project Presentation | | | |
| 06.07.2026 | Project Presentation | | | |
| | Project Presentation | | | |

# PhD Programs "Infection Biology / DEWIN"

| 3rd Semester<br>**Times & Location:** Mondays, 16:30-18:00 bzw. 18:30 hrs,<br>Virology seminar room (J6-06-2412) & HZI D2-02-2.21 | | | | |
|---|---|---|---|---|
| **DATE** | **FOCUS** | **SUPERVISOR** | **STUDENT** | **SUBJECT** |
| 06.10.2025 | HBRS Opening: 17:00 - 19:00 hrs (Building J6, Lecture Hall R) | | | |
| 13.10.2025 | Topic | Perner | Albarghash | Differentiation and function of T-helper cells during infection |
| | Original Paper | | Romanos Martínez | Hou et al., Neuropeptide signalling orchestrates T cell differentiation, nature, 2024 |
| 20.10.2025 | Topic | Nilsson-Payant | Wolpert | Mutational mapping of viruses using transposon-based tools |
| | Original Paper | | Zheng | Fulton et al., Transposon Mutagenesis of the Zika Virus Genome Highlights Regions Essential for RNA Replication and…, J Virol 2017 |
| 27.10.2025 | Topic | Schmidt | Cetraro | Viral modulation of RNA polymerase III |
| | Original Paper | | Skremm | Dremel et al., Manipulation of RNA polymerase III by Herpes Simplex Virus-1, nature communications 2022 |
| 03.11.2025 | Topic | Dölken | Gaitanis | Intrinsic immune response against HSV |
| | Original Paper | | von Berg | Lahaye et al., Centromeric DNA amplification triggered by viral proteins activates nuclear cGAS, Cell 2025 |
| 10.11.2025 | Topic | Port | Jos | Innate immune responses against infections II: PAMPs, TLR, NOD |
| | Original Paper | | Neuhof | Boršić et al., Clustering of NLRP3 induced by membrane or protein scaffolds promotes inflammasome assembly, Nature Communications, 2025 |
| 17.11.2025 | Topic | Weiß | Kappes | B cell responses during infection |
| | Original Paper | | Torres Bonilla | Elsner et al., IL-12 induces a B cell-intrinsic IL-12/IFNγ feed-forward loop promoting extrafollicular B cell responses, Nat. Immunol. 2024 |
| 24.11.2025 | Topic | Kay-Fedorov | Han | Viral regulation of gene expression and its impact on antigen presentation |
| | Original Paper | | Wang | Wang et al., Zika but not Dengue virus infection limits NF-κB activity in human monocyte-derived dendritic cells …, Nature Communications, 2025 |
| 01.12.2025 | Topic | Galardini | Fiebig | Bacterial virulence factors |
| | Original Paper | | Bonde | Nosanchuk, mGem: A quarter century with the Pirofski–Casadevall… mBio, 2025 &<br>Miles et al., Enhanced virulence and stress tolerance are…, bioRxiv preprint 2025 |

| DATE | FOCUS | SUPERVISOR | STUDENT | SUBJECT |
|---|---|---|---|---|
| 08.12.2025 | Topic | Lochner | Konyakhina | Intestinal immunity to pathogens |
| | Original Paper | | Vermelho | Cortez et al., IL-25-induced memory ILC2s mediate long-term small intestinal adaptation, bioRxiv preprint, 2025 |
| 15.12.2025 | Topic | Sheldon | Okpako | Virus discovery and pandemics association |
| | Original Paper | | Wolpert | Zhao et al., Farmed fur animals harbour viruses with zoonotic spillover potential. Nature 2024 |
| 05.01.2026 | Topic | Behrens | Shu | Antigen presentation in bacterial and viral infection |
| | Original Paper | | Kappes | Venzin et al., CD4+ T cells license Kupffer cells to reverse CD8+ T cell dysfunction induced by hepatocellular priming, nature immunology 2025 |
| 12.01.2026 | Topic | Dölken | Skremm | Inhibition of T cell responses by HCMV |
| | Original Paper | | Cetraro | Maassen et al., The human cytomegalovirus-encoded pUS28 antagonizes CD4+ T cell recognition by targeting CIITA, eLife 2025 |
| 19.01.2026 | Topic | Behrendt | Tariq | Species tropism of flaviviruses |
| | Original Paper | | Okpako | Hoffmann et al., TMEM41B Is a Pan-flavivirus Host Factor, Cell 2021 |
| 26.01.2026 | Topic | Hühn | Romanos Martínez | Limiting the immune response |
| | Original Paper | | Konyakhina | Cabric et al., A wave of Thetis cells impartstolerance to food antigensearly in life, Science 2025 |
| 02.02.2026 | Topic | Depledge | von Berg | Viral interference with host mRNA translation |
| | Original Paper | | Gaitanis | Park et al., Distinct non-canonical translation initiation modes arise for specific host and viral mRNAs during poxvirus-induced shutoff, nature 2025 |
| 09.02.2026 | Topic | Graalmann | Neuhof | Innate immune responses against infections I: Cytokines, chemokines, complement, acute phase proteins etc. |
| | Original Paper | | Albarghash | Du et al., Altered X-chromosome inactivation of the TLR7/8 locus and heterogeneity of pDCs in systemic sclerosis, JEM 2025 |
| 16.02.2026 | Topic | Schulz | Bonde | Genetic susceptibility to infectious diseases mediated by signaling proteins |
| | Original Paper | | Fiebig | Jorgensen et al., STK4 Deficiency Impairs Innate Immunity and Interferon Production Through Negative Regulation of TBK1-IRF3 Signaling, JCI 2021 |
| 23.02.2026 | Topic | Kefalakes | Torres Bonilla | Balancing immunity and tolerance in the intestine |
| | Original Paper | | Jos | Pedersen at al., The CD4+ T cell response to a commensal-derived epitope transitions from a tolerant to an inflammatory state …, Immunity 2022 |

| **4th Semester**<br>**Times & Location:** Mondays, 16:30-18:00 hrs<br>Virology seminar room (J6-06-2412) & HZI D2-02-2.21 | | | | |
|---|---|---|---|---|
| **DATE** | **FOCUS** | **SUPERVISOR** | **STUDENT** | **SUBJECT** |
| 13.04.2026 | Topic | Viejo-Borbolla | Zheng | Viral modulation of cell cycle |
| | Original Paper | | Tariq | Biswas et al., Inhibition of polo-like kinase 1 (PLK1) facilitates reactivation of gammaherpesviruses...PLOS pathogens 2021 |
| 20.04.2026 | Topic | Witte | Wang | Anti-viral therapies |
| | Original Paper | | Han | Akalu et al., An mRNA-based broad-spectrum antiviral inspired by ISG15 deficiency protects against viral infections…, Sci. Transl. Med. 2025 |
| 27.04.2026 | Topic | Sodeik | Wang | Design of novel antivirals |
| | Original Paper | | Han | Yao et al., Structure and Inhibition Mechanism of Herpesvirus Helicase-Primase, Nature Microbiology 2025 |
| 04.05.2026 | Project Presentations | Lauber | Okpako | Cataloging known hepatotrophic viruses and hunting novel viruses associated with hepatitis of unknown etiology |
| | | Cicin-Sain | Konyakhina | Development and benchmarking of an MCMV-based vaccine vector in species-discordant target hosts |
| | | Perner | Neuhof | Neuropeptides as modulators of signal transduction and cell state in monocytes and macrophages |
| 11.05.2026 | Project Presentations | Port | Romanos Martinez | Immunity- and virus-derived determinants of betacoronavirus transmission |
| | | | Vermelho | The function and longevity of B-cell residency and secretory IgA in betacoronavirus transmission blockage and viral evolution |
| 18.05.2026 | Project Presentations | Kefalakes | Albarghash | Immunological determinants driving liver cirrhosis in chronic HDV infection |
| | | Werfel | Torres Bonilla | Elucidating the mode-of-action of the human RNase 7 against herpes simplex virus type 1 |
| 01.06.2026 | Project Presentations | Depledge | Cetraro | Regulation of tRNA biogenesis by Human Cytomegalovirus infections |
| | | Vital | Fiebig | The role of gut microbiota on infection susceptibility in liver cirrhosis patients |

| DATE | FOCUS | SUPERVISOR | STUDENT | SUBJECT |
|---|---|---|---|---|
| 08.06.2026 | Project Presentations | Lochner | Shu | Epigenetic profiling of infection- and inflammation-induced memory in intestinal epithelial stem cells |
| | | | Jos | Epigenetic profiling of inflammation-induced memory in type 2 innate lymphoid cells in the lung |
| 15.06.2026 | Project Presentations | Sheldon | Tariq | Determinants of Innate Immune Control and Species Tropism of Hepatitis C virus (HCV) |
| | | Kay-Fedorov | Skremm | Functional Inhibition of the Human Cytomegalovirus Immunoevasin pUL11 |
| | | Sodeik | Gaitanis | Functional Characterization of the herpesvirus protein interactions with the antiviral GTPase MxB |
| 22.06.2026 | Project Presentations | Schulz | Wang | Understanding the Mode of Action of a novel broadly acting antiviral inhibitor |
| | | Schmidt | von Berg | Characterization of RNA-binding proteins in the antiviral interferon response |
| 29.06.2026 | Project Presentations | Dölken | Han | Cell type-specific HCMV gene expression and its consequences for the MHC-I immunopeptidome |
| | | | Wolpert | Development of a screening platform for fine mapping of functional herpes simplex virus gene elements by MuA transposon mutagenesis |
| | | | Zheng | Functional analysis of cytomegalovirus gene products and cellular effectors during lytic infection |
| 06.07.2026 | Project Presentations | Herhaus | Bonde | Role of membrane trafficking proteins involved in pathogen-exploited host organelle contact site formation |
| | | Woller | Kappes | Signatures of Immune Cells in Patients after Chronic HCV Infections in the Long Term Follow Up |

**Retreat:**
**10-11June 2026 for all Classes**

**Intermediate Exam for the Class of 2024:**
**10 March 2026**

**PhD Final Exams:**
**30 January 2026**
**26 June 2026**

# *PhD Program "Regenerative Sciences"*

**Times** (unless otherwise stated and indicated in **bold**)**:**

**Tutorials:** **Thursdays, 3:00 – 4:00 pm**

**Seminars:** **Thursdays, 4:15 – 5:45 pm**

**Locations:** ***Please note the changes!***

**Semester 1 & 2** MHH, building J04, level 01, **HBRS** seminar room 1140

**Semester 3 & 4** MHH, building J11, Hans-Borst-Zentrum (**HBZ**), level S0, seminar room 6040

**Other Locations*:**

**NIFE*:**

Niedersächsisches Zentrum für Biomedizintechnik, Implantatforschung und Entwicklung - NIFE
(Lower Saxony Centre for Biomedical Engineering, Implant Research and Development)
Stadtfelddamm 34
30625 Hannover

**Feodor-Lynen Str. 21*:**

Dr. Sarah Strauß
Ambystoma Mexicanum Bioregeneration Center & Spider Silk Laboratory
Feodor-Lynen Str. 21, 30625 Hannover
Building M05 level S0 seminar room 0110

Dr. Stephan Klöß
ATMP-GMP-DU
Building 05, level 4
Feodor-Lynen-Straße 21, 30625 Hannover
Seminar: Building 05, level 3
Tutorial: Building 05, level 1

**Hannover Unified Biobank (HUB)**

Dr. Norman Klopp
Building M23 (CRC)
Feodor-Lynen-Str.15, 30625 Hannover

| **1st semester: HBRS seminar room** (I4-01-1140) unless otherwise indicated | | | | |
|---|---|---|---|---|
| **Introductory lecture**<br>- Welcoming speech<br>- The curriculum of RegSci & HBRS<br>- Principles of regenerative sciences | seminar | **Thursday, 02.10.2026** | **10:00 – 12:00, lecture hall C, J2** | Ulrich Martin, Gaby Froriep |
| **Principles of growth factor signaling 1**<br>- Paracrine and juxtacrine signaling<br>Signaling pathways involved in the regulation of growth | seminar | 02.10.2025 | 4:15 – 5:45 pm | Rainer Niedenthal |
| **How to complete your study book** | seminar | 09.10.2025 | 3:15 – 4:15 pm **HBZ seminar room (J11-S0-6040)** | Zulaikha Malik |
| **Principles of growth factor signaling 1**<br>- Paracrine and juxtacrine signaling<br>- Signaling pathways involved in the regulation of growth | tutorial | 16.10.2025 | 3:00 – 4:00 pm | Rainer Niedenthal |
| **Principles of growth factor signaling 2**<br>Cytokines, hormones, and their receptors | seminar | 16.10.2025 | 4:15 – 5:45 pm | Michael Morgan |
| | tutorial | 23.10.2025 | 3:00 – 4:00 pm | |
| **Good Scientific Practice**<br>Part 1: Introduction and Data Management **(MANDATORY!)** | seminar | **Tuesday, 28.10.2025** | **2:00 - 3:30 pm, lecture hall A, J2** | Olga Halle |
| **Good Scientific Practice**<br>Part 2: Scientific misconduct and plagiarism **(MANDATORY!)** | seminar | **Wednesday, 29.10.2025** | **2:00 - 3:30 pm, lecture hall A, J2** | Olga Halle |
| **Good Scientific Practice**<br>Part 3: Ethics & Statistics **(MANDATORY!)** | seminar | **Thursday, 30.10.2025** | **2:00 - 3:30 pm, lecture hall A, J2** | Olga Halle, Stephan Halle |
| **Principles of cardiovascular physiology**<br>- Working principles of the cardiac muscle and its regulations<br>- Model systems in cardiovascular research: from single cells to multicellular preparations<br>- Tutorial: paper presentation: Living myocardial slices | seminar | 30.10.2025 | 4:15 – 5:45 pm | Natalie Weber |
| | tutorial | 06.11.2025 | 3:00 – 4:00 pm | |
| **Basic mechanisms of inflammation 1**<br>- Innate and adaptive immunity and differentiation | seminar | 06.11.2025 | 4:15 – 5:45 pm | Siegfried Weiß |
| | tutorial | 13.11.2025 | 3:00 – 4:00 pm | |
| **Principles of developmental biology and organogenesis 1**<br>- Main processes: Fertilization, Cleavages, gastrulation, organogenesis, growth Commitment, differentiation, apoptosis, patterning<br>- Developmental mechanisms, Determination, Induction (Morphogenetic gradients and cell-cell communication)<br>- Heart development<br>- Tutorial: paper presentation: cell fate analyses | seminar | 13.11.2025 | 4:15 – 5:45 pm | Andreas Kispert |
| | tutorial | 20.11.2025 | 3:00 – 4:00 pm | |
| **Principles of developmental biology and organogenesis 2**<br>- Organogenesis and regeneration<br>- Model systems and regenerative Embryogenesis and fetal development<br>- Tutorial: paper presentation: Regenerative mechanisms | seminar | 20.11.2025 | 4:15 – 5:45 pm | Andreas Kispert |
| | tutorial | 27.11.2025 | 3:00 – 4:00 pm | |

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|---|---|---|---|---|
| **Principles of stem cell biology 1**<br>- Embryonic derivation of stem cells<br>- Culture methods | seminar & tutorial | 04.12.2025 | 3:00 – 4:30 pm<br>4:45 – 5:45 pm | Thomas Müller |
| **Principles of translational bioinformatics**<br>*Please bring a laptop for the tutorial!* | seminar & tutorial | 11.12.2025 | 3:00 – 4:30 pm<br>4:45 – 5:45 pm | Maximilian Fuchs |
| **Principles of organoid modelling**<br>- principles of organoid formation<br>- different organoid models and applications<br>- cardiac tissue models<br>- multi-tissue organoid models | seminar | 08.01.2026 | 4:15 – 5:45 pm | Lika Drakhlis |
| **Principles of cell engineering 1**<br>- Principles of cell engineering 1:<br>- Non-coding RNAs in heart failure<br>- Tool box to validate disease relevant non-coding RNAs<br>- Therapeutic approaches to support cardiac healing | seminar | **12.01.2026** | **MONDAY, 4:00 – 5:30 pm ITEM** | Jan Fiedler |
| **Principles of organoid modelling**<br>- principles of organoid formation<br>- different organoid models and applications<br>- cardiac tissue models<br>- multi-tissue organoid models | **tutorial** | 15.01.2026 | 3:00 – 4:00 pm | Lika Drakhlis |
| **Principles of stem cell biology 2**<br>- Reprogramming and regeneration<br>RNA therapeutics in regenerative biology | seminar<br>tutorial | 15.01.2026<br>22.01.2026 | 4:15 – 5:45 pm<br>3:00 – 4:00 pm | Amar Deep Sharma |
| **Principles of cell engineering 2**<br>- Transient DNA delivery<br>- Episomal maintenance<br>- Stable DNA delivery<br>- Homologous recombination<br>- Site-specific DNA modification | seminar<br>tutorial | 22.01.2026<br>29.01.2026 | 4:15 – 5:45 pm<br>3:00 – 4:00 pm | Axel Schambach |
| **Basic mechanisms of inflammation 2**<br>- Infection & cancer | seminar<br>tutorial | 29.01.2026<br>05.02.2026 | 4:15 – 5:45 pm<br>3:00 – 4:00 pm | Ulrich Lehmann-Mühlenhoff |
| **Synthetic biology and options for regeneration** | seminar<br>tutorial | 05.02.2026<br>12.02.2026 | 4:15 – 5:45 pm<br>3:00 – 4:00 pm | Dagmar Wirth |
| **Principles of cell engineering 3**<br>- Cell expansion Bioreactors | seminar<br>tutorial | 12.02.2026<br>19.02.2026 | 4:15 – 5:45 pm<br>3:00 – 4:00 pm | Kevin Cyrys |
| **Basics of epigenetic gene regulation**<br>- Critical principles in embryonic development, tissue regeneration and malignant transformation | seminar | 26.02.2026 | 4:15 – 5:45 pm | Florian Perner |
| **The histone-code**<br>- How complex networks of post-translational modifications control protein complex assembly on chromatin | seminar | 05.03.2025 | 4:15 – 5:45 pm | Florian Perner |

# *PhD Program "Regenerative Sciences"*

| **2nd semester: HBRS seminar room** (I4-01-1140) unless otherwise indicated | | | | |
|---|---|---|---|---|
| **Laser technology in medicine - Imaging**<br>- Basics of microscopy<br>- Contrast mechanisms<br>- Modern approaches in imaging<br>- Super-resolution microscopy | seminar & tutorial | 09.04.2026 | 3:00 – 4:30 pm **NIFE*** <br> 4:45 – 5:45 pm **NIFE*** | Alexander Heisterkamp |
| **Principles of growth factor engineering**<br>- Engineering growth factors and their receptors for regenerative medicine | seminar | 16.04.2026 | 4:15 – 5:45 pm | Michael Morgan |
| | tutorial | 23.04.2026 | 3:00 – 4:00 pm | |
| **Animal models of human disease 1: Genetically modified mice**<br>- Reproductive biology of the mouse<br>- Generation of mice by zygote pronuclear injection of DNA<br>- Generation of transgenic mice using genetically modified ES cells<br>- Cre-mediated site-specific recombination | seminar | 23.04.2026 | 4:15 – 5:45 pm | Andreas Kispert |
| **Animal models of human disease 2**<br>- Humanized mouse models | seminar & tutorial | 30.04.2026 | 3:00– 5:45 pm | Fatih Noyan |
| **Animal models of human disease 3**<br>- Drosophila melanogaster<br>- Neuromuscular disorders (tutorial) | seminar & tutorial | 07.05.2026 | 3:00 – 4:30 pm <br> 4:45 – 5:45 pm | Halyna Shcherbata |
| **Large animal models in biomedical research**<br>- Transgenic pigs<br>- Xenotransplantation<br>- Donor animal engineering | seminar | 21.05.2026 | 4:15 – 5:45 pm | Heiner Niemann |
| | tutorial | 28.05.2026 | 3:00 – 4:00 pm | |
| **Mass-Spectrometry-based proteomics** | seminar | 28.05.2026 | 4:15 – 5:45 pm | Felix Polten |
| **Cardiovascular tissue engineering: Principles** | seminar | 04.06.2026 | 4:15 – 5:45 pm | Birgit Andree |
| | tutorial | 11.06.2026 | 3:00 – 4:00 pm | |
| **Stem cell based organ regeneration**<br>Heart and clinical translation | seminar | 11.06.2026 | 4:15 – 5:45 pm | Robert Zweigerdt |
| | tutorial | 18.06.2026 | 3:00 – 4:00 pm | |
| **Non-viral Lipid Nanoparticle vectors for RNA delivery** | seminar | 18.06.2026 | 4:15 – 5:45 pm | Sebastian Hook |
| | tutorial | 25.06.2026 | 3:00 – 4:00 pm | |
| **Principles of organ transplantation**<br>- Heart, lung, and vessels | seminar | 25.06.2026 | 4:15 – 5:45 pm | Johanna Illner |
| | tutorial | 02.07.2026 | 3:00 – 4:00 pm | |

# *PhD Program "Regenerative Sciences"*

| **3rd semester: HBZ seminar room** (J11-S0-6040) unless otherwise indicated | | | | |
|---|---|---|---|---|
| **Regenerative approaches: Blood and immunity 1**<br>- Thymus and T-cell development<br>- B-cell development<br>- Flow cytometry | seminar | 09.10.2025 | 4:15 – 5:45 pm | Siegfried Weiß |
| | tutorial | 16.10.2025 | 3:00 – 4:00 pm | Christine Falk |
| **AAV capsid engineering for in vivo gene therapy** | seminar | 16.10.2025 | 4:15 – 5:45 pm | Hildegard Büning |
| | tutorial | 23.10.2025 | 3:00 – 4:00 pm | Martin Bentler |
| **Regenerative approaches: Blood and immunity 2**<br>- Principles of hematopoietic stem cell transplantation and lymphocyte infusions<br>HLA system and HLA compatibility (tutorial) | seminar | 23.10.2025 | 4:15 – 5:45 pm | Matthias Eder |
| | tutorial | 30.10.2025 | 3:00 – 4:00 pm | Constanca Figueiredo |
| **Regenerative approaches: Blood and immunity 3**<br>- Genetic disorders of hematopoiesis, Leukemia, and leukemogenic stem cells | seminar | 30.10.2025 | 4:15 – 5:45 pm | Michael Morgan |
| | tutorial | 06.11.2025 | 3:00 – 4:00 pm | |
| **Regenerative approaches: Liver 1**<br>- Physiology and pathophysiological changes of the liver<br>Early and end-stage liver disease | seminar | 06.11.2025 | 4:15 – 5:45 pm | Asha Balakrishnan |
| | tutorial | 13.11.2025 | 3:00 – 4:00 pm | |
| **Regenerative approaches: Liver 2**<br>- Liver regeneration and stem cells<br>Stem cell-derived hepatocytes | seminar | 13.11.2025 | 4:15 – 5:45 pm | Tobias Cantz |
| | tutorial | 20.11.2025 | 3:00 – 4:00 pm | Tobias Cantz,<br>Reto Eggenschwiler |
| **Regenerative approaches: Liver 3**<br>- Liver tissue engineering<br>- Artificial liver / extracorporal devices | seminar | 20.11.2025 | 4:15 – 5:45 pm | Tobias Cantz |
| | tutorial | 27.11.2025 | 3:00 – 4:00 pm | Tobias Cantz,<br>Reto Eggenschwiler |
| **Non-coding RNAs in cardiovascular disease**<br>- Regeneration and therapeutic approaches | seminar | 04.12.2025 | 4:15 – 5:45 pm | Christian Bär |
| **Genotoxicity & monitoring** | seminar & tutorial | 11.12.2025 | 3:00 – 4:30 pm<br>4:45 – 5:45 pm | Michael Rothe |
| **Non-coding RNAs in cardiovascular disease**<br>- Regeneration and therapeutic approaches | tutorial | 08.01.2026 | 3:00 – 4:00 pm | Shambhabi Chatterjee |
| **Regenerative approaches: Blood and immunity 4**<br>- Embryonic stem cell derived haematopoiesis | seminar | 08.01.2026 | 4:15 – 5:45 pm | Nico Lachmann |
| **Molecular Imaging of Regenerative Medicine**<br>- Molecular Imaging (seminar)<br>- Tour of the Department of Nuclear Medicine (tutorial) | seminar & tutorial | 15.01.2026 | 3:00 – 4:30 pm<br>4:45 – 5:45 pm | James Thackeray |

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|---|---|---|---|---|
| **Cell sorting**<br>- Method based seminar<br>- Visit to MHH sorter lab → instrumentation (tutorial) | seminar & tutorial | 22.01.2026 | 3:00 – 4:30 pm<br>4:45 – 5:45 pm | Matthias Ballmaier |
| **Design of clinical trials & regulation** | seminar | 29.01.2026 | 4:15 – 5:45 pm | Heiko von der Leyen |
| **Immunotoxicity & immunomonitoring** | seminar | 05.02.2026 | 4:15 – 5:45 pm | Christine Falk |
| | tutorial | 12.02.2026 | 3:00 – 4:00 pm | Jenny Kühne |
| **Patent protection of academic inventions** | seminar | 12.02.2026 | 4:15 – 5:45 pm | Torben Söker, Ascenion GmbH |
| | tutorial | 19.02.2026 | 3:00 – 4:00 pm | |

# *PhD Program "Regenerative Sciences"*

| **4th semester: HBZ seminar room** (J11-S0-6040) unless otherwise indicated | | | | |
|---|---|---|---|---|
| **Regenerative approaches: Lung 1** | seminar | 09.04.2026 | 4:15 – 5:45 pm | Ruth Olmer |
| | tutorial | 16.04.2026 | 3:00 – 4:00 pm | |
| **Regenerative approaches: Lung 2** | seminar | 16.04.2026 | 4:15 – 5:45 pm | Carola Voss |
| | tutorial | 23.04.2026 | 3:00 – 4:00 pm | |
| **Regenerative approaches: Heart and vessels 1**<br>- Protein therapeutics for cardiovascular repair | seminar | 23.04.2026 | 4:15 – 5:45 pm | Marc Reboll |
| **Regenerative approaches: Heart and vessels 2**<br>- Pathogensis and regeneration of the heart in response to cancer und anti-cancer treatment | seminar | 30.04.2026 | 4:15 – 5:45 pm | Melanie Ricke-Hoch |
| | tutorial | 07.05.2026 | 3:00 – 4:00 pm | |
| **Regenerative approaches: Heart and vessels 3**<br>- Angiogenesis and arteriogenesis in development and disease | seminar | 07.05.2026 | 4:15 – 5:45 pm | Florian Limbourg |
| | tutorial | 21.05.2026 | 3:00 – 4:00 pm | |
| **Regenerative approaches: Heart and vessels 4**<br>Cardiac differentiation of pluripotent stem cells & myocardial TE | seminar | 21.05.2026 | 4:15 – 5:45 pm | Ina Gruh |
| | tutorial | 28.05.2026 | 3:00 – 4:00 pm | |
| **Good Manufacturing Practice (GMP), Advanced Therapy Medicinal Products (ATMP)** | seminar & tutorial | 28.05.2026 | 4:15 – 5:45 pm<br>**Feodor-Lynen-Str. 21*** | Stephan Klöß |
| **Conditioning of autologous cells for Tissue Engineered products** | seminar | 04.06.2026 | 4:15 – 5:45 pm<br>**NIFE*** | Cornelia Blume, Sebastian Heene |
| | tutorial | 11.06.2026 | 3:00 – 4:00 pm<br>**NIFE*** | |
| **Regenerative Approaches: Nerve**<br>- Degeneration and regeneration in the central and peripheral nervous system<br>- Animal models of acute and chronic neurotoxicity<br>- Cell therapy in the nervous system: neuronal and non-neuronal cells<br>- Application modes & Clinical trials | seminar | 18.06.2026 | 4:15 – 5:45 pm | Nadine Thau-Habermann |
| **The Axolotl – an Amphibian Model Organism of Regeneration** | seminar & tutorial | 25.06.2026 | 3:00 – 4:30 pm<br>**Feodor-Lynen-Str. 21*** | Sarah Strauß |
| | | | 4:45 – 5:45 pm<br>**Feodor-Lynen-Str. 21*** | |
| **Hannover Unified Biobank (HUB)** | seminar & tutorial | 02.07.2026 | 3:00 – 4:30 pm | Norman Klopp |
| | | | 4:45 – 5:45 pm<br>**HUB*** | |

## Additional offers:

Limited number of participants. **Registration required!**

**Meet The Expert**

| | | | | |
|---|---|---|---|---|
| **High-Throughput qPCR Molecular Diagnostics: Understanding Allies and Adversaries of Industry Occupation** | Thomas Müller, Molecular Biology, Synlab Medical Care Unit Weiden | HBZ | **FRIDAY, 05.12.2025** | 10:30 am–12:00 pm |
| **Ethics in Life Sciences** | Nils Hoppe Centre for Ethics and Law in the Life Sciences | | **tbd** | |

**Method-based Seminars**

| | | | | |
|---|---|---|---|---|
| **Tissue regeneration in axolotl** | Prayag Murawala, MDIBL | online | **WEDNESDAY, 05.11.2025** | 04:15-05:45 pm |
| **Basics of Machine Learning & Deep Learning I & II*** *(*Participation requires attendance of both seminars)* | Joachim Wolff Hematology & Oncology | I06 | **WEDNESDAY, 03.12.2025**<br>**WEDNESDAY, 10.12.2025** | 4.00 – 5:30 pm |
| **Insight into working as a scientist in forensic medicine** | Julia Leonardy | HBRS | **TUESDAY, 09.12.2025** | 03:30-04:30 pm |
| **Animal experiments** Introduction to animal experiments & presentation of the animal house | André Bleich, Central Animal Facility | Central Animal Facility | **FRIDAY, 12.12.2025** | 13:00 - 14:30 pm |
| **Isolation and analysis methods for extracellular vesicles** | Anton Selich, IMTTS | HBZ | **TUESDAY, 13.01.2026** | 03:00 – 05:00 pm |
| **Application of human stem cells to study cardiac ageing: from development to disease** | Shambhabi Chatterjee, IMTTS | HBZ | **TUESDAY, 27.01.2026** | 4:30 – 6:30 pm |
| **Methods for transcript expression and splicing analysis** | Dhanya Ramachandran, Molecular Gynecology | HBZ | **TUESDAY 03.02.2026** | 4.00 – 6:00 pm |
| **Models of lung inflammation induced by environmental cues** | Carola Voss LEBAO | HBZ | **TUESDAY, 17.02.2026** | 03:00 – 04:30 pm |

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| **Seq-ing for answers in chromatin & Deciphering transcription:** ChIP-seq, ATAC-seq, HiC-seq - Step-by-Step introduction to key methods of chromatin biology & using Next-Generation Sequencing to determine different measures of transcriptional output - from PRO-Seq, GRO-Seq and SLAM-Seq to total RNAseq | Florian Perner, Hematology, Hemostaseology, Oncology and Stem Cell Transplantation | HBZ | **WEDNESDAY, 08.04.2026** | 03:00 – 5:00 pm |
| **Functional genomics screening: revealing unbiased functional perspectives using pooled CRISPR-Cas9 screens** | Florian Perner, Hematology, Hemostaseology, Oncology and Stem Cell Transplantation | HBZ | **WEDNESDAY, 22.04.2026** | 3:00 – 5:00 pm |
| **The cytoplasmic contribution to epigenetics** | Dustin Updike, MDIBL | online | **WEDNESDAY, 13.05.2026** | 4:15 - 5:45 pm |
| **Mesenchymal stem cells: One for all?** | Andrea Hoffmann, NIFE | NIFE | **WEDNESDAY, 27.05.2026** | 03:00 - 04:30 pm |
| **Laser based methods for imaging and manipulation of cells and tissue** | Stefan Kalies, IQO, LUH | NIFE | **THURSDAY, 23.07.2026** | 10:00 am - 12:00 pm |
| **The science of aging: Understanding Senescence and Longevity** | Stevan Stojanovic, IMTTS | HBZ | **WEDNESDAY, 19.08.2026** | 3:30 – 5:00 pm |

**Locations:**

**HBZ:**
Hans-Borst-Zentrum (HBZ), MHH, building J11, level S0, seminar room 6040

**NIFE:**
Niedersächsisches Zentrum für Biomedizintechnik, Implantatforschung und Entwicklung - NIFE
(Lower Saxony Centre for Biomedical Engineering, Implant Research and Development)
Stadtfelddamm 34
30625 Hannover

# Course offer of the PhD Program

## "Auditory Sciences: Physics and Engineering, Physiology and Therapy of Hearing"

For further information and registration, please contact (if not noted otherwise):
baumhoff.christine@mh-hannover.de for courses in Hannover
mark.pottek@uni-oldenburg.de for courses in Oldenburg

## Obligatory courses:

| Title | Instructor(s) | Credit | Time and place |
|---|---|---|---|
| **1.1 Clinic, Diagnostic and Therapy of Peripheral and Central Hearing Disorders** | Prof. Dr. Thomas Lenarz | 25 hours<br>3 CP | MHH<br>building K6, node B, 6th floor, seminar room S66<br>Date t.b.d. |
| **1.2 Audiology and Physics of Hearing** | Prof. Dr. Hannes Maier | 15 hours<br>11,5 CP | MHH<br>NIFE, M20-01-1140<br>Date t.b.d. |
| **1.3 Sensory Neuroscience** | Prof. Dr. Andrej Kral | 25 hours<br>3 CP | MHH<br>NIFE, M20-01-1140<br>**19.01.2026-23.01.2026** |
| **1.4 Imaging Methods in Medicine** | Prof.'in Dr. Lilli Geworski | 25 hours<br>3 CP | MHH<br>Building K7, floor S0, seminar room 1321<br>Date t.b.d. |
| **1.5 Psychophysical Methods in Hearing Research** | Prof. Dr. Andreas Büchner, PD Dr. Daniel Schurzig, Dr. Sabine Haumann | 15 hours<br>1,5 CP | MHH<br>Seminar room "DHZ", Hannover<br>**January/February 2026** |
| **1.6 Audio signal processing** | Prof. Dr. Waldo Nogueira | 15 hours<br>1,5 CP | MHH<br>Hannover<br>Date t.b.d. |
| **1.7 Introduction to Biomaterials, Laser Spectroscopy and Microelectronics** | Prof. Dr. Andreas Heisterkamp,<br>Prof.'in Cornelia Blume,<br>Prof. Dr. Holger Blume | 25 hours<br>3 CP | LUH<br>Hannover<br>Date t.b.d. |
| **1.8 Fundamentals in Auditory Physiology** | Prof.'in Christine Köppl,<br>Prof. Georg Klump | 30 hours<br>3 CP | UOL<br>Block course during SuSe |
| **1.9 Summer School and Internal Retreat** | N.N. | 20 hours<br>2 CP | Summer 2026<br>Visselhövede |

## Elective courses at MHH:

| Title | Instructor(s) | Credit | Time and place |
|---|---|---|---|
| **2.1 Nanotechnology in Medicine** | Prof. Dr. Theo Doll | 12 hours<br>1 CP | MHH, NIFE<br>On request |
| **2.2 Sound Coding Strategies and Signal Processing Methods for Cochlear Implants and Hearing Aids** | Prof. Dr. Waldo Nogueira | 15 hours<br>1.5 CP | MHH<br>On request |
| **2.3 Modulation of Basal Ganglia Activity in Movement Disorders by Functional Neurosurgery** | Prof. Dr. Joachim Krauss | 1.5 hours | MHH<br>On request |
| **2.4 Animal Models for Psychiatric Disorders** | Prof.'in Dr. Kerstin Schwabe | 1.5 hours | MHH<br>On request |
| **2.5 Auditory Plasticity** | Prof. Dr. Andrej Kral | 25 hours<br>3 CP | MHH, NIFE<br>On request |
| **2.6 Scientific Writing** | Prof. Dr. Andrej Kral | 30 hours<br>3 CP | MHH, NIFE<br>On request |
| **2.7 Statistical Approaches in Auditory Sciences** | Prof. Dr. Andrej Kral,<br>Dr. Wiebke Konerding | 10 hours<br>1 CP | MHH, NIFE<br>On request |
| **2.8 Lab Meeting Otolaryngology** | N.N. | 1 hour /<br>meeting | MHH, NIFE, M20-S0-2520,<br>Wed noon |
| **2.9 Journal Clubs and Colloquiums** | Prof. Dr. Andrej Kral<br>Prof. Dr. Waldo Nogueira<br>Prof.'in Dr. Lilli Geworski | 1 hour/<br>meeting | MHH |
| **2.10 Hearing(4all) Research Seminar** | N.N. | 1 hour /<br>meeting | MHH<br>Place: t.b.a. |
| **2.11 Audio Signal Processing for Cis and Hearing Aids in Python** | Prof. Dr. Waldo Nogueira | 15 hours<br>2 CP | MHH, NIFE<br>On request |

## Combined electives:

Medizinische Hochschule Hannover · Carl von Ossietzky Universität Oldenburg · Leibniz Universität Hannover

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|---|---|---|---|
| **2.12 Combined Hot Topic Seminar (Web Conference)** | Dr. Christine Baumhoff,<br>Dr. Mark Pottek | 1 h /<br>seminar | MHH/UOL/LUH<br>Dates t.b.a. |

# PhD Program "Epidemiology"

| Module | Type | Dates 2025/2026** | Units*/TUs*** |
|---|---|---|---|
| Journal Club | Presentations by students | Monthly | Regular attention and one own presentation required (1 TU per meeting) |
| R Coding Club | Presentations by students and postdocs | Monthly | Regular attention and one own presentation required (1 TU per meeting) |
| Science Club | Presentations by students and postdocs | Monthly | Regular attention and one own presentation required (1 TU per meeting) |
| Outbreak & Surveillance Investigations | | Every two years | tbd |
| **Basic modules (1st year students)** | | | |
| Introduction to Infectious Disease Epidemiology | | Dec. 2025 | 2 units (4 TUs) |
| Regression Models | | Dec. 2025 | 4 units (8 TUs) |
| Basics of Infectious Diseases | | Dec. 2025 | 3 units (6 TUs) |
| Good Epidemiological Practice (GEP) | | Dec. 2025 | 2 units (4 TUs) |
| Introduction Stata/R | | Dec. 2025 | 3 units (6 TUs) |
| Basic concepts of probability and statistics incl. AI | | Dec. 2025 | 2 units (4 Tus) |
| Qualitativ study design | | Dec. 2025 | 1 unit (2 TUs) |
| Introduction to Modelling | | June 2026 | 4 units (8 TUs) |
| Data Protection and Ethical Aspects of Science | | June 2026 | 2 units (4 TUs) |
| Survival Analysis | | June 2026 | 3 units (6 TUs) |
| How to publications | | June 2026 | 1 unit (2 TUs) |
| Vaccinology | | June 2026 | 1 unit (2 TUs) |
| Empirical Methods | | June 2026 | 4 units (8 TUs) |

| **Advanced modules (2nd / 3rd year students)** | | | |
|---|---|---|---|
| Advanced statistical and epidemiological methods | | Dec. 2025 | 9 units (18 TUs) |
| One health & climate | | Dec. 2025 | 3 units (6 TUs) |
| Digital epidemiology | | Dec. 2025 | 2 units (4 TUs) |
| Basics of Lab | | Dec. 2025 | 2 unit (4 TUs) |
| Mixed methods | | Dec. 2025 | 1 unit (2 TUs) |
| Machine Learning | | June 2026 | 8 units (16 TUs) |
| Systematic Reviews und Metaanalysis | | June 2026 | 6 units (12 TUs) |
| Inter-/trans-/multidisciplinary | | June 2026 | 1 unit (2 TUs) |
| Population based cohorts | | June 2026 | 1 unit (2 TUs) |

* Units = 1 unit á 90 minutes. Teaching modules in the PhD Programme “Epidemiology” are usually organized as compact courses.
** Additional modules or courses may take place, depending on capacity and need.
*** TU=Teaching Unit (à 45 min)

Students enrolled in the PhD Programme “Epidemiology” and conducting their research work at the HZI are offered to attend courses and symposia organized by the HZI Graduate School.

Students of the PhD Programme “Epidemiology” are encouraged to attend courses at institutes of the MHH and of the HBRS at the MHH. Teaching units are accredited after consulting with the coordinating team and in line with the requirements of the programme.

The annual PhD retreat of the Programme “Epidemiology” is taking place annually in Braunschweig; the next meeting is scheduled for Summer 2026.

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# Biomedical Data Science

## Curriculum Winter and Summer Semester 2025/2026

The BIOMEDAS curriculum builds upon the fields of:

- Computer Science: discipline of formalisms and scalable algorithmic processes;
- Data Science: discipline for discovering intrinsic data properties, value, and actionable insights;
- Open Science: field for enabling access to research outcomes; and
- Biomedicine: area that combines natural sciences, especially the biological and physiological sciences, to clinical medicine

and thus, offers a multidisciplinary curriculum to train data scientists with the required skills to address the challenges of transforming biomedical data into actionable knowledge that will support the discovery and interpretation of insights in biomedicine.
Depicted program modules below develop the required skills using mathematical and computational models to draw reliable conclusions from biomedical data. The accompanying program provides efficient further qualification.

Information given as of Sept 2025.
The actual curriculum can be viewed here at any time:

In case of questions, please contact the BIOMEDAS office: biomedas@translationsallianz.de

# Program modules

The program modules group into four clusters (Biomedical Science, Computational Method Development, Machine Learning and Data Mining, Interdisciplinary) and consists of lecture series and related methodological courses.

# Journal Club and Progress Seminar

| Title | Lecturer/Organizer | Duration/Credit | Time/Place |
|---|---|---|---|
| BIOMEDAS Journal Club | BIOMEDAS students | 45 min/bi-weekly | tba/web-based |
| BIOMEDAS Progress Seminar | BIOMEDAS students | 45 min/bi-weekly | tba/web-based |

# Annual Retreat

The annual PhD retreat of the Program BIOMEDAS is taking place annually. More information to follow.

# Soft Skill Courses

Please refer to the courses offered via the HBRS.

# Alternative Courses

Students enrolled in BIOMEDAS are encouraged to attend courses with relevant content from other graduate programs or university lectures of partner institutions. Hours of lessons can be accredited after consulting with the thesis committee and in line with the requirements of the program.

# Specific seminars and practical courses

(see special announcements provided by the HBRS office, program offices and the respective departments)

## Organized by the HBRS Office:

***Presentation of projects / retreat (weekend, 2 days; for MD / PhD MM: 5th / 6th March 2026)***

***Gene Technology Security (September 2026, in English)***

***Translation workshop (Drug development, Patenting, Clinical Studies etc.: TBA)***

***Career Day (March 27th, 2026)***

***GMP / GLP workshop (Spring 2026, Gerdelmann, Pägelow and Papamichael, ITEM)***

***Scientific communication / writing, "tips and tricks" (January 16th, 2026, Kruse)***

***Animal Experiments (3 days theory: November 4th to 6th, 2025; exam November 20th 2 pm, 2025)***
***2-day practical courses: December 1st/2nd or 8th/9th 2025 Bleich / Dorsch)***

***Conflict Management (November 4th and November 12th, 2025; Pfeiffer / Golin)***

***Time Management (January 7th and 20th, February 10th, 2026, Golin)***

***Team Work and Leadership (March 17th, 2026, Golin)***

***Intercultural communication (March 18th to 20th, 2026; A. Petersen, Aachen)***
***Seminars on career perspectives (continuously)***

***Bioinformatics: TBA***

***<u>Further courses</u>: Career Coaching, Project Management, Team Leadership, Drug Development, Presentation workshops (German and English), Story Telling, Change Management, Mental Health, Stress Management, Weekend Workshop German Culture in Berlin etc. will be announced in course of the year.***

## Seminars offered by Helmholtz Centre for Infection Research Braunschweig, TWINCORE, Fraunhofer Institute or TiHo: see announcements

## Lectures (see special announcements and websites)

**Interdisciplinary**

- Seminars of the SFBs
- Seminars of Clusters of Excellence"
- Immunological Colloquium
- Gastroenterology Colloquium
- Microbiological Colloquium, Virological Colloquium

**In the departments (a must!!**)

- Lab-Seminars
- Journal-Clubs (these should be in English!)

**Internal practical courses**

The supervisors will provide you with special practical trainings if needed. You might also ask your co-supervisors or fellow PhD students for help.

Program offices and HBRS will offer a number of short practical courses (see announcements).

## German Classes

Tuesdays: 3.30 - 5.00 pm (beginners, Ms Anna Kiefer), seminar room 1031 (J4, level 01);
Tuesdays: 5.15 - 6.45 pm (advanced A2, Ms Anna Kiefer); seminar room 1031 (J4, level 01)

## English conversation and language skills

Tuesdays: 5.30 pm - 6.45 pm (Ms Lidia Lange), HBRS seminar room 1140 (J4, level 01)

### Optional

Note: You are welcome to visit most of the seminars / courses organized for the German Biology and Biochemistry students, as well as medical students. You are also welcome to visit seminars / courses offered by all programs of HBRS [including the Graduate School at the University of Veterinary Medicine Hannover (TiHo)].

http://www.mhh.de/hbrs
http://www.helmholtz-hzi.de

# Rules and Requirements for Postgraduate (PhD) Studies and Examinations in structured doctoral programs of Hannover Biomedical Research School (HBRS), Hannover Medical School

On December 15th, 2000 the Senate of the Hannover Medical School approved the following **Rules and Requirements for Postgraduate (PhD) Studies and Examinations in structured doctoral programs of Hannover Biomedical Research School (HBRS)** [alternatively Dr. rer. nat.]. *(Modifications on June 4th 2002, February 11th 2004, April 21st 2005, March 14th 2007, April 15th 2009, November 9th 2011, November 14th 2012, June 18th 2014, May 11th, 2016, February 1st, 2017, October 17th, 2018, January 15th, 2020, November 9th, 2022 and June 4th, 2025)*

## § 1
## Objective of PhD Studies

Research studies at the Hannover Medical School (MHH) for the purpose of obtaining a PhD or Dr. rer. nat. degree (hereinafter referred to as PhD studies) shall facilitate postgraduate training with a focus on specific research projects with a view to enabling the candidate to do in-depth scientific work on his or her own and to provide him or her with additional professional qualifications for future assignments in research or related areas of work. PhD studies shall foster the development of outstandingly gifted up-and-coming academics. The standard time allowed for completing PhD studies shall be three years. Once these PhD studies have been successfully completed, and the PhD examination has been passed, the MHH will award the degree of a Doctor of Philosophy (PhD) to medical students (including dentists), veterinarians, pharmacists, engineers, life scientists, and graduates with biomedical or health science related focus or Dr. rer. nat. to natural and life scientists and pharmacists (not to medical students).

## § 2
## Requirements for Access and Admission

(1) Anybody having successfully completed university studies in medicine, veterinary medicine, engineering, pharmacy, natural sciences or biomedical / health science focus (normally Master, Diploma or Staatsexamen / MBBS) shall have access to PhD studies.

(2) Applicants are required to render evidence of above-average results obtained at university. The applicant's past career must reveal his or her particular qualification for and dedication to scientific work. Decision on whether or not a candidate qualifies for access to PhD studies is up to the PhD Program Committee (§ 4).

## § 3
## Admission to PhD Studies

(1) The number of applicants that can be admitted to PhD studies is limited; the number depends on the respective program. The respective PhD Program Committee shall select the applicants to be admitted (§ 4). As a rule, the President of the MHH will give notice of the date of commencement of PhD studies once a year.

(2) Details of the as a rule three-step selection process (written application, written test in home countries or selection by program committee, interview) are regulated in the respective program 'rules of admission'.
(3) Application papers shall be submitted to the chairperson of the PhD Program Committee. Details of current application procedures are described on the website of HBRS.
(4) On the basis of the results of the selection process, the PhD Program Committee shall decide on admission to PhD studies.

(5) At MHH, candidates are enrolled as PhD students for the whole duration of their PhD work. Matriculation is done at the beginning of studies (usually winter semester).

## § 4
## PhD Program Committee

(1) The respective PhD Program Committee shall be responsible for the conduct of PhD studies according to the Rules and Requirements for postgraduate studies and examinations to obtain a PhD (Dr .rer .nat.) degree. In the PhD program Infection Biology / DEWIN the steering committee of the Centre for Infection Biology (ZIB) is acting as PhD program committee.

(2) As a rule, the PhD Program Committee shall be composed of four professors (or competent habilitated/senior scientists), a university scientist with a doctoral degree, and student representatives of every study year who have a joint vote. Students suggest on person from every batch to act as "class-speaker". Members of the PhD Program Committee shall be appointed by the scientists of a respective program for a period of four years, or two years in case of student members. Re-election shall be possible. The respective PhD Program Committee shall be affirmed by the Research Committee of MHH. The PhD Program Committee is then constituted by the Director of HBRS and shall elect a professor from among its ranks as chairman. The steering committee of ZIB is elected by its members. The steering committee then appoints a speaker among their ranks.

(3) The PhD Program Committee will meet regularly.

(4) The PhD Program Committee will evaluate proposed projects (open projects) according to quality (with external referees if necessary), financial support, guarantee of independence for PhD students.

(5) The PhD Program Committee shall appoint a team of co-supervisors (thesis advisory board) for each PhD student. Team members shall be habilitated or equally qualified. The team of co-supervisors shall be composed of the student's personal supervisor at the MHH or partner institutes, and two further scientists qualified as university teachers whose professional activity shall be closely related to the subject of the project. Members of the thesis advisory board usually come from different departments/institutes. In case of several PhD students doing research in the same line, the respective co-supervisors' teams can be composed of the same individuals.

## § 5
## Contents of Studies

(1) The contents to be learned shall be conveyed to the students through their experimental or equivalent theoretical research work and through project-related as well as inter-disciplinary research-oriented courses and seminars. For that purpose, the PhD Program Committee shall prepare and submit, after consultation with the university institutions or partner institutes involved in these studies, a curriculum indicating compulsory and recommended courses or seminars for each discipline.
The courses and seminars shall be held by the teachers and professors of the MHH as well as partner institutes, including visiting professors. Teaching shall be in English. Lectures and seminars of different programs are mutually acknowledged. PhD students may also register for suitable courses or seminars offered by other scientific schools (Leibniz University, University of Veterinary Medicine, etc.). Students are encouraged to do active teaching themselves, e. g. by giving lectures at seminars or postgraduate research training programs [Graduiertenkolleg]. PhD students independently maintain a study book, in which all training activities and presentations are documented. Each student's individual progress at PhD courses and seminars shall be monitored by the respective teachers (by signatures in study books).

(2) PhD students shall design, after consultation concert with their co-supervisors, their respective individual schedules pursuant to the curriculum established by the PhD Program Committee. Such individual schedule shall require approval by the respective co-supervisors' team. The student must complete a minimum of 300 hours at courses and seminars during his or her PhD studies; as a rule, at least 80% thereof must be taken at project-related courses and seminars and up to 20% may be spent on interdisciplinary learning (e. g. experimental techniques and bio-informatics, molecular biology, bio-statistics, scientific communication etc.).

During the first year of PhD studies, courses for physicians, dentists and veterinarians are intended to provide participants with a chance to consolidate their knowledge of the fundamental principles of natural sciences and courses for natural scientists are intended to consolidate their knowledge in medical aspects.

(3) PhD students could apply for a leave if justified (e. g. in case of pregnancy), but for no more than 12 months. Short time stays abroad are very much appreciated and will be supported. If students take seminars and courses abroad, they could be acknowledged for the respective PhD program.

## § 6
## Supervision

(1) PhD students shall supervised by the members of their respective thesis advisory board (§ 4) appointed by the PhD Program Committee. The responsibilities of the team shall be:

a) To act as co-supervisors and to give individual expert advice to PhD students all through their PhD studies.

b) Within the scope of their research project, students have to work with appropriate methods on a clearly defined subject so that, with some realistic prospect of success, scientific knowledge can be expected to be incremented and the results of such research should be published in international peer-review journals. The co-supervisors shall make sure, and satisfy the PhD Program Committee to that effect, that students are not entrusted with any tasks unrelated to their PhD studies.

c) To evaluate PhD students' progress during their studies by receiving their reports (annually) and conducting exams; and to assess their written final examination papers. The thesis advisory board meeting is conducted at least once a year. It is documented by a written protocol.

d) Within a time of probation of 6 months from start of the PhD project, PhD students have to prove themselves and are evaluated mainly by the main supervisors. Within this time peroid, student status can be changed easily on both sides in agreement with the team of co-supervisors and PhD Program Committee. Upon request, the PhD Program Committee can decide about the termination of collaboration with the student.
The termination of collaboration after the time of probation requires first a moderated discussion by a member of the PhD Program Committee between the student and the respective thesis advisory board. A student member of the PhD Program Committee is allowed to join as well. Afterwards, the PhD Program Committee announces their recommendations.

(2) The supervisors shall be responsible for the financing of the respective research project and shall make efforts, during the whole period of PhD studies (standard period of study three years), to raise the money needed for the PhD students they are in charge of. Any scholarships available at the MHH shall be awarded or distributed to the individual PhD programs by resolution of the HBRS Committee of MHH.
(3) (Co-)supervisors should assist PhD students in planning their further professional career.
(4) The responsibilities of (co-)supervisors for PhD students shall end upon the date when the latter pass their PhD examination (§ 10), which is normally three years but no later than five years after commencement of PhD studies. The duration of PhD could only be extended in exceptional cases for a maximum of one year. Reasons could be: a) intermittent medical training (specialization) by medical students during their PhD studies, b) prolonged parental leave or c) serious illness.

## § 7
## Scientific Colloquia (retreats)

(1) PhD students shall be invited annually by the PhD Program Committee to attend a public colloquium (retreat), giving them an opportunity to give an oral or poster presentation on the current status of their research (§5). The contents of such presentation, constituting an interim / project report, shall be submitted in writing by the PhD student to the PhD Program Committee.

(2) The PhD Program Committee shall decide whether or not this progress report constitutes a sufficient step towards the successful completion of the student's research. If the Committee's comment is negative, such result shall be communicated in writing to the student and his or her co-supervisors' team, indicating the reasons.

(3) Pursuant to a period of one month, the student shall submit a modified work plan for the next year of his research, giving due consideration to the recommendations made.

## § 8
## Intermediate Examination

(1) The oral intermediate examination shall be held no later than 18 months after commencement of PhD studies. By way of exception, which must be well-founded, the intermediate examination can be taken at a later date. If a student wishes such exception, he shall apply in writing to the PhD Program Committee adding a comment prepared by his co-supervisors' team.

(2) The dates for intermediate examinations shall be determined by the PhD Program Committee. The intermediate examination shall be held by an expert in the special field and an additional member of the HBRS faculty (chairman). These two examiners are elected by the PhD Program committee. The exam shall cover topics from the student's research project and from the courses and seminars the student has registered for. The examination usually is held in English.

(3) The following grades are given: excellent / very good / good / sufficient/ failed

(4) If the student fails the intermediate examination he shall be allowed to retake it once, pursuant to a period of at least three and no more than six months as the examiners may decide. If the student fails again, he or she shall be deemed to have finally and absolutely failed. Following such final and absolute failure the student shall be taken off the register.

(5) The "chairman" shall report the result of the intermediate examination to the PhD Program Committee. The result of the exam will account for 20% of the final grade (PhD or Dr. rer. nat.).

## § 9
## Requirements for Signing up for PhD Examination

(1) After completion of PhD studies, which is normally at the end of the third year, the PhD examination shall be held. The PhD student shall submit the following documents when signing up for the PhD examination:

a) Certificate of regular attendance at and completion of courses and seminars according to the curriculum, i.e. a total of at least 300 hours, and of three colloquia pursuant to § 7;

b) Certificate of attendance of a course on "good scientific practise",

c) Certificate of intermediate examination;

d). A scientific thesis (dissertation) prepared as a Monograph in English or German by the PhD student on the research project the student worked on during his or her PhD studies, with introduction, materials and methods, results, discussion and summary. The thesis shall constitute an essential original scientific contribution to the discipline the student's research project pertains to;

e) Alternatively (instead of a Monograph), usually two first author publications in internationally peer reviewed science journals (published or accepted) as a cumulative thesis. Shared first authorships are allowed. The PhD student's personal contribution to such publications must be clearly identified as well as the contribution of the other authors. In that context, "accepted" shall be deemed equivalent to "published". As for this publication requirement, exceptions are possible with reasons to be given by the supervisor.
The publications must be in one scientific context, and shall be supplemented by a newly composed, detailed description under a joint title in English or German of the research subject, including an overall summary and a discussion of results. Hereby, current literature shall be considered.

f) A written agreement to a potential screening of the thesis with plagiarism detection software (appendix 1).

(2) The final version of the dissertation should be submitted in up to three printed copies as well as a digital version (appendix 2).

(3) Before evaluation by the internal/external examiners, the dissertation can be checked for the agreement with the MHH guidelines on "good scientific practice". This includes the screening of primary data as well as screening for plagiarism. In case of suspicion of scientific fraud, the dissertation is passed on to an ombudsman, who can initiate proceedings according to the guidelines on „good scientific practice". During the ombudsman proceedings, the PhD process is paused.

(4) The PhD is obliged to follow the Artificial Intelligence guidelines of MHH (including all supplementary instructions). Patent as well as data protection rules and implications have to be observed.

(5) The registration for the PhD examination (the submission of the PhD thesis) can be withheld after the PhD student had announced this to the PhD committee in written form. The PhD program committee informs the office of president.

(6) To assess the thesis, the PhD Program Committee shall procure at least two independent expert opinions. Usually there is one external expert's opinion, as well as one internal expert's opinion. Experts are experienced researchers with a habilitation (or equivalent qualification). The external expert shall not be a member of MHH or HBRS faculty. The internal expert is not a member of the thesis advisory board. To be on the save side, one expert shall be nominated as substitute in case of unforeseen drop outs. For the Dr. rer. nat., at least one of the experts (internal or external) has to have a natural scientist qualification. In addition, the co-supervisors' team shall prepare an expert report on the dissertation, and such report together with the external and internal expert's opinion shall serve to make the final assessment.

The following grades can be given in the reports:
excellent / very good / good / sufficient / failed
or
ausgezeichnet / summa cum laude,
sehr gut / magna cum laude,
gut / cum laude,
genügend / rite,
nicht bestanden / non sufficient

All three reports are considered equally for the final assessment, together 60% for the final mark.

(7) If one of the expert reports detects any shortcomings in the dissertation, the PhD Program Committee can be requested to have such shortcomings eliminated or remedied as a precondition for acceptance of the thesis. The chairperson can allow a reasonable period for the PhD candidate to remedy the shortcomings and recommend that he or she submit the thesis anew. In that respect, the chairperson of the PhD Program Committee can extend this period once only. The experts or the thesis advisory board shall assess the thesis again once the shortcomings have been remedied.

(8) If, based on such second experts' vote, the PhD Program Committee declines to accept the thesis, the candidate shall be deemed to have failed the PhD examination finally and absolutely. In that case, the PhD student shall be taken off the register.

## § 10
## PhD Examination

(1) The PhD examination consists of a public presentation (usually 15-20 min, in English) held by the PhD student at the Hannover Medical School on the subject of his research, a subsequent public disputation of the project of at least 30 minutes of duration to assess the knowledge acquired by the student on the subject of his specific area of research as well as on interdisciplinary subjects. The interview also serves to assess whether the candidate has acquired, and is able to apply, any knowledge and skills relating to the scientific environment of the subject of his research.

(2) The examination is taken by an examination board: the external and internal examiner as well as a member of the PhD Program Committee (with PhD degree) who acts as chairman.

(3) The final grade results from: the intermediate exam (20%), the written reports of dissertation by thesis advisory board/ the two experts' opinions (60%), the oral examination (20%). In justified exceptional cases, the examination committee may deviate from the latter rule.

(4) The oral examination shall be taken on record in abridged form and shall indicate:

A short summary of the examination content
the grade earned for the intermediate examination
the grade earned for the thesis (three independent written reports),
the grade earned for the oral examination,
the overall grade average earned for the PhD examination.

It shall be signed by the chairman of the board of examiners.

(5) The following grades can be awarded:

Excellent/ very good/ good / sufficient / failed

Equivalent to
ausgezeichnet / summa cum laude,
sehr gut / magna cum laude,
gut / cum laude,
genügend / rite,
Nicht bestanden / non sufficient.

The overall grade „excellent - summa cum laude" is usually awarded only if at least one first-author manuscript is accepted for publication. Shared first-authorships are considered equally.

(6) If the candidate fails the final examination, he or she shall be allowed to retake it once with the same board of examiners, pursuant to a period of at least three and no more than six months as the thesis advisory board may decide. Should the student then fail again, he or she shall be deemed to have finally and absolutely failed the PhD examination. Following such final and absolute failure the student shall be taken off the register.

(7) The result of the PhD examination shall be communicated to the PhD Program Committee and the President's office (in case of failure with reasons and instructions about a person's available legal remedies) as well as to all German universities.

## § 11
## Publication

(1) PhD students are obliged to publish their dissertation.

(2) Once the student has passed the PhD examination, he or she has to distribute within one year up to six copies of the dissertation (plus one electronic version). In case of an online publication with the library, three final copies are sufficient. Formatting has to be done according to the rules of MHH library. The publication in form of a monograph is allowed if it is clearly indicated that the dissertation has been published by MHH.

(3) If the deadline of one year is missed all rights acquired by the PhD exam are extinct.

(4) The PhD student together with the supervisor can apply at the 'Forschungsdekanat' for a so called 'Hold of the dissertation for publication' in order to protect intellectual property or patent issues. This application form needs to be handed in at the library together with the copies of the dissertation. In case of discordance of student and supervisor, the president of MHH or a designated person will decide on granting a 'Hold'. All information concerning the hold needs to be protected from unwanted distribution by a written agreement on confidentiality, for example in an application process. The PhD office can certify that the obligatory copies of the dissertation had been handed in and that the electronic version matches the printed version.

(5) In consequence, there is a delay in making the dissertation publicly available. The "Hold" can be applied for one year. It can be extended twice for another year upon request.

(6) At the end of the „Hold", the library is automatically publishing the dissertation if there is no further application for extension.

## § 12
## Award of the Academic Degree of a Doctor of Philosophy (PhD)

(1) After successful PhD examination and distribution of the final printed copies and an electronic version, as well as a declaration that all documentation, electronic data, lab books and materials had been handed over in the respective department/institute, he or she shall be awarded the academic degree of a Doctor of Philosophy (PhD) or a Dr. rer. nat. degree by the MHH.

(2) A document as shown in Appendix 3 and 4 shall be issued to him or her in evidence of such award. The award shall authorize the candidate to use the academic title of a PhD or Dr. rer. nat..

## § 13
## Abrogation, invalidity and revocation of the doctorate

**(**1) The examination board suspends the PhD examination procedure, if an investigative or criminal procedure concerning the doctorate is pending against the PhD student.

(2) If the doctoral candidate is found to be guilty of a serious breach of good scientific practice or deception regarding the doctoral achievements or that there are no essential requirements for admission to the doctorate, the Senate declares upon suggestion of the president, the immediate termination of the procedure and the invalidation of the PhD work performed so far. In this case, it is not permitted to conduct a PhD again at the MHH.

(3) If, after completion of the PhD, it turns out that the doctoral candidate committed a deception, threat or bribery during a doctoral thesis, the Senate can subsequently withdraw the doctoral degree after hearing the doctoral candidate. This applies in particular to deceptions about the circumstances mentioned in paragraph 2. If the doctoral degree is withdrawn, the president revokes the doctoral certificate and title. Paragraph 2 sentence 2 and paragraph 48 of the Administrative Procedure Act apply accordingly. Withdrawal affects the time of completion of the doctorate.

(4) The doctoral degree - including an honorary doctorate - can be withdrawn by the Senate, if the doctoral candidate has been legally sentenced to at least one year in prison for an intentional crime or if he or she has been legally sentenced for an intentional crime in its preparation and perpetration of the doctoral degree. Paragraph 48 of the Administrative Procedure Act applies accordingly.

## § 14
## Coming into Effect

The Rules and Requirements for Postgraduate Studies and Examinations in structured doctoral programs of Hannover Biomedical Research School (HBRS) to obtain a PhD degree (or Dr. rer. nat.), as approved by the senate of MHH, are hereby published within the Hannover Medical School and are coming into effect.

Hannover,

The President
Professor Denise Hilfiker-Kleiner, PhD

Appendix 1 Declaration

Declaration

Herewith, I confirm that I have written the present PhD thesis myself and independently, in compliance with "the policy of Hannover Medical School on the safeguarding of good scientific practice and procedural rules for dealing with scientific misconduct" and that I have not submitted it at any other university worldwide.
Herewith, I agree that MHH can check my thesis by plagiarism detection software as well as randomly check the primary data. I am aware that in case of suspicion, ombudsman proceedings according to § 9 of MHH 'Guidelines of Hannover Medical School to guarantee good scientific practice and dealing with scientific fraud' will be initiated. During such proceedings, the PhD process is paused.

Hannover, (Month Year)

Appendix 2. Front pages of thesis (example)

Title

Logo of PhD Program

A thesis submitted for the degree of
Doctor of Philosophy (PhD) [or Doctor of Natural Sciences (Dr. rer. nat.)]
in the subject of XXX
by
First name Last name, Degree (e.g. Master)
Month Year

Hannover Medical School
International PhD program "XXX"
in Hannover Biomedical Research School (HBRS)
Department of XXX

2nd page

Acknowledged by the PhD committee and head of Hannover Medical School

President: Prof. Denise Hilfiker-Kleiner, PhD
Supervisor:
Co-supervisors:
External expert:
Internal expert:
Day of final exam/public defense:

**Example of PhD certificate (According to § 11)**

Appendix 3

(MHH Logo)
Die Medizinische Hochschule Hannover unter der Präsidentschaft der Professorin / des Professors
Name Vorname verleiht
Frau / Herrn Vorname Name
geboren am TT Monat JJJJ in Stadt, Land
den Grad einer / s
Doktorin / Doktors der Naturwissenschaften (Dr. rer. nat.)
bzw. Doctor of Philosophy (PhD)
nachdem sie / er im Rahmen der Hannover Biomedical Research School unter Teilnahme am PhD Programm XXXX durch ihre / seine Dissertation
TITEL
angefertigt in der Abteilung, Institut, Einrichtung,
sowie der öffentlichen Disputation der Arbeit ihre / seine Befähigung zu vertiefter selbstständiger wissenschaftlicher
Arbeit nachgewiesen und dabei das Gesamturteil
Summa Cum Laude (exzellent) / Magna Cum Laude (sehr gut) / Cum Laude (gut) / Rite (genügend)
erhalten hat.
Hannover, den TT Monat JJJJ
(Siegel)

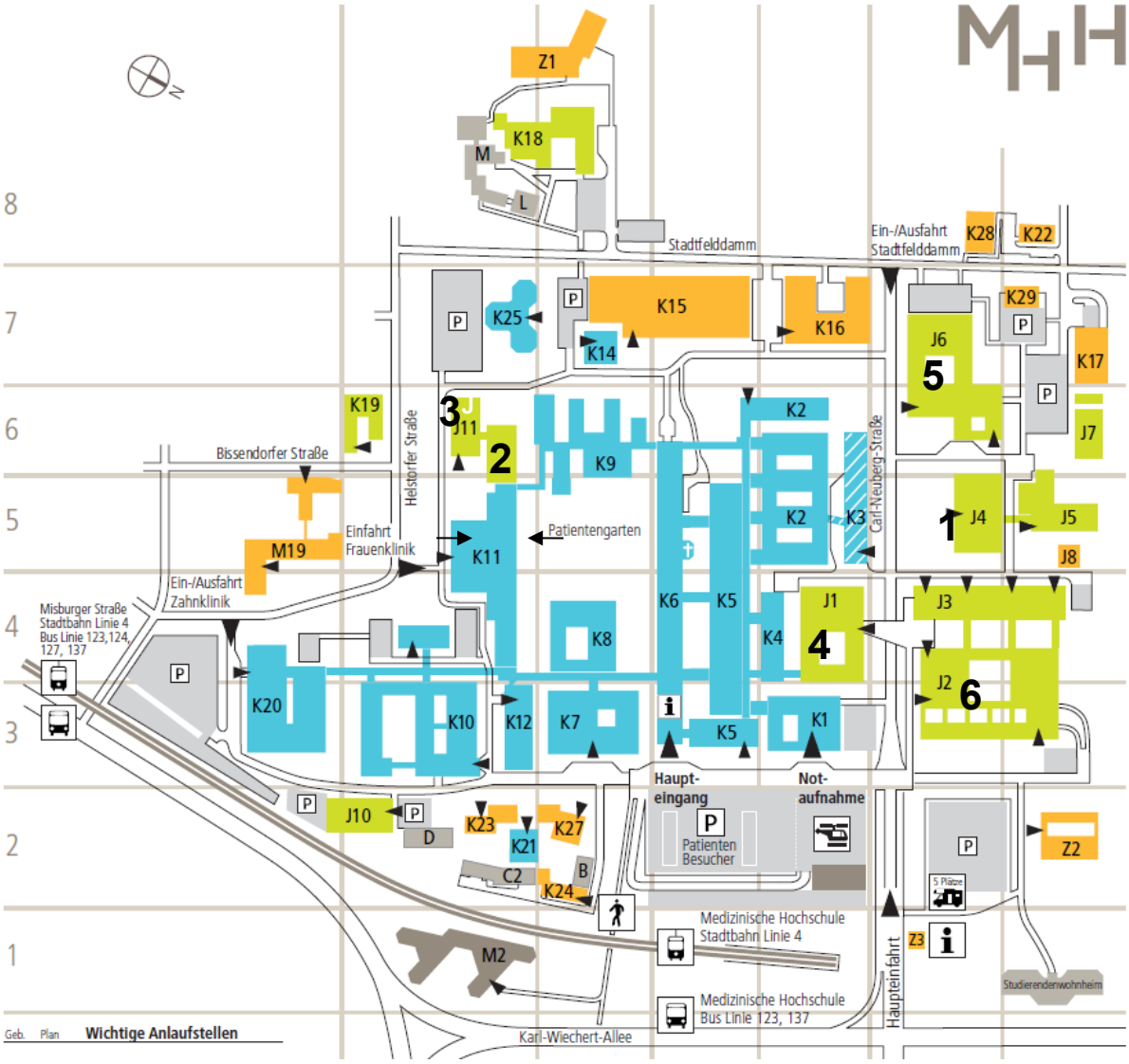
| | |
|---|---|
| Unterschrift | Unterschrift |
| Programmsprecher/in | Präsident / in der Medizinischen Hochschule Hannover |

Appendix 4

(MHH Logo)
Hannover Medical School under its President Professor first name last name confers upon
first name last name
Born on DD Month YYYY in town, country
the degree of
Doctor rerum naturalium (Dr. rer. nat.) / Doctor of Philosophy (PhD)
having participated in the PhD Program xxx within Hannover Biomedical Research School and having demonstrated the ability to undertake advanced independent research in his/her thesis
TITEL,
completed at the Institute of xx, Hannover Medical School, and a public defense of this thesis, which has been awarded the overall grade of
excellent (summa cum laude) / very good (magna cum laude) / good (cum laude) / sufficient (rite)

Hannover, DD Month YYYY

| | |
|---|---|
| Signature | Signature |
| Chairman / woman PhD Program | President |




## 1: Building J4 (Forschungswerkstätten)

**MD/PhD/ HBRS Office; HBRS seminar room 1140; level 1**
**Seminar room 1031, level 01,**
**Seminar room S 1400 (ground floor),**

## 2: TPFZ Research building

**(for entrance see arrows)**
**PhD Infection Biology and DEWIN Office, level 2**
**Seminar room 1420, ground floor**

## 3: HBZ Building (Hans Borst Zentrum, J11)

**PhD Regenerative Science Office, level 2**
**Seminar room, ground floor**

## 4: Main lecture hall building (F-N), Library, registrar's office

## 5: Lecture halls Q, R

## 6: Lecture halls A - E