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

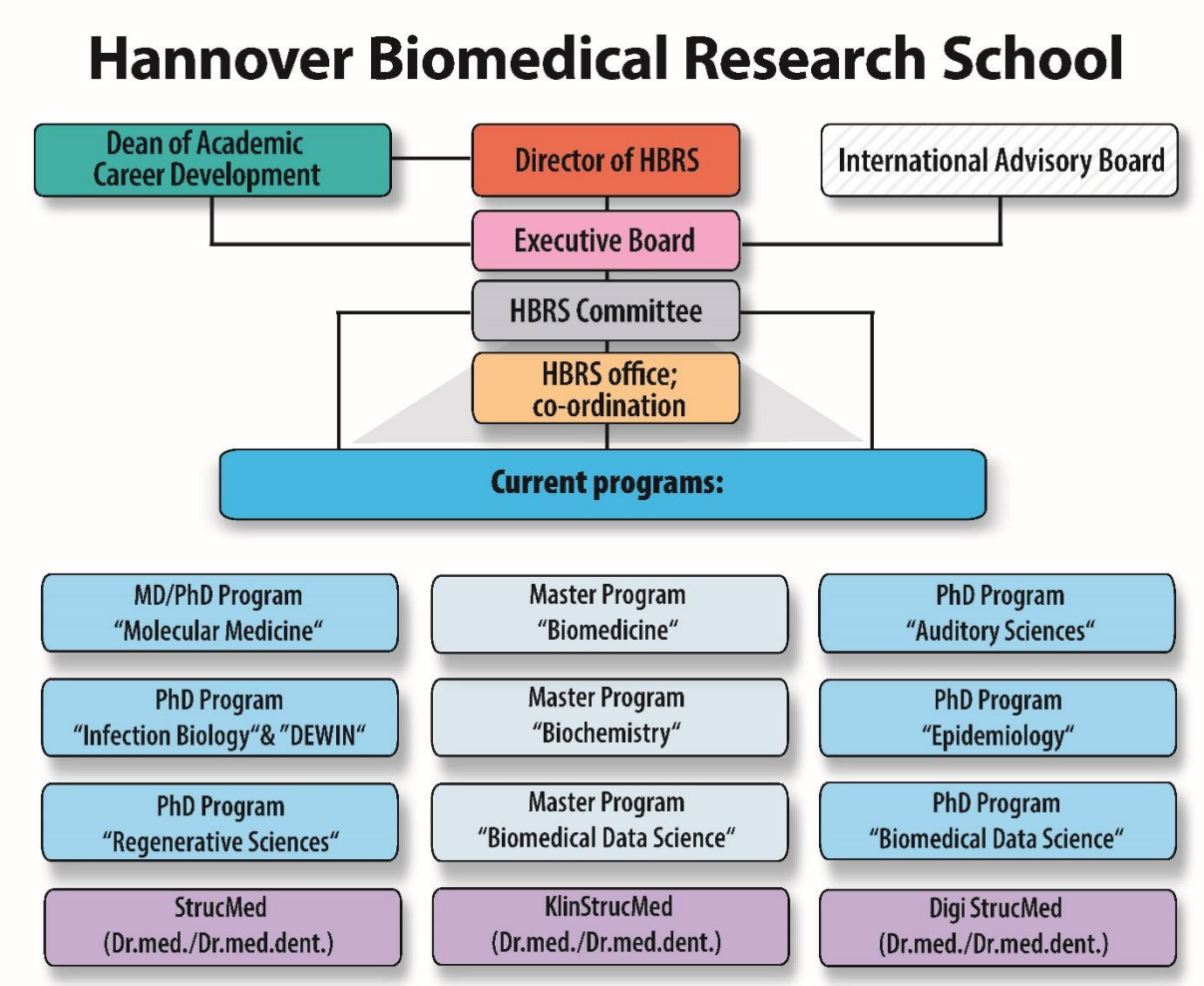
PhD "Epidemiology", PhD "Auditory Sciences" and PhD "BIOMEDAS" intermediate examination: To be decided on an individual basis, depending also on status of PhD thesis.

Summer Semester 2026

Start: April 13th, 2026

End: July 17th, 2026

Organization of Hannover Biomedical Research School



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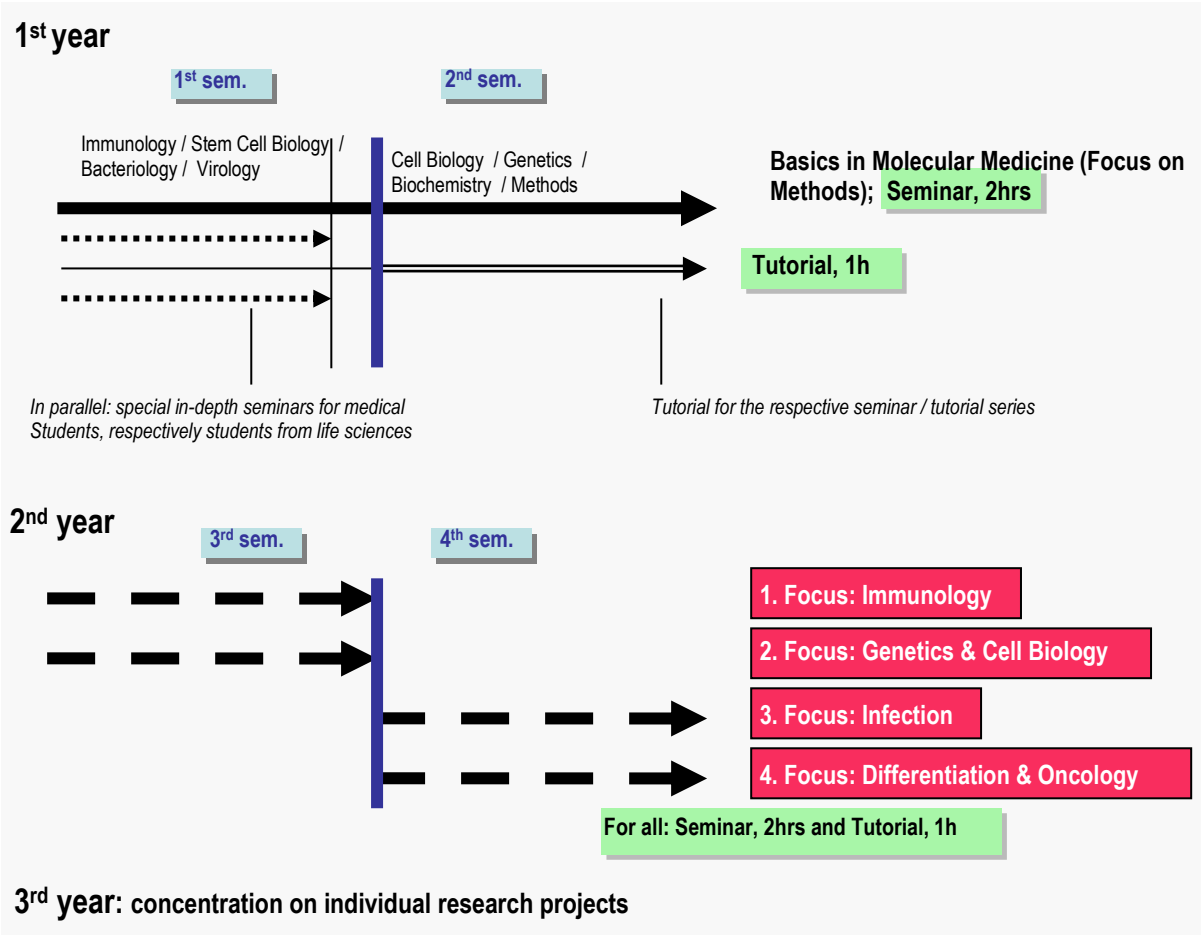
Curriculum MD / PhD "Molecular Medicine"



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)

Intermediate exam after 18 months

PhD thesis and final exam after 3 years

cp: credit points

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) • 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) • Presentation of one original manuscript and one research topic during these seminars (4 cp) • 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)	

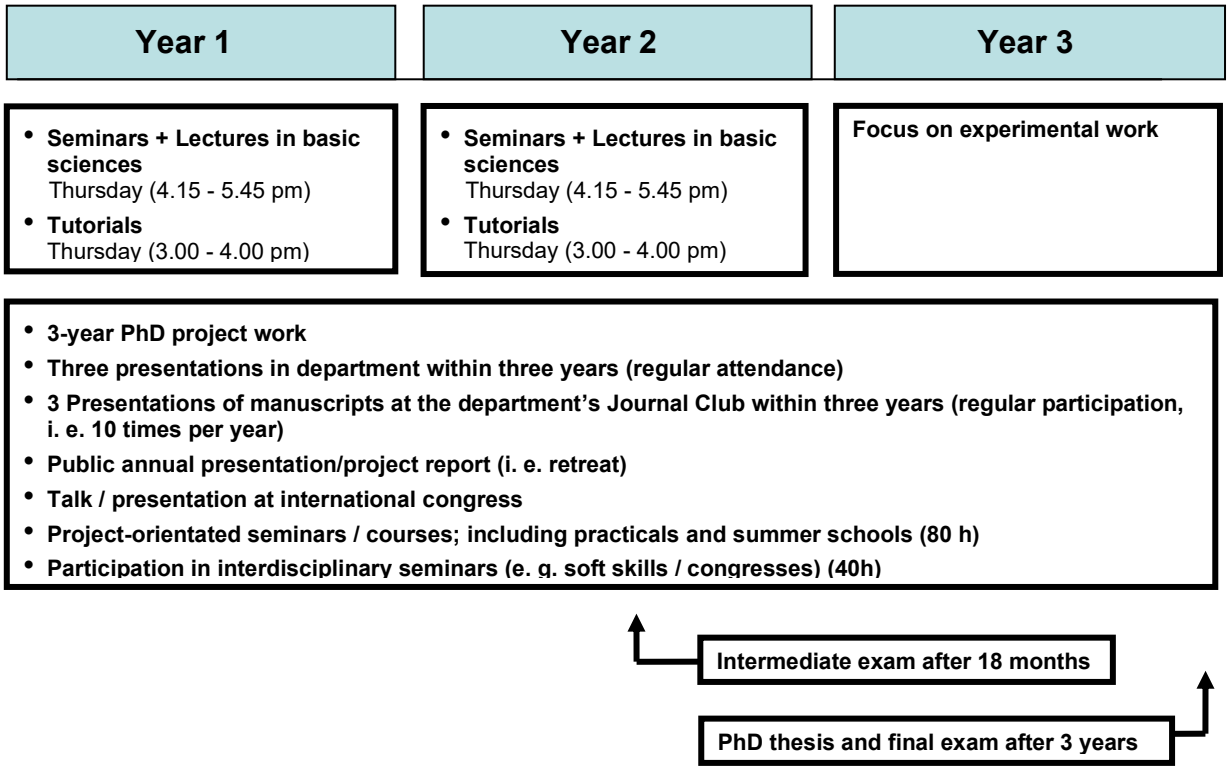
- 3-year PhD project work (125 cp)
- Public presentations/project reports (i. e. Retreat) (10 cp)
- Three presentations in department over three years (10 cp)
- Three presentations of manuscripts at the departments Journal Club over three years (3 cp)
- Talk / presentation at international congress (2 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 • accompanying program	• research project • 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")

Year 1	Year 2	Year 3

Three-year research project

Program modules
Attendance in at least five lecture series
Active participation in at least one methodological course

Accompanying program
Active participation in Journal Clubs, i.e. three presentations of manuscripts
Three project presentations of own work in department's seminar
One public presentation of own research work
Talk/presentation at international congress
Active participation in annual retreats, summer schools
Active participation in transferable skill courses

Intermediate exam after 18 month

Thesis and final exam after three years

!!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 **I04-01-1140**	MM Seminar/ Tutorial	Monday, 17.11.2025	3.15 - 4.15 pm	Matthias Ballmaier
Salmonella **(Focus Microbiology I)**	Seminar	Monday, 17.11.2025	4.30 - 6.00 pm	Guntram Graßl
Gene Technology and Biosafety **I04-01-1140**	MM Seminar/ Tutorial	Monday, 24.11.2025	3.15 - 4.15 pm	Ruth Knorr
Introduction to Medical Microbiology **(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 **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 **(Focus Microbiology III)**	Seminar	Monday, 01.12.2025	4.30 - 6.00 pm	Matthias Lochner
Clinical Immunology: Pathogenesis of an autoimmune disease (Lupus erythematosus) **I04-01-1140**	MM Seminar/ Tutorial	Monday, 08.12.2025	3.15 - 4.15 pm	Torsten Witte
Malaria **(Focus Microbiology IV)**	Seminar	Monday, 08.12.2025	4.30 - 6.00 pm	Nishanth Gopala Krishna
Informal get-together and biscuits: Feedback/ Discussions/ Questions **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 **(Focus Microbiology V)**	Seminar	Monday, 15.12.2025	4.30 - 6.00 pm	Marius Vital
No tutorial		05.01.2026		
Klebsielle pneumoniae **(Focus Microbiology VI)**	Seminar	Monday, 05.01.2026	4.30 - 6.00 pm	Leonard Knegendorf

Location seminar: Lecture hall A, building J2 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				
Molecular mechanisms of gene regulation (Focus Cell Biology I)	Seminar	Monday, 23.02.2026	4.30 - 6.00 pm Lecture hall A	Dagmar Wirth
The cell cycle and its implications in diseases (Focus Cell Biology II)	Seminar	Monday, 13.04.2026	4.30 - 6.00 pm Lecture hall A	Hansjörg Hauser
Molecular mechanisms of gene regulation (Focus Cell Biology I) | The cell cycle and its implications in diseases (Focus Cell Biology II)	**Tutorial**	Monday, 20.04.2026	3.15 - 4.15 pm I04-01-1140	Dagmar Wirth | Hansjörg Hauser
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 (online)	Monday, 27.04.2026	3.15 - 4.15 pm (online)	Kyra Grunau
(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 I06-S0-4112**	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 **I06-H0-4020 (building J6, level H0, Lehrraum 32)**	Agnes Bonifacius / Sabine Tischer-Zimmermann
No lectures, public holiday		Monday, 25.05.26		
Oncogenic fusion proteins as drivers of myeloid blood cancers *The associated tutorial has been postponed to July 6, see below.*	Seminar	Monday, 01.06.2026	4.30 - 6.00 pm **I06-H0-4020 (building J6, level H0, Lehrraum 32)**	Florian Perner
Metabolomics	Seminar	Monday, 08.06.2026	4.30 - 6.00 pm	Heike Bähre
Proteomics	Tutorial	Monday, 15.06.2026	3.15 - 4.15 pm	Andreas Pich
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
Targeted protein degradation as a tool to study direct oncogenic functions	Tutorial	Monday, 06.07.2026	4.30 - 5.30 pm	Florian Perner
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

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

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
Onco-Immunology: Translational research at the interface between immunology and oncology	Seminar	Monday, 27.04.2026	4.30 - 6.00 pm	Friedrich Feuerhake
	Tutorial	Monday, 04.05.2026	3.30 - 4.15 pm	Friedrich Feuerhake
Tumor vaccinations	Seminar	Monday, 04.05.2026	4.30 - 6.00 pm	Thomas Wirth
	No Seminar & Tutorial	Monday, 11.05.2026		
Epigenetics in cancer	Seminar	Monday, 18.05.2026	4.30 - 6.00 pm	Ulrich Lehmann-Mühlenhoff
	Tutorial	Monday, 01.06.2026	3.30 - 4.15 pm	Ulrich Lehmann-Mühlenhoff
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
Tumor vaccinations	Tutorial	Monday, 08.06.2026	2.30 - 3.15 pm	Thomas Wirth
Adoptive T cell therapies in hematopoietic stem cell transplantation	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

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	**2.30 - 3.30 pm**	Eva Medina (HZI)
Adeno-associated viruses (AAV)	Seminar & Tutorial	Monday, 06.07.2026	**3.45 - 6.00 pm**	Hildegard Büning
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 **Seminars:** Mondays, 16:30-18:00 hrs **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 **Seminars:** Mondays, 16:30-18:00 hrs **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 **Times & Location:** Mondays, 16:30-18:00 bzw. 18:30 hrs, 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 & 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 **Times & Location:** Mondays, 16:30-18:00 hrs 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 - Welcoming speech - The curriculum of RegSci & HBRS - 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 - Paracrine and juxtacrine signaling 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 - Paracrine and juxtacrine signaling - 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 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 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 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 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 - Working principles of the cardiac muscle and its regulations - Model systems in cardiovascular research: from single cells to multicellular preparations - 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 - 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 - Main processes: Fertilization, Cleavages, gastrulation, organogenesis, growth Commitment, differentiation, apoptosis, patterning - Developmental mechanisms, Determination, Induction (Morphogenetic gradients and cell-cell communication) - Heart development - 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 - Organogenesis and regeneration - Model systems and regenerative Embryogenesis and fetal development - 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	

Principles of stem cell biology 1 - Embryonic derivation of stem cells - Culture methods	seminar & tutorial	04.12.2025	3:00 – 4:30 pm 4:45 – 5:45 pm	Thomas Müller
Principles of translational bioinformatics *Please bring a laptop for the tutorial!*	seminar & tutorial	11.12.2025	3:00 – 4:30 pm 4:45 – 5:45 pm	Maximilian Fuchs
Principles of organoid modelling - principles of organoid formation - different organoid models and applications - cardiac tissue models - multi-tissue organoid models	seminar	08.01.2026	4:15 – 5:45 pm	Lika Drakhlis
Principles of cell engineering 1 - Principles of cell engineering 1: - Non-coding RNAs in heart failure - Tool box to validate disease relevant non-coding RNAs - Therapeutic approaches to support cardiac healing	seminar	**12.01.2026**	**MONDAY, 4:00 – 5:30 pm ITEM**	Jan Fiedler
Principles of organoid modelling - principles of organoid formation - different organoid models and applications - cardiac tissue models - multi-tissue organoid models	**tutorial**	15.01.2026	3:00 – 4:00 pm	Lika Drakhlis
Principles of stem cell biology 2 - Reprogramming and regeneration RNA therapeutics in regenerative biology	seminar tutorial	15.01.2026 22.01.2026	4:15 – 5:45 pm 3:00 – 4:00 pm	Amar Deep Sharma
Principles of cell engineering 2 - Transient DNA delivery - Episomal maintenance - Stable DNA delivery - Homologous recombination - Site-specific DNA modification	seminar tutorial	22.01.2026 29.01.2026	4:15 – 5:45 pm 3:00 – 4:00 pm	Axel Schambach
Basic mechanisms of inflammation 2 - Infection & cancer	seminar tutorial	29.01.2026 05.02.2026	4:15 – 5:45 pm 3:00 – 4:00 pm	Ulrich Lehmann-Mühlenhoff
Synthetic biology and options for regeneration	seminar tutorial	05.02.2026 12.02.2026	4:15 – 5:45 pm 3:00 – 4:00 pm	Dagmar Wirth
Principles of cell engineering 3 - Cell expansion Bioreactors	seminar tutorial	12.02.2026 19.02.2026	4:15 – 5:45 pm 3:00 – 4:00 pm	Kevin Cyrys
Basics of epigenetic gene regulation - Critical principles in embryonic development, tissue regeneration and malignant transformation	seminar	26.02.2026	4:15 – 5:45 pm	Florian Perner
The histone-code - 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 - Basics of microscopy - Contrast mechanisms - Modern approaches in imaging - Super-resolution microscopy	seminar & tutorial	09.04.2026	3:00 – 4:30 pm **NIFE*** 4:45 – 5:45 pm **NIFE***	Alexander Heisterkamp
Principles of growth factor engineering - 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 - Reproductive biology of the mouse - Generation of mice by zygote pronuclear injection of DNA - Generation of transgenic mice using genetically modified ES cells - Cre-mediated site-specific recombination	seminar	23.04.2026	4:15 – 5:45 pm	Andreas Kispert
Animal models of human disease 2 - Humanized mouse models	seminar & tutorial	30.04.2026	3:00– 5:45 pm	Fatih Noyan
Animal models of human disease 3 - Drosophila melanogaster - Neuromuscular disorders (tutorial)	seminar & tutorial	07.05.2026	3:00 – 4:30 pm 4:45 – 5:45 pm	Halyna Shcherbata
Large animal models in biomedical research - Transgenic pigs - Xenotransplantation - 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 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 - 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 - Thymus and T-cell development - B-cell development - 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 - Principles of hematopoietic stem cell transplantation and lymphocyte infusions 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 - 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 - Physiology and pathophysiological changes of the liver 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 - Liver regeneration and stem cells 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, Reto Eggenschwiler
Regenerative approaches: Liver 3 - Liver tissue engineering - 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, Reto Eggenschwiler
Non-coding RNAs in cardiovascular disease - 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 4:45 – 5:45 pm	Michael Rothe
Non-coding RNAs in cardiovascular disease - Regeneration and therapeutic approaches	tutorial	08.01.2026	3:00 – 4:00 pm	Shambhabi Chatterjee
Regenerative approaches: Blood and immunity 4 - Embryonic stem cell derived haematopoiesis	seminar	08.01.2026	4:15 – 5:45 pm	Nico Lachmann
Molecular Imaging of Regenerative Medicine - Molecular Imaging (seminar) - Tour of the Department of Nuclear Medicine (tutorial)	seminar & tutorial	15.01.2026	3:00 – 4:30 pm 4:45 – 5:45 pm	James Thackeray

Cell sorting - Method based seminar - Visit to MHH sorter lab → instrumentation (tutorial)	seminar & tutorial	22.01.2026	3:00 – 4:30 pm 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 - Protein therapeutics for cardiovascular repair	seminar	23.04.2026	4:15 – 5:45 pm	Marc Reboll
Regenerative approaches: Heart and vessels 2 - 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 - 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 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 **Feodor-Lynen-Str. 21***	Stephan Klöß
Conditioning of autologous cells for Tissue Engineered products	seminar	04.06.2026	4:15 – 5:45 pm **NIFE***	Cornelia Blume, Sebastian Heene
	tutorial	11.06.2026	3:00 – 4:00 pm **NIFE***	
Regenerative Approaches: Nerve - Degeneration and regeneration in the central and peripheral nervous system - Animal models of acute and chronic neurotoxicity - Cell therapy in the nervous system: neuronal and non-neuronal cells - 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 **Feodor-Lynen-Str. 21***	Sarah Strauß
			4:45 – 5:45 pm **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 **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** **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

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

Elective courses at MHH:

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

Combined electives:

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

2.12 Combined Hot Topic Seminar (Web Conference)	Dr. Christine Baumhoff, Dr. Mark Pottek	1 h / seminar	MHH/UOL/LUH 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)

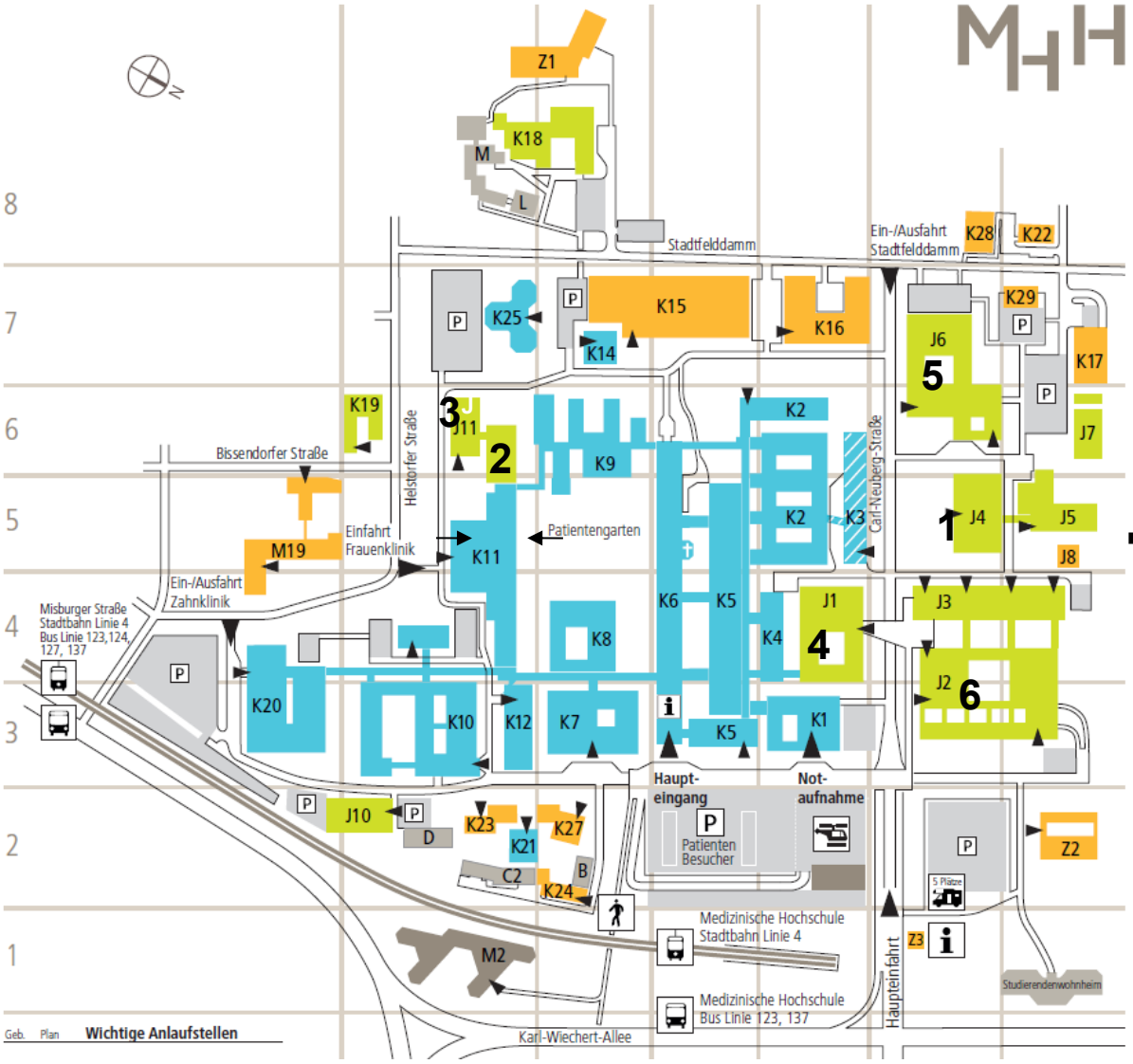
Unterschrift	Unterschrift
Programmsprecher/in	Präsident / in der Medizinischen Hochschule Hannover

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