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 2024 / 2025

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Winter and Summer Semester 2024 / 2025

www.mhh.de/hbrs

PhD Curriculum **Hannover Medical School**

Academic Year

Winter Semester 2024 / 2025

Start: October 7th, 2024
(Opening ceremony October, 21st)

End: March 14th, 2025

MD / PhD "Molecular Medicine" intermediate examination: from January 15th to February 28th, 2025 (students organize the date)

PhD "Infection Biology" / "DEWIN" intermediate examination: March 18th, 2025

PhD "Regenerative Sciences" intermediate examination: by March 28th, 2025

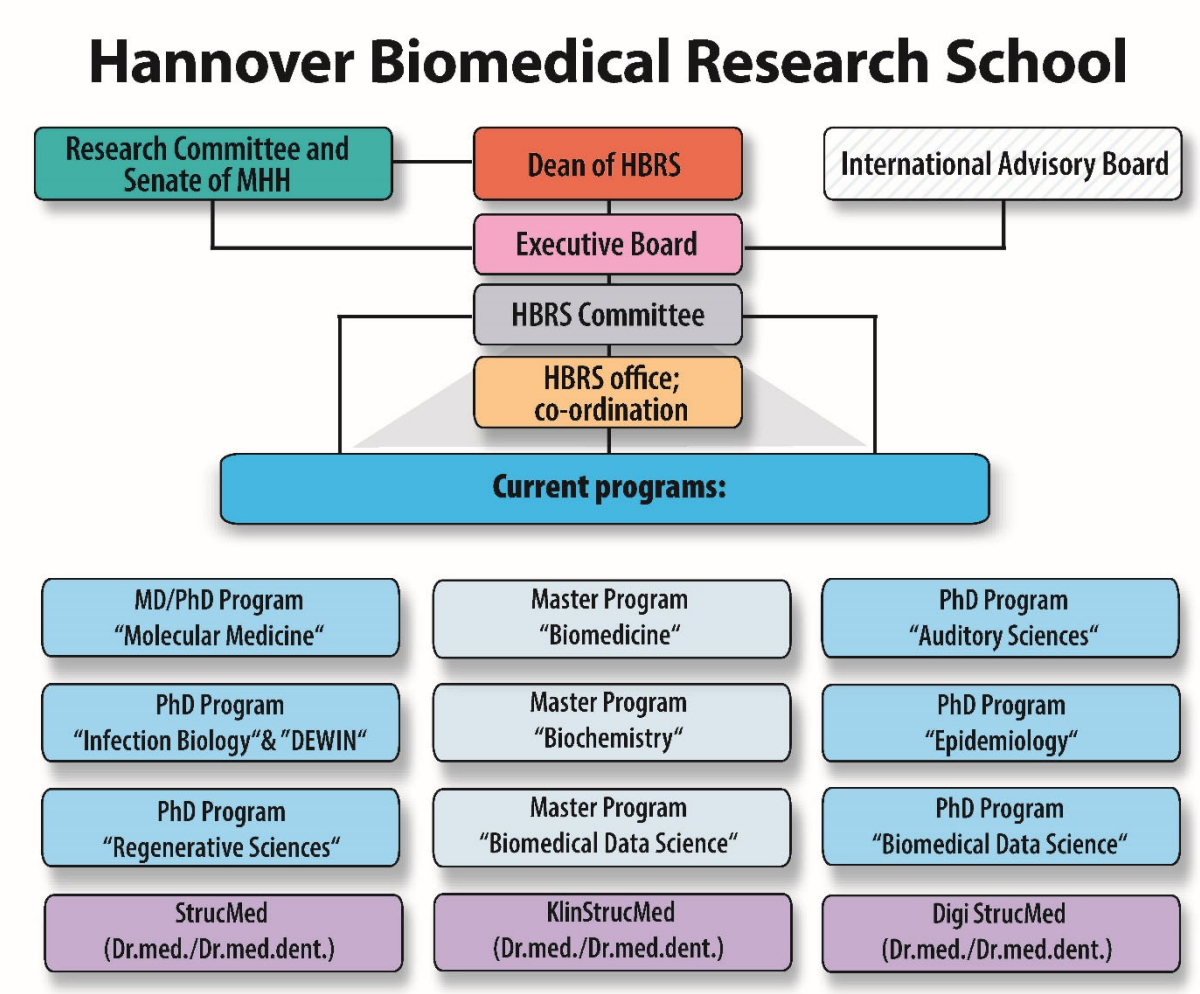
PhD "Epidemiology", PhD "Auditory Sciences" and PhD "BIOMEDAS" intermediate examination: To be decided on an individual basis, depending also on status of PhD thesis

Summer Semester 2025

Start: April 7th, 2025

End: July 18th, 2025

Organisation of Hannover Biomedical Research School



Members of the International Advisory Board:

Prof. Dr. Hans-Gustaf Ljunggren (Karolinska Institute, Stockholm, Sweden)

Prof. Dr. Peter Openshaw (National Heart & Lung Institute (NHLI), Imperial College, London, UK)

Acting **Dean of HBRS**

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Prof. Dr. Thilo Dörk-Bousset
Prof. Dr. Axel Schambach, PhD (Vice Chairman)
PD. Dr. Christian Bär
Marco Bentele
Shubham Rana / Friederike Flögel
Prof. Dr. Armin Braun
Dr. Josephine Labus
Prof. Dr. Halyna Shcherbata
Dr. Siegfried Weiß
Maria Jordan / Lea Oehlsen
NN

Contact / Coordination: Dr. Susanne Kruse and Birgit Müller, Medizinische Hochschule Hannover, PhD Office, OE 9117, Carl-Neuberg-Str. 1, 30625 Hannover; Tel. +49-511-532-6011; Fax. - 2611; hbrs@mh-hannover.de

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Prof. Dr. Susanne Häußler
Prof. Dr. Thomas F. Schulz (Vice Chairman)
Prof. Dr. Asisa Volz
Katharina Rahmel
Dr. Hristo Georgiev
Prof. Dr. Thomas Pietschmann
Prof. Dr. Peter Valentin-Weigand
Dr. Volker Winstel
Sarah Truthe

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Prof. Dr. Tobias Cantz
PD Dr. Jan Fiedler
Prof: Dr. Nico Lachmann
Prof. Dr. Heiner Niemann
Prof. Dr. Axel Schambach, PhD
Prof. Dr. Ina Gruh (Vice Chairwoman)
Prof. Dr. Hildegard Büning
Dr. Gerald Dräger
Dr. Stefan Kalies
Prof. Dr. Cornelia Lee-Thedieck
Dr. Ruth Olmer
Prof. Dr. Dagmar Wirth

Student members / class representatives:
Leonhard Becker & Marc Vives Enrich (class of 2023); Carlos Alberto Hernandez Bautista & Vojtech Hradil (class of 2022); Viola Wroblewski & Aileen Schmidt (class of 2021); Nils Kriedemann (class of 2020);

Contact / Coordination: Gaby Froriep and Zulaikha Malik (Evrin Akdas), Medizinische Hochschule Hannover, OE 8880, Carl-Neuberg-Str. 1, 30625 Hannover, Tel.: +49-511-532-5206; phd-regsci@mh-hannover.de

Members of the PhD program "Auditory Sciences" Commission:

Prof. Dr. Andrej Kral (Chairman)
Prof. Dr. Andreas Büchner
Prof. Dr. Holger Blume
Dr. Christine Baumhoff (coordinator)
PD Dr. Verena Scheper
Prof. Dr. Kerstin Schwabe
Prof. Dr. Athanasia Warnecke
Patrick Hinz (student representative)

Advisory: Dr. V. Hamacher, Head Advanced Bionics GmbH ERC

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PD. Dr. Maren Dreier
Prof. Dr. Frank Klawonn
Prof. Dr. Hortense Slevogt
Dr. Berit Lange & Dr. Carolina Klett-Tammen (coordinators)
Anne Hallet & Robyn Kettlitz (student representatives)

Prof. Dr. Thomas Schulz (guest)
Dr. Susanne Kruse (guest)

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Dr. rer. nat. David S. DeLuca
Priv.-Doz. Dr. Jan Fiedler
Prof. Dr. Klaus Jung
Prof. Dr. Ulrich Kalinke
Prof. Dr. Chris Lauber
Prof. Dr. Alice McHardy
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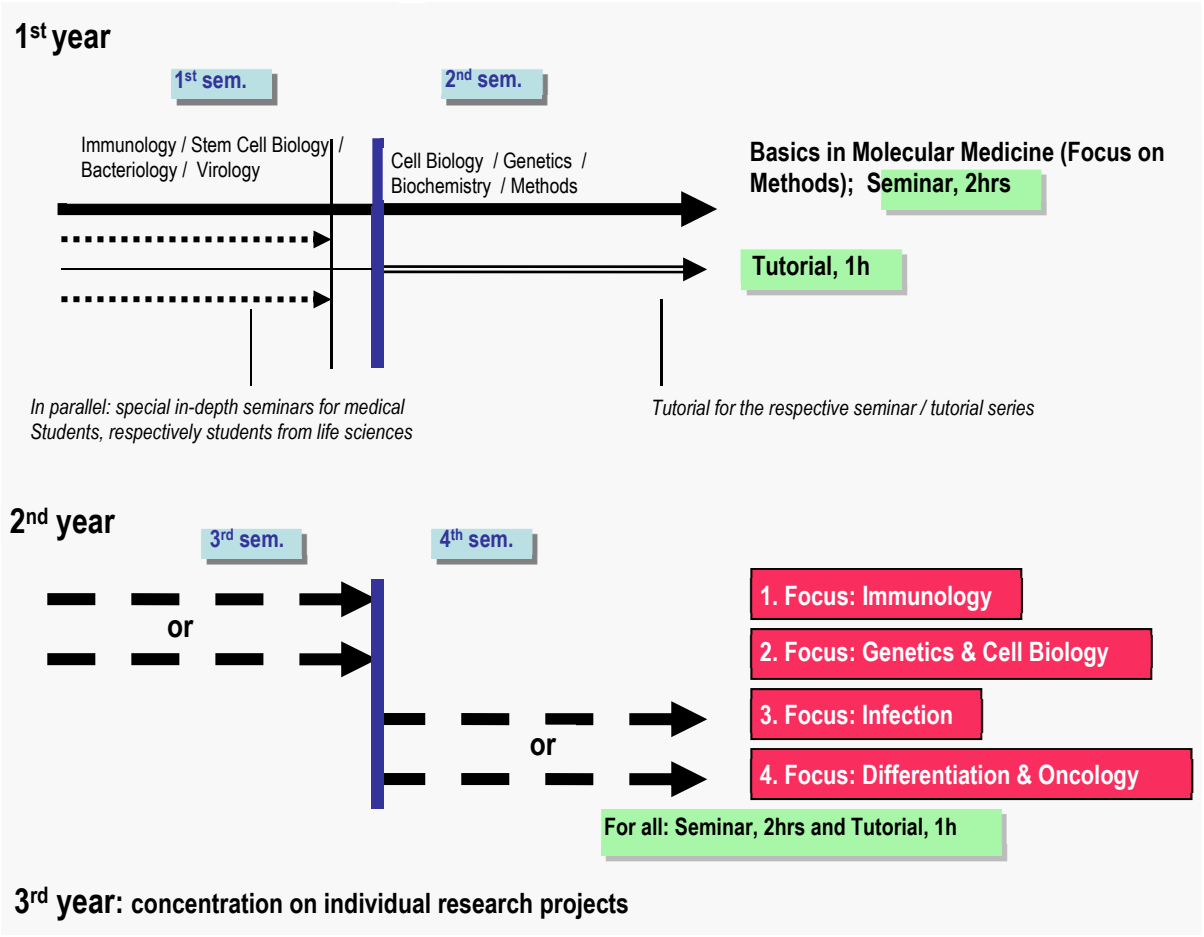
Prof. Dr. Michael Meyer-Hermann
Prof. Dr.-Ing. Bodo Rosenhahn
Dr. rer nat. Sahamoddin Khailaie
Dr. Ke Xiao

Contact / Coordination: Dr. Jennifer Debarry, Centre for Individualised Infection Medicine (CiiM), Translationsallianz in Niedersachsen (TRAIN), c/o TWINCORE, Zentrum für Experimentelle und Klinische Infektionsforschung GmbH, Feodor-Lynen-Straße 7-9, D-30625 Hannover, Tel +49 (0)511 22 00 27-226 and Tel +49 (0)511 22 00 27-191, biomedas@translationsallianz.de

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)

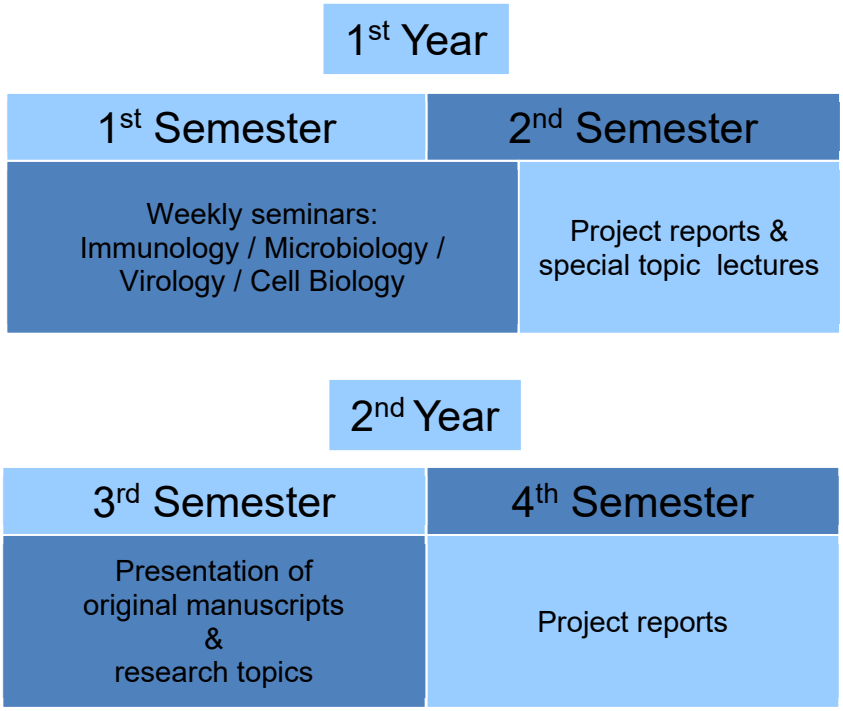
- 3-year PhD project work (125 cp)
- Three presentations in department over three years (10 cp)
- Three presentations of manuscripts at the departments Journal Club over three years (3 cp)
- Public annual presentation / project report (10 cp)
- Talk / presentation at international congress (2 cp)
- Project-orientated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

Intermediate exam after 18 months

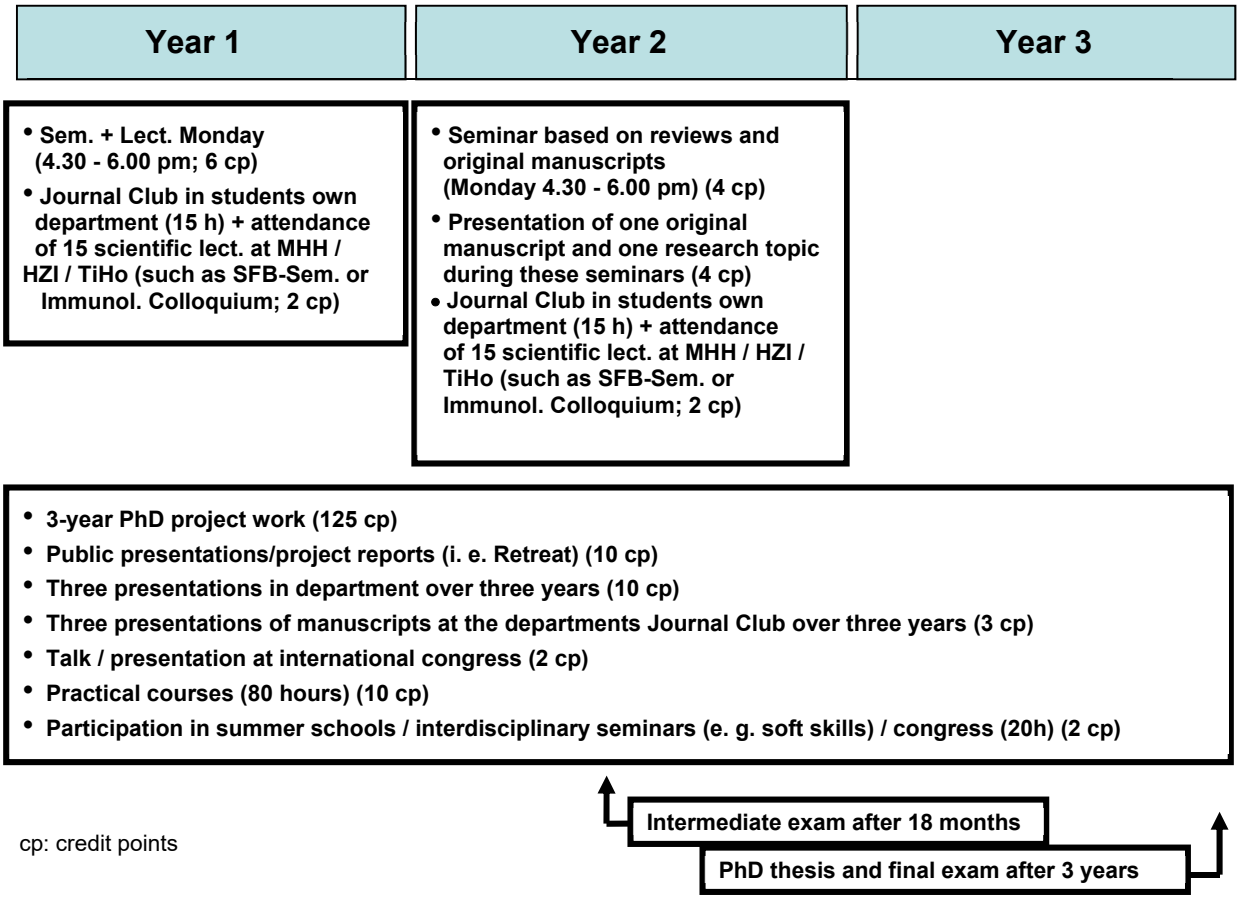
PhD thesis and final exam after 3 years

cp: credit points

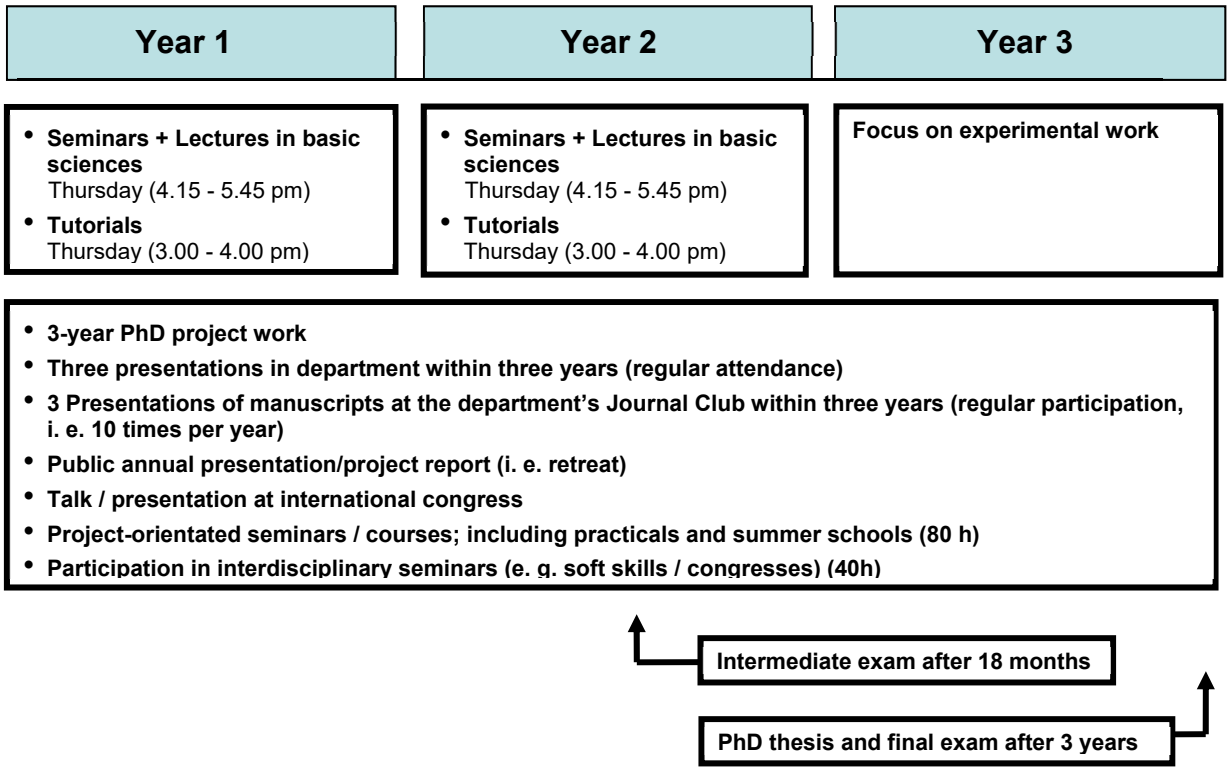
Curriculum PhD "Infection Biology" and "DEWIN"



Structure of the PhD Program "Infection Biology" and "DEWIN"



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

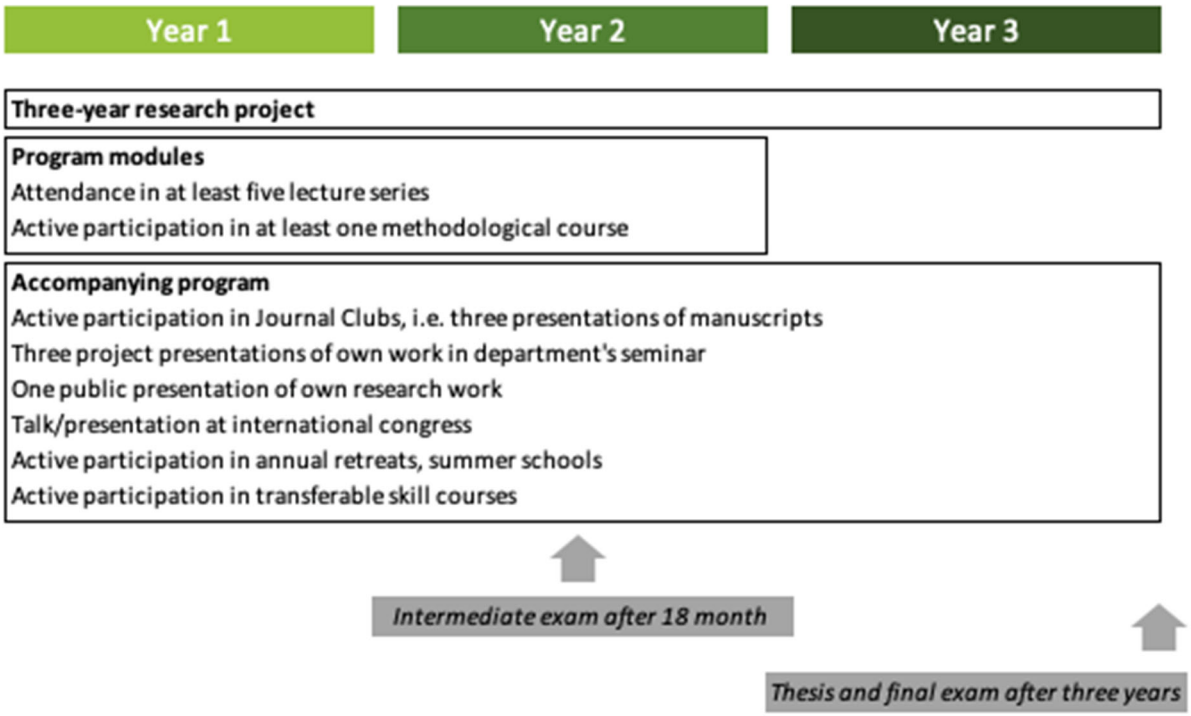
Structure of the PhD-Program "Epidemiology"

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")



!!Obligatory!!

Good Scientific Practice

For all HBRS PhD and StrucMed students

Introduction, Overview, Basics, Data Management, Ethics

Lecturers: Dr Beate Schwinzer, Dr Stephan Halle and Dr Olga Halle

Wednesday, 28 October 2024

3.00 pm First Seminar: Good Scientific Practice
- 4.30 pm Introduction and Data Management; Beate Schwinzer
Lecture Hall G, building J1

Thursday, 29 October 2024

3.00 pm Second Seminar: Good Scientific Practice
- 4.30 pm Scientific Misconduct and Plagiarism; Beate Schwinzer
Lecture Hall G, building J1

Friday, 30 October 2024

3.00 pm Third Seminar: Good Scientific Practice
- 4.30 pm Ethics and Statistics; Dr Stephan and Dr Olga Halle
Lecture Hall G, building J1

MD / PhD "Molecular Medicine"

1st Semester

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

***MD / PhD "Molecular Medicine"*: There are some alternative in-depth seminars / tutorials on Mondays for medical students and students from life sciences until Christmas (see pages 17 / 18) and the respectives tutorials for the seminars.**

Haematopoiesis - Episode I and Team Clock (Focus Immunology I) Lecture hall A	Seminar	Monday, 07.10.2024	4.30 - 6.00 pm	Christine Falk
Innate immunity (Focus Immunology II) Lecture hall A	Seminar	Monday, 14.10.2024	4.30 - 6.00 pm	Annett Ziegler
HBRS Opening: Monday, 21 October 2024, 5.00 pm (building J6, lecture hall R)				
B cells and antibody responses (Focus Immunology III) Lecture hall A	Seminar	Monday, 28.10.2024	4.30 - 6.00 pm	Siegfried Weiß
T cells and T cell responses (Focus Immunology IV) Lecture hall A	Seminar	Monday, 04.11.2024	4.30 - 6.00 pm	Hristo Georgiev
Cytotoxic T cell responses (Focus Immunology V) Lecture hall A	Seminar	Monday, 11.11.2024	4.30 - 6.00 pm	Berislav Bosnjak

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

In Seminar room 1031 (Oncology):

Tertiary Lymphoid Structures: development and role	Seminar	Monday, 18.11.2024	4.30 - 6.00 pm	Tamar Kapanadze
Genetic modification with lentiviral vector technologies	Seminar	Monday, 25.11.2024	4.30 - 6.00 pm	Tobias Mätzig
Design and application of shRNA-based methods in biomedical research	Seminar	Monday, 02.12.2024	4.30 - 6.00 pm	Tobias Mätzig
Gene expression analysis in cancer research	Seminar	Monday, 09.12.2024	4.30 - 6.00 pm	Michael Morgan
Induced pluripotent stem cell resources for the treatment of congenital diseases	Seminar	Monday, 16.12.2024	4.30 - 6.00 pm	Nico Lachmann
Mouse models	Seminar	Monday, 06.01.2025	4.30 - 6.00 pm	Arnold Kloos

In lecture hall A (Microbiology):

Intro and Paradigms in Infection Biology: Toxoplasma (Focus Microbiology I)	Seminar	Monday, 18.11.2024	4.30 - 6.00 pm	Dirk Schlüter
Paradigms of Infection Biology: Streptococci and Staphylococci (Focus Microbiology II)	Seminar	25.11.2024	4.30 - 6.00 pm	Volker Winstel
Paradigms of Infection Biology: Salmonella (Focus Microbiology III)	Seminar	Monday, 02.12.2024	4.30 - 6.00 pm	Guntram Graßl
Paradigms of Infection Biology: C. difficile and host responses at the intestinal barrier (Focus Microbiology IV)	Seminar	Monday, 09.12.2024	4.30 - 6.00 pm	Matthias Lochner
Paradigms in Infection Biology: Malaria (Focus Microbiology V)	Seminar	Monday, 16.12.2024	4.30 - 6.00 pm	Nishanth Gopala Krishna
Paradigms of Infection Biology: (Focus Microbiology VI) Role of the commensal bacteria for human health	Seminar	Monday, 06.01.2025	4.30 - 6.00 pm	Marius Vital

Location seminar: Lecture hall A, building J2 Location tutorial: seminar room 1031, building J4, level 01 (2nd floor)				
Virus Taxonomy and Viral Diseases (Focus Virology I)	Seminar	Monday, 13.01.2025	4.30 - 6.00 pm	Anke Kraft
	Tutorial	Monday, 20.01.2025	3.15 - 4.15 pm	Anke Kraft
Known and Emerging RNA Viruses, and Novel Antivirals (Focus Virology II)	Seminar	Monday, 20.01.2025	4.30 - 6.00 pm	Thomas Pietschmann / Sibylle Haid
	Tutorial	Monday, 27.01.2025	3.15 - 4.15 pm	Thomas Pietschmann / Sibylle Haid
Peculiarities of DNA Virus in Transcription and Replication (Focus Virology III)	Seminar	Monday, 27.01.2025	4.30 - 6.00 pm	Daniel Depledge
	Tutorial	Monday, 03.02.2025	3.15 - 4.15 pm	Daniel Depledge
Roundabout: Virus Assembly, egress and cell entry (Focus Virology IV)	Seminar	Monday, 03.02.2025	4.30 - 6.00 pm	Katinka Döhner
	Tutorial	Monday, 10.02.2025	3.15 - 4.15 pm	Katinka Döhner
Oncogenic Viruses (Focus Virology V)	Seminar	Monday, 10.02.2025	4.30 - 6.00 pm	Saskia Stein
	Tutorial	Monday, 17.02.2025	3.15 - 4.15 pm	Saskia Stein
Viral Pathogenesis and Host Defence (Focus Virology VI)	Seminar	Monday, 17.02.2025	4.30 - 6.00 pm	Abel Viejo Borbolla
	Tutorial	Monday, 24.02.2025	3.15 - 4.15 pm	Abel Viejo Borbolla
Cell Biology I	Seminar	Monday, 24.02.2025	4.30 - 6.00 pm	Hans Jörg Hauser

*For MD / PhD "Molecular Medicine" medical students only: Some more basics in life sciences

As there are not many medical students this year, we will arrange an individual program for you!
Or you visit the tutorials for life scientists.
Mondays, 3.15 - 4.15 pm

** For PhD students from life sciences only: Some basics in medicine / techniques

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

For MD / PhD "Molecular Medicine" only: **General introduction, lectures, expectations etc.: answering of all last questions, election of class speaker**	Seminar	Monday, 07.10.2024	3.45 - 4.15 pm	Susanne Kruse
Super resolution light microscopy	Seminar	Monday, 14.10.2024	3.15 - 4.15 pm	Rudolf Bauerfeind
No seminar because of "Good Scientific Practice" lecture		Monday, 28.10.2024		
Hannover Unified Biobank	Seminar	Monday, 04.11.2024	3.15 - 4.15 pm	Thomas Illig
Molecular Imaging	Seminar	Monday, 11.11.2024	3.15 - 4.15 pm	Annika Heß
Electron Microscopy	Seminar	Monday, 18.11.2024	3.15 - 4.15 pm	Stephanie Groos
Informal get-together with biscuits: Feedback / Discussions / Questions		Monday, 25.11.2024	3.15 - 4.15 pm	Susanne Kruse and Birgit Müller

Cell Sorting	Seminar	Monday, 02.12.2024	3.15 - 4.15 pm	Matthias Ballmaier
Clinical Immunology: Pathogenesis of an autoimmune disease (Lupus erythematosus)	Seminar	Monday, 09.12.2024	3.15 - 4.15 pm	Torsten Witte
Gene Technology and Biosafety	**Seminar (online)**	Monday, 16.12.2024	3.15 - 4.15 pm	Ruth Knorr
Asthma / Allergy research and applications	Seminar	Monday, 06.01.2025	3.15 - 4.15 pm	Ruth Grychtol
Immunotherapy and cancer vaccines	Seminar	Monday, 13.01.2025	3.15 - 4.15 pm	Tetyana Yevsa

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 lecture hall A	Monday, 24.02.2025	4.30 - 6.00 pm	Hansjörg Hauser
	Tutorial seminar room 1031	07.04.2025	3.15 - 4.15 pm	Hansjörg Hauser
Molecular mechanisms of gene regulation (Focus Cell Biology II)	Seminar lecture hall A	Monday, 07.04.2025	4.30 - 6.00 pm	Dagmar Wirth
	Tutorial seminar room 1031	Monday, 14.04.2025	3.15 - 4.15 pm	Dagmar Wirth
The structure of the cell's interior (Focus Cell Biology III)	Seminar lecture hall A	Monday, 14.04.2025	4.30 - 6.00 pm	Theresia Stradal
	Tutorial seminar room 1031	Monday, 28.04.2024	3.15 - 4.15 pm	Theresia Stradal
No lectures / public holiday		21.04.2025		
(Now for MD / PhD MM only) All seminars and tutorials in seminar room 1031				
5.) Biochemistry and Genetics; methods				
Next generation sequencing	**Seminar / tutorial**	Monday, 28.04.2025	4.30 - 6.00 pm	Robert Geffers (HZI)
Transcriptomics	Seminar	Monday, 05.05.2025	4.30 - 6.00 pm	Oliver Dittrich-Breiholz
(seminar / tutorial in building J3, level 01, room 2020)	Tutorial	12.05.2025	3.15 -4.15 pm	Oliver Dittrich-Breiholz

Physical Methods in Biochemistry: Characterization of Protein - Protein Interactions	Seminar	Monday, 12.05.2025	4.30 - 6.00 pm	Ute Curth
	Tutorial	Monday, 19.05.2025	3.15 - 4.15 pm	Ute Curth
The adaptive immune system and immunological methods	Seminar	Monday, 19.05.2025	4.30 - 6.00 pm	Agnes Bonifacius et al.
	Tutorial	Monday, 26.05.2025	3.15 - 4.15 pm	Agnes Bonifacius et al.
Oncogenic fusion proteins as drivers of myeloid blood cancers	Seminar	Monday, 26.05.2025	4.30 - 6.00 pm	Florian Perner
Targeted protein degradation as a tool to study direct oncogenic functions	Tutorial **(building J6, level S0, seminar room 75, room no. 4140)**	Monday, 02.06.2025	3.15 - 4.15 pm	Florian Perner
Metabolomics	Seminar **(building J6, level S0, seminar room 75, room no. 4140)**	Monday, 02.06.2025	4.30 - 6.00 pm	Heike Bähre
No lectures, public holiday		Monday, 09.06.25		
Proteomics	Tutorial	Monday, 16.06.2025	3.15 - 4.15 pm	Andreas Pich
Stem cells	**No seminar**	Monday, 16.06.2025		
	Seminar / tutorial	Monday, 23.06.2025	**2.45** - 4.15 pm	Axel Schambach
Genome-wide association studies and functional validation	Seminar	Monday, 23.06.2025	4.30 - 6.00 pm	Dhanya Ramachandran
	Tutorial	Monday, 30.06.2025	3.15 - 4.15 pm	Dhanya Ramachandran
Non-coding RNA theme	**Tutorial**	Monday, 30.06.2025	**4.30 - 6.00 pm**	Jan Fiedler (Fraunhofer Institute)
Location: Hannover Biomedical Research School, HBRS seminar room 1031, 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. Every student has the choice between two major foci each semester. You may vary in the choice of modules between the two foci. Please, choose the ones most appropriate for you and your project!

1. Focus: Immunology

Location: Hannover Biomedical Research School, building J4, level S0 (ground floor), seminar room S 1400 (right to the main entrance)

1. Immune cells and organs				
Mononuclear-phagocyte system: development and the role in homeostasis	Seminar	Monday, 07.10.2024	4.30 - 6.00 pm	Jaba Gamrekelashvili
	Tutorial	Monday, 14.10.2024	3.30 - 4.15 pm	Jaba Gamrekelashvili
Inborn errors of immunity-cellular and molecular mechanisms of immunodeficiency and immune dysregulation	**No seminar**	Monday, 14.10.2024		
	Seminar / tutorial	Monday, 28.10.2024	**3.00** - 4.15 pm	Georgios Sogkas
Opening of term		**21.10.2024**		
Immune response in HIV	Seminar	Monday, 28.10.2024	4.30 - 6.00 pm	Georg Behrens
	Tutorial	**Monday, 18.11.2024**	3.30 - 4.15 pm	Georg Behrens

2. Autoimmunity				
NK cells - their role in immunity and their therapeutic potential	**Seminar / tutorial**	**Monday, 04.11.2024**	**3.30 - 6.00 pm**	Julia Hengst
Adjuvants	**Seminar / tutorial**	**Monday, 11.11.2024**	**3.30 - 6.00 pm**	Annett Ziegler

3. Allergy and Asthma, Immunological diseases				
Neuroimmune interactions in asthma bronchiale	Seminar	Monday, 18.11.2024	4.30 - 6.00 pm	Armin Braun (Fraunhofer Institute)
	Tutorial	Monday, 25.11.2024	3.30 - 4.15 pm	Armin Braun (Fraunhofer Institute)
Immunodermatology	Seminar	Monday, 25.11.2024	4.30 - 6.00 pm	Lennart Rösner
	Tutorial	Monday, 02.12.2024	3.30 - 4.15 pm	Lennart Rösner
Studying allergic airway inflammation: of mice and man	Seminar	Monday, 02.12.2024	4.30 - 6.00 pm	Olga Halle
	Tutorial	Monday, 09.12.2024	3.30 - 4.15 pm	Adan Jirmo
Molecular and cellular mechanisms of inflammatory immune responses	Seminar	Monday, 09.12.2024	4.30 - 6.00 pm	Niko Föger
	Tutorial	Monday, 16.12.2024	3.30 - 4.15 pm	Niko Föger

4. Signalling and therapy				
Major histocompatibility complex in tolerogenic cell therapies	**No seminar**	Monday, 16.12.2024		
	Seminar / tutorial	Monday, 06.01.2025	**2.45** - 4.15 pm	Constanca Ferreira de Figueiredo
Protective adaptive immunity to viral infections	Seminar	Monday, 06.01.2025	4.30 - 6.00 pm	Agnes Bonifacius et al.
	Tutorial	Monday, 13.01.2025	3.30 - 4.15 pm	Agnes Bonifacius et al.
Inhibitory receptor-ligand interactions as targets for transplantation tolerance	Seminar	Monday, 13.01.2025	4.30 - 6.00 pm	Reinhard Schwinzer
	Tutorial	Monday, 20.01.2025	3.30 - 4.15 pm	Reinhard Schwinzer
Early events of the pathogenesis of acute and chronic respiratory diseases in human peripheral lung tissue	Seminar	Monday, 20.01.2025	4.30 - 6.00 pm	Katherina Sewald Fraunhofer Institute)
	Tutorial	Monday, 27.01.2025	3.30 - 4.15 pm	Katherina Sewald (Fraunhofer Institute)
Immune sensors	Seminar	Monday, 27.01.2025	4.30 - 6.00 pm	Roman Fedorov
	Tutorial	Monday, 03.02.2025	3.30 - 4.15 pm	Roman Fedorov
Tumor immunity and oncogenic signalling	Seminar	Monday, 03.02.2025	4.30 - 6.00 pm	Christine Falk
	Tutorial	Monday, 10.02.2025	3.30 - 3.15 pm	Christine Falk
Primary immunodeficiency syndromes	Seminar	Monday, 10.02.2025	4.30 - 6.00 pm	Manfred Anim
	Tutorial	Monday, 17.02.2025	3.30 - 3.15 pm	Manfred Anim
Location: Hannover Biomedical Research School, building J4, level S0 (ground floor), seminar room 1400				

2. Focus: Genetics and Cell Biology

Location: Hannover Biomedical Research School, HBRS seminar room 1140, building J4, level 01 (2nd floor)

1. Techniques and diagnostics / therapy, genetics				
Embryonic and somatic cloning in mammals	Seminar	Monday, 07.10.2024	4.30 - 6.00 pm	Heiner Niemann
	Tutorial	Monday, 14.10.2024	3.30 - 4.15 pm	Heiner Niemann
How molecular motors work	Seminar	Monday, 14.10.2024	4.30 - 6.00 pm	Dietmar Manstein
	Tutorial	Monday, 28.10.2024	3.30 - 4.15 pm	Dietmar Manstein
Opening of term		**21.10.2024**		
Molecular mechanisms of heart failure	Seminar	Monday, 28.10.2024	4.30 - 6.00 pm	Melanie Ricke-Hoch
	Tutorial	Monday, 04.11.2024	3.30 - 4.15 pm	Melanie Ricke-Hoch
RNA Biology in Eukaryotes	Seminar	Monday, 04.11.2024	4.30 - 6.00 pm	Halyna Shcherbata
	Tutorial	Monday, 11.11.2024	3.30 - 4.15 pm	Halyna Shcherbata

2. Signalling				
Functional role of Fibulin 6 in wound repair: implications for cardiac remodelling	Seminar	Monday, 11.11.2024	4.30 - 6.00 pm	Christine Herzog
	Tutorial	Monday, 18.11.2024	3.30 - 4.15 pm	Christine Herzog
Neutrophil NETosis and extravasation are influenced by sodium channel Nav1.3	Seminar	Monday, 18.11.2024	4.30 - 6.00 pm	Frank Echtermeyer
	Tutorial	Monday, 25.11.2024	3.30 - 4.15 pm	Frank Echtermeyer
Molecular mechanisms of vascular aging in health and disease	Seminar	Monday, 25.11.2024	4.30 - 6.00 pm	Yulia Kiyan
	Tutorial	Monday, 02.12.2024	3.30 - 4.15 pm	Yulia Kiyan
Small GTPases as targets of bacterial toxins	Seminar	Monday, 02.12.2024	4.30 - 6.00 pm	Harald Genth
	Tutorial	Monday, 09.12.2024	3.30 - 4.15 pm	Harald Genth
3. Cell Biology and disease				
Molecular mechanisms in cardiorenal syndrome	Seminar	Monday, 09.12.2024	4.30 - 6.00 pm	Maren Leifheit-Nestler
	Tutorial	Monday, 16.12.2024	3.30 - 4.15 pm	Maren Leifheit-Nestler
From gene to function - gene hunting in the area of whole-genome sequencing	Seminar	Monday, 16.12.2024	4.30 - 6.00 pm	Svjetlana Lovric
	Tutorial	Monday, 06.01.2025	3.30 - 4.15 pm	Svjetlana Lovric
Glycosylation and diseases	Seminar	Monday, 06.01.2025	4.30 - 6.00 pm	Christoph Garbers
	Tutorial	Monday, 13.01.2025	3.30 - 4.15 pm	Christoph Garbers
Membrane domains	Seminar	Monday, 13.01.2025	4.30 - 6.00 pm	Robert Lindner
	Tutorial	Monday, 20.01.2025	3.30 - 4.15 pm	Robert Lindner

Micro RNAs from disease mechanisms to therapeutic approaches	Seminar	Monday, 20.01.2025	4.30 - 6.00 pm	Shambhabi Chatterjee
	Tutorial	Monday, 27.01.2025	3.30 - 4.15 pm	Shambhabi Chatterjee
No seminar 27.01.25				
Liver fibrogenesis - basic mechanisms and clinical implications	Seminar **(online)**	Monday, 03.02.2025	4.30 - 6.00 pm	Ingmar Mederacke (Helios Wiesbaden)
	Tutorial **(online)**	Monday, 10.02.2025	3.30 - 4.15 pm	Ingmar Mederacke (Helios Wiesbaden)
Interactions between signalling, metabolic pathways and miRNAs in HCC	Seminar	Monday, 10.02.2025	4.30 - 6.30 pm	Asha Balakrishnan
	Tutorial	Monday, 17.02.2025	3.30 - 4.15 pm	Asha Balakrishnan
Location: Hannover Biomedical Research School, building J4, HBRS seminar room 1140				

MD / PhD program "Molecular Medicine"

4th Semester

3. Focus: Infection and Immunity

Location: Hannover Biomedical Research School, building J4, level S0 (ground floor), seminar room S 1400 (right to the main entrance)

1. Innate Immunity; Infection and disease				
Virus replication, antivirals and resistance	Seminar	Monday, 07.04.2025	4.30 - 6.00 pm	Thomas Pietschmann
	Tutorial	Monday, 14.04.2025	3.30 - 4.15 pm	Sybille Haid
TBA	**No seminar**	Monday, 14.04.2025		
	Seminar / tutorial	Monday, 28.04.2025	**2.45** - 4.15 pm	Natalia Torow (HZI)
No lectures / public holiday		21.04.2025		
Neutrophils and their regulation by alpha1-antitrypsin	Seminar	Monday, 28.04.2025	4.30 - 6.00 pm	Sabina Janciauskiene
	Tutorial	Monday, 05.05.2025	3.30 - 4.15 pm	Sabina Janciauskiene
With the other group in room 1140: **Onco-Immunology: Translational research at the interface between immunology and oncology**	Seminar	Monday, 05.05.2025	4.30 - 6.00 pm	Friedrich Feuerhake
	Tutorial	Monday, 12.05.2025	3.30 - 4.15 pm	Friedrich Feuerhake
Role of CD8 T cells in acute and chronic infections	**No seminar**	Monday, 12.05.2025		
	Seminar / tutorial	Monday, 19.05.2025	**2.30** - 4.15 pm	Thomas Wirth
With the other group in room 1140: **Adoptive T cell therapies in hematopoietic stem cell transplantation**	Seminar	Monday, 19.05.2025	4.30 - 6.00 pm	Martin Sauer
	Tutorial	Monday, 26.05.2025	3.30 - 4.15 pm	Martin Sauer

2. Genetics and disease, infection and immune system, vaccinology				
Genetic engineering of cells and mice for development of disease models	Seminar	Monday, 26.05.2025	4.30 - 6.00 pm	Dagmar Wirth (HZI)
	Tutorial	Monday, 02.06.2025	3.30 - 4.15 pm	Dagmar Wirth (HZI)
HLA-mediated adverse drug reactions	Seminar	Monday, 02.06.2025	4.30 - 6.00 pm	Christina Bade-Döding
	Tutorial	Monday, 16.06.2025	3.30 - 4.15 pm	Christina Bade-Döding
No lectures / public holiday		09.06.2025		
Basic concepts in vaccinology	Seminar	Monday, 16.06.2025	4.30 - 6.00 pm	Carlos Guzman (HZI)
	Tutorial	Monday, 23.06.2025	3.30 - 4.15 pm	Carlos Guzman (HZI)
Vaccine Responsiveness	Seminar	Monday, 23.06.2025	4.30 - 6.00 pm	Peggy Riese (HZI)
	Tutorial	Monday, 30.06.2025	3.30 - 4.15 pm	Peggy Riese (HZI)
Host-pathogen interactions	Seminar	Monday, 30.06.2025	4.30 - 6.00 pm	Eva Medina (HZI)
	Tutorial	Monday, 07.07.2025	3.30 - 4.15 pm	Eva Medina (HZI)
Location: Hannover Biomedical Research School, building J4, level S0 (ground floor), seminar room S 1400 (right to the main entrance)				

4. Focus: Differentiation and Oncology

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

1. Development and cancer				
Molecular basis of leukemogenesis				
	Tutorial	Monday, 14.04.2025	2.45 - 4.15 pm	Michael Morgan
Liver organogenesis and hepatic stem cell	Seminar	Monday, 14.04.2025	4.30 - 6.00 pm	Michael Ott
	Tutorial	Monday, 28.04.2025	3.30 - 4.15 pm	Michael Ott
No lectures / public holiday		21.04.2025		
Epigenetics in cancer	Seminar	Monday, 28.04.2025	4.30 - 6.00 pm	Ulrich Lehmann-Mühlenhoff
	Tutorial	Monday, 05.05.2025	3.30 - 4.15 pm	Ulrich Lehmann-Mühlenhoff
2. Stem cells and cancer				
Onco-Immunology: Translational research at the interface between immunology and oncology	Seminar	Monday, 05.05.2025	4.30 - 6.00 pm	Friedrich Feuerhake
	Tutorial	Monday, 12.05.2025	3.30 - 4.15 pm	Friedrich Feuerhake
AAV	**Tutorial**	Monday, 12.05.2025	4.30 – 5.30	Michael Morgan
	Seminar / tutorial	Monday, 19.05.2025	**2.45** - 4.15 pm	Hildegard Büning
Adoptive T cell therapies in hematopoietic stem cell transplantation	Seminar	Monday, 19.05.2025	4.30 - 6.00 pm	Martin Sauer
	Tutorial	Monday, 26.05.2025	3.30 - 4.15 pm	Martin Sauer

PH-regulation in cancer cell motility	Seminar	Monday, 26.05.2025	4.30 - 6.00 pm	Christian Stock
	Tutorial	Monday, 02.06.2025	3.30 - 4.15 pm	Christian Stock
3. Signalling (and cancer)				
Oncogenes and myeloproliferation	Seminar	Monday, 02.06.2025	4.30 - 6.00 pm	Matthias Eder
	Tutorial	Monday, 16.06.2025	3.30 - 4.15 pm	Matthias Eder
No lectures / public holiday		09.06.2025		
T-box genes in development and disease	Seminar	Monday, 16.06.2025	4.30 - 6.00 pm	Andreas Kispert
	Tutorial	Monday, 23.06.2025	3.30 - 4.15 pm	Andreas Kispert
Cholangiocarcinoma – two perspectives	Seminar	Monday, 23.06.2025	4.30 - 6.00 pm	Anna Saborowski
	Tutorial	Monday, 30.06.2025	3.30 - 4.15 pm	Anna Saborowski
Liquid biopsies and biomarkers	Seminar online	Monday, 30.06.2025	4.30 - 6.00 pm	Anja Thorenz
	Tutorial online	Monday, 07.07.2025	3.30 - 4.15 pm	Anja Thorenz
Location: Hannover Biomedical Research School, building J4, level 01 (2nd floor), HBRS seminar room 1140				

PhD programs "Infection Biology / DEWIN"

1st Semester				
Tutorials: Mondays, 15:15-16:15 hrs			**Seminars:** Mondays, 16:30-18:00 hrs	
Location: Room 1031, Building J4, level1			**Location:** Lecture Hall A, Building J2	
DATE	**TYPE**	**FOCUS**	**LECTURER**	**SUBJECT**
07.10.2024	Seminar	Immunology I	Falk	Haematopoiesis - Episode 1 and Team Clock
14.10.2024	Seminar	Immunology II	Ziegler	Innate Immunity
21.10.2024	HBRS Opening: 17:00 - 19:00 hrs (Building J6, Lecture Hall R)			
28.10.2024	Seminar	Immunology III	Weiß	B cells and antibody responses
04.11.2024	Seminar	Immunology IV	Georgiev	T cells and T cell responses
11.11.2024	Seminar	Immunology V	Bosnjak	Cytotoxic T cell responses
18.11.2024	Seminar	Microbiology I	Schlüter	Intro and Toxoplasma
25.11.2024	Seminar	Microbiology II	Graßl	Salmonella
02.12.2024	Seminar	Microbiology III	Lochner	C. difficile and host responses at the intestinal barrier

DATE	TYPE	FOCUS	LECTURER	SUBJECT
09.12.2024	Seminar	Microbiology IV	Nishanth	Malaria
16.12.2024	Seminar	Microbiology V	Vital	Role of the commensal bacteria for human health
06.01.2025	Seminar	Microbiology VI	Knegendorf	Klebsielle pneumoniae
13.01.2025	Seminar	Virology I	Kraft	Virus Taxonomy and Viral Diseases
20.01.2025	Seminar	Virology II	Pietschmann/ Haid	Known and Emerging RNA Viruses, and Novel Antivirals
27.01.2025	Seminar	Virology III	Depledge	Peculiarities of DNA Virus in Transcription and Replication
03.02.2025	Seminar	Virology IV	Döhner	Roundabout: Virus Assembly, egress and cell entry
10.02.2025	Seminar	Virology V	Stein	Oncogenic Viruses
17.02.2025	Seminar	Virology VI	Viejo-Borbolla	Viral Pathogenesis and Host Defenses
24.02.2025	Seminar	Cell Biology I	Hauser	The cell cycle and its implication in diseases

2nd Semester				
Tutorials: Mondays, 15:15-16:15 hrs **Location:** Room 1031, Building J4, level1				**Seminars:** Mondays, 16:30-18:00 hrs **Location:** Lecture Hall A, Building J2
DATE	**TYPE**	**FOCUS**	**LECTURER**	**SUBJECT**
07.04.2025	Seminar	Cell Biology II	Wirth	Molecular mechanisms of gene regulation
14.04.2025	Seminar	Cell Biology III	Stradal	The structure of the cell's interior
Times & Location: Mondays, 16:30-18:00 hrs, MHH, TPFZ/I-11, Seminar Room S0-1410				
DATE	**FOCUS**	**SUPERVISOR**	**STUDENT**	**SUBJECT**
28.04.2025	Project Presentation			
	Project Presentation			
05.05.2025	Project Presentation			
	Project Presentation			
12.05.2025	Project Presentation			
	Project Presentation			
19.05.2025	Project Presentation			
	Project Presentation			
26.05.2025	Project Presentation			
	Project Presentation			
02.06.2025	Project Presentation			
	Project Presentation			
16.06.2025	Project Presentation			
	Project Presentation			
23.06.2025	Project Presentation			
	Project Presentation			
30.06.2025	Project Presentation			
	Project Presentation			
07.07.2025	Project Presentation			
	Project Presentation			

PhD Programs "Infection Biology / DEWIN"

3rd Semester **Times & Location:** Mondays, 16:30-18:00 hrs, MHH, TPFZ/I-11, Seminar Room S0-1410				
DATE	**FOCUS**	**SUPERVISOR**	**STUDENT**	**SUBJECT**
07.10.2024	Topic	Witte	Heise	Anti-viral therapies
	Original Paper		Chakkadath	Bekker et al., Twice-Yearly Lenacapavir or Daily F/TAF for HIV Prevention in Cisgender Women, N Engl J Med., 2024
14.10.2024	Topic	Kalinke	Elbalkini	Innate immune responses against infections: PAMPs, TLR, NOD
	Original Paper		Chou	Harioudh,et al., Oligoadenylate synthetase 1 displays dual antiviral mechanisms in driving translational shutdown…, Immunity, 2024
21.10.2024	HBRS Opening: 17:00 - 19:00 hrs (Building J6, Lecture Hall R)			
28.10.2024	Topic	Graalmann	Ahmed	Innate immune responses against infections I: Cytokines, chemokines, complement, acute phase proteins etc.
	Original Paper		Almeida	Jiang et al., Nuclear RPSA senses viral nucleic acids to promote the innate inflammatory response, nature communications, 2023
04.11.2024	Topic	Goethe	Afrin	Bacterial adhesins and pathogenicity
	Original Paper		Pourzargham	Saleh et al., SPI-1 virulence gene expression modulates motility of Salmonella Typhimurium in a proton motive…, Plos Pathogens, 2023
11.11.2024	Topic	Viejo-Borbolla	Ganbat	Entry pathways of HCMV into different cell types
	Original Paper		Guo	Danastas et al., Interferon inhibits the release of herpes simplex virus-1 from the axons of sensory neurons. mBio, 2023
18.11.2024	Topic	Weiß	Abu	B cell responses during infection
	Original Paper		Heise	Edler Peta et al., Immune imprinting in early life shapes cross-reactivity to influenza B virus haemagglutinin, Nature Microbiol, 2024 Aug;9(8):2073-2083
25.11.2024	Topic	Büttner	Feng	Gut-lung axis in infection and inflammation
	Original Paper		Hänel	Alhasan et al., Antibiotic use during pregnancy is linked to offspring gut microbial dysbiosis, …. Eur. J. Immunol., 2023
02.12.2024	Topic	Lochner	Almeida	Intestinal immunity to pathogens
	Original Paper		Elbalkini	Eshleman et al., Microbiota-derived butyrate restricts tuft cell differentiation via histone deacetylase 3..., Immunity, 2024

DATE	FOCUS	SUPERVISOR	STUDENT	SUBJECT
09.12.2024	Topic	Kay-Fedorov	Guo	Cellular Restriction Factors interfering with HIV
	Original Paper		Mendes Monteiro	Mendoza et al., Structure of the IFNγ receptor complex guides design of biased agonists. Nature, 2019
16.12.2024	Topic	Förster	Hinrichs	Differentiation and function of T-helper cells during infection
	Original Paper		Schubert	t.b.a.
06.01.2025	Topic	Galardini	Gatz	Bacterial virulence factors
	Original Paper		Afrin	Zaborskytė et al., Convergent within-host evolution alters key virulence factors in a Klebsiella pneumoniae clone during a large hospital outbreak, 2024
13.01.2025	Topic	Bartsch	Schubert	The inflammasome and its modulation by bacterial and viral infections
	Original Paper		Liu	Minns et al., NLRP3 selectively drives IL-1β secretion by Pseudomonas aeruginosa infected neutrophils…, nature communications, 2023
20.01.2025	Topic	Vital	Hänel	Intrahost evolution of microbiota
	Original Paper		Rosier	Dapa et al., Diet leaves a genetic signature in a keystone member of the gut microbiota, Cell Host & Microbe 30, 183–199, 2022
27.01.2025	Topic	Behrens	Chou	Antigen presentation in bacterial and viral infection
	Original Paper		Ahmed	Augusto et al., A common allele of HLA is associated with asymptomatic SARS-CoV-2 infection, Nature, 2023
03.02.2025	Topic	Depledge	Mendes Monteiro	Viral factor driving oncogenesis by KSHV
	Original Paper		Ganbat	Alfi et al., Decidual-tissue-resident memory T cells protect against nonprimary human cytomegalovirus infection…, Cell Rep., 2024
10.02.2025	Topic	Graßl	Rosier	Immune escape mechanisms of bacteria
	Original Paper		Feng	Hoffmann et al., A non-classical monocyte-derived macrophage subset provides a splenic replication niche..., Immunity, 2021
17.02.2025	Topic	Nishanth Gopala	Pourzhagam	Pattern recognition receptor signaling during infection
	Original Paper		Gatz	Tang et al., TMEM16F Expressed in Kupffer Cells Regulates Liver Inflammation and Metabolism…, Adv.Sci., 2024
24.02.2025	Topic	Halle	Chakkadath	The role of NK cells in fighting infections
	Original Paper		Abu	Rebuffet et al., High-dimensional single-cell analysis of human natural killer cell heterogeneity, Nature Immunol., 2024

PhD Programs "Infection Biology / DEWIN"

4th Semester **Times & Location:** Mondays, 16:30-18:00 hrs, MHH, TPFZ/I-11, Seminar Room S0-1420				
DATE	**FOCUS**	**SUPERVISOR**	**STUDENT**	**SUBJECT**
07.04.2025	Topic	Hühn	Liu	Limiting the immune response
	Original Paper		Hinrichs	Burton et al., The tissue-resident regulatory T cell pool is shaped by transient multi-tissue migration…, Immunity, 2024
14.04.2025	Project Presentation	Georgiev	Heise	Functional and phenotypical characterization of peptide-specific PLZF+ innate-like T cells in humans
	Project Presentation	Wedemeyer	Chakkadath	Profiling of Tumor-specific T cells in Patients with HCC of Viral Origin
28.04.2025	Project Presentation	Ravens	Abu	Understanding the role of gamma delta T cells in the acquisition of natural malaria immunity and immune surveillance post birth
	Project Presentation		Almeida	Deciphering the functionality of prenatal-derived γδ T cells in neonatal infections
05.05.2025	Project Presentation	Werfel/Döhner	Liu	Characterizing the antiviral function of the antimicrobial peptide RNase 7 in the context of atopic dermatitis, eczema herpeticum and severe herpes zoster
	Project Presentation	Cornberg	Chou	Impact of epigenetic signatures in immune cells in chronic hepatitis B virus (HBV) infection
12.05.2025	Project Presentation	Bartsch	Hinrichs	Immunological niches as distinct target for novel monoclonal antibodies
	Project Presentation		Schubert	Mechanisms of Fc mediated immunity against RSV infection
19.05.2025	Project Presentation	Vital	Afrin	Deciphering the role of the resistance mechanism for ecophysiology of multidrug-resistant Enterobacteriaceae and their interplay with gut microbiota
	Project Presentation	Eiz-Vesper	Ahmed	Role and signature of naturally occurring, adoptively transferred and genetically modified herpesvirus-specific T cells in optimizing T-cell immunity in transplant recipients
26.05.2025	Project Presentation	Graalmann	Elbalkini	Impact of immunmodulatory treatment of ARDS of different origin
	Project Presentation	Stanke	Feng	Causes, mechanisms and molecular etiology of the cytokine-mediated change in CFTR expression in lung epithelium

DATE	FOCUS	SUPERVISOR	STUDENT	SUBJECT
02.06.2025	Project Presentation	Schlüter	Gatz	Regulation of IFN-induced immune responses in Listeria-infected cells by SUMOylation and ubiquitination
	Project Presentation	Graßl	Hänel	Effect of oxygen concentration on *Salmonella* infection
16.06.2025	Project Presentation	Kay-Fedorov	Ganbat	Immunosuppressive effects of the RL11 family glycoproteins pUL11 and pUL10 from Human Cytomegalovirus
	Topic Focus			
23.06.2025	Project Presentation	Bleich	Pourzargham	Characterization of Slc30a7 - a zinc transporter – in experimental colitis
	Project Presentation		Rosier	Characterization of the anti-inflammatory effects of soluble CD14 in mouse colitis models
30.06.2025	Project Presentation	Viejo-Borbolla	Guo	The role of the neuronal innate immune response during herpes simplex virus infection
	Project Presentation		Mendes Monteiro	The role of IFN-γ during varicella zoster virus infection
07.07.2025	Topic Focus	t.b.a.		
	Topic Focus			

Retreat:
June 19th-20th 2025 for all Classes

Intermediate Exam for the Class of 2023:
March 18th, 2025

PhD Final Exams:
January 31st, 2025
June 27th, 2025

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

Semester 3 & 4 MHH, building J04, level 01, **HBRS** seminar room 1140

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: HBZ seminar room (J11-S0-6040) unless otherwise indicated				
Introductory lecture - Welcoming speech - The curriculum of RegSci & HBRS - Principles of regenerative sciences and the REBIRTH approach	seminar	**Wednesday, 02.10.2024**	**10:30 – 12:00, lecture hall M, J1**	Ulrich Martin, Gaby Froriep
Principles of growth factor signaling 1 - Paracrine and juxtacrine signaling - Signaling pathways involved in the regulation of growth	seminar	10.10.2024	4:15 – 5:45 pm	Rainer Niedenthal
Principles of growth factor signaling 2 - Cytokines, hormones, and their receptors	seminar & tutorial	17.10.2024	3:00 – 4:30 pm 4:45 – 5:45 pm	Michael Morgan
Principles of growth factor signaling 1 - Paracrine and juxtacrine signaling Signaling pathways involved in the regulation of growth	tutorial	24.10.2024	3:00 – 4:00 pm	Rainer Niedenthal
Basic mechanisms of inflammation 1 - Innate and adaptive immunity and differentiation	seminar	24.10.2024	4:15 – 5:45 pm **Seminar room 76, J06-S0-4150**	Siegfried Weiß
	tutorial	07.11.2024	3:00 – 4:00 pm	
Good Scientific Practice Part 1: Introduction and Data Management **(MANDATORY!)**	seminar	**Monday, 28.10.2024**	**3:00 - 4:30 pm, lecture hall G, J1**	Beate Schwinzer
Good Scientific Practice Part 2: Scientific misconduct and plagiarism **(MANDATORY!)**	seminar	**Tuesday, 29.10.2024**	**3:00 - 4:30 pm, lecture hall G, J1**	Beate Schwinzer
Good Scientific Practice Part 3: Ethics & Statistics **(MANDATORY!)**	seminar	**Wednesday, 30.10.2024**	**3:00 - 4:30 pm, lecture hall G, J1**	Olga Halle, Stephan Halle
Principles of developmental biology and organogenesis 1 - Commitment, differentiation, apoptosis, patterning - Morphogenetic gradients and cell-cell communication - Genetic and epigenetic mechanisms	seminar & tutorial	07.11.2024	3:00 – 4:30 pm 4:45 – 5:45 pm	Andreas Kispert
Principles of developmental biology and organogenesis 2 - Model systems in developmental biology - Embryogenesis and fetal development	seminar & tutorial	21.11.2024	3:00 – 4:30 pm **Seminar room 76, J06-S0-4150** 4:45 – 5:45 pm **Seminar room 76, J06-S0-4150**	Andreas Kispert
Principles of stem cell biology 1 - Embryonic derivation of stem cells - Culture methods	seminar & tutorial	**28.11.2024**	3:00 – 4:30 pm **Seminar room 76, J06-S0-4150**	Thomas Müller

Principles of translational bioinformatics *Please bring a laptop for the tutorial!*	seminar & tutorial	05.12.2024	3:00 – 4:30 pm 4:45 – 5:45 pm	Maximilian Fuchs
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 & tutorial	**Wednesday**, 18.12.2024	3:00 – 4:30 pm 4:45 – 5:45 pm	Jan Fiedler
Principles of stem cell biology 2 - Reprogramming and regeneration - RNA therapeutics in regenerative biology	seminar tutorial	09.01.2025 16.01.2025	4:15 – 5:45 pm **Seminar room Biomedicine** 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	16.01.2025 23.01.2025	4:15 – 5:45 pm 3:00 – 4:00 pm	Axel Schambach
Basic mechanisms of inflammation 2 - Infection & cancer	seminar tutorial	23.01.2025 30.01.2025	4:15 – 5:45 pm 3:00 – 4:00 pm **Seminar room S0, M19**	Ulrich Lehmann-Mühlenhoff
Synthetic biology and options for regeneration	seminar tutorial	30.01.2025 06.02.2025	4:15 – 5:45 pm **Seminar room S0, M19** 3:00 – 4:00 pm	Dagmar Wirth
Principles of cell engineering 3 - Cell expansion Bioreactors	seminar tutorial	13.02.2025 20.02.2025	4:15 – 5:45 pm 3:00 – 4:00 pm	Kevin Ullmann
Basics of epigenetic gene regulation: -- Critical principles in embryonic development, tissue regeneration and malignant transformation	seminar	20.02.2025	4:15 – 5:45 pm	Florian Perner
Animal experiments - Introduction to animal experimentsPresentation of the animal house	seminar & tutorial	27.02.2025	3:00 – 4:30 pm	André Bleich
The histone-code How complex networks of post-translational modifications control protein complex assembly on chromatin	seminar	27.02.2025	4:15 – 5:45 pm	Florian Perner

PhD Program "Regenerative Sciences"

2nd semester: HBZ seminar room (J11-S0-6040) unless otherwise indicated				
Laser technology in medicine - Imaging - Basics of microscopy - Contrast mechanisms - Modern approaches in imaging - Superresolution microscopy	seminar & tutorial	27.03.2025	3:00 – 4:30 pm **NIFE***	Alexander Heisterkamp
			4:45 – 5:45 pm **NIFE***	
Principles of growth factor engineering - Engineering growth factors and their receptors for regenerative medicine	seminar	03.04.2025	4:15 – 5:45 pm	Michael Morgan
	tutorial	10.04.2025	3:00 – 4:00 pm	
Animal models of human disease 1 - Murine models of human disease	seminar & tutorial	10.04.2025	**4:00 – 6:00 pm**	Andreas Kispert
Freier Termin		24.04.2025		
Animal models of human disease 2 - Humanized mouse models	seminar & tutorial	08.05.2025	3:00– 5:45 pm	Fatih Noyan
Animal models of human disease 3 - Drosophila melanogaster - Neuromuscular disorders (tutorial)	seminar	15.05.2025	4:15 – 5:45 pm	Halyna Shcherbata
	tutorial	22.05.2025	3.00 – 4:00 pm	
Large animal models in biomedical research - Transgenic pigs - Xenotransplantation - Donor animal engineering	seminar	22.05.2025	4:15 – 5:45 pm	Heiner Niemann
	tutorial	05.06.2025	3:00 – 4:00 pm	
Principles of organ transplantation 1 - Heart, lung, and vessels	seminar	05.06.2025	4:15 – 5:45 pm	Philipp Wand
	tutorial	12.06.2025	3:00 – 4:00 pm	
Cardiovascular tissue engineering: Principles	seminar	12.06.2025	4:15 – 5:45 pm	Birgit Andree
	tutorial	19.06.2025	3:00 – 4:00 pm	
Principles of organ transplantation 2 - Liver, pancreas, and ß-cells	seminar	19.06.2025	4:15 – 5:45 pm	Michael Ott
	tutorial	26.06.2025	3:00 – 4:00 pm	
Stem cell based organ regeneration - Heart and clinical translation	seminar	26.06.2025	4:15 – 5:45 pm	Robert Zweigerdt
	tutorial	03.07.2025	3:00 – 4:00 pm	

PhD Program "Regenerative Sciences"

3rd semester: HBRS seminar room (I4-01-1140) unless otherwise indicated				
Regenerative approaches: Blood and immunity 1 - Thymus and T-cell development - B-cell development - Flow cytometry	seminar	10.10.2024	4:15 – 5:45 pm	Siegfried Weiß
	tutorial	17.10.2024	3:00 – 4:00 pm	Christine Falk
AAV capsid engineering for in vivo gene therapy	seminar	17.10.2024	4:15 – 5:45 pm	Hildegard Büning
Freier Termin		24.10.2024		
AAV capsid engineering for in vivo gene therapy	tutorial	07.11.2024	3:00 – 4:00 pm	Martin Bentler
Regenerative approaches: Blood and immunity 3 - Principles of hematopoietic stem cell transplantation and lymphocyte infusions HLA system and HLA compatibility (tutorial)	seminar	07.11.2024	4:15 – 5:45 pm	Matthias Eder
Regenerative approaches: Blood and immunity 3 - Principles of hematopoietic stem cell transplantation and lymphocyte infusions HLA system and HLA compatibility (tutorial	tutorial	14.11.2024	3:00 – 4:00 pm	Constanca Figueiredo
Regenerative approaches: Blood and immunity 4 - Genetic disorders of hematopoiesis, Leukemia, and leukemogenic stem cells	seminar	14.11.2024	4:15 – 5:45 pm	Michael Morgan
	tutorial	21.11.2024	3:00 – 4:00 pm	
Regenerative approaches: Liver 1 - Physiology and pathophysiological changes of the liver Liver cell therapy, basics in translation	seminar	21.11.2024	4:15 – 5:45 pm	Michael Ott
	tutorial	28.11.2024	3:00 – 4:00 pm	
Regenerative approaches: Liver 2 - Liver regeneration and stem cells Stem cell-derived hepatocytes	seminar	28.11.2024	4:15 – 5:45 pm	Tobias Cantz
	tutorial	05.12.2024	3:00 – 4:00 pm	Tobias Cantz, Reto Eggenschwiler
Regenerative approaches: Liver 3 - Liver tissue engineering - Artificial liver / extracorporal devices	seminar	05.12.2024	4:15 – 5:45 pm	Tobias Cantz
	tutorial	12.12.2024	3:00 – 4:00 pm	Tobias Cantz, Reto Eggenschwiler
Non-coding RNAs in cardiovascular disease - Regeneration and therapeutic approaches	seminar	12.12.2024	4:15 – 5:45 pm	Christian Bär
	tutorial	**09.01.2025**	3:00 – 4:00 pm	Shambhabi Chatterjee
Immunotoxicity & immunomonitoring	seminar	**09.01.2025**	4:15 – 5:45 pm	Christine Falk
	tutorial	**16.01.2025**	3:00 – 4:00 pm	

Genotoxicity & monitoring	seminar & tutorial	23.01.2025	3:00 – 4:30 pm 4:45 – 5:45 pm	Michael Rothe
Regenerative approaches: Blood and immunity 2 - Embryonic stem cell derived haematopoiesis	seminar & tutorial	30.01.2025	3:00 – 4:30 pm 4:45 – 5:45 pm	Nico Lachmann
Molecular Imaging of Regenerative Medicine - Molecular Imaging (seminar) - Tour of the Department of Nuclear Medicine (tutorial)	seminar & tutorial	06.02.2025	3:00 – 4:30 pm 4:55 – 5:45 pm	James Thackeray
Cell sorting - Method based seminar - Visit to MHH sorter lab → instrumentation (tutorial)	seminar & tutorial	13.02.2025	3:00 – 4:30 pm 4:45 – 5:45 pm	Matthias Ballmaier
Design of clinical trials & regulation	seminar	20.02.2025	4:15 – 5:45 pm	Heiko von der Leyen
Patent protection of academic inventions	seminar	27.02.2025	4:15 – 5:45 pm	Torben Söker, Ascenion GmbH
	tutorial	06.03.2025	3:00 – 4:00 pm	

PhD Program "Regenerative Sciences"

4th semester: HBRS seminar room (I4-01-1140) unless otherwise indicated				
Regenerative approaches: Lung 1	seminar	24.04.2025	4:15 – 5:45 pm	Ruth Olmer
	tutorial	08.05.2025	3:00 – 4:00 pm	
Regenerative approaches: Lung 2	seminar	08.05.2025	4:15 – 5:45 pm	Carola Voss
	tutorial	15.05.2025	3:00 – 4:00 pm	
Regenerative approaches: Heart and vessels 1 - Protein therapeutics for cardiovascular repair	seminar	15.05.2025	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	22.05.2025	4:15 – 5:45 pm	Melanie Ricke-Hoch
	tutorial	05.06.2025	3:00 – 4:00 pm	
Regenerative approaches: Heart and vessels 3 - Angiogenesis and arteriogenesis in development and disease	seminar	05.06.2025	4:15 – 5:45 pm	Florian Limbourg
	tutorial	12.06.2025	3:00 – 4:00 pm	
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	12.06.2025	4:15 – 5:45 pm	Nadine Thau-Habermann
Conditioning of autologous cells for Tissue Engineered products	seminar	19.06.2025	4:15 – 5:45 pm **NIFE***	Cornelia Blume, Sebastian Heene
	tutorial	26.06.2025	3:00 – 4:00 pm **NIFE***	
Good Manufacturing Practice (GMP), Advanced Therapy Medicinal Products (ATMP)	seminar & tutorial	26.06.2025	4:15 – 5:45 pm **Feodor-Lynen-Str. 21***	Stephan Klöß
Regenerative approaches: Heart and vessels 4 Cardiac differentiation of pluripotent stem cells & myocardial TE	seminar & tutorial	03.07.2025	3:00 – 4:30 pm	Ina Gruh
			4:45 – 5:45 pm	
The Axolotl – an Amphibian Model Organism of Regeneration	seminar & tutorial	10.07.2025	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	17.07.2025	3:00 – 4:30 pm	Norman Klopp
			4:45 – 5:45 pm **HUB***	

Additional offers:

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

Meet The Expert(s)

From bedside to the lab-side: friends and foes of industrial high throughput qPCR molecular diagnostics	Thomas Müller, Molecular Biology, Synlab Medical Care Unit Weiden	HBZ	**FRIDAY, 29.11.2024**	10:30 am–12:00 pm
How to complete your study book	Zulaikha Malik, PhD RegSci Co-coordinator	HBZ	**WEDNESDAY, 04.12.2024**	03:00 – 04:00 pm
PhD program "Regenerative Sciences" meets STEMCELL Technologies	Sarah Fischer, STEMCELL		**2025, tbd**	

Method-based Seminars

Tissue regeneration in axolotl	Prayag Murawala, MDIBL	online	**November 6th, 2024**	04:15-05:45 pm
Isolation and analysis methods for extracellular vesicles	Anton Selich, Exp. Hematology	HBZ	**THURSDAY, 16.01.2025**	04:00 – 05:00 pm
Application of human stem cells to study cardiac ageing: from development to disease	Shambhabi Chatterjee, IMTTS	HBZ	**TUESDAY, 28.01.2025**	4:15 – 6:15 pm
Methods for transcript expression and splicing analysis	Dhanya Ramachandran, Molecular Gynecology	HBZ	**MONDAY, 03.02.2025**	4.00 – 6:00 pm
Models of lung inflammation induced by environmental cues	Carola Voss LEBAO	HBZ	**TUESDAY, 26.02.2025**	
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	HBRS	**FRIDAY, 25.04.2025**	03:00 – 05:00

Functional genomics screening: revealing unbiased functional perspectives using pooled CRISPR-Cas9 screens	Florian Perner, Hematology, Hemostaseology, Oncology and Stem Cell Transplantation	HBRS	**WEDNESDAY, 30.04.2025**	03:00 – 5:00
The cytoplasmic contribution to epigenetics	Dustin Updike, MDIBL	online	**May 14th, 2025 online**	04:15-05:45 pm
Laser based methods for imaging and manipulation of cells and tissue	Stefan Kalies, IQO, LUH	NIFE	**May 2025, tbd**	
Mesenchymal stem cells: One for all?	Andrea Hoffmann, NIFE	NIFE	**June 2025, tbd**	

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

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 11.11.-15.11.2024
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 On request
1.4 Imaging Methods in Medicine	Prof.'in Dr. illi 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	15 hours 1,5 CP	MHH Seminar room "DHZ", Hannover Date t.b.d.
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 2025

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 25.11.-27.11.2024
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. Waldo Nogueira	15 hours 2 CP	MHH, NIFE On request

Combined electives:

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 2024/2025****	**Duration/TUs*****	**Organizer/Lecturers**
Journal Club	Presentations by students	Monthly	Regular attention and one own presentation required (1 TU per meeting)	PhD Students
R Coding Club	Presentations by students and postdocs	Monthly	Regular attention and one own presentation required (1 TU per meeting)	PhD Students
Science Club	Presentations by students and postdocs	Monthly	Regular attention and one own presentation required (1 TU per meeting)	Carolina Klett-Tammen Juliane Dörrbecker
Introduction to Infectious Disease Epidemiology	Lectures and exercises	Oct. 2024	2 days (10 TUs)	Berit Lange John Nyirenda Manuela Harries
Regression Models		Oct. 2024	4 days (24 TUs)	Bernard Silenou Jessica Krepel Isti Rodiah
Basics of Infectious Diseases		Nov. 2024	2 days (16 TUs)	Olga Hovardovska Torben Heinsohn Monika Strengert
Good Epidemiological Practice (GEP)		Nov./Dec. 2024	1 day (5 TUs)	John Nyirenda Carolina Klett-Tammen
Survival Analysis		Nov. 2024	2 days (24 TUs)	Bernard Silenou Berit Lange Torben Heinsohn
Introduction to Modelling		Nov. 2024	3 days (24 TUs)	Isti Rodiah Fakhteh Ghanbarnejad
Machine Learning		Nov. 24	1 day (8 TUs)	Frank Klawonn Jessica Krepel
Outbreak & Surveillance Investigations		Nov. 2024	1 week (35 TUs)	Berit Lange Anja Hauri Manuela Harries Bernard Silenou
Introduction Stata/R/Python		Dec. 2024	2 days (16 TUs)	Bernard Silenou Henrik Schanze
Empirical Methods		January 2025	3 days (24 TUs)	Carolina Klett-Tammen Anja Hauri

Module*	Type	Dates 2024/2025**	Duration/TUs***	Organizer/Lecturers
Data Protection and Ethical Aspects of Science		Feb. 2025	1 day (8 TUs)	Anja Hauri Stefanie Castell
Systematic Reviews und Metaanalysis		March 2025	5 days (40 TUs)	Berit Lange Torben Heinsohn John Nyirenda

* 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 2025.

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Biomedical Data Science

Curriculum Winter and Summer Semester 2024/2025

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 2024.
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 practicals

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

Organised by the HBRS Office:

Presentation of projects / retreat (weekend, 2 days; for MD / PhD MM: 6th / 7th March 2025)

Gene Technology Security (September 2025, in English)

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

Career Day (March 21st, 2025)

GMP / GLP workshop (Spring 2025, Gerdelmann, Pägelow and Papamichael, ITEM)

Scientific communication / writing, "tips and tricks" (January 17th, 2025, Kruse)

Animal Experiments (2 days theory: October 23rd and 24th, 2024; exam November 21st 2 pm, 2024)

2-day practical courses: December 2nd/3rd or 9th/10th 2024 Bleich / Dorsch)

Conflict Management (November 15th and November 22nd, 2024; Pfeiffer / Golin)

Stress Management (TBA, 2025, G. Kümmele)

Time Management (January 7th and 22nd, February 11th, 2025, Golin)

Team Work and Leadership (March 12th, 2025, Golin)

Intercultural communication (Summer 2025; A. Petersen, Aachen)

Seminars on career perspectives (continuously)

Bioinformatics: TBA (Chouvarine, DeLuca)

<u>Further courses</u>: Career Coaching, Project Management, Team Leadership, Presentation workshops (German and English), Weekend Workshop German Culture 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 organised 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 and November 9th, 2022)*

§ 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 Dean 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 [Doktorandenkolleg]. 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 period, 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 standard period of PhD studies (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 shall 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 six 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 guideline 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 practise". During the ombudsman proceedings, the PhD process is paused.

(4) 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.

(5) 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.

(6) 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.

(7) 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 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 six 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 Dr. Michael P. Manns

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. Dr. Michael P. Manns
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 Name Vorname
geboren am TT. Monat JJJJ in Stadt, Land
den Grad einer /s
Doktor 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)

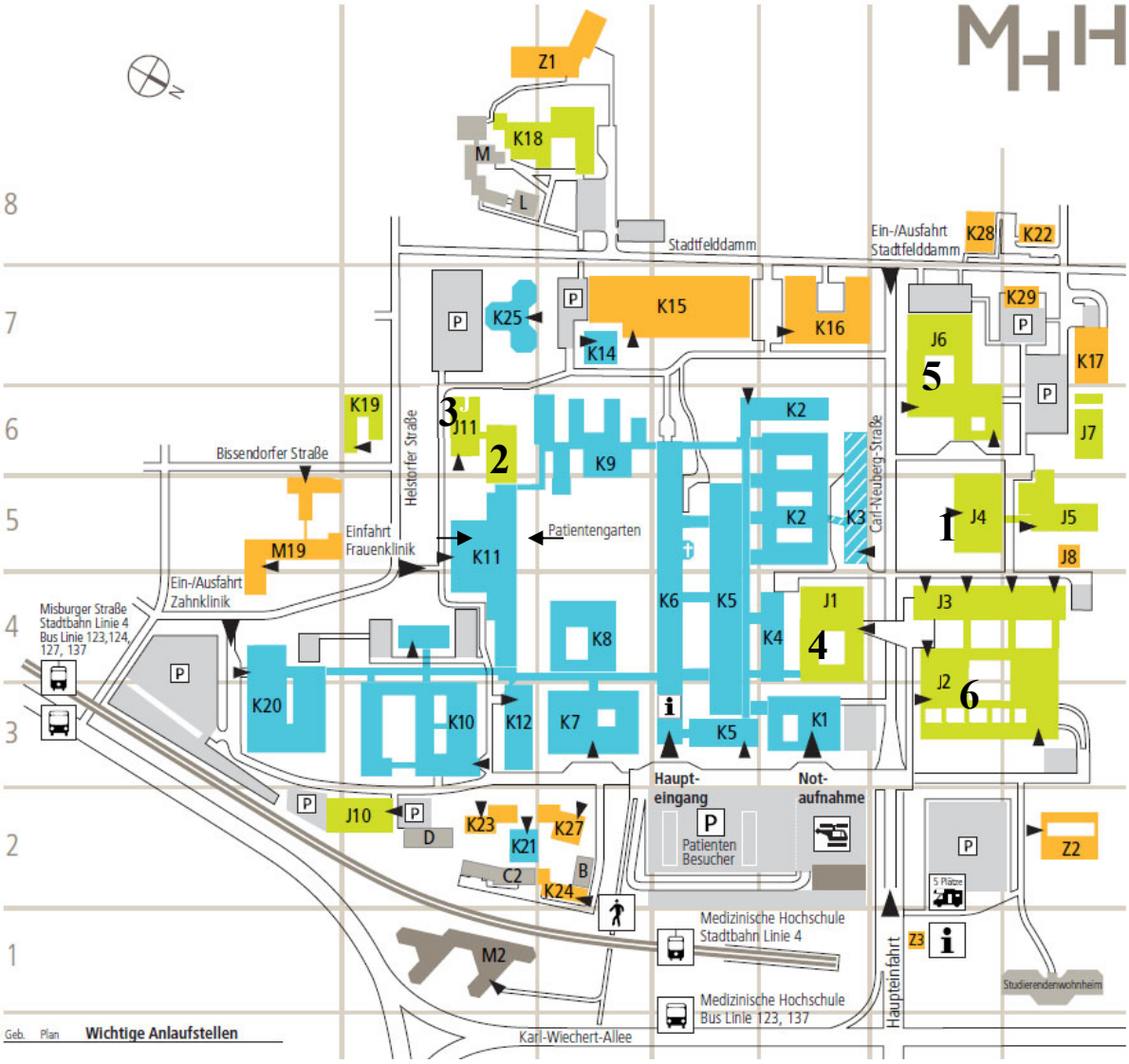
Unterschrift	Unterschrift
Programmsprecher / in	Präsident / in der Medizinischen Hochschule Hannover

Appendix 4

(MHH Logo)
Hannover Medical School under its President Professor
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
TITLE,
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 Office and DEWIN, 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