

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"

Winter and Summer Semester 2018 / 2019

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PhD Program "Epidemiology"

Winter and Summer Semester 2018 / 2019

www.mh-hannover.de/hbrs.html

Academic Year

Winter Semester 2018 / 2019

Start: October 8th, 2018
(Opening ceremony October, 15th)

End: February 25th, 2019

MD/PhD "Molecular Medicine" intermediate examination: from January 14th to February 25th, 2019 (students organise the date)

PhD "Infection Biology" / "DEWIN" intermediate examination: March 27th, 2019

PhD "Regenerative Sciences" intermediate examination: by March 30th, 2019

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

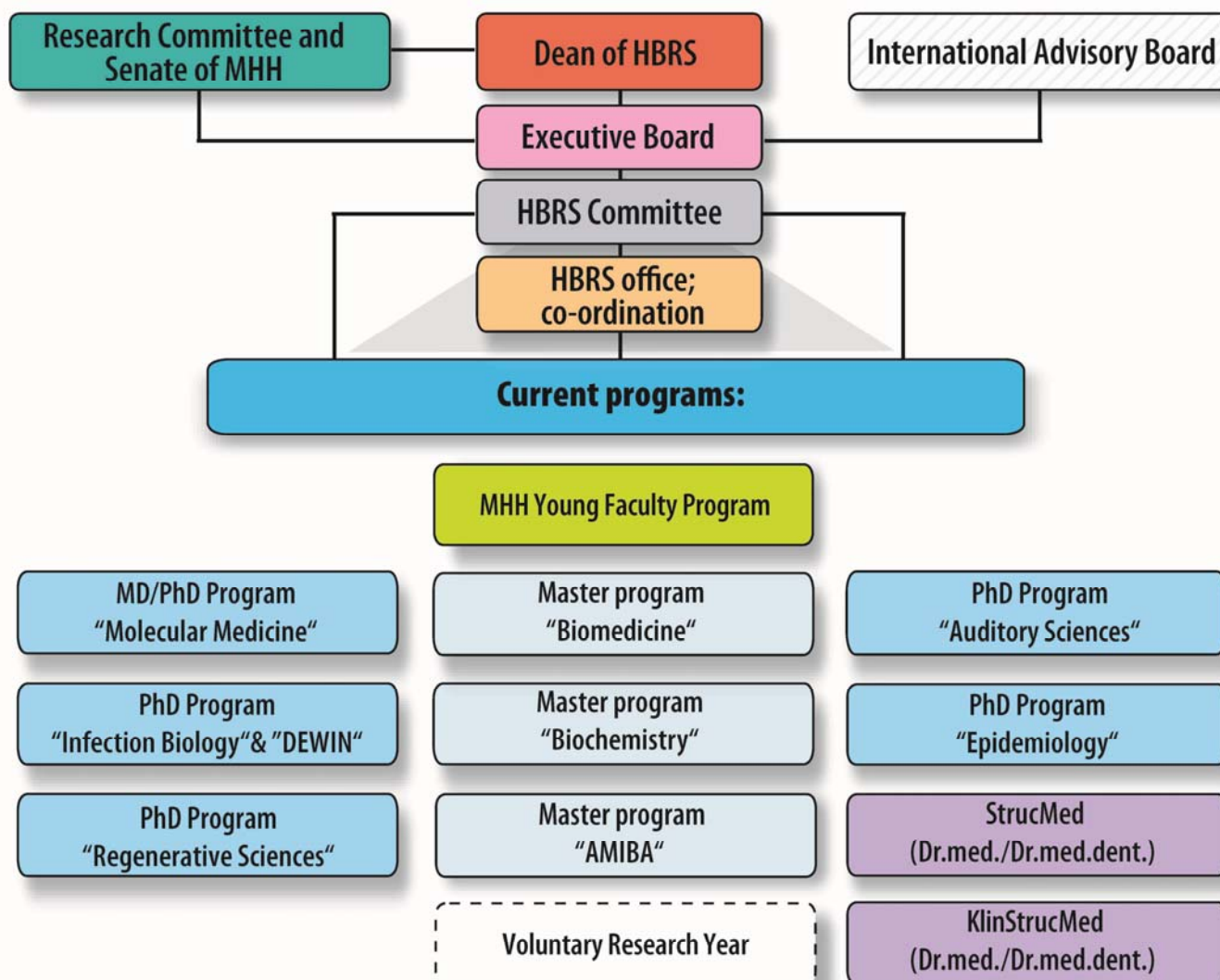
Summer Semester 2019

Start: April 1st, 2019

End: July 12th, 2019

Organisation of Hannover Biomedical Research School

Hannover Biomedical Research School



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Prof. Dr. Axel Schambach	Dr. Siegfried Weiß
Sven Giese / Claudia Schröder	Inga Hensel
Anika Alberts	NN

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Prof. Dr. Marie-Luise Dierks	Daniela Gornyk & M.T. Nguyen (students)
Prof. Dr. Frank Klawonn	
Prof. Dr. Thomas Pietschmann (guest)	
Prof. Dr. Reinhold Schmidt (guest)	
Prof. Dr. Thomas Schulz (guest)	

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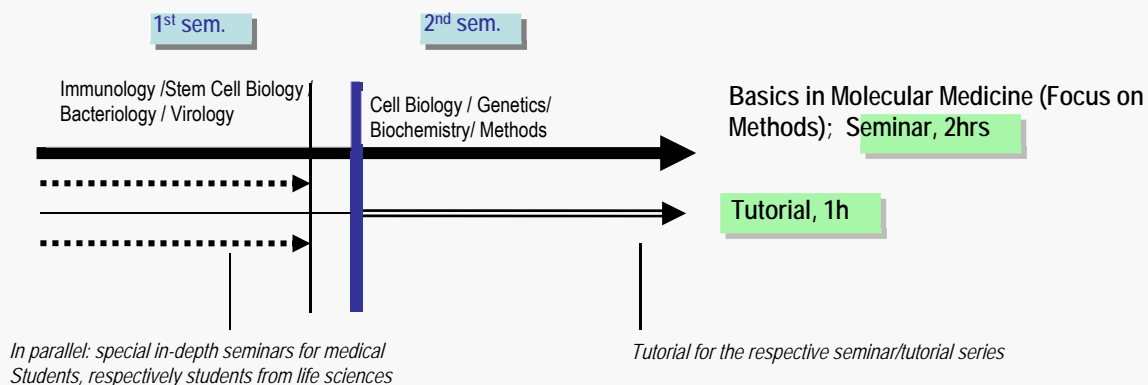
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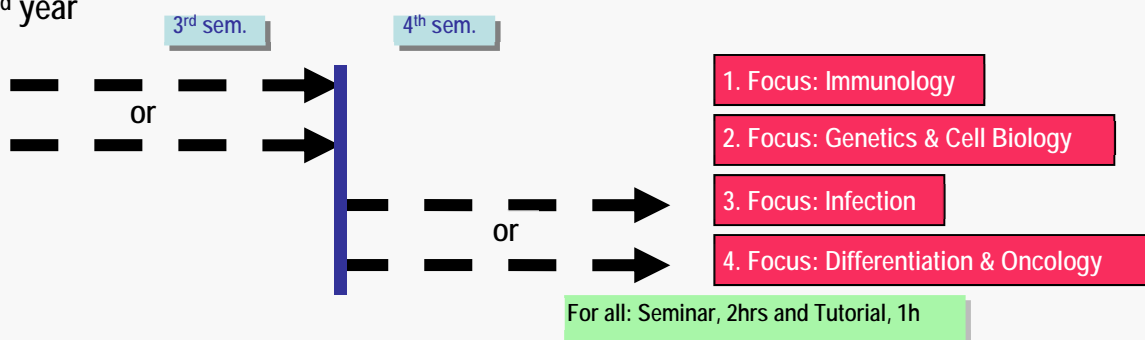
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Curriculum MD/PhD “Molecular Medicine”

1st year



2nd year



3rd year: concentration on individual research projects

Structure of the MD/PhD program „Molecular Medicine“



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

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

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

cp: credit points

Intermediate exam after 18 months

PhD thesis and final exam after 3 years

Curriculum PhD "Infection Biology" and "DEWIN"

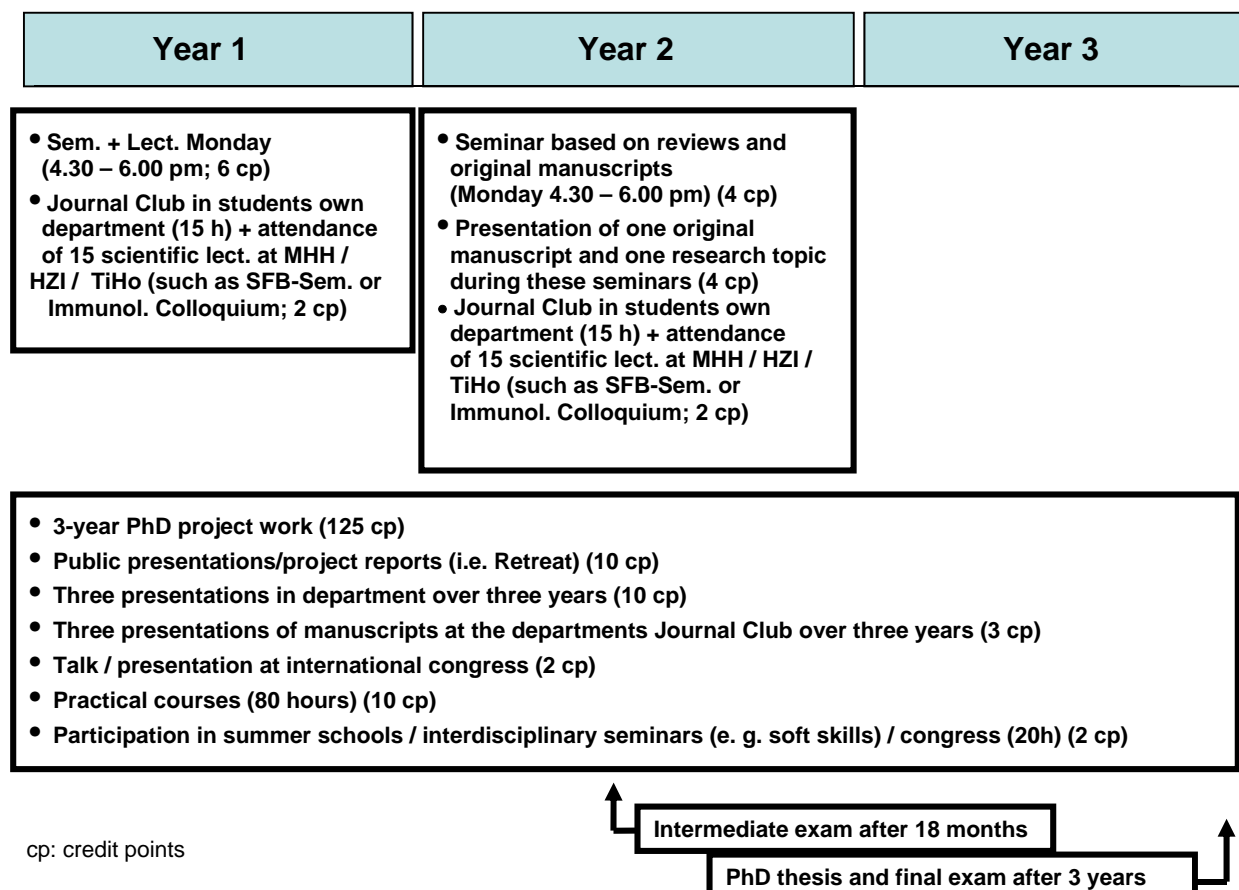
1st Year

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

2nd Year

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

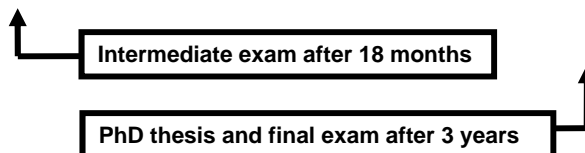
Structure of the PhD Program "Infection Biology" and "DEWIN"



Structure of the PhD-Program "Regenerative Sciences"

Year 1	Year 2	Year 3
<ul style="list-style-type: none"> • Seminars + Lectures in basic sciences Thursday (4.15 - 5.45 pm) • Tutorials Thursday (3.00- 4.00 pm) 	<ul style="list-style-type: none"> • Seminars + Lectures in basic sciences Thursday (4.15 - 5.45 pm) • Tutorials Thursday (3.00 - 4.00 pm) 	<p>Focus on experimental work</p>

<ul style="list-style-type: none"> • 3-year PhD project work • Three presentations in department within three years (regular attendance) • 3 Presentations of manuscripts at the department's Journal Club within three years (regular participation, i. e. 10 times per year) • Public annual presentation/project report (i. e. retreat) • Talk / presentation at international congress • Project-orientated seminars / courses; including practicals and summer schools (80 h) • Participation in interdisciplinary seminars (e.g. soft skills / congresses) (40h)
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<p>You may replace up to 30 hours of the Thursday seminars and tutorials by the additional offers</p> <p>"Meet the Investigator" or "Method based seminar"</p> <p>see page 50</p>

Structure of the PhD-Program "Epidemiology"



- three year research project
 - three project presentations over the three year time period
 - active participation in Journal Clubs, i.e. presentation of manuscripts or workshop outcomes
 - active participation in scientific conferences, i. e. poster or oral presentation
 - annual PhD-Retreats
 - soft skill courses
 - program modules (lectures, field work, and courses)
- total accompanying program of a minimum of 300 hrs

!!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

Tuesday, 23 October 2018

- 9.00 am First Seminar: Good Scientific Practice
- 10.30 am Introduction and Data Management; Beate Schwinzer
Lecture Hall A, building J2

Wednesday, 24 October 2018

- 9.00 am Second Seminar: Good Scientific Practice
- 10.30 am Scientific Misconduct and Plagiarism; Beate Schwinzer
Lecture Hall A, building J2

Thursday, 25 October 2018

- 9.00 pm Third Seminar: Good Scientific Practice
- 10.30 am Ethics and Statistics; Dr. Stephan and Dr. Olga Halle
Lecture Hall A, building J2

MD/PhD "Molecular Medicine"

1st Semester

Note: The curriculum of the first year is 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 respective tutorial for the seminars.

Episode I – The hematopoetic wonderland (Focus Immunology I)	Seminar	Monday, 08.10.2018	4.30 – 6.00 pm	Christine Falk
HBRS Opening: Monday, 15 October 2018, 5.00 pm (building J6, Level S0, lecture hall R)				
What innate immune cells can do for you (Focus Immunology II)	Seminar	Monday, 22.10.2018	4.30 – 6.00 pm	Inga Sandrock
B cells and antibody responses (Focus Immunology III)	Seminar	Monday, 29.10.2018	4.30 – 6.00 pm	Siegfried Weiß
T cells and T cell response (Focus Immunology IV)	Seminar	Monday, 05.11.2018	4.30 – 6.00 pm	Francesca Rampoldi
Cytotoxic T cell response (Focus Immunology V)	Seminar	Monday, 12.11.2018	4.30 – 6.00 pm	Berislav Bosnjak

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

In HBRS Seminar room (Oncology):

Gene expression analysis in cancer research (Focus Oncology I)	Seminar	Monday, 19.11.2018	4.30 – 6.00 pm	Adrian Schwarzer
Genetic modification with lentiviral vector technologies (Focus Oncology II)	Seminar	Monday, 26.11.2018	4.30 – 6.00 pm	Tobias Mätzig
Design and application of shRNA-based methods in biomedical research (Focus Oncology III)	Seminar	Monday, 03.12.2018	4.30 – 6.00 pm	Marc Jens Klepper?

Disease modeling and drug discovery with the CRISPR-Cas9 system (Focus Oncology IV)	Seminar	Monday, 10.12.2018	4.30 – 6.00 pm	Dirk Heckl
Induced pluripotent stem cell resources for the treatment of congenital diseases (Focus Oncology V)	Seminar	Monday, 17.12.2018	4.30 – 6.00 pm	Nico Lachmann
Mouse models (Focus Oncology VI)	Seminar	Monday, 07.01.2019	4.30 – 6.00 pm	Arnold?

In lecture hall B (Microbiology):

Common themes in bacterial pathogenesis (Focus Microbiology I)	Seminar	Monday, 19.11.2018	4.30 – 6.00 pm	Günter Graßl
Paradigms of Infection Biology: Myobacteria (Focus Microbiology II)	Seminar	Monday, 26.11.2018	4.30 – 6.00 pm	Fritz Bange
Paradigms of Infection Biology: Chlamydia and Listeria (Focus Microbiology III)	Seminar	Monday, 03.12.2018	4.30 – 6.00 pm	Andreas Klos
Paradigms of Infection Biology: Streptococci and Staphylococci (Focus Microbiology IV)	Seminar	Monday, 10.12.2018	4.30 – 6.00 pm	Peter Valentin-Weigand
Paradigms of Infection Biology: Toxoplasma (Focus Microbiology V)	Seminar	Monday, 17.12.2018	4.30 – 6.00 pm	Dirk Schlüter
Paradigms of Infection Biology: Salmonella (Focus Microbiology VI)	Seminar	Monday, 07.01.2019	4.30 – 6.00 pm	Günther Graßl

Taxonomy of Viruses and Viral Diseases (Focus Virology I)	Seminar	Monday, 14.01.2019	4.30 – 6.00 pm	Anke Kraft
	Tutorial	Monday, 21.01.2019	3.15 – 4.15 pm	Anke Kraft
Virus Cell Entry + Structural Virology (not Flaviviridae) (Focus Virology II)	Seminar	Monday, 21.01.2019	4.30 – 6.00 pm	Thomas Krey
	Tutorial	Monday, 28.01.2019	3.15 – 4.15 pm	Thomas Krey
Transcription + Replication of RNA viruses (not Flaviviridae) (Focus Virology III)	Seminar	Monday, 28.01.2019	4.30 – 6.00 pm	Thomas Pietschmann
	Tutorial	Monday, 04.02.2019	3.15 – 4.15 pm	Thomas Pietschmann
Transcription + Replication of DNA (not Herpesviridae) (Focus Virology IV)	Seminar	Monday, 04.02.2019	4.30 – 6.00 pm	Jens Bohne
	Tutorial	Monday, 11.02.2019	3.15 – 4.15 pm	Jens Bohne
Virus assembly, maturation, egress (not Flaviviridae/Herpesviridae) (Focus Virology V)	Seminar	Monday, 11.02.2019	4.30 – 6.00 pm	Gisa Gerold
	Tutorial	Monday, 18.02.2019	3.15 – 4.15 pm	Gisa Gerold
Pathogenesis, Host Defense, Viral Interference (not Herpes) (Focus Virology VI)	Seminar	Monday, 18.02.2019	4.30 – 6.00 pm	Abel Viejo-Borbolla
	Tutorial	Monday, 25.02.2019	3.15 – 4.15 pm	Abel Viejo-Borbolla
The cell cycle and its implications in diseases (Focus Cell Biology I)	Seminar	Monday, 25.02.2019	4.30 – 6.00 pm	Hans J. Hauser
Location seminar: Lecture hall B, building J2 Location tutorial: HBRS seminar room 1140, building J4, level 01 (2 nd floor)				

***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**

<u>For MD/PhD "Molecular Medicine" only:</u> General introduction, lectures, expectations etc.: answering of all last questions, election of class speaker	Seminar	Monday, 08.10.2018	3.30 – 4.15 pm	Susanne Kruse
	No seminar because of opening ceremony	Monday, 15.10.2018		
Electron Microscopy	Seminar	Monday, 22.10.2018	3.15 – 4.15 pm	Stephanie Groos
No tutorial	Seminar	Monday, 29.10.2018	3.15 – 4.15 pm	
	No seminar because of animal course	Monday, 05.11.2018		
Clinical Immunology: pathogenesis of an autoimmune disease (Lupus erythematosus)	Seminar	Monday, 12.11.2018	3.15 – 4.15 pm	Torsten Witte
Hannover Unified Biobank	Seminar	Monday, 19.11.2018	3.15 – 4.15 pm	Thomas Illig
Super resolution light microscopy	Seminar	Monday, 26.11.2018	3.15 – 4.15 pm	Rudolf Bauerfeind

Gene Technology and Biosafety	Seminar	Monday, 03.12.2018	3.15 – 4.15 pm	Ruth Knorr
FACS analysis	Seminar	Monday, 10.12.2018	3.15 – 4.15 pm	Roland Jacobs
Chip cytometry	Seminar	Monday, 17.12.2018	3.15 – 4.15 pm	Christian Hennig
Cell sorting	Seminar	Monday, 07.01.2019	3.15 – 4.15 pm	Matthias Ballmaier
Immunotherapy and cancer vaccines	Seminar	Monday, 14.01.2019	3.15 – 4.15 pm	Tetyana Yevsa
Location: Hannover Biomedical Research School, HBRS seminar room 1140, building J4, level 01 (2 nd floor)				

MD/PhD Molecular Medicine

2nd Semester

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

4.) General Cell Biology				
	Tutorial	Monday, 01.04.2019	3.15 – 4.15 pm	Hans J. Hauser
Intracellular trafficking	Seminar lecture hall B	Monday, 01.04.2019	4.30 – 6.00 pm	Melanie Brinkmann
	Tutorial HBRS seminar room	Monday, 08.04.2019	3.15 – 4.15 pm	Melanie Brinkmann
The structure of the cell's interior	Seminar lecture hall B	Monday, 08.04.2019	4.30 – 6.00 pm	Theresia Stradal
	Tutorial	Monday, 15.04.2019	3.15 – 4.15 pm	Theresia Stradal
	No seminar on April 15th, only tutorial! Public holiday on April 22nd			
(Now for MD/PhD MM only) All seminars and tutorials in HBRS seminar -room				
5.) Biochemistry and Genetics; methods				
Next generation sequencing	Seminar	Monday, 29.04.2019	4.30 – 6.00 pm	Robert Geffers (HZI)
	No tutorial	Monday, 06.05.2019		
Transcriptomics (seminar / tutorial in building J3, level 01, room 2020)	Seminar	Monday, 06.05.2019	4.30 – 6.00 pm	Oliver Dittrich- Breiholz
	Tutorial	13.05.2019	3.15 – 4.15 pm	Oliver Dittrich- Breiholz

Strategies to analyse gene function in vivo	Seminar / tutorial	Monday, 13.05.2019	4.30 – 6.00 pm	Achim Gossler
	Tutorial	20.05.2019	3.15 – 4.15 pm	Achim Gossler
Proteomics	Seminar	Monday, 20.05.2019	4.30 – 6.00 pm	Andreas Pich
Metabolomics	Tutorial	Monday, 27.05.2019	3.15 – 4.15 pm	Heike Bähre
Physical Methods in Biochemistry	Seminar	Monday, 27.05.2019	4.30 – 6.00 pm	Ute Curth
	Tutorial	Monday, 03.06.2019	3.15 – 4.15 pm	Ute Curth
NN	Seminar	Monday, 03.06.2019	4.30 – 6.00 pm	NN
	Tutorial	Monday, 17.06.2019	3.15 – 4.15 pm	NN
	No seminar / tutorial, public holiday on June 10th			
tba (seminar only - building J6, level S0, room 76)	Seminar	Monday, 17.06.2019	4.30 – 6.00 pm	Christian Wahl-Schott
	Tutorial	Monday, 24.06.2019	3.15 – 4.15 pm	Christian Wahl-Schott
Stem cells	Seminar	Monday, 24.06.2019	4.30 – 6.00 pm	Axel Schambach
	Tutorial	Monday, 01.07.2019	3.15 – 4.15 pm	Axel Schambach
Techniques of miRNAs and lncRNAs	Seminar / Tutorial	Monday, 01.07.2019	4.30 – 6.30 pm	Jan Fiedler
Location: Hannover Biomedical Research School, HBRS seminar room 1140, building J4, level 01 (2 nd 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

Opening Ceremony of HBRS, Monday, 15 October 2018, 5.00 pm				
1. Immune cells and organs				
Regulation and function of NK cells	Seminar	Monday, 22.10.2018	3.00 – 5.00 pm	Roland Jacobs
	Tutorial	Monday, 29.10.2018	5.00 – 6.00 pm	Roland Jacobs
No seminar	Seminar	Monday, 29.10.2018	3.00 – 5.00 pm	
	Tutorial	Monday, 05.11.2018	5.00 – 6.00 pm	
Calcium signalling and autoimmune inflammation	Seminar	Monday, 05.11.2018	3.00 – 5.00 pm	Georgios Sogkas
	Tutorial	Monday, 12.11.2018	5.00 – 6.00 pm	Georgios Sogkas

2. Autoimmunity				
Transplantation, Tolerance and Tregs	Seminar	Monday, 12.11.2018	3.00 – 5.00 pm	Fatih Noyan
	Tutorial	Monday, 26.11.2018	5.00 – 6.00 pm	Fatih Noyan
T and B cell differentiation	Seminar / Tutorial	Monday, 19.11.2018	3.00 – 6.00 pm	Fritz Melchers (Basel)
Major histocompatibility complex in tolerogenic cell therapies	Seminar	Monday, 26.11.2018	3.00 – 5.00 pm	Constanza Ferreira de Figueiredo
	Tutorial	Monday, 03.12.2018	5.00 – 6.00 pm	Constanza Ferreira de Figueiredo
3. Allergy and Asthma, Immunological diseases				
Immunodermatology	Seminar	Monday, 03.12.2018	3.00 – 5.00 pm	Thomas Werfel
	Tutorial	Monday, 10.12.2018	5.00 – 6.00 pm	Lennart Rösner
Neuroimmune interactions in asthma bronchiale	Seminar	Monday, 10.12.2018	3.00 – 5.00 pm	Armin Braun (Fraunhofer Institute)
	Tutorial	Monday, 17.12.2018	5.00 – 6.00 pm	Armin Braun (Fraunhofer Institute)
Studying allergic airway inflammation: of mice and man	Seminar	Monday, 17.12.2018	3.00 – 5.00 pm	Olga Halle / Anna-Maria Dittrich
	Tutorial	Monday, 07.01.2019	5.00 – 6.00 pm	Olga Halle / Anna-Maria Dittrich
Adjuvants	Seminar	Monday, 07.01.2019	3.00 – 5.00 pm	Ulrich Kalinke / Annett Ziegler
	Tutorial	Monday, 14.01.2019	5.00 – 6.00 pm	Ulrich Kalinke / Annett Ziegler

4. Signalling and therapy				
Fibulin 6 affects TGF signalling in context of cardia remodelling	Seminar	Monday, 14.01.2019	3.00 – 5.00 pm	Christine Herzog
	Tutorial	Monday, 21.01.2019	5.00 – 6.00 pm	Christine Herzog
Inhibitory receptor-ligand interactions as targets for transplantation tolerance	Seminar	Monday, 21.01.2019	3.00 – 5.00 pm	Reinhard Schwinzer
	Tutorial	Monday, 28.01.2019	5.00 – 6.00 pm	Reinhard Schwinzer
The complement system and its regulation	Seminar	Monday, 28.01.2019	3.00 – 5.00 pm	Andreas Klos
	Tutorial	Monday, 04.02.2019	5.00 – 6.00 pm	Andreas Klos
Acute kidney injury in transplantation - molecular mechanisms	Seminar	Monday, 04.02.2019	3.00 – 5.00 pm	Faikah Güler
	Tutorial	Monday, 11.02.2019	5.00 – 6.00 pm	Faikah Güler
Tumor immunity and oncogenic signalling	Seminar	Monday, 11.02.2019	3.00 – 5.00 pm	Christine Falk
	Tutorial	Monday, 18.02.2019	5.00 – 6.00 pm	Christine Falk
Location: Hannover Biomedical Research School, building J4, level S0 (ground floor), seminar room S 1400 (right to the main entrance)				

2. Focus: Genetics and Cell Biology

1. Techniques and diagnostics / therapy				
Embryonic and somatic cloning in mammals	Seminar / Tutorial	Monday, 08.10.2018	3.00 - 6.00 pm	Heiner Niemann
Opening Ceremony, Monday, 15 October 2018, 5.00 pm, lecture hall R				
Molecular mechanisms of vascular aging in health and disease	Seminar	Monday, 22.10.2018	3.00 – 5.00 pm	Yulia Kiyan
	Tutorial	Monday, 29.10.2018	5.00 – 6.00 pm	Yulia Kiyan
2. Genetics				
Application of genome editing in biomedical research	Seminar	Monday, 29.10.2018	3.00 – 5.00 pm	Dirk Heckl
	Tutorial	Monday, 05.11.2018	5.00 – 6.00 pm	Dirk Heckl
Stem cells in renal injury	Seminar / Tutorial	Monday, 05.11.2018	2.00 – 5.00 pm	Roland Schmitt
Molecular mechanisms of heart failure	Seminar	Monday, 12.11.2018	3.00 – 5.00 pm	Melanie Ricke-Hoch
	Tutorial	Monday, 19.11.2018	5.00 – 6.00 pm	Melanie Ricke-Hoch
3. Signalling				
Interactions between signalling, metabolic pathways and miRNAs in HCC	Seminar / Tutorial	Monday, 19.11.2018	2.00 – 5.00 pm	Asha Balakrishnan

Functions of sodium channel Nav1.3 in neutrophil extravasation during ischemia	Seminar	Monday, 26.11.2018	3.00 – 5.00 pm	Frank Echtermeyer
	Tutorial	Monday, 03.12.2018	5.00 – 6.00 pm	Frank Echtermeyer
Small GTPases as targets of bacterial toxins	Seminar	Monday, 03.12.2018	3.00 – 5.00 pm	Harald Genth
	Tutorial	Monday, 10.12.2018	5.00 – 6.00 pm	Harald Genth
Glycosylation and diseases	Seminar	Monday, 10.12.2018	3.00 – 5.00 pm	Hans Bakker
	Tutorial	Monday, 17.12.2018	5.00 – 6.00 pm	Hans Bakker
4. Cell Biology and disease				
Molecular mechanisms in cardiorenal syndrome	Seminar	Monday, 17.12.2018	3.00 – 5.00 pm	Maren Leifheit-Nestler
	Tutorial	Monday, 07.01.2019	5.00 – 6.00 pm	Maren Leifheit-Nestler
Looking closely at the lung and its surfactant system	Seminar	Monday, 07.01.2019	3.00 – 5.00 pm	Elena Lopez-Rodriguez
	Tutorial	Monday, 14.01.2019	5.00 – 6.00 pm	Elena Lopez-Rodriguez
How molecular motors work	Seminar / Tutorial	Monday, 21.01.2019	5.00 – 7.00 pm	Dietmar Manstein

Membrane domains	Seminar	Monday, 21.01.2019	3.00 – 5.00 pm	Robert Lindner
	Tutorial	Monday, 28.01.2019	5.00 – 6.00 pm	Robert Lindner
Micro RNAs from disease mechanisms to therapeutic approaches	Seminar	Monday, 28.01.2019	3.00 – 5.00 pm	Thomas Thum
	Tutorial	Monday, 04.02.2019	5.00 – 6.00 pm	Jan Fiedler
Epigenetics and Cancer	Seminar	Monday, 04.02.2019	3.00 – 5.00 pm	Beate Vajen
	Tutorial	Monday, 11.02.2019	5.00 – 6.00	Beate Vajen
Liver fibrogenesis - basic mechanisms and clinical implications	Seminar	Monday, 11.02.2019	3.00 – 5.00 pm	Ingmar Mederacke
	Tutorial	Monday, 18.02.2019	5.00 – 6.00	Ingmar Mederacke
Location: Hannover Biomedical Research School, building J4, level 01 (2 nd floor), seminar room 1031				

MD/PhD program "Molecular Medicine"

4th Semester

3. Focus: Infection and Immunity

1. Innate Immunity; Infection and disease				
Evolutionary aspects of the immune system	Seminar	Monday, 08.04.2019	3.00 – 5.00 pm	Siegfried Weiß
	Tutorial	Monday, 15.04.2019	5.00 – 6.00 pm	Siegfried Weiß
Virus replication, antivirals and resistance	Seminar	Monday, 15.04.2019	3.00 – 5.00 pm	Thomas Pietschmann
	Tutorial	Monday, 29.04.2019	5.00 – 6.00 pm	Thomas Pietschmann
No seminars on 22 April 2019 due to public holiday				
Immune response in HIV	Seminar	Monday, 29.04.2019	3.00 – 5.00 pm	Reinhold E. Schmidt
	Tutorial	Monday, 06.05.2019	5.00 – 6.00 pm	Reinhold E. Schmitt
Acute and chronic bacterial infection of the lung (Location: Experimental Pneumology, Feodor-Lynen-Str. 21; building M05, level 02, room 213)	Seminar	Monday, 06.05.2019	3.00 – 5.00 pm	Ulrich Maus
	Tutorial	Monday, 13.05.2019	5.00 – 6.00 pm	Ulrich Maus
Innate Immunity to viral infections	Seminar	Monday, 13.05.2019	3.00 – 5.00 pm	Christine Goffinet
	Tutorial	Monday, 20.05.2019	5.00 – 6.00 pm	Christine Goffinet
Role of CD8 T cells in acute and chronic infections	Seminar	Monday, 20.05.2019	3.00 – 5.00 pm	Thomas Wirth
	Tutorial	Monday, 27.05.2019	5.00 – 6.00 pm	Thomas Wirth

2. Genetics and disease, infection and immune system				
Genetic engineering of cells and mice for development of disease models	Seminar	Monday, 27.05.2019	3.00 – 5.00 pm	Dagmar Wirth (HZI)
	Tutorial	Monday, 03.06.2019	5.00 – 6.00 pm	Dagmar Wirth (HZI)
No seminars on 10th June 2019 due to public holiday				
Viral vectors for gene transfer in vitro and vivo	Seminar / Tutorial	Monday, 17.06.2019	5.00 – 7.00 pm	Renata Stripecke
Basic concepts in vaccinology	Seminar	Monday, 17.06.2019	3.00 – 5.00 pm	Carlos Guzman (HZI)
	Tutorial	Monday, 24.06.2019	5.00 – 6.00 pm	Carlos Guzman (HZI)
Innate lymphoid cells and their role in viral infection and vaccine design	Seminar	Monday, 24.06.2019	3.00 – 5.00 pm	Peggy Riese (HZI)
	Tutorial	Monday, 01.07.2019	5.00 – 6.00 pm	Peggy Riese (HZI)
Host-pathogen interactions	Seminar	Monday, 01.07.2019	3.00 – 5.00 pm	Eva Medina (HZI)
	Tutorial	Monday, 08.07.2019	5.00 – 6.00 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

1. Development and cancer				
Cellular senescence as a barrier for cancer development	Seminar	Monday, 08.04.2019	3.00 – 5.00 pm	Tetyana Yevsa
	Tutorial	Monday, 15.04.2019	5.00 – 6.00 pm	Tetyana Yevsa
Liver organogenesis and hepatic stem cell	Seminar	Monday, 15.04.2019	3.00 – 5.00 pm	Michael Ott
	Tutorial	Monday, 29.04.2019	5.00 – 6.00 pm	Michael Ott
No seminars on 22 April 2019 due to public holiday				
Epigenetics in cancer	Seminar	Monday, 29.04.2019	3.00 – 5.00 pm	Ulrich Lehmann
	Tutorial	Monday, 06.05.2019	5.00 – 6.00 pm	Ulrich Lehmann
2. Stem cells and cancer				
Onco-Immunology: Translational research at the interface between immunology and oncology	Seminar	Monday, 06.05.2019	3.00 – 5.00 pm	Friedrich Feuerhake
	Tutorial	Monday, 13.05.2019	5.00 – 6.00 pm	Friedrich Feuerhake
Metabolism and cancer: concept, players, therapy	Seminar	Monday, 13.05.2019	3.00 – 5.00 pm	Anuhar Chaturvedi
	Tutorial	Monday, 20.05.2019	5.00 – 6.00 pm	Anuhar Chaturvedi
Adoptive T cell therapies in hematopoietic stem cell transplantation	Seminar	Monday, 20.05.2019	3.00 – 6.00 pm	Martin Sauer
	Tutorial	Monday, 27.05.2019	5.00 – 6.00 pm	Martin Sauer

Application of genome editing in biomedical research	Seminar	Monday, 27.05.2019	3.00 – 5.00 pm	Dirk Heckl
	Tutorial	Monday, 03.06.2019	5.00 – 6.00 pm	Dirk Heckl
3. Signalling (and cancer)				
Oncogenes and myeloproliferation	Seminar	Monday, 03.06.2019	3.00 – 5.00 pm	Matthias Eder
	Tutorial	Monday, 17.06.2019	5.00 – 6.00 pm	Matthias Eder
No seminars on 10 June 2019 due to public holiday				
T-box genes in development and disease	Seminar	Monday, 17.06.2019	3.00 – 5.00 pm	Andreas Kispert
	Tutorial	Monday, 24.06.2019	5.00 – 6.00 pm	Andreas Kispert
Physiological functions of the septin cytoskeleton	Seminar	Monday, 24.06.2019	3.00 – 5.00 pm	Manoj Menon
	Tutorial	Monday, 01.07.2019	5.00 – 6.00 pm	Manoj Menon
Molecular basis of leukemogenesis	Seminar	Monday, 01.07.2019	3.00 – 5.00 pm	Adrian Schwarzer
	Tutorial	Monday, 08.07.2019	5.00 – 6.00 pm	Adrian Schwarzer
Location: Hannover Biomedical Research School, building J4, level 01 (2 nd floor), seminar room 1031				

PhD programs "Infection Biology / DEWIN"

1st Semester	
Tutorials: Mondays, 15:15-16:15 hrs	Seminars: Mondays, 16:30-18:00 hrs
Location: Room 1140, Building J4, level1	Location: Lecture Hall B, Building J2

DATE	TYPE	FOCUS	LECTURER	SUBJECT
08.10.2018	Seminar	Immunology I	Falk	Episode I - The hematopoetic wonderland
16.10.2017	HBRS Opening: 17:00 - 19:00 hrs (Building J6, Level S0, Lecture Hall R)			
22.10.2018	Seminar	Immunology II	Sandrock	Innate Immunity
29.10.2018	Seminar	Immunology III	Weiß	B cells and antibody responses
05.11.2018	Seminar	Immunology IV	Rampoldi	T cells and T cell response
12.11.2018	Seminar	Immunology V	Bosnjak	Cytotoxic T cell response
19.11.2018	Seminar	Microbiology I	Graßl	Common Themes in Microbial Pathogenesis
26.11.2018	Seminar	Microbiology II	Bange	Paradigms in Infection Biology: Mycobacteria
03.12.2018	Seminar	Microbiology III	Klos	Paradigms in Infection Biology: Chlamydia and Listeria

DATE	TYPE	FOCUS	LECTURER	SUBJECT
10.12.2018	Seminar	Microbiology IV	Valentin-Weigand	Paradigms in Infection Biology: Streptococci and Staphylococci
17.12.2018	Seminar	Microbiology V	Schlüter	Paradigms in Infection Biology: Toxoplasma
07.01.2019	Seminar	Microbiology VI	Graßl	Paradigms in Infection Biology: Salmonella
14.01.2019	Seminar	Virology I	Kraft	Taxonomy of Viruses and Viral Diseases
21.01.2019	Seminar	Virology II	Krey	Structural Virology + Virus Cell Entry
28.01.2019	Seminar	Virology III	Pietschmann	RNA Virus Transcription + Replication (not Flaviviridae)
04.02.2019	Seminar	Virology IV	Bohne	DNA Virus Transcription + Replication (not Herpesviridae)
11.02.2019	Seminar	Virology V	Gerold	Virus assembly, maturation and egress (not Flavi/Herpesviridae)
18.02.2019	Seminar	Virology VI	Viejo-Borbolla	Viral Pathogenesis and Host Defenses (not Flavi/Herpesviridae)
25.02.2019	Seminar	Cell Biology I	Hauser	The cell cycle and its implications in diseases

PhD Programs "Infection Biology / DEWIN"

2nd Semester

Tutorials: Mondays, 15:15-16:15 hrs

Seminars: Mondays, 16:30-18:00 hrs

Location: Room 1140, Building J4, level1

Location: Lecture Hall B, Building J2

DATE	TYPE	FOCUS	LECTURER	SUBJECT
01.04.2019	Seminar	Cell Biology II	Brinkmann	Intracellular trafficking
08.04.2019	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 S0-1420

DATE	FOCUS	SUPERVISOR	STUDENT	SUBJECT
15.04.2019	Project Presentation	Viejo-Borbolla	Jürgens	Functional characterization of the chemokine enhancing activity of varicella zoster virus glycoprotein C
	Project Presentation	Viejo-Borbolla	Sun	Identification of viral factors modulating neuronal outgrowth and infection
29.04.2019	Project Presentation	Kalinke	Mulenge	The role of interferon gamma in the control of herpes simplex virus-1 induced encephalitis
	Project Presentation	Kalinke	Bruhn	Molecular basis and early predictors of non-responsiveness to hepatitis B vaccination
06.05.2019	Project Presentation	Sodeik	Cornelius	Microtubule motor binding of the large tegument protein pUL36 of Herpes-Simplex Virus
	Project Presentation	Sodeik	Richardo	Dynamics of Herpes-Simplex Virus spread in skin and to the peripheral nervous system
13.05.2019	Project Presentation	Ravens	Adriawan	Monitoring of human $\gamma\delta$ T cell repertoires in healthy individuals and during chronic viral infections using next generation sequencing technologies
	Project Presentation	Prinz	Binz	Investigating the specificity of $\gamma\delta$ TCR
20.05.2019	Project Presentation	Tümmler	Pust	Airway microbial metagenomics in health, bronchiectasis and COPD
	Project Presentation	Graßl	Alvarez	Role of <i>Salmonella</i> invasion mechanisms for disease development

DATE	FOCUS	SUPERVISOR	STUDENT	SUBJECT
27.05.2019	Project Presentation	Schulz	Tikla	Characterisation of a novel small molecule inhibitor of Kaposi Sarcoma Herpesvirus Replication
	Project Presentation	Schulz	Götting	<i>Deep Sequencing</i> of Human Cytomegalovirus and Epstein-Barr Virus on the genome and transcriptome level
03.06.2019	Project Presentation	Bernhardt	Abdulseed	Characterization and functional analysis of follicular T cells from wild type and mutant mice
	Project Presentation	Halle	Zargari	2-Photon imaging of the immune response following infection with murine gammaherpesvirus 68 in vivo
17.06.2019	Project Presentation	Bleich	Villarreal	Characterisation of the colitogenic candidate gene Alpk1 during infection
	Project Presentation	Bleich	Odum	Mimicking intestinal microbiome using defined bacterial consortia to define and modulate disease paths in a susceptible host
24.06.2019	Project Presentation	Cornberg	Kumaresan	Cure of chronic hepatitis C – Long-term effects on heterologous immune responses
	Project Presentation	Werfel	Mikolajczyk	Investigations on the T cell response to skin microbiota in atopic dermatitis
01.07.2019	Project Presentation	Messerle	Szymanska	Interference of mouse cytomegalovirus M25 proteins with the tumor suppressor protein p53
	Topic Focus	n.n.		

PhD Programs "Infection Biology / DEWIN"

3rd Semester				
Times & Location: Mondays, 16:30-18:00 hrs, MHH, TPFZ/I-11, Seminar Room S0-1420				
DATE	FOCUS	SUPERVISOR	STUDENT	SUBJECT
08.10.2018	Topic Focus	Bosnjak		The CRISPR/Cas system and its potential in manipulating the immune system.
15.10.2018	HBRS Opening: 17:00 - 19:00 hrs (Building J6, Level S0, Lecture Hall R)			
22.10.2018	Topic	Tümmler	Kesthely	Post transcriptional modifications
	Original Paper		Elsheikh	Chen et al. 2018, Cell Reports: Genome-wide Translation Profiling by Ribosome-Bound tRNA Capture
29.10.2018	Topic Focus	Kropp		Initiating the gene expression program of DNA viruses
05.11.2018	Topic Focus	Häußler		Bacterial Biofilms
12.11.2018	Topic	Gerold	Anagho	Cellular restriction factors interfering with HIV infection
	Original Paper		Freise	Besnard et al. 2016, Cell Host & Microbe: The mTOR Complex Controls HIV Latency
19.11.2018	Topic	Sodeik	Kirui	Common cellular entry pathways used by different virus families
	Original Paper		Möller	Zhang et al. 2017, J Virol: West Nile Virus NS1 Antagonizes Interferon Beta Production by Targeting RIG-I and MDA5
26.11.2018	Topic	Lochner	Deseke	Innate immune responses against infections
	Original Paper		Ospina	Nadsjombati et al. 2018, Immunity, Detection of Succinate by Intestinal Tuft Cells Triggers a Type 2 Innate Immune Circuit
03.12.2018	Topic	Graßl	Elsheikh	Gut-Microbe Interactions in health and disease
	Original Paper		Lanfermann	Donaldson et al. 2018, Science: Gut microbiota utilize immunoglobulin A for mucosal colonization

DATE	FOCUS	SUPERVISOR	STUDENT	SUBJECT
10.12.2018	Topic	Messerle	Freise	Maintenance of latency by alpha-herpesviruses
	Original Paper		Passos	Murer et al. 2018, PLOS Pathogens: EBV persistence without its EBNA3A and 3C oncogenes in vivo
17.12.2018	Topic Focus	Klos		Pathogens and complement
07.01.2019	Topic Focus	Halle		Role of cytotoxic T cells and NKs in controlling virus infections.
14.01.2019	Topic Focus	Ravens		The biology of gamma/delta T cells and their role in infection control
21.01.2019	Topic	Weiß	Ospina	B cell responses during infection
	Original Paper		Deseke	Tan et al., Nature Medicine, A public antibody lineage that potently inhibits malaria infection through dual binding to circumsporozoite protein
28.01.2019	Topic	Brinkmann	Möller	Viral interference with the innate immune response
	Original Paper		Anagho	Lauber et al. 2017, Cell Host & Microbe: Deciphering the Origin and Evolution of Hepatitis B Viruses
04.02.2019	Topic	Pietschmann	Pietschmann	Antiviral Inhibitors (mode of action, limitations in clinical use; focus on HIV inhibitors)
	Original Paper		Kirui	Zhang et al. 2018, Nature: Mxra8 is a receptor for multiple arthritogenic alphaviruses
11.02.2019	Topic	Valentin-Weigand	Lanfermann	In vivo bacterial evolution and strain diversity
	Original Paper		Kesthely	Sela et al. 2018, PLoS Pathogens: Strains of bacterial species induce a greatly acute adaptive immune response
18.02.2019	Topic Focus	Suwandi		Gut-microbiota interaction
25.02.2019	Topic Focus	Becker		Pattern recognition receptors in innate immune defense.

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
01.04.2019	Topic Focus	n.n		
	Topic Focus	n.n		
08.04.2019	Project Presentation	Häußler	Elsheikh	Targeting biofilm resistance mechanisms
	Topic Focus	Häußler		
15.04.2019	Project Presentation	Gerold	Kirui	The role of TIM-1 and TSPAN9 in alphavirus host cell entry
	Topic Focus	Gerold		
29.04.2019	Project Presentation	Förster	Ospina	Immune mechanisms controlling latent MCMV infections in mice
	Topic Focus	Förster		
06.05.2019	Project Presentation	von Hahn	Anagho	Harnessing cell-encoded factors to block replication of hepatitis D virus (HDV)
	Topic Focus	von Hahn		
13.05.2019	Project Presentation	Klos	Lanfermann	Functional characterization of Chlamydia trachomatis 166 homologous effector proteins of C. psittaci, C. muridarum and other chlamydia species
	Topic Focus	Klos		
20.05.2019	Project Presentation	Prinz	Deseke	In vivo study of the interaction of dendritic cells and $\gamma\delta$ T cells in skin immunity, memory, and tolerance
	Topic Focus	Prinz		

DATE	FOCUS	SUPERVISOR	STUDENT	SUBJECT
27.05.2019	Project Presentation	Häußler	Kesthely	Bacterial adaptation strategies to chronic biofilm-associated infections
	Topic Focus	Häußler		
03.06.2019	Project Presentation	Gerold	Möller	Characterization of hepatitis C virus and arenaviruses co-infection
	Topic Focus	Gerold		
17.06.2019	Project Presentation	Schulz	Freise	Regulation of Kaposi Sarcoma Herpesvirus Latency through Interferon-Dependent Mechanisms
	Topic Focus	Schulz		
24.06.2019	Topic Focus	n.n		
	Topic Focus	n.n		
01.07.2019	Topic Focus	n.n		
	Topic Focus	n.n		

Retreats:

November 14th, 2018 for the Class of 2017

February 26th, 2019 for the Class of 2016

Intermediate Exam for the Class of 2017:

March 27th, 2019

PhD Final Exams:

January 18th, 2019

June 28th, 2019

PhD Program "Regenerative Sciences"

Chairman of program committee: Professor Ulrich Martin
 Vice-chairwoman: PD Dr. Ina Grub

Times (in general):

Tutorials Thursday, 3.00 – 4.00 pm

Seminars Thursday, 4.15 – 5.45 pm

30th May 2019 is Ascension Day ('Christi Himmelfahrt') which is a public holiday. Therefore, this week's teaching is shifted to 28th May 2019 (4th semester only).

Exceptions in day and time are printed in bold.

Locations (in general)

Semester 1 & 2 MHH, building I/J 04, level 01, HBRS seminar room 1140

Semester 3 & 4 MHH, building I/J 11, Hans-Borst-Zentrum (HBZ), level S0, seminar room 6040

Exceptions in location are marked **.

1 st semester				
Introductory lecture 1 Welcome address, the curriculum of REBIRTH & HBRS, Q & A	seminar	Monday, 08.10.2018	12.30 – 1.30 pm	Ulrich Martin
Introductory lecture 2 Principles of regenerative sciences and the REBIRTH approach	seminar	Monday, 08.10.2018	1.30 – 2.30 pm	Ulrich Martin
Principles of growth factor signalling 1 - Paracrine and juxtacrine signaling - Signalling pathways involved in the regulation of growth	seminar	Thursday, 18.10.2018	4.15 – 5.45 pm	Rainer Niedenthal
	tutorial	Thursday, 25.10.2018	3.00 – 4.00 pm	Rainer Niedenthal
Principles of growth factor signalling 2 Cytokines, hormones, and their receptors	seminar	Thursday, 25.10.2018	4.15 – 5.45 pm	Michael Morgan
	tutorial	Thursday, 01.11.2018	3.00 – 4.00 pm	Michael Morgan
Basic mechanisms of inflammation 1 Innate and adaptive immunity and differentiation	seminar	Thursday, 01.11.2018	4.15 – 5.45 pm	Siegfried Weiß
	tutorial	Thursday, 08.11.2018	3.00 – 4.00 pm	Siegfried Weiß

Basic mechanisms of inflammation 2 Infection & cancer	seminar	Thursday, 08.11.2018	4.15 – 5.45 pm	Ulrich Lehmann- Mühlenhoff
	tutorial	Thursday, 22.11.2018	3.00 – 4.00 pm	Ulrich Lehmann- Mühlenhoff
Principles of developmental biology and organogenesis 1 - Commitment, differentiation, apoptosis, patterning - Morphogenetic gradients and cell-cell communication - Genetic and epigenetic mechanisms	seminar *	Thursday, 15.11.2018	3.00 – 4.30 pm	Andreas Kispert
	tutorial *	Thursday, 15.11.2018	4.45 – 5.45 pm	Andreas Kispert
Principles of developmental biology and organogenesis 2 - Model systems in developmental Biology - Embryogenesis and fetal development	seminar	Thursday, 22.11.2018	4.15 – 5.45 pm	Achim Gossler
	tutorial	Thursday, 06.12.2018	3.00 – 4.00 pm	Achim Gossler
Principles of stem cell biology 1 - Embryonic derivation of stem cells - Culture methods	seminar *	Thursday, 29.11.2018	3.00 – 4.30 pm	Thomas Müller
	tutorial *	Thursday, 29.11.2018	4.45 – 5.45 pm	Thomas Müller
Principles of stem cell biology 2 - Tumor stem cells and mechanisms of transformation - Principles of cell cycle regulation	seminar	Thursday, 06.12.2018	4.15 – 5.45 pm	Amar Deep Sharma
	tutorial	Thursday, 13.12.2018	3.00 – 4.00 pm	Amar Deep Sharma
Principles of chromosomal instability	seminar	Thursday, 13.12.2018	4.15 – 5.45 pm	Gudrun Göhring
	tutorial	Thursday, 20.12.2018	3.00 – 4.00 pm	Gudrun Göhring

Cellular senescence, tumor suppression and organismal aging	seminar	Thursday, 20.12.2018	4.15 – 5.45 pm	Anette Melk
	tutorial	Thursday, 10.01.2019	3.00 – 4.00 pm	Anette Melk
Principles of cell engineering 1 - MicroRNAs (miRNA) and downstream targets - technical approaches - Use of miRNA target identification software - Design of miRNA - Luciferase-gene reporter assays (tutorial)	seminar	Thursday, 10.01.2019	4.15 – 5.45 pm	Thomas Thum
	tutorial	Thursday, 17.01.2019	3.00 – 4.00 pm	Jan Fiedler
Principles of cell engineering 2 - Transient DNA delivery - Episomal maintenance - Stable DNA delivery - Homologous recombination - Site-specific DNA modification	seminar	Thursday, 17.01.2019	4.15 – 5.45 pm	Axel Schambach
	tutorial	Thursday, 24.01.2019	3.00 – 4.00 pm	Axel Schambach
Synthetic biology and options for regeneration	seminar	Thursday, 24.01.2019	4.15 – 5.45 pm	Dagmar Wirth
	tutorial	Thursday, 31.01.2019	3.00 – 4.00 pm	Dagmar Wirth
Principles of cell engineering 3 - Cell expansion - Bioreactors	seminar *	Thursday, 07.02.2019	3.00 – 4.30 pm	Thomas Scheper
	tutorial * **	Thursday, 07.02.2019	4.45 – 5.45pm	Thomas Scheper / Frank Stahl

Please note the following changes:

* The seminars on 15th and 29th November 2018 and 7th February 2019 will be immediately followed by the associated tutorial.

** The tutorial (Thomas Scheper) on Thursday, 7th February 2019 will NOT take place at MHH but at the Institute of Technical Chemistry
Leibniz Universität Hannover (LUH)
Callinstr. 3
30167 Hannover
Callinstr. 3 (LUH) can easily be reached by tram no. 4 directly from MHH to stop Schneiderberg/Wilhelm-Busch-Museum (20 minutes tram)

PhD Program "Regenerative Sciences"

2 nd semester				
Principles of materials sciences for regenerative medicine 1 - Nanoparticles (NPs) in medicine (seminar) - Nano-manufacturing & nanoanalytics using lasers (tutorial)	seminar *	Thursday, 11.04.2019	3.00 – 4.30 pm	Annette Barchanski
	tutorial * **	Thursday, 11.04. 2019	4.45 – 5.45 pm	Annette Barchanski
Principles of materials sciences for regenerative medicine 2 Introduction to biomaterials - Ceramic materials (seminar) - Chemistry (tutorial)	seminar *	Thursday, 18.04. 2019	3.00 – 4.30 pm	Peter Behrens
	tutorial *	Thursday, 18.04. 2019	4.45 – 5.45 pm	Peter Behrens
Principles of materials sciences for regenerative medicine 3 - Polymeric and metallic materials (seminar) - Cell-biomaterial interactions (seminar) - Scaffold technologies (tutorial)	seminar *	Thursday, 25.04.2019	3.00 – 4.30 pm	Birgit Glasmacher
	tutorial *	Thursday, 25.04.2019	4.45 – 5.45 pm	Birgit Glasmacher
Principles of growth factor engineering Engineering growth factors and their receptors for regenerative medicine	seminar *	Thursday, 02.05.2019	3.00 – 4.30 pm	Michael Morgan
	tutorial *	Thursday, 02.05.2019	4.45 – 5.45 pm	Michael Morgan
Laser technology in medicine 1 Imaging - Basics of microscopy - Contrast mechanisms - Modern approaches in imaging - Superresolution microscopy	seminar *	Thursday, 09.05.2019	3.00 – 4.30 pm	Alexander Heisterkamp
	tutorial*	Thursday, 09.05.2019	4.45 – 5.45 pm	Alexander Heisterkamp
Laser technology in medicine 2 Laser manipulation/machining - Surface treatment, structuring, polymerization - Laser-tissue interaction - Laser manipulation of cells	seminar *	Thursday, 16.05.2019	3.00 – 4.30 pm	Boris Chichkov
	tutorial * **	Thursday, 16.05.2019	4.45 – 5.45 pm	Boris Chichkov
Animal models of human disease 1 Murine models of human disease	seminar	Thursday, 23.05.2019	4.15 – 5.45 pm	Achim Gossler
	tutorial	Thursday, 06.06.2019	3.00 – 4.00 pm	Achim Gossler
Cardiovascular tissue engineering: Principles	seminar	Thursday, 06.06.2019	4.15 – 5.45 pm	Andres Hilfiker
	tutorial	Thursday, 13.06.2019	3.00 – 4.00 pm	Andres Hilfiker

Principles of organ transplantation 1 Heart, lung, and vessels	seminar	Thursday, 13.06.2019	4.15 – 5.45 pm	Axel Haverich <i>et al.</i>
	tutorial	Thursday, 20.06.2019	3.00 – 4.00 pm	Axel Haverich <i>et al.</i>
Principles of organ transplantation 2 Liver, pancreas, and β -cells	seminar	Thursday, 20.06.2019	4.15 – 5.45 pm	Michael Ott
	tutorial	Thursday, 27.06.2019	3.00 – 4.00 pm	Michael Ott
Stem cell based organ regeneration - Heart and β -cells - clinical translation	seminar	Tuesday, 02.07.2019	4.15 – 5.45 pm	Robert Zweigerdt
	tutorial	Thursday, 04.07.2019	3.00 – 4.00 pm	Robert Zweigerdt
Animal models of human disease 2 - Primate models - Humanized mouse models	seminar	Thursday, 04.07.2019	4.15 – 5.45 pm	Thomas Moritz
	tutorial	Thursday, 11.07.2019	3.00 – 4.00 pm	Thomas Moritz
Animal models of human disease 3 - Transgenic pigs - Xenotransplantation - Donor animal engineering	seminar	Thursday, 11.07.2019	4.15 – 5.45 pm	Heiner Niemann
	tutorial	Thursday, 18.07.2019	3.00 – 4.00 pm	Heiner Niemann

Please note the following changes

* The seminars on 11th, 18th, 25th April 2019 and 2nd, 9th, 16th May 2019 will be immediately followed by the associated tutorial. The seminars and tutorials on 11th, 18th, 25th April 2019 and 9th, 16th May 2019 will NOT take place at MHH, please find the respective addresses below.

** the following seminars require prior registration:

Register until 4th April for the seminar on 11th April 2019 (Anette Barchanski)

Register until 9th May for the seminar on 16th May 2019 (Boris Chichkov)

Please register with phd-regsci@mh-hannover.de, you may of course register for both seminars at the same time.

Additional information on „Principles of materials sciences for regenerative medicine“, part 1, 2 and 3

General topics:

- materials engineering, biomaterials in medicine,
- *ex vivo* and *in vivo* application,
- degradable materials,
- cell-biomaterial interactions

Literature: Biomaterials Science (Third Edition), BD Ratner, AS Hoffman, FJ Schoen, JE Lemons (eds.) Elsevier Amsterdam 2013; available online, MHH library

Lecturers and locations of lectures and tutorials:

11.04.2019 Dr. Annette Barchanski

Head of Junior Research Group 'Nanophotonics'

NIFE - Lower Saxony Centre for Biomedical Engineering, Implant Research and Development

Stadtfelddamm 34

30625 Hannover

18.04.2019 Prof. Dr. Peter Behrens

Leibniz Universität Hannover (LUH)

Institute of Inorganic Chemistry

Callinstrasse 9, 30167 Hannover

Tel.: +49 (0) 511 762 3660

Secr.: +49 (0) 511 762 3697; Fax: +49 (0) 511 762 3006

Email: Peter.Behrens@acb.uni-hannover.de

Callinstrasse 9 (LUH) can easily be reached by tram no. 4 directly from MHH to stop Schneiderberg/Wilhelm-Busch-Museum (20 minutes tram)

25.04.2019 Prof. Dr. Birgit Glasmacher

Leibniz Universität Hannover

Institute for Multiphase Processes & Centre for Biomedical Engineering (zbn)

Callinstraße 36, 30167 Hannover

Secr.: Tel. +49 (0) 511 762 3828 ; Fax: +49 (0) 511 762 3031

Email: glasmacher@imp.uni-hannover.de

Callinstrasse 36 (LUH) can easily be reached by tram no. 4 directly from MHH to stop Schneiderberg/Wilhelm-Busch-Museum (20 minutes tram)

09.05.2019 Prof. Dr. Alexander Heisterkamp

NIFE - Lower Saxony Centre for Biomedical Engineering, Implant Research and Development

Level S0 room 2520 (presumably)

Stadtfelddamm 34

30625 Hannover

16.05.2019 Prof. Dr. Boris Chichkov

NIFE - Lower Saxony Centre for Biomedical Engineering, Implant Research and Development

Stadtfelddamm 34

30625 Hannover

PhD Program "Regenerative Sciences"

3rd semester				
Regenerative approaches: Blood and immunity 1 - Thymus and T-cell development - B-cell development - Flow cytometry	seminar	Thursday, 18.10.2018	4.15 – 5.45 pm	Siegfried Weiß
	tutorial	Thursday, 25.10.2018	3.00 – 4.00 pm	Christine Falk
Regenerative approaches: Blood and immunity 2 Embryonic stem cell derived hematopoiesis	seminar	Thursday, 25.10.2018	4.15 – 5.45 pm	Nico Lachmann
	tutorial	Thursday, 01.11.2017	3.00 – 4.00 pm	Nico Lachmann
Regenerative approaches: Blood and immunity 3 - Principles of hematopoietic stem cell transplantation and lymphocyte infusions - HLA system and HLA compatibility (tutorial)	seminar	Thursday, 01.11.2017	4.15 – 5.45 pm	Matthias Eder
	tutorial	Thursday, 08.11.2018	3.00 – 4.00 pm	Constanca Figueiredo
Regenerative approaches: Blood and immunity 4 - Genetic disorders of hematopoiesis - Leukemia and leukemogenic stem cells	seminar	Thursday, 08.11.2018	4.15 – 5.45 pm	Axel Schambach
	tutorial	Thursday, 22.11.2018	3.00 – 4.00 pm	Axel Schambach
Regenerative approaches: Blood and immunity 5 Antigen presenting cells	seminar *	Thursday, 15.11.2018	3.00 – 4.30 pm	Renata Stripecke
	tutorial *	Thursday, 15.11.2018	4.45 – 5.45 pm	Renata Stripecke
Regenerative approaches: Liver 1 - Physiology and pathophysiological changes of the liver - Liver cell therapy, basics in translation	seminar	Thursday, 22.11.2018	4.15 – 5.45 pm	Tobias Cantz
	tutorial	Thursday, 29.11.2018	3.00 – 4.00 pm	Reto Eggenschwiler
Regenerative approaches: Liver 2 - Liver regeneration and stem cells - Stem cell-derived hepatocytes	seminar	Thursday, 29.11.2018	4.15 – 5.45 pm	Reto Eggenschwiler/ Tobias Cantz
	tutorial	Thursday, 06.12.2018	3.00 – 4.00 pm	Tobias Cantz
Regenerative approaches: Liver 3 - Liver tissue engineering - Artificial liver / extracorporeal devices	seminar	Thursday, 06.12.2018	4.15 – 5.45 pm	Michael Ott
	tutorial	Thursday, 13.12.2018	3.00 – 4.00 pm	Michael Ott
MicroRNAs in cardiovascular diseases - Regeneration and therapeutic approaches	seminar	Thursday, 13.12.2018	4.15 – 5.45 pm	Christian Bär
	tutorial	Monday, 07.01.2019	3.00 – 4.00 pm	Jan Fiedler

Genome Engineering and AAV	seminar	Thursday, 20.12.2018	4.15 – 5.45 pm	Hildegard Büning
	tutorial	Thursday, 10.01.2019	3.00 – 4.00 pm	Hildegard Büning
Genotoxicity and monitoring	seminar	Thursday, 10.01.2019	4.15 – 5.45 pm	Michael Rothe
	tutorial	Thursday, 17.01.2019	3.00 – 4.00 pm	Michael Rothe
Immunotoxicity and immunomonitoring	seminar	Thursday, 17.01.2019	4.15 – 5.45 pm	Christine Falk
	tutorial	Thursday, 24.01.2019	3.00 – 4.00 pm	Christine Falk
Animal experiments - Introduction to animal experiments - Presentation of the animal house	seminar * **	Thursday, 31.01.2019	3.00 – 4.30 pm	André Bleich
	tutorial * **	Thursday, 31.01.2019	4.45 – 5.45 pm	André Bleich
Measuring through the microscope - Quantitative structural assessment of organs, tissues and cells - Pitfalls of microscopic morphometry and basic concepts of design-based stereology (seminar) - Applications of stereology to the heart and the lung (tutorial)	seminar	Thursday, 24.01.2019	4.15 – 5.45 pm	Christian Mühlfeld
	tutorial	Thursday, 14.02.2019	3.00 – 4.00 pm	Christian Mühlfeld
Molecular Imaging of Regenerative Medicine (seminar) Tour of the Department of Nuclear Medicine (tutorial)	seminar *	Thursday, 07.02.2019	3.00 – 4.30 pm	James Thackeray
	tutorial *	Thursday, 07.02.2019	4.45 – 5.45 pm	James Thackeray
Cell sorting - Method based seminar - Visit to MHH sorter lab → instrumentation (tutorial)	seminar	Thursday, 14.02.2019	4.15 – 5.45 pm	Matthias Ballmaier
	tutorial	Thursday, 21.02.2019	3.00 – 4.00 pm	Matthias Ballmaier

Please note the following change

* The seminars on 15th November 2018, 31st January 2019 and 7th February 2019 will be immediately followed by the associated tutorial.

** The tutorial (by André Bleich) on Thursday, 31st January 2019 will take place at the central animal facility (Zentrales Tierlabor, building J5)

PhD Program "Regenerative Sciences"

4 th semester				
Regenerative approaches: Heart and vessels 1 - Cell therapy for myocardial infarction: basic concepts and clinical applications - Protein therapeutics for cardiovascular repair (tutorial)	seminar *	Thursday, 04.04.2019	3.00 – 4.30 pm	Kai Wollert
	tutorial *	Thursday, 04.04.2019	4.45 – 5.45 pm	Marc Reboll
Regenerative Approaches: Heart and vessels 2 - Pathogenesis and regeneration of the heart in response to cancer und anti-cancer treatment	seminar *	Thursday, 11.04.2019	3.00 – 4.30 pm	Denise Hilfiker-Kleiner
	tutorial *	Thursday, 11.04.2019	4.45 – 5.45 pm	Denise Hilfiker-Kleiner
Regenerative approaches: Heart and vessels 3 Angiogenesis und arteriogenesis in development and disease	seminar	Thursday, 25.04.2019	4.15 – 5.45 pm	Florian Limbourg
	tutorial	Thursday, 02.05.2019	3.00 – 4.00 pm	Florian Limbourg
Regenerative approaches: Heart and vessels 4 Cardiac differentiation of pluripotent stem cells & myocardial TE	seminar	Thursday, 02.05.2019	4.15 – 5.45 pm	Ina Gruh
	tutorial	Thursday, 09.05.2019	3.00 – 4.00 pm	Ina Gruh
Regenerative approaches: Lung 1	seminar	Thursday, 09.05.2019	4.15 – 5.45 pm	Ruth Olmer
	tutorial	Thursday, 16.05.2019	3.00 – 4.00 pm	Ruth Olmer
Regenerative approaches: Lung 2	seminar	Thursday, 16.05.2019	4.15 – 5.45 pm	Ruth Olmer
	tutorial	Thursday, 23.05.2019	3.00 – 4.00 pm	Ruth Olmer
Regenerative Approaches: Skin	seminar	Thursday, 23.05.2019	4.15 – 5.45 pm	Anne Limbourg
	tutorial	Thursday, 06.06.2019	3.00 – 4.00 pm	Anne Limbourg
Design of clinical trials & regulation	seminar *	Tuesday, 28.05.2019	4.15 – 5.45 pm	Heiko von der Leyen, HCTC <i>et. al.</i>
	tutorial *	Tuesday, 28.05.2019	3.00 – 4.00 pm	Heiko von der Leyen, HCTC <i>et. al.</i>

Regenerative approaches: Cartilage, bone and tendon - mesenchymal stem cells, mesenchymal tissues - signaling pathways - autologous/ allogenic/ xenogenic/ prosthesis/ tissue engineering - animal models - translation: from basic research to clinical therapies - treatment options for bone fractures, osteoarthritis (articular cartilage damage), tendon ruptures	seminar	Thursday, 06.06.2019	4.15 – 5.45 pm	Michael Jagodzinski
	tutorial	Thursday, 13.06.2019	3.00 – 4.00 pm	Michael Jagodzinski
Possibilities and limits of adult mesenchymal stem cells within the context of Tissue Engineering	seminar	Thursday, 13.06.2019	4.15 – 5.45 pm	Cornelia Blume
	tutorial	Thursday, 20.06.2019	3.00 – 4.00 pm	Cornelia Blume / Rebecca Jonczyk
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	Thursday, 20.06.2019	4.15 – 5.45 pm	Susanne Petri
	tutorial	Thursday, 27.06.2019	3.00 – 4.00 pm	Susanne Petri
Patent protection of academic inventions	seminar	Thursday, 04.07.2019	4.15 – 5.45 pm	Torben Söker Ascension GmbH
	tutorial	Thursday, 11.07.2019	3.00 – 4.00 pm	Torben Söker Ascension GmbH
Good Manufacturing Practice (GMP), Advanced Therapy Medicinal Products (ATMP)	seminar **	Thursday, 11.07.2019	4.15 – 5.45 pm	Ulrike Köhl / Stephan Klöss
	tutorial **	Thursday, 18.07.2019	3.00 – 4.00 pm	Ulrike Köhl / Stephan Klöss
Quality Management - QM	seminar	Thursday, 18.07.2019	4.15 – 5.45 pm	Christoph Priesner
	tutorial	Thursday, 25.07.2019	3.00 – 4.00 pm	Christoph Priesner

* The seminars on 4th and 11th April 2019 and 28th May 2019 will be immediately followed by the associated tutorial.

** The seminar and tutorial (by Ulrike Köhl / Stephan Klöss) on Thursday, 11th July 2019 will take place at the Institute for Cellular Therapeutics, Feodor-Lynen-Str. 21, 30625 Hannover

Additional offers:

Title	Name	Department	Location	Date	Time
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Meet The Investigator

	Thomas Thum	Institute of Molecular and Translational Therapeutic Strategies (IMTTS), MHH	I3-01-2060 (Block 2)	06.02.2019	1.00 – 2.00 pm
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Meet The Expert

From bedside to the lab-side: friends and foes of industrial high throughput qPCR molecular diagnostics	Thomas Müller	Molecular Biology, Synlab Mecial Care Unit Weiden	HBZ seminar room	30.11.2018	10.30 - 12.00 am
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Method Based Seminar

tbd	Oleksandr Gryshkov	Institute of Multiphase Processes, LUH	NIFE	tbd	tbd
Telomeres & Telomerase: from measurement to manipulation of longevity	Christian Bär	Institute of Molecular and Translational Therapeutic Strategies (IMTTS), MHH	HBZ Seminar room (J11-S0-6040)	30.01.2019	4.00 – 5.30 pm
Laser based methods for imaging and manipulation of cells and tissue	Stefan Kalies	Institute for Quantum Optics, LUH	NIFE – Lower Saxony Centre for Biomedical Engineering, Implant Research and Development	May 2019 (tbd)	tbd

Date and time for all semesters on appointment (registration required).

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

For further information and registration please contact (if not noted elsewhere):

ira.courses@hearing4all.de / baumhoff.christine@mh-hannover.de / mark.pottek@uni-oldenburg.de

Obligatory courses:

red: obligatory courses for all students; black: electives for UOL and LUH, obligatory for MHH

Title	Course organiser	Credit	Time and place
1.1 Clinic, Diagnostic and Therapy of Peripheral and Central Hearing Disorders	Prof. Thomas Lenarz	25 hours 3 CP	MHH building K6, node B, 6 th floor, seminar room S66 15.10.-19.10.2018 Contact : baumhoff.christine@mh-hannover.de
1.2 Audiology and Physics of Hearing	Prof. Hannes Maier	10 hours 1 CP	MHH NIFE, M20-01-1140 On request
1.3 Sensory Neuroscience	Prof. Andrej Kral	25 hours 3 CP	MHH NIFE, M20-01-1140 On request
1.4 Imaging Methods in Medicine	Prof.'in Lilli Geworski	25 hours 3 CP	MHH building K7, floor S0, seminar room 1321 Participants: 5-20 students On request
1.5 Psychophysical Methods in Hearing Research	Prof. Andreas Büchner	10 hours 1 CP	MHH Seminar room "DHZ", Hannover On request
1.6 Introduction to Biomaterials, Laser Spectroscopy and Microelectronics	Prof. Peter Behrens Prof. Andreas Heisterkamp Prof. Holger Blume	25 hours 3 CP	LUH On request
1.7 Fundamentals of Auditory Physiology	Prof.'in Christine Köppl Prof. Georg Klump	30 hours 3 CP	UOL tba
1.8 Summer School and Internal Retreat	N.N.	20 hours 2 CP	tba

Elective courses at MHH:

2.1 Nanotechnology in Medicine	Prof. 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	Jun.-Prof. Waldo Nogueira	15 hours 1.5 CP	MHH On request
2.3 Neural Signal Processing	Jun.-Prof. Waldo Nogueira	15 hours 1.5 CP	MHH On request
2.4 Biomedical Technology	PD Dr. Omid Majdani	10 hours 1 CP	MHH On request
2.5 Medical Image Processing for Medical Applications	PD Dr. Omid Majdani Thomas Rau	12 hours 1-1.5 CP	MHH On request
2.6 Modulation of Basal Ganglia Activity in Movement Disorders by Functional Neurosurgery	Prof. Joachim Krauss	1.5 hours	MHH building K6, node B, 05 th floor, seminar room 65
2.7 Animal Models for Psychiatric Disorders	Prof. 'in Kerstin Schwabe	1.5 hours	MHH building K6, node B, 05 th floor, seminar room 65
2.8 Auditory Plasticity	Prof. Andrej Kral	25 hours 3 CP	MHH, NIFE On request
2.9 Scientific Writing	Prof. Andrej Kral	30 hours 3 CP	MHH, NIFE On request
2.10 Statistical Approaches in Auditory Sciences	Prof. Andrej Kral,	10 hours 1 CP	MHH NIFE M20-01-1140 On request
2.11 Lab Meeting Otolaryngology	N.N.	1 hour / meeting	MHH NIFE, M20-S0-2520, Wednesdays 5-6pm
2.12 Journal Club (Neuroscientific Studies on Humans)	N.N.	2 hours / meeting	MHH, building K5, node B, 3 rd floor, seminar room 63, last Wednesday of the month 11am-1pm
2.13 Hearing(4all) Research Seminar	N.N.	1 hour / meeting	MHH Wednesdays every second month; 5 - 6pm; Place: tba

2.14 Colloquium Medical Physics	Prof.'in Lilli Geworski	1 hour / meeting	MHH, building K7, floor S0, seminar room 1321 Every second Tuesday 3 - 4pm Registration required
2.15 Lunchseminar Radiology	Prof.'in Lilli Geworski	1 hour / meeting	MHH, Radiology Wednesdays, 12am - 1pm Registration required
2.16 Colloquium Radiology	Prof.'in Lilli Geworski	1 hour / meeting	MHH, Radiology Tuesdays 08:15 - 09:00am Registration required
2.17 Audio Signal Processing for Cochlear Implants and Hearing Aids in Python	Jun-Prof. Waldo Nogueira	15h/2 CP	MHH, NIFE On request

Elective courses at the University of Veterinary Medicine Hannover, Foundation:

2.18 Neurobiology of Acoustic Communication and Orientation	Prof.'in Elke Zimmermann PD Dr. Sabine Schmidt	25 hours 3 CP	TiHo, Bünteweg 17, jasmin.ouakidi@tiho-hannover.de participants: 4-8 students
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Elective courses at LUH:

2.19 Basics of Digital Systems	Prof. Holger Blume	12 hours 1 CP	LUH / IMS Seminar room 335 Appelstr. 4, 3 rd floor Hannover On request 10am - 1pm, 2pm - 5pm (each day)
2.20 Application-Specific Instruction-Set Processors for Hearing Aid Systems	Jun.-Prof. Guillermo Payá Vayá	12 hours 1 CP	LUH / IMS Seminar room 335 Appelstr. 4, 3 rd floor Hannover On request 10am - 1pm, 2pm - 5pm (each day)
2.21 Principles of Signal Processing in MATLAB	Jun.-Prof. Guillermo Payá Vayá	12 hours 1 CP	LUH / IMS Seminar room 335 Appelstr. 4, 3 rd floor Hannover On request 10am - 1pm, 2pm - 5pm (each day)

Combined electives:

2.31 Combined Hot Topic Seminar (Web Conference)	Christine Baumhoff/ Mark Pottek	2 h/seminar	Dates: 23.11.2018 10-11am
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Elective courses at UOL:

2.23 Einführung in die Sprachverarbeitung	Dr. Bernd Meyer	25 hours 3 CP	UOL Weekly Wednesday 2-4pm W32 1-113
2.24 Aktuelle Probleme der Akustik, Signalverarbeitung und Medizinischen Physik	Dr. Jörn Anemüller Prof. Simon Doclo Prof. Volker Hohmann Prof. Birger Kollmeier Prof. Björn Poppe Dr. Stefan Uppenkamp Prof. Steven van de Par	25 hours 3 CP	UOL Weekly Tuesday 2-4pm W02 1-148
2.25 Oberseminar Signal- und Sprachverarbeitung	Prof. Simon Doclo	25 hours 3 CP	UOL Weekly Monday 10am-12pm
2.26 Machine Listening, Machine Vision and Models of Sensory Neuroscience	Dr. Jörn Anemüller Prof. Jörg Lücke	25 hours 3 CP	UOL Weekly Thursday 12-2pm W32 1-113
2.27 Digital Signal Processing	Prof. Simon Doclo	50 hours 6 CP	Weekly Monday 4-6pm & Wednesday 12-2pm W32 1-112
2.28 Oberseminar Medizinische Physik	Dr. Stefan Uppenkamp Prof. Volker Hohmann, Dr. Thomas Brand	25 hours 3 CP	UOL Weekly Tuesday 10am-12pm W32 1-112
2.29 Ausgewählte Probleme der Hörtechnik und Audiologie	Dr. Thomas Brand	25 hours 3 CP	UOL Weekly Monday 8am-10am W02 1-156
2.30 Current Topics in Machine Learning and its Applications	Prof. Jörg Lücke	25 hours 3 CP	UOL Weekly Wednesday 2-4pm W02 1-162

PhD Program “Epidemiology”

Location: Helmholtz Centre for Infection Research (HZI), Braunschweig, Germany

Epidemiologic Fieldwork: Study Centre of German National Cohort and of the Helmholtz Centre for Infection Research, Hannover, Germany

Module*	Type	Dates 2018/2019**	Duration/TUs***	Lecturer/organizer
Epidemiologic concepts and principles	Lecture and exercises	February 5-9, 2019	40 TUs (5 days)	External (Prof. Stang)
Reading and Discussion Course: Epidemiology. An Introduction by K. Rothman 2002	Exercise	Single afternoon sessions Oct 2018 – Jan 2019	8 sessions à 1.5h (16 TUs)	Stefanie Castell
Good Epidemiological Practice and its practical application	Lecture and exercise	Spring 2019	5 TUs	Stefanie Castell Jördis Ott
Survival analysis with STATA	Lecture and exercise	29 th October 2018	8 TUs	André Karch
Outbreak investigation and surveillance	Lectures, exercises, practical application	Spring 2019	30 TUs (one week module)	Gérard Krause
Journal Club	Presentations by students	Monthly	1 TU (regular attention required)	PhD Students
HZI Digital Epidemiology Course I: Data Quality	Lecture and exercises	January 2019	48 TU (5-6 days module)	Stephan Glöckner

* Teaching modules in the PhD Programme “Epidemiology” are usually organized as compact courses, given on one or several subsequent days

** as of Sept. 2018. More courses to follow and be announced.

*** TU=Teaching Unit (à 45 min)

Students enrolled in the PhD Programme “Epidemiology” and those working at the HZI can attend courses and symposia offered by the HZI Grad 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 can be 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 and is scheduled for summer 2019.

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: 28th February / 1st March 2019)

Gene Technology Security (September 2018, in English)

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

Career Day (March 15th, 2019)

GMP / GLP workshop (February 13th, 2019, Fleischauer, Pägelow and Papamichael, ITEM)

Scientific communication / writing, "tips and tricks" (January 11th, 2019, Kruse)

Scientific writing, advanced (February 2019th John Chandler)

Animal Experiments (2 days theory: November 5th and 6th 2018; exam November 27th; 2-day practical courses: 1. December 3rd / 4th 2018; 2. January 7th / 8th 2019; 3. February 11th / 12th 2019 Bleich / Dorsch)

Conflict Management (November, 27th / 28th, 2018, G. Kümmele, Berlin) and

Stress Management (January 15th / 16th 2019 and February 5th / 6th, 2019, G. Kümmele)

Time Management (February 20th, 2019 Golin)

Team Work and Leadership (March 6th, 2019 Golin)

Intercultural communication (weekend, June 2019; A. and S. Petersen, Aachen; together with MSc / PhD programs in Göttingen)

Seminars on career perspectives (continuously)

Omics and Bioinformatics:

April / May 2019 Genomics and transcriptomics, (Illig, Dittrich-Breiholz, de Luca, Davenport)

May / June 2019 Proteomics and Metabolomics (Pich, Bähre, Hiller etc.)

Further courses: Assessment Center, Career Coaching, Job Hunting, Project Management, Team Leadership, 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

Fridays: 4.00 - 6.00 pm (beginners, Ms Gudrun Dettmar), seminar room 1031 (J4, level 01);

Tuesdays: 4.00 - 6.00 pm (advanced, Ms Gudrun Dettmar); seminar room 1031 (J4, level 01)

Scientific English

Mondays: 6.15 pm - 7.30 pm (Ms Lydia 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.mh-hannover.de/hbrs.html>

<http://www.helmholtz-hzi.de>

THESE ARE CURRENTLY UPDATED!

**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. for life scientists). (*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 and February 1st, 2017*)

§ 1

Objective of PhD Studies

Research studies at the Hannover Medical School (MHH) for the purpose of obtaining a PhD 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 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) 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 this application 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.

(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. 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 PhD students shall suggest candidates from among their ranks. 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.

(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. 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]. Each student's individual progress at PhD courses and seminars shall be monitored and consistently assessed by the respective teachers, with teachers preparing written reports on the results obtained by the student.

(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) 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.
- c) Within a time of probation of 6 months, PhD students are evaluated. 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. The PhD Program Committee can upon request decide about the termination of collaboration with the student.
- d) 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.

(2) The co-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 by resolution of the HBRB 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.

§ 7 Scientific Colloquia (retreats)

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

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.

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

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.

The dates for intermediate examinations shall be determined by the PhD Program Committee. The intermediate examination shall be held by a member of the PhD Program Committee and an expert (chairman) in the special field and 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.

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.

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 mark (PhD or Dr. rer. nat.).

§ 9 Requirements for Signing up for PhD Examination

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:

1. 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;
2. Certificate of attendance of a course on "good scientific practise",
3. Certificate of intermediate examination;
4. A scientific thesis (dissertation) prepared 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;
5. Alternatively (instead of thesis), usually two first author publications in internationally peer review science journals. The PhD student's personal contribution to such publications shall be clearly identified. 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 detailed description under a joint title in English or German of the research subject, including an overall summary and a discussion of results.
6. A written agreement to a potential screening of the thesis with plagiarism detection software.

The final version of the dissertation should be submitted in six printed copies as well as a digital version.

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

To assess the thesis or the publications, the PhD Program Committee shall procure at least one external expert's opinion, as well as one internal expert's opinion. To be on the safe 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 has to have a natural scientist qualification. In addition, the co-supervisors' team shall prepare an expert report on the dissertation or the publications, and such report together with the external and internal expert's opinion shall serve to make the final assessment.

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 shall assess the thesis again once the shortcomings have been remedied.

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

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.

The examination is taken by the external and internal examiner.

The final mark results from: the intermediate exam (20%), the written dissertation/ the two experts' opinions (60%), the oral examination (20%). In justified exceptional cases, the examination committee may deviate from the latter rule.

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

- the grade earned for the oral examination,
- the grade earned for the thesis,
- the overall grade average earned for the PhD examination.

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

The following grades can be awarded:

Excellent/ very good/ good / satisfactory
(Failed)

Equivalent to
excellent / summa cum laude,
very good / magna cum laude,
good / cum laude,
passed / rite.

If the candidate fails the final examination, he or she shall be allowed to retake it once, pursuant to a period of at least three and no more than six months as the co-supervisors' team 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.

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).

§ 11 and § 12

Publication and Award of the Academic Degree of a Doctor of Philosophy (PhD)

PhD students are obliged to publish their dissertation.

Once the student has passed the PhD examination and has distributed six copies of the dissertation (plus one electronic version), he or she shall be awarded the academic degree of a Doctor of Philosophy (PhD) or a Dr. rer. nat. degree by the MHH (latest one year after the PhD exam). 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.

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.

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.

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

A document as shown in Appendix 1 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

Withdrawal of PhD exam registration

The registration for the PhD exam (submission of PhD thesis) can be withdrawn by a written declaration to the program committee.

§ 14

Resumption of PhD exam

(1) If a candidate ultimately fails a PhD exam all German universities have to be notified.

(2) A new registration for PhD exam can only be done once, only after three and at the most eight months. This also applies when a failed PhD exam has been taken at another German university.

§ 15

Abrogation of PhD

If by error requirements for PhD registration have been taken for granted or if the candidate has strongly violated the rules of "good scientific practise", the president of MHH can abrogate the PhD title after having consulted the PhD committee.

§ 16

Revocation of PhD title

The PhD title is revoked in cases of criminal conviction or strong violation against the rules of "good scientific practise" in the PhD thesis. The decision is to be delivered to the aggrieved party.

§ 17
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 me, are hereby published within the Hannover Medical School and are coming into effect.

Hannover,

The President
Professor Dr. Christopher Baum

Appendix 1

(MHH Logo)

Hannover Medical School under its President Professor first name last name confers upon
first name last name

Born on DD Month YYYY in town, country

the degree of

Doctor rerum naturalium (Dr. rer. nat.) / Doctor of Philosophy (PhD)

Having participated in the PhD Program xxx within Hannover Biomedical Research School and having demonstrated the ability to undertake advanced independent research in his / her thesis

TITEL,

Completed at the Institute of xx, Hannover Medical School, and a public defence 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

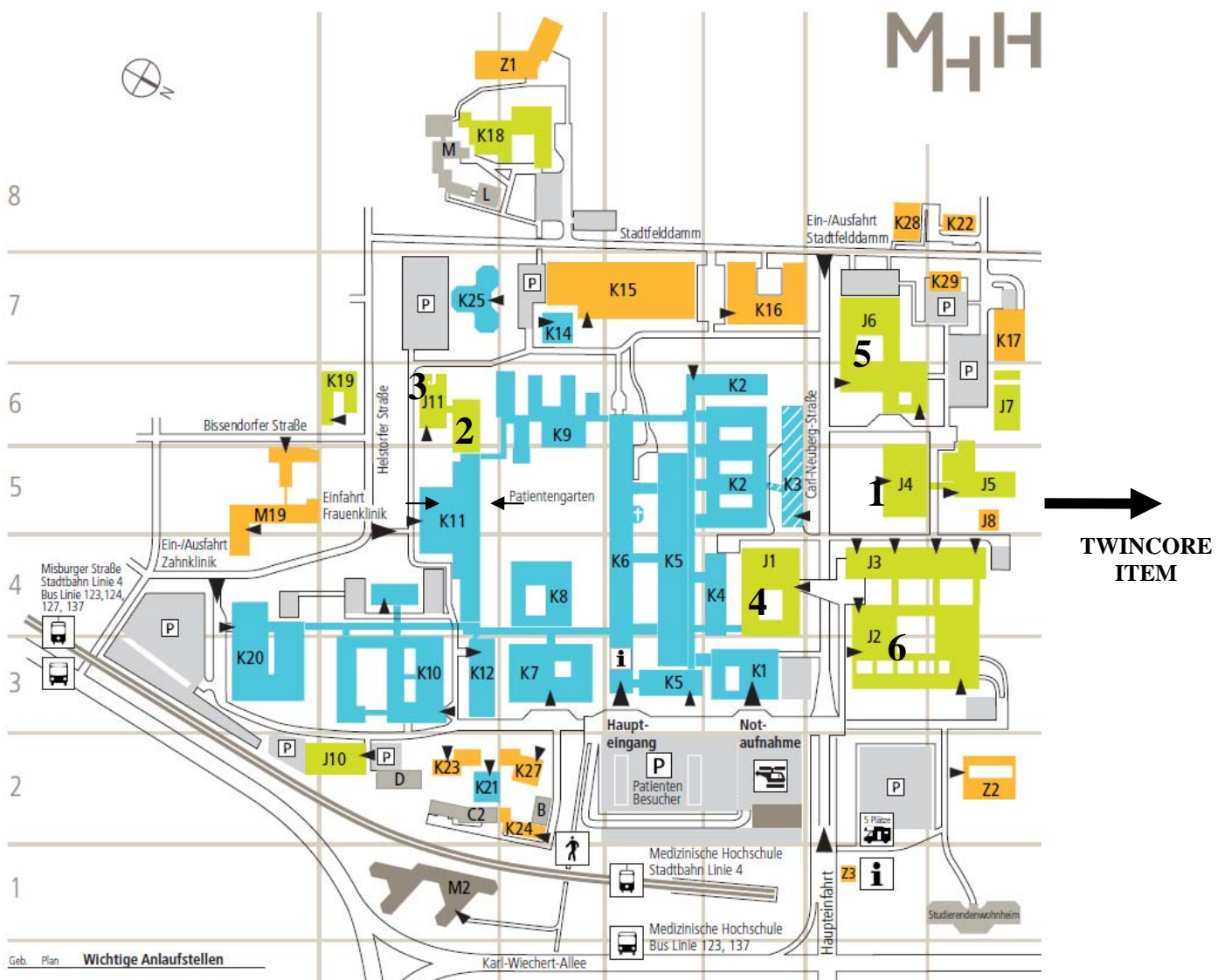
Chairman / woman PhD Program

Chairman / woman PhD Program

Signature

President

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