

Academia and Industry

PharMetrX is a unique interdisciplinary, structured 3-year graduate research training program in pharmacometrics & computational disease modelling.

PharMetrX is a joint initiative of two universities: Martin-Luther-Universitaet (MLU) Halle-Wittenberg and Freie Universitaet (FU) Berlin; and six major research-driven pharmaceutical companies: Abbott, Bayer Schering Pharma, Bayer Technology Services, Boehringer Ingelheim, Merck and Sanofi-Aventis.

PharMetrX is a public-private-partnership initiative leveraging the existing know-how and expertise in academia and industry in Germany.

PharMetrX offers you an exceptional opportunity to experience research in the area of drug development and optimising drug therapy jointly within academia and industry.

Program chairs:

Prof. Charlotte Kloft (MLU Halle-Wittenberg), and Dr. Wilhelm Huisinga (Hamilton Insitute, NUIM/Ireland and FU Berlin).



MARTIN-LUTHER-UNIVERSITÄT
HALLE-WITTENBERG



Abbott
A Promise for Life



Bayer HealthCare



Bayer Technology Services



Boehringer
Ingelheim



sanofi aventis
Because health matters



Application and Contact

Are you interested?

For becoming a **PharMetrX** graduate student, we expect you to have the following background and competencies:

- ▶ you hold a university undergraduate degree in natural sciences, mathematics or medicine (e.g., 2. Staats-examen, Diploma or MSc degree)
- ▶ you have profound knowledge in at least one of the following disciplines: clinical pharmacy, pharmacology, mathematical modelling, or systems biology
- ▶ you are highly motivated and dedicated to research
- ▶ you are inspired by problems and questions regarding drug development and drug therapy.

Furthermore, if you are already working towards your PhD and have not finished your first year, you can apply for participation in the academic module program as an external PhD student.

The application process for **PharMetrX** graduate as well as external PhD students is exclusively online via:
www.pharmacometrics.de → **application**.

For further information, please contact Cornelia Boehnstedt (coordinator), contact@pharmacometrics.de

www.pharmacometrics.de

Graduate Research Training Program



>>> data collection >>> modelling >>> analysis
>>> in silico prediction >>> trial design and optimisation of drug therapy >>> data collection >>>

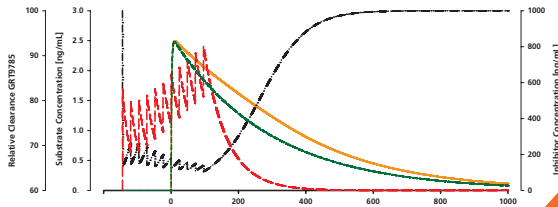
at the Martin-Luther-Universitaet
Halle-Wittenberg and the
Freie Universitaet Berlin in Germany



What is Pharmacometrics & Computational Disease Modelling?

If a drug is taken by a patient the complex interaction of the drug and the patient is rarely fully understood.

Typical questions to be answered include: To what extent does the drug reach the site of action? What are the mechanisms of interaction? Is the drug concentration high enough to inhibit the target? And the inhibition long enough to cause a beneficial effect? What is the impact on disease progression?



Pharmacometrics & computational disease modelling aim at analysing, understanding and interpreting drug concentration profiles, drug effects and disease data generated in pre-clinical and clinical trials as well as in daily therapeutic use.

Mathematical models and computational techniques are employed to quantitatively and qualitatively characterise the complex interactions and relations between drug, patient and disease elucidating the beneficial and adverse drug effects.

PharMetrX: Graduate Research Training Program

Interested in exploring and developing new and sophisticated ways of drug data analyses and disease modelling techniques?

Inspired by making drug development and drug therapy more effective, safe and ultimately more individual for patients?

PharMetrX offers you a unique opportunity for pursuing your career in the fascinating area of innovative research in Pharmacometrics & Computational Disease Modelling.

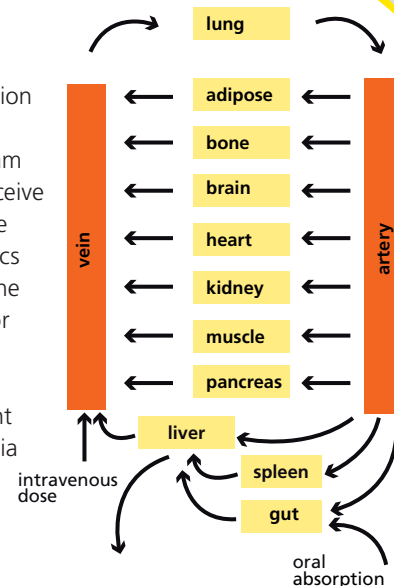
Key characteristics of the program are

- ▶ drug- & disease-oriented research projects,
- ▶ a structured research training curriculum of advanced academic & industrial modules,
- ▶ a trans-disciplinary approach by bridging pharmacy and mathematics.

In addition, the program offers an attractive research fellowship and a mentorship by a member of the Industry Partners.

After successful completion of the 3-year Graduate Research Training Program **PharMetrX** you will receive your 'Dr. rer. nat.' degree in Pharmacy, Mathematics or Bioinformatics from the MLU Halle-Wittenberg or the FU Berlin.

Look forward to excellent job prospects in academia and industry.



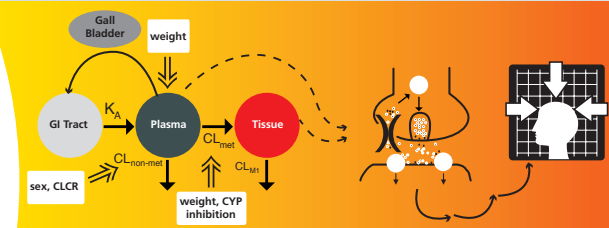
Research Training Curriculum

Semester	Research training modules (a) core module, (b) elective module			Research
	A-module 1 (a): PK/PD modelling	A-module 2 (a): PBPK modelling	I-module 1 (a): Drug discovery/ development	
1st	A-module 1 (a): PK/PD modelling	A-module 2 (a): PBPK modelling	I-module 1 (a): Drug discovery/ development	Con- tinuous work on research project for PhD thesis
2nd	A-module 3 (a): Population analysis	A-module 4 (a): Systems Biology	I-module 2 (b): Internship	
3rd	A-module 5 (a): Stats & data analysis			
4th		A-module 7 (b): Pharmacology		
5th	A-module 6 (b): Biometrics & Trial designs/simulation			
6th				

The academic modules will be realised at the two Host Universities, the MLU Halle-Wittenberg, Institute of Pharmacy, and the FU Berlin, Department of Mathematics & Computer Science. Each module will be one week (30 h), and will comprise theoretical lectures with additional practical hands-on exercises using the most recognised software programs.

The overall aims of the academic modules are to

- ▶ introduce you to the corresponding theoretical concepts and methodology,
- ▶ convey method and software expertise to you,
- ▶ learn about informative examples of relevance to drug discovery & development and therapeutic use.



The industry modules will be realised by the Industry Partners. During these modules you will get insight into the mission and tasks of pharmaceutical companies, and learn about the value chain of drug discovery & development and about applications of modelling and simulation.