

**Monday, 25 September 2017**

3:30 – 5:00 p.m.

**Prof. Robert Passier***Department of Applied Stem Cell Technologies,  
University of Twente, MIRA institute, the Netherlands***Human pluripotent stem cells for modelling  
cardiac disease and toxicity screening**

Cardiovascular disease is the leading cause of death globally, representing approximately 30 percent of all death. In the majority of cases heart disease is related to abnormal electrical signalling, which may lead to life-threatening cardiac arrhythmias, contractile dysfunctions or loss of functional cardiomyocytes (i.e. myocardial infarction). Although in the last decades researchers have focused on the treatment of heart disease, there is currently no cure for this disease. Moreover, as population ages with increasing life expectancy, the prevalence of cardiac disease is also expected to increase in the coming years. Consequently, this will lead to a further increase of the healthcare costs and the economic burden of this disease. In addition to genetic and environmental factors, which are considered to be key determinants of cardiac disease, impaired cardiac function may be exhibited by unexpected drug-induced side effects, called cardiotoxicity. Besides the safety concerns, unpredicted cardiotoxic side effects leading to late-stage drug attrition or withdrawal of drugs from the market is a financial catastrophe for the pharmaceutical industry. One major problem is the limited ability to accurately mimic human heart disease and to

predict the effects of potential heart drugs on patients using the current *in vitro* assays and experimental animal models. Here, I will discuss the application of a highly advanced platform based on human pluripotent stem cell-derived cardiomyocytes to more accurately mimic human heart function *in vitro*. Moreover, the use of patient-derived cells will allow personalized medicine (also called precision medicine), enabling accurate assessment of the disease phenotype and underlying mechanisms, drug discovery and drug toxicity testing, leading to better and safer drugs.

**Wednesday, 8 November 2017**

10:15 – 11:45 a.m.

**Prof. Nils Hoppe***Centre for Ethics and Law in the Life Sciences,  
Leibniz University Hanover, Germany***The future of regulation in animal testing**

Despite controversial and emotional discussions, animal testing remains indispensable in biologic and medical research. Thus, it should rather be asked how the gain in human knowledge can go hand in hand with animal welfare. In his talk, Prof. Hoppe will address how regulations in animal welfare might be laid out and subsequently changed in the future. Here, stakeholder with opposing claims (legislative authority vs. the public) will be part of his reflections. Different definitions will be used to evaluate the Status Quo from the perspective of national and international law as well as in respect to moral considerations. In conclusion – while considering theoretical frameworks of regulation and a pragmatic implementation – possible solutions will be discussed. This discussion is situated in the area of conflict between the demand for abolishing all animal testing on one side and the fact that animal testing is still indispensable in research on the other.

## Bf3R - German Centre for the Protection of Laboratory Animals

The BfR performs the role of the "German Centre for the Protection of Laboratory Animals (Bf3R)" and coordinates all associated activities nationwide with the goal of:

- ▶ Reducing animal experiments to the necessary minimum
- ▶ Providing the best possible protection for laboratory animals.

Furthermore, national and international research activities and a scientific dialogue shall be encouraged by the work of the Centre.

## Bf3R Seminars

The Bf3R seminars address issues related to the use of animal experiments and alternative methods in basic research and toxicology, as well as the 3Rs. They take place four times a year and include a lecture of approx. 30 – 60 min, followed by a discussion.

## Venue

Charité - Universitätsmedizin Berlin  
Campus Charité Mitte (CCM)  
Charité Cross Over (CCO) Gebäude  
Charitéplatz 1 (Virchowweg 6)  
10117 Berlin

Directions:

[https://www.charite.de/service/lageplan/plan/map/ccm\\_virchowweg\\_6/](https://www.charite.de/service/lageplan/plan/map/ccm_virchowweg_6/)

Destination stop ([www.bahn.de](http://www.bahn.de), [www.bvg.de/en](http://www.bvg.de/en))  
"Bus: Schumannstr (Berlin)"

## Registration

Please register online by 22.09.2017 respectively 03.11.2017.

<http://www.bfr.bund.de/en/events.html>

## Contact

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## Organiser

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## Bf3R Seminars

25 September 2017

8 November 2017

Berlin

