

Looking for candidates for PHDs in DEVELOPMENTAL TOXICITY

Background: Understanding the potential for a molecule to cause harm to mammalian reproductive or developmental capacity is a challenging area in toxicology. Traditionally animal models (rodents and lagomorphs) are used to explore these endpoints; however, there is a clear trend in toxicology towards the use of validated alternative testing models, including *in vitro* assays. Although several alternative models exist to assess developmental toxicity (e.g. zebrafish, embryonic stem cells, whole embryo cultures) the correlation between the *in vitro* end-points measured and the adverse effects observed in the *in vivo* models is rather limited. Furthermore, there is little information concerning the mode(s) of action (MoA) that could be responsible for either teratogenic effects (eg craniofacial defects, limb abnormalities...) and/or skeletal variations that are sometimes observed in the *in vivo* studies.

Bayer is seeking 3 PhD candidates to work on independent projects aimed at furthering our knowledge concerning MoAs for teratogenic and non-teratogenic end-points and concerning the limitations and capabilities of the various *in vitro* models that are available. To achieve this we will collaborate with a world renowned research laboratory **RIVM** in The Netherlands.

- To investigate relevant *in vitro* assays to:
 - explore the correlation with relevant *in vivo* endpoints
 - explore their molecular and cellular response to different chemical molecules
 - to identify possible biomarkers of developmental toxicity, within and possibly between assays
- Limited *in vivo* assays (rodent & zebrafish) will also be used to
 - identify sensitive windows of exposure
 - to characterize skeletal variations
 - to compare specific teratogenic end-points between models

Lead Sponsor: Bayer SAS. Funding will be confirmed once the candidates are identified.

Partner: RIVM, University of Utrecht, The Netherlands

If interested please send covering letter and CV to marie-france.figaro-bessac@bayer.com

It is envisaged that two students will be placed at the RIVM where the PhD program will be coupled to the University of Utrecht, whereas the third student will be based at the toxicology facilities of Bayer in Sophia-Antipolis, France.

Candidate: required skills

- Basic knowledge of molecular & cellular biology.
- Willingness to learn a range of bioinformatics, biochemical and molecular techniques.
- For certain projects, *in vivo* models may be needed
- Excellent skills in oral and written English.
- Team spirit and ability to work in a multidisciplinary environment between industry and academia.

Qualification: MSc or equivalent in toxicology, biology or pharmacology.

Experience required: Laboratory experience (minimum 6 months) is required. Previous experience with *in vitro* and *in vivo* assays would be advantageous.