



**Newsletter Issue #4**  
**June 2019**  
*Translational quantitative  
systems toxicology to  
improve the understanding  
of the safety of medicines*

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We are pleased to present the **TransQST-Newsletter** Issue 4

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## Key Note

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This June 2019 the TransQST project reached the halfway marker. Traditionally at this point there would be a mid-term review. TransQST went through an interim review earlier in 2018. That early review sharpened the focus on project deliverables and reinforced a commitment to excellent delivery. At this halfway stage deliverables have been met as hoped, anticipated and intended. One deliverable on dissemination has provided an insight in to what could not have been fully anticipated – the number of publications and public presentations from the project which have been disclosed or are under review. At a time when participants are looking forward to the second half of the project and seeing all that still needs to be achieved to meet our goals this has been an important reminder and example of the achievements already attained in TransQST. Scientific curiosity and drive often mean the focus is on the gaps one can see and the road ahead. The early interim review last year and now an insight in to the number and breadth of disseminations from the project are reminders of the road now traveled together.

**Derek Leishman, Eli Lilly (ExCom Member)**

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## Project News [Visit our website News section](#)

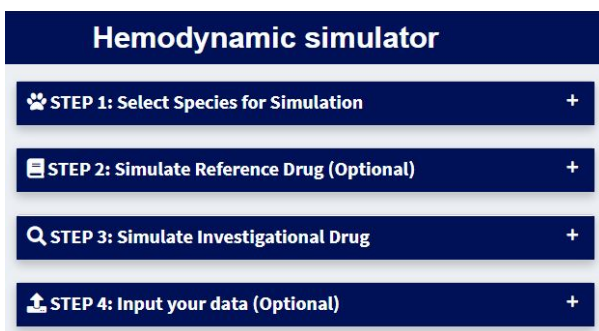
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### TransQST achievements

#### **Hemodynamic simulator to support design and interpretation of hemodynamic preclinical studies**

A web application was developed to conduct simulations for the hemodynamic effects of drug candidates and reference drugs. The application can be of use to help interpret experimental studies, for instance to determine the most likely mode of action. Furthermore, the application

may also be of relevance to guide the design of future studies. The applications can be accessed at [www.hemodynamic-simulator.eu](http://www.hemodynamic-simulator.eu) and is still under development.



### TransQST GAM3

**The third TransQST General Assembly meeting was held in BI premises in Ingelheim, Germany, on April 9<sup>th</sup> and 10<sup>th</sup>, 2019.**

During the first day parallel sessions of Organ WPs were organised. On the second day the consortium met at the plenary session for the WP updates and discussion on the next steps.

The discussion at the plenary session evolved around strategic questions such as fit for purpose solution and regulatory interactions. Considerable progress towards the PoC has been achieved, and the consortium is fully committed and focused to deliver the PoC in the upcoming period.

The TransQST Scientific Advisory member Dr Adriano M. Henney (Avicenna Alliance for Predictive Medicine) attended the meeting on both days. Once again, he gave us recommendations which will be valuable for the project progress and dissemination of TransQST approaches and achievements. We are pleased to learn that Adriano M. Henney saw a great amount of work done since our last GAM. He also stressed out that the Consortium has a much better level of communication and understating of mutual objectives.

The next TransQST GAM will be held in September where we plan to further tackle main questions such what can be delivered by 2021 and how the impact will be assessed. The next GAM will also be focused on the initial preparation for the mid-term review, scheduled for June 2020.



## UL partner updated their WGCNA tool

The **Research Division of Drug Discovery and Safety** of the **University of Leiden**(UL) participates to TransQST consortium. Bob van de Water's lab team has mined data of the [TG-GATEs](#) database on primary human hepatocytes, rat *in vivo* liver and kidney gene expression data and established WGCNA modules. These modules are available in an open source application tool called TXG-MAPr.

[Read More](#)

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## TransQST @

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### POSTERS

#### SOT 2019 (US)

- A Quantitative Systems Toxicology Modeling Framework for the Gastrointestinal Immune System
- Physiologically Based Pharmacokinetic/Pharmacodynamic (PBPK/PD) model of gastrointestinal toxicity induced by 5-fluorouracil in mouse and translation to human

#### NC3Rs

- Applying the 3Rs in pharma: Improving delivery of innovative treatments to patients

#### Gordon Research Conference on Cardiac Arrhythmia Mechanisms

- A Novel Model of Human Cardiac Purkinje Action Potential

### ORAL PRESENTATIONS

- TransQST was presented at the **Japanese Safety Pharmacology Society Meeting** and **British Society of Toxicology Annual Meeting**.

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## Publications

[Visit our website Publications section](#)

[GUILDify v2.0: A Tool to Identify Molecular Networks Underlying Human Diseases, Their Comorbidities and Their Druggable Targets](#). Aguirre-Plans J, Piñero J, Sanz F, Furlong LI, Fernandez-Fuentes N, Oliva B, Guney E. *J Mol Biol*. 2019 Jun 14;431(13):2477-2484.

[Road Map for Development of Stem Cell-Based Alternative Test Methods](#). Sachinidis A, Albrecht W, Nell P, Cherianidou A, Hewitt NJ, Edlund K, Hengstler JG. *Trends Mol Med*. 2019 Jun;25(6):470-481

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*Next issue in December 2019*

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