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| **Workshop**: | Programming in R/R for Advanced Users | |
| **Lecturers:** | Dr. Dries Debeer (KU Leuven) / Benjamin Becker (IQB Berlin) | |
| **Date:** | Part 1: | Thursday, 18.03.2021, 14:00 – 18:00 h |
|  | Part 2: | Friday, 19.03.2021, 14:00 – 18:00 h |

**Abstract**

In various scientific fields R has emerged as the most popular tool for data wrangling, analyses and visualization. It is open source and a fully functioning programming language, extended by a wide variety of libraries, which are maintained by a very active scientific community. However, most R users do not have a programming background and often a large proportion of R’s potential remains untapped. Especially as more and more journals require researchers to provide syntaxes alongside their manuscripts, writing elegant and efficient R code is becoming more and more desirable.

In this workshop we want to provide R users with advanced tools which they can use in their daily R-life. Participants will learn how writing clean code and version controlling will benefit their own work. Furthermore, we will focus on different ways of automating R code, including writing and understanding functions and iteration (vectorization, loops, functionals). We will also give a short outlook on more advanced tools such as S3 methods and writing packages, with literature for further self-study. As the workshop will be held remotely, there will be a strong focus on practical exercises.

***Contents.***

R programming: Iteration, functions, …

***Previous knowledge required.***

Solid R knowledge (participants have used R for data wrangling, analyses and visualization before)

***Literature.***

Wickham, H. (2019). *Advanced R*. CRC press.

***Software requirements.***

R [>= 4.0.0], RStudio