Title of the workshop

An open-source Pharmacometrician’s workflow in R: from exploration (xGx) to model building (nlmixr) and diagnostics (ggPMX)

Workshop target audience

Pharmacometricians/modelers with basic knowledge on model building, evaluation and qualification. Basic knowledge of writing, executing R scripts is advantageous.

Workshop sponsors

Sponsored by Novartis and co-hosted by Pharmacometrics Africa, NPC

Workshop faculty

- Fariba Khanshan, Novartis Pharmacometrics, Cambridge, USA
- Matt Fidler, Novartis Pharmacometrics, Fort Worth, USA
- Irina Baltcheva, Novartis Pharmacometrics, Basel, Switzerland

Workshop overview

The workshop will provide a tutorial on three open–source R packages currently under development at Novartis, supporting the pharmacometrics workflow in exploring and modeling clinical data:

- Exploration of the data using the Exploratory Graphics (xGx) package, available on GitHub (https://opensource.nibr.com/xgx/).
- Model building and validation using ggPMX, a library of reproducible diagnostic plots available on CRAN and on Github (https://github.com/ggPMXdevelopment/ggPMX).

The combination of the three open-source R packages provides the pharmacometrics modeling community the opportunity to reduce the learning curve needed to become proficient on each of the different tasks using a stepwise framework.

Workshop Learning Objectives

During the workshop, the participants will have the opportunity to become familiar with the packages with extensive hands-on sessions, which will follow the initial lectures on xGx, nlmixr and ggPMX. The participants will have a chance to experience the stepwise framework of the Pharmacometric’s workflow. First, through a question-based approach, xGx helps to uncover useful insights that can be revealed without complex modeling and to identify aspects of the data that may be explored further. Next, nlmixr is used for building an adequate population model refined by the exploration of the data to characterize the dose-exposure-response relationship. Finally, the model evaluation, validation and reporting is driven by ggPMX. The diagnostic plots help selecting the model describing the data most accurately.


Workshop Timetable

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<th>Time</th>
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<td>08h00-08h30</td>
<td>Introduction</td>
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<td>xGx</td>
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<td>10h00-10h30</td>
<td>Coffee Break</td>
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<td>10h30-12h00</td>
<td>nlmxir</td>
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<tr>
<td>12h00-13h00</td>
<td>Lunch</td>
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<td>13h00-14h30</td>
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<td>14h30-15h00</td>
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<td>15h00-16h30</td>
<td>ggPMX</td>
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<td>16h30-17h00</td>
<td>Concluding Remarks and Round Table Discussion</td>
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Date and Duration

Monday, April 6th 2020: 8AM-5PM

Registration Fee

$25 / R400

Maximum Number Participants

60

Requirements

Participants are expected to bring their laptops and have installed the packages (instructions sent by email prior to the workshop) on their laptops.