Introduction to Within-host Modeling

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Logistics

- For the hands-on part of the workshop, we'll be using the `DSAIRM` package in `R`. Please install `R`, `RStudio` (optional) and the `DSAIRM` package.

- See here for install instructions: https://ahgroup.github.io/DSAIRM/

- The latest version of all my slides can be found here: http://handelgroup.uga.edu/talk/2019sismid/

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DSAIRM overview

- An `R` package I wrote that provides an introduction to within-host modeling through a graphical user interface.

- Easy install like any other `R` package.

- Single command after package is installed and loaded to get to main graphical menu.

- Different *apps* allow you to explore different within-host modeling topics without the need to read/write computer code.

- Each app comes with documentation and a list of learning tasks.

Easy advancement

- You can advance from the graphical exploration of the models (Level 1) to adding a bit of their own code and make the models do more (L2) all the way to using the model code and modifying it to fit their needs (L3). See the package tutorial for more in this (under *Get Started* on the package website).

More tools

- A "sister package" to `DSAIRM` called `DSAIDE` covers population-level models. It has the same structure as `DSAIRM`. More details on `DSAIDE` are here: https://ahgroup.github.io/DSAIDE/

- A new R package, called `modelbuilder` allows individuals to graphically build and analyze custom compartmental (ODE/stochastic/discrete-time) without the need to write code.

- `modelbuilder` is in development, current version available at: https://ahgroup.github.io/modelbuilder/