BBS face-to-face course

Good Software Engineering Practice for R Packages

→ **Register here: link**
(Course fee 80 CHF - non-refundable and upfront payment)
(Register early, as we have a maximum number of 45 participants)

Organizers: Kevin Kunzmann (Boehringer Ingelheim), Friedrich Pahlke (RPACT), Daniel Sabanes Bove (Roche)

In this face-to-face course participants will learn hands-on skills and tools to engineer reliable R packages used in biostatistics. The day will be a mix of presentations and team exercises to build a small R package. Participants need to be comfortable with writing functions in R and bring their laptops. (We will reach out before the course to instruct participants how to set up free GitHub accounts and prepare some other technical details.)

We hope that many of you can attend the course!

Program (tentative)

9.00-9.05	**Welcome**
9.05-9.30	**Introduction round** Why are you here today? What are your learning objectives?
9.30-10.00	**Motivation and Overview** Why is Good Software Engineering Practice important? Introduce learning objectives for today. Different applications from study specific package to methods implementation.

Time	Topic
10.30-11.00	**R packages** Structure and syntax incl. folders/files/documentation etc. Tools: roxygen2, usethis.
11.00-11.30	**R packages Exercise** Setting up a new R package. Include a new function, add roxygen documentation, export to namespace. Run checks.
11.30-12.00	**R packages Engineering Workflow** One-off scripts / prototype functions / design docs / packaging. Professional workflow.
12.00-13.00	**Lunch break (included)**
13.00-13.30	**Quality Workflow** Why unit tests are important, testthat; integration tests, snapshot tests; Why code style is important; types, lintr/styler packages, spelling etc.
13.30-14.00	**Quality Exercise** Set up testing infrastructure, add unit tests, check, lintr, spelling, test coverage.
14.00-14.45	**Collaboration Workflow** Version control as a prerequisite for collaboration; git and GitHub.com as an example of collaborative coding platforms - crash course and live demo.
14.45-15.30	**Collaboration Exercise** Getting code & setting up repositories; inviting collaborators, manage change, integration with automatic quality control
15.30-16.00	**Coffee break (included)**
16.00-16.30	**Publication Workflow** CI/CD and tags on GitHub, versioning, CRAN requirements, R-Hub for checks, pgkdown, licensing.
16.30-17.00	**Publication Exercise** Looking at checks on GitHub, deployment of pkgdown, running CRAN like checks.
17.00-17.30	**Conclusion round** What have you learned? What are your take-aways? What were difficult problems? etc.
17.30-17.45	**Closing remarks** Summary of what we did today, possible next steps for participants.
17.45-18.30	break

| 18.30-20.30 | **optional dinner (not included in the workshop fee)** |