



Becoming an Integrated Part of the Open-Source Pharma Community

Phil Bowsher | 2023 Nov 02



Hello!



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 **How does my pharma get involved in Open Source Drug Development?** 





Pan-Pharma Cross-Collaboration





 **“We compete on the molecules, not the software” - Thomas Neitmann** 





why Join?

Learning what other pharmas are doing



Return on Investment (ROI)

- Partnerships and collaborations with external partners
- Streamlined Workflows
- Talent out of university more likely to know open-source programming languages
- Latest developments more rapidly
- Switch between languages and contexts more easily
- Time savings in creating standard TLGs
- Time savings in creating customized TLGs
- Access to free solutions to support creating a clinical submission

OS in Pharma & R in Pharma!



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R Validation Hub!



 @pharmaR

 @doug-kelkhoff@linkedin.com

 @juliane-manitz@linkedin.com

 Implementing a Risk-Based Approach to R

 pharmar.org

Regulatory R Package Repository!



 @pharmaR

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 @coline-zeballos@linkedin.com

 Updates from the R Validation Hub: Towards a Pharma Repository

 pharmar.github.io/regulatory-r-repo-wg/

Openstatsware!



 @openpharma

 @danielsabanesbove@linkedin.com

 GOOD SOFTWARE ENGINEERING PRACTICE FOR R PACKAGES

 community.amstat.org/biop/workinggroups/swe-wg

 [asa-biop-swe-wg](#)

Pharmaverse!



 @pharmaverse

 @ross-farrugia@linkedin.com

 @pharmaverseR

 pharmaverse.org

Bioconductor!



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Phuse Working Groups!



 @phuse

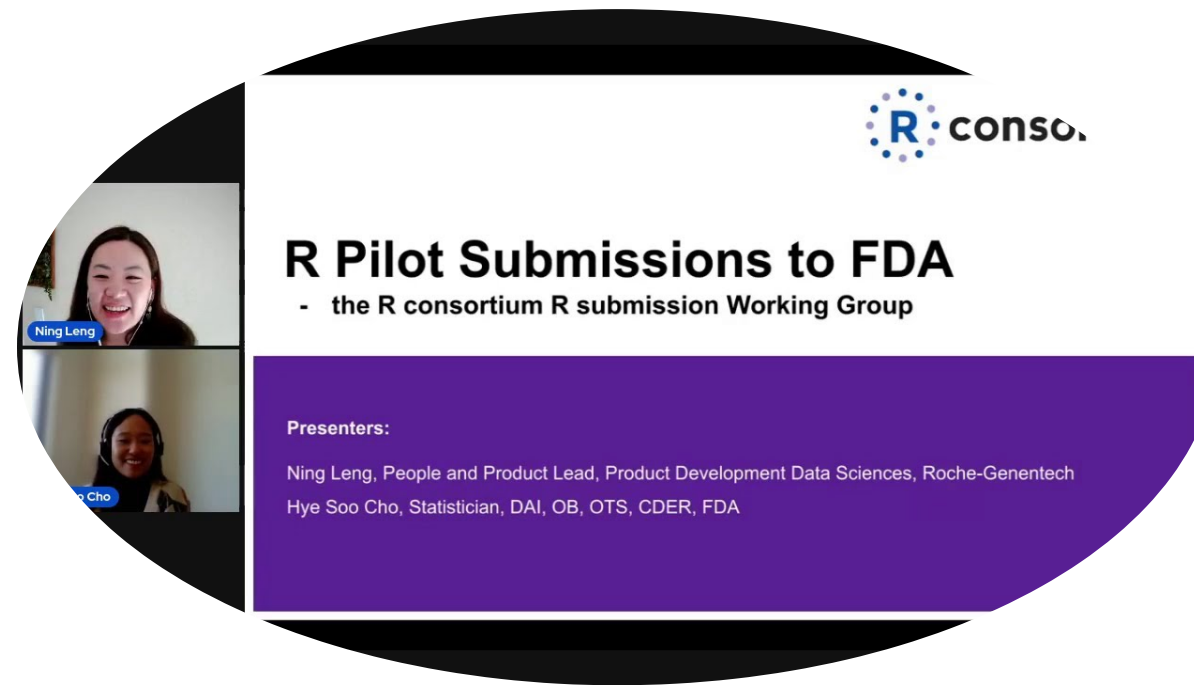
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 Working Groups

R Submissions Working Group!



 @submissions-wg

 @ning-leng@linkedin.com

 @eric-nantz@linkedin.com

 Ning Leng & Hye Soo Cho. R pilot submissions to FDA

 submissions-wg

R Tables for Regulatory Submissions Working Group

RConsortium/rtrs-wg

#9 **Rounding differences between R4.0+ and earlier...**



1 comment

 **rich-iannone** opened on June 3, 2021



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 R Tables for Regulatory Submission Working Group s eBook

 R Tables Book

CAMIS (Comparing Analysis Method Implementations in Software)



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 Comparing Analysis Method Implementations in Software (CAMIS)



Other Ideas for Joining the Open-Source Pharma Community!

- Designate an Open Source Champion(s) at your Pharma
- Give Employees **Time & Space** to Contribute to Open-Source Efforts
- Start a **Open Source Drug Development Competency Center**
- Host an Internal/External Open Source Drug Development Conference
- Start a Internal Slack/Teams Group for Open Source Drug Development
- Train & Help Employees Become Open-Source Literate



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Creating Code!

Sharing Code!

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 **Thought About Sharing Code?** 





End-to-End Open-source Collaboration Guidance



Creating & Sharing Code

-  Dedicate Internal and/or Contractor FTE(s) Working on Fully Open-Sourced Code
-  Create and Support a Public Github Organization with Packages & Code
-  Create, Support and Share Public Package(s)
-  Create, Support a Repository/Website of Examples/Articles/Case Studies
-  Teach a Public Workshop / Give a Talk or Write a Paper on Open-Source

Thank you!



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