First R User Group Meeting

https://rug-at-hdsi.org

gwynn sturdevant, Nicole Swartwood, Christian Testa

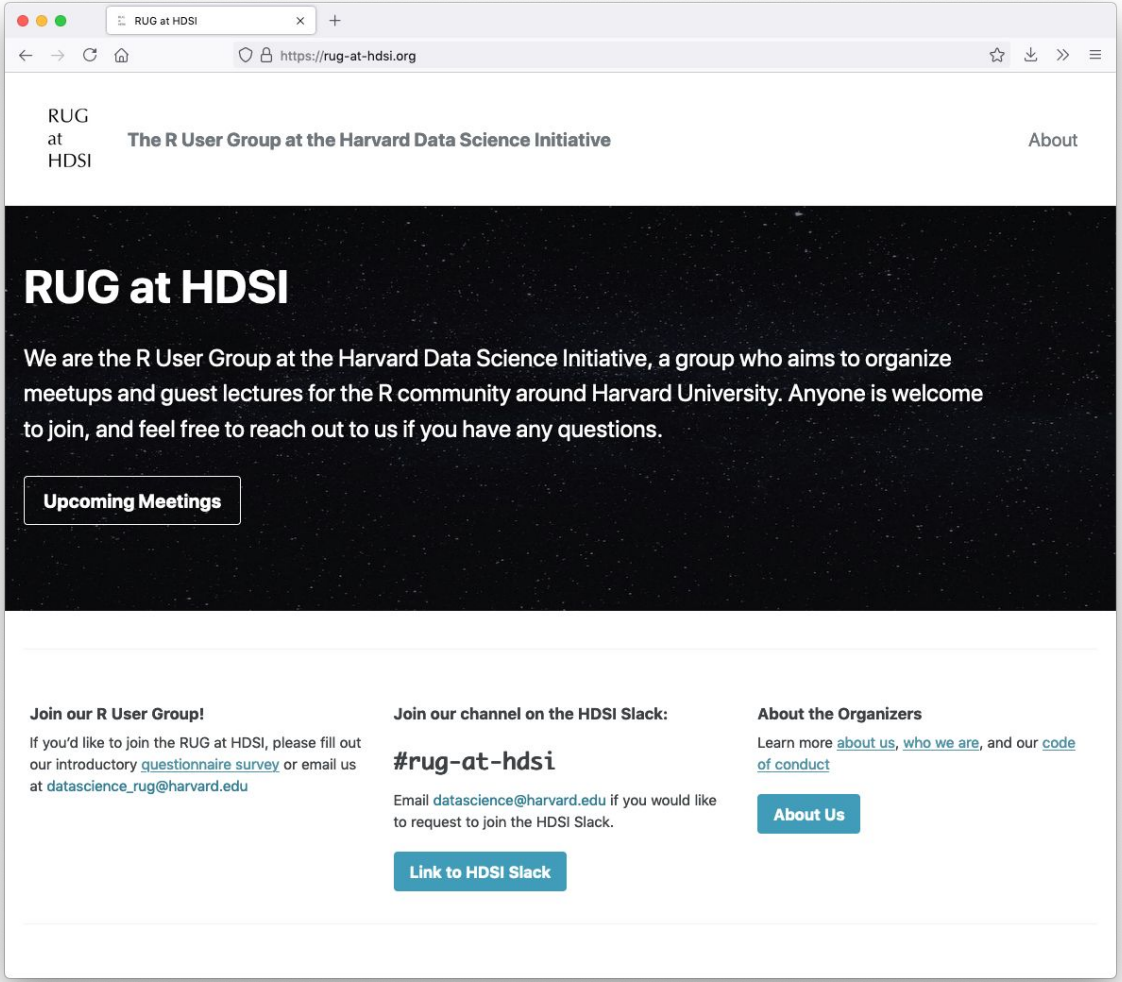
About Us

Check out our website

https://rug-at-hdsi.org

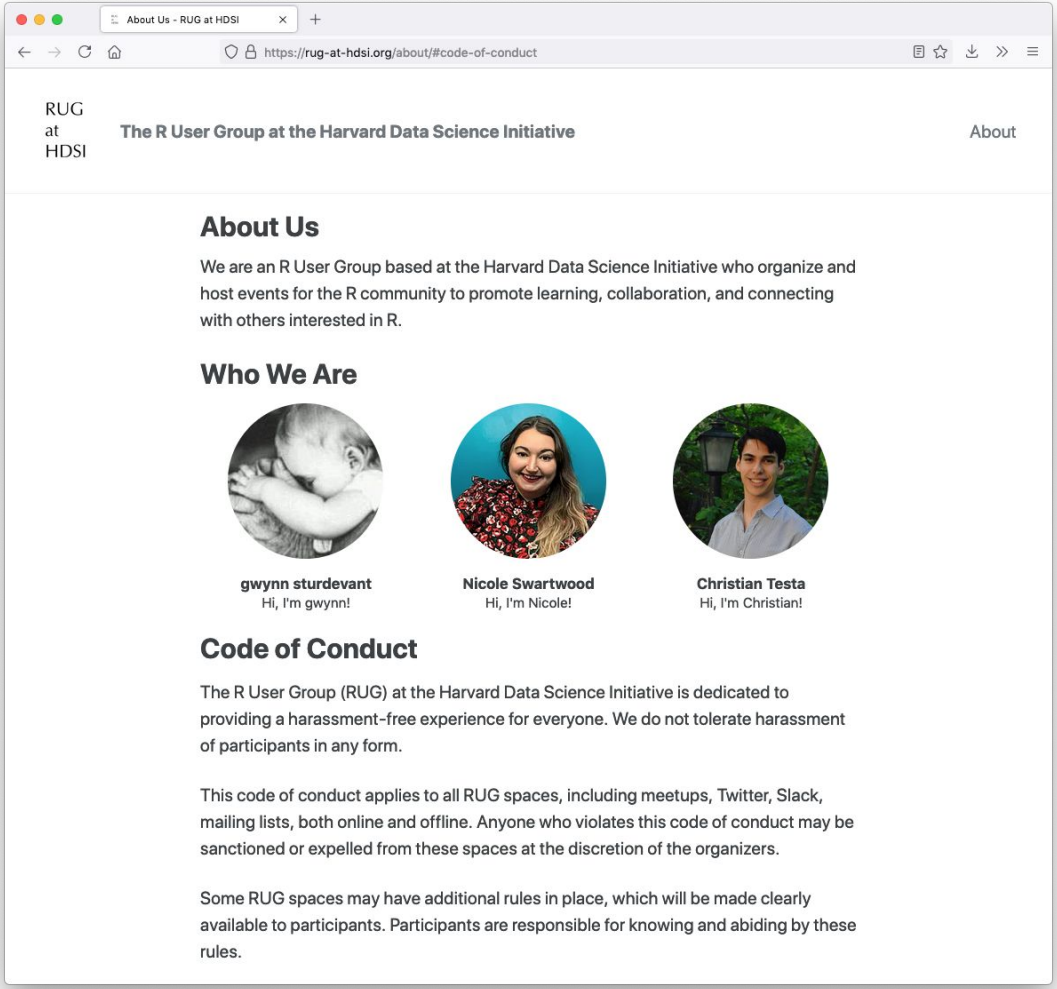
Take our new member survey!

Join the HDSI Slack and our channel



Code of Conduct

Our code of conduct outlines that we are intent to create an inclusive space that is safe for everyone.



Intros - Christian

Christian Testa
Hi, I'm Christian!
https://ctesta.com

Hi everyone!

I’m a statistical analyst at the Harvard School of Public Health; I use mathematical and statistical models to quantify health inequities and their drivers. I use techniques including causal inference, geospatial statistics, and high performance computing.

Intros - Nicole

Hi y’all!

I am a research analyst in the Global Health and Population department. My current research focuses on mathematical models of tuberculosis and COVID-19 both domestically and abroad.

I am broadly interested in examining history of medicine, gendered data biases, and comparative linguistics.

Nicole Swartwood

Hi, I'm Nicole!

nicoleanneswartwood.com

Intros - gwynn

Welcome!

- Delivering data differently
- Reducing stigma
- Post-doc at LISH
- R-related groups
- Benefits organizing

Ideas for upcoming events

We've had some ideas about what we can do together, but we'd like to hear from you!

Share your interests in our new member survey!

Please tell us how much the following interest you

	A great deal	A lot	A moderate amount	A little	None at all
Guest Lectures from R Developers	○	○	○	○	○
Introductory Talks on ...					
Data cleaning	○	○	○	○	○
Data visualization	○	○	○	○	○
Using statistical models	○	○	○	○	○
Other (potentially more advanced) R programming techniques	○	○	○	○	○
Community help / debugging time	○	○	○	○	○
Time to get to know other R users	○	○	○	○	○
Show & tell for R related projects	○	○	○	○	○
An online forum to discuss R programming or personal R challenges	○	○	○	○	○
Free food (if in-person)	○	○	○	○	○

Menti

Go to menti.com and enter the following code:

1313 3397

… or scan this QR code on your smartphone camera

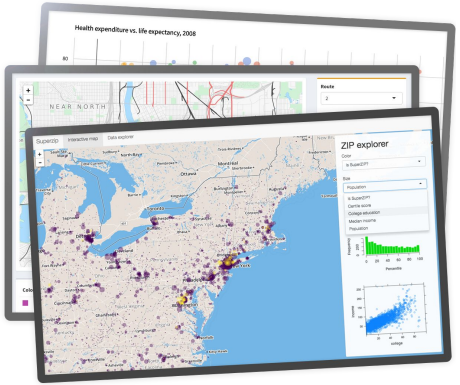
Group discussion time

Things you didn’t know you can do in R, but you can!

Rmarkdown, Shiny, and Database Connectivity

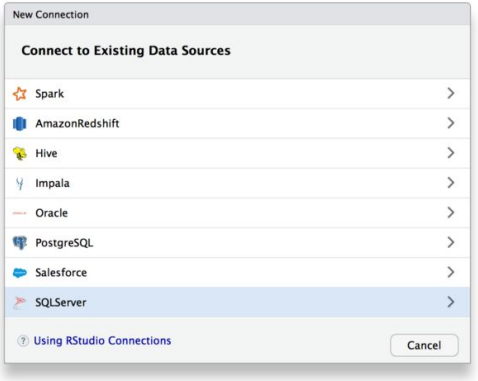
With Rmarkdown, you can create documents, presentations, and reports using R in a variety of formats that incorporate reproducible data visualizations and analytics!

https://rmarkdown.rstudio.com



The Shiny web framework allows R programmers to quickly create online dashboards with interactive data visualizations and ready-to-integrate widgets with no knowledge of web programming needed to get started!

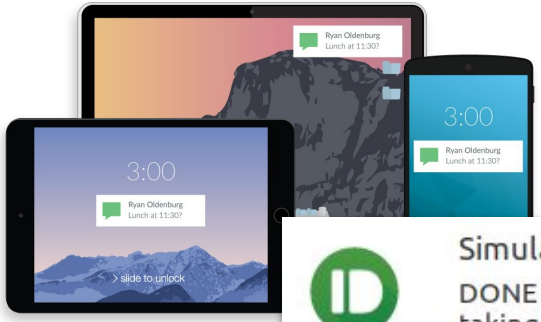
https://shiny.rstudio.com



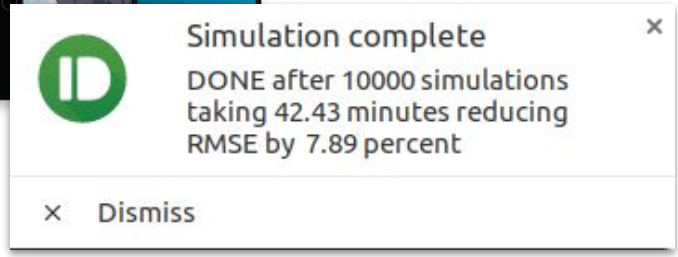
The database connectivity available in R allows users to interact with remote databases using R based data manipulation tools such as dplyr to perform large data-heavy computations remotely and to take advantage of cloud or distributed computing architectures.

https://db.rstudio.com

Messaging and infographics



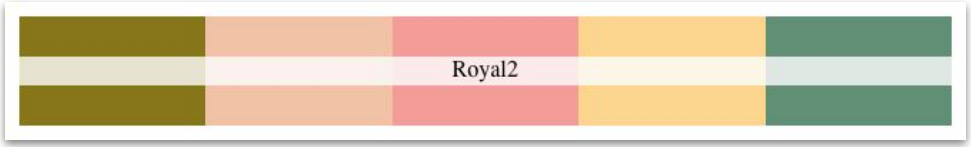
https://github.com/eddelbuettel/rpushbullet



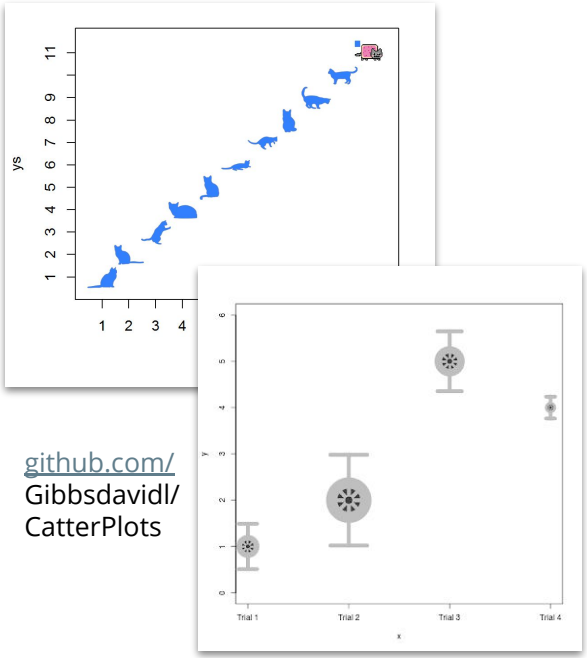
Connections to the pushbullet API allow you to send yourselves messages from your R console. This can be particularly useful when running scripts on a computing cluster -- allowing for real time error and completion messages.

Combining the powerful data visualization power of ggplot and the grid package, you can create infographics based on your analysis right in R!

find youR aesthetic

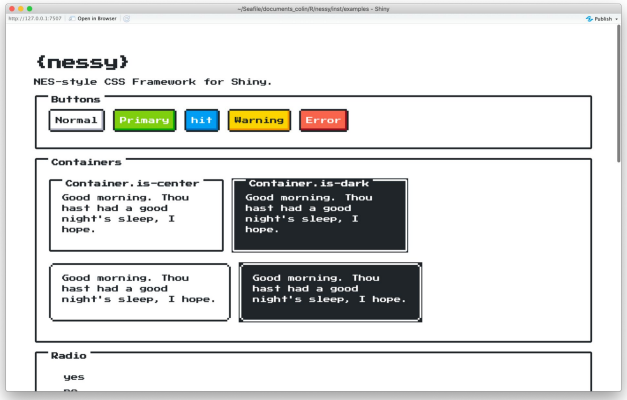


https://github.com/karthik/wesanderson



github.com/
Gibbsdavidl/
CatterPlots

https://github.com/sdjbrown/
publicFiles/blob/master/TIEplot.R



https://github.com/ColinFay/nessy

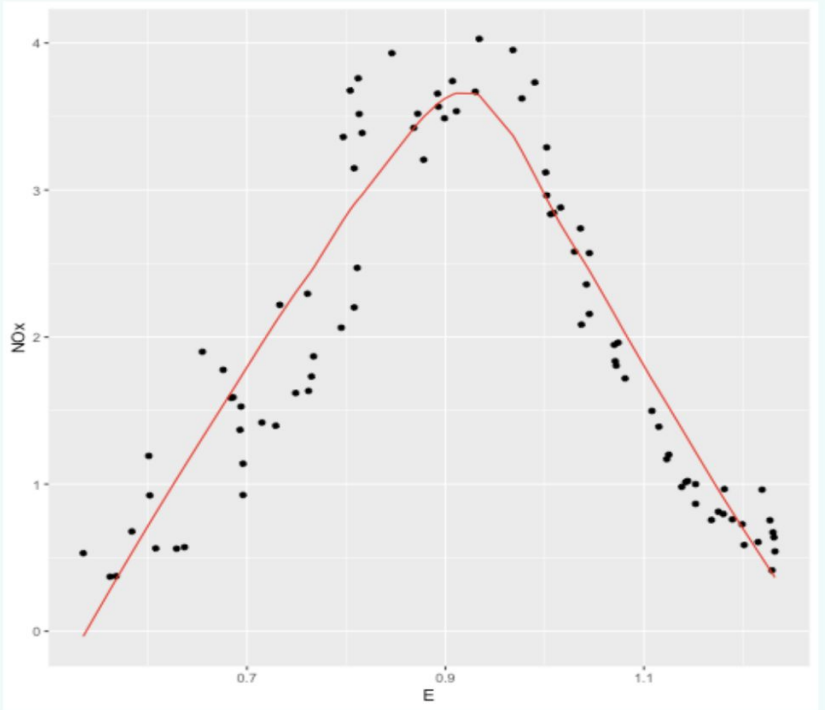
https://xkcd.r-forge.r-project.org

sound

```
library(lattice)
library(sonify)
library(broom)

l2 <- loess(NOx ~ E, ethanol)
fit <- augment(l2)
s <- suppressWarnings(
  sonify(l2$x,l2$fitted,
         duration = 4,
         play = TRUE))

fit %>%
  arrange(.fitted) %>%
  ggplot(aes(E, NOx)) +
  geom_point() +
  geom_line(aes(y = .fitted),
            color = "red")
```



```r
## This is coding that sonifies and animates a loess
## curve

library(c("lattice", "ggplot2", "sonify",
          "gganimate", "broom", "tidyverse", "av"))

l2 <- loess(NOx ~ E, ethanol)
fit <- augment(l2)
s <- sonify(l2$x, l2$fitted, duration = 4, play = TRUE)
writeWave(s, filename = "audio")

df <- tibble(fit$E, fit$NOx)
names(df) <- c("x", "y")

p <- fit %>%
  arrange(.fitted) %>%
  ggplot(aes(E, NOx)) +
  geom_line(aes(y = .fitted), color = "red") +
  transition_reveal(E, keep_last = TRUE) +
  geom_point(data = df, aes(x, y))

anim_p <- animate(p, renderer = av_renderer(), duration = 10)
anim_save(filename = "annimation.mp4", animation = anim_p)
av::av_encode_video(input = "annimation.mp4",
                    output = "both.mp4", audio = "audio")
```

Sonimation

Thank you for coming!

We wish everyone the best and hope to see you again soon!