



R course for beginners

Introducing a programming language
and software environment for
statistical computing and graphics

Who are we?

Christine Gläßer, Head of Bioinformatics Core Facility at
DKFZ/ZMBH Alliance

- > 2013 Started to establish and run Core Facility, focus on
NGS data analysis
- > morning sessions



Evgeniy Vainshtein, SFB 1036

- > 2010 PhD in Bioinformatics, Applying microarray-based
techniques to study gene expression patterns
- > afternoon sessions



What is R?

- ... a tool for statistical programming and analyzing your data
- ... a tool for plotting graphs based on your data
- ... a software environment
- ... open source
- ... a successor of S, developed in 1992
- ... **USEFUL** to know!





What are we going to do in this course?

Monday	Tuesday	Wednesday	Thursday	Friday
Basic commands: Read a file Manipulate its contents Save a file	Statistics: Descriptive statistics Statistical tests Analysis of variance	!!! NO COURSE !!!	Plots and Graphics: Histograms Scatter plots Boxplots Heatmaps	Installing and customizing R: Where to get R distributions Packages (Bioconductor, Cran) Introduction to RStudio

AIM: feel comfortable with using R!

We'll do so in „pure“ R, with command line... why?!



How is this course organized?

Morning sessions (10.00 – 12.00):

- Short introduction of our aims for today
----> including simple demonstrations

Lunch break (12.00 – 13.00)

Afternoon sessions (13.00 – 15.00):

- Repeating what we just did with new data and deepen our knowledge
----> sample data has been prepared



How is this course organized?

Last day

- Summarizing what we've learned
- How to customize R
- wetting your appetite for follow-up course



Getting started

Log in to „bioinfokurs“ (PW: schulung282)

Create a folder on the Desktop called „R_basic“

Download the course material from Owncloud into that folder



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Mac users:



ownCloud im Browser öffnen

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Ordner 'ownCloud' öffnen

0,1% von 5 GB benutzt

Aktuell

Letzte Änderungen ▶

Einstellungen

Hilfe

Abmeldung
ownCloud beenden

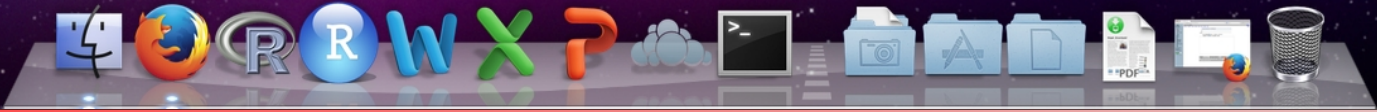
bowtie2-2.2.3
24 Objekte



bowtie2-2.2.3.
zip
9,7 MB



Bildschirmfoto
2014-....00.11





ownCloud blinfokurs ▾

Neu ↑ Gelöschte Dateien

Name	Größe	Geändert
documents	22.8 kB	Vor 12 Tagen
music	3.6 MB	Vor 12 Tagen
photos	662.7 kB	Vor 12 Tagen
Shared	Herunterladen 385 MB	Vor 1 Stunde
ownCloudUserManual.pdf	1.5 MB	Vor 12 Tagen
4 Ordner und 1 Datei		5.8 MB

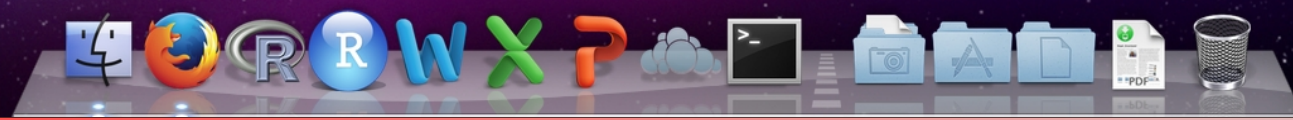
Schulung-VIII-HD
249,72 ... GB frei

bowtie2-2.2.3
24 Objekte

bowtie2-2.2.3.zip
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Bildschirmfoto 2014-...00.11
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Shared Du besitzt hier keine Berechtigung, um Dateien hochzuladen oder zu erstellen

Name	Größe	Geändert
software_bioinfo	385 MB	Vor 5 Tagen
sleep_data_simple.txt	80 B	Vor 1 Stunde

1 Ordner und 1 Datei 385 MB

Herunterladen Versionen Teilen

Firefox sendet automatisch einige Daten an Mozilla, damit die Benutzerzufriedenheit verbessert werden kann.

Zu übermittelnde Daten festlegen

https://zmbhcloud.zmbh.uni-heidelberg.de/owncloud/index.php/apps/files/download/Shared/sleep_data_simple.txt

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