

DAVID GRANJON

Principal Scientist and Consultant, Novartis AG

- Founder of [RinteRface](#)
- R Shiny advocate



EDUCATION

2013-
2016

PhD in Life Sciences

Thesis title: "Modeling of Calcium Homeostasis in the Rat and its Perturbations". Building of a mathematical model describing calcium homeostasis, including its analysis and simulation of pathologies. Advisors: Dr. Aurélie Edwards and Pr. Olivier Bonny.

📍 Université Pierre et Marie Curie, Paris, Université de Lausanne, Switzerland

2011-
2013

Master's Degree in Ecosciences, MIV

Main subjects: Mathematics, Theoretical Ecology and Programming.

📍 Université Claude Bernard (UCBL), Lyon

2010-
2011

Licence (3 year degree) in Mathematics and Computer Sciences for the Living (MIV)

Main subjects: Mathematics, Ecology and Computer Sciences.

📍 Université Claude Bernard (UCBL), Lyon

2008-
2010

Preparatory School for Engineers

Main subjects: Mathematics, Physics, Biology, Geology.

📍 Lycée Claude Fauriel, Saint Etienne



PROFESSIONAL EXPERIENCE

06/17
|
06/19

Post Doctoral Researcher

Software engineer 📍 The Interface Group, University of Zurich (UZH)

Two main projects:

- develop user-friendly interfaces of Calcium and Phosphate Homeostasis, using the R-Shiny package, javascript and C. Management of linux web servers. Design new interactive tools dedicated to teaching courses.
- build a model linking the cardiac and renal functions, to better understand the interplay between chronic kidney disease as well as cardiac failure. Create virtual patient populations using Monte Carlo simulations.

01/17
|
03/17

Post Doctoral Researcher

Improvements to the model developed during my doctoral thesis.

Publication of a second article (see publications). Supervisors:

Dr. Aurélie Edwards and Pr. Olivier Bonny.

📍 CHUV, Lausanne university hospital, Switzerland

07/13
|
08/13

Internship in a Team of Theoretical Physiology

Improvements to the model developed during the previous internship.

Supervisors: Dr. Moisés Santillan, Pr. Michael Mackey

📍 Centre for Applied Mathematics in Bioscience and Medicine (CAMBAM), Mc Gill University, Montreal, Canada.



CONTACT INFO

✉ dgranjon@ymail.com

🗣 [DivadNojnarg](#)

🏠 [Blog](#)

🏠 [RinteRface](#)

🐦 [divadnojnarg](#)

SKILLS

Data Analysis: R

Web development: {Shiny}, JavaScript, React, HTML, CSS, Postman (http requests)

Reporting: {bookdown}, {rmarkdown}, {pagedown}, LaTeX

Workflow: Git, github-actions, Travis, {renv}, {golem}, {devtools}, {profvis}, {usethis}, {testthat}, ...

Script: Bash

LANGUAGES

French (native)

English (C1)

01/13
|
07/13

- **Internship in a Laboratory of Applied Mathematics**
Project title: "Multiscale modeling of Zebrafish Somitogenesis" Development of a model accounting for the intra-cellular oscillator in each cell during somitogenesis. Supervisors: Dr. Laurent Pujo-menjouet (UCBL), Pr. Michael Mackey (Mc Gill, Canada).
📍 Institut National de Recherche en Informatique et Automatique (INRIA), Team Dracula, Lyon

03/12
|
07/12

- **Internship in a Laboratory of Applied Mathematics**
Project title: "Mathematical modeling of somitogenesis, reaction-diffusion systems". Analysis of two mathematical models: cell-cycle and clock/wavefront models. Supervisor: Dr. Laurent Pujo-Menjouet (UCBL).
📍 Institut National de Recherche en Informatique et Automatique (INRIA), Team Dracula, Lyon

06/11
|
08/11

- **Internship in a Laboratory of Theoretical Ecology**
Project title: "Ecotoxicology of Daphnia Magna". Study of the impact of pollution on the growth of Daphnia Magna through mathematical models. Supervisors: Pr. Sandrine Charles (UCBL), Pr. Marie Laure Delignette Muller (Ecole Nationale Vétérinaire de Lyon).
📍 Laboratoire de Biométrie et Biologie Evolutive (LBBE), Team Modélisation et Ecotoxicologie Prédictive (MEPS), Lyo

PUBLICATIONS

2019

- **An eLearning platform to teach calcium and phosphate homeostasis**
Submitted to American Journal of Physiology-Advances in Physiology Education.
D. Granjon, O. Bonny, F. Verrey, V. Kurtcuoglu and D. de Zelicourt.

2017

- **Coupling between Phosphate and Calcium Homeostasis: A Mathematical Model**
American Journal of Physiology-Renal Physiology, 313(6): F1181-F1199. doi: 10.1152/ajprenal.00271.2017
D. Granjon, O. Bonny, A. Edwards.

2016

- **A Model of Calcium Homeostasis in the Rat**
American Journal of Physiology-Renal Physiology, 311 (5): F1047-F1062. doi: 10.1152/ajprenal.00230.2016
D. Granjon, O. Bonny, A. Edwards.

BOOKS

2020

- **Outstanding User Interfaces with Shiny**
This book provides the necessary knowledge to extend Shiny's layout: <https://divadnojnarg.github.io/outstanding-shiny-ui/>.
D. Granjon

Contacts

Dr. Aurélie Edwards
Pr. Olivier Bonny. +41 21 692 53 60
Dr. Laurent Pujo-Menjouet. +33 472 431 008
Dr. Diane de Zélicourt. +41 (0) 44 635 50 56
Pr. Vartan Kurtcuoglu. +41 (0) 44 635 50 55

R packages



Develop outstanding {shiny} apps for iOS, Android and desktop.

code available

CRAN 0.1.0



CONFERENCES AND TALKS

- 14/03/2020

satRdayNeuch 2020
 Oral presentation: An introduction to shinyMobile:
<https://github.com/DivadNojnarg/satRdayNeuch2020>.
📍 Remote (Covid 2019)
- 29/01/2020

Zurich R User Group
 Oral presentation: "shinyMobile: Build Native Looking Shiny Apps:
<https://rinterface.com/shiny/talks/zurichR2020/index.html#slide=1>.
📍 Zurich
- 05/12/2019

BaselR
 Oral presentation: "Development of a web application to represent
 models of calcium and phosphate homeostasis using R."
📍 Basel
- 08/2019

Shiny Developers Series
 Podcast interview: "Production-ready UIs for Shiny: <https://shinydevseries.com/post/episode-4-rinterface/>.
📍 Online
- 09/07/19
|
12/07/19

useR 2019
 Poster presentation: "A Shiny Powered Virtual Patient: <https://github.com/DivadNojnarg/userR2019>.
📍 Toulouse
- 27/05/19

Zurich R User Group
 Oral presentation: "RinteRface, Production-ready UIs for Shiny:
<https://rinterface.com/shiny/talks/zurichR2019/index.html#slide=1>.
📍 Zurich
- 31/01/19
|
01/02/19

NCCR Kidney.CH Retreat 2019
 Oral presentation: "Web applications for physiology: bridge the gap
 between research and teaching".
📍 Murten, Switzerland
- 09/09/18
|
12/09/18

NCCR Kidney.CH Summer School 2018
 Poster first author: "Web-based e-learning tools of Calcium and
 Phosphate Homeostasis".
📍 Zurich, Switzerland
- 08/07/18
|
12/07/18

World Congress of Biomechanics 2018
 Poster first author: "Addressing biomedical diversity via eLearning,
 an example from a physiology curriculum".
📍 Dublin, Ireland
- 01/02/18
|
02/02/18

NCCR Kidney.CH Retreat 2018
 Poster first author: "A web-based application of Calcium and Phos-
 phate Homeostasis".
📍 Murten, Switzerland
- 17/10/17

Bachelor-Themenworkshops 5. Semester HS 2017
 Oral presentation: Computational Physiology.
📍 Zurich University of the Arts, Switzerland
- 29/06/16
|
1/07/16

**Meeting of the Federation of Physiological Societies and the
 French Physiological Society**
 Poster presentation: "Role of the rapidly exchangeable calcium pool
 in bone in calcium homeostasis".
📍 Centre de Recherche des Cordeliers, Paris



Extensions for
shinydashboard.

code available

CRAN 0.7.0

- 23/03/16

|

24/03/16

● **Annual Franco-Swiss Meeting on Electrolytes Metabolism and Renal Physiology**

Oral presentation: "A model of Ca/Pi homeostasis in the Rat".

📍 Inselspital, Bern
- 25/02/16

|

27/02/16

● **NCCR Kidney.CH Retreat 2016**

Poster first author: "Role of the bone rapidly exchangeable calcium pool in calcium homeostasis".

📍 Murten, Switzerland
- 29/09/15

|

02/10/15

● **Société Francophone de Dialyse/Société de Néphrologie**

Poster first author: "Consequences of primary hyperparathyroidism on renal calcium excretion".

📍 Lyon, France
- 19/03/15

|

20/03/15

● **Annual Franco-Swiss Meeting on Electrolytes Metabolism and Renal Physiology**

Oral presentation: "A Model of Calcium Homeostasis in the Rat".

📍 Centre de Recherche des Cordeliers, Paris
- 19/03/14

|

20/03/14

● **Annual Franco-Swiss Meeting on Electrolytes Metabolism and Renal Physiology**

Oral presentation: "A Simplified Model of Plasma Calcium Regulation by PTH".

📍 CHUV, Lausanne
- 3/06/13

|

6/06/13

● **Conference " In honour of Michael Mackey's 70th birthday**

Oral presentation: "Oscillatory dynamic during zebrafish somitogenesis".

📍 Lyon, France



AWARDS

- 2019

● **2019 RStudio Shiny Contest**

 - Runner-Up prize: A Virtual Lab for Teaching Physiology.

Link: <https://community.rstudio.com/t/shiny-contest-submission-a-virtual-lab-for-teaching-physiology/25348>
- 2019

● **NCCR Kidney.CH Retreat 2018**

 - Best Poster Award, 2nd price: A web-based application of Calcium and Phosphate Homeostasis.

N/A

This resume was made with the R package [pagedown](#).

Last updated on 2020-06-03.