# 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 Ecosiences, MIV

Main subjects: Mathematics, Theoretical Ecology and Programming.

O 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



## CONTACT INFO

dgranjon@ymail.com

DivadNojnarg

**Blog** 

RinteRface

divadnojnarg

#### 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
- 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

## **SKILLS**

**Data Analysis:** R

Web development: {Shiny}, Java-Script, 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)

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 (CAM-BAM), Mc Gill University, Montreal, Canada.

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 Ecotoxycologie 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

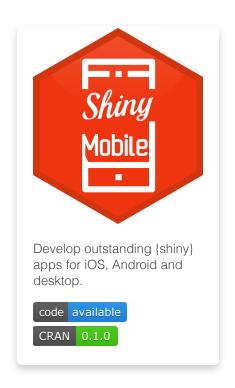
#### **Outstanding User Interfaces with Shiny**

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

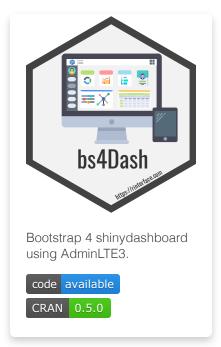
## R packages



# **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
29/01/2020	Oral presentation: "shinyMobile: Build Native Looking Shiny Apps: https://rinterface.com/shiny/talks/zurichR2020/index.html#slide=1.
05/12/2019	BaselR
	Oral presentation: "Development of a web application to represent models of calcium and phosphate homeostasis using R.
	<b>♀</b> Basel
08/2019	Shiny Developers Series
	Podcast interview: "Production-ready UIs for Shiny: https://shinydevseries.com/post/episode-4-rinterface/.
	<b>♥</b> Online
09/07/19	useR 2019
 12/07/19	Poster presentation: "A Shiny Powered Virtual Patient: https://githubcom/DivadNojnarg/userR2019.
, 0., .0	▼ 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.
01/01/10	NCCR Kidney.CH Retreat 2019
31/01/19	Oral presentation: "Web applications for physiology: bridge the gap
01/02/19	between research and teaching".  • Murten, Switzerland
00/00/10	NCCR Kidney.CH Summer School 2018
09/09/18	Poster first author: "Web-based e-learning tools of Calcium and
12/09/18	Phosphate Homeostasis".
00/07/40	♥ Zurich, Switzerland
08/07/18	World Congress of Biomechanics 2018  Poster first author: "Addressing biomedical diversity via eLearning,
12/07/18	an example from a physiology curriculum".
	♥ Dublin, Ireland
01/02/18 	NCCR Kidney.CH Retreat 2018  Poster first author: "A web-based application of Calcium and Phos-
02/02/18	phate Homeostasis".
	• Murten, Switzerland
17/10/17	<b>Bachelor–Themenworkshops 5. Semester HS 2017</b> Oral presentation: Computational Physiology.
	▼ Zurich University of the Arts, Switzerland
29/06/16	Meeting of the Federation of Physiological Societies and the
 1/07/16	French Physiological Society  Poster presentation: "Role of the rapidly exchangeable calcium pool
1,01,10	in bone in calcium homeostasis".

• Centre de Recherche des Cordeliers, Paris





23/03/16	Annual Franco-Swiss Meeting on Electrolytes Metabolism
24/03/16	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".
29/09/15   02/10/15	Société Francophone de Dialyse/Société de Néphrologie Poster first author: "Consequences of primary hyperparathyroidism on renal calcium excretion".
	<b>♥</b> Lyon, France
19/03/15	Annual Franco-Swiss Meeting on Electrolytes Metabolism
20/03/15	<ul> <li>and Renal Physiology</li> <li>Oral presentation: "A Model of Calcium Homeostasis in the Rat".</li> <li>♥ Centre de Recherche des Cordeliers, Paris</li> </ul>
19/03/14	Annual Franco-Swiss Meeting on Electrolytes Metabolism
20/03/14	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".
5,00,10	Somitogenesis:  ◆ Lyon, France



2019

2019

2019 RStudio Shiny Contest

• Runner-Up price: A Virtual Lab for Teaching Physiology. Link: https://community.rstudio.com/t/shiny-contest-submission-a-virtual-lab-for-teaching-physiology/25348

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.