# 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.

O 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.

♥ 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}, 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)

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.



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

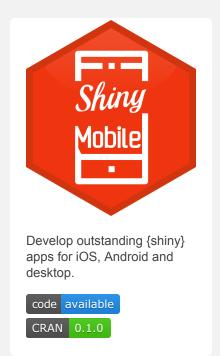
Dr. Laurent Pujo-Menjouet. +33

472 431 008

Dr. Diane de Zélicourt. +41 (0) 44 635 50 56

Pr. Vartan Kurtcuoglu. +41 (0) 44 635 50 55

#### R packages

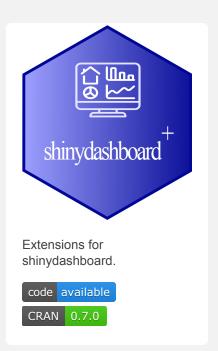




# **CONFERENCES AND TALKS**

satRdayNeuch 2020 14/03/2020 Oral presentation: An introduction to shinyMobile: https://github.com/DivadNojnarg/satRdayNeuch2020. Remote (Covid 2019) **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. Zurich 05/12/2019 **BaseIR** Oral presentation: "Development of a web application to represent models of calcium and phosphate homeostasis using R. Basel **Shiny Developers Series** 08/2019 Podcast interview: "Production-ready UIs for Shiny: https://shinydevseries.com/post/episode-4-rinterface/. Online useR 2019 09/07/19 Poster presentation: "A Shiny Powered Virtual Patient: https://github.-12/07/19 com/DivadNojnarg/userR2019. **♀** Toulouse **Zurich R User Group** 27/05/19 Oral presentation: "RinteRface, Production-ready UIs for Shiny: https://rinterface.com/shiny/talks/zurichR2019/index.html#slide=1. Zurich 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 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". ♥ Zurich, Switzerland **World Congress of Biomechanics 2018** 08/07/18 Poster first author: "Addressing biomedical diversity via eLearning, 12/07/18 an example from a physiology curriculum". Oublin, Ireland NCCR Kidney.CH Retreat 2018 01/02/18 Poster first author: "A web-based application of Calcium and Phos-02/02/18 phate Homeostasis". Murten, Switzerland Bachelor-Themenworkshops 5. Semester HS 2017 17/10/17 Oral presentation: Computational Physiology. Zurich University of the Arts, Switzerland Meeting of the Federation of Physiological Societies and the 29/06/16 French Physiological Society 1/07/16 Poster presentation: "Role of the rapidly exchangeable calcium pool in bone in calcium homeostasis".

• Centre de Recherche des Cordeliers, Paris



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".
		<b>♥</b> 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	•	Annual Franco-Swiss Meeting on Electrolytes Metabolism
20/03/14		and Renal Physiology Oral presentation: "A Simplified Model of Plasma Calcium Regulation by PTH".
		<b>♦</b> CHUV, Lausanne
3/06/13   6/06/13		Conference "In honour of Michael Mackey's 70th birthday Oral presentation: "Oscillatory dynamic during zebrafish somitogenesis".
0/00/13		Somitogenesis:  ◆ Lyon, France

T AWARDS

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

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.