

# Rubén González Miguélez

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Evolutionary Systems Virology Group (Lab 2.01) Institute of Integrative Systems Biology  
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*Curriculum vitae* Updated: February 2021

## EDUCATION

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**Ph.D. Biotechnology** 04/2017 – ongoing.

Polytechnic University of Valencia (Valencia, Spain)

Mentor: Prof. Santiago F. Elena

> Short-term visit 01/2021 – 04/2021. Institut de Biologie de l'École Normale Supérieure (Paris, France). Mentor: Prof. Marie-Anne Félix

> Program certificate in Data Analysis for Life Science 2020 HarvardX (online)

**M.S. Plant Molecular and Cellular Biotechnology** 09/2015 – 01/2017.

Polytechnic University of Valencia (Valencia, Spain)

Mentor: Prof. Santiago F. Elena

**B.S. Biology** 09/2011 – 07/2015.

University of Vigo (Vigo, Spain)

> Erasmus + 09/2014 – 01/2015. University of Coimbra (Coimbra, Portugal)

## EXPERIENCE

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<b>Predoctoral researcher</b>	04/2017 - present
Institute for Integrative Systems Biology (Paterna, Spain)	09/2018 - present
Institute for Plant Molecular and Cell Biology (Valencia, Spain)	04/2017 - 09/2018
Supervisor: Prof. Santiago F. Elena.	
<b>Research Internship</b>	05/2016 - 12/2016
Biopolis S.L. (Valencia, Spain)	
Supervisor: Prof. Daniel Ramón.	
<b>Department research assistant</b>	01/2015 - 07/2015

University of Vigo (Vigo, Spain)

Supervisor: Dr. Josefina Garrido.

**Volunteer Research Assistant**

06/2013 - 07/2013

University of Vigo (Vigo, Spain)

Supervisor: Prof. Emilio Rolán.

## FUNDING AND AWARDS

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### 2020

- Best Student paper published in GBE 2019 Awards. Honourable mention (500€).
- AAAS/Science Program for Excellence in Science. Full membership in AAAS for one year.
- EMBO Short-Term Fellowship (4450€).
- FISABIO-Valencia University Chair for financing research stays in Europe (4.000€).

### 2017

- Research Personnel Training (FPI) grant (BES-2016-077078). MINECO-FEDER (92.750€).

### 2015

- Department collaboration grant (BOE-A-2015-700). MINECO-FEDER (2.000€).

### 2014

- Xunta de Galicia's ERASMUS+ Complement (1.100€).
- European Commission's ERASMUS+ Fellowship (1.700€).

## PUBLICATIONS

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- **Plant virus evolution under strong drought conditions results in a transition from parasitism to mutualism.** Proceedings of the National Academy of Sciences of the United States of America. 118, e2020990118. <https://doi.org/10.1073/pnas.2020990118>  
González R, Butković A, Escaray F, Martínez-Latorre J, Melero I, Pérez-Parets E, Gómez-Cadenas A, Carrasco P, Elena SF#. (2021)
- **Revisiting *Orthotospovirus* phylogeny using full-genome data and testing the contribution of selection, recombination and segments reassortment in the origin of new species.** Archives of Virology. 166, 491–499. <https://doi.org/10.1007/s00705-020-04902-1>  
Butkovic A, González R, Elena S.F#. (2021)

- **Natural variation in *Arabidopsis thaliana* rosette area unveils new genes involved in plant development.** Scientific Reports, 10,17600. <https://doi.org/10.1038/s41598-020-74723-4>  
González R#, Butković A, Rivarez MPS, Elena SF. (2020)
- **Adaptation of turnip mosaic potyvirus to a specific niche reduces its genetic and environmental robustness** Virus Evolution, 6: veaa041 <https://doi.org/10.1093/ve/veaa041>  
Butkovic A, González R, Cobo I, Elena SF#. (2020)
- **Role of host genetic diversity for susceptibility-to-infection in the evolution of virulence of a plant virus.** Virus Evolution, 5: vez024. <https://doi.org/10.1093/ve/vez024>  
González R, Butković A, Elena SF#. (2019)
- ***Arabidopsis thaliana* genes contributing to differences in the outcome of infection with generalist and specialist strains of Turnip mosaic virus identified by genome-wide association studies.** bioRxiv. <https://doi.org/10.1101/2020.11.25.397661>  
Butković A, González R, Rivarez MPS, Elena SF#. (2020)
- **Mutagenesis scanning uncovers evolutionary constraints on tobacco etch potyvirus membrane-associated 6K2 protein.** Genome Biology and Evolution, 11: 1207–1222. <https://doi.org/10.1093/gbe/evz069>  
González R\*, Wu B\*, Li X\*, Martínez F#, Elena SF#. (2019)
- **The scale-of-choice effect and how estimates of assortative mating in the wild can be biased due to heterogeneous samples** Evolution, 69: 1845–1857. <https://doi.org/10.1111/evo.12691>  
Rolán-Alvarez# E, Carvajal-Rodríguez A, de Coa A, Cortés B, Estévez D, Ferreira M, González R, Briscoe AD. (2015)
- **From foes to friends: viral infections expand the limits of host phenotypic plasticity.** Advances in Virus Research, 106: 85-121. <https://doi.org/10.1016/bs.aivir.2020.01.003>  
González R\*#, Butković A\*, Elena SF#. (2020)

\* co-authorship # corresponding

## CONTRIBUTED PRESENTATIONS

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### ORAL

#### **Worm-Virus meeting (Virtual)**

Setting up *C. elegans* as a host model system for experimental virus evolution, experimental epidemiology and systems virology (2020) Elena SF , González, R.

#### **Wellcome Genome Campus 3rd meeting on Evolutionary Systems Biology (Hixton, UK)**

Mapping *Arabidopsis thaliana* genes involved in plant response to a turnip mosaic potyvirus (TuMV) infection. (2020) Butković A, González R. Elena SF.

#### **Experimental Evolution Workshop (Biar, Spain)**

Evolving towards mutualism: an experimental study on the virus-host interactions changes induced by the environment. (2019) González R. Butković A, Martínez-Latorre J, Melero I, Pérez-Parets E, de la Iglesia F, Elena SF.

#### **Conférences Jacques-Monod (Roscoff, France)**

Environmental stress shapes the evolution of a potyvirus towards a mutualistic relationship with its host. (2019) González R. Butković A, Martínez-Latorre J, Melero I, de la Iglesia F, Elena SF.

#### **XXIes Journées Francophones de Virologie (Lyon, France)**

Evolution of virulence of an emerging RNA virus in homogeneous vs heterogenous plant populations. (2019) González R. de la Iglesia F, Butković A, Elena SF.

#### **International Plant Virus Epidemiology Symposium (Seul, South Korea)**

Variability in resistance genes conditions the evolution of emerging plant RNA viruses. (2019) Elena SF , Martínez F, Butković A, Carrasco JL, de la Iglesia F, González R. Navarro R.

#### **XIII Reunión de Biología Vegetal (Puerto Varas, Chile)**

Host variability in resistance genes conditions the evolution of emerging plant RNA virus. (2018) Elena SF , Martínez F, Butković A, Carrasco JL, de la Iglesia F, González R. Navarro R.

#### **24<sup>th</sup> European Meeting of PhD Students in Evolutionary Biology (Bubiión, España)**

Evolution of RNA viruses in hosts with variable susceptibility. (2018) González R. Elena SF.

#### **VI Spanish Worm Meeting (Valencia, Spain)**

Evaluation of *Caenorhabditis elegans* as experimental host for a thrip-transmitted plant RNA virus. (2017) González R. Martorell P, Ramón D, Elena SF , Ambrós S.

## POSTER PRESENTATION

### **Wellcome Genome Campus 3rd meeting on Evolutionary Systems Biology** (Hixton, UK)

Virus evolution in the pathosystem turnip mosaic potyvirus – *Arabidopsis thaliana* under drought conditions selects for viruses who enhance the host tolerance to water deficiency. (2020) González R, Butković A, Martínez-Latorre J, Melero I, Pérez-Parets E, de la Iglesia F, Elena SF.

### **Wellcome Genome Campus 3rd meeting on Evolutionary Systems Biology** (Hixton, UK)

Genome-wide association studies (GWAS) to identify genes involved in differential response of *Arabidopsis thaliana* to infection with generalist and specialist strains of a potyvirus. (2020) Butković A, González R, Rivarez P, de la Iglesia F, Elena SF.

### **10<sup>th</sup> Workshop in Virus Evolution** (State College Pennsylvania, USA)

Evolving in drought conditions: consequences in the interaction between a potyvirus and *Arabidopsis thaliana*. (2019) González R, Butković A, Martínez J, Melero I, Elena SF.

### **Iberian Congress of Entomology** (Lisbon, Portugal)

Variación de las comunidades de insectos en el río Fragoso (Ourense, NO España) en relación con el impacto de las minicentrales: 2001-2015 (2016) Álvarez-Troncoso R, Fernández F, González R, Míguez C, Garrido J.

## ATTENDEE

### **Wellcome Genome Campus Single Cell Biology** (Virtual conference) 2020

## MEMBERSHIPS

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<b>SEV</b>	Spanish Society for Virology	since May 2018
<b>SMBE</b>	Society for Molecular Biology and Evolution	since July 2019
<b>ESEB</b>	European Society for Evolutionary Biology	since November 2019
<b>AAAS</b>	American Association for the Advancement of Science	since January 2020