

# 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: November 2020

### EDUCATION

- Ph.D.** Biotechnology, 2017 – ongoing.  
Polytechnic University of Valencia (Spain)  
Research Advisor: Santiago F. Elena
- M.S.** Plant Molecular and Cellular Biotechnology, 2015 – 2017.  
Polytechnic University of Valencia (Spain)
- B.S.** Biology, 2011 – 2015.  
University of Vigo (Spain)  
> Erasmus +, 2014. University of Coimbra (Portugal).

### EXPERIENCE

#### **Predoctoral researcher**

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> Biopolis S.L. (Valencia, Spain) -Supervisor: Prof. Daniel Ramón.	05/2016 - 12/2016
<b>Department research assistant</b> University of Vigo (Vigo, Spain) -Supervisor: Dr. Josefina Garrido.	01/2015 - 07/2015
<b>Volunteer Research Assistant</b> University of Vigo (Vigo, Spain) - Supervisor: Prof. Emilio Rolán.	06/2013 - 07/2013

## FUNDING AND AWARDS

2020	Best Student paper published in Genome Biology and Evolution 2019 Awards. Honourable mention (500€)
2020-21	AAAS/Science Program for Excellence in Science. Full membership in AAAS for one year
2020	EMBO Short-Term Fellowship (4450€)
2020	Fisabio-Valencia University Chair for financing research stays in Europe (4.000€)
2017-21	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€)
2014	European Commission's ERASMUS+ Fellowship (1.700€)

## PUBLICATIONS

### Preprints

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1. **González, R.**; Butković, A.; Escaray, F.; Martínez-Latorre, J.; Melero, I.; Pérez-Parets, E.; Gómez-Cadenas, A.; Carrasco, P.; Elena, S.F. #. (2020)  
Plant virus evolution under strong drought conditions results in a transition from parasitism to mutualism  
<https://doi.org/10.21203/rs.3.rs-78584/v1>
2. Butkovic, A.; **González, R.**; Elena, S.F.#. (2020)  
Revisiting *Orthospovirus* Phylogeny Using Whole Genomic Data and a Hypothesis for their Geographic Origin and Diversification  
<https://doi.org/10.1101/2020.04.07.031120>

### Refereed Journals

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1. **González, R.#**; Butković, A.; Selda Rivarez, M.P.; Elena, S.F. (2020)  
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>
2. Butkovic, A.; **González, R.**; Cobo, I.; Elena, S.F.# (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>
3. **González, R.**; Butković, A.; Elena, S.F. # (2019)  
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>

4. **González, R.\***; Wu, B.\*; Li, X.\*; Martínez, F.#; Elena, S.F.# (2019)  
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>
5. Rolán-Alvarez#, E.; Carvajal-Rodríguez, A.; de Coo, A.; Cortés, B.; Estévez, D.; Ferreira, M.; **González, R.**; Briscoe, A.D. (2015)  
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>

#### Book Chapters

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1. **González, R.\*#**; Butković, A.\*; Elena, S.F.# (2020)  
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>

\* co-authorship # corresponding

## Contributed Presentations

### Oral

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> 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.

Butković, A.; **González, R.**; Elena, S.F. (2020)

> Experimental Evolution Workshop (Biar, Spain)  
Evolving towards mutualism: an experimental study on the virus-host interactions changes induced by the environment

**González, R.**; Butković, A.; Martínez-Latorre, J.; Melero, I.; Pérez-Parets, E.; de la Iglesia, F.; Elena, S.F. (2019)

> Conférences Jacques-Monod (Roscoff, France)  
Environmental stress shapes the evolution of a potyvirus towards a mutualistic relationship with its host

**González, R.**; Butković, A.; Martínez-Latorre, J.; Melero, I.; de la Iglesia, F.; Elena, S.F. (2019)

> XXles Journées Francophones de Virologie (Lyon, France)  
Evolution of virulence of an emerging RNA virus in homogeneous vs heterogeneous plant populations

**González, R.**; de la Iglesia, F.; Butković, A.; Elena, S.F. (2019)

> International Plant Virus Epidemiology Symposium (Seoul, South Korea)  
Variability in resistance genes conditions the evolution of emerging plant RNA viruses  
Elena, S.F.; Martínez, F.; Ambrós, S.; Butković, A.; Carrasco, J.L.; de la Iglesia, F.; **González, R.**; Navarro, R. (2019)

> XIII Reunión de Biología Vegetal (Puerto Varas, Chile)  
Host variability in resistance genes conditions the evolution of emerging plant RNA virus  
Elena, S.F.; Martínez, F.; Ambrós, S.; Butković, A.; Carrasco, J.L.; de la Iglesia, F.; **González, R.**; Navarro, R. (2018)

>24<sup>th</sup> European Meeting of PhD Students in Evolutionary Biology (Bubi3n, Espa3a)

Evolution of RNA viruses in hosts with variable susceptibility

**Gonz3lez, R.**; Elena, S.F. (2018)

> VI Spanish Worm Meeting (Valencia, Spain)

Evaluation of *Caenorhabditis elegans* as experimental host for a thrip-transmitted plant RNA virus

**Gonz3lez, R.**; Martorell, P.; Ram3n, D.; Elena, S.F.; Ambr3s, S. (2017)

Poster presentation

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> 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

**Gonz3lez, R.**; Butkovi3, A.; Mart3nez-Latorre, J.; Melero, I.; P3rez-Parets, E.; de la Iglesia, F.; Elena, S.F. (2020)

> 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.

Butkovi3, A.; **Gonz3lez, R.**, Rivarez P.; de la Iglesia F.; Elena, S.F. (2020)

>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*

**Gonz3lez, R.**; Butkovi3, A.; Mart3nez, J.; Melero; I.; Elena, S.F. (2019)

> Iberian Congress of Entomology (Lisbon, Portugal)

Variaci3n de las comunidades de insectos en el r3o Fragoso (Ourense, NO Espa3a) en relaci3n con el impacto de las minicentrales: 2001-2015

3lvarez-Troncoso, R.; Fern3ndez, F.; **Gonz3lez, R.**; Miguez, C.; Garrido, J. (2016)

2020 Wellcome Genome Campus Single Cell Biology (Virtual conference)

<b>Memberships</b>
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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