

Institute of Integrative Systems Biology St/ Catedràtic Agustín Escardino Benlloch, 9. Paterna, Spain. 46980

## EDUCATION

<b>Ph.D. Biotechnology</b>	04/2017 – ongoing.
Polytechnic University of Valencia (Valencia, Spain)	
Mentor: Prof. Santiago F. Elena	
> <b>Short-term visit</b>	01/2021 – 04/2021
Institut de Biologie de l'École Normale Supérieure (Paris, France).	
Mentor: Prof. Marie-Anne Félix	
<b>M.S. Plant Molecular and Cellular Biotechnology</b>	09/2015 – 01/2017
Polytechnic University of Valencia (Valencia, Spain)	
Mentor: Prof. Santiago F. Elena	
<b>B.S. Biology</b>	09/2011 – 07/2015
University of Vigo (Vigo, Spain)	
> <b>Erasmus +</b> 09/2014 – 01/2015. University of Coimbra (Coimbra, Portugal)	
<u>Additional education</u>	
> YIP PhD course. EMBO (online)	2021
> Program certificate in Data Analysis for Life Science. HarvardX (online)	2020

## EXPERIENCE

<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
<b>Research Internship</b>	05/2016 - 12/2016
ADM Biopolis (Valencia, Spain)	
<b>Department research assistant</b>	01/2015 - 07/2015
University of Vigo (Vigo, Spain)	
<b>Volunteer Research Assistant</b>	06/2013 - 07/2013
University of Vigo (Vigo, Spain)	
<u>Additional experience</u>	
> <b>Scientific Committee</b> 2nd PhD Meeting in Plant Science	2021

## FUNDING AND AWARDS

2021

- **EMBO Postdoctoral Fellowship.** “Microbiome impact on *Caenorhabditis elegans* viral infection and evolution of Orsay virus” (140.000€).
- **Project** “Dynamics of viral infection in simulated microgravity conditions”. Co-lead authors: Santiago F. Elena and Rubén González. Co-funded by European Space Agency and Spanish Research Council (180.682€).

2020

- **EMBO Short-Term Fellowship.** “Implementation of *Caenorhabditis elegans* as a model host system in virology research” (4450€).
- FISABIO-Valencia University Chair for financing research stays in Europe (4.000€).
- 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.

2017

- **Grant** for Research Personnel Training (FPI) (BES-2016-077078). MINECO-FEDER (92.750€).

2015

- **Grant** for Department collaboration (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

- **A genome-wide association study identifies *Arabidopsis thaliana* genes that contribute to differences in the outcome of infection with two Turnip mosaic potyvirus strains that differ in their evolutionary history and degree of host specialization**  
Virus Evolution, veab063.  
Butković A, González R, Rivarez MPS, Elena SF#. (2020)
- **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)
- **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

### **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 heterogeneous 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 MPS, 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, Miguez C, Garrido J.

## **ATTENDEE**

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

## **MEMBERSHIPS**

<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