

Spain 02/06/1993

Rubén GONZÁLEZ

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Education

- 04/2017 – 11/2021 **Ph.D. Biotechnology** w/ Santiago F. Elena
Polytechnic University of Valencia (Valencia, Spain). Honours: *cum laude*
- 01/2021 – 04/2021 **Visiting PhD student** w/ Marie-Anne Félix
IBENS, Institut de Biologie de l'École normale supérieure (Paris, France).
- 09/2015 – 01/2017 **M.S. Plant Molecular and Cellular Biotechnology** w/ Santiago F. Elena
Polytechnic University of Valencia (Valencia, Spain)
- 09/2011 – 07/2015 **B.S. Biology** University of Vigo (Vigo, Spain)
- 09/2014 – 01/2015 **Exchange student** University of Coimbra (Coimbra, Portugal)

Research experience

- 01/2024 – ongoing **Postdoctoral researcher** Institut Pasteur (Paris, France) w/ Carla Saleh
- 11/2021 – 11/2023 **Postdoctoral researcher** IBENS (Paris, France) w/ Marie-Anne Félix
- 04/2017 – 09/2021 **Predoctoral researcher** w/ Santiago F. Elena
- 09/2018 – 09/2021 Institute for Integrative Systems Biology (Paterna, Spain)
- 04/2017 – 09/2018 Institute for Plant Molecular and Cell Biology (Valencia, Spain)
- 05/2016 – 12/2016 **Research Internship** ADM Biopolis (Valencia, Spain)
- 01/2015 – 07/2015 **Department research assistant** University of Vigo (Vigo, Spain)
- 06/2013 – 07/2013 **Volunteer Research Assistant** University of Vigo (Vigo, Spain)

Funding and awards

Year	Award	Details	Quantity
2023	Seal of Excellence	Marie Skłodowska-Curie Actions Postdoctoral Fellowships	–
2021	Research grant	European Molecular Biology Organization Postdoctoral Fellowships (ALTF 311-2021)	140 000 €
2021	Research grant	European Space Agency Co-lead author: Santiago F Elena	180 682 €
2020	Exchange grant	European Molecular Biology Organization Short-Term Fellowship	4 450 €
2020	Exchange grant	FISABIO-Valencia University Chair for financing research stays	4 000 €
2020	Honourable mention	GBE Best Student paper published in 2019 Awards	500 €
2020	Membership	AAAS/Science Program for Excellence in Science	–
2020	Travel Grant	Wellcome Genome Campus Conference bursary	170 €
2017	Research grant	MINECO-FEDER FPI for Research Training (BES-2016-077078)	92 750 €
2015	Research grant	MINECO-FEDER Department collaboration (BOE-A-2015-700)	2 000 €
2014	Exchange grant	Xunta de Galicia ERASMUS+ exchange grant complement	1 100 €
2014	Exchange grant	European Commission ERASMUS+ Fellowship	1 700 €

Service

- **Editorial Board Member** *npj Viruses*
- **External examiner** for the PhD thesis of Joan Márquez Molins: “Novel insights of viroid biology and host responses to their infection”
- **Floor representative** Postdoc and student association of IBENS (2022/23).
- **Grant evaluation committee** ANR - AAPG 2024 (panel “CE15 – Immunologie, Infectiologie et Inflammation”), UK Research and Innovation Funding Service (panel OPP490: BBSRC Responsive Mode: 24RM2)
- **Organization team** Institut Pasteur departmental Virology days (2024), Paris Postdocs Seminar (2024 - present), IBENS Ecology and Evolution Biology department Seminars (2022/23).
- **Reviewer** for *Peer Community in Evolutionary Biology*, *Journal of General Virology*, *Journal of Virology*, *Plants*, and *PLoS Pathogens*.
- **Scientific Committee** of the 2nd PhD Meeting in Plant Science (Online).
- **Session chair** Institut Pasteur Journées Départementales de Virologie (2024)
- **Thesis reviewer** Joan Márquez Molins (2022)

Supervision

PhD students

2020-ongoing Izan Melero (University of Valencia, Spain) *MCIU Fellow @ I2SysBio (Spain)*

PhD student internship

08-09/2024 Hiroko Kobayashi (Hokkaido University, Japan) *@ Institut Pasteur (France)*

Research internships

06-12/2018 Javier Martínez-Latorre *JAE-Intro Fellow @ I2SysBio (Spain)*

02-04/2019 Izan Melero *ADEIT/Universitat de València Practicum @ I2SysBio (Spain)*

05-07/2019 Enric Pérez *ADEIT/Universitat de València Practicum @ I2SysBio (Spain)*

Invited talks

04/2023 **Monobacterial environments regulate *Caenorhabditis elegans* resistance to viral infection.**

Verena Institute seminar series ONLINE (Washington, USA).

01/2023 **Impact of host developmental stage on virus evolution.** Key note talk at French National Plant Virus Symposium (Aussois, France).

03/2021 **A plant virus evolves under drought conditions to promote host survival.** Department seminar at CMESS (Vienna, Austria).

07/2020 **Virus evolution under drought conditions.** Ecology and Evolution of Infectious Disease Seminar, UC Berkeley (Berkeley, USA).

1. Melero I, Gómez-Cadenas A, **González R†**, Elena SF† (2023). Within-host virus spreading and tolerance to infection are key factors of the *Arabidopsis thaliana* age-dependent susceptibility to viral infections. Journal of General Virology. In press.
2. **González R†**, Félix M.-A.† (2024) Natural monobacterial environments modulate viral infection in *Caenorhabditis elegans*. PLoS Pathogens. 20, e1011947,
3. **González R†**, Félix M.-A. (2024) *Caenorhabditis elegans* immune responses to intracellular pathogens. Developmental & Comparative Immunology 154, 105148.
4. **González R†**, Félix M.-A†. (2024) *Caenorhabditis elegans* defective-pharynx and constipated mutants are resistant to Orsay virus infection. microPublication Biology, 2024: 10.17912/micropub.biology.001166.
5. Castiglioni VG, Olmo-Uceda MJ, Martín S, Félix M.-A, **González R†**, Elena SF† (2024) Experimental evolution of an RNA virus in *Caenorhabditis elegans*. Infection, Genetics and Evolution. 123, 105623
6. Melero I, Elena SF, **González R†** (2023) Viral strain-dependent impact of plant developmental stages on the nestedness and modularity of plant-virus interaction matrices. microPublication Biology. 10.17912/micropub.biology.000943.
7. Butkovic A*, Ellis TJ*, **González R***, Jaegle B, Nordborg M†, Elena SF† (2023) Genetic basis of *Arabidopsis thaliana* responses to infection by naïve and adapted isolates of turnip mosaic virus. eLife, 12:RP89749
8. Melero I, **González R†**, Elena SF† (2023) Host developmental stages shape the evolution of a plant RNA virus. Philosophical Transactions of the Royal Society B. 378:20220005.
9. Butkovic A*†, **González R*†** (2022) A brief view on factors that affect plant virus evolution. Frontiers in Virology. 2:994057.
10. Navarro R, Ambrós S, Butković A, Carrasco JL, **González R**, Martínez F, Wu B, Elena SF†. (2022) Defects in plant immunity modulate the rates and patterns of RNA virus evolution. Virus Evolution, veac059.
11. **González R†**, Elena SF. (2021) The interplay between the host microbiome and pathogenic viral infections. mBio. 12: e02496-21.
12. **González R**, Butković A, Escaray F, Martínez-Latorre J, Melero I, Pérez-Parets E, Gómez-Cadenas A, Carrasco P, Elena SF†. (2021) Plant virus evolution under strong drought conditions results in a transition from parasitism to mutualism. PNAS. 118, e2020990118.
>> [Commentary](#): Dolja, V.V. † (2021) Rapid emergence of virus–host mutualism under stress. PNAS. 118, e2100936118.
13. Butković A, **González R**, 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.
14. **González R*†**, Butković A*, Elena SF†. (2020) From foes to friends: viral infections expand the limits of host phenotypic plasticity. Advances in Virus Research, 106: 85-121.
15. Butković A, **González R**, Rivarez MPS, Elena SF†. (2020) 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.

16. **González R[†]**, Butković A, Rivarez MPS, Elena SF. (2020) Natural variation in *Arabidopsis thaliana* rosette area unveils new genes involved in plant development. *Scientific Reports*, 10,17600.
17. Butkovic A, **González R**, Cobo I, Elena SF[†]. (2020) Adaptation of turnip mosaic potyvirus to a specific niche reduces its genetic and environmental robustness *Virus Evolution*, 6: veaa041
18. **González R**, Butković A, Elena SF[†]. (2019) Role of host genetic diversity for susceptibility-to-infection in the evolution of virulence of a plant virus. *Virus Evolution*, 5: vez024.
19. **González R***, Wu B*, Li X*, Martínez F[†], Elena SF[†]. (2019) Mutagenesis scanning uncovers evolutionary constraints on tobacco etch potyvirus membrane-associated 6K2 protein. *Genome Biology and Evolution*, 11: 1207–1222.
20. Rolán-Alvarez[†] E, Carvajal-Rodríguez A, de Coo A, Cortés B, Estévez D, Ferreira M, **González R**, Briscoe AD. (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.

Contributed presentations* Showing only the work where I served as the presenter.

- Institut Pasteur *Journées Départementales de Virologie* (Le Touquet, France) Bacteriome modulation of viral infections in *Drosophila melanogaster*. (2024) **González R**, Nigg J, Romoli O, Blanc H, Saleh M-C. Talk
- 24th International C. elegans (Glasgow, UK) *Caenorhabditis elegans* susceptibility to virus infection is modulated by its naturally associated bacteria. (2023) **González R**, Félix M-A. Talk
- EMBL - The organism and its environment (Heidelberg, Germany) *Caenorhabditis elegans* susceptibility to virus infection is modulated by its naturally associated bacteria. (2023) **González R**, Félix M-A. Talk
- VerMidi XXIV (Paris, France) *Caenorhabditis elegans* susceptibility to virus infection is modulated by its naturally associated bacteria. (2023) **González R**, Félix M-A. Talk
- VIP&DIF (Paris, France) (2023) Natural monobacterial environments modulate viral infection in *Caenorhabditis elegans*. **González R**, Félix M-A. Talk. Poster
- Evolutionary Biology of *Caenorhabditis* and Other Nematodes (Hamilton, Canada) Sensitivity of *C. elegans* to Orsay virus is suppressed by some bacteria and by a *haao-1* reduction-of-function polymorphism. (2022) **González R**, Richaud A, Bélicard T, Martynow D, Alkan C, Félix M-A. Talk.
- Wellcome Genome Campus Evolutionary Systems Biology (Virtual conference) 2022. Assistance.
- Wellcome Genome Campus Virus Genomics and Evolution virtual conference (Hixton, UK) Plant aging increases susceptibility to Turnip mosaic potyvirus infection and influences virus evolution. (2021) **González R**, Melero I, de la Iglesia F, Elena SF. Poster.
- Wellcome Genome Campus Single Cell Biology (Virtual conference) 2020. Assistance.
- 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. Poster.

- 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. Talk.
- 10th 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. Poster.
- 24th European Meeting of PhD Students in Evolutionary Biology (Bubión, España) Evolution of RNA viruses in hosts with variable susceptibility. (2018) **González R**, Elena SF. Talk.
- 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. Talk.

Courses

2024 **EMBO Laboratory Leadership for Postdocs** EMBO Solutions GmbH

2021 **Research Integrity** Epigeum

2021 **YIP PhD course** EMBO Solutions GmbH

2020 **Program certificate in Data Analysis for Life Science** HarvardX

2017 **Ethics in research** Polytechnic University of Valencia (UPV)

2017 **Statistics and mathematical methods for Research** Polytechnic University of Valencia

2017 **Rewriting science: Avoiding mistakes in written and spoken scientific English** UPV