# Guillermo Rodrigo

List of Publications by Year
in descending order



| 65 | 1,531 | 304602 | 345118 |
|---|---|---|---|
| papers | citations | 22 h-index | 36 g-index |

| 68 | 68 | 68 | 1840 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | De novo automated design of small RNA circuits for engineering synthetic riboregulation in living cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 15271-15276. | 3.3 | 150 |
| 2 | DESHARKY: automatic design of metabolic pathways for optimal cell growth. Bioinformatics, 2008, 24, 2554-2556. | 1.8 | 105 |
| 3 | Reverse-engineering the Arabidopsis thaliana transcriptional network under changing environmental conditions. Genome Biology, 2009, 10, R96. | 13.9 | 81 |
| 4 | Genetdes: automatic design of transcriptional networks. Bioinformatics, 2007, 23, 1857-1858. | 1.8 | 65 |
| 5 | A Meta-Analysis Reveals the Commonalities and Differences in Arabidopsis thaliana Response to Different Viral Pathogens. PLoS ONE, 2012, 7, e40526. | 1.1 | 64 |
| 6 | Identification, introgression, and validation of fruit volatile QTLs from a red-fruited wild tomato species. Journal of Experimental Botany, 2017, 68, erw455. | 2.4 | 61 |
| 7 | Interaction network of tobacco etch potyvirus NIa protein with the host proteome during infection. BMC Genomics, 2016, 17, 87. | 1.2 | 57 |
| 8 | Changes in the gene expression profile of Arabidopsis thaliana after infection with Tobacco etch virus. Virology Journal, 2008, 5, 92. | 1.4 | 54 |
| 9 | Empirical model and in vivo characterization of the bacterial response to synthetic gene expression show that ribosome allocation limits growth rate. Biotechnology Journal, 2011, 6, 773-783. | 1.8 | 54 |
| 10 | Towards an integrated molecular model of plantâ€“virus interactions. Current Opinion in Virology, 2012, 2, 719-724. | 2.6 | 54 |
| 11 | AutoBioCAD: Full Biodesign Automation of Genetic Circuits. ACS Synthetic Biology, 2013, 2, 230-236. | 1.9 | 46 |
| 12 | Computational design of synthetic regulatory networks from a genetic library to characterize the designability of dynamical behaviors. Nucleic Acids Research, 2011, 39, e138-e138. | 6.5 | 39 |
| 13 | Abscisic Acid Connects Phytohormone Signaling with RNA Metabolic Pathways and Promotes an Antiviral Response that Is Evaded by a Self-Controlled RNA Virus. Plant Communications, 2020, 1, 100099. | 3.6 | 38 |
| 14 | Asmparts: assembly of biological model parts. Systems and Synthetic Biology, 2007, 1, 167-170. | 1.0 | 35 |
| 15 | A systems biology approach to the evolution of plantâ€“virus interactions. Current Opinion in Plant Biology, 2011, 14, 372-377. | 3.5 | 31 |
| 16 | A new frontier in synthetic biology: automated design of small RNA devices in bacteria. Trends in Genetics, 2013, 29, 529-536. | 2.9 | 31 |
| 17 | Dynamic signal processing by ribozyme-mediated RNA circuits to control gene expression. Nucleic Acids Research, 2015, 43, 5158-5170. | 6.5 | 31 |
| 18 | Intrinsic adaptive value and early fate of gene duplication revealed by a bottom-up approach. ELife, 2018, 7, . | 2.8 | 30 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Full Design Automation of Multi-State RNA Devices to Program Gene Expression Using Energy-Based Optimization. PLoS Computational Biology, 2013, 9, e1003172. | 1.5 | 29 |
| 20 | Onset of virus systemic infection in plants is determined by speed of cell-to-cell movement and number of primary infection foci. Journal of the Royal Society Interface, 2014, 11, 20140555. | 1.5 | 29 |
| 21 | Model-based redesign of global transcription regulation. Nucleic Acids Research, 2009, 37, e38-e38. | 6.5 | 28 |
| 22 | Viral Strain-Specific Differential Alterations in Arabidopsis Developmental Patterns. Molecular Plant-Microbe Interactions, 2015, 28, 1304-1315. | 1.4 | 28 |
| 23 | Structural Discrimination of Robustness in Transcriptional Feedforward Loops for Pattern Formation. PLoS ONE, 2011, 6, e16904. | 1.1 | 26 |
| 24 | RiboMaker: computational design of conformation-based riboregulation. Bioinformatics, 2014, 30, 2508-2510. | 1.8 | 24 |
| 25 | Optimal viral strategies for bypassing RNA silencing. Journal of the Royal Society Interface, 2011, 8, 257-268. | 1.5 | 21 |
| 26 | Viral Fitness Correlates with the Magnitude and Direction of the Perturbation Induced in the Hostâ€™s Transcriptome: The Tobacco Etch Potyvirusâ€”Tobacco Case Study. Molecular Biology and Evolution, 2018, 35, 1599-1615. | 3.5 | 21 |
| 27 | Computational design of digital and memory biological devices. Systems and Synthetic Biology, 2007, 1, 183-195. | 1.0 | 19 |
| 28 | Diagnostics of Infections Produced by the Plant Viruses TMV, TEV, and PVX with CRISPR-Cas12 and CRISPR-Cas13. ACS Synthetic Biology, 2022, 11, 2384-2393. | 1.9 | 19 |
| 29 | Perspectives on the automatic design of regulatory systems for synthetic biology. FEBS Letters, 2012, 586, 2037-2042. | 1.3 | 18 |
| 30 | Towards the automated engineering of a synthetic genome. Molecular BioSystems, 2009, 5, 733. | 2.9 | 16 |
| 31 | Modular model-based design for heterologous bioproduction in bacteria. Current Opinion in Biotechnology, 2009, 20, 272-279. | 3.3 | 14 |
| 32 | Genetic Redundancies Enhance Information Transfer in Noisy Regulatory Circuits. PLoS Computational Biology, 2016, 12, e1005156. | 1.5 | 14 |
| 33 | Virus-host interactome: Putting the accent on how it changes. Journal of Proteomics, 2017, 156, 1-4. | 1.2 | 12 |
| 34 | Model-based design of RNA hybridization networks implemented in living cells. Nucleic Acids Research, 2017, 45, 9797-9808. | 6.5 | 12 |
| 35 | Theoretical and experimental analysis of the forced LacI-AraC oscillator with a minimal gene regulatory model. Chaos, 2013, 23, 025109. | 1.0 | 11 |
| 36 | Network design meets in silico evolutionary biology. Biochimie, 2010, 92, 746-752. | 1.3 | 10 |

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|---|---|---|---|
| 37 | Integral Control of Plant Gravitropism through the Interplay of Hormone Signaling and Gene Regulation. Biophysical Journal, 2011, 101, 757-763. | 0.2 | 10 |
| 38 | Bacterial Population Control with Macroscopic HKUST Crystals. ACS Applied Materials & Interfaces, 2019, 11, 19878-19883. | 4.0 | 10 |
| 39 | CRISPR-Mediated Strand Displacement Logic Circuits with Toehold-Free DNA. ACS Synthetic Biology, 2021, 10, 950-956. | 1.9 | 10 |
| 40 | CRISPR-Cas12a-Based Detection of SARS-CoV-2 Harboring the E484K Mutation. ACS Synthetic Biology, 2021, 10, 3595-3599. | 1.9 | 10 |
| 41 | Computational design and evolution of the oscillatory response under lightâ€“dark cycles. Biochimie, 2008, 90, 888-897. | 1.3 | 9 |
| 42 | Antagonistic autoregulation speeds up a homogeneous response in Escherichia coli. Scientific Reports, 2016, 6, 36196. | 1.6 | 9 |
| 43 | Boolean Computation in Plants Using Post-translational Genetic Control and a Visual Output Signal. ACS Synthetic Biology, 2018, 7, 2322-2330. | 1.9 | 9 |
| 44 | Suprathreshold Stochastic Resonance behind Cancer. Trends in Biochemical Sciences, 2018, 43, 483-485. | 3.7 | 8 |
| 45 | Binary addition in a living cell based on riboregulation. PLoS Genetics, 2018, 14, e1007548. | 1.5 | 8 |
| 46 | Molecular noise can minimize the collective sensitivity of a clonal heterogeneous cell population. Journal of Theoretical Biology, 2017, 416, 38-44. | 0.8 | 7 |
| 47 | Gene regulation by a protein translation factor at the single-cell level. PLoS Computational Biology, 2022, 18, e1010087. | 1.5 | 7 |
| 48 | Describing the structural robustness landscape of bacterial small RNAs. BMC Evolutionary Biology, 2012, 12, 52. | 3.2 | 6 |
| 49 | Exploring the Dynamics and Mutational Landscape of Riboregulation with a Minimal Synthetic Circuit in Living Cells. Biophysical Journal, 2015, 109, 1070-1076. | 0.2 | 6 |
| 50 | Engineering a Circular Riboregulator in Escherichia coli. Biodesign Research, 2020, 2020, . | 0.8 | 6 |
| 51 | Functionalization of an Antisense Small RNA. Journal of Molecular Biology, 2016, 428, 889-892. | 2.0 | 5 |
| 52 | Insights about collective decision-making at the genetic level. Biophysical Reviews, 2020, 12, 19-24. | 1.5 | 4 |
| 53 | Metalâ€“organic frameworks in pursuit of size: the development of macroscopic single crystals. Dalton Transactions, 2022, 51, 7775-7782. | 1.6 | 4 |
| 54 | Evolutionary mechanisms of circadian clocks. Open Life Sciences, 2007, 2, 233-253. | 0.6 | 3 |

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|---|---|---|---|
| 55 | Post-transcriptional bursting in genes regulated by small RNA molecules. Physical Review E, 2018, 97, 032401. | 0.8 | 3 |
| 56 | Nonequilibrium thermodynamics of the RNA-RNA interaction underlying a genetic transposition program. Physical Review E, 2021, 103, 042410. | 0.8 | 3 |
| 57 | Molecular signatures of silencing suppression degeneracy from a complex RNA virus. PLoS Computational Biology, 2021, 17, e1009166. | 1.5 | 3 |
| 58 | Regulatory RNA Design Through Evolutionary Computation and Strand Displacement. Methods in Molecular Biology, 2015, 1244, 63-78. | 0.4 | 3 |
| 59 | MicroRNA Precursors Are Not Structurally Robust but Plastic. Genome Biology and Evolution, 2013, 5, 181-186. | 1.1 | 2 |
| 60 | Evolutionary impact of copy number variation rates. BMC Research Notes, 2017, 10, 393. | 0.6 | 2 |
| 61 | Modulation of Intracellular O<sub>2</sub> Concentration in Escherichia coli Strains Using Oxygen Consuming Devices. ACS Synthetic Biology, 2018, 7, 1742-1752. | 1.9 | 2 |
| 62 | Empirical modeling of material composition and size in MOFs prepared with ligand mixtures. Dalton Transactions, 2019, 48, 2881-2885. | 1.6 | 2 |
| 63 | Computational Design in Synthetic Biology. , 2009, , 49-63. | | 2 |
| 64 | Ab initio scaling laws between noise and mean of gene expression. Physical Review E, 2019, 100, 032415. | 0.8 | 1 |
| 65 | Probing the operability regime of an engineered ribocomputing unit in terms of dynamic range maintenance with extracellular changes and time. Journal of Biological Engineering, 2020, 14, 12. | 2.0 | 0 |