

# DJORDJE BAJIĆ

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## APPOINTMENTS

<b>Yale University</b> , New Haven, CT. Postdoctoral associate, <i>Department of Ecology &amp; Evolutionary Biology</i>	Jul. 2016 - present
<b>Biological Research Center</b> , Hungarian Academy of Science, Szeged, Hungary Research Associate, <i>Synthetic and Systems Biology Unit</i>	Feb. 2015 - Sep. 2015

## EDUCATION

<b>Universidad Autonoma de Madrid</b> , Cantoblanco, Spain. PhD in <i>Biophysics</i>	Sep. 2010 - Feb. 2016
<b>Universidad Autonoma de Madrid</b> , Cantoblanco, Spain. MSc in <i>Biophysics</i>	Sep. 2009 - Sep. 2010
<b>Universidad Autonoma de Madrid</b> , Cantoblanco, Spain. BSc in <i>Biochemistry</i>	Sep. 2003 - Sep. 2009

## FELLOWSHIPS & AWARDS

<b>EMBO Short Fellow</b> , European Molecular Biology Organization	2015
<b>Master Scholarship</b> , Universidad Autonoma de Madrid	2009 - 2010
<b>Collaboration Scholarship</b> , Universidad Autonoma de Madrid	2008 - 2009
<b>Erasmus Student Exchange Program Fellow</b> , European Commission	2006 - 2007

## PUBLICATIONS (COMPLETE LIST)

\* Indicates shared first authorship; # indicates corresponding authorship

[16] *Functional attractors in microbial community assembly*

Estrela S., Vila J.C.C., Lu N., Bajić D., Rebolledo-Gomez M., Chang CY., Goldford J., Sanchez-Gorostiaga A, Sanchez A#. **Cell Systems** (2021, in press) (preprint available: <https://doi.org/10.1101/2020.03.09.984278>)

[15] *A metabolic modeling platform for the computation of microbial ecosystems in time and space (COMETS)*

Dukovski I.\*, Bajić D.\*, Chacón J.M.\*, Quintin M\*, Vila J.C.C., Sulheim S., Pacheco A.R., Bernstein D., Korolev K., Sanchez A., Harcombe W.D., Segrè D#.

**Nat. Protocols** (2021, in press) (Preprint available at: <https://arxiv.org/abs/2009.01734>)

[14] *The macroevolutionary consequences of niche construction in microbial metabolism*

Bajić D.\*#, Rebolledo-Gomez M., Muñoz MM, Sanchez A#.

**Frontiers in Microbiology** (2021) (DOI: 10.3389/fmicb.2021.718082)

[13] *Complex yeast-bacteria interactions shape the yield of industrial ethanol fermentations.*

Lino F.S.O., Bajić D., Vila J.C.C., Sanchez A., Sommer M.O.A#.

**Nature Communications** (2021) 12 (1), 1-12

[12] *Tolerance to NADH/NAD<sup>+</sup> imbalance anticipates aging and anti-aging interventions*

Alonso-Lavin AJ, Bajić D., Poyatos J.F#.

**iScience** (2021) 102697

[11] *Suboptimal global transcriptional response increases the harmful effects of loss-of-function mutations in yeast.*

Kovács K.\*, Farkas Z.\*, Bajić D.\*, Kalapis D., Kintses B., Notebaart R.A., Poyatos J.F., Kemmeren P., Holstege F.C.P., Pál C.#, Papp B#.

**Molecular Biology and Evolution** (2020) msaa280 (<https://doi.org/10.1093/molbev/msaa280>)

[10] *Artificially selecting microbial communities using propagule strategies*

Chang C.\*, Osborne M.L.\*, Bajić D. & Sanchez A#

**Evolution** (2020) 74:10, 2392-2403 (<https://doi.org/10.1101/2020.05.01.066282>)

[9] *The ecology and evolution of microbial metabolic decision-making*

Bajić D & Sanchez A#.

**Current Opinion in Biotechnology** (2020), 62:123–128.

[8] *High order interactions distort the functional landscape of microbial consortia*

Sanchez-Gorostiaga A.\*, Bajić D.\*, Osborne M.L., Poyatos J.F., Sanchez A#.

**PLoS Biology** (2019) 17(12): e3000550

[7] *On the deformability of an empirical fitness landscape by microbial evolution*

Bajić D.\*, Vila, J.C.C.\*, Blount, Z.D., Sanchez, A#.

**PNAS** (2018) 115(44):11286–11291

[6] *Emergent simplicity in microbial community assembly*

Goldford, J.\*, Lu, N.\*, Bajić D., Estrela, S., Sanchez-Gorostiaga, A., Tikhonov, M., Segre, D., Mehta, P.#, Sanchez, A.#

**Science** (2018) 361:469–74

[5] *Deconstructing a multiple antibiotic resistance regulation through the quantification of its input function*

Rodrigo G, Bajić D, Elola I, Poyatos JF#

**NPJ Systems Biology and Applications** (2017) 3: Article number: 30

[4] *Antagonistic autoregulation speeds up a homogeneous response in Escherichia coli*

Rodrigo G, Bajić D, Elola I, Poyatos JF#

**Scientific Reports** (2016) 6: Article number: 36196

[3] *Biología de sistemas. Book chapter in: Bioinformática con Ñ (editors: Sebastián A, Pascual-García A)*

Aguirre J, Bajić D, Guantes R.

**Independently published** (2014), ISBN:978-84-617-1976-X.

[2] *Rewiring of genetic networks in response to modification of genetic background*

Bajić D, Moreno-Fenoll C, Poyatos JF#

**Genome biology and evolution** (2014) 6 : 3267–3280.

[1] *Balancing noise and plasticity in eukaryotic gene expression*

Bajić D, Poyatos JF#

**BMC Genomics** (2012) 13: 343.

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## MEETINGS, CONFERENCES, WORKSHOPS AND SEMINARS

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### INVITED SEMINARS

**Max Planck Institute for Evolutionary Biology, Plön**, Invited speaker, 2020

**Boston University**, COMETS Hackathon, 2019

**Yale University**, Microbial Sciences Institute SMALTalk, 2018

**Ramon y Cajal University Hospital**, Microbiology Research Unit, Madrid, Spain, 2017

### NATIONAL AND INTERNATIONAL MEETINGS, CONFERENCES AND WORKSHOPS

**EMBO Predicting Evolution Workshop** (Contributed talk) Heidelberg 2021 (Virtual)

**bioSB2020 - 6<sup>th</sup> Bioinformatics & Systems Biology Conference** (Contributed talk) Netherlands, 2020 (Virtual)

**AEEB Evolutionary Biology Meeting**, (Invited talk) Marseilles, France, 2020 (postponed)

**Gordon Research Conference in Microbial Population Biology** (Poster presentation) Andover, NH USA, 2019

**II Joint Congress on Evolutionary Biology** (Contributed talk, did not attend for family reasons) Montpellier, France,, 2018

**Conference on Evolutionary Systems Biology** (Contributed talk), Wellcome Genome Campus, Hinxton, UK, 2018

**International Workshop on Systems Biology and Molecular Economy of Microbial Communities** (Poster presentation), The Abdus Salam International Center for Theoretical Physics, Trieste, Italy, 2017

**Pan-microbial Trait Ecology Workshop** (Poster presentation), National Institute for Mathematical and Biological Synthesis, Knoxville TN, USA, 2017

**Annual Meeting of the Society for Molecular Biology and Evolution** (Poster presentation), Vienna, Austria, 2015

**Workshop on the Economy of a Cell: Resource Allocation, Trade-Offs and Efficiency in Living Systems** (Poster presentation), The Abdus Salam International Center for Theoretical Physics, Trieste, Italy, 2014

**Causality, Information Transfer and Dynamical Networks International Workshop** (Poster presentation), Max Planck Institute for Physics of Complex Systems, Dresden, Germany, 2014

**XXI National Center for Biotechnology Scientific Workshop** (Invited talk), Madrid, Spain, 2013

International Conference on Systems Biology (Poster presentation), Heidelberg, Germany, 2011

## TEACHING & PROFESSIONAL SERVICE

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### TEACHING

**Universidad Autonoma de Madrid.** Master in Biomedicine, Postgraduate Program in Molecular Biosciences. Guest lecturer, 2012.

**Wikillerato.** Administrator and contributor of online educational resources for high-school students in Spain, 2012 – 2013

**Yale University.** E&EB225 Evolutionary Biology, Guest Lecturer, 2018.

### EXTERNAL REFEREE FOR SCIENTIFIC JOURNALS

Nature Communications, Science Advances, PloS Computational Biology, Genome Biology, BMC Systems Biology, ISME Journal, Proceedings of the Royal Society B: Biological Sciences.

### SERVICE IN GRANT REVIEWING PANELS

Member of NASA Grant Reviewing Expert Panel, Exobiology Solicitation (NNH20ZDA001N-EXO), August 2020

### MEMBER OF SCIENTIFIC SOCIETIES

Society for the Study of Evolution

## REFERENCE CONTACTS

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### DR. ALVARO SANCHEZ

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### DR. JUAN F. POYATOS

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### DR. BALAZS PAPP

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