Ian Vasconcellos Caldas

Curriculum vitae
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Department of Computational Biology
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Education

2016–present	PhD candidate in Computational Biology at Cornell University. Advisors: Dr. Andrew G. Clark and Dr. Philipp W. Messer.
2013–2015	M.Sc. in Genetics at Federal University of Rio de Janeiro. Advisor: Dr. Carlos G. Schrago. Thesis: Strategies to estimate with precision the divergence time of placental mammals using the morphological clock.
2009–2013	B.Sc. in Genetics at Federal University of Rio de Janeiro. Advisor: Dr. Carlos G. Schrago. Thesis: Performance of Bayesian skyline plots to estimate the demographic history of structured populations.

Publications

Caldas, I. V., & Schrago, C. G. (2019). Data partitioning and correction for ascertainment bias reduce the uncertainty of placental mammal divergence times inferred from the morphological clock. *Ecology and Evolution*, *9*(4), 2255–2262. https://doi.org/10.1002/ece3.4921

Duneau, D., Sun, H., Revah, J., San Miguel, K., Kunerth, H. D., **Caldas, I. V.**, Messer, P. W., Scott, J. G., & Buchon, N. (2018). Signatures of insecticide selection in the genome of *Drosophila melanogaster*. *G3: Genes, Genomes, Genetics*, *8*(11), 3469–3480. https://doi.org/10.1534/g3.118.200537

Wei, K. H.-C., Lower, S. E., **Caldas, I. V.**, Sless, T. J. S., Barbash, D. A., & Clark, A. G. (2018). Variable rates of simple satellite gains across the *Drosophila* phylogeny. *Molecular Biology and Evolution*, *35*(4), 925–941. https://doi.org/10.1093/molbev/msy005

Flynn, J. M., **Caldas, I. V.**, Cristescu, M. E., & Clark, A. G. (2017). Selection constrains high rates of tandem repetitive DNA mutation in *Daphnia pulex*. *Genetics*, *207*(2), 697–710. https://doi.org/10.1534/genetics.117.300146

Selected conference presentations

2021 Great Lakes Annual Meeting of Evolutionary Genomics (GLAM).
Talk: A machine learning approach to estimate the strength and mode of hard and soft selective sweeps.

2021 Society for Molecular Biology and Evolution (SMBE).
Talk: Inferring parameters of selective sweeps through supervised learning.

2021 Probabilistic Modeling in Genomics (ProbGen).
Talk: Inferring parameters of selective sweeps in *Drosophila melanogaster* through supervised learning.

2020 Population, Evolutionary and Quantitative Genetics (PEQG).
Poster: Inferring parameters of selective sweeps in *Plasmodium falciparum* through supervised learning.

2019 Evolution.
Poster: Inferring parameters of selective sweeps in *Plasmodium falciparum* through supervised learning.

2017 Society for Molecular Biology and Evolution (SMBE).
Poster: Tandem short repetitive DNA recapitulates the evolutionary history in *Drosophila*.

2015 Evolution.
Poster: Data partitioning improves the morphological clock of placental mammals.

Awards and scholarships

2021 Graduate Student Excellence Award, SMBE.

2016 Presidential Life Sciences Scholarship, Cornell University.

2013 Master's Research Scholarship, National Council for Scientific and Technological Development of Brazil (CNPq).

Professional society memberships

2017–present Genetics Society of America (GSA).

2015–present Society for the Study of Evolution (SSE).

2015–present Society for Molecular Biology and Evolution (SMBE).

Further training

Scientific workshops

2019 SLiM Workshop, Cornell University.

2018 Search for Selection, The National Institute for Mathematical and Biological Synthesis.

2017 High Performance Computing on Stampede 2, Cornell University.

2015 Applied Bayesian Modeling, Osvaldo Cruz Foundation.

2014 Paleobiological and Phylogenetic Approaches to Macroevolution, National Evolutionary Synthesis Center.

Leadership training

2019 Future Professors Institute: Advancing Diversity in the Academy, Cornell University.
2017 Intergroup Dialogue Project, Cornell University.