

# Anderson Fernandes de Brito

E: andersonfbrito@gmail.com | W: <https://andersonbrito.github.io>

## EDUCATION

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- 2014 – 2018**                      **PhD in Computational Biology**                      **Imperial College London, UK**
- PhD Thesis: “Evolutionary Systems Biology of Virus-Host Interactions”, supervised by Dr John Pinney
  - Research keywords: Bioinformatics; Molecular Evolution; Phylogenetics; Structural Biology
  - Supervised research projects of MSc and Undergraduate students
  - Taught undergraduates and marked their coursework as a Teaching Assistant in Bioinformatics
- 2011 – 2013**                      **MSc in Microbiology**                      **University of São Paulo, Brazil**
- MSc Dissertation: “Genomic diversity analysis of geographic isolates of nucleopolyhedroviruses *Anticarsia gemmatalis* (AgMNPV)”, supervised by Dr Paolo Zanotto
  - Research keywords: Virology; Genome Sequencing, Assembly and Annotation; Systems Biology
  - Devised, wrote and managed a successful research grant that funded equipment and reagents for two years of MSc research (~£40,000)
- 2007 – 2010**                      **BSc (Hons) in Biological Sciences**                      **University of Brasília, Brazil**
- Research keywords: Virology; Cell Culture; DNA extraction; PCR; Entomology
  - Final degree award: 4.3 out of 5.0 (equivalent to a UK First Class Degree, or Grade A)
  - Co-organised two conferences (UnB Biology Week), with seminars and workshops for 300+ students
- 2007 – 2010**                      **Licentiate (Hons) in Biological Sciences**                      **University of Brasília, Brazil**
- Accomplished a series of courses (540 hours) on Pedagogy, including topics in Psychology, Didactics and two Teaching internships in public schools.

## PROFESSIONAL EXPERIENCE

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- 2021 – Present**                      **Research Scientist**                      **Instituto Todos pela Saúde, Brazil**
- Research keywords: Epidemiology; Data Science; Science Communication
- 2019 – 2021**                      **Postdoctoral Associate**                      **Yale University, USA**
- Research keywords: Genomic epidemiology; Bioinformatics; Phylogenetics
  - Developed automate data analysis tools for tracking the spread of SARS-CoV-2 variants
  - Promoted Science Communication in Radio and TV channels of national and international coverage
- 2009 – 2011**                      **Undergraduate Researcher**                      **Embrapa, Brazil**
- Conducted experiments involving cell culture; *in vivo* and *in vitro* viral infections; and protein analysis
- 2009 – 2010**                      **Co-founder & Marketing Director**                      **Sapiens Biological Consulting, Brazil**
- Negotiated with Academics and the Head of Department for the establishment of this Junior Enterprise
  - Designed the enterprise’s logo and visual identity; and managed its website and social media
- 2004 – 2006**                      **Informatics teacher**                      **Power School of Informatics, Brazil**
- Instructed children, adults and older people to operate computers and software
  - Designed course materials for teaching operating systems, MS Office Tools, CorelDraw and Photoshop

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## VOLUNTEERING

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- 2020 – Present**                      **Science Communicator**
- Communicated relevant scientific information about the COVID-19 pandemic, on TV, Radio, and social media
  - Verified Science & Technology profile on Twitter, with more than 20,000 followers
- 2021 – Present**                      **Vice President Membership**                      **Toastmasters International, USA**
- Helped this organization to get new members wishing to develop their leadership and public speaking skills
- 2021 – 2022**                      **Co-chair**                      **Yale Postdoctoral Association, USA**
- Led this association, representing its 1,400+ members (Postdocs and Associate Research Scientists)
  - Coordinated a team of volunteer postdocs, members of the Communications Committee
- 2021 – 2022**                      **Mentor**                      **Iniciativa Proxima Mentorship Program, Yale University, USA**
- Mentored four young Brazilian students, sharing experiences and guidance for Science career progress
- 2020 – 2021**                      **Communication Coordinator**                      **Yale Postdoctoral Association, United States**
- Managed the Association's social media, newsletter and other communication platforms
  - Coordinated a team of volunteer postdocs, members of the Communications Committee
- 2016 – 2017**                      **Executive Director**                      **ABEP-UK ([abep.org.uk](http://abep.org.uk)), United Kingdom**
- Represented this 37-year-old association in events at Embassies, Universities and other institutions
  - Coordinated, analysed the data, and produced a report as result of a student satisfaction survey aimed at scholars funded abroad by the Brazilian Government
  - Organized the 9<sup>th</sup> ABEP-UK Annual Conference gathering Brazilian researchers/students in Europe
- 2016 – 2017**                      **Vice President**                      **Imperial College Latin American Society, United Kingdom**
- Organized several events promoting the Latin American Culture (History, Dance, Culinary) to Students
  - Managed the Society's social media and online communication with external institutions
- 2016 – 2018**                      **Student Representative**                      **Imperial College Brazil Forum, United Kingdom**
- Promoted seminars and networking events to Brazilian Scholars in London
  - Designed the current logo and visual identity of the IC Brazil Forum

## SKILLS

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- Proficient at Computer Programming: Python, Bash, R, and Perl
- Experience using High Performance Computing (HPC) platforms
- Advanced experience using graphic design tool (CorelDraw; Illustrator; Circos; iTOL)
- Experience in Web Design (HTML, WordPress, GitHub Pages)
- Language proficiency: Portuguese (Native speaker); English; and Spanish

## SELECTED PUBLICATIONS

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**Brito A.F.**, Machado, L. C., Oidtman, R. J., Siconelli, M. J. L., Tran, Q. M., Fauver, J. R., ... & Grubaugh, N. D. (2021). Lying in wait: the resurgence of dengue virus after the Zika epidemic in Brazil. *Nature Communications*, 12(1), 1-13.

Alpert, T., **Brito A.F.\***, Lasek-Nesselquist, E., Rothman, J., Valesano, A. L., MacKay, M. J., ... & Grubaugh, N. D. (2021). Early introductions and transmission of SARS-CoV-2 variant B. 1.1. 7 in the United States. *Cell*, 184(10), 2595-2604.

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**Brito A.F.**, Baele, G., Nahata, K. D., Grubaugh, N. D., & Pinney, J. W. (2021). Intrahost speciations and host switches played an important role in the evolution of herpesviruses. *Virus evolution*, 7(1), veab025.

Vogels, C. B., **Brito A.F.**, Wyllie, A. L., Fauver, J. R., Ott, I. M., Kalinich, C. C., ... & Grubaugh, N. D. (2020). Analytical sensitivity and efficiency comparisons of SARS-CoV-2 RT-qPCR primer-probe sets. *Nature microbiology*, 5(10), 1299-1305.

Kalinich, C. C., Jensen, C. G., Neugebauer, P., Petrone, M. E., Peña-Hernández, M., Ott, I. M., ... & **Brito A.F.** (2020). Real-time public health communication of local SARS-CoV-2 genomic epidemiology. *PLoS biology*, 18(8), e3000869.

**Brito A.F.**, & Pinney, J. W. (2020). The evolution of protein domain repertoires: Shedding light on the origins of the Herpesviridae family. *Virus evolution*, 6(1), veaa001.

Hadfield J\*, **Brito A.F.\***, Swetnam DM, Vogels CB, Tokarz RE, Andersen KG, Smith RC, Bedford T, Grubaugh ND. Twenty years of West Nile virus spread and evolution in the Americas visualized by Nextstrain. *PLoS pathogens* 15 (10), 2019.

**Brito A.F.**, Melo FL, Ardisson-Araújo DMP, Sihler W, Souza ML, Ribeiro BM. Genome-wide diversity in temporal and regional populations of the betabaculovirus *Erinnyis ello granulovirus* (ErelGV). *BMC genomics* 19 (1), 1-11, 2020

**Brito A.F.**, & Pinney, J. W. (2017). Protein-protein interactions in virus-host systems. *Frontiers in microbiology*, 8, 1557.

**Brito A.F.**, Braconi CT, Weidmann M, Dilcher M, Alves JM, Gruber A, et al. The Pangenome of the Anticarsia gemmatilis Multiple Nucleopolyhedrovirus (AgMNPV). *Genome biology and evolution*. 8(1):94-108, 2015.

\* Co-first author

## SELECTED MEDIA APPEARANCES

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- 'Brasil precisa ampliar trabalho de sequenciamento genômico do coronavírus', TV, Jornal Nacional (2021)
- 'Como o Brasil pode enfrentar a variante delta?', YouTube, Ciclo de Debates, Carta Capital (2021)
- 'CNN Nosso Mundo #20 com Anderson Brito', Featured TV interview, CNN Brasil (2021)
- 'Autoridades de saúde discutem maneiras de evitar disseminação da delta', TV, Jornal Nacional (2021)
- 'Chegada de variante em momento de flexibilização é preocupante', TV, CNN Brasil (2021)
- 'Chegada de uma terceira onda de Covid-19 no Brasil é possível, alerta virologista', Rádio, CBN (2021)
- 'O que continua valendo na proteção contra a COVID?', YouTube, Carta Capital (2021)
- 'Falta de controle na entrada de viajantes pode facilitar a chegada de variantes', TV, Jornal Nacional (2021)
- 'Após a vacinação é importantíssimo manter as medidas de proteção', TV, GloboNews (2021)
- 'Como a nova mutação do coronavírus pode alterar o enfrentamento da pandemia', Podcast, O Globo (2021)
- 'Ciência é coisa de criança', Rádio, Rádio Senado (2021)
- 'Quem tem sintomas de gripe deve desconfiar logo de Covid', TV, Jornal Nacional (2021)
- 'O que esperar das vacinas diante das mutações do coronavírus?', TV, Jornal Nacional (2021)
- 'Curvas de mortes e casos de Covid no Brasil apresentam tendência de queda', TV, Fantástico (2021)

## AWARDS

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- Obtained an MSc scholarship from FAPESP (São Paulo Research Foundation).
- Obtained a 4-year PhD scholarship from the Brazilian Ministry of Education.
- Awarded a 'Certificate of Recognition' from the ABEP-UK Board of Directors 2016-17, thanks to my commitment, dedication, management and teamwork skills shown as a Director of that Association.
- Granted an Imperial College DoLS Travel Award for attending an international conference

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## EVENTS

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### Selected poster presentations

- Presented a poster at the 12<sup>th</sup> International Conference of the Brazilian Association of Bioinformatics and Computational Biology (AB<sub>3</sub>C). November 2016, Belo Horizonte, Brazil
- Presented a poster at the 12<sup>th</sup> Brazilian Symposium of Biological Control. July 2011, São Paulo, Brazil

### Selected Oral presentations

- 'The Brazilian COVID-19 Epidemic is not only a Viral Event'. Conference, Oct 2021, Online
- 'Beilstein Open Science Symposium'. Symposium, Oct 2021, Online
- 'Congresso Brasileiro de Divulgação Científica'. Conference, Sep 2021, Online
- 'I Meeting of Systematics, Biogeography, and Evolution (SBE)'. Conference, Jul 2020, Online
- 'El Genoma de SARS-CoV2, su evolución y epidemiología en América Latina'. Symposium, Jul 2020, Online
- 'ASM Microbe'. Conference, Jul 2020, Online
- 'Annual meeting of the Society for Molecular Biology and Evolution (SMBE)'. Conference, Jul 2018, Yokohama, Japan.
- 'EMBO Workshop, Integrating Systems Biology: From Networks to Mechanisms to Models'. Workshop, Apr 2018, Heidelberg, Germany.
- '28<sup>th</sup> Annual Workshop on Mathematical and Statistical Aspects of Molecular Biology (MASAMB)'. Workshop, Mar 2018, St Andrews, Scotland.
- Gave a talk at the EMBO Practical Course 'Integrative Modelling of Biomolecular Interactions'. Workshop, Jul 2016, Barcelona, Spain

### Workshop

- Conducted a two-day Workshop called 'Graphic Design Applied to Science Communication' at the 15<sup>th</sup> Biology Week of the University of Brasília. October 2016, Brasília, Brazil
- Gave a seminar in 'Curso Internacional en Análisis de Brotes, Modelamiento y Respuesta en Salud Pública, Colombia – Perú', Jul 2021, Online

## SOCIETY MEMBERSHIPS

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2019 – 2021	National Postdoctoral Association, United States
2019 – 2021	Yale Postdoctoral Association, United States
2018 – Present	Society for Molecular Biology and Evolution (SMBE), International
2017 – 2021	Brazilian Society for the Advancement of Science (SBPC), Brazil
2017 – 2018	Imperial College Brazil Forum, United Kingdom
2015 – Present	Association of Brazilian Students and Researchers in the United Kingdom (ABEP-UK), United Kingdom

## INTERESTS

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- Passionate about Latin American partner dancing, former member of the Imperial College Dance Society
- Enthusiastic about History, Anthropology, and Social Sciences
- Wikipedia Editor since 2010, improving articles quality and providing them with illustrations

References available on request.