1. Personal Data

Name: Luis Maria Lopes da Fonseca
Work Address: Division of Pulmonary, Critical Care, and Sleep Medicine
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Website: directory.ufhealth.org/fonseca-luis
Citizenship: US Resident; Portuguese/European Citizen.

2. Positions

2020- Research Scientist, Division of Pulmonary, Critical Care, and Sleep Medicine, Department of Medicine, University of Florida, Gainesville, Florida, USA. Supervisor: R. C. Laubenbacher (Lab)

2012-2020 Research Scientist II, Wallace H. Coulter Department of Biomedical Engineering, Georgia Tech and Emory University, Atlanta, Georgia, USA. Supervisor: E. O. Voit (Lab)

2019 Instructor, Wallace H. Coulter Department of Biomedical Engineering, Georgia Tech and Emory University, Atlanta, Georgia, USA.

2014-2015 Instructor, Wallace H. Coulter Department of Biomedical Engineering, Georgia Tech and Emory University, Atlanta, Georgia, USA.

2009-2012 Postdoctoral Fellow. Instituto de Tecnologia Química e Biológica, New University of Lisbon, Lisbon, Portugal. Supervisor: H. Santos & E. O. Voit

2006-2009 Postdoctoral Fellow. Instituto de Tecnologia Química e Biológica, New University of Lisbon, Lisbon, Portugal. Supervisor: H. Santos & E. O. Voit

2004 Visiting Graduate Student. Instituto de Investigaciones Biomédicas "Alberto Sols", Madrid, Spain. Supervisor: S. Cerdán (*In Memoriam*)

2000-2006 Graduate Student. Instituto de Tecnologia Química e Biológica, New University of Lisbon, Lisbon, Portugal. Supervisor: H. Santos (Lab)

1998-1999 Research Assistant. Instituto de Tecnologia Química e Biológica, New University of Lisbon, Lisbon, Portugal. Supervisor: H. Santos (Lab)

1997-1998 Trainee. Instituto de Tecnologia Química e Biológica, New University of Lisbon, Lisbon, Portugal. Supervisor: H. Santos (Lab)

3. Education

2006 PhD Biochemistry, Instituto de Tecnologia Química e Biológica, New University of Lisbon, Lisbon, Portugal. Supervisor: H. Santos (Lab)

1998 BS/MS Biochemistry, Faculty of Sciences, University of Lisbon, Lisbon, Portugal. GPA: 17/20. Supervisor: H. Santos (Lab)

3.1 Advanced Courses

2009 "SYSTEMS BIOLOGY"
8th short course of the Portuguese Biophysical Society
Santarém, Portugal, October 30-November 1.

2003 "Advanced Light Microscopy in Living Cells"
Instituto Gulbenkian de Ciência, Oeiras, Portugal, June 17-18.

2002 "Advanced Technologies for Metabolic Engineering in Biotechnology and Medicine" FEBS Lecture Course. Carcavelos, Portugal, September 7-13.

3.2 Pedagogical Courses

2016 "Developing and Assessing Major Assignments" by Dr. Carol Subino Sullivan
"Beyond Think-Pair-Share: Conducting Productive and Engaging Discussions in Every Course" by Dr. Ruth Poproski
"Small Changes in Teaching: Big Impact, Little Effort" by Dr. Joyce Weinsheimer

2015 "Teach STEM Students How to Learn: Metacognition is the Key". The Center for the Enhancement of Teaching and Learning, Georgia Tech. June 22.

2014 "Fall Teaching Kick-Off". The Center for the Enhancement of Teaching and Learning, Georgia Tech. August 12-14.

3.3 Other Courses

2019 "Active Shooter Response". Office of Human Resources. Georgia Tech.
2019 "Until Help Arrives". Office of Human Resources. Georgia Tech.
2019 "Implicit Bias Workshop". Institute Diversity, Georgia Institute of Technology
2015 "Plan, Prep, React – Active Shooter Response Options". Office of Human Resources. Georgia Tech.
2015 "Campus Fire Safety". Office of Human Resources, Georgia Tech.
2015 "CPR/AED/First Aid Training". Office of Human Resources, Georgia Tech.
2015 "Weather Hazards and Precautions". Office of Human Resources, Georgia Tech.
2013 "Crime Prevention 101". Office of Human Resources, Georgia Tech.
2013 "Emergency Preparedness 101". Office of Human Resources, Georgia Tech.
2005 "Basic first aid course", Portuguese Red Cross, 481/FOR/2005 – Final classification 18

4. Teaching – Full Courses

2019/2020 Fall "Biomedical Systems and Modeling" BMED 3520B, Undergraduate Course in Biomedical Engineering, Georgia Tech, Atlanta, USA. OSCAR Critique
Awarded: "Thanks for Being a Great Teacher!" certificate by the Center for Teaching and Learning. (Award)

2014/2015 Spring "Biomedical Systems and Modeling" BMED 3510A, Undergraduate Course in Biomedical Engineering, Georgia Tech, Atlanta, USA. OSCAR Critique

2013/2014 Spring "Biomedical Systems and Modeling" BMED 3510A Undergraduate Course in Biomedical Engineering, Georgia Tech, Atlanta, USA. OSCAR Critique

4.1 Teaching – Short Courses

2007/2008 2nd Semester — "Metabolic Modeling in Systems Biology: Tools in Metabolic Engineering" in Metabolic Engineering Course for the undergraduate degree in Molecular and Cellular Biology at Faculdade de Ciências e Tecnologia, New University of Lisbon, Oeiras, Portugal.

2005/2006 1st Semester — "Analysis of ^{13}C Isotopomers for Metabolic Flux Analysis" in Metabolic Engineering Course for the undergraduate degree in Molecular and Cellular Biology at Faculdade de Ciências e Tecnologia, New University of Lisbon, Oeiras, Portugal.

4.2 Teaching - Guest Lectures

2018/2019 Spring — "Parameter Estimation and Data Management In MATLAB" Lecture in "Biomedical Systems and Modeling" BMED-3520, Undergraduate course in Biomedical Engineering, Georgia Tech, Atlanta, USA.
Professor: E. Voit

2017/2018 Fall — "Paper reviewing" and "Parameter Estimation and Data Management In MATLAB" Lectures in "Integrative Core: Problem Solving with Computational Models" BMED-7013-0, Graduate course in Biomedical Engineering, Georgia Tech, Atlanta, USA.
Professors: M. Platt & E. Voit

2016/2017 Spring — "Parameter Estimation and Data Management In MATLAB" Lecture in "Biomedical Systems and Modeling" BMED-3520A, Undergraduate course in Biomedical Engineering, Georgia Tech, Atlanta, USA.
Professor: E. Voit

2014/2015 Fall — "Enzyme Kinetics and metabolic Modeling" Lectures in "Integrative Core: Problem Solving with Computational Models" BMED-7013-0, Graduate course in Biomedical Engineering, Georgia Tech, Atlanta, USA.
Professors: M. Platt & E. Voit

2012/2013 Spring — "Enzyme Kinetics and metabolic Modeling" Lectures in "Problem Solving with Computational Models" BMED-8813A, Graduate course in Biomedical Engineering, Georgia Tech, Atlanta, USA.
Professor: E. Voit

2012/2013 Fall — "Enzyme Kinetics and metabolic Modeling" Lectures in "Integrative Core: Problem Solving with Computational Models" BMED-7013-0, Graduate course in Biomedical Engineering, Georgia Tech, Atlanta, USA.
Professors: M. Platt & E. Voit

2012/2013 Spring — "Enzyme Kinetics and metabolic Modeling" Lectures and laboratory in "Integrative Biosystems Core" BMED 8813A the "Problem Solving with Computational Models", Graduate course in Biomedical Engineering, Georgia Tech, Atlanta, USA.

Professors: M. Kemp & E. Voit

5. Student Supervision

Undergraduates: Harnel Alezi (2014-2015), Miguel Monteiro (2015)

6. Bibliometry

Databases:

Web of Science: 474285	**ORCiD:** 0002-7902-742X	**Authenticus:** R-00-9P0
My NCBI: 40676816	**ResearchGate:** LuisFonseca11	**FCT-SIG:** J033715N2G7
Google Scholar: W2znhD4AAAAJ	**Loop:** 257153	**Europe PMC:** 27902742X
Scopus: 8940764800	**Impactstory:** 2-7902-742X	**Publons:** 1303683
Dimensions: 01160200442.67	**Ciência ID:** CC13-0B59-25B6	**Academictree:** 733713

Publication distribution by research area and journal (Web of Science: 474285):

ResearcherID: (B-2265-2009, July 22, 2022)
Publications in web of science: **44** Sum of the Times Cited: **685**
Average Citations per Document: **15.6** h-Index: **16**

Scopus: (8940764800, July 22, 2022)
Documents: **38** Citations: **695**
h-index: **16** Co-authors: **129**

Dimensions: (01160200442.67, July 11, 2022)
Publications: **44** Citations: **803**
Research Categories: Biological Sciences (25), Biochemistry and Cell Biology (20), Medical and Health Sciences (16), Neurosciences (7), Medical Microbiology (6), Engineering (4)

7. Book Chapters with ISBN

1. Metabolic Systems Modeling, Power-Law Functions.
   Fonseca L.L., Yin W., Kemp M.L., Voit E.O.
   2013, In: Dubitzky W, Wolkenhauer O, Cho K-H, Yokota H, editors
   "Encyclopedia of Systems Biology" Springer, New York, NY; p. 1272-5.
   ISBN: 978-1-4419-9863-7, DOI: 10.1007/978-1-4419-9863-7_1156

8. **Refereed Publications (41)**

Underline: Corresponding author, Bold: My name

1. *MaHPIC malaria systems biology data from Plasmodium cynomolgi sporozoite longitudinal infections in macaques.*
   Jeremy D. DeBarry, Mustafa V. Nural, Suman B. Pakala, Vishal Nayak, Susanne Warrenfeltz, Jay Humphrey, Stacey A. Lapp, Monica Cabrera-Mora, Cristiana F. A. Brito, Jianlin Jiang, Celia L. Saney, Allison Hankus, Hannah M. Stealey, Megan B. DeBarry, Nicolas Lackman, Noah Legall, Kevin Lee, Yan Tang, Anuj Gupta, Elizabeth D. Trippe, Robert R. Bridger, Daniel Brent Weatherly, Mariko S. Peterson, Xuntian Jiang, ViLinh Tran, Karan Uppal, **Luis L. Fonseca**, Chester J. Joyner, Ebru Karpuzoglu, Regina J. Cordy, Esmeralda VS Meyer, Lance L. Wells, Daniel S. Ory, F. Eun-Hyung Lee, Rabindra Tirouvanziam, Juan B. Gutiérrez, Chris Ibegbu, Tracey J. Lamb, Jan Pohl, Sarah T. Pruett, Dean P. Jones, Mark P. Styczynski, Eberhard O. Voit, Alberto Moreno, Mary R. Galinski and Jessica C. Kissinger
   2022, *Scientific Data*, **X**, 000. [Abstract] [DOI]
   Impact Factor (WoK): N/A Citations: **0**

2. *Plasmodium knowlesi* cytoadhesion involves SICA variant proteins.
   Peterson, MS, Joyner, CJ, Lapp, SA, Brady, JA, Wood, JS, Cabrera-Mora, M, Saney, CL, **Fonseca, LL**, Jiang, J, Soderberg, SR, Nural, MV, Humphrey, J, Hankus, A, Machiah, D, Karpuzoglu, E, DeBarry, JD, MaHPIC Consortium, Tirouvanziam, R, Kissinger, JC, Moreno, A, Gumber, S, Voit, EO, Gutierrez, JB, Cordy, RJ and Galinski, MR
   2022, *Frontiers in cellular and Infection Microbiology*, **12**, 888496. [Abstract] [DOI]
   Impact Factor (WoK): N/A Citations: **0**

3. Computational modeling of macrophage iron sequestration during host defense against *Aspergillus*.
   Adhikari, B., Scindia, Y., Vieira, L.S., Ribeiro, H.A.L., Masison, J., Yang, N., **Fonseca, L.L.**, Wheeler, M., Knapp, A.C., Mei, Y., Helba, B., Atkinson, C., Schroeder, W., Mehrad, B., Laubenbacher, R.
   2022, *mSphere*, **XX**, e00074-22. [bioRxiv] [Abstract] [10.1128/msphere.00074-22]
   Impact Factor (WoK): N/A Citations: **0**

4. Dramatic transcriptomic differences in *Macaca mulatta* and *Macaca fascicularis* with *Plasmodium knowlesi* infections.
   Gupta, A., Styczynski, M.P., Galinski, M.R., Voit, E.O. and **Fonseca, L.L.**
   2021, *Scientific Reports*, **11**, 19519. [Abstract] [10.1038/s41598-021-98024-6]
   Impact Factor (WoK): **4.996** Citations: **2**

5. Clinical recovery of *Macaca fascicularis* infected with *Plasmodium knowlesi*.
   Peterson, M.S., Joyner, C.J., Brady, J.A., Wood, J.S., Cabrera-Mora, M., Saney, C.L., **Fonseca, L.L.**, Cheng, W.T., Jiang, J., Lapp, S.A., Soderberg, S.R., Nural, M.V., Humphrey, J.C., Hankus, A., Machiah, D., Karpuzoglu, E., DeBarry, J.D., Tirouvanziam, R., Kissinger, J.C., Moreno, A., Gumber, S., Voit, E.O., Gutiérrez, J.B., Cordy, R.J., Galinski, M.R.
   2021, *Malaria Journal*, **20**, 486. [Abstract] [bioRxiv] [10.1186/s12936-021-03925-6]
   Impact Factor (WoK): **3.469** Citations: **4**

6. A model of dopamine and serotonin-kynurenine metabolism in cortisolemia: implications for depression.
Dalvi-Garcia, F., **Fonseca, L.L.**, Vasconcelos, A.T.R., Hedin-Pereira, C. and Voit, E.O.
2021, *PLOS Computational Biology*, **17**, e1008956. [Abstract] [10.1371/journal.pcbi.1008956]
Impact Factor (WoK): **4.779** Citations: **1**

7. Thickness of the airway surface liquid layer in the lung is affected in cystic fibrosis by compromised synergistic regulation of the ENaC ion channel.
Olivença, D.V., **Fonseca, L.L.**, Voit, E.O. and Pinto, F.R.
2019, *Journal of the Royal Society Interface*, **16**, 20190187. [Abstract] [10.1098/rsif.2019.0187]
Impact Factor (WoK): **3.748** Citations: **5**

8. Analysis of erythrocyte dynamics in Rhesus macaque monkeys during infection with *Plasmodium cynomolgi*.
Fonseca, L.L., Joyner, C.J., Saney, C.L., The MaHPIC Consortium, Moreno, A., Barnwell, J.W., Galinski, M.R. and Voit, E.O.
2018, *Malaria Journal*, **17**, 410. [Abstract] [10.1186/s12936-018-2560-6]
Impact Factor (WoK): **2.798** Citations: **8**

9. A dynamic model of lignin biosynthesis in *Brachypodium distachyon*.
Faraji, M., **Fonseca, L.L.**, Escamilla-Treviño L, L., Barros-Rios, J., Engle, N., Yang, Z.K., Tschaplinski, T.J., Dixon R.A. and Voit, E.O.
2018, *Biotechnology for Biofuels*, **11**, 253. [Abstract]
Impact Factor (WoK): **5.452** Citations: **10**

10. The Three-Legged Stool of Understanding Metabolism: Integrating Metabolomics with Biochemical Genetics and Computational Modeling.
Downs, D.M., Bazurto, J.V., Gupta, A., **Fonseca, L.L.** and Voit E.O.
2018, *AIMS Microbiology*, **4**, 289-303. [Abstract] [10.3934/microbiol.2018.2.289]
Impact Factor (WoK): **0.22** Citations: **8**

11. A Mathematical Model of the Phosphoinositide Pathway.
Olivença, D.V., Uliyakina, I., **Fonseca, L.L.**, Amaral, M.D., Voit, E.O. and Pinto, F.R.
2018, *Scientific Reports*, **8**, 3904. [Abstract]
Impact Factor (WoK): **4.011** Citations: **15**

12. Mathematical Models of Lignin Biosynthesis.
Faraji, M., **Fonseca, L.L.**, Escamilla-Treviño, L., Barros-Rios, J., Engle, N., Yang, Z.K., Tschaplinski, T.J., Dixon R.A. and Voit, E.O.
2018, *Biotechnology for Biofuels*, **11**, 34. [Abstract]
Impact Factor (WoK): **5.452** Citations: **24**

13. *Plasmodium knowlesi*: a superb *in vivo* nonhuman primate model of antigenic variation in malaria.
Galinski, M.R., Lapp, S.A., Peterson, M.S., Ay, F., Joyner, C.J., Le Roch, K.G., **Fonseca, L.L.**, Voit, E.O.; MAHPIC CONSORTIUM.

2018, *Parasitology*, **145**, 85-100. [Abstract]
Impact Factor (WoK): **2.511** Citations: **23**

14. Metabolic modeling helps interpret Transcriptomic changes during malaria.
Tang, A., Gupta, A., Garimalla, S., The MaHPIC Consortium, Galinski, M.R., Styczynski, M.P., **Fonseca, L.L.** and Voit, E.O.
2017, *BBA - Molecular Basis of Disease, Special Issue: "Accelerating Precision Medicine through Genetic and Genomic Big Data Analysis",* Ed. Yudong Cai & Tao Huang, S0925443917303873. [Abstract] [10.1016/j.bbadis.2017.10.023]
Impact Factor (WoK): **5.108** Citations: **15**

15. A model of *Plasmodium vivax* concealment based on *Plasmodium cynomolgi* infections in *Macaca mulatta*.
Fonseca, L.L., Joyner, C.J., MaHPIC Consortium, Galinski, M.R. and Voit, E.O.
2017, *Malaria Journal*, **16**, 375. [Abstract]
Impact Factor (WoK): **2.845** Citations: **21**

16. Quantifying the Removal of Red Blood Cells in *Macaca mulatta* during a *Plasmodium coatneyi* Infection.
Fonseca, L.L., Alezi, H.S., Moreno, A., Barnwell, J.W., Galinski, M.R. and Voit, E.O.
2016, *Malaria Journal*, **15**, 410. [Abstract]
Impact Factor (WoK): **2.715** Citations: **24**

17. Dynamic Models of the Complex Microbial Metapopulation of Lake Mendota.
Dam, P., **Fonseca, L.L.**, Konstantinidis, K. and Voit, E.O.
2016, *npj Systems Biology and Applications*, **2**, 16007. [Abstract]
Impact Factor (WoK): **N/A** Citations: **35**

18. Analysis of the Involvement of Different Ceramide Variants in the Response to Hydroxyurea Stress in Baker's Yeast.
Chen, P.W., **Fonseca, L.L.**, Hannun Y.A. and Voit, E.O.
2015, *PLoS One*, **11**, e0146839. [Abstract]
Impact Factor (WoK): **3.057** Citations: **4**

19. New insights into the complex regulation of the glycolytic pathway in *Lactococcus lactis*. I. Construction and diagnosis of a comprehensive dynamic model.
Dolatshahi, S., **Fonseca, L.L.** and Voit, E.O.
2015, *Molecular bioSystems*, **12**, 23-36. [Abstract]
Impact Factor (WoK): **2.829** Citations: **8**

20. New insights into the complex regulation of the glycolytic pathway in *Lactococcus lactis*. II. Inference of the precisely timed control system regulating glycolysis.
Dolatshahi, S., **Fonseca, L.L.** and Voit, E.O.
2015, *Molecular bioSystems*, **12**, 37-47. [Abstract]
Impact Factor (WoK): **2.829** Citations: **10**

21. Computational inference of the structure and regulation of the lignin pathway in *Panicum virgatum*.
Faraji, M., **Fonseca, L.L.**, Escamilla-Trevino, L., Dixon R. and Voit, E.O.
2015, *Biotechnology for Biofuels*, **8**, 151. [Abstract]
Impact Factor (WoK): **6.444** Citations: **17**

22. Comparison of mathematical frameworks for modeling erythropoiesis in the context of malaria infection.
Fonseca, L.L. and Voit, E.O.
2015, *Mathematical Biosciences*, **270**, 224-36. [Abstract]
Impact Factor (WoK): **1.256** Citations: **15**

23. Dynamics of the Heat Stress Response of Ceramides with Different Fatty-Acyl Chain Lengths in Baker's Yeast.
Chen, P.W., **Fonseca, L.L.**, Hannun Y.A. and Voit, E.O.
2015, *PLoS Computational Biology*, **11**, e1004373. [Abstract]
Impact Factor (WoK): **4.587** Citations: **6**

24. Production of glycolipid biosurfactants, mannosylerythritol lipids, from pentoses and D-glucose/D-xylose mixtures by *Pseudozyma* yeast strains.
Faria, N.T., Santos, M.V., Fernandes, P., **Fonseca, L.L.**, Fonseca, C. and Ferreira, F.C.
2014, *Process Biochemistry*, **49**, 1790-1799. [Abstract]
Impact Factor (WoK): **2.516** Citations: **15**

25. Carbon flux analysis by ^{13}C nuclear magnetic resonance to determine the effect of CO_2 on anaerobic succinate production by *Corynebacterium glutamicum*.
Radoš, D., Turner, D. L., **Fonseca, L.L.**, Carvalho, A. L., Blombach, B., Eikmanns, B., Neves A. R., Santos H.
2014, *Appl. Environ. Microbiol.*, **80**, 3015-3024. [Abstract]
Impact Factor (WoK): **3.668** Citations: **28**

26. Metabolic and Transcriptional Analysis of Acid Stress in *Lactococcus lactis*, with a Focus on the Kinetics of Lactic Acid Pools.
Carvalho, L.A., Turner, D.L., **Fonseca, L.L.**, Solopova, A., Catarino, T., Kuipers, O.P., Voit, E.O., Neves, A.R., and Santos, H.
2013, *PLoS One*, **8**, e68470. [Abstract]
Impact Factor (WoK): **3.534** Citations: **26**

27. ^{23}Na multiple quantum filtered NMR characterisation of Na^+ binding and dynamics in animal cells: a comparative study and effect of Na^+/Li^+ competition.
Fonseca, C.P., **Fonseca, L.L.**, Montezinho, L.P., Alves, P.M., Santos, H., Castro, M.M.C.A. and Geraldes, C.F.G.C.
2013, *European Biophysics Journal*, **42**, 503-519. [Abstract]
Impact Factor (WoK): **2.474** Citations: **6**

28. Coordination of Rapid Sphingolipid Responses to Heat Stress in Yeast.
Chen, P.W., **Fonseca, L.L.**, Hannun, Y.A. and Voit, E.O.

2013, *PLoS Computational Biology*, **9**, e1003078. [Abstract]
Impact Factor (WoK): **4.829** Citations: **14**

29. Canonical Modeling of the Multi-Scale Regulation of the Heat Stress Response in Yeast.
Fonseca, L.L., Chen, P.-W. and Voit, E.O.
2012, *Metabolites*, **2**, 221-241. [Abstract]
Impact Factor (WoK): N/A Citations: **7**

30. Statistical Inference Methods for Sparse Biological Time Series Data.
Ndukum, J., **Fonseca, L.L.**, Santos, H., Voit, E.O. and Datta, S.
2011, *BMC Systems Biology*, **5**, 57-69. [Abstract]
Impact Factor (WoK): **3.148** Citations: **8**

31. The glucose/xylose facilitator Gxf1 from *Candida intermedia* expressed in a xylose-fermenting industrial strain of *Saccharomyces cerevisiae* increases xylose uptake in SSCF of wheat straw.
Fonseca, C., Olofsson, K., Ferreira, C., Runquistd, D., **Fonseca, L.L.**, Hahn-Hägerdald, B. and Lidén, G.
2011, *Enzyme and Microbial Technology*, **48**, 518-25. [Abstract]
Impact Factor (WoK): **2.367** Citations: **22**

32. Complex Coordination of Multi-Scale Cellular Responses to Environmental Stress.
Fonseca, L.L., Sánchez, C., Santos, H., Voit, E.O.
2011, *Molecular BioSystems*, **7**, 731-741. [Abstract]
Impact Factor (WoK): **3.534** Citations: **16**

33. Estimation of Metabolic Pathway Systems from Different Data Sources.
Voit, E.O., Goel, G., Chou, I-C. and **Fonseca, L.L.**
2009, *IET Systems Biology*, **3**, 513-522. [Abstract]
Impact Factor (WoK): **2.384** Citations: **16**

34. The turnover of the H3 deuterons from (2-^{13}C) glutamate and (2-^{13}C) glutamine reveals subcellular trafficking in the brain of partially deuterated rats.
Cerdán, S., Sierra, A., **Fonseca, L.L.**, Ballesteros, P. and Rodrigues, T.B.
2009, *Journal of Neurochemistry,* **109**, 63-72. [Abstract]
Impact Factor (WoK): **3.999** Citations: **7**

35. Characterization of the individual glucose uptake systems of *Lactococcus lactis*: mannose-PTS, cellobiose-PTS and the novel GlcU permease.
Castro, R., Neves, A.R., **Fonseca, L.L.**, Pool, W.A., Kok, J., Kuipers, O.P. and Santos, H.
2009, *Molecular Microbiology*, **71**, 795-806. [Abstract]
Impact Factor (WoK): **5.361** Citations: **59**

36. Role of periplasmic trehalase in uptake of trehalose by the thermophilic bacterium *Rhodothermus marinus*.
Jorge, C.D., **Fonseca, L.L.**, Boos, W. and Santos, H.

2008, *Journal of Bacteriology*, **190**, 1871-8. [Abstract]
Impact Factor (WoK): **3.636** Citations: **1**

37. Kinetic properties of the redox switch/redox coupling mechanism as determined in primary cultures of cortical neurons and astrocytes from rat brain.
Ramirez, B.G., Rodrigues, T.B., Violante, I.R., Cruz, F., **Fonseca, L.L.**, Ballesteros, P., Castro, M.M., Garcia-Martin, M.L. and Cerdan, S.
2007, *Journal of Neuroscience Research*, **85**, 3244-53. [Abstract]
Impact Factor (WoK): **3.268** Citations: **17**

38. The redox switch/redox coupling hypothesis.
Cerdán, S., Rodrigues, T.B., Sierra, A., Benito, M., **Fonseca, L.L.**, Fonseca, C.P. and Garcia-Martin, M.L.
2006, *Neurochemistry International*, **48**, 523-530. [Abstract]
Impact Factor (WoK): **3.159** Citations: **109**

39. Cultures of rat astrocytes challenged with a steady supply of glutamate: new model to study flux distribution in the glutamate-glutamine cycle.
Fonseca, L.L., Monteiro M.A., Alves, P.M., Carrondo, M.J.T. and Santos, H.
2005, *Glia*, **51**, 286-296. [Abstract]
Impact Factor (WoK): **4.276** Citations: **33**

40. Culturing primary brain astrocytes under a fully controlled environment in a novel bioreactor.
Sá Santos S., **Fonseca L.L.**, Monteiro M.A., Carrondo M.J.T. and Alves P.M.
2005, *Journal of Neuroscience Research*, **79**, 26-32. [Abstract]
Impact Factor (WoK): **3.239** Citations: **21**

41. Effect of ethanol on the metabolism of primary astrocytes studied by ^{13}C- and ^{31}P-NMR spectroscopy.
Fonseca, L.L., Alves, P. M., Carrondo, M.J.T. e Santos, H.
2001, *Journal of Neuroscience Research*, **66**, 803-811. [Abstract]
Impact Factor (WoK): **3.378** Citations: **14**

42. NMR studies on energy metabolism of immobilized primary neurons and astrocytes during hypoxia, ischemia and hypoglycemia.
Alves, P.M., **Fonseca, L.L.**,Peixoto, C.C, Almeida, A.C., Carrondo, M.J.T. and Santos, H.
2000, *NMR in Biomedicine*, **13**, 438-448. [Abstract]
Impact Factor (WoK): **1.914** Citations: **23**

9. **Refereed Consortia Publications (8)**

Underline: Corresponding author, Bold: Consortia

1. Joyner CJ, Brito CFA, Saney CL, Joice Cordy R, Smith ML, Lapp SA, Cabrera-Mora M, Kyu S, Lackman N, Nural MV, DeBarry JD, **MaHPIC Consortium**, Kissinger JC, Styczynski MP,

Lee FE, Lamb TJ, Galinski MR. (2019) "Humoral immunity prevents clinical malaria during *Plasmodium* relapses without eliminating gametocytes." *PLOS Pathogens*, **15**, e1007974. [Abstract]
Impact Factor (WoK): **6.218**; Nº of citations: 5

2. Cordy RJ, Patrapuvich R, Lili LN, Cabrera-Mora M, Chien JT, Tharp GK, Khadka M, Meyer EV, Lapp SA, Joyner CJ, Garcia A, Banton S, Tran V, Luvira V, Rungin S, Saeseu T, Rachaphaew N, Pakala SB, DeBarry JD, **MaHPIC Consortium**, Kissinger JC, Ortlund EA, Bosinger SE, Barnwell JW, Jones DP, Uppal K, Li S, Sattabongkot J, Moreno A, Galinski MR. (2019) "Distinct amino acid and lipid perturbations characterize acute versus chronic malaria." *JCI Insight*, **4**, e125156. [Abstract]
Impact Factor (WoK): **6.205**; Nº of citations: 13

3. Peterson, M.S., Joyner, C.J., Cordy, R.J., Salinas, J.L., Machiah, D., Lapp, S.A., **MaHPIC Consortium**, Meyer, E.V.S., Gumber, S., Galinski, M.R. (2018) "*Plasmodium vivax* Parasite Load is Associated With Histopathology in *Saimiri boliviensis* With Findings Comparable to *P vivax* Pathogenesis in Humans." *Open Forum Infectious Diseases*, **6**, ofz021. [Abstract]
Impact Factor (WoK): **3.371**; Nº of citations: 6

4. Gardinassi, L.G., Arévalo-Herrera, M., Herrera, S., Cordy, R.J., Tran, V., Smith, M.R., Johnson, M.S., Chacko, B., Liu, K.H., Darley-Usmar, V.M., Go, Y.M., **MaHPIC Consortium**, Jones, D.P., Galinski, M.R., Li, S. (2018) "Integrative metabolomics and transcriptomics signatures of clinical tolerance to *Plasmodium vivax* reveal activation of innate cell immunity and T cell signaling." *Redox Biology*, **17**, 158-170. [Abstract]
Impact Factor (WoK): **7.793**; Nº of citations: 30

5. Tang, Y.,Joyner, C.J., Cabrera-Mora, M., Saney, C.L., Lapp, S.A., Nural, M.V., Pakala, S.B., DeBarry, J.D., Soderberg, S., **The MaHPIC Consortium**, Kissinger, J.C., Lamb, T.J., Galinski, M.R., Styczynski, M.P. (2017) "Integrative analysis associates monocytes with insufficient erythropoiesis during acute *Plasmodium cynomolgi* malaria in rhesus macaques." *Malaria Journal*, **22**, 384. [Abstract]
Impact Factor (WoK): **2.845**; Nº of citations: 2

6. Lapp, S.A., Geraldo, J.A., Chien, J.T., Ay, F., Pakala, S.B., Batugendra, G., Humphrey, J., **MaHPIC consortium**, DeBarry, J.D., Le Roch, K.G., Galinski, M.R., Kissinger, J.C. (2017) "PacBio assembly of a *Plasmodium knowlesi* genome sequence with Hi-C correction and manual annotation of the SICAvar gene family." *Parasitology*, **145**, 71-84.
Impact Factor (WoK): **2.511**; Nº of citations: 9 [Abstract]

7. Joyner, C., **The MaHPIC Consortium**, Wood, J.S., Moreno, A., Garcia, A., Galinski, M.R. (2017) "Case Report: Severe and Complicated *Cynomolgi* Malaria in a Rhesus Macaque Resulted in Similar Histopathological Changes as Those Seen in Human Malaria." *American Journal of Tropical Medicine and Hygiene*, **97**, 548-555. [Abstract]
Impact Factor (WoK): **2.564**; Nº of citations: 9

8. Joyner, C., Moreno, A., Meyer, E.V., Cabrera-Mora, M., **MaHPIC Consortium**, Kissinger, J., Barnwell, J.W. and Galinski, M. (2016) "*Plasmodium cynomolgi* infections in rhesus macaques display clinical and parasitological features pertinent to modelling *vivax* malaria pathology and relapse infections." *Malaria Journal*, **15**, 451. [Abstract]
Impact Factor (WoK): **2.715**; Nº of citations: 27

10. Oral Communications in Scientific Meetings

Underline: Presenting author, Bold: My name

1. **Fonseca, L.L.,** Joyner, C., The MaHPIC Consortium, Moreno, A., Barnwell, J.W., Galinski, M. and Voit, E.O. "Modeling host-parasite blood-stage interactions in malaria-infected rhesus macaques." The 15th International Conference on Molecular Systems Biology (ICMSB), Raitenhaslach, Germany, July 26-28, 2017.
2. **Fonseca, L.L.** "A mathematical model to characterize the removal of RBCs in a NHP model of malaria." American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016. (**Invited**)
3. **Fonseca, L.L.**, Alezi, H., Cabrera-Mora, M., Barnwell, J., Galinski, M., Moreno, A. and Voit, E.O. "A Modeling Framework for Investigating the Population Dynamics of Red Blood Cells During Malaria Infection." Annual Meeting for The Society for Mathematical Biology, Georgia State University, Atlanta, Georgia, USA, June 30-July 3rd, 2015.
4. **Fonseca, L.L.** and Voit, E.O. "Modeling the Blood Stage Infection In Malaria: Advantages Of Discrete Versus Continuous Approaches" CTW: From Within Host Dynamics to the Epidemiology of Infectious Disease, Mathematical Biosciences Institute, Columbus, Ohio, US, April 7-11, 2014.
5. **Fonseca, L.L.**, Chen, P-W and Voit, E.O. "Multi-level Multi-scale Modeling of the Heat Stress Response in *Saccharomyces cerevisiae*" Annual meeting of the Biomedical Engineering Society, Atlanta, Georgia, USA, October 24-27, 2012. (**Invited**)
6. **Fonseca, L.L.**, Sánchez, C., Santos, H. and Voit, E.O. "Biochemical systems analysis of heat stress and adaption of the trehalose cycle in Saccharomyces cerevisiae using *in vivo* ^{13}C-NMR time series data." 12th International Congress on Molecular Systems Biology, Lleida, Spain, May 8-12, 2011.
7. **Fonseca, L.L.**, Alves, P. M., Carrondo, M.J.T. and Santos, H. "^{13}C-NMR spectroscopy to study the effect of ethanol on primary astrocytes" XII Congresso Nacional de Bioquímica, Povoa do Varzim, Portugal, September 28-30, 2000.

11. Other Oral Communications in Scientific Meetings

Underline: Presenting author, Bold: My name

1. Gupta, A., **Fonseca, L.L.** and Voit, E.O. "Dynamic Models of Malaria" 6th International Conference on Mathematical Biology, Beijing, PR China, June 22-25 2018.
2. Gupta, A., **Fonseca, L.L.** and Voit, E.O. "Dynamic Models of Malaria" Workshop 4: Multiscale Dynamics of Infections, Mathematical Biosciences Institute, Columbus, Ohio, US, April 23-27, 2018.
3. Gupta, A., **Fonseca, L.L.** and Voit, E.O. "Model-based inferences of disease-related phenotypical alterations from changes in gene expression." The 15th International Conference on Molecular Systems Biology (ICMSB), Raitenhaslach, Germany, July 26-28, 2017.
4. Tang, Y, **Fonseca, L**, the MaHPIC Consortium, Galinski, MR, Voit, E, Styczynski, MP (2016) "Systems Metabolic Modeling Reveals Differential Networks Perturbed at

Primary Infection and Relapse, Implicating Potential Biomarkers for Acute and Chronic Malaria." American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.

5. Chen, P-W, Dolatshahi, S., Yin, W., **Fonseca, L.L.** and Voit, E.O. "Weaving Biological Snapshots into Stories through Mathematical Modeling." Annual Meeting for The Society for Mathematical Biology, Georgia State University, Atlanta, Georgia, USA, June 30-July 3, 2015.
6. Chen, P-W, **Fonseca, L.L.** and Voit, E.O. "Coordination of Rapid Sphingolipid Responses to Heat Stress in Yeast" Annual meeting of the Biomedical Engineering Society, Atlanta, Georgia, USA, October 24-27, 2012.
7. Sierra, A., **Lopes da Fonseca, L.**, Rodrigues, T.B., Benito M., Ballesteros, P. and Cerdán, S. "Quantitative modelling of H3 hydrogen turnover in (2-^{13}C) glutamate and (2-^{13}C) glutamine during (1-^{13}C) glucose metabolism in the adult rat brain" 13th Scientific Meeting & Exhibition of The International Society for Magnetic Resonance in Medicine, South Beach, Miami, Florida, USA, May 7-13, 2005.
8. Sierra, A., **Lopes da Fonseca, L.**, Ballesteros, P. and Cerdán, S. "Quantitative modelling of H3 hydrogen turnover in (2-^{13}C) glutamate and glutamine during (2-^{13}C) acetate metabolism in the adult rat brain" 21st Meeting of the European Society of Magnetic Resonance in Medicine and Biology, Copenhagen, Denmark, September 9-12, 2004.
9. Sierra, A., **Lopes da Fonseca, L.**, Rodrigues, T.B. and Cerdán, S. "Hydrogen turnover in mammalian brain as detected by (^{2}H)^{13}C-NMR spectroscopy. Bioenergetic implications" 6th International Meeting for Brain Energy Metabolism, Heraklion, Crete, Greece, May 21-24, 2004.

12. Consortia Communications in Scientific Meetings

Underline: Presenting author, Bold: Consortia

1. Joyner, C, Lamb, TJ, Ibegbu, CC, **the MaHPIC Consortium**, Tirouvanziam, R, Galinski, MR "T-cell dynamics reveal a potential role for CD8+ T-cells during blood-stage *P. cynomolgi* infection of rhesus macaques." **Oral**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
2. Tang, Y, **the MaHPIC Consortium**, Galinski, MR, Styczynski, MP (2016) "Global Landscape of Molecular Networks for Malaria Pathology Revealed by Integrative Multi-omics Analysis using Non-Human Primate Animal Model." American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
3. Joyner, C, Cabrera-Mora, M, **the MaHPIC Consortium**, Moreno, A, Barnwell, JW, Galinski, MR "Relapses versus Reinfections: Assessing the parasitological and clinical implications using *Plasmodium cynomolgi* as a model for *P. vivax*." **Oral**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
4. Joyner, C, Brito, CF, Tang, Y, Garimalla, S, Ibegbu, CC, Cabrera-Mora, M, **the MaHPIC Consortium**, Lamb, TJ, Galinski, MR "T-cell dynamics reveal a potential role for CD8+ T-cells during blood-stage *P. cynomolgi* infection of rhesus macaques." **Poster**, American

Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.

5. Joice, R, Tirouvanziam, R, Gutierrez, JB, Moreno, A, Kissinger, JC, Galinski, MR, **MaHPIC Consortium** "A multi-omic systems biology approach to identifying host and parasite features that confer resilience to malaria infection." **Poster**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
6. Chien, JT, Pakala, SB, Geraldo, JA, Lapp, SA, Barnwell, JW, **MaHPIC Consortium**, Kissinger, JC, Galinski, MR "PacBio technologies facilitate generation of a high-quality *Plasmodium coatneyi* genome sequence and assembly." **Poster**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
7. Pakala, SB, Joice, R, Nural, M, Humphrey, J, **MaHPIC Consortium**, Galinski, MR, Kissinger, JC "Clinical, demographic and laboratory data and metadata collection for human malaria blood samples collected from individuals living in diverse epidemiological settings." **Poster**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
8. Banton, S, Luo, R, Joice, R, Moreno, A, Galinski, MR, **MaHPIC Consortium**, Jones, DP, Li, S "Pathway group LASSO integration of metabolomics and transcriptomics to characterize malaria infection in rhesus macaques." **Poster**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
9. Hankus, A, Joice, R, Moreno, A, Galinski, MR, **MaHPIC**, **HAMMER** "Experimental Design of *Plasmodium knowlesi* Infection in Susceptible versus Refractory Non-Human Primate Model Hosts." **Poster**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
10. Pakala, SB, Nural, M, Humphrey, J, **MaHPIC Consortium**, Kissinger, JC "Data Quality Assurance and Data Management in a Large Systems Biology Project: MaHPIC." **Poster**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
11. Yan, Y, Trippe, ED, Kissinger, JC, Moreno, A, Galinski, MR, **MaHPIC Consortium**, Gutierrez, JB "Integrative Multi-Omic Approach To Understand Severe Malaria Infection." **Poster**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
12. Tseng, CC, Chien, JT, Lapp, SA, **MaHPIC Consortium**, Galinski, MR "Dynamics of SICAvar Gene Expression in *Plasmodium knowlesi* Malaria Infections in silico Reveals Potential Cellular Mechanisms Regulating Antigen Variation." **Poster**, American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.
13. Joice, R., Moreno, A., Kissinger, J.C., Galinski, M.R., **The MaHPIC Consortium** "Malaria Systems Biology at the Host-Pathogen Interface." **Poster**, American Society of Tropical Medicine's 64th Annual Meeting, Philadelphia, Pennsylvania, USA, October 25-29, 2015.

13. Poster Communications in Scientific Meetings

Underline: Presenting author, Bold: My name

1. Dalvi-Garcia, F., **Fonseca, L.L.**, Hedin-Pereira, C., Vasconcelos, A.T.R., and Voit, E. "Modeling the Effects of Cortisol in Serotonergic-Kynurenic Pathways in the Etiology of Depressive Behavior." 10th World Congress of Neuroscience (International Brain Research Organization; IBRO 2019), Daegu, Korea, September 21–25, 2019.

2. **Fonseca, L.L.**, Joyner, CJ, Moreno, A., Barnwell, JW, Galinski, MR, and Voit, E.O. "Modeling Host-Parasite Interactions in Malaria Blood-Stage Infections in Rhesus Macaques" Southeast Center for Mathematics and Biology (SCMB) Annual Symposium, Georgia Tech, Atlanta, US, January 28-29, 2019.

3. **Fonseca, L.L.**, Joyner, CJ, Moreno, A., Barnwell, JW, Galinski, MR, and Voit, E.O. "Modeling Host-Parasite Interactions in Malaria Blood-Stage Infections in Rhesus Macaques" Theoretical Biophysics Workshop, Emory University, Atlanta, US, January 16-18, 2019.

4. **Fonseca, L.L.**, Joyner, CJ, Moreno, A., Barnwell, JW, Galinski, MR, and Voit, E.O. "Modeling Host-Parasite Interactions in Malaria Blood-Stage Infections in Rhesus Macaques" 67th Annual Meeting of the American Society of Tropical Medicine and Hygiene, New Orleans, US, October 28- November 1, 2018.

5. **Fonseca, L.L.**, Joyner, CJ, Moreno, A., Barnwell, JW, Galinski, MR, and Voit, E.O. "Modeling Host-Parasite Interactions in Malaria Blood-Stage Infections in Rhesus Macaques" BMES 2018 Annual Meeting, Atlanta, US, October 17-20, 2018.

6. **Fonseca, L.L.**, Joyner, CJ, Moreno, A., Barnwell, JW, Galinski, MR, and Voit, E.O. "Dynamic Modeling of The Host-Parasite Interactions in Malaria Blood-Stage Infections in Rhesus Macaques" Workshop 4: Multiscale Dynamics of Infections, Mathematical Biosciences Institute, Columbus, Ohio, US, April 23-27, 2018.

7. Faraji, M., **Fonseca, L.L.**, Barros, J., Chen, F., Engle, N., Tschaplinski, T., Dixon, R.A. and Voit, E.O. "Model Analysis of Compartmentalized Lignin Biosynthesis Using Labeled Phenylalanine or Tyrosine in *Brachypodium distachyon*." The 18th International Conference on Systems Biology (ICSB 2017), Blacksburg, Virginia, USA, August 6-12, 2017.

8. **Fonseca, L.L.,** Joyner, C., The MaHPIC Consortium, Galinski, M. and Voit, E.O. "Modeling *Plasmodium cynomolgi* concealment during infections in *Macaca mulatta*." The 15th International Conference on Molecular Systems Biology (ICMSB), Raitenhaslach, Germany, July 26-28, 2017.

9. **Fonseca, LL**, Joyner, C, Galinski, MR, Malaria Host–Pathogen Interaction Center (MaHPIC), Voit, EO "Clinical, demographic and laboratory data and metadata collection for human malaria blood samples collected from individuals living in diverse epidemiological settings." American Society of Tropical Medicine's 65th Annual Meeting, Atlanta, Georgia, USA, November 12-17, 2016.

10. Dolatshahi, S., **Fonseca, L.L.** and Voit, E.O. "Kinetic dynamic modeling reveals a complex control system governing the glycolytic pathway in *Lactococcus lactis*." Annual Meeting for The Society for Mathematical Biology, Georgia State University, Atlanta, Georgia, USA, June 30-July 3, 2015.

11. Dam, P., **Fonseca, L.L.** and Voit, E.O. "Mathematical Modeling of the Dynamic Interactions within Lake Mendota." Annual Meeting for The Society for Mathematical Biology, Georgia State University, Atlanta, Georgia, USA, June 30-July 3, 2015.
12. Chen, P-W, **Fonseca, L.L.**, Hannun, Y. and Voit, E.O. "Dynamics of the Heat Stress Response of Sphingolipids in Yeast." Annual Meeting for The Society for Mathematical Biology, Georgia State University, Atlanta, Georgia, USA, June 30-July 3, 2015.
13. Faraji, M., **Fonseca, L.L.**, Escamilla-Treviño, L., Dixon, R. and Voit, E.O. "Analysis of the dynamics of Lignin biosynthetic pathway in *Panicum virgatum*." Annual Meeting for The Society for Mathematical Biology, Georgia State University, Atlanta, Georgia, USA, June 30-July 3, 2015.
14. Dam, P., **Fonseca, L.L.** and Voit, E.O. "Mathematical Modeling of the Dynamic Interactions within Lake Microbiota." American society for Microbiology (ASM) Conference, New Orleans, Louisiana, USA, May 30-June 2, 2015.
15. Dolatshahi, S., **Fonseca, L.L.** and Voit, E.O. "Dynamic modeling reveals the complex regulation of the glycolytic pathway in *Lactococcus lactis*." American Society for Microbiology (ASM) Conference, New Orleans, Louisiana, USA, May 30-June 2, 2015.
16. Dolatshahi, S., **Fonseca, L.L.** and Voit, E.O. "Kinetic dynamic model of the *Lactococcus lactis*." HHMI quantitative Biology Conference, Atlanta, Georgia, USA, June 11-14, 2013.
17. Dolatshahi, S., **Fonseca, L.L.** and Voit, E.O. "Extended dynamic flux estimation of a model of the glycolytic pathway in the dairy bacterium *Lactococcus lactis*." Frontiers in Systems and Synthetic Biology Conference, Atlanta, Georgia, USA, March 20-24, 2013.
18. Chen, P-W, **Fonseca, L.L.** and Voit, E.O. "Coordination of Rapid Sphingolipid Responses to Heat Stress in Yeast" South eastern regional lipid conference, Cashiers, North Carolina, USA, November 7-9, 2012.
19. Radoš, D., **Fonseca, L.L.**, Mingote, A.I., Carvalho, A.L., Neves, A.R. and Santos, H. "The effect of CO_2 on succinate production by wild-type *Corynebacterium glutamicum*: metabolic flux analysis by ^{13}C-NMR" Symposium on Bio-based Production of Organic Acids, Frankfurt/Main, Germany, May 10-11, 2012.
20. **Fonseca, L.L.**, Santos, H. and Voit, E.O. "Biochemical systems analysis of heat stress and adaptation of the trehalose cycle in *Saccharomyces cerevisiae* using *in vivo* ^{13}C-NMR time series data" 8th International Conference on Bioinformatics: "From Genomics to Synthetic Biology", Atlanta, Georgia, USA, November 10-12, 2011.
21. **Fonseca, L.L.**, Sánchez, C., Voit, E.O. and Santos, H. "Biochemical systems analysis of the trehalose cycle in *Saccharomyces cerevisiae* based on *in vivo* ^{13}C-NMR data: the effect of heat stress" 1st International Metabolomics Symposium in Germany, Freising-Weihenstephan, Germany, March 10-12, 2010.
22. Datta, S., **da Fonseca, L.L.** and Voit, E.O. "Stochastic modeling and statistical inference of time-course metabolic data." IBSI International Launch Conference – "Frontiers in Multi-Scale Systems Biology", Atlanta, USA, October 18-21, 2008.
23. **Fonseca, L.L.**, Santos, H. and Voit, E.O. "Modeling temperature effects on the trehalose cycle in *Saccharomyces cerevisiae* using *in vivo* ^{13}C-NMR data of intracellular

metabolites." IBSI International Launch Conference – "Frontiers in Multi-Scale Systems Biology", Atlanta, USA, October 18-21, 2008.

24. Neves, A. R., Pool, W. A., Castro, R., **Fonseca, L. L.**, Kuipers, O. P., Santos, H. and Kok, J. "Effect of inactivating components of glucose uptake pathways on the glycolytic dynamics of Lactococcus lactis." 9th Symposium on Lactic Acid Bacteria. Health, Evolution and Systems Biology, Egmond aan Zee, The Netherlands, August 31 - September 4, 2008.

25. **Fonseca, L.L.**, Sánchez, C., Voit, E.O. and Santos, H. "*In vivo* ^{13}C-NMR spectroscopy to monitor the kinetics of intracellular metabolite pools in *Saccharomyces cerevisiae* during adaptation to heat shock: input data for a multi-level model of the trehalose cycle" EC-US Workshop on "Metabolomics and Environmental Biotechnology", Mallorca, Spain, June 16-17, 2008.

26. **Fonseca, L.L.**, Sánchez, C., Wu, J., Santos, H., and Voit, E.O. "^{13}C-NMR to monitor online the kinetics of intracellular metabolite pools in response to heat stress: input data for modeling the trehalose cycle in *Saccharomyces cerevisiae*" 10th International Conference on Molecular Systems Biology (ICMSB 2008), University of the Philippines, Diliman, Quezon City, Philippines, February 25-28, 2008.

27. Geraldes, C.F.G.C., Fonseca, C.P., Montezinho, L.P., Castro, M.M.C.A., **Fonseca, L.L.**, Alves, P.M., and Santos, H. "^{23}Na Multiple Quantum Filtered NMR Characterization of Na^+ Binding and Dynamics in Animal Cells – a Comparative Study and Effect of Na^+/Li^+ Competition" European Magnetic Resonance conference, Tarragona, Spain, July 1-5, 2007.

28. **Fonseca, L.L.**, Sánchez, C., Voit, E.O., and Santos, H. "^{13}C-NMR to monitor online the kinetics of intracellular metabolite pools in response to heat stress: input data for modeling the trehalose cycle in *Saccharomyces cerevisiae*" European Magnetic Resonance conference, Tarragona, Spain, July 1-5, 2007.

29. **Fonseca, L.L.**,Sierra, A., Santos, H., and Cerdán, S. "Recycling of lactate through the plasma membrane of primary cultures of astrocytes and neurons from rat brain as detected by (^{13}C, ^{2}H) NMR" 7th International Meeting on Brain Energy Metabolism, Lausanne, Switzerland, August 15-18, 2006.

30. **Fonseca, L.L.**, Sierra, A., Santos, H., and Cerdán, S. "Lactate recycling in primary cultures of nerve cells from rat brain studied by (^{2}H) ^{13}C NMR" International Conference On Molecular Systems Biology, Munich, Germany, July 31st-August 4, 2006.

31. Jorge, C., **Fonseca, L.L.**, Boos W. and Santos, H. "Transport of trehalose and glucose in the thermophilic bacterium *Rhodothermus marinus*" Micro-Biotec'05, Póvoa do Varzim, Portugal, November 30-Dezember 3rd, 2005.

32. Sá Santos, S., **Fonseca, L.L.**, Monteiro, M.A.R., Carrondo, M.J.T. and Alves, P. M. "Alternative strategies for primary brain cells culturing in stirred tank bioreactors" 6th International Meeting for Brain Energy Metabolism, Heraklion, Crete, Greece, May 21-24, 2004.

33. **Fonseca, L.L.**, Alves, P. M., Carrondo, M.J.T. and Santos, H. "Is glutamate metabolism in astrocytes controlled by the extracellular concentration of glutamate or by glutamine

synthetase activity?" 6th International Meeting for Brain Energy Metabolism, Heraklion, Crete, Greece, May 21-24, 2004.

34. **Fonseca, L.L.**, Sierra, A., Santos, H., and Cerdán, S. "Lactate recycling in primary cultures of astrocytes and neurons studied by (^{2}H)^{13}C-NMR spectroscopy" 6th International Meeting for Brain Energy Metabolism, Heraklion, Crete, Greece, May 21-24, 2004.

35. Alves, P., Sa Santos, S., **Fonseca, L.L.**, Monteiro, M.A.R., Carrondo, M.J.T. (2003) "Alternative approaches to culture brain cells in stirred tank bioreactors." 1st World Congress on Regenerative Medicine, Leipzig, Germany, October 22-24, 2003.

36. **Fonseca, L.L.**, Alves, P. M., Combadão, J., Almeida, J.S., Carrondo, M.J.T. and Santos, H. "Metabolic adaptation of primary astrocytes to a constant supply of glutamate" 5th European meeting on glial cell function in health and disease, Rome, Italy, May 21-25, 2002.

37. **Fonseca, L.L.**, Alves, P. M., Carrondo, M.J.T. and Santos, H. "Ethanol effect on central metabolism of primary astrocytes studied by ^{13}C- and ^{31}P-NMR spectroscopy" 27th Meeting of the Federation of European Biochemical Societies, Lisbon, Portugal, June 30-July 5, 2001.

38. **Fonseca, L.L.**, Alves, P. M., Carrondo, M.J.T. and Santos, H. "Ethanol effect on central metabolism of primary astrocytes studied by ^{13}C- and ^{31}P-NMR spectroscopy" 17th Meeting of the European Society for Animal Cell Technology, Tylösand, Sweden, June 10-14, 2001.

39. Alves, P. M., **Fonseca, L.L.**, Peixoto, C. C., Carrondo, M.J.T. and Santos, H. "NMR studies on energy metabolism of immobilized primary neurons and astrocytes during hypoxia and ischemia" 17th Meeting of the European Society for Animal Cell Technology, Tylösand, Sweden, June 10-14, 2001.

40. Alves, P. M., **Fonseca, L.L.**, Carrondo, M.J.T. and Santos, H. "NMR studies on energy metabolism of immobilized primary neurons and astrocytes during hypoxia, ischemia and hypoglycemia" 5th International Conference on Brain Energy Metabolism, Trondheim, Norway, May 19-22, 2001.

41. **Fonseca, L.L.**, Alves, P. M., Carrondo, M.J.T. and Santos, H. "Ethanol effect on central metabolism of primary astrocytes studied by ^{13}C- and ^{31}P-NMR spectroscopy" 5th International Conference on Brain Energy Metabolism, Trondheim, Norway, May 19-22, 2001.

42. **Fonseca, L.L.**, Alves, P. M., Carrondo, M.J.T. and Santos, H. "^{31}P- and ^{13}C-NMR spectroscopy in the study of the effect of ethanol on the metabolism of primary astrocytes" 49TH Harden Conference, Oxford, UK, Agosto 14-18, 1999.

43. **Fonseca, L.L.**, Alves, P. M., Carrondo, M.J.T. and Santos, H. "Effects of ethanol on the metabolism of rat primary brain cell cultures" XI Congresso Nacional de Bioquímica, Tomar, Portugal, November 28-30, 1998.

14. Ph.D. thesis

Title: Metabolism of primary astrocytes studied by NMR: metabolic trafficking and neuroprotection.
Advisor: Prof. Dr. Helena Santos
Defense Date: September 11, 2006
Publisher: Universidade Nova de Lisboa. Instituto de Tecnologia Química e Biológica
Universidade Nova de Lisboa, Instituto de Tecnologia Química e Biológica.
URL: http://hdl.handle.net/10362/6845

15. Affiliation in Scientific Societies

Portuguese Biochemical Society
European Society for Neurochemistry
Portuguese American Postgraduate Society
Biomedical Engineering Society
AAAS Member
American Society of Tropical Medicine and Hygiene
American Society for Biochemistry and Molecular Biology
Society for Mathematical Biology

16. Editorial Board Member

Review Editor in Infectious Diseases, Frontiers in Microbiology.
Review Editor in Data and Model Integration, Frontiers in Systems Biology.

16.1 Ad-hoc Reviewer

Journal of Neuroscience Research
Mathematical Biosciences
Journal of Theoretical Biology
Frontiers in Cell and Developmental Biology
Advances in Difference Equations

17. Participation in Research Projects

2022-2026 "Generalized Algebraic Techniques Advancing Scientific Discovery", DARPA, $5.8M - Coinvestigator/Proposing Team Member (UF).

2018-2022 "Control of heterogeneous microbial communities using model-based multi-objective optimization", NIH (5R01GM127909-02), $400k – Coinvestigator/ Team Member (UF).

2016-2019 "ThoR's HAMMER Technologies for Host Resilience: Host Acute Models of Malaria to study Experimental Resilience", DARPA Office of Research Infrastructure Programs (OD P51OD011132), $6M – Coinvestigator/Proposing Team Member (GATECH).

2014-2018 "Probing the Metabolic Network in Salmonella and its Response to Perturbations", NSF (1411672), $300k – Coinvestigator/Proposing Team Member (GATECH).

2013-2014 "REVERTING THE CARBON CYCLE: FROM CO TO BIODIESEL", FCT (EXPL/BIA-MIC/1455/2012), €49k – Coinvestigator/Proposing Team Member (ITQB).

2012-2016 "MaHPIC – The Malaria Host-Pathogen Interaction Center", NIAID-NIH (#HHSN272201200031C), $19.4M – Coinvestigator/Team Member (GATECH).

2012-2017 2007-2012 "BESC – The BioEnergy Science Center", (DE-AC05-00OR22725) – Coinvestigator/Team Member (GATECH), $135M.

2011-2014 "PhytoLac – Engineered Lactococcus lactics for the optimized production of nutraceutical plant-derived polyphenols", FCT (PTDC/EBB-EBI/113727/2009), €159k – Coinvestigator/Proposing Team Member (ITQB).

2009-2013 "Collaborative Research: Iron limitation, carbon metabolism and siderophore production in marine bacteria – a systems biology approach", NSF (0928196), $217k – Coinvestigator/Team Member (GATECH).

2009-2012 "Bio-based production of chemical building blocks: Corynebacterium glutamicum as a platform for new and efficient bioprocesses", ERANET (ERA-IB/BIO/0002/2008), €184k – Coinvestigator/Proposing Team Member (ITQB).

2006-2010 "Assessment of Pathway Design through Multi-Level Modeling and Experimentation", NSF (MCB-0517135), $61k – Coinvestigator/Team Member (ITQB).

2003-2006 "Metabolic Trafficking Between Neurons and Astrocytes Under Conditions Implicated in Neurological Disorders: ^{13}C-NMR and Flux Analysis", FCT (POCTI/BIO/39214/2001), €98k – Coinvestigator/Proposing Team Member (ITQB).

1995-2002 "Cultura e Metabolismo de Células Animais: Tráfico Metabólico e Controlo de Produção de Proteínas Recombinantes", FCT (PRAXIS/2/2.1/BIO/1117/95) – Coinvestigator/Team Member (ITQB).

18. Honors and awards

2019 ***Thanks for Being a Great Teacher!*** – *In appreciation of your teaching style and dedication to helping students learn in Biomedical Engineering 3520*, awarded by the Center for Teaching and Learning at Georgia Tech, Nov/2019

2009-2012 Postdoctoral Fellowship (3-years extension) **SFRH/BPD/26902/2006** – Fundação para a Ciência e Tecnologia (63k Eur).

2006-2009 Postdoctoral Fellowship (Abroad) **SFRH/BPD/26902/2006** – Fundação para a Ciência e Tecnologia (63k Eur).

2000-2004 Doctoral Fellowship **PRAXIS XXI/BD/21532/99** – Fundação para a Ciência e Tecnologia (48k Eur).

1998-1999 BTI Fellowship in project **PRAXIS/2/2.1/BIO/1117/95** – Fundação para a Ciência e Tecnologia (9k Eur).

1997-1998 **PRODEP/5.2/97-98** Fellowship awarded to support the trainee period of the undergraduate degree – "Brain cell culture studied by *in vivo* nuclear magnetic resonance techniques." (3k Eur).

1995 **TOP10** (Quadro de honra) Freshman in the Faculty of Sciences of University of

Lisbon

19. Visited laboratories

2010 (1 Week) Dr Marco Oldiges and Dr. Katharina Nöh Labs, at the Institute of Bio- and Geosciences, Forschungszentrum Jülich GmbH, Jülich, Germany, to get acquainted with the software packages 13CFLUX and OMIX developed by Dr Nöh's group for the determination of metabolic fluxes under steady-state and pseudo-steady-state conditions (MFA).

2004 (3 Months) Professor Sebastián Cerdán laboratory, at the Instituto de Investigaciones Biomédicas "Alberto Sols", Madrid, Spain, to study lactate metabolism in primary cultures of astrocytes and neurons by [^{2}H,^{13}C]NMR.

20. Languages

	Understanding	Speaking	Writing
Portuguese	C2	C2	C2
English	C1	C1	C1
Spanish	B1	B2	A2
French	B1	A2	A1

Levels: A1/2 Basic; B1/2 Independent; C1/2 Advanced.

21. Technical experience

Laboratory skills

Mammalian cell culture; Preparation of primary cultures of brain cells; Bioreactor operation for cell cultures; ^{1}H, ^{2}H, ^{7}Li, ^{13}C, ^{19}F, ^{23}Na, ^{31}P NMR analysis; Isotopomeric analysis; *In vivo* NMR of immobilized animal cells and of microbial suspensions; SDS-PAGE; Western blot analysis; HPLC; YSI biochemistry analyzer; Enzymatic analysis; Astrocytes; Glutamatergic and GABAergic Neurons; BHK; CHO; RBC; Lactococcus lactis; Saccharomyces cerevisiae culturing; Protein purification; small metabolite purification.

Computational skills

Metabolic modeling (ODEs): Biochemical Systems Theory (GMA and S-systems models), Michaelis-Menten models; Lotka-Volterra; SIR; Continuous and discrete kinetic models, Parameter estimation, Gradient methods, Simulated Annealing, Genetic Algorithm, Monte Carlo simulations; ^{13}C-Metabolic Flux Analysis; Isotopomeric analysis; Principal Component Analysis; Clustering Analysis.

Computer skills

Software: MatLab™ (programming and GUI development), SQL database, TopSpin™; proficient in deployment, configuration, and usage of Microsoft Windows 7/XP/2000; Microsoft Office tools (Word, Excel, PowerPoint).

Hardware: Full computer assemblage from components, component selection and maintenance; installation and configuration of peripherals and components.

Networking: Installation, configuration and troubleshooting of routers, switches and NICs.

Gainesville, July 22, 2022

Luis Lopes da Fonseca