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Computational modelling of mycobacterium infection and innate immune response in zebrafish

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List of Publications

Carvalho, Rafael V., Davids, Willem, Meijer, Annemarie H., Verbeek, Fons J.: Spatio-temporal Modelling and Simulation of Mycobacterium Pathogenesis Using Petri nets. In: BIONETICS2011. Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, vol. 103, pp 236-241, Springer (2012).

Carvalho, Rafael V., Kleijn, J., Meijer, Annemarie H., Verbeek, Fons J.: Modeling Innate Immune Response to Early Mycobacterium Infection. In: Computational and Mathematical Methods in Medicine, vol. 2012, 12 pages (2012).

Carvalho, Rafael V., Kleijn, J., Verbeek, Fons J.: Research in Biomodelling and Petri Nets. De Leidsche Flesch Almanak, P. 270 – 273, (2013)

Carvalho, Rafael V., Kleijn, J., & Verbeek, Fons J.: A Multi-Scale Extensive Petri Net Model of the Bacterial-Pathogen Interaction. In: Heiner, M. (ed.) 5th International Workshop on Biological Process & Petri Nets. Pp. 15-29. CEUR Workshop Proceedings, Tunis, Tunisia (2014).

Carvalho, Rafael V., Heuvel, Jeroen H. Kleijn, J., Verbeek, Fons J.: Coupling of Petri Net Models of the Mycobacterial Infection Process and Innate Immune Response. In: Computation, vol.3, 150-76 (2015).

Curriculum Vitae

Rafael Viana de Carvalho was born on December 22nd, 1981 in Rio Branco, capital of the state of Acre, Brazil. He received his bachelor degree of Computer Science at Pontificia Universidade Católica de Goiás in 2004. In the same year, he got a scholarship from Nucleo de Computação e Eletrônica at Federal University of Rio de Janeiro where he received his master degree in Computer Science in 2008. In the same year he was accepted by the Fellowship Program of United Nation University and worked as research trainee at the United Nation University International Institute for Software Technology in Macau, China till 2009. After that, he worked as Teaching Fellow at Computer Science department from Pontificia Universidade Católica de Goiás till July 2010. In the same year, he was accepted as PhD student supervised by Fons J. Verbeek in the section Imaging and Bioinformatics of the Leiden Institute of Advanced Computer Science, Leiden University. To support his PhD work, he was granted by Erasmus Mundus Scholarship program and Science Without Borders program from Conselho Nacional de Pesquisa (CNPq-Brazil). His research focuses on modeling and simulation process, computation and mathematical modeling methods, bioinformatics, computer graphics, biological systems representation and analysis.

