

Rodrigo Guarischi Sousa

Coordinator of Bioinformatics / Senior Bioinformatician

Passionate about ideas that may be applied to improve general public health, I have dedicated the last 13+ years full-time to the bioinformatics field. I have wide experience on NGS data processing and team leadership towards delivery of healthcare solutions.

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WORK EXPERIENCE

Coordinator of Bioinformatics

GeneOne, DASA

06/2017 - Present

São Paulo, SP, Brazil

Achievements/Tasks

- Established and led the bioinformatics department at DASA (hired and trained 8 clinical bioinformaticians over the past 4 years);
- Coordinated the clinical validation of multiple strategic products based on NGS data (germline and somatic panels, exomes, NIPTs). Jointly these assays generate over 10MM USD revenue yearly;
- Built a cloud-based IT infrastructure used by the initiative *DNA of Brazil* for processing Whole Genome Sequencing data. This project is creating a genome-wide variant profile of 15k Brazilians;
- Led data analysis on genomic surveillance initiative for COVID-19. *Genov* project is genotyping 30k PCR+ samples until May/22 on real time.

Visiting researcher

Ontario Institute for Cancer Research

05/2015 - 08/2016

Toronto, ON, Canada

Achievements/Tasks

- Developed a gene signature that predicts breast cancer relapse in 15-years by applying machine learning technics.

Bioinformatics researcher - PhD student

Biochemistry Department, University of São Paulo

08/2012 - 06/2017

São Paulo, SP, Brazil

Achievements/Tasks

- Characterized 153 angiogenesis-related genes using RNA-Seq expression data derived from an animal model;
- Assembled a bacterial genome using long-read data, performed its annotation, pan-genome and transcriptome analysis;
- Prepared 4 scientific publications and worked as ad hoc peer reviewer for 3 bioinformatic journals.

Bioinformatics researcher

Blood Center Foundation of Ribeirão Preto

06/2007 - 07/2012

Ribeirão Preto, SP, Brazil

Achievements/Tasks

- Developed a DNA variant calling pipeline for Sanger sequencing data;
- Coordinated bioinformatics summer courses at USP (2010, 2011, 2012).

EDUCATION

Ph.D. in Bioinformatics

University of São Paulo (USP)

08/2012 - 06/2017

São Paulo, SP, Brazil

M.Sc in Genetics/Bioinformatics

University of São Paulo (USP)

02/2010 - 08/2012

Ribeirão Preto, SP, Brazil

B.Sc. in Biomedical Informatics

University of São Paulo (USP)

03/2006 - 12/2009

Ribeirão Preto, SP, Brazil

SKILLS

Bioinformatics

Team leadership

Variant calling

Short and long-read sequencing

Transcriptome/RNA-Seq

Machine learning

Metagenomics

Bacterial genome assembly

Linux

R

Bash

Perl

Docker

Jenkins

Git

SVN

Amazon Web Service

Google Cloud Platform

PostgreSQL

MySQL

PUBLICATIONS

A transcriptome-based signature of pathological angiogenesis predicts breast cancer patient survival (2019)

PLoS Genetic (<https://doi.org/10.1371/journal.pgen.1008482>)

- **Rodrigo Guarischi-Sousa**, Jhonatas Monteiro S, Lilian C. Alecrim, Jussara S. Michaloski, Laura B. Cardeal, Elisa N. Ferreira, Dirce M. Carraro, Diana N Nunes, Emmanuel Dias-Neto, Juri Reimand, Paul C. Boutros, João Carlos Setubal, and Ricardo José Giordano

Comparative analysis of *Ralstonia solanacearum* methylomes (2017)

Frontiers in Plant Science (<https://doi.org/10.3389/fpls.2017.00504>)

- Ivan Erill, Marina Puigvert, Ludovic Legrand, **Rodrigo Guarischi-Sousa**, Céline Vandecasteele, Joao Carlos Setubal, Stephane Genin, Alice Guidot, and Marc Valls

Transcriptomes of *Ralstonia solanacearum* during Root Colonization of *Solanum commersonii* (2017)

Frontiers in Plant Science (<https://doi.org/10.3389/fpls.2017.00370>)

- Marina Puigvert, **Rodrigo Guarischi-Sousa**, Paola Zuluaga, Núria S. Coll, Alberto P. Macho, João C. Setubal, and Marc Valls

Complete genome sequence of the potato pathogen *Ralstonia solanacearum* UY031 (2016)

Standards in Genomic Sciences (<https://rdcu.be/cKLB2>)

- **Rodrigo Guarischi-Sousa**, Marina Puigvert, Núria S. Coll, María Inés Siri, María Julia Pianzola, Marc Valls, and João C. Setubal

Distinct patterns of somatic alterations in a lymphoblastoid and a tumor genome derived from the same individual (2011)

Nucleic Acids Research (<https://doi.org/10.1093/nar/gkr221>)

- Pedro A F Galante, Raphael B. Parmigiani, Qi Zhao, Otávia L. Caballero, Jorge E. De Souza, Fábio C P Navarro, Alexandra L. Gerber, Marisa F. Nicolás, Anna Christina M Salim, Ana Paula M Silva, Lee Edsall, Sylvie Devalle, Luiz G. Almeida, Zhen Ye, Samantha Kuan, Daniel G. Pinheiro, Israel Tojal, Renato G. Pedigoni, **Rodrigo G M A De Sousa**, Thiago Y K Oliveira, Marcelo G. De Paula, Lucila Ohno-Machado, Ewen F. Kirkness, Samuel Levy, Wilson A. Da Silva, Ana Tereza R Vasconcelos, Bing Ren, Marco Antonio Zago, Robert L. Strausberg, Andrew J G Simpson, Sandro J. De Souza, and Anamaria A. Camargo.

LANGUAGES

Portuguese

Native or Bilingual Proficiency

English

Full Professional Proficiency