Ligia Monica Mateiu

Neuromics Support Facility - Bioinformatics
VIB-UAntwerp Center for Molecular Neurology
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Education
MD degree, University of Medicine and Pharmacy, Timisoara (Romania), 1999
MSc in Epidemiology and Statistical Genetics, University of Pavia, 2000
PhD in Medical Genetics (Statistical Genetics), University of Alberta, 2006

Current Position
since September 2014 Research Associate

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Keywords
Bioinformatics, RNA sequencing, data analysis, NGS data processing

Science

I provide bioinformatics support for VIB research personnel. My main task is the analysis of RNA sequencing data coming from any of the research groups. Together with Mojca Strazisar, expert scientist in Genomic Service Facility, I provide informative choices for RNA-seq experiments to find the most optimal transcriptome profiling project specific solutions. I am responsible for setting up the analysis pipeline to process raw instrument output and conduct downstream bioinformatics analysis (i.e. data quality control, mapping to reference genomes, gene expression quantification, differential gene expression analysis, gene co-expression, RNA-seq variants, custom analysis). I keep updated on relevant scientific literature and product updates to help improve RNA-seq data analysis methods. I support preparation of manuscripts and grant applications.
As part of the Bioinformatics team, I follow up on the targeted resequencing experiments (MASTR assays) and I am tangentially involved in the data management projects for the center.

Publications
(from 2013)

Geuens T., De Winter V., Rajan N., Achsel T., **Mateiu L.**, Almeida-Souza L., Asselbergh B., Bouhy D., Auer-Grumbach M., Bagni C., Timmerman V. Mutant HSPB1 causes loss of translational repression by binding to PCBP1, an RNA binding protein with a possible role in neurodegenerative disease. Acta Neuropathologica Communications 2017 (PMID: 28077174)

Peeters K., Palaima P., Pelayo-Negro AL., García A., Gallardo E., García-Barredo R., **Mateiu L.**, Baets
J., Menten B., De Vriendt E., De Jonghe P., Timmerman V., Infante J., Berciano J., Jordanova

A. Charcot-Marie-Tooth disease type 2G redefined by a novel mutation in LRSAM1. Annals of Neurology 2016 (PMID: 27686364) (I.F.: 9.89)

Verheijen J., Van den Bossche T., van der Zee J., Engelborghs S., Sanchez-Valle R., Lladó A., Graff C., Thonberg H., Pastor P., Ortega-Cubero S., Pastor M.A., Benussi L., Ghidoni R., Binetti G., Clarimon J., Lleó A., Fortea J., de Mendonça A., Martins M., Grau-Rivera O., Gelpi E., Bettens K., **Mateiu L.**, Dillen L., Cras P., De Deyn P.P., Van Broeckhoven C., Sleegers K. A comprehensive study of the genetic impact of rare variants in SORL1 in European early-onset Alzheimer's disease. Acta Neuropathologica 2016 (PMID: 27026413) (I.F.: 12.21)

Zamani Esteki M., Dimitriadou E., **Mateiu L**, Melotte C., Van der Aa N., Kumar P., Das R., Theunis K., Cheng J., Legius E., Moreau Y., Debrock S., D'Hooghe T., Verdyck P., De Rycke M., Sermon K., Vermeesch J.R., Voet T. Concurrent Whole-Genome Haplotyping and Copy- Number Profiling of Single Cells. American Journal of Human Genetics 2015 (PMID: 25983246)(I.F.10.99)

Voet T., Kumar P., Van Loo P., Cooke S.L., Marshall J., Lin M.L., Zamani Esteki M., Van der Aa N., **Mateiu L.**, McBride D.J., Bignell G.R., McLaren S., Teague J., Butler A., Raine K., Stebbings L.A., Quail M.A., D'Hooghe T., Moreau Y., Futreal P.A., Stratton M.R., Vermeesch J.R., Campbell P.J. Single-cell paired-end genome sequencing reveals variation per cell cycle. Nucleic Acids Research 2013 (PMID: 23630320)(I.F.: 8.08)

Ramos A., Santos C., **Mateiu L.**, Gonzalez Mdel M., Alvarez L., Azevedo L. and Amorim A., Aluja MP.Frequency and pattern of heteroplasmy in the complete human mitochondrial genome. PLoS One 2013 (PMID: 24098342) (I.F.: 3.53)

Van der Aa N., Cheng J., **Mateiu L.**, Esteki M.Z., Kumar P., Dimitriadou E., Vanneste E., Moreau Y., Vermeesch J.R. and Voet, T. Genome-wide copy number profiling of single cells in S-phase reveals DNA-replication domains. Nucleic Acids Research 2013 (PMID: 23295674) (I.F.: 8.08)

All publications