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C U R R I C U L U M V I T A E

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E D U C A T I O N A N D E M P L O Y M E N T

- **2012-present:** Assistant Professor, Department of Genetics and Evolutionary Biology, University of São Paulo, São Paulo, Brazil.
- **2011-2012:** Research Professional Associate. University of Chicago, Department of Ecology and Evolution. Chicago, Illinois 60637. Evolution of X-inactivation during *Drosophila* spermatogenesis.
- **2006-2010:** Post-Doctoral Scholar with Dr. Manyuan Long – University of Chicago, Department of Ecology and Evolution. Chicago, Illinois 60637. Evolution of X-inactivation during *Drosophila* spermatogenesis.
- **2002-2005:** PhD student. Biochemistry Department, University of São Paulo, São Paulo, Brazil. Adviser: Dr. Sandro José de Souza – Laboratory of Computational Biology – Ludwig Institute for Cancer Research. Intron evolution.
- **2000-2002:** MS student. Genetics Department, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil. Adviser: Dr. Antonio Bernardo de Carvalho – Laboratory of *Drosophila* Population Genetics. Identification of *Drosophila melanogaster* Y chromosome genes.
- **1996-2000:** BS student. Biological Sciences and Genetics. Federal University of Rio de Janeiro, Rio de Janeiro, Brazil.

A D D I T I O N A L R E S E A R C H E X P E R I E N C E

- **2006:** Developmental studies of the *Drosophila* testis, with Dr. Timothy Karr – Department of Biology & Biochemistry – University of Bath, UK.
- **1999:** Development of molecular markers for sex-ratio X chromosomes in *Drosophila mediopunctata*, with Dr. Andrew Clark – the Pennsylvania State University, Pennsylvania, U.S.A.

A W A R D S , H O N O R S A N D F U N D I N G

- 2016 – Young Investigator Award – Sao Paulo Research Foundation
- 2009 – Travel grant for the Evolution of Sex & Recombination meeting – Iowa City, IA, USA.

- 2006 – Post-doctoral Fellowship from Pew Latin American Fellows Program, USA.
- 2006 – Post-doctoral Fellowship from CNPq, Brazil
- 2004 - Travel grant for the EMBO Phylogenetics Course – RJ, Brazil
- 2003 - Travel grant for course in Bioinformatics International Course ICGEB/LNNC – RJ, Brazil
- 2002 - 2006: FAPESP - PhD fellowship, São Paulo - SP - Brazil.
- 2000 - 2002: CNPq - MSc fellowship, Rio de Janeiro - RJ - Brazil.
- 1996 - 2000: CNPq - Scientific Initiation scholarship, Rio de Janeiro - Brazil.

T E A C H I N G

- Bio5752 – Biostatistics – graduate course at the Genetics program at the University of São Paulo. Principal Instructor 2018.
- Bio230 – Genetics and Evolution for Biomedical Sciences – undergraduate course at University of São Paulo. Principal Instructor 2012-2018.
- Introduction of Bioinformatics for Sequence Analyses – Short Course at Dept. Drosophila Genomics and Genetic Resources, Kyoto Institute of Technology, Kyoto, Japan. Invited Principal Instructor 2015.
- BIO0454-1 - Introduction to Computation Programming for Biology – undergraduate and graduate course at University of São Paulo. Principal Instructor 2014.
- BioSci12159 - Molecular Evolution II: Genes and Genomes – University of Chicago. Invited Instructor–spring 2009
- Intron origin and evolution. Federal University of Rio de Janeiro graduate course. Instructor – winter 2007

A D H O C R E V I E W E R

- Grant proposals: National Science Foundation, Sao Paulo Research Foundation, Brazilian Council for Scientific and Technological Development
- Journal articles: BMC Genomics, Briefings in Functional Genomics, Current Biology, Evolution, Gene, Genetica, Genetics, Genome Biology and Evolution, Genome Research, Journal Molecular and Evolution, Molecular Biology and Evolution, Nature Plants, PLoS Genetics,

A C A D E M I C A C T I V I T I E S

- 2013, Organizing Committee, The 21st Annual International Conference of Molecular Biology and Evolution, Chicago.
- 2004, Organizing Committee, II International Conference on Bioinformatics and Computational Biology, Angra dos Reis, RJ, Brazil.

P O S T - D O C S A N D S T U D E N T S

- Post-docs (Past: 1; Current:2)
- Doctorial Graduate students (Past: 2; Current: 2)
- Master Graduate students (Past: 2; Current: 2)
- Undergraduate students (Past: 11)

- The Role of Gametogenesis on the Origin and Evolution of New Genes. Young Investigator from Sao Paulo Research Foundation (2016-2020): PI
- Productivity Fellowship from Brazilian Council for Scientific and Technological Development (2015-2018): PI

I N V I T E D P R E S E N T A T I O N S

- Spermatogenesis expression and evolution of New Genes, **Third SCLS-CBIS Joint Life Science Research Workshop Evolution of Genes and Genomes**, Chengdu, China, April, 2018.
- Haploid selection and the origin of new genes. **Center for Systems Biology in Soochow University, Soochow**, China, April, 2018.
- The Use of Genomic and Gene Expression Large-Scale Data for the Analyses of Sexual Evolution, **Department of Applied Mathematics, Xi'an Jiaotong University**, Xi'an, China, April, 2018.
- Spermatogenesis and the Evolutionary Reorganization of the Genome. **Dept. Drosophila Genomics and Genetic Resources, Kyoto Institute of Technology**, Kyoto, Japan, October, 2015.
- Evolutionary Aspect of Drosophila spermatogenesis. **IX Simpósio de Ecologia, Genética e Evolução de Drosophila, Universidade de Brasília**, Brasília, Brazil, September, 2015.
- The use of genomic and gene expression large-scale data for the analyses of sexual evolution. **Colmea: Colóquio Interinstitucional: Modelos Escolásticos e Aplicações, Universidade Federal do Rio de Janeiro**, Rio de Janeiro, Brazil, April, 2015.
- Spermatogenesis and the Evolutionary Reorganization of the Genome. **XVIII Biosemana, Universidade Federal do Rio de Janeiro**. Rio de Janeiro, RJ, Brazil, May, 2014
- Accelerated recruitment of new brain development genes into human genome. **59o Congresso Brasileiro de Genética**. Aguas de Lindoia, SP, Brazil, September, 2013.
- Genetic Analyses of the Gene Movement between Sex Chromosomes and Autosomes. **Instituto Sírio Libanês de Ensino e Pesquisa**, São Paulo, SP, Brazil, November, 2012.
- Evolutionary aspects of the Human Genome Map. **Escola de estudos avançados em Genômica: Decodificando o DNA não-codificador. Universidade de São Paulo**. Ribeirão Preto, SP, Brazil, August, 2013.
- Genetic Analyses of the Gene Movement between Sex Chromosomes and Autosomes. **Departamento de Genética e Evolução da Universidade Federal de São Carlos**. São Carlos, SP, Brazil, November, 2012.
- Genetic Analyses of the Gene Movement between Sex Chromosomes and Autosomes. **Biological Department, University of New Mexico**, Albuquerque, NM, USA, April, 2012.
- Genetic Analyses of the Gene Movement between Sex Chromosomes and Autosomes. **Biological Sciences Department, University of Illinois at Chicago**, Chicago, IL, USA, February, 2012.
- Spermatogenesis and the Evolutionary Reorganization of the Genome. **Department of Biology, Wayne State University**, Detroit, MI, USA. February, 2011.
- Spermatogenesis and the Evolutionary Reorganization of the Genome. **Department of Biology, University of Syracuse**, Syracuse, NY, USA, February, 2011
- Genome Evolution Seeing Through the Gametogenesis. **Department of Biology, University of Sao Paulo**, São Paulo, Brazil, December, 2010.
- Genome Evolution Seeing Through the Gametogenesis. **Department of Genetics, Federal University of Rio de Janeiro**, Rio de Janeiro, Brazil, December, 2010.
- Genome Evolution Seeing Through the Gametogenesis. **FIOCRUZ – Oswaldo Cruz Foundation**, Rio de Janeiro, Brazil, December, 2010.

- Male Germline X Inactivation Impacting the Evolution of Male Genes in *Drosophila*. **Ludwig Institute**, São Paulo, Brazil, March, 2009.
- Male germline X inactivation and its consequences on the evolution of male related genes in *Drosophila*. **Institute of Biodesign**, Tempe, AZ, USA, October, 2008.
- Male germline X inactivation and its consequences on the evolution of male related genes in *Drosophila*. **Interface Estatística e Medicina**, Rio de Janeiro, Brazil, August, 2008.
- Intron/exon evolution. IV **Brazilian symposium on mathematical and computational biology**, Rio de Janeiro, Brazil, November, 2003.

P U B L I C A T I O N S

- Moreira de Mello JC, Fernandes GR, **Vibrantovski MD***, Pereira LV*. (2017). Early X chromosome inactivation during human preimplantation development revealed by single-cell RNA-sequencing. *Scientific Reports* 7:10794. (*Corresponding authors).
- Franca GS, Hinske LC Galante PA, **Vibrantovski MD**. (2017). Unveiling the impact of the genomic architecture on the evolution of vertebrate microRNAs. *Frontiers in Genetics* 8:34.
- Franca GS, **Vibrantovski MD***, Galante PA*. (2016). Host gene constraints and genomic context impact the expression and evolution of human microRNAs. *Nat Commun.* 7:11438. (*Corresponding authors).
- **Vibrantovski MD**. (2014). Meiotic sex chromosome inactivation in *Drosophila*. *J Genomics* 2:104-17.
- VanKuren NW, **Vibrantovski MD**. (2014) A novel dataset for identifying sex-biased genes in *Drosophila*. *J Genomics* 2:64-7.
- Gao G*, **Vibrantovski MD***, Zhang L, Li Z, Liu M, Zhang YE, Li X, Zhang W, Fan Q, VanKuren NW, Long M, Wei L. (2014) A long-term demasculinization of X-linked intergenic noncoding RNAs in *Drosophila melanogaster*. *Genome Res.* 24:629-38 (*Equally contributed).
- Long M, VanKuren NW, Chen S, **Vibrantovski MD** (2013). New gene evolution: little did we know. *Annu Rev Genet.* 47:307-33.
- **Vibrantovski MD***, Zhang YE, Kemkemer C, Lopes HF, Karr TL, Long M*. (2012) Re-analysis of the larval testis data on meiotic sex chromosome inactivation revealed evidence for tissue-specific gene expression related to the *Drosophila* X chromosome. *BMC Biol.* 10:49 (*Corresponding authors).
- **Vibrantovski MD***, Zhang YE, Kemkemer C, VanKuren NW, Lopes HF, Karr TL, Long M*. (2012) Segmental dataset and whole body expression data do not support the hypothesis that non-random movement is an intrinsic property of *Drosophila* retrogenes. *BMC Evol Biol.* 12:169 (*Corresponding authors).
- Wang J, Long M, **Vibrantovski MD**. (2012) Retrogenes Moved Out of the Z Chromosome in the Silkworm. *Journal of Molecular Evolution* 74:113-26.
- Chen S, Ni X, Krinsky B, Zhang YE, **Vibrantovski MD**, White KP, Long M. (2012) Reshaping of the global gene expression networks and sex-biased gene expression by integration of a young gene. *EMBO Journal* 31:2798-809.
- Zhang YE, Landback P, **Vibrantovski MD**, Long M. (2012) New genes expressed in human brains: implications for annotating evolving genomes. *Bioessays* 34:982-91.
- Zhang Y, Landback P, **Vibrantovski MD**, Long M. (2011) Accelerated Recruitment of New Brain Development Genes into the Human Genome. *PLoS Biology* 9:e1001179.
- Chen Z, Zhang YE, **Vibrantovski MD**, Luo J, Gao G, Long M. (2011) Deficiency of X-linked inverted duplicates with male-biased expression and the underlying evolutionary mechanisms in the *Drosophila* genome. *Molecular Biology and Evolution* 28:2823-32.
- Chen M, Zou M, Fu B, Li X, **Vibrantovski MD**, Gan X, Wang D, Wang W, Long M, He S (2011). Evolutionary Patterns of RNA-Based Duplication in Non-Mammalian Chordates. *PLoS One* 6:e21466.

- Zhang YE, **Vibrantovski MD**, Krinsky BH, Long M. (2011) A cautionary note for the retrocopy identification: DNA-based duplication of intron-containing genes significantly contribute to the origination of single exon genes. *Bioinformatics* 27:1749-53.
- Zhang Y, **Vibrantovski MD**, Landback P, Marais, GAB, Long M (2010) Chromosomal Redistribution of Male-biased Genes in Mammalian Evolution with Two Bursts of Gene Gain on the X Chromosome. *PLoS Biology* 8:e1000494.
- Zhang Y, **Vibrantovski MD**, Krinsky BH, Long M. (2010) Age-dependent chromosomal distribution of male-biased genes in *Drosophila*. *Genome Research* 20:1526-33
- **Vibrantovski MD***, Chalopin DS*, Lopes HF, Long M, Karr TL (2010) Direct evidence for postmeiotic transcription during *Drosophila melanogaster* spermatogenesis. *Genetics* 186:431-3 (*Equally contributed).
- **Vibrantovski MD**, Lopes HF, Karr TL, Long M. (2009) Stage-specific expression profiling of *Drosophila* spermatogenesis suggests that meiotic sex chromosome inactivation drives genomic relocation of testis-expressed genes. *PLoS Genetics* 5:e1000731. - With Perspective by Parsch J, 2009 X Chromosome: Expression and Escape. *PLoS Genetics* 5:e1000724.
- **Vibrantovski MD**, Zhang Y, Long M. (2009) General gene movement off the X chromosome in the *Drosophila* genus. *Genome Research* 19:897-903.
- **Vibrantovski MD***, Koerich LB*, Carvalho AB* (2008) Two new Y-linked genes in *Drosophila melanogaster*. *Genetics* 178:2325-7 (* Equally contributed).
- Havlioglu N, Wang J, Fushimi K, **Vibrantovski MD**, Kan Z, Gish W, Fedorov A, Long M, Wu JY (2007) An intronic signal for alternative splicing in the human genome. *PLoS ONE* 2:e1246.
- Fan C, **Vibrantovski MD**, Chen Y, Long M. (2007) A Microarray-Based genomic hybridization method for identification of new genes in plants: case analyses of *Arabidopsis* and *Oryza*. *Journal of Integrative Plant Biology* 49:915-26.
- Parmigiani RB, Bettoni F*, **Vibrantovski MD***, Lopes MH, Martins WK, Cunha IW, Soares FA, Simpson AJG, de Souza SJ, Camargo AA. (2006) Characterization of a cancer/testis (CT) antigen gene family capable of eliciting humoral response in cancer patients. *Proc. Natl. Acad. Sci. USA* 103:18066-71 (* Equally contributed).
- **Vibrantovski MD***, Sakabe NJ*, de Souza SJ. (2006) A possible role of exon-shuffling in the evolution of signal peptides of human proteins. *FEBS Letters* 580:1621-4 (* Equally contributed).
- **Vibrantovski MD**, Sakabe NJ, de Oliveira RS, de Souza SJ. (2005) Signs of Ancient and Modern Exon-Shuffling Are Correlated to the Distribution of Ancient and Modern Domains Along Proteins. *Journal of Molecular Evolution* 61:341-50.
- Sakabe NJ, **Vibrantovski MD**, de Souza SJ. (2004) A bioinformatics analysis of alternative exon usage in human genes coding for extracellular matrix proteins, *Genet. Mol. Res.* 3:532-44
- Carvalho A B, **Vibrantovski MD**, Carlson JW, Celniker SE, Hoskins RA, Rubin GM, Sutton GG, Myers EW, Adams MD, Clark AG. (2003). Y chromosome and other heterochromatic sequences of the *Drosophila melanogaster* genome: how far can we go? *Genetica* 117:227-37.
- Carvalho AB, Dobo BA, **Vibrantovski MD**, Clark AG. (2001). Identification of five new genes on the Y-chromosome of *Drosophila melanogaster*. *Proc. Natl. Acad. Sci. USA* 98:13225-30.

Books Chapter and Reviews:

- **Vibrantovski MD**, Long M. (2016) Origination and Evolution of Genes on the Sex Chromosomes. In: Kliman, R.M. (ed.), *Encyclopedia of Evolutionary Biology*. 2016; vol. 2, pp. 117–126. Oxford: Academic Press.
- Long M, **Vibrantovski MD**, Zhang YE. (2012). Evolutionary interactions between sex chromosomes and autosomes. In: Singh RS, Xu JP, Kulathinal RJ ed., *Rapidly Evolving Genes and Genetic Systems*. Oxford University Press, Oxford:101-14.
- **Vibrantovski MD**, Sakabe NJ, Long M. (2007) Birth and Evolution of Human Exons. *Encyclopedia of Life Sciences*.