

Isabela Gerdes Gyuricza

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Languages: Portuguese (native); English (fluent)

EDUCATION

MS | Genetics | University of São Paulo, São Paulo, Brazil | 2017 - 2019

BS | Biology | University of São Paulo, Ribeirão Preto, Brazil | 2012 - 2016

RESEARCH EXPERIENCE

The Jackson Laboratory (JAX), Bar Harbor, USA

- Research Data Analyst | Nov 2019 – Present
- Visiting scholar | Sept 2018 – Mar 2019
- Advisor: Gary Churchill
- Projects: Analysis of differential gene expression in a mouse model for Marfan Syndrome with phenotypic variability; differential gene and protein expression in the aging heart of Diversity Outbred mice
- Skill: R; bash; RNA sequencing and proteome analysis and processing; Quantitative Trait Loci (QTL) mapping; statistics modeling; data visualization; computational biology; writing reports and manuscripts

Institute of Biosciences - University of São Paulo, São Paulo, Brazil | 2017 – 2019

- Master's student
- Advisor: Lygia da Veiga Pereira
- Project: Characterization of the role of *Hspg2* gene as a modulator of cardiovascular and skeletal phenotypes in Marfan Syndrome
- Skills: Molecular biology; murine model experimentation; histological techniques

Fundação Hemocentro of Ribeirão Preto - University of São Paulo, Ribeirão Preto, Brazil | 2013 – 2016

- Undergraduate research fellow
- Advisor: Simone Kashima
- Project: Teratoma formation assay in mice for evaluating pluripotency of induced pluripotent stem cells (iPS).
- Skills: Cellular culture; murine model experimentation; histological techniques.

CONTINUING EDUCATION

2021. 26th Summer Institute in Statistical Genetics of the University of Washington (SISG). Courses: Probability and Statistical Inference, Regression methods: Concepts and Applications, Quantitative Genetics, and Mixed Models in Quantitative Genetics (Online).

2021. Good with Words: Writing and Editing Specialization, University of Michigan - (Coursera).

HONORS, AWARDS AND FUNDINGS

2021. Scholarship from the University of Washington to attend to the 26th Summer Institute in Statistical Genetics (SISG).

Sept 2018 – Mar 2019. International fellow research scholarship by the Sao Paulo Research Foundation (FAPESP). Project: Analysis of differential gene expression in a mouse model for Marfan Syndrome with phenotypic variability. The Jackson Laboratory, Bar Harbor, USA.

2017 - 2019. Masters research scholarship by the Sao Paulo Research Foundation (FAPESP). Project: Characterization of the role of *Hspg2* gene as a modulator of cardiovascular and skeletal phenotypes in Marfan Syndrome. University of São Paulo, São Paulo, Brazil.

2017. Sponsorship from The Howard Hughes Medical Institute. Human and Mammalian Genetics and Genomics: The 58th McKusick Short Course". The Jackson Laboratory, Bar Harbor, USA.

Jan 2016 – May 2016. Undergraduate research scholarship by the National funding agency (CNPq). Project: Molecular and functional characterization of induced pluripotent stem cells (iPS). University of São Paulo, Ribeirão Preto, Brazil.

2013 - 2016. Undergraduate research scholarship by the Sao Paulo Research Foundation (FAPESP). Project: Teratoma formation assay in mice for evaluating pluripotency of induced pluripotent stem cells (iPS). University of São Paulo, Ribeirão Preto, Brazil.

2013. Honorable mention award at the Undergraduate Research Symposium at the University of São Paulo. Poster presentation: Teratoma formation assay for evaluating pluripotency of induced pluripotent stem cells (iPS). University of São Paulo, Ribeirão Preto, Brazil.

PARTICIPATION IN SCIENTIFIC EVENTS

2020. 49th Annual AGE meeting (online).

Talk: Using genetically diverse mice to define transcript and protein dynamics in the aging heart. Gerdes Gyuricza, Isabela, Joel M Chick, Gregory R Keele, Andrew G Deighan, Steven C Munger, Ron Korstanje, Steve P Gygi, and Gary A Churchill.

2020. TAGC 2020 (online).

Poster presentation: Using genetically diverse mice to define transcript and protein dynamics in the aging heart. Gerdes Gyuricza, Isabela, Joel M Chick, Gregory R Keele, Andrew G Deighan, Steven C Munger, Ron Korstanje, Steve P Gygi, and Gary A Churchill.

2019. 17th Meeting of the Complex Traits Community, San Diego, USA.

Talk: Differential gene and protein expression in the aging heart of Diversity Outbred mice. Gerdes Gyuricza, Isabela, Kwangbom Choi, Duy Pham; Andrew G Deighan, and Gary A Churchill.

2018. The American Society of Human Genetics (ASHG 2018), San Diego, USA.

Poster presentation: Characterization of vascular phenotypic variability in a non-isogenic mouse model for Marfan Syndrome. Gerdes Gyuricza, Isabela, Rodrigo Barbosa de Souza, Gustavo Ribeiro Fernandes, Luis Ernesto Farinha-Arcieri, Ivan Hong Jun, and Lygia da Veiga Pereira.

2017. Class taught: "Exome and Genome". Postgraduate program of Gastroenterology and Pediatric Hepatology - School of Medicine at the Federal University of São Paulo, São Paulo, Brazil.

2017. Human and Mammalian Genetics and Genomics: The 58th McKusick Short Course". The Jackson Laboratory, Bar Harbor, USA.

Poster presentation: Analysis of *Hspg2* and *Fbn1* expression in the modulation of phenotypic variability in two mice strains. Gerdes Gyuricza, Isabela, Rodrigo Barbosa de Souza, Gustavo Ribeiro Fernandes, Luis Ernesto Farinha-Arcieri, and Lygia da Veiga Pereira.

2016. I Workshop of Genome Structure and Expression, Federal University of São Paulo, Ribeirão Preto, Brazil.

Talk: Characterization of the role of *Hspg2* gene as a modulator of cardiovascular and skeletal phenotypes in Marfan Syndrome. Gerdes Gyuricza, Isabela, Rodrigo Barbosa de Souza, Gustavo Ribeiro Fernandes, Luis Ernesto Farinha-Arcieri, and Lygia da Veiga Pereira.

2015. Brazilian conference for Hematology, Hemotherapy and Cell Therapy (HEMO 2015), São Paulo, Brazil.

Poster presentation: Molecular and functional characterization of induced pluripotent stem cells (iPS). Gerdes Gyuricza, Isabela, Tathiane Maistro Malta, Lucas Eduardo Botelho de Souza, Danielle Magalhães, Maristela Delgado Orellana, Luciano Neder, Dimas Tadeu Covas, and Simone Kashima Haddad.

2014. XXII Undergraduate International Research Symposium at the University of São Paulo (XXII SIICUSP), Ribeirão Preto, Brazil.

Poster presentation: Molecular characterization of induced pluripotent stem cells (iPS). Gerdes Gyuricza, Isabela, Evandra Sandoval Rodrigues, Maristela Delgado Orellana, Danielle Magalhães, Tathiane Maistro Malta, and Simone Kashima Haddad.

2014. II Cell Culture course of College of Pharmaceutical Sciences of Ribeirão Preto - University of São Paulo, Ribeirão Preto, Brazil

2013. XXI Undergraduate International Research Symposium at the University of São Paulo, Ribeirão Preto, Brazil.

Poster presentation: Teratoma formation assay for evaluating pluripotency of induced pluripotent stem cells (iPS). Gerdes Gyuricza, Isabela, Tathiane Maistro Malta, Lucas Eduardo Botelho de Souza, and Simone Kashima Haddad.

2013. Stem cells - From quality control to novel derivation procedures course. Brazilian Association for Cellular Therapy (ABTCel), Rio de Janeiro, Brazil.

2012. Animals models for fear and anxiety course. XXX Annual Meeting of Ethology e III Latin American Symposium of Ethology, Brazilian Society of Ethology (SBET), Ribeirão Preto, Brazil.

2012. Biotechnology applications course. XL Week of Biological Studies of College of Philosophy, Sciences and Letters of Ribeirão, University of São Paulo, Ribeirão Preto, Brazil.

VOLUNTEER SCIENTIFIC ACTIVITIES

2021. Class taught: “Using omics data to unravel the molecular dynamics of the aging heart”. Data Science Club – University of Connecticut (Online).

2017. Graduate teaching assistant for Genetics and Evolution undergraduate course, University of São Paulo, São Paulo, Brazil.

2017. Public scientific exposition entitled “Bio na Rua” as part of the University extension project, College of Philosophy, Sciences and Letters of Ribeirão Preto, University of São Paulo, Ribeirão Preto, Brazil.

2016. Assistant for pluripotent cells course at VXi Summer Course: Genome, Proteome and the Cellular Universe at Fundação Hemocentro de Ribeirão Preto, University of São Paulo, Ribeirão Preto, Brazil.

2015. Scientific and educational project developed for elementary school students as part of the program “Casa da Ciência” at Fundação Hemocentro de Ribeirão Preto, University of São Paulo, Ribeirão Preto, Brazil.

PUBLICATIONS

Preprint & under review

Choi, Kwangbom, Hao He, Daniel M Gatti, Vivek M Philip, Narayanan Raghupathy, **Isabela Gerdes Gyuricza**, Steven C Munger, Elissa J Chesler, and Gary A Churchill. 2020. “Genotype-Free Individual Genome Reconstruction of Multiparental Population Models by RNA Sequencing Data.” *BioRxiv*, November, 2020.10.11.335323. <https://doi.org/10.1101/2020.10.11.335323>.

Gerdes Gyuricza, Isabela, Joel M Chick, Gregory R Keele, Andrew G Deighan, Steven C Munger, Ron Korstanje, Steven P Gygi, and Gary A Churchill. 2020. “Genome-Wide Transcript and Protein Analysis Reveals Distinct Features of Aging in the Mouse Heart.” *BioRxiv*, August, 2020.08.28.272260. <https://doi.org/10.1101/2020.08.28.272260>.

Peer-reviewed

Souza, Rodrigo Barbosa de, Elisa Ito Kawahara, Luis Ernesto Farinha-Arcieri, **Isabela Gerdes Gyuricza**, Bianca Neofiti Papi, Manuela Miranda Rodrigues, Marilia Bianca Cruz Grecco Teixeira, et al. 2021. “Hyperkyphosis Is Not Dependent on Bone Mass and Quality in the Mouse Model of Marfan Syndrome.” *Bone*, June, 116073. <https://doi.org/10.1016/j.bone.2021.116073>.

Takemon, Yuka, Joel M Chick, **Isabela Gerdes Gyuricza**, Daniel A Skelly, Olivier Devuyst, Steven P Gygi, Gary A Churchill, and Ron Korstanje. 2021. “Proteomic and Transcriptomic Profiling Reveal Different Aspects of Aging in the Kidney.” *ELife* 10 (March). <https://doi.org/10.7554/eLife.62585>.

Souza, Rodrigo Barbosa de, **Isabela Gerdes Gyuricza**, Luara Lucena Cassiano, Luis Ernesto Farinha-Arcieri, Ana Maria Alvim Liberatore, Sheila Schuindt do Carmo, Waldir Caldeira, et al. 2021. "The MgΔIpn Mouse Model for Marfan Syndrome Recapitulates the Ocular Phenotypes of the Disease." *Experimental Eye Research* 204 (March): 108461. <https://doi.org/10.1016/j.exer.2021.108461>.

Gerdes Gyuricza, Isabela, Rodrigo Barbosa de Souza, Luis Ernesto Farinha-Arcieri, Gustavo Ribeiro Fernandes, and Lygia Veiga Pereira. 2020. "Is HSPG2 a Modifier Gene for Marfan Syndrome?" *European Journal of Human Genetics* 28 (9): 1292–96. <https://doi.org/10.1038/s41431-020-0666-0>.

Junqueira Reis, Luiza Cunha, Virgínia Picanço-Castro, Bárbara Cristina Martins Fernandes Paes, Olívia Ambrozini Pereira, **Isabela Gerdes Gyuricza**, Fabiano Tófoli De Araújo, Mariana Morato-Marques, et al. 2017. "Induced Pluripotent Stem Cell for the Study and Treatment of Sickle Cell Anemia." *Stem Cells International* 2017. <https://doi.org/10.1155/2017/7492914>.