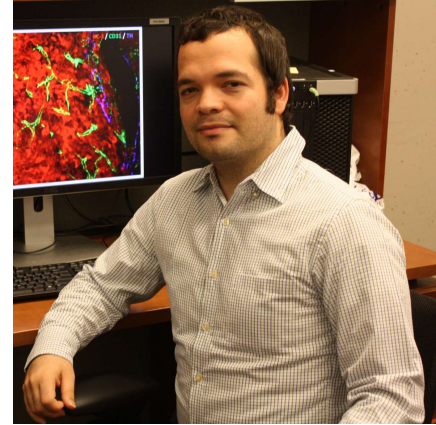


CURRICULUM VITAE (Updated on June 26, 2022)

ALEXANDER BIRBRAIR

Department of Dermatology
University of Wisconsin
Medical Science Center, Rm 4385
1300 University Avenue
Madison, WI 53706
Phone: +1 (608) 698-0034

Emails: birbrair@wisc.edu / abirbrair@dermatology.wisc.edu



PERSONAL DETAILS

Lab webpage: <https://www.icb.ufmg.br/birbrair>

Google scholar: <https://scholar.google.com/citations?user=-9RZj4cAAAAJ&hl=en>

ORCID: <https://orcid.org/0000-0003-1015-2561>

Publons: <https://publons.com/researcher/1483771/alexander-birbrair/>

Scopus: <https://www.scopus.com/authid/detail.uri?authorId=38662351800>

Mendeley: <https://www.mendeley.com/profiles/alexander-birbrair/>

Loop: <https://loop.frontiersin.org/people/139729/overview>

ResearchGate: https://www.researchgate.net/profile/Alexander_Birbrair2

LinkedIn: <https://www.linkedin.com/in/alexander-birbrair-07023686/?originalSubdomain=br>

Instagram: <https://www.instagram.com/birbrairlab/>

Facebook: <https://www.facebook.com/birbrairlaboratory/>

Twitter: <https://twitter.com/birbrairlab>

Youtube: <https://www.youtube.com/c/AlexanderBirbrair/featured>

Global Young Academy: <https://globalyoungacademy.net/abirbrair/>

Brazilian Academy of Sciences: <http://www.abc.org.br/membro/alexander-birbrair/>

LANGUAGES (fluent understanding, speaking, writing, and reading)

English, Spanish, Hebrew, Portuguese, and Russian.

HIGHER EDUCATION

Undergraduate and Graduate Studies

(2005 - 2009) **B.S.**, Biomedical Science, *Universidade Estadual de Santa Cruz, UESC*, Ilheus, Brazil, Field of Study: Genetics of microorganisms, Advisors: Rachel Passos Rezende, Ph.D. and Joao Carlos Teixeira Dias, Ph.D.

(2010 – 2014) **Ph.D.**, Neuroscience Program, *Wake Forest School of Medicine*, Winston-Salem, NC, USA, Field of Study: Stem cell biology, Advisor: Osvaldo Delbono, Ph.D., MD.
#1-14, 16 [Explanation: Items number 1-14 and 16 in the List of Publications resulted from this research.]

Post-Doctoral Studies

(2014 – 2016) **Posdoc**, *Albert Einstein College of Medicine*, Bronx, NY, USA, Field of Study: Stem cell biology, Host: Paul S. Frenette, MD.
#15, 17, 29 [Explanation: Items number 15, 17 and 29 in the List of Publications resulted from this research.]

ACADEMIC RANKS AND TENURE IN INSTITUTES OF HIGHER EDUCATION

(2009 – 2010) **Research Scholar**, *Wake Forest School of Medicine*, Winston-Salem, NC, USA, Field of Study: Muscle biology, Advisor: Osvaldo Delbono, Ph.D, MD.

(2016 – 2019) **Assistant Professor**, Department of Pathology, *Federal University of Minas Gerais*, Belo Horizonte, MG, Brazil.

(2019 – 2022) **Tenured Assistant Professor**, Department of Pathology, *Federal University of Minas Gerais*, Belo Horizonte, MG, Brazil.

(2017 – present) **Visiting Professor**, Department of Radiology, *Columbia University Medical Center*, NY, USA.

(2022 – present) **Assistant Professor**, Department of Dermatology, *University of Wisconsin*, Madison, WI, USA.

AWARDS AND HONORS

2006. “Best poster (Genetic diversity between isolates of *Chromobacterium violaceum*) presented in the area of biological sciences during the XII Seminário de Iniciação Científica da Universidade Estadual de Santa Cruz – UESC, Ilhéus – Bahia.”

2008. “Metagenome of soil contaminated with petroleum.” Scholarship from: Fundação de Amparo à Pesquisa do Estado da Bahia (FAPESB), Brazil.

2012. First place award at Wake Forest University Graduate and Postdoctoral Research Day (Troponin T nuclear localization and its role in skeletal muscle aging).

2013. Awarded with the Glenn/AFAR Scholarship for Research in the Biology of Aging (<https://glennfoundation.org/awards-programs/glennafar-scholarships-for-research-in-the-biology-of-aging/>).

2013. Included in the list of Most Cited Articles of the Journal Stem Cells and Development “Role of Pericytes in Skeletal Muscle Regeneration and Fat Accumulation” by **Birbrair A**, T Zhang, ZM Wang, ML Messi, GN Enikolopov, A Mintz & O Delbono.

2014. Editor's choice in Journal of Gerontology Biological Sciences Volume 69 Issue 12 December 2014 for the manuscript “Human Slow Troponin T (TNNT1) Pre-mRNA Alternative Splicing is An Indicator of Skeletal Muscle Response to Resistance Exercise in Older Adults.” by Zhang T, Choi SJ, Wang ZM, **Birbrair A**, Messi ML, Jin J-P, Marsh AP, Nicklas B, and Delbono O.

2014. Winner of 3-minute thesis (3MT) oral competition (2014 Fourteenth Annual Wake Forest University Graduate Student & Postdoc Research Day) (<https://www.youtube.com/watch?v=tOaXWX8a3A4>)

2015. Recipient of Gordon A. Melson Outstanding Doctoral Student Award for 2015, **as the best PhD thesis at Wake Forest University, USA**

2016. Cover of Science (Volume 351, Issue 6269, January 2016) “Identification of a portal vessel-associated fetal liver hematopoietic stem cell niche” by Khan JA, Mendelson A, Kunisaki Y, **Birbrair A**, Arnal A, Pinho S, Nakahara F, Maayan A, Bergman A, Merad M & Frenette PS.

2017. Elected Affiliated Member of the Brazilian Academy of Sciences (<http://www.abc.org.br/en/membro/alexander-birbrair/>)

2017. Won the prestigious Instituto Serrapilheira Grant 2017-Call

2017. Selected by the Editor as the best article of Stem Cells Translational Medicine journal in 2017. “Novel Peripherally Derived Neural-Like Stem Cells as Therapeutic Carriers for Treating

Glioblastomas” by **Birbrair A**, Sattiraju A, Zhu D, Zulato G, Batista I, Nguyen VT, Messi ML, Solingapuram Sai KK, Marini FC, Delbono O & Mintz A.

2018. Cover of the Journal of Cellular Physiology (Volume 233, Number 8, August 2018) “Pericytes modulate myelination in the central nervous system” by Azevedo PO, Sena I, Andreotti J, Carvalho-Tavares J, Alves-Filho J, Cunha T, Cunha FQ, Mintz A & **Birbrair A**.

2018. Cover of Experimental Dermatology (Volume 27, Issue 6, June 2018) “Macrophage-derived GPNMB accelerates skin healing” by Silva WN, Prazeres PH, Paiva AE, Lousado L, Turquetti A, Barreto R, Alvarenga E, Miglino MA, Gonçalves R, Mintz A & **Birbrair A**.

2018. Cover of the Journal of Molecular and Cellular Cardiology (Volume 116, March 2018) “Pericytes constrict blood vessels after myocardial ischemia” by Costa MA, Paiva AE, Andreotti JP, Cardoso MV, Cardoso CD, Mintz A & **Birbrair A**.

2019. Elected Member of the Global Young Academy
(<https://globalyoungacademy.net/abirbrair/>)

2019. **Awarded the prestigious Instituto Serrapilheira Grant 2017-Call (1 million reais) (with a 0.6% success rate), Brazil. Only 12 scientists received this award.**
(<https://serrapilheira.org/en/serrapilheira-renews-support-for-researchers-with-r12-million-investment/>)

2020. “Professor Tafuri Award” for the best Master Thesis in Pathology for Caroline Leonel under the mentorship of Dr. Alexander Birbrair

2020. CNPq Productivity Brazilian Fellowship (Bolsista de Produtividade em Pesquisa do CNPq - Nível 2) (the most productive brazilian scientists)

2021. Elected Affiliated Member of The World Academy of Sciences (TWAS)

PROFESSIONAL ACTIVITIES

SERVICE

Membership in editorial boards of academic journals

Current Tissue Microenvironment Reports (Founding Editor and Editor-in-Chief)

Molecular Biotechnology (Associate Editor)

Stem Cell Reviews and Reports

Stem Cell Research

Stem Cells and Development

Histology and Histopathology

Frontiers in Cell and Developmental Biology

Frontiers in Genetics

Advances in Stem Cell Biology (Elsevier Books Series, Founding Editor and Editor-in-Chief)

Ad Hoc Reviewer

Journal of Clinical Investigation
Experimental Neurology
Journal of Cell Science
Journal of Cellular and Molecular Medicine
Journal of Cellular Physiology
Plos One
Stem Cell Research
Stem Cell Reviews and Reports
The American Journal of Pathology
Pharmacology & Therapeutics
Experimental Biology and Medicine
Pathology, Research and Practice
Experimental and Toxicologic Pathology
Stem Cell Reports
International Journal of Biochemistry & Cell Biology
Journal of Neuroimmunology
The Journal of Pathology
Neural Regeneration Research
Frontiers in Materials
Molecular and Cellular Endocrinology
Current Eye Research
Biotechnology Advances
AJP: Cell Physiology
Frontiers in Cell and Developmental Biology
Biomedicine & Pharmacotherapy
Cancer Investigation
Oncotarget
Scientific Reports
Current Bioinformatics
Frontiers in Endocrinology
Oxidative Medicine and Cellular Longevity
Jove-Journal of Visualized Experiments
Colloids and Surfaces A-Physicochemical and Engineering Aspects
Journal of Neurochemistry
Cancer Microenvironment
Cancer Management and Research
Cell Biology International
Journal of Experimental Biology
Archives of Dermatological Research
Cellular and Molecular Neurobiology
Journal of Neuroscience Research
Frontiers in Pharmacology
Stem cells International

Molecular Therapy-Nucleic Acids
FASEB Journal
Cell Communication and Signaling
Bone Research
Journal of Orthopaedic Research
Experimental Eye Research
Tissue Engineering
Frontiers in Physiology
Molecular Biology Reports
International Journal of Nanomedicine
Signal Transduction and Targeted Therapy
Molecular Neurobiology
Translational Lung Cancer Research
Expert Opinion on Biological Therapy
Oxidative Medicine and Cellular Longevity
Fluids and Barriers of the CNS
Aging-US
Cancer Research
EBioMedicine

International Grants Reviewer (excluding Brazilian grants)

Czech Science Foundation – 2018
French ATP-Avenir - 2019
Wings for Life International - 2019
Internal pilot project competition for The University of Rochester – 2020
Swiss National Science Foundation – 2020

INSTITUTIONAL

Administrative Positions

(2016 – 2018) Representative of the Biological Sciences Institute in the Animal Care and Use Committee (CEUA) at Federal University of Minas Gerais, Brazil.

(2016 – present) Member of the Biomedical Science undergraduate course collegiate at Federal University of Minas Gerais, Brazil.

(2016 – present) Coordinator of the discipline of Pathology for Biomedical science undergraduate course (PAG011) at Federal University of Minas Gerais, Brazil.

(2016 – present) Member of Departmental Congregation at Federal University of Minas Gerais, Brazil.

(2016 – present) Coordinator of the discipline of Pathology for Biomedical science undergraduate course (PAG011) at Federal University of Minas Gerais, Brazil.

(2017) Coordinator of the discipline “Use of transgenic animals in research” (ACT024) at Federal University of Minas Gerais, Brazil.

(2017 – present) Coordinator of the discipline of Topics in Pathology for the Pathology graduate program at Federal University of Minas Gerais, Brazil.

(2018 – present) Member of Internal Biosafety Committee (CIBIO) at Federal University of Minas Gerais, Brazil.

(2018 – present) Member of the Committee for Monitoring the animal facility experimentation at Biological Sciences Institute at Federal University of Minas Gerais, Brazil.

(2018 – present) Vice-director of the Animal Facility at the Pathology Department at Federal University of Minas Gerais, Brazil.

(2019 – present) Member of the committee of the Center for Science Outreach at Federal University of Minas Gerais, Brazil.

Evaluation of faculty promotion

(2020) **BIRBRAIR, A.** Evaluation of promotion for 4 faculties for King Abdulaziz University, Saudi Arabia.

(2020) **BIRBRAIR, A.**; Campos, P. P.; Del Puerto, H. L.. Member of the evaluation committee for tenure of Dr. Marina G. Diniz in the Department of Pathology at Federal University of Minas Gerais, Brazil.

Other activities

(2017) **BIRBRAIR, ALEXANDER**; LOBATO, Z. I. P.; FIGUEIREDO, H. C. P.. Participation in the selection committee for international fellowships of the Program PDSE/CAPES 2017/2018 in the Animal Science graduate program of the Veterinary School at Federal University of Minas Gerais, Brazil.

(2017) **BIRBRAIR, ALEXANDER**; BERNARDES, V. F.; FERREIRA, M. A. N. D.. Participation in the selection committee for a substitute professor for the Department of Pathology at Federal University of Minas Gerais, Brazil.

(2018) **BIRBRAIR, ALEXANDER**; RIBAS, V. T.; COSTA, V. V.. Participation in the selection committee for the PhD program in Cell Biology at Federal University of Minas Gerais, Brazil.

(2019) **BIRBRAIR, ALEXANDER**; OLIVEIRA, S. C.; GOES NETO, A.. Participation in the evaluating committee for the selection of a visiting professor in the Department of General Biology at Federal University of Minas Gerais, Brazil.

(2019) **BIRBRAIR, A**; MENEZES, G. B.; SILVA, G. H. C.. Participation in the evaluating committee for the selection of CAPES Award for the best PhD Thesis in 2019 of the Cell Biology PhD Program at Federal University of Minas Gerais, Brazil.

Outreach

2013 Brain Awareness Outreach Presenter, visits to local K-12 schools. Winston-Salem, NC, USA.

2014 Physiology Understanding (PhUn) Week Presenter, implemented basic physiology lab exercises and presented physiology concepts to K-12 students from Academy of Excellence, Success Institute Charter School and Statesville Christian School. Winston-Salem, NC, USA.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- (1) American Heart Association (AHA): 2012 - 2016
- (2) Western NC Chapter of the Society for Neuroscience: 2011 – 2014
- (3) International Society for Stem Cell Research: 2013 – 2016

EDUCATIONAL ACTIVITIES

COURSES TAUGHT IN RECENT YEARS

(2006) Instructor in the **Basic Biochemistry course** for Biology, Nursing, Veterinary and Agronomy students, UESC, Brazil.

(2007) Instructor in the **Cellular Biology course** for Biology students, UESC, Brazil.

(2007) Instructor in "**Techniques for Diagnoses of Intestinal Parasites**", UESC, Brazil. (instructor of a short-term course)

(2007) Instructor in the **Medical Bacteriology course** for Biomedicine students, UESC, Brazil.

(2016-present) Teaching semesterly practical and theoretical Pathology in **Pathology discipline** for Medicine, Biomedicine and Pharmacy undergraduate courses, Federal University of Minas Gerais, Brazil.

(2016-present) Teaching semesterly practical and theoretical Pathology in **Pathology discipline** for Medicine, Biomedicine and Pharmacy undergraduate courses, Federal University of Minas Gerais, Brazil.

(2016-present) Teaching semesterly class on “**How to write and publish scientific articles**” for Cell Biology and Pathology graduate programs, Federal University of Minas Gerais, Brazil.

(2016-present) Teaching semesterly class on “**The use of transgenic animals in experimental research**” for the Pathology graduate program, Federal University of Minas Gerais, Brazil.

(2016-present) Teaching a summer course on “**Advances in Stem Cell Biology**” for PhD students of the Anatomy of Domestic and Wild Animals graduate program, University of São Paulo, Brazil.

(2019) Lecturer in a course on **Tissue Engineering and Cell Therapy course** for the Pathology graduate program, Federal University of Minas Gerais, Brazil, 2019.

SUPERVISION OF RESEARCH STUDENTS

Undergraduate students (all from UFMG)

(2016 – 2017) Gabryella Soares Pinheiro dos Santos, #20, 21, 22, 23, 25, 26, 28, 32, 40, 46, 48, 51, 67

(2016 – 2017) Isadora Fernandes Gilson Sena, #19, 20, 21, 23, 25, 26, 28, 32, 34, 35, 36, 37, 47, 49, 51, 54, 67

(2016 – 2017) Pedro Henrique Dias Moura Prazeres, #20, 21, 22, 23, 25, 26, 28, 36, 37, 41, 42, 43, 44, 46, 48, 53, 54, 61, 67

(2016) Lucas Minto

(2016) Fernando Ospedal Batista

(2016 – 2017) Isabella da Terra Borges, #19, 20, 21, 25, 26, 28

(2016 – 2017) Ana Emília de Paiva, #20, 21, 22, 23, 25, 26, 28, 32, 34, 37, 42, 44, 45, 46, 47, 49, 51

(2016 - 2017) Hector Lutero Honorato de Brito Siman

(2016 – 2017) Jefte Perez Ancia

(2016 – 2017) Viviani Mendes de Almeida, #20, 21, 25, 26, 28, 46, 49

(2016 – 2017) Luanny Souto de Barros Silva, #20, 25, 26, 46

(2016 – 2018) Patrick Orestes de Azevedo, #20, 21, 22, 23, 25, 26, 28, 32, 34, 35, 37, 41, 46, 47, 51

(2016 – 2020) Julia Peres Andreotti, #20, 21, 22, 23, 25, 26, 28, 31, 32, 35, 42, 43, 45, 46, 51, 52

(2016 – 2018) Daniel Arthur de Paula Guerra, #20, 25, 26, 28, 34, 36, 42, 47, 51, 53.

(2017) Mariana Andrade de Abreu

(2017) Matheus Araujo Costa, #45
(2017 – 2020) Walison Nunes, #33, 34, 36, 42, 44, 52, 53, 54, 61, 62
(2017 – 2019) Luiza Lousado Mesquita, #20, 21, 22, 23, 25, 26, 31, 32, 37, 44, 46, 51
(2018 – 2020) Beatriz Rocha, #62
(2018 – 2019) Luiza Coutinho
(2018 – 2019) Brendo Roberto
(2018 - 2019) Jovino César
(2019) Luiz Paulo Souza
(2019) Brenda Brasil Oliveira
(2019) Juliana Almeida Sad
(2019) Ana Luísa Brito da Silva
(2019 – 2020) Rebeca Eller
(2019 – 2020) Luadson Sales
(2020 – present) Gabriel Dias Moreira
(2020 – present) Paulo Lauar
(2020 – present) Bruna Leticia
(2020 – present) Gabriela Lousado Mesquita

Master's degree students

(2017 – 2018) Gabryella Soares Pinheiro dos Santos (UFMG), #20, 21, 22, 23, 25, 26, 28, 32, 40, 46, 48, 51, 67
(2017 – 2019) Isadora Fernandes Gilson Sena (UFMG), #19, 20, 21, 23, 25, 26, 28, 32, 34, 35, 36, 37, 47, 49, 51, 54, 67
(2017 – 2019) Caroline Leonel (UFMG) (**“Professor Tafuri Award” for the best Master Thesis in Pathology for Caroline Leonel under the mentorship of Dr. Alexander Birbrair**), #26, 36, 54, 67
(2017 – 2019) Pedro Henrique Dias Moura Prazeres (UFMG), #20, 21, 22, 23, 25, 26, 28, 36, 37, 41, 42, 43, 44, 46, 48, 53, 54, 61, 67
(2017 – 2019) Anaelise Turquetti (USP), #41, 44
(2020 – present) Walison Nunes (UFMG), #33, 34, 36, 42, 44, 52, 53, 54, 61, 67
(2020 – present) Beatriz Rocha (UFMG), #62

Doctoral degree students

(2018 – present) Gabryella Soares Pinheiro dos Santos (UFMG), #20, 21, 22, 23, 25, 26, 28, 32, 40, 46, 48, 51, 67
(2018 – present) Alinne do Carmo Costa (UFMG), #52, 53, 67
(2018 – present) Caroline de Carvalho Picoli (UFMG), #52, 53, 67
(2020 – present) Pedro Henrique Dias Moura Prazeres (UFMG), #20, 21, 22, 23, 25, 26, 28, 36, 37, 41, 42, 43, 44, 46, 48, 53, 54, 61, 67
(2020 – present) Roy Anderson Oropeza Clavo (USP)
(2020 – present) Sheu Oluwadare Sulaiman (UFMG)
(2020 – present) Ajibike, A. Biola (UFMG)
(2020 – present) Natália Jordana (USP)
(2020 – present) Parviz Azimnasab Sorkhabi (USP)
(2020 – present) Maryam Soltani asl (USP)

Postdoctoral fellows

(2018 – 2019) Flávia Carvalho Bitencourt de Oliveira, #52
(2018 – 2020) Leda Maria de Castro Coimbra Campos, #52, 53, 67
(2019 – 2020) Rodrigo Augusto da Silva
(2019 – present) Pedro Augusto Carvalho Costa, #67
(2020 – present) Luis Fabio Batista

Co-supervision of PhD students

(2014 – 2018) Anirudh Sattiraju, co-Supervisor: Akiva Mintz (Columbia University, NY), #30
(2016 – 2018) Luciana Xavier, co-Supervisor: Paula Campos (UFMG, Brazil), #27
(2016 – present) Marcela Takahashi, co-Supervisor: Paula Campos (UFMG, Brazil)
(2019 – present) Tâmisia Honda, co-Supervisor: Niels Olsen Saraiva Câmara (USP, Brazil)
(2019 – present) Lidia Paula Faustino, co-Supervisor: Alexandre Vieira Machado (FIOCRUZ/MG)

Co-supervision of Postdoctoral fellows

(2016 – 2018) Giuliana Castello Coatti, co-Supervisor: Mayana Zatz (USP, Brazil), #24
(2016 – 2020) Rodrigo Barreto, co-Supervisor: Angelica Miglino (USP, Brazil), #41, 44, 56

ACADEMIC THESIS COMMITTEES

Ph.D. thesis committees

BIRBRAIR, ALEXANDER; MIGLINO, M. A.; FRATINI, P.; XAVIER, J. G.; PEARSON, P. L. Participation in César Vinicius Gil Braz do Prado thesis committee. “Associação de células-tronco de polpa de dente decíduo e eletroacupuntura em cães com lesão medular crônica” (Association of primary tooth pulp stem cells and electroacupuncture in dogs with chronic spinal cord injury). 2016. Thesis defense (**PhD in Anatomy of Domestic and Wild Animals**) – University of São Paulo, Brazil.

BIRBRAIR, ALEXANDER; PINHO, V.; FUJIWARA, R. Participation in Denise Silva Nogueira thesis committee. “Avaliação dos mecanismos de proteção mediados pela resposta imune na ascaridíase larval após infecção primária e múltiplas exposições ao parasite” (Evaluation of protection mechanisms mediated by the immune response in larval ascariasis after primary infection and multiple exposures to the parasite). 2016. Qualifying examination (**PhD in Parasitology**) - Federal University of Minas Gerais, Brazil.

BIRBRAIR, ALEXANDER; GOMES, D. A.; DUTRA, W. O. Participation in Vítor Silva Barbosa thesis committee. “ESTUDO DO PAPEL DOS MONÓCITOS INFLAMATÓRIOS NA PATOGÊNESE DAS LESÕES TECIDUAIS EM CAMUNDONGOS INFECTADOS POR *Leishmania major*” (Study of the role of inflammatory monocytes in the pathogenesis of tissue injuries in mice infected by *Leishmania major*). 2016. Qualifying examination (**PhD in Pathology**) - Federal University of Minas Gerais, Brazil.

GOMEZ, M. V.; SILVA, M. A. R.; MARCO, L. A. C.; **BIRBRAIR, A.** Participation in Helia Tenza Ferrer thesis committee. “Envolvimento de células da glia na ação antinociceptiva da toxina $\text{Ph}\alpha 1\beta$ e da ω -conotoxina na dor inflamatória” (Involvement of glial cells in the anti-nociceptive action of $\text{Ph}\alpha 1\beta$ and ω -conotoxin in inflammatory pain). 2017. Qualifying examination (**PhD in Molecular Medicine**) - Federal University of Minas Gerais, Brazil.

SA, M. A.; CORREA JUNIOR, J. D.; **BIRBRAIR, ALEXANDER.** Participation in Rebecca Vasconcellos thesis committee. “Efeitos mecânicos e biológicos de scaffolds de colágeno e matriz extracelular descelularizada enriquecidos com nanomateriais na diferenciação de células-tronco em hepatócitos” (Mechanical and biological effects of collagen scaffolds and decellularized extracellular matrix enriched with nanomaterials on the differentiation of stem cells to hepatocytes). 2018. Qualifying examination (**PhD in Cell Biology**) - Federal University of Minas Gerais, Brazil.

BIRBRAIR, ALEXANDER; LUIZ EUGENIO ARAUJO DE MORAES MELLO; CARLOS FREDERICO MARTINS MENCK; ENRIQUE MARIO BOCCARDO PIERULIVO; PATRICIA CRISTINA BALEEIRO BELTRAO BRAGA,. Participation in FERNANDA RODRIGUES CUGOLA thesis committee. “Análise fenotípica patogênica da infecção pelo vírus Zika em células humanas neurais *in vitro*” (Phenotypic-pathogenic analysis of Zika virus infection in human neural cells *in vitro*). 2018. Thesis defense (**PhD in Anatomy of Domestic and Wild Animals**) - University of São Paulo, Brazil.

RESENDE, R. R.; FERREIRA, A.; COSTA, J. L.; MIRANDA, A. S.; **BIRBRAIR, ALEXANDER.** Participation in Vania Aparecida Mendes Goulart thesis committee. “Metabolômica aplicada na pesquisa de biomarcadores para acidente vascular encefálico isquêmico, infarto do miocárdio e esquizofrenia” (Metabolomics applied in the search for biomarkers for ischemic stroke, myocardial infarction and schizophrenia). 2018. Thesis defense (**PhD in Cell Biology**) - Federal University of Minas Gerais, Brazil.

BIRBRAIR, A; VIEIRA, L. B.; MOTTA, T. R.. Participation in Laura Fernanda Jaimes Alvarado thesis committee. “Modulação da Persistência da Memória pela Neurogênese” (Modulation of the Persistence of Memory by Neurogenesis). 2019. Qualifying examination (**PhD in Physiology and Pharmacology**) - Federal University of Minas Gerais, Brazil.

GOMEZ, M. V.; SILVA, M. A. R.; BINDA, N. S.; **BIRBRAIR, ALEXANDER;** GIUNCHETTI, D. S. L.; SILVA, J. F.. Participation in Helia Tenza Ferrer thesis committee. “Envolvimento de células da glia na ação antinociceptiva da toxina $\text{Ph}\alpha 1\beta$ e da ω -conotoxina MVIIA na dor inflamatória periférica” (Involvement of glial cells in the anti-nociceptive action of $\text{Ph}\alpha 1\beta$ and ω -conotoxin MVIIA in peripheral inflammatory pain). 2019. Thesis defense (**PhD in Molecular Medicine**) - Federal University of Minas Gerais, Brazil.

LOPES, P. P. C.; PUERTO, H. L.; **BIRBRAIR, ALEXANDER;** ALVES, F.; JUNTA, C. M.. Participation in Celso Tarso Rodrigues Viana thesis committee. “Angiogênese, inflamação e fibrogenese em tecidos maligno e não maligno são modulados diferencialmente em camundongos com deleção do receptor ST2” (Angiogenesis, inflammation and fibrogenesis in malignant and non-malignant tissues are differentially modulated in mice with ST2 receptor

deletion). 2019. Thesis defense (**PhD in Pathology**) - Federal University of Minas Gerais, Brazil.

RESENDE, R. R.; CRUZ, J. S.; ULRICH, A. H.; PINTO, M. C. X.; GARCIA, M. E. L. P.; **BIRBRAIR, ALEXANDER**. Participation in Anderson Kenedy Santos thesis committee. “Celulas-Tronco Neurais Adultas: Diferenciação, caracterização de classes neurais e aplicações biotecnológicas” (Adult Neural Stem Cells: Differentiation, characterization of neural classes and biotechnological applications). 2019. Thesis defense (**PhD in Biochemistry and Immunology**) - Federal University of Minas Gerais, Brazil.

BIRBRAIR, A; PAIXÃO, T. A.; SANTOS, R. L.; CARVALHO, A. P.. Participation in Thaynara Parente de Carvalho thesis committee. “Avaliação do papel do pericito no processo de infecção por *Brucella sp.* em modelo murino” (Evaluation of the role of pericytes in *Brucella sp.* pathogenesis in a murine model). 2020. Qualifying examination (**PhD in Animal Science**) - Federal University of Minas Gerais, Brazil.

BIRBRAIR, A; Porto, L. M.; Boemo, A. P. S.; Castro, J. V.; Tabrizian, M. Participation in Karla Pollyanna Vieira de Oliveira thesis committee. “3LBNC Platform: an innovative stacked-multilayered BNC scaffold for studies of multi-cell co-culture in compartmentalization”. 2021. Thesis defense (**PhD in Chemical Engineering**) - Federal University of Santa Catarina, Brazil.

Master thesis committees

SILVA, M. A. R.; MAGNO, LUIZ ALEXANDRE V.; **BIRBRAIR, A.**; PAULA, J. J.. Participation in Eduardo de Souza Nicolau thesis committee. “Um modelo experimental de estimulação transcraniana por corrente contínua em camundongos” (An experimental model of transcranial stimulation by continuous current in mice). 2018. Thesis defense (**Master in Molecular Medicine**) - Federal University of Minas Gerais, Brazil.

BIRBRAIR, A.; MAGNO, L. A. V.; ALVARENGA, E. L. F. C.. Participation in Gabryella Soares Pinheiro dos Santos thesis committee. “Análise de tumor de próstata: Estadiamento e identificação de fibras sensoriais Nav1.8+” (Analysis of prostate tumor: Staging and identification of Nav1.8+ sensory fibers). 2018. Thesis defense (**Master in Pathology**) - Federal University of Minas Gerais, Brazil.

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the eye bulb of dogs infected with *Leishmania chagasi/infantum*). 2018. Qualifying examination (**Master in Anatomy of Domestic and Wild Animals**) - University of São Paulo, Brazil.

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DINIZ, I. M. A.; ALVES, F.; CAMPOS, L. M. C. C.; PUERTO, H. L.; **BIRBRAIR, A.**. Participation in Pedro Henrique Dias Moura Prazeres thesis committee. “Avaliação da expressão gênica de pericitos de lesão neoclássica intraepitelial prostática de camundongos Hi-MYC” (Evaluation of gene expression in pericytes isolated from prostatic intraepithelial neoplasia of Hi-Myc mice). 2020. Thesis defense (**Master in Pathology**) - Federal University of Minas Gerais, Brazil.

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Citation Index

H-index (ISI / Google Scholar): 25 (ISI) 29 (GS)

Total number of citations of all articles (ISI / Google Scholar): 2572 (ISI) / 3671 (GS)

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PARTICIPATION IN SCIENTIFIC CONFERENCES AND EXTERNAL LECTURES (FROM 2016-PRESENT) (SELECTED)

(02/2016) Invited Lecture at the Center for Inflammatory Diseases at USP-RP, Ribeirão Preto, SP, Brazil.
<http://crid.fmrp.usp.br/site/2016/02/17/discussao-de-artigo-cientifico-220216/>

(08/2016) Invited Lecture at the Graduate Program in Biomedical Sciences at Faculdades Pequeno Príncipe, Curitiba, PR, Brazil.
<https://faculdadespequenoprincipe.edu.br/noticias/noticia/centro-academico-de-biomedicina-das-faculdades-pequeno-principe-recebe-dr-alexander-birbrair/>

(11/2016) Invited Lecture at the Graduate Program in Anatomy of Domestic and Wild Animals at the Department of Surgery at FMVZ/USP, São Paulo, SP, Brazil.

(11/2016) Invited Lecture at the Fundação Oswaldo Cruz – FIOCRUZ, Belo Horizonte, MG, Brazil.

(12/2016) Invited Lecture at the Center for Research of Human Genome and Stem Cells at USP, São Paulo, SP, Brazil.

(12/2016) Invited Speaker at the Symposium “Placental transport mechanisms including vertical transmission of viruses” at USP, São Paulo, SP, Brazil.

(03/2017) Invited Lecture at the Institute of Biomedical Sciences at UFRJ, Rio de Janeiro, RJ, Brazil.

(08/2017) Invited Lecture at the Molecular Biology Graduate Program at Unifesp, São Paulo, SP, Brazil.

(10/2017) Keynote Speaker at the National Meeting of Biomedicine, Botucatu, SP, Brazil.
https://3615974d-e859-4fef-9b13-420acff64e96.filesusr.com/ugd/030954_eed1126c98da4d42a49ac0ae5fae0ed9.pdf

(12/2017) Invited Speaker at the Third Symposium of Cellular and Molecular Biology at UFPR, Curitiba, PR, Brazil.
http://www.bio.ufpr.br/portal/wp-content/uploads/2017/12/Bionews_204.pdf
<http://www.bio.ufpr.br/portal/blog/eventos/iii-simposio-de-biologia-celular-e-molecular-de-04-a-071217/>

(03/2018) Invited Lecture at the Seventh Cycle of lectures at the Institute of Biology at Unicamp, Campinas, SP, Brazil.
<http://www.ib.unicamp.br/sites/default/files/Programa%C3%A7%C3%A3o%2025.06.pdf>
<https://www.facebook.com/seminariosdoib/photos/hoje-%C3%A0s-12h30-na-sala-da-congrega%C3%A7%C3%A3o-do-ib/966392513526502/>

(05/2018) Invited Lecture at the VI Animal Lab at UECE, Fortaleza, CE, Brazil.
<https://eventos.uece.br/siseventos/processaEvento/evento/exibeDetalhes.jsf;jsessionid=E198FAA0102CC0E6867434FE7B2D7EAF.eventoss1?id=359&area=programacaoEvento&contexto=animmalab6>

(05/2018) Invited Speaker at the II Meeting of Morpho-Physiology at UFSJ, São João Del Rey, MG, Brazil.

(05/2018) Invited Lecture at D'Or Institute for Research and Education (IDOR), Rio de Janeiro, RJ, Brazil.

(06/2018) Invited Speaker at the Fourth International Symposium on Inflammatory Diseases - INFLAMMA IV, Belo Horizonte, MG, Brazil.
<http://crid.fmrp.usp.br/wp-content/uploads/2019/03/Anais-de-Congresso-INFLAMMA-IV.pdf>

(07/2018) Invited Lecture at the SINA Biotec at UFU, Uberlandia, MG, Brazil.
http://www.eventos.ufu.br/sites/eventos.ufu.br/files/documentos/anais_2018_sinabiotec.pdf

(07/2018) Invited Lecture at the Graduate Program in Immunology at USP, São Paulo, SP, Brazil.
<http://www.icb.usp.br/~imunoicb/wp-content/uploads/2018/07/Alexander-Birbrair.pdf>

(07/2018) Invited Speaker at the XIX Congress of the Brazilian Society for Cell Biology, São Paulo, SP, Brazil.

http://www.interevent.com.br/sistema/hotsite/index.php?cod_eventos=108&cod_conteudos=1129

(09/2018) Invited Speaker at the XVI Brazilian Biomedical Conference, São Paulo, SP, Brazil.

(10/2018) Invited Speaker at X Congress of ABTCEL, São Paulo, SP, Brazil.

<https://pikamu.com/t/abtcel2018>

(10/2018) Invited Lecture at the Graduate Program in Health Sciences at Albert Einstein Hospital, São Paulo, SP, Brazil.

<https://www.einstein.br/pesquisa/ultimas-noticias/palestra-alexander-birbrair>

(09/2019) Invited Speaker at XXXIV FeSBE Annual Meeting, Campos do Jordão, SP, Brazil.

<http://sbbn.org.br/xxxiv-reuniao-anual-da-fesbe/>

Patent

Title: Multiple fluorescent marking vector for specific identification of different neurons
Patent deposited in Brazil.

Date of Deposit: 08/11/2020

Protocol Number: Invention Patent BR 10 2020 016360 4

Inventors: Rodrigo Ribeiro Resende 70% / Mariana Sousa Vieira Saldanha 5% / Anderson Kenedy Santos 10% / Mauro Cunha Xavier Pinto 5% / Helton da Costa Santiago 5% /
Alexander Birbrair^c 5%

RESEARCH GRANTS

Ongoing Research Support

**Grant from National Institute of Science and Technology
in Theranostics and Nanobiotechnology (INCT-Teranano) –
CNPq/CAPEs/FAPEMIG,**

Process No. 465669/2014-0/CBB-APQ-03613-17)

03/01/2017-03/01/2022

A multicentric grant for infrastructure

The aim of this grant is to improve the infrastructure of several groups developing nanotechnologies. We are contributing by testing the developed molecules in animal cancer models.

Role: co-PI, [Other co-PIs: Luiz Goulart (UFU), Vasco Azevedo (UFMG), Luiz Claudio Cameron (UniRio), Ademar Benévolo Lugão (Ipen), David Nascimento Silva Teixeira (UFTM),

Birbrair (co-PI)

7280000 reals

(my lab received 100000 reals)

Eliton Souto de Medeiros (UFPB), Laura Sterian (Unicamp), Silma Pereira (UFMA), Valbert Nascimento Cardoso (UFMG)]

Grant from FAPEMIG [Rede Mineira de Engenharia de Tecidos e Terapia Celular (REMETTEC, RED-00570-16)]

11/01/2017-11/01/2022

A multicentric grant on tissue engineering and cell therapy

**Birbrair (co-PI)
1328813 reais
(my lab received 150000 reais)**

The goal of this grant is to develop collaborations between different groups that work with cell therapy within the state of Minas Gerais. We are studying the role of pericytes in Chagas Cardiomyopathy, and their possible use as cell therapy for cardiac regeneration.

Role: co-PI, [Other co-PIs: Alfredo Miranda De Goes (UFMG), Ricardo Gonçalves (UFMG), Sidney Nicodemos da Silva (CEFET), Valdo José Dias da Silva (UFTM), Paula Peixoto Campos (UFMG)]

Grant from FAPEMIG [Rede De Pesquisa Em Doenças Infecciosas Humanas E Animais Do Estado De Minas Gerais (RED-00313-16)]

11/01/2017-11/01/2022

A multicentric grant on infectious diseases

**Birbrair (co-PI)
1367555 reais
(my lab received 50000 reais)**

The goal of this grant is to develop collaborations between different groups that work with infectious diseases in the state of Minas Gerais. We are studying the role of pericytes in the pathogenesis of Leishmaniasis.

Role: co-PI, [Other co-PIs: Virmondes Rodrigues Junior (UFMG), Carlo José Freire de Oliveira (UFTM), Siomar de Castro Soares (UFTM), Ricardo Gonçalves (UFMG)]

Grant from CNPQ-Universal, Process No. 405977/2018-2

12/06/2018-12/06/2021

The role of GFAP+ cells in the tumor microenvironment.

Birbrair (PI)

30000 reais

The aim of this project is to evaluate the role of glial fibrillary acidic protein (GFAP)+ cells within the tumors.

Role: PI

Instituto Serrapilheira Grant / Serra-1708-15285 renewal

04/01/2019-04/01/2022

Regulation of prostate cancer by the peripheral nervous system.

Birbrair (PI)

1000000 reais

The main goal of this proposal is to study whether/how prostate cancer development may be affected by the peripheral nervous system.

Role: PI

Grant from FAPESP [Role of P2X7 purinergic receptor in the regulation of hematopoietic stem cell and myeloid lineage (2018/23870-4)]

02/28/2021

We are examining the role of P2X7 signaling in pericytes within the bone marrow niche.

**Birbrair (co-PI) 03/01/2019-
231883 reais**

The goal of this grant is to study the role of purinergic receptors in the modulation of HSCs and in myeloid differentiation investigating mainly the function of the P2X7 receptor using a mouse model in which we deplete P2X7 from different components of the bone marrow niche (P2X7^{fl/fl}).
Role: co-PI [Other co-PIs: Alice Teixeira Ferreira (Unifesp), Edgar Julian Paredes Gamero (UFMS)]

**Grant from FAPESP [Development of brain-on-chip
Micro-platforms for in vitro modeling of the
central nervous system (2018/12605-8)]**

11/01/2019-10/31/2024

**Birbrair (collaborator)
2018639 reais**

We compare some of the results obtain in vitro to what we see in neurogenesis in vivo.

The goal of this grant is to develop micro-platforms to study CNS normal development, cellular and molecular mechanisms of CNS disorders, and neuronal connectivity, using 3D bioprinting, microfluidic chambers and microelectrode arrays.

Role: collaborator [Other co-PIs: Marimélia Aparecida Porcionatto (Unifesp), Luiz Eugênio Mello (Unifesp), Giselle Z. Justo (Unifesp), Jean Faber (Unifesp), Kil S. Lee (Unifesp), Isaias Glezer (Unifesp), Beatriz Monteiro (Unifesp), Paulo Schor (Unifesp), Sang W. Han (Unifesp), Su Ryon Shin (Harvard Medical School), Laura Lopez Mascaraque (Instituto Cajal - CSIC), Lucimara Gaziola de la Torre (UNICAMP), Renato Sousa Lima (CNPEN), Alexander Henning Ulrich (USP)]

CNPq Productivity Brazilian Fellowship (Level 2)

03/01/2020-02/28/2023

Birbrair (PI)

The use of Schwann cell as cell therapy for prostate cancer.

36000 reais

Our goal is to examine the use of Schwann cells from different sources as cell therapy again prostate cancer.

Role: PI

**Grant from MCTIC/CNPq/FNDCT/MS/SCTIE/Decit N° 07/2020
[Neuropsychiatric complications resulting from prenatal
exposure to the SARS-Cov2 virus (402222/2020-2)]**

06/19/2020-06/19/2022

**Birbrair
(collaborator)
1871700 reais**

We are assisting with the studies on animal models.

The goal of this grant is to assess neuropsychiatric changes of the offspring from mothers infected with the SARS-CoV2 virus in different gestational periods.

Role: collaborator [Other co-PIs: Danielle Macêdo Gaspar (UFC), Christina Alves Peixoto (Instituto Aggeu Magalhães-PE), Eurico de Arruda Neto (Faculdade de Medicina de Ribeirão Preto), Francisco Herlânio Costa Carvalho (Maternidade Escola Assis Chateaubriand-CE), Fábio Miyajima (FIOCRUZ/CE), James Peter Stewart (University of Liverpool), Jaqueline Vieira Carletti (UFC), John Quinn (University of Liverpool), Karina Lidianne Alcântara Saraiva (Instituto Aggeu Magalhães-PE), Lidiany de Souza Araújo Linhares (Instituto Maurício de Nassau-PE), Rafael Freitas de Oliveira (Instituto Aggeu Magalhães-PE), Remo de Castro Russo (UFMG), Ricardo de Freitas Lima (UFC), Silvânia Maria Mendes de Vasconcelos (UFC)]

Grant from FAPESP [Study of molecular and cellular mechanisms involved in mental disorders: clinical and animal models analysis (2019/13112-8)]

10/01/2020-09/30/2025

We are contributing with the studies on animal models.

The goal of this grant is to carry out molecular and cellular studies to identify pathways specifically altered in after treatment with psychostimulants and/or antipsychotics (including innovative treatments), in order to compare them with the clinical alterations described by the group.

Role: collaborator [Other co-PIs: Mirian Akemi Furuie Hayashi (Unifesp), Alexandre Keiji Tashima (Unifesp), Carsten Korth (Heinrich-Heine-Universität Düsseldorf), Claudiana Lameu Gomes (USP)]

**Birbrair
(collaborator)
1454040 reals**

Completed Research Support

Glenn/AFAR Scholarship for Research in the Biology of Aging

05/01/13-05/01/14

The role of pericyte subtypes in skeletal muscle regeneration with aging.

The goal of this project was to determine whether the pericyte subtypes we discovered differ in their myogenic, vasculogenic, adipogenic or fibrogenic differentiation capacity by testing whether pericytes involved in vasculogenesis and tissue repair differ from those involved in scar formation after tissue injury.

Role: PI

Article resulting from the research: **Birbrair A, T Zhang, ZM Wang, ML Messi, A Mintz and O Delbono. (2013). Type-1 Pericytes Participate in Fibrous Tissue Deposition in Aged Skeletal Muscle. American Journal of Physiology-Cell Physiology. 305 (11): C1098-C1113. PMID: 24067916.**

Impact Factor: 3.485

ISI ranking: 104/195 (Cell Biology) (Q3); 18/81 (Physiology) (Q1).

Number of citations minus the number of own citations: 125

Birbrair (PI)

5000 dollars

Grant from PRPq/UFGM (Edital 05/2016)

07/01/17

Study of pericytes subpopulations roles in the heart.

The goal of this project is to understand the role of pericytes subsets in the heart under distinct pathophysiological conditions, such as after infarct and Chagas' disease.

Role: PI

Birbrair (PI)

07/01/16-

10000 reals

Funding from Brazilian Qiagen

07/01/17

Study of pericytes in the prostate cancer microenvironment

The objective of this study is to compare gene expression in pericytes from healthy and malignant prostatic tissue.

Role: PI

Birbrair (PI)

07/01/16-

35000 reals in Qiagen reagents

Grant from MCTIC/FINEP/CT-INFRA 04/2018 (Implementation of *in vivo* high resolution microscopy at UFMG)

12/01/2018

**Birbrair (co-PI)
1499915 reais**

A multidepartment grant to buy an equipment for a Core facility at UFMG

The goal of this grant was to get a Confocal Spinning Disk Microscope from 3i for a Core facility in our Institute for shared use in the University.

Role: co-PI, [Other co-PIs: Vasco Azevedo (UFMG), Ricardo Gonçalves (UFMG), Ricardo Gazinelli (UFMG), Mauro Martins Teixeira (UFMG), Robson Souza dos Santos (UFMG), Giovanni Cassali (UFMG)]

Instituto Serrapilheira Grant 2017-Call / Serra-1708-15285

01/10/18-01/10/19

Birbrair (PI)

Regulation of prostate cancer by the peripheral nervous system

100000 reais

The main goal of this proposal is to study whether/how prostate cancer development may be affected by the peripheral nervous system.

Role: PI