

Marion Emilie Geneviève BRUNCK

Personal information

Born: 16th February 1984, in Carpentras, France.

Nationality: French/Australian

Languages: French (native), English (fluent), Spanish (fluent)

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CONACYT CVU: 732272

Qualifications

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| 2015 | PhD in Systems Biology, The University of Queensland, Brisbane, Australia
<u>Thesis title:</u> Comprehensive transcriptomic studies using RNA Capture-Seq.
Thesis supervisors: Dr. Lars K. Nielsen and Dr. Timothy Mercer |
| 2006 | B.Sc Immunology (Honours Class I), Diamantina Institute, The University of Queensland
<u>Thesis title:</u> Differential requirements in T lymphocytes for the rejection of HPV antigen E7-expressing epithelial grafts.
Thesis director: Dr. Germain Fernando |
| 2005 | B.Sc (major in Immunology and Microbiology), The University of Queensland/Euro-American Institute of Technology, Sophia-Antipolis, France. |

Professional History

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| Starting 08/2025 | Investigador Titular A, Instituto de Investigaciones Biomedicas, Universidad Nacional Autonoma de Mexico (UNAM), Mexico City, Mexico. |
| 2022-2025 | Associate Professor, Research group leader, ¹ The Institute for Obesity Research, ² Escuela de Ingeniería y Ciencias, Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey, México |
| 2017-2021 | Lecturer & Researcher, Escuela de Ingeniería y Ciencias, Instituto Tecnológico y de Estudios Superiores de Monterrey, Monterrey, México |
| 2016 | Researcher, Departamento de Biología, Universidad de Guanajuato, Guanajuato, México |
| 2015 | Postdoctoral Research Fellow in Hematopoietic Stem Cell Biology, Mater Research Institute, Australia (Laboratory lead: Dr. Jean-Pierre Levesque) |
| 2011-2014 | Academic tutor (teaching assistant) at The University of Queensland for the following courses: <ul style="list-style-type: none"> • MICR3001 (Microbes and Human Health), • BIOL3003 (Advanced Immunology), • MICR2000 (Microbiology and Immunology), • CHEE1001 (Principle of Biological Engineering) |

Service

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| 2025 | Panel member for scholarship selection, Fullbright-García Robles COMEXUS |
| 2024 | Swiss National Science Foundation (SNSF) Grant Reviewer |
| 2024-Present | Co-Chair Committee Junior IUIS Section ALACI |
| 2024-Present | Communication Committee member, <i>Mucosal Immunology</i> podcast co-host, Society for Mucosal Immunology |
| 2023-Present | Pro-secretary elect (incoming Secretary 2025), Mexican Society of Immunology |
| 2023-Present | Handling Editor <i>BMC Medicine</i> (Q1, IF 11.8) |
| 2023-Present | Co-Founder & Editor-in-Chief, Revista de Divulgación de la Sociedad Mexicana de Inmunología " <i>El infocito</i> ". |
| 2020-2023 | Co-Founder & President of the Institutional Biosafety Committee of Tecnológico de Monterrey |
| 2022 | Organizing committee, international conference The Neutrophil 2022, December 2022, CDMX Mexico |
| 2022 | Local organizing committee member, 1er Congreso Nacional de Citometria Traslacional, Mexican Society of Immunology, 3-6 August 2022, Monterrey, Mexico |
| 2022-Present | Editorial Board Member, <i>Journal of Leukocyte Biology</i> |

2022-2023	Special Topic Editor, Frontiers in Immunology - IUIS
2022-2023	Reviewing Editor <i>eLife</i>
2019-2025	Institutional liaison, Rho Factor Student Society, first postgraduate students society of Tecnológico de Monterrey

Academic Publications | Total citations: 1715; H-index: 16

- **Marion E G Brunck***, Maria Julia Lamberti, Anne M Hahn. On tending sprouts: empowering emerging immunologists in Latin America. April 2025. *Trends in Immunology*. DOI: 10.1016/j.it.2025.02.006
*Corresponding author
- Erick Sánchez-Salguero, Jessica Lakshmi Prieto-Chávez, Claudia García-Alonso, Anna-Maria Lampousi, Mario René Alcorta-García, Víctor Javier Lara-Díaz, Claudia Nohemí López-Villaseñor, **Marion E G Brunck***. Maternal obesity associates with altered humoral immunity in human colostrum. April 2025. *Mucosal Immunology*. <https://doi.org/10.1016/j.mucimm.2025.01.007>
*Corresponding author
- Claudia Angélica García-Alonso, Brenda Jiménez-López, Sebastián Castaño-Duque, Juan José J Yepes-Núñez, Anna-Maria Lampousi, Erick Sánchez-Salguero, **Marion E G Brunck***. Mapping the current knowledge on leucocytes in human breastmilk: a scoping review protocol. February 2025. *BMJ Open*. doi:10.1136/bmjopen-2024-091323
*Corresponding author
- Alejandra López-Arredondo, José Antonio Cruz-Cardenas, Andrés Cazares-Preciado, Nicholas Timmins and **Marion E G Brunck***. Neutrophils, an emerging new therapeutic platform. *Curr Op Biotechnology*. <https://doi.org/10.1016/j.copbio.2024.103106>
*Corresponding author
- José Antonio Cruz-Cardenas, Michelle Gutierrez-Mayret, Alejandra López-Arredondo, Julio Enrique Castañeda-Delgado, Augusto Rojas-Martinez, Gerardo García-Rivas, José Antonio Enciso-Moreno, Laura A Palomares, **Brunck M***. A pseudotyped lentivirus-based assay to titer SARS-CoV-2 neutralizing antibodies in Mexico. *Sci. Rep.* 2022, 12:17966.
*Corresponding author
- Raúl Piñeiro-Salvador; Eduardo Vazquez-Garza; José Antonio Cruz-Cardenas; Jorge Moreno-Vásquez; Cuauhtémoc Licona-Cassani; Gerardo de Jesús García-Rivas; Mario René Alcorta-García; Víctor Javier Lara- Díaz, **Brunck M***. A cross-sectional study evidences regulations of leukocytes in the colostrum of mothers with obesity. *BMC Medicine* 2022, 20:388.
*Corresponding author
- J. S. Gámez-Valdez, J. F. García-Mazcorro, A. H. Montoya-Rincón, D. L. Rodríguez-Reyes, G. Jiménez-Blanco, M. T. Alanís Rodríguez, R. Pérez-Cabeza de Vaca, M. R. Alcorta-García, **Brunck M**, V. J. Lara-Díaz & C. Licona-Cassani. *Sci Rep* 11, 24373 (2021). <https://doi.org/10.1038/s41598-021-03779-7>
- García-Rivas G, Castillo A C, Gonzalez-Gil A, Maravillas-Montero JL, **Brunck M**, Torres-Quintanilla A, Elizondo-Montemayor L, Torre-Amione G. The role of B cells in heart failure and implications for future immunomodulatory treatment strategies. *ESC Heart Fail.* 2020 Aug; 7 (4):1387-1399. doi: 10.1002/ehf2.12744.
- Robles-Zamora A, Enriquez-Ochoa D, Ureña-Herrera M, Aguilar-Yañez JM, **Brunck M**, Mayolo-Deloisa K. Partial recovery of MRJP1 protein expressed in *Pichia pastoris* using chromatographic techniques. *Rev. Mex Ing. Quim.* 2020 *in press*.
- Enriquez-Ochoa D, Robles-Ovalle P, Mayolo-Deloisa K, **Brunck M***. Immobilization of Growth Factors for Cell Therapy Manufacturing. *Front. Bioeng. Biotechnol.* 2020 Jun 2020;8:620. doi: 10.3389/fbioe.2020.00620.
*Corresponding author

- Torres-Acosta M, Harrison RP, Csaszar E, Rito-Palomares M, **Brunck ME***. Ex vivo manufactured neutrophils for treatment of neutropenia – a process economic evaluation. *Front. Med.* 2021 Jan 23. doi: 10.3389/fmed.2019.00021
*Corresponding author
- Bisht K*, **Brunck ME***, Matsumoto T, McGirr C, Nowlan B, Fleming W, Keech T, Magor G, Perkins AC, Davies J, Walkinshaw G, Flippin L, Winkler IG, Levesque JP. HIF prolyl hydroxylase inhibitor FG-4497 enhances mouse hematopoietic stem cell mobilization via VEGFR2/KDR. *Blood Advance*. 2019 Feb 12; ; 3(3):406-418. doi: 10.1182/bloodadvances.2018017566
*denotes equal author contributions
- Deveson IW*, **Brunck ME***, Blackburn J, Tseng E, Hon T, Clack TA, Clark MB, Crawford J, Dinger ME, Nielsen L, Mattick JS, Mercer TR. Universal alternative splicing of noncoding exons. *Cell Systems*. 2018 Feb 28;6(2):245-255.e5. doi: 10.1016/j.cels.2017.12.005.
*denotes equal author contributions
- Steffani-Valleji JL, **Brunck ME**, Acosta-Cruz EY, Montiel R, Barona-Gómez F. Genomic insights into Mycobacterium simiae human colonization. *Stand Genomic Sci.* 2018 Jan 8;13:1. doi: 10.1186/s40793-017-0291-x. eCollection 2018.
- Nowlan B, Futrega K, **Brunck ME**, Walkinshaw G, Flippin LE, Doran MR, Levesque JP. HIF-1α-stabilizing agent FG-4497 rescues human CD34+ cell mobilization in response to G-CSF in immunodeficient mice. *Experimental Hematology*. 2017 Aug;52:50-55.e6. doi: 10.1016/j.exphem.2017.05.004. Epub 2017 May 17.
- Jacobsen R, Barbier V, **Brunck ME**, Nowlan B, Winkler I, Levesque JP. Fms-like tyrosine kinase-3 (FLT3) ligand depletes erythroid island macrophages and blocks medullary erythropoiesis in the mouse. *Experimental Hematology*, 2016 Mar;44(3):207-12.e4. doi: 10.1016/j.exphem.2015.11.004. [Q1 journal; journal H-index: 98; IF= 2.475]
- **Brunck ME***, Schwaber J, Nielsen LK. Filling the void: allogeneic myeloid cells for transplantation. *Current opinion in hematology*. 2016 Jan Jan;23(1):72-7. doi: 10.1097/MOH.0000000000000205. Review. [Q1 journal; journal H-index: 77; IF= 3.97]
*Corresponding author
- Benham H, Nel HJ, Law SC, Mehdi AM, Street S, Ramnoruth N, Pahau H, Lee BT, Ng J, **Brunck ME**, Hyde C, Trouw LA, Dudek NL, Purcell AW, O'Sullivan BJ, Connolly JE, Paul SK, Lê Cao KA, Thomas R. Citrullinated peptide dendritic cell immunotherapy in HLA risk genotype-positive rheumatoid arthritis patients. *Sci Transl Med.* 2015 Jun 3;7(290):290ra87. doi: 10.1126/scitranslmed.aaa9301. [Q1 journal; journal H-index: 80; IF= 15.84]
- Clark MB*, Mercer TR*, Bussotti G, Leonardi T, Haynes KR, Crawford J, **Brunck ME**, Cao KA, Thomas GP, Chen WY, Taft RJ, Nielsen LK, Enright AJ, Mattick JS, Dinger ME (2015) Quantitative gene profiling of long noncoding RNAs with targeted RNA sequencing. *Nat Methods*. 12(4):339-42. [Q1 journal; journal H-index: 168; IF= 32.07]
*denotes equal author contributions
- Mercer TR, Clark MB, Andersen SB, **Brunck ME**, Haerty W, Crawford J, Taft RJ, Nielsen L, Dinger ME, Mattick JS (2015) Genome-wide discovery of human splicing branchpoints. *Genome Res*. 25(2)290-303. [Q1 journal; journal H-index: 218; IF= 14.63]
- **Brunck ME**, Andersen SA, Timmins NE, Osborne G, Nielsen LK. (2014) Absolute counting of neutrophils in a small volume of whole blood. *Cytometry part A*, 85(12): 1057-64. [Q1 journal; journal H-index: 58; IF= 2.928]
- Mercer TR*, Clark MB*, Crawford J*, **Brunck ME**, Gerhardt DJ, Taft RJ, Nielsen LK, Dinger ME, Mattick JS. (2014). Targeted sequencing for gene discovery and quantification using RNA CaptureSeq. *Nature Protocols*. 9 989-1009. [Q1 journal; journal H-index: 131; IF= 9.67]
*denotes equal author contributions
- **Brunck ME**, Nielsen KL. (2014). Next-generation cell therapies to prevent infections in neutropenic patients. *Stem Cells Trans Med*. 3(4):541-8. [Q1 journal; journal H-index: 18; IF= 5.7]

- Corrie SR, Fernando GJ, Crichton ML, **Brunck ME**, Anderson CD, Kendall MA. (2010). Surface-modified microprojection arrays for intradermal biomarker capture, with low non-specific protein binding. *Lab Chip*. 10(20):2655-8. [Q1 journal; journal H-index: 126; IF= 6.115]
- Alvarez AC, **Brunck ME**, Boyd V, Lai R, Virtue E, Chen W, Bletchly C, Heine HG, Barnard R. (2008). A broad spectrum, one-step reverse-transcription PCR amplification of the neuraminidase gene from multiple subtypes of influenza A virus. *Viol J*. 5:77. [Q2 journal; journal H-index: 47; IF= 4.439]

Current Research Group (2024): 4 PhD students, 2 Masters, 1 post-doctoral researcher.

Eight Graduated Postgraduate Students, as primary thesis advisor:

- **Brenda Jiménez-López**. Masters in Biomedical Sciences (ITESM), graduated June 2025.
Thesis title: "Leukocytes in Human breastmilk: state-of-the-art".
- **Claudia Angélica García-Alonso**. Masters in Biomedical Sciences (ITESM), graduated June 2025.
Thesis title: "Impact of maternal obesity of the antibody profile in human colostrum".
- **Raúl Piñeiro Salvador**, Masters in Biotechnology (ITESM), *graduated June 2021*
Thesis title: "Flow cytometry based analysis of leukocyte subpopulations in colostrum of mothers suffering from obesity"
- **José Antonio Cruz Cardenas**, Masters in Biotechnology (ITESM), *graduated June 2021*
Thesis title: "Development of BSL-2 safe non-replicative lentivirus based assay to titer neutralizing antibodies to SARS-CoV-2"
- **Milena Ureña Herrera**, Masters in Biotechnology (ITESM), *graduated June 2021*
Thesis title: "Induction of antigen-independent T cell proliferation *in vitro*"
- **Alejandro Robles Zamora**, PhD in Biotechnology (ITESM), *graduating December 2020*
Thesis title: "Efecto de la proteína MRJP1 producida en *Pichia pastoris* y recuperada mediante cromatografía, sobre proliferación celular y producción de galsulfasa"
- **Pedro Robles Ovalle**, Masters in Biotechnology (ITESM), *graduated June 2020*
Thesis title: "Decreasing the cost of neutrophil production *ex vivo* from UCB-enriched CD34⁺ human stem cells: potential of Stem Cell Factor immobilization"
- **Jessica Viviana Fonseca Ibarra**, Maestra en Ciencias (Biology) from Universidad de Guanajuato, GTO, MEXICO. Graduated 17th November 2017.
Thesis title: "Efecto de monocitos y macrófagos humanos en combinación con trampas extracelulares de neutrófilos sobre la viabilidad de *Trichomonas vaginalis*"

Teaching (semestral courses)

- **Science Communication**, postgraduate class (Course Coordinator and Lecturer) - Instituto Tecnológico y de Estudios Superiores de Monterrey 2022, 2024.
- **Molecular Biology**, 2nd year undergraduate class (Lecturer) - Instituto Tecnológico y de Estudios Superiores de Monterrey
- **Immunology for the BioIndustry**, 4th year undergraduate class (Course Coordinator and Lecturer) - Instituto Tecnológico y de Estudios Superiores de Monterrey
- **Advanced Immunology**, 3rd year undergraduate course (Academic tutor, teaching and discussion in study groups) – The University of Queensland
- **Microbes and Human Health**, 3rd year undergraduate course (Academic tutor, teaching and discussion in study groups) – The University of Queensland
- **Microbiology and Immunology**, 2nd year undergraduate course (Academic tutor, practical session in laboratory) – The University of Queensland
- **Principles of Biological Engineering**, 1st year undergraduate course (Academic tutor, practical session in laboratory) – The University of Queensland

Scholarships and Awards

- 2025 IUIS 2025 Rising Star Award
- 2024 Conahcyt Ciencia de Frontera MXN 1,700,000.00
- 2023 Technique-sharing grant, Society for Mucosal Immunology, USD 1,500.00
- 2023 Convocatoria Centro de Primera Infancia, "Bioactives in human breastmilk and suckling infant outcomes in a Chilean birth cohort), USD 80,000.00.
- 2023 Sistema Nacional de Investigadores (Mexican Government) Level 2 (of 3).
- 2023 Young Immunologist Award in Clinical Immunology-Mexican Society of Immunology
- Distinction First Class Honours, Bachelor Degree
- International Research Tuition Award (The University of Queensland). Tuition fee award covering the tuition fees of the PhD for 8 semesters.
- University of Queensland Research Scholarship. Living allowance stipend AU\$78,750 over 3.5 years.
- Australian Stem Cell Centre Scholarship, now StemCells Australia (Australian Federal Government). Top-up scholarship AU\$16,563 yearly for 3 years
- Australian Institute for Bioengineering and Nanotechnology Top-Up Scholarship (AIBN, UQ)
- 2022 Linkage grant Tecnológico de Monterrey-University of Ottawa MXN 300,000.00 (2022-2023)
- StrainBiotech SAPI de CV, company sponsored project USD 40,000.00 (2022)

Invited talks

- Meghan Azad MILC Club May 2024
- 2024 oct academia nacional de medicina-dohad-smi symposio on breastmilk equity health.
- 2024 feb academia nacional de medicina
- 2024 may AAI guest session SMI, Chair and Speaker
- 2024 april IUIS-Mexico Mechanisms for immunotherapies April 2024, Faculty (immunometabolism)
- 2024 Hospital Materno Infantil de NUevo León seminario a enfermera y medicos
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- 2024 october Universidad Autonoma de Agascalientes-Institut Pasteur Curso internacional de actualizacion en respuesta innata en salud y enfermedades infecciosas, Faculty (immunometabolism)
- 2024 october Universidad Autonoma de Agascalientes-Institut Pasteur Curso internacional de actualizacion en respuesta innata en salud y enfermedades infecciosas, laboratorio cede y coordinador de curso practico (immunometabolismo y producción de citosinas)
- 2023 Cancun SARS2 with esteban
- 2023 SMBB conference talk on neutrophil production for transfusion
- 2023 SMI presentation El infocito
- 2022 Health Data Week 4th edition december

Science outreach

- Co-founder *El infocito*
- 2023 Interview Milenio
- 2024 Interview IOR Springer Nature
- 2024 Interview radio Ultravioleta
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Current societies memberships (2025)

- Society for Mucosal Immunology
- Sociedad Mexicana de Inmunología (Mexican Society of Immunology-SMI)
- Society for Leukocyte Biology