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Current position

Professional category: Post-Doctoral Fellow
Organization: Anna Spiegel Center of Translational Research, Medical University of Vienna (MUW)
Department: Dermatology
 Address: Lazarettgasse 14, 1090 Vienna, Austria

Lines of research

Skin Inflammation, Atopic Dermatitis, Host-Pathogen Interactions, Schwann Cells, Peripheral Nervous System Cancer, Peripheral Neuropathies, Nerve regeneration, Lyme disease

Education

01/02/2016 – 24/06/2020 International **PhD** in Neuroscience- *Cum laude*
 Neuroscience Doctoral Program, mentioned towards excellence, University of the Basque Country (UPV/EHU) and CIC bioGUNE, Derio, Spain)
 01/09/2013 – 31/07/2014 **Master** in Molecular Biology and Biomedicine (UPV/EHU, Leioa, Spain)
 01/09/2009 – 31/07/2013 **Degree** in Biology
 2011 – 2013 (3rd and 4th years): UPV/EHU, Spain
 2009 – 2011 (1st and 2nd years): Autonomous University of Barcelona (UAB), Spain

Experience of Scientific-Professional Nature

02/11/20 – Present **Post-Doctoral Fellow** (Genes and Disease Laboratory, MUW, Vienna, Austria)
 01/07/19 – 01/09/19 **Visiting PhD student** (Nobel laureate Randy Schekman's Lab, UC Berkeley, California, USA)
 01/02/16 – 31/12/19 **Early-stage researcher** (Nerve Disorders Lab, CIC bioGUNE, Derio, Spain)
 07/01/15 – 01/02/16 **Laboratory technician** (Nerve Disorders Lab, CIC bioGUNE, Derio, Spain)
 01/07/14 – 31/12/14 **Research assistant** (Nerve Disorders Lab, CIC bioGUNE, Derio, Spain)
 01/09/13 – 31/07/14 **Laboratory work** as a Master student (Dept. of Genetics, Anthropology and Animal Physiology, UPV/EHU, Leioa, Spain)

Languages

Basque (Native).....C1 level certificate
 Spanish (Native)
 English.....B2 level certificate
 Catalan (Advanced spoken)
 German (Basics).....A1 certificate
 Italian (Basics)

Fellowships and Awards

2021 Inflammatory Skin Disease (ISD) Summit travel grant (New York, USA).
2020 International PhD, *Cum laude* (committee agreement to apply for the Extraordinary Doctorate Prize in 2022, UPV/EHU)
2020 VIBes in Biosciences conference travel grant (Leuven, Belgium)
2019 Boehringer Ingelheim travel grant (research stay, Schekman Lab, UC Berkeley, California, USA)
2019 Severo-Ochoa grant (UC Berkeley, California, USA)
2019 EMBO Short-Term Fellowship (Dr. Ragnhildur Thora Karadottir, University of Cambridge, UK) *not benefited*
2016 Pre-doctoral grant (Basque Government, Department of Education, Language Policy and Culture)
2011–2012 SÉNECA fellowship-Grant program for the mobility of university students (Ministry of Education, Culture and Sports, Spain)

Scientific Publications

- ✓ Elsa González-Cubero, María Luisa González-Fernández, María Rodríguez-Díaz, Natalia Valero-Avivar, **Marta Palomo-Irigoyen**, Ashwin Woodhoo, Vega Villar-Suárez. Peripheral nerve regeneration using adipose-derived Mesenchymal Stem Cells *in vivo* and *in vitro* (Expected submission: November **2021**).
- ✓ **Marta Palomo-Irigoyen**, Encarni Pérez-Andrés, Adrián Barreira-Manrique, Nicolás Navasa, Hector Rodriguez, Aize Pellon...Juan Anguita, Ashwin Woodhoo. *Borrelia burgdorferi* bacterium: a direct inducer of peripheral nervous system demyelination. In preparation (Expected submission: December 2021).
- ✓ Francisco Gonzalez-Romero, Daniela Mestre, Igor Aurrekoetxea, Colm J O'Rourke, Jesper B Andersen, Ashwin Woodhoo, Miguel Tamayo-Caro, Marta Varela Rey, **Marta Palomo-Irigoyen**...Patricia Aspichueta. E2F1 and E2F2-mediated repression of CPT2 establishes a lipid-rich tumor-promoting environment. *Cancer Res*, **2021**, 81, 2874-2887. doi:[10.1158/0008-5472.CAN-20-2052](https://doi.org/10.1158/0008-5472.CAN-20-2052)
- ✓ Supawadee Sukseeree, Latifa Bakiri, **Marta Palomo-Irigoyen**, Özge Uluçkan, Peter Petzelbauer, Erwin F Wagner. Sequestosome 1/p62 enhances chronic skin inflammation. *J Allergy Clin Immunol*, **2021**, S0091-6749(21)00357-2. doi:[10.1016/j.jaci.2021.02.028](https://doi.org/10.1016/j.jaci.2021.02.028)
- ✓ **Marta Palomo-Irigoyen**, Encarni Pérez-Andrés, Marta Iruarrizaga-Lejarreta, Marta Varela-Rey, Adrián Barreira-Manrique, Miguel Tamayo-Caro...Ashwin Woodhoo. HuR/ELAVL1 drives malignant peripheral nerve sheath tumour growth and metastasis. *J Clin Invest*, **2020**,130, 3848-3864. doi: [10.1172/JCI130379](https://doi.org/10.1172/JCI130379)
- ✓ Jose A. Gomez-Sanchez, Lucy Carty, Marta Iruarrizaga-Lejarreta, **Marta Palomo-Irigoyen**, Marta Varela-Rey, Megan Griffith...Rhona Mirsky, Ashwin Woodhoo, Kristján R. Jessen. Schwann cell autophagy, myelinophagy, initiates myelin clearance from injured nerves. *J Cell Biol*. **2015**, 210, 153-168. doi: [10.1083/jcb.201503019](https://doi.org/10.1083/jcb.201503019)

Book Chapters

- ✓ **Marta Palomo-Irigoyen**, Miguel Tamayo-Caro, Encarnacion Pérez-Andrés, Adrián Barreira-Manrique, Marta Varela-Rey, Ashwin Woodhoo. Isolation and purification of primary rodent Schwann cells. *Methods in Molecular Biology "Myelin"*. Springer Protocols, **2018**, 81-93.
- ✓ Miguel Tamayo-Caro, **Marta Palomo-Irigoyen**, Encarnacion Pérez-Andrés, Adrián Barreira-Manrique, Marta Varela-Rey, Ashwin Woodhoo. Analyzing autophagic flux in nerve cultures. *Methods in Molecular Biology "Myelin"*. Springer Protocols, **2018**, 193-206.

Participation in Research Projects

- Chronic Systemic Inflammation: Functional organ cross-talk in inflammatory disease and cancer (CSI-Fun). *European Research Council (ERC) Advanced grant. ID:741888. 11/2020-10/2021. Head of research: Erwin F. Wagner, Medical University of Vienna, Austria.*
- Role of post-translation modifications in Schwann cell myelination and demyelination, and in peripheral nervous system regeneration. *Spanish Ministry of Science and Innovation, Universities. RTI2018-097503-B-I00, 01/01/2019-31/12/2021. Head of research: Ashwin Woodhoo, CIC bioGUNE, Spain.*
- Dissecting the master regulatory control of Schwann cell reprogramming. *Spanish Ministry of Economy, projects "I+D+I Retos" SAF2015-65360-R, 01/01/2016-3/12/2018. Head of research: Ashwin Woodhoo, CIC bioGUNE, Spain.*
- The *Borrelia burgdorferi* bacterium: a novel contact-dependent inducer of peripheral nerve demyelination. *Spanish Ministry of Economy, projects "Explora Ciencia" SAF2015-72416-EXP, 06/2016-30/05/2018. Head of research: Ashwin Woodhoo, CIC bioGUNE, Spain.*
- Role of the histone methyltransferase Ezh2 in Schwann cell reprogramming. *BBVA, 01/10/2015-30/11/2016. Head of research: Ashwin Woodhoo, CIC bioGUNE, Spain.*
- Identifying the master regulatory signal that initiates Schwann cell reprogramming. *Spanish Ministry of Science and Innovation, Universities. SAF2015-62588-ERC, 01/08/2015 - 30/09/2016. Head of research: Ashwin Woodhoo, CIC bioGUNE, Spain.*
- The role of autophagy in Schwann cells dedifferentiation and axon regeneration. *Instituto de Salud Carlos III PFIS (PI12/00005), 01/01/2013 - 31/12/2015. Head of research: Ashwin Woodhoo, CIC bioGUNE, Spain.*
- The role of the RNA binding protein HuR (Elavl1) in MPNST (Malignant Peripheral Nerve Sheath Tumors). *Dept. of Education of the Basque Government, 01/2013 - 12/2015. Head of research: Ashwin Woodhoo, CIC bioGUNE, Spain.*

National and International Project Collaborations

- E2F2 is a metabolic driver that mediates nonalcoholic fatty-liver disease development and progression to hepatocarcinogenesis (*Principal Investigator: Patricia Aspichueta, University of the Basque Country UPV/EHU, Spain*).

Role of secretome and mesenchymal stem cells derived-exosomes in sciatic neuropathy (*Principal Investigator: Maria Vega Villar, University of León, Spain*).

Deciphering RBPMs role in normoxic and hypoxic conditions in retinal ganglion cells (*Principal Investigator: Elena Vecino, UPV/EHU, Spain*).

Guanine-7 methylation of RNA in stem cells and prostate cancer (*Principal Investigator: Sandra Blanco, Centro de Investigación del Cancer, University of Salamanca-CSIC, Spain*).

Extracellular vesicles derived from primary human epidermal keratinocytes and human dermal fibroblasts promote migration of skin cells (*Principal Investigator: Arup Indra, Oregon State University, USA*).

Attendance and Contributions to National and International Conferences/Meetings

2021 ISD Summit (November), New York, USA.

2021 47th ADF Annual Conference (virtual).

2021 Francisco Gonzalez-Romero, Daniela Mestre Congregado, Igor Aurrekoetxea, Colm O'Rourke, Jesper Andersen, Ashwin Woodhoo, Miguel Tamayo-Caro, Marta Varela-Rey, **Marta Palomo-Irigoyen**...Patricia Aspichueta. Repression of fatty acid oxidation in steatohepatic-HCC is mediated by E2F1 and E2F2 transcription factors. *J. Hepatology* 75, S497-S498.

2020 VIBes in Biosciences (International symposium for PhD students in life sciences), Leuven, Belgium. **Marta Palomo-Irigoyen**, Encarni Pérez-Andrés, Adrián Barreira-Manrique, Miguel Tamayo-Caro, Juan Anguita, Ashwin Woodhoo. The *Borrelia burgdorferi* bacterium: a direct inducer of peripheral nervous system demyelination. Poster, n° 50.

2019 ASEMV (Annual meeting of American Society for exosomes and microvesicles), Pacific Grove, California, USA.

2019 CDB meeting (Annual retreat of Cell & Developmental Biology division, UC Berkeley), Pacific Grove, California, USA.

2019 54th Annual Meeting of the European Association for the Study of the Liver (EASL), Vienna, Austria, Francisco González-Romero, Daniela Mestre, Igor Aurrekoetxea, Diego Sáenz de Urturi, Beatriz Gomez-Santos, Maitane Nuñez-García, Xabier Buquélgotz Delgado, **Marta Palomo-Irigoyen**, Miguel Tamayo-Caro, Ashwin Woodhoo, Marta Varela-Rey...Patricia Aspichueta. E2F2 mediated repression of fatty acid B-oxidation is mitigated through CREB1 in progressive non-alcoholic fatty liver disease. *J. Hepatology* 70, PS-008. doi: [https://doi.org/10.1016/S0618-8278\(19\)30014-3](https://doi.org/10.1016/S0618-8278(19)30014-3)

2019 14th European Meeting on Glial Cells in Health and Disease. Portugal, Spain. Miguel Tamayo-Caro, **Marta Palomo-Irigoyen**, Encarni Pérez-Andrés, Marta Iruarrizaga-Lejarreta, Marta Varela-Rey, Ashwin Woodhoo. The RNA-binding protein HuR/Elavl1 controls a core gene regulatory circuitry essential for MPNST growth and metastasis. *Glia*, 67, E719-E719.

2018 MikrobioGUNE (1st Basque Microbiology Meeting), Bilbao, Spain. **Marta Palomo-Irigoyen**, Encarni Pérez-Andrés, Marta Iruarrizaga-Lejarreta, Adrián Barreira-Manrique, Miguel Tamayo-Caro, Marta Varela-Rey, Ashwin Woodhoo. The *Borrelia burgdorferi* bacterium: a novel contact-dependent inducer of peripheral nerve demyelination. Flash communication and Poster, BM03.

2018 Neurogune (Basque Neuroscience meeting), Vitoria, Spain. **Marta Palomo-Irigoyen**, Encarni Pérez-Andrés, Marta Iruarrizaga-Lejarreta, Adrián Barreira-Manrique, Miguel Tamayo-Caro, Marta Varela-Rey, Ashwin Woodhoo. The *Borrelia burgdorferi* bacterium: a novel contact-dependent inducer of peripheral nerve demyelination. Poster, T2-28.

2018 Neurogune (Basque Neuroscience meeting), Vitoria, Spain. **Marta Palomo-Irigoyen**, Encarni Pérez-Andrés, Marta Iruarrizaga-Lejarreta, Adrián Barreira-Manrique, Miguel Tamayo-Caro, Marta Varela-Rey, Ashwin Woodhoo. The RNA-binding protein HuR/Elavl1 controls a core transcriptional regulatory circuitry essential for MPNST growth and metastasis. Poster, T2-29.

2017 13th European Meeting on Glial Cells in Health and Disease, Edinburgh, Scotland. Marta Iruarrizaga-Lejarreta, Encarni Pérez-Andrés, Diana Medrano, **Marta Palomo-Irigoyen**, Marta Varela-Rey, Ashwin Woodhoo. The RNA-binding protein HuR is a master regulator of malignant peripheral nerve sheath tumorigenesis, *Glia*, 65, E567-E567.

2016 Neurogune (Basque Neuroscience meeting), Bilbao, Spain. **Marta Palomo-Irigoyen**, Marta Iruarrizaga-Lejarreta, Marta Varela-Rey, Ashwin Woodhoo. The RNA-binding protein HuR/Elavl1 controls a core transcriptional regulatory circuitry essential for MPNST growth and metastasis. Poster, IDO05.

2015 12th European Meeting on Glial Cell Function in Health and Disease, Bilbao, Spain. **Marta Palomo-Irigoyen**, Marta Iruarrizaga-Lejarreta, Marta Varela-Rey, Ashwin Woodhoo. The RNA-binding protein HuR/Elavl1 controls a core transcriptional regulatory circuitry essential for MPNST growth and metastasis. Poster, T17-04B.

2015 12th European Meeting on Glial Cell Function in Health and Disease, Bilbao, Spain. **2015**. Jose A. Gomez-Sanchez, Lucy Carty, Marta Iruarrizaga-Lejarreta, **Marta Palomo-Irigoyen**, Marta Varela-Rey, Rhona Mirsky, Ashwin Woodhoo and Kristján R. Jessen. Schwann cell autophagy, myelinophagy, initiates myelin clearance from injured nerves, *Glia*, 63, E127-E128.

Academic mentorship

2015–2021 Experience in mentoring, supervising Bachelor and Master students (Sofia Marcos, Nagore Beitia Telletxea, CIC bioGUNE), lab technicians (Daniela Medrano, CIC bioGUNE) and PhD students

(Miguel Tamayo Caro, CIC bioGUNE).

Memberships

- 31/08/2021** Member of International Society for Infectious Diseases (ISID).
31/08/2021 Member of Spanish Society for Cell Biology (SEBC).
24/08/2021 Member of Society for Investigative Dermatology (SID).
29/04/2021 Member of Spanish Society for Immunology (SEI).

Attendance at Scientific Courses

- Workshop in Neuroinflammation and Neurodegeneration (Encuentro Científico “De la Neuroinflamación a la Neurodegeneración”) – *Achucarro Basque Center for Neuroscience, Spain*.....2018
- Applications of Electron Microscopy: Knowledge and facilities in Basque Country - *CIC bioGUNE, Spain*.....2018
- Basic Course in Proteomics - *CIC bioGUNE, Spain*.....2017
- Photoshop CS6 (for research images) - *online*.....2017
- Biosafety (Biosecurity in the laboratory) - *CIC bioGUNE, Spain*.....2016
- SPSS program (exercises) - *CIC bioGUNE, Spain*.....2016
- Statistics (Initiation into SPSS) - *CIC bioGUNE, Spain*.....2016
- Statistics (Creation of databases for research) - *CIC bioGUNE, Spain*2016
- Animal Facility training course: Function C (Función de Realización de los Procedimientos: Función C)-*Animalaria Formación y Gestión S.L, Spain*.....2016
- Animal Facility training course: Function B (Función de Eutanasia de los Animales: Función B) – *Animalaria Formación y Gestión S.L, Spain*.....2016
- Presenting information effectively in English: 5 keys to improvement – *Bizkaia Science and Technology Park (Lanser English training), Spain*2015
- Clinical Genetics - *Basurto Hospital, Bilbao, Spain*.....2010

Scientific and Social Impact of the Results

Work Citations in Journals

J. Cell Biol. **2015**, 210, 153-168, Times Cited: **187**. Highlighted by Dr. Michael Thumm (University of Göttingen, Germany) and Dr. Mikael Simons (Max Planck Institute of Experimental Medicine, Germany) in: Myelinophagy: Schwann cells dine in, J. Cell Biol. **2015**; 210 (1): 9-10. doi: 10.1083/jcb.201506039.

In the News

European Commission-CORDIS-[https://cordis.europa.eu/article/id/421496-cic-biogune-research-opens-up-avenues-for-treating-a-highly-aggressive-cancer-of-the-nervous-](https://cordis.europa.eu/article/id/421496-cic-biogune-research-opens-up-avenues-for-treating-a-highly-aggressive-cancer-of-the-nervous-system)

REDIB (Red Iberoamericana de Innovación y Conocimiento Científico)-

<https://redibinforma.com/art/1225/descubren-vias-contra-cancer-del-sistema-nervioso-agresivo-en-ninos-y-adultos>

Europapress-<https://www.europapress.es/euskadi/noticia-investigacion-cic-biogune-identifica-posible-diana-terapeutica-cancer-agresivo-sistema-nervioso-20200630174058.html>

La Vanguardia-<https://www.lavanguardia.com/vida/20200630/482035529668/descubren-vias-contracancer-del-sistema-nervioso-agresivo-en-ninos-y-adultos.html>

Deia- <https://www.deia.eus/vivir-on/salud/2020/06/30/investigacion-vasca-abre-via-cancer/1049009.html>

El Nuevo Diario-<https://elnuevodiario.com.do/tag/marta-palomo-irigoyen/>

Quiosco-<http://quiosco.com.do/descubren-vias-contra-cancer-del-sistema-nervioso-agresivo-en-ninos-y-adultos/98876>

EurekAlert! AAAS-<https://www.eurekalert.org/news-releases/462934>

Ciber isciiii-<https://www.ciberisciii.es/noticias/descubren-nuevas-dianas-terapeuticas-para-la-esteatosis-hepatica-metabolica-y-el-carcinoma-hepatocelular-asociado>