

HEIDELBERG INTERNATIONAL
SUMMER SCHOOL FOR
DOCTORAL STUDENTS



UNIVERSITÄT
HEIDELBERG
ZUKUNFT
SEIT 1386

ANCESTRY MEETS MOLECULAR HEALTH

OPPORTUNITIES OF GENETIC DIVERSITY FOR PREDICTIVE,
PREVENTIVE, PERSONALISED AND PARTICIPATORY (P4) MEDICINE

PROGRAMME BOOK



20–24 NOVEMBER 2023

Heidelberg Center Latin America, Santiago de Chile



ANCESTRY MEETS MOLECULAR HEALTH

OPPORTUNITIES OF GENETIC DIVERSITY FOR PREDICTIVE,
PREVENTIVE, PERSONALISED AND PARTICIPATORY (P4) MEDICINE

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UNIVERSITÄT HEIDELBERG

Founded in 1386, Heidelberg University is Germany's oldest university and one of Europe's most research-intensive institutions. Its successes in all rounds of the Excellence Competition and in internationally recognised rankings prove Heidelberg's leading role in the academic community. In terms of educating students and promoting outstanding early-career researchers, Heidelberg University relies on research-based teaching and well-structured training and support for doctoral candidates.

Heidelberg University is a comprehensive research university offering the full spectrum of disciplines in the humanities, law and the social sciences alongside the natural, engineering and life sciences, including medicine. As a comprehensive university, Heidelberg is committed to advancing exceptional individual disciplines, promoting dialogue beyond traditional disciplinary boundaries, and turning research findings to good use for society and the economy. In this endeavour, it also relies on strong partners outside the university.

Focus on doctoral candidates and postdocs

Supporting young researchers is an essential strategic field of action for Heidelberg University. The goal is to attract the best talents from all over the world and offer them optimal conditions for a successful career within the university and beyond. As an integrated quality programme for doctoral training, heiDOCS aims to continuously enhance and optimise the overall conditions for doctoral

candidates at Heidelberg University. The Graduate Academy coordinates all related counselling, advanced training and funding offers. In addition to four large Graduate Schools, there are numerous research training groups for doctoral candidates and other structured doctoral programmes. heiTRACKS is the framework for a wide range of support measures aimed at young researchers who have completed their doctorate.

International profile

Heidelberg University is tied into a worldwide network of research and teaching collaborations. Exchange programmes have been established with roughly 480 universities worldwide. Heidelberg's strong global presence is also evidenced by its 27 university partnerships and its membership in European networks such as the 4EU+ European University Alliance, the League of European Research Universities (LERU) and the Coimbra Group.

By establishing centres abroad in Latin America, North America, India and Japan, Heidelberg University aims to increase its international visibility. The four centres in Santiago de Chile, New York City, New Delhi and Kyoto act as research hubs for regional studies and service centres for all university institutions, and open up the way for international graduates to come to Heidelberg. Together with their related institutes in Heidelberg, they are the institutional bridges connecting Ruperto Carola to its strategic international focus regions.

VENUE



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LECTURERS



DR. CAROL BARAHONA PONCE (CBP)

HEIDELBERG UNIVERSITY, GERMANY



PERSONAL DATA

Title	Dr.
First name	Carol
Name	Barahona Ponce
Current position	Postdoctoral Fellow at the Statistical Genetics Research Group
Current institution(s) / City, country	Institute of Medical Biometry, Heidelberg University Heidelberg, Germany
Identifiers/ORCID	0000-0001-9505-4965
Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	Precision Cancer Prevention

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2005 – 2010: B.Sc. Biology, Pontifical Catholic University of Chile, Chile 2011 – 2013: M.Sc. Human Nutrition, University of Chile, Chile
Doctorate	2017 – 2021: Statistical Genetics, University of Heidelberg, Germany
Stages of academic/ professional career	Since 2022: Postdoctoral research, Statistical Genetics Research Group, University of Heidelberg, Germany

SELECTED PUBLICATIONS

1. Boekstegers F, Scherer D, **Barahona Ponce C**, et al. Development and internal validation of a multifactorial risk prediction model for gallbladder cancer in a high-incidence country. *Int J Cancer*. 2023; 153(6):1151-1161. doi: 10.1002/ijc.34607 – open access
2. Guinez-Molinos S, Gonzalez Diaz J, **Barahona Ponce C**, Lorenzo Bermejo J. Development of an Application for Electronic Retrieval of Patient and Sample Information in Latin American Regions with a High Incidence of Gallbladder Cancer. *J Pers Med*. 2022; 12(9):1476. doi:10.3390/jpm12091476 – open access
3. **Barahona Ponce C**, et al. Gallstones, Body Mass Index, C-Reactive Protein, and Gallbladder Cancer: Mendelian Randomization Analysis of Chilean and European Genotype Data. *Hepatology*. 2021; 73(5):1783-96. doi:10.1002/hep.31537 – open access
4. Bragelmann J, **Barahona Ponce C**, et al. Epigenome-Wide Analysis of Methylation Changes in the Sequence of Gallstone Disease, Dysplasia, and Gallbladder Cancer. *Hepatology*. 2021; 73(6):2293-310. doi:10.1002/hep.31585 – open access
5. **Barahona Ponce C**, et al. Arsenic and gallbladder cancer risk: Mendelian randomization analysis of European prospective data. *Int J Cancer*. 2020; 1;146(9):2648-2650. doi: 10.1002/ijc.32837.

ALICE BLANDINO (AB)

HEIDELBERG UNIVERSITY, GERMANY



PERSONAL DATA

Title	M.Sc.
First name	Alice
Name	Blandino
Current position	PhD Student
Current institution(s) / City, country	Institute of Medical Biometry, Heidelberg University Heidelberg, Germany
Identifiers/ORCID	0000-0002-6808-1826
Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	Methodological and applied genetic research

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2014 – 2017: B.Sc. Statistics for Data Analysis, University of Palermo, Italy 2017 – 2020: M.Sc. Statistical Sciences, University of Palermo, Italy
Doctorate	Since 2020: Statistical Genetics Research Group, Institute of Medical Biometry, Heidelberg University, Germany
Stages of academic/ professional career	Since 2020: Scientific Assistant, Statistical Genetics Research Group, Institute of Medical Biometry, Heidelberg University, Germany 2019: Intern, Unit of Epidemiology and Biostatistics, Heidelberg Institute of Global Health, Heidelberg University, Germany 2017: Intern, Statistical Staff Unit-Strategic Development sector, Palermo City Hall, Italy

SELECTED PUBLICATIONS

- Blandino A**, Scherer D, Rounge TB, Umu S, Boekstegers F, Barahona Ponce C, Marcelain K, Gárate-Calderón V, Waldenberger M, Morales E, Rojas A, Muñoz C, Retamales J, de Toro G, Barajas O, Rivera MT, Cortés A, Loader D, Saavedra J, Gutiérrez L, Ortega A, Bertrán ME, Gabler F, Campos M, Alvarado J, Moisés F, Spencer L, Nervi B, Carvajal-Hausdorf D, Losada H, Almau M, Fernández P, Gallegos I, Olloquequi J, Fuentes-Guajardo M, Gonzalez-Jose R, Bortolini M, Gallo C, Linares A, Rothhammer F, Lorenzo Bermejo J. Identification of Circulating lncRNAs Associated with Gallbladder Cancer Risk by Tissue-Based Preselection, Cis-eQTL Validation, and Analysis of Association with Genotype-Based Expression. *Cancers* (Basel). 2022; 14(3) doi:10.3390/cancers14030634 – open access
- Sciandra M, **Blandino A**. Un mese di Covid-19 in Italia: una guida alla lettura dei dati per bloccare la disinformazione. Società Italiana Statistica (SIS). Anno IX EDIZIONE SPECIALE COVID-19. 2020. Url: <http://www.rivista.sis-statistica.org/cms/?p=1170>

DR. FRANCISCO CAMIÑA CEBALLOS (FCC)

MINISTERIO DE CIENCIA, SPAIN



PERSONAL DATA

Title	Dr.
First name	Francisco
Name	Camiña Ceballos
Current position	Postdoctoral Researcher
Current institution(s) / City, country	Centro de Investigación Biomédica en Red (CIBER). Instituto de Salud Carlos III. Ministerio de Ciencia. Spain
Identifiers/ORCID	0000-0001-7113-7387
Webpage	https://www.sharda.ac.in/
Research Interest	Demographic history, genetic architecture of complex traits, autozygosity.

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2000 – 2005: Biology, University of Santiago de Compostela (USC)
Master's degree	2005 – 2007: Biochemistry and Molecular Biology, (USC) 2012 – 2014: Statistical Techniques
Doctorate	2009 – 2013: Population Genetics, (USC), Spain
Stages of academic/ professional career	2015 – 2019: Postdoctoral researcher at the Sydney Brenner Institute for Molecular Bioscience (SBIMB). Johannesburg. South Africa 2019 – 2020: Postdoctoral researcher at the Middle East Technical University (METU). Ankara. Turkey 2020 – 2021: Postdoctoral researcher at the Nacional Centre for Microbiology. Instituto de Salud Carlos III. Madrid. Spain. Since 2021: Postdoctoral researcher at the Centro de Investigación Biomédica en Red (CIBER). Instituto de Salud Carlos III.

SELECTED PUBLICATIONS

1. Raquel Cruz, Silvia Diz-de Almeida, Miguel Lopez Heredia, Ines Quintela, **Francisco C. Ceballos**, et al. (2022). Novel Genes and sex differences in COVID-19 severity. *Human Molecular Genetics*.
2. **Francisco C. Ceballos** et al. (2021). Human inbreeding has decreased in time through the Holocene. *Current Biology*. 31(17), 3925-3934
3. **Francisco C. Ceballos** et al. (2020). Autozygosity influences cardiometabolic disease-association traits in the AWI-Gen sub-Saharan African study. *Nature Communications* 11 (1), 1-8.
4. Guilherme Debortoli, Cristina Abbatangelo, **Francisco Ceballos**, et al. (2020). Novel insights on demographic history of tribal and caste groups from West Maharashtra (India) using dense microarray data. *Scientific Reports*. 10 (1), 1-10
5. **Ceballos F.C** et al. (2018)a. Runs of Homozygosity: windows into population history and trait architecture. *Nature Review Genetics*. doi:10.1038/nrg.2017.109

DR. ARCE DOMINGO RELLOSO (ADR)

COLUMBIA UNIVERSITY, USA



PERSONAL DATA

Title	Dr.
First name	Arce
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Research Interest	Biostatistics, epigenetics and omics data, environmental epidemiology

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2010 – 2015: B.A. in Mathematics, Autonomous University of Madrid (UAM) 2015 – 2017: Master in Biostatistics, University of Valencia, Spain
Doctorate	2020 – 2023: Biostatistics, National Center for Epidemiology, Madrid, Spain
Stages of academic/ professional career	Since 2023: Associate Research Scientist, Columbia University Mailman School of Public Health, Department of Biostatistics, New York, NY, USA 2018 – 2020: Biostatistician, Columbia University Mailman School of Public Health, Department of Environmental Health Sciences, New York, NY, USA 2017: Biostatistician, Public Health General Direction, Cancer Research Area, Valencia, Spain 2016 – 2018: Biostatistician, Clinic Hospital of Valencia (INCLIVA), Spain

SELECTED PUBLICATIONS

- Domingo-Relloso A**, Makhani K, Riffo-Campos AL, Tellez-Plaza M, Klein KO, Subedi P,..., Navas-Acien A. Arsenic Exposure, Blood DNA Methylation, and Cardiovascular Disease. *Circulation Research* 2022;131:e51–e69.
- Navas-Acien A, **Domingo-Relloso A**, Subedi P, Riffo-Campos AL, Xia R, Gomez L, Haack K, Goldsmith J, Howard BV, Best LG, Devereux R, Tauqeer A, Zhang Y, Fretts AM, Pichler G, Daniel Levy D, Vasani RS, Baccarelli AA, MD, Herreros-Martinez M, Tang WY, Bressler J, Fornage M, Umans JG, Tellez-Plaza M, Fallin MD, Zhao J, Cole SA. Blood DNA Methylation and Incident Coronary Heart Disease. *JAMA Cardiology* 2021, 6 (11) 1237-1246.
- Domingo-Relloso A**, Grau-Perez M, Briongos-Figuero L, Gomez-Ariza JL, Garcia-Barrera T, Dueñas-Laita A, Bobb JF, Chaves FJ, Kioumourtzoglou MA, Navas-Acien A, Redon-Mas J, Martin-Escudero JC, Tellez-Plaza M. The association of urine metals and metal mixtures with cardiovascular incidence in an adult population from Spain: the Hortega Follow-Up Study. *International Journal of Epidemiology* 2019, 1-11.
- Domingo-Relloso A**, Riffo-Campos A, Haack K, Rentero-Garrido P, Ladd-Acosta C, Fallin D, Tang WY, Herreros-Martinez M, Gonzalez JR, Bozack A, Cole S, Navas-Acien A, Tellez-Plaza M. Cadmium, smoking, and human blood DNA methylation profiles in adults from the Strong Heart Study. *Environmental Health Perspectives* 2020;128:67005.
- Domingo-Relloso A**, Haack K, Fallin DM, Terry MB, Rhoades DA, Tang WY, Herreros-Martinez M, Garcia-Esquinas E, Bozack AK, Cole SA, Tellez-Plaza M, Navas-Acien A. DNA methylation and cancer incidence: signals for lymphatic-hematopoietic vs. solid cancers from the Strong Heart Study. *Clin Epigenet* 2021, 13 (43).

PROF. M. YOLANDA ESPINOSA PARRILLAS (YEP)

UNIVERSITY OF MAGALLANES, CHILE



PERSONAL DATA

Title	Prof. Dr.
First name	M. Yolanda
Name	Espinosa Parrilla
Current position	Associate Professor Medicine School and Leader of the Evolutionary and Medical Genomics in Magallanes (GEMMa)
Current institution(s) / City, country	University of Magallanes, Avd Bulnes 01855, Punta Arenas, Chile
Identifiers/ORCID	0000-0002-5441-3113
Webpage	https://scholar.google.es/citations?hl=es&user=aMUfA_wAAAAJ
Research Interest	Non-coding RNAs in evolution and disease

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	1988 – 1993: Biology, University of Barcelona (UB)
Doctorate	1994 – 2000: Biology, University of Barcelona (UB)
Stages of academic/ professional career	1999: Predoctoral Stage funded by a FP7 Marie Curie Training Grant at the Wallemberg Laboratoriet in (University of Lund), Malmo, Sweden 2000 – 2004: Postdoctoral position. Marie Curie Individual Fellowship and Inserm Poste Vert. Genetics Dept. INSERM- U393, Hôpital Necker. Université Paris-Descartes (Paris, France). 2004 – 2009: Ramon y Cajal Position. Genes and Disease Program. Center for Genomic Regulation, Barcelona, Spain 2009 – 2012: Marie Curie Outgoing Training Grant. UPF and Human Genetics Program, University of Chile, Santiago de Chile. 2012 – 2015: Associate Professor. Experimental and Health Science Dept. Pompeu Fabra University, Barcelona, Spain. Since 2015: Associate Professor. Medicine School, University of Magallanes (UMAG) and Group Leader of the Evolutionary and Medical Genomics in Magallanes (GEMMa), Punta Arenas, Chile

SELECTED PUBLICATIONS

1. Nakatsuka N, [...], **Espinosa-Parrilla Y**, et al. Ancient genomes in South Patagonia reveal population movements associated with technological shifts and geography. *Nature Communications*. 2020 Aug 3;11(1):3868.
2. Torruella-Loran I, [...], **Espinosa-Parrilla Y** (2016). microRNA Genetic Variation, from Population Analysis to Functional Implications of Three Allele Variants Associated with Cancer. *Hum Mutat*. 37 (10): 1060-73.
3. **Espinosa-Parrilla Y**, et al. (2014). Genetic association of gastric cancer with miRNA clusters including the cancer related genes MIR29, MIR25, MIR93 and MIR106: Results from the EPIC-EURGAST study. *Int J Cancer*. 2014. 135 (9): 2065-76.
4. Muiños-Gimeno M*, **Espinosa-Parrilla Y***, et al. (2012). An Ancestral miR- 1304 Allele Present in Neanderthals Regulates Genes Involved in Enamel Formation and Could Explain Dental Differences with Modern Humans. *Mol Biol Evo*; 29 (7): 1797-1806.

PROF. DAVID HUGHES (DH)

UNIVERSITY COLLEGE DUBLIN, IRELAND



PERSONAL DATA

Title	Prof. Dr.
First name	David
Name	Hughes
Current position	A/Prof & co-director, Cancer, Biology & Therapeutics Cluster (http://www.cbtlab.ie/), UCD Conway Institute.
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Webpage	https://people.ucd.ie/david.hughes · http://www.cbtlab.ie/
Research Interest	Cancer Prevention / Cancer Epidemiology

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2014 – 2015: Postgraduate Diploma in Health Professions Education: Royal College of Surgeons in Ireland (RCSI), Dublin, Ireland
Doctorate	1992 – 1996: Medical Genetics, Queen's University of Belfast, Northern Ireland
Stages of academic/ professional career	<p>Since 2018: Co-director, Cancer, Biology & Therapeutics Cluster (http://www.cbtlab.ie/) and Conway Fellow, UCD Conway Institute, Dublin, Ireland</p> <p>2011 – 2016: Senior Research Fellow / Honorary Lecturer, Department of Physiology & Medical Physics, RCSI, Dublin, Ireland</p> <p>2007 – 2011: Research Fellow Department of Clinical Medicine, Trinity College Dublin</p> <p>2000 – 2006: Postdoctoral Fellow (2000-2002) / Scientist (2002-2006) Unit of Genetic Epidemiology, WHO IARC, Lyon, France</p> <p>1998 – 2000: Postdoctoral Researcher, The Sanger Institute, Hinxton, Cambridge, UK</p> <p>1996 – 1996: Short-Term Visiting Postdoctoral Fellow, Institute for Human Genetics, Hanover Medical School, Hanover, Germany</p> <p>1991 – 1992: Research Assistant, St. Mary's Hospital Medical School, Imperial College London, UK</p>

SELECTED PUBLICATIONS

- Daniel N, [...], **Hughes DJ**. The role of the gut microbiome in the development of hepatobiliary cancers. *Hepatology* 2023 Apr 15. doi: 10.1097/HEP.0000000000000406. PMID: 37055022.
- Karavasiloglou N, **Hughes DJ**, et al. Pre-diagnostic serum calcium concentrations and risk of colorectal cancer development in two large European prospective cohorts. *Am J Clin Nutr* 2023 Jan 117(1): 33-45, <https://doi.org/10.1016/j.ajcnut.2022.10.004>. PMID: 36789942.
- Butt J, [...], **Hughes DJ**. Association of Pre-diagnostic Antibody Responses to Escherichia coli and Bacteroides fragilis Toxin Proteins with Colorectal Cancer in a European Cohort. *Gut Microbes* 2021, 13(1): 1-14. DOI: 10.1080/19490976.2021.1903825. PMID: 33874856.
- Genua F, [...], **Hughes DJ**. The role of Gut Barrier Dysfunction and Microbiome Dysbiosis in Colorectal Cancer development. *Front Oncol* 2021 Apr 15;11:626349. doi: 10.3389/fonc.2021.626349. PMID: 33937029.
- Butt J, [...], **Hughes DJ**. Antibody responses to Helicobacter pylori and risk of developing colorectal cancer in a European cohort. *Cancer Epidemiol Biomark Prev* 2020, July 1; 29(7): 1475-1481. DOI: 10.1158/1055-9965.EPI-19-1545. PMID: 32332031.

PROF. ROBERT KAPLAN (RKA)

ALBERT EINSTEIN COLLEGE OF MEDICINE, USA



PERSONAL DATA

Title	Prof. Dr.
First name	Robert
Name	Kaplan
Current position	Professor of Epidemiology and Population Health
Current institution(s) / City, country	Albert Einstein College of Medicine New York, United States
Identifiers/ORCID	0000-0003-3271-801X
Webpage	https://www.einsteinmed.edu/faculty/6321/robert-kaplan/
Research Interest	Precision Cancer Prevention

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	1989 – 1993: BA, Brown University, Providence, RI, USA 1995 – 1997: MS, University of Washington, Seattle, WA, USA
Doctorate	1997 – 1999: PhD, Epidemiology, University of Washington, Seattle, WA USA
Stages of academic/ professional career	2000 – 2005: Assistant Professor 2005 – 2010: Associate Professor 2010 – Professor (tenured) 2013 – Dorothy and William Manealoff Foundation and Molly Rosen Chair in Social Medicine, Department of Epidemiology and Population Health, Albert Einstein College of Medicine, Bronx, NY, USA 2017 – Professor, Fred Hutchinson Cancer Center, Seattle, WA, USA

SELECTED PUBLICATIONS

- Kaplan RC**, Song RJ, Lin J, Xanthakis V, Hua S, Chernofsky A, Evenson KR, Walker ME, Cuthbertson C, et al. Predictors of incident diabetes in two populations: framingham heart study and hispanic community health study / study of latinos. *BMC Public Health*. 2022 May 26;22(1):1053. doi: 10.1186/s12889-022-13463-8. PMID: 35619100; PMCID: PMC9137165.
- Isasi, C., Moon, J.Y., Qi, Q., Wang, T., Gallo, L.C., Sotres-Alvarez, D., Llabre, M.M., Khambaty, T., Daviglius, M., Estrella, M.L., Reina S.A., Cai, J., **Kaplan, R.** Chronic stress and genetic susceptibility to obesity in U.S. Hispanic/Latinos. Results from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL). *Psychosomatic Medicine* 84(7):p 822-827, September 2022. | DOI: 10.1097/PSY.0000000000001107
- Kaplan RC**, et al. Gut microbiome composition in the Hispanic Community Health Study/Study of Latinos is shaped by geographic relocation, environmental factors, and obesity. *Genome Biol*. 2019 Nov 1;20(1):219. doi: 10.1186/s13059-019-1831-z. PMID: 31672155.
- Qi Q, Hua S, Clish CB, Scott JM, Hanna DB, Wang T, Haberlen SA, Shah SJ, Glesby MJ, Lazar JM, Burk RD, Hodis HN, Landay AL, Post WS, Anastos K, **Kaplan RC**. Plasma tryptophan-kynurenine metabolites are altered in HIV infection and associated with progression of carotid artery atherosclerosis. *Clin Infect Dis*. 2018 Jul 2;67(2):235-242. doi: 10.1093/cid/ciy053. PMID: 29415228; PMCID: PMC6031054
- Moon JY, Wang T, Sofer T, North K, Isasi C, Cai J, Gellman M, Moncrieff A, Sotres-Alvarez D, Argos M, **Kaplan RC**, Qi Q. Objectively measured physical activity, sedentary behavior and genetic predisposition to obesity in US Hispanics/Latinos: Results from the Hispanic Community Health Study/Study of Latinos (HCHS/SOL). *Diabetes*. 2017 Dec;66(12):3001-3012. doi: 10.2337/db17-0573. PMID: 28986399; PMCID: PMC5697950

PROF. VINAY KUMAR KAPOOR (VKK)

MAHATMA GANDHI MEDICAL COLLEGE & HOSPITAL, INDIA



PERSONAL DATA

Title	Prof. Dr.
First name	Vinay
Name	Kumar Kapoor
Current position	Professor of Hepato-pancreato-biliary (HPB) Surgery
Current institution(s) / City, country	Mahatma Gandhi Medical College & Hospital (MGMCH), Jaipur Rajasthan India
Identifiers/ORCID	0000-0001-6953-7947
Webpage	https://vkkapoor-india.weebly.com/
Research Interest	Gall bladder cancer

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	1974 – 1979: MBBS All India Institute of Medical Sciences (AIIMS) New Delhi India
Doctorate	1980 – 1982: MS (General Surgery) All India Institute of Medical Sciences (AIIMS) New Delhi India
Stages of academic/ professional career	1983 – 1988: Senior Resident/ Consultant in Surgery All India Institute of Medical Sciences (AIIMS) New Delhi India 1989 – 2021: Assistant/ Associate/ Additional/ Professor of surgical Gastroenterology Sanjay Gandhi Postgraduate Institute of Medical Sciences (SGPGIMS) Lucknow India 2021 – Professor of HPB Surgery Mahatma Gandhi Medical College & Hospital (MGMCH) Jaipur India

SELECTED PUBLICATIONS

Book: Kapoor VK, Ed. A Pictorial Treatise on Gall Bladder Cancer (Forewords by Yuji Nimura, Masaru Miyazaki and Masato Nagino; Japan). Springer 2020: 1-361. ISBN 978-981-15-5288-5 (345 illustrations - most in color) Contributions from Chile, Germany, Italy, Japan, Nepal, New Zealand, South Korea and USA <https://www.springer.com/gp/book/9789811552885>

Review Article: Juan C. Roa, Patricia García, **Vinay K. Kapoor**, Shishir K Maithel, Milind Javle, Jill Koshiol. Gall bladder cancer. *Nature Reviews Disease Primers* 2022 Oct 27;8(1):69. · <https://www.nature.com/articles/s41572-022-00398-y>

Original Articles:

Mishra K, Behari A, Shukla P, Tsuchiya Y, Endoh K, Asai T, Ikoma T, Nakamura K, **Kapoor VK**. Risk factors for gall-bladder cancer development in northern India: A gallstones-matched, case-control study. *Indian J Med Res*. 2021 May;154(5):699-706. doi: 10.4103/ijmr. IJMR_201_19. PMID: 35532588; PMCID: PMC9210525. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9210525/>

Kapoor VK, Singh R, Behari A, Sharma S, Kumar A, Prakash A, Singh RK, Kumar A, Saxena R. Anticipatory Extended Cholecystectomy - The 'Lucknow' Approach for Thick Walled Gall Bladder with Low Suspicion of Cancer. *Chin Clin Oncol* 2016;5:8-13. · <https://pubmed.ncbi.nlm.nih.gov/26932432/>

Zuo M, Rashid A, Wang Y, Jain A, Li D, Behari A, **Kapoor VK**, Koay EJ, Chang P, Vauthey JN, Li Y, Espinoza JA, Roa JC, Javle M. RNA sequencing-based analysis of gallbladder cancer reveals the importance of the liver X receptor and lipid metabolism in gallbladder cancer. *Oncotarget*. 2016 Jun 7;7(23):35302-12. doi: 10.18632/oncotarget.9181. PMID: 27167107; PMCID: PMC5085230.

PROF. RACHEL KELLY (RKE)

BRIGHAM AND WOMEN'S HOSPITAL AND HARVARD MEDICAL SCHOOL, USA



PERSONAL DATA

Title	Prof. Dr.
First name	Rachel
Name	Kelly
Current position	Assistant Professor
Current institution(s) / City, country	Channing Division of Network Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, USA
Identifiers/ORCID	0000-0003-3023-1822
Webpage	https://connects.catalyst.harvard.edu/Profiles/display/Person/125226
Research Interest	Metabolomic Epidemiology of Complex Disease

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2003 – 2006: Biology, University of Warwick, UK 2006 – 2007: Public Health and Epidemiology, University of Nottingham, UK
Doctorate	2010 – 2014: Molecular Epidemiology, Imperial College London, UK
Stages of academic/ professional career	Since 2021: Assistant Professor, Channing Division of Network Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, USA 2018 – 2021: Instructor of Medicine, Channing Division of Network Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, USA 2015 – 2018: Research Fellow, Channing Division of Network Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, USA 2014 – 2015: Research Fellow, Department of Epidemiology, Harvard School of Public Health, Boston, USA 2002 – 2003: Statistical consultant, Institute of Cancer Research, Sutton, UK

SELECTED PUBLICATIONS

1. Prince N, Chu SH, Chen Y, Mendez KM, Hanson E, Green-Snyder, Brooks E, Korrick S, Lasky-Su JA, **Kelly RS** Phenotypically driven subgroups of ASD display distinct metabolomic profiles *Brain Behav Immun* 2023 Mar 31;S0889-1591(23)00083-1. doi: 10.1016/j.bbi.2023.03.026. PMID: 37004757
2. Prince N, Begum S, Mínguez-Alarcón L, Génard-Walton M, Huang M, Soeteman D, Wheelock C, Litonjua AA, Weiss ST, **Kelly RS****, Lasky-Su J**, Plasma concentrations of per- and polyfluoroalkyl substances are associated with perturbations in lipid and amino acid metabolism. *Chemosphere* 2023 doi: 10.1016/j.chemosphere.2023.138228. PMID: 36878362
3. **Kelly RS**, Weiss ST. Biologic therapies for asthma in underserved populations. *The Lancet* 2022. 400, 10351, p471-473
4. **Kelly RS**, Cote M, Begum S, Lasky-Su J. *Pharmacometabolomics of Asthma as a road map to Precision Medicine. Handbook of Experimental Pharmacology (HEP) series* 2022. PMID: 36271166
5. **Kelly RS**, Mendez KM, Huang M, Hobbs B, Clish CB, Gerszten R, Cho MH, Wheelock CE, McGeachie MJ, Chu SH, Celedón JC, Weiss ST, Lasky-Su J, on behalf of the NHLBI Trans-Omics for Precision Medicine (TOPMed) Consortium Metabo-Endotypes of Asthma Reveal Differences in Lung Function: Discovery and Validation in two TOPMed Cohorts. *Am J Respir Crit Care Med* 2021 Nov 12. PMID: 34767496

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PERSONAL DATA

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Current position	Statistical Genetics Research Group Leader
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Identifiers/ORCID	0000-0002-6568-5333
Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	Precision Cancer Prevention

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	1990 – 1997: Engineering, Polytechnic University of Madrid (UPM) 1993 – 2003: Mathematics, Spanish Open University (UNED)
Doctorate	1998 – 2002: Quantitative Genetics, University of Kiel, Germany
Stages of academic/ professional career	Since 2023: Head of the Department of Biostatistics for Precision Oncology, Institut de Cancérologie Strasbourg Europe (ICANS), Strasbourg, France Since 2022: Honorary Lecturer at University of Bristol, UK 2015: apl. Professorship, University of Heidelberg 2010: Habilitation in Epidemiology and Medical Biometry, Medical Faculty, Heidelberg University, Germany Since 2009: Head of the Statistical Genetics Research Group, Institute of Medical Biometry, Heidelberg University, Germany

SELECTED PUBLICATIONS

- Kharazmi E, Scherer D, Boekstegers F, Liang Q, Sundquist K, Sundquist J, Fallah M, **Lorenzo Bermejo J**. Gallstones, cholecystectomy and kidney cancer: observational and Mendelian randomisation results based on large cohorts. *Gastroenterology*. 2023; 10.1053/doi:10.1053/j.gastro.2023.03.227 – open access
- Blandino A, Scherer D, [...], **Lorenzo Bermejo J**. Identification of Circulating lncRNAs Associated with Gallbladder Cancer Risk by Tissue-Based Preselection, Cis-eQTL Validation, and Analysis of Association with Genotype-Based Expression. *Cancers* (Basel). 2022; 14(3) doi:10.3390/cancers14030634 – open access
- Gonzalez Silos R, Fischer C, **Lorenzo Bermejo J**. NGS allele counts versus called genotypes for testing genetic association. *Comput Struct Biotechnol J*. 2022; 20:3729-33. doi:10.1016/j.csbj.2022.07.016 – open access
- Barahona Ponce C, Scherer D, [...], **Lorenzo Bermejo J**. Gallstones, Body Mass Index, C-Reactive Protein, and Gallbladder Cancer: Mendelian Randomization Analysis of Chilean and European Genotype Data. *Hepatology*. 2021; 73(5):1783-96. doi:10.1002/hep.31537 – open access
- Bragelmann J, Barahona Ponce C, Marcelain K, Roessler S, Goeppert B, Gallegos I, Colombo A, Sanhueza V, Morales E, Rivera MT, Toro G, Ortega A, Müller B, Gabler F, Scherer D, Waldenberger M, Reischl E, Boekstegers F, Garate-Calderon V, Umu SU, Rounge TB, Popanda O, **Lorenzo Bermejo J**. Epigenome-Wide Analysis of Methylation Changes in the Sequence of Gallstone Disease, Dysplasia, and Gallbladder Cancer. *Hepatology*. 2021; 73(6):2293-310. doi:10.1002/hep.31585 – open access

PROF. FELIPE MARTÍNEZ (FM)

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PERSONAL DATA

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Research Interest	Human Evolution and Diversity

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	1999 – 2003: Physical Anthropology, Universidad de Chile, Chile
Doctorate	2005 – 2010: Human Evolution, University of Cambridge, UK
Stages of academic/ professional career	Since 2022: Head of the School of Anthropology, Pontificia Universidad Católica de Chile Since 2020: Associate Professor, Pontificia Universidad Católica de Chile Since 2016: Researcher, Paleo-Primate Project, Gorongosa National Park, Mozambique Since 2013: Associate Researcher, Center for Intercultural and Indigenous Studies, CIIR-Fondap 2013 – 2020: Assistant Professor, Pontificia Universidad Católica de Chile 2012: Visiting Researcher, University of Manchester, UK 2011 – 2013: Lecturer, Institute of Sociology, Pontificia Universidad Católica de Chile 2010 – 2011: Posdoc, Faculty of Medicine, Universidad de Chile

SELECTED PUBLICATIONS

- Arango-Isaza E, Capodiferro MR, Aninao MJ, Babiker H, Aeschbacher S, Achilli A, Posth C, Campbell R, **Martinez F**, Heggarty P, Sadowsky S, Shimizu K, Barbieri C. The Genetic History of the Southern Andes from Present-day Mapuche Ancestry. *Current Biology*. 2023; 33(13), 2602-2615.e5. doi:10.1016/j.cub.2023.05.013
- Silva CP, de la Fuente Castro C, González Zarzar T, Raghavan M, Tonko-Huenucoy A, **Martinez F**, Montalva N. The Articulation of Genomics, Mestizaje, and Indigenous Identities in Chile: A Case Study of the Social Implications of Genomic Research in Light of Current Research Practices. *Frontiers in Genetics*. 2022; 13, 817318. doi: 10.3389/fgene.2022.817318 – open access
- Bobé R, **Martinez F**, Carvalho S. Primate Adaptations and Evolution in the Southern African Rift Valley. *Evolutionary Anthropology*. 2020; 29, 94-101. doi:10.1002/evan.21826
- Martinez F**. Patrimonio Bioantropológico Genético: Genómica y Construcción de Identidad Cultural. In: Patrimonio y Pueblos Indígenas: Reflexiones desde una Perspectiva Interdisciplinaria e Intercultural. 2016. Pehuén Editores S.A.
- Eyheramendy S, Martinez F, Manevy, F, Vial C, Repetto G. Genetic Structure Characterization of Chileans Reflects Historical Immigration Patterns. *Nature Communications*. 2015; 6,6472. doi:10.1038/ncomms7472 – open access

DR. AUGUSTIN SCALBERT (AS) CONSULTANT



PERSONAL DATA

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Research Interest	Biomarkers, cancer epidemiology, metabolomics

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	1976 – 1981: MS Agriculture Sciences, option Applied Biochemistry, Institut National Agronomique Paris-Grignon, France
Doctorate	1981 – 1984: Ph.D. Agriculture Sciences, Institut National Agronomique Paris-Grignon, France
Stages of academic/ professional career	Since 2022: Consultant 2021 – 2022: Scientist, Section of Nutrition and Metabolism, International Agency for Research on Cancer, Lyon, France 2010 – 2021: Head of the Biomarkers Group, Section of Nutrition and Metabolism, International Agency for Research on Cancer, Lyon, France 2006 – 2010: Directeur de Recherche, Institut National de la Recherche Agronomique (INRAe), Unité de Nutrition Humaine, Clermont-Ferrand, France 1999 – 2006: Research scientist, INRAe, Unité de Nutrition Humaine, Clermont-Ferrand, France 1997 – 1999: Research scientist, INRAe, Station de Qualité des Produits Végétaux, Avignon, France 1981 – 1997: Research scientist, INRAe, Laboratoire de Chimie Biologique, Grignon, France

SELECTED PUBLICATIONS

- Stepien, M.; Keski-Rahkonen, P.; Kiss, A.; Robinot, N.; (...) **Scalbert, A.**; Jenab, M., Metabolic perturbations prior to hepatocellular carcinoma diagnosis: Findings from a prospective observational cohort study. *Int. J. Cancer* 2021, 148 (3), 609-625. <https://doi.org/10.1002/ijc.33236>
- Wedekind, R.; Kiss, A.; Keski-Rahkonen, P.; Viallon, V.; (...) Huybrechts, I.; **Scalbert, A.**, A metabolomic study of red and processed meat intake and acylcarnitine concentrations in human urine and blood. *The American Journal of Clinical Nutrition* 2020, 112 (2), 381-388. DOI: 10.1093/ajcn/nqaa140
- Neveu, V.; Nicolas, G.; Salek, R. M.; Wishart, D. S.; **Scalbert, A.**, Exposome-Explorer 2.0: an update incorporating candidate dietary biomarkers and dietary associations with cancer risk. *Nucleic Acids Res.* 2020, 48 (D1), D908-d912. DOI: 10.1093/nar/gkz1009.
- Lofffield, E.; Rothwell, J. A.; Sinha, R.; Keski-Rahkonen, P.; (...) **Scalbert, A.**; Freedman, N. D., Prospective Investigation of Serum Metabolites, Coffee Drinking, Liver Cancer Incidence, and Liver Disease Mortality. *J. Natl. Cancer Inst.* 2020, 112 (3), 286-294. DOI: 10.1093/jnci/djz122.
- Neveu, V.; Nicolas, G.; Amara, A.; Salek, R. M.; **Scalbert, A.**, The human microbial exposome: expanding the Exposome-Explorer database with gut microbial metabolites. *Sci. Rep.* 2023, 13, Article number: 1946. <https://www.nature.com/articles/s41598-022-26366-w2>

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PERSONAL DATA

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Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	Cancer Prevention, Molecular Genetic Epidemiology

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2004 – 2005: Diploma Thesis at the University of Heidelberg
Doctorate	2006 – 2009: Molecular Genetic Epidemiology, German Cancer Research Center, Heidelberg, Germany
Stages of academic/ professional career	2009 – 2010: Postdoctoral Fellow, Division of Molecular Genetic Epidemiology at the German Cancer Research Center, Heidelberg, Germany, in collaboration with the Clinic of Dermatology, Würzburg, Germany 2010 – 2011: Postdoctoral Fellow, Department of Genetics, Stanford University, USA 2011 – 2015: Postdoctoral Fellow, Division of Preventive Oncology, National Center for Tumor Diseases, Heidelberg, Germany Since 2015: Postdoctoral Fellow, Statistical Genetics Research Group, Institute of Medical Biometry, Heidelberg University, Germany

SELECTED PUBLICATIONS

1. Kharazmi E*, **Scherer D***, et al. Gallstones, cholecystectomy and kidney cancer: observational and Mendelian randomisation results based on large cohorts. *Gastroenterology*. 2023; 10.1053 doi: 10.1053/j.gastro.2023.03.227–open access
2. Blandino A, **Scherer D**, et al. Identification of Circulating lncRNAs Associated with Gallbladder Cancer Risk by Tissue-Based Preselection, Cis-eQTL Validation, and Analysis of Association with Genotype-Based Expression. *Cancers* (Basel). 2022; 14(3) doi:10.3390/cancers14030634 – open access
3. Deutelmoser H, Lorenzo Bermejo J, Benner A, Weigl K, Park HA, Haffa M, Herpel E, Schneider M, Ulrich CM, Hoffmeister M, Chang-Claude J, Brenner H, **Scherer D**. Genotype-Based Gene Expression in Colon Tissue-Prediction Accuracy and Relationship with the Prognosis of Colorectal Cancer Patients. *Int J Mol Sci*. 2020;21(21). doi. org/10.3390/ijms21218150 – open access
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5. RNA Sequencing of Hepatobiliary Cancer Cell Lines: Data and Applications to Mutational and Transcriptomic Profiling. **Scherer D**, Dávila López MD, Goeppert B, Abrahamsson S, González Silos RG, Nova I, Marcelain K, Roa JC, Ibberson D, Umu SU, Rounge TB, Roessler S, Bermejo JL. *Cancers*. 2020; 12(9):2510. doi: 10.3390/cancers12092510 – open access

PROF. JAMES F WILSON (JF)

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Research Interest	Population genetics

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
BSc (hons)	1993 – 1997: Genetics, University of Edinburgh
DPhil	1998 – 2002: Population Genetics, University of Oxford
Stages of academic/ professional career	2021: Fellow of the Royal Society of Edinburgh (FRSE) – Scotland's National Academy of Science and Letters Since 2016: Personal Chair in Human Genetics, University of Edinburgh 2011 – 2016: Senior Lecturer, then Reader, University of Edinburgh 2003 – 2011: Royal Society University Research Fellow, University of Edinburgh

SELECTED PUBLICATIONS

1. Pairo-Castiniera E, 69 others, **Wilson JF**, Baillie JK (2021) Genetic mechanisms of critical illness in Covid-19. *Nature* 591: 92-98. **654 citations.**
2. Clark D, 434 others, **Wilson JF** (2019) Associations of autozygosity with a broad range of human phenotypes. *Nat Commun*, 10, 4957. **43 citations**
3. Gilbert E, 18 others, **Wilson JF** (2019) The Genetic Landscape of Scotland and the Isles. *Proc Natl Acad Sci USA*, 116, 19064-70. **12 citations**
4. Landini A, 11 others, **Wilson JF** (2022) Genetic regulation of post-translational modification of two distinct proteins. *Nat Commun* 13: 1586.
5. Ceballos FC, 3 others, **Wilson JF** (2018) Runs of homozygosity: windows into population history and trait architecture. *Nat Rev Genet* 19, 220-34. **268 citations**

LINDA ZOLLNER (LZ)

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PERSONAL DATA

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Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	MR applied on ancestry proportions in admixed populations and proteomics

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2016 – 2019: M. sc. Computational Life Science, Universität zu Lübeck 2013 – 2016: B. sc. Computational Life Science, Universität zu Lübeck
Doctorate	Since 2019: Statistical Genetics, Institute of Medical Biometry, Heidelberg University
Stages of academic/ professional career	Since 2023: Staff scientist at AI Health Innovation Cluster

SELECTED PUBLICATIONS

- Zollner, L.**, Boekstegers, F., Barahona Ponce, C., Scherer, D., Marcelain, K., Gárate-Calderón, V., Waldenberger, M., Morales, E., Rojas, A., Muñoz, C., Retamales, J., De Toro, G., Kortmann, A. V., Barajas, O., Rivera, M. T., Cortés, A., Loader, D., Saavedra, J., Gutiérrez, L., Ortega, A., ... Lorenzo Bermejo, J. (2023). Gallbladder Cancer Risk and Indigenous South American Mapuche Ancestry: Instrumental Variable Analysis Using Ancestry-Informative Markers. *Cancers*, 15(16), 4033. <https://doi.org/10.3390/cancers15164033> - open access
- Zollner, L.**, Torres, D., Briceno, I., Gilbert, M., Torres-Mejía, G., Dennis, J., Bolla, M. K., Wang, Q., Hamann, U., & Lorenzo Bermejo, J. (2023). Native American ancestry and breast cancer risk in Colombian and Mexican women: ruling out potential confounding through ancestry-informative markers. *Breast cancer research : BCR*, 25(1), 111. <https://doi.org/10.1186/s13058-023-01713-5> - open access

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ANISHA ADYA

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Research Interest	Gallbladder Disease

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2016 – 2020: B.Sc. Clinical Nutrition and Dietetics, Women's college Purnea, Bihar, India 2021 – 2022: M.Sc. Food Science and Nutrition, Sharda University, Greater Noida, India
Doctorate	Since 2023: Clinical Research & Nutrition, Sharda University, India
Stages of academic/ professional career	Since 2022: Senior Clinical Dietitian (Part-Time), 'HealthifyMe', Mumbai, India 2021 – 2022: Consultant dietitian, 'GOQII', Mumbai, India

SELECTED PUBLICATIONS

Adya A, Islam Z, Professor A. Starch Extraction and Evaluation from Date's Seeds [Internet]. Vol. 7, International Journal of Innovative Science and Research Technology. 2022; 7(8). Available from: www.ijisrt.com494

DANIELA ALVES DA QUINTA

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PERSONAL DATA	
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Name	Alves da Quinta
Current position	PhD Student / Assistant Lecturer at University
Current institution(s) / City, country	Laboratorio de Terapia Molecular y Celular, Fundación Instituto Leloir (FIL-CONICET), Buenos Aires, Argentina / Instituto de Tecnología – Universidad Argentina de la Empresa (INTEC-UADE), Buenos Aires, Argentina.
Identifiers/ORCID	0000-0002-3116-9269
Webpage	https://www.leloir.org.ar/terapia-molecular-y-celular?area=cancer&lang=en https://ar.linkedin.com/in/daniela-alves-da-quinta-186344190
Research Interest	Genomics and Transcriptomics, Bioinformatics and Biostatistics, Oncology

QUALIFICATIONS AND CAREER	
STAGES	PERIODS AND DETAILS
Degree programme	2016 – 2021: Biotechnology BSc degree (UADE) Since 2020: Bioinformatics BSc degree (5 subjects left; UADE)
Doctorate	Since 2021: at Laboratorio de Terapia Molecular y Celular, Fundación Instituto Leloir (FIL-CONICET). Project Title: “Evaluation of Genomic Biomarkers adapted to Latin American Ancestral Diversity to Predict Risk of Recurrence and Response to Therapy: The MPBCS-LACRN Cohort”
Stages of academic/ professional career	2019 – 2021: Intern for Undergraduate Thesis at Laboratorio de Inmuno-Oncología Translacional – Instituto de Biología y Medicina Experimental (IBYME-CONICET) Since 2022: Assistant Lecturer at Facultad de Ingeniería y Ciencias Exactas - UADE (Genetic Engineering II; Molecular and Cellular Biology; Molecular Biology and Physiology; Biotechnological Techniques)

SELECTED PUBLICATIONS
1. Llera, A. S., Abdelhay, E. S. F. W., Artagaveytia, N., Daneri-Navarro, A., Müller, B., Velazquez, C., Alcoba, E. B., Alonso, I., Alves da Quinta, D. B. , Binato, R., Bravo, A. I., Camejo, N., Carraro, D. M., Castro, M., Castro-Cervantes, J. M., Cataldi, S., Cayota, A., Cerda, M., Colombo, A., Crocamo, S., ... Podhajcer, O. L. (2022). The Transcriptomic Portrait of Locally Advanced Breast Cancer and Its Prognostic Value in a Multi-Country Cohort of Latin American Patients. <i>Frontiers in oncology</i> , 12, 835626. https://doi.org/10.3389/fonc.2022.835626
2. Nava, A., Alves da Quinta, D. , Prato, L., Girotti, M. R., Moron, G., Llera, A. S., & Fernández, E. A. (2023). Novel evaluation approach for molecular signature-based deconvolution methods. <i>Journal of biomedical informatics</i> , 142, 104387. https://doi.org/10.1016/j.jbi.2023.104387

PROF. DANIELA ARTURO-TERRANOVA

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PERSONAL DATA

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Research Interest	Congenital metabolic diseases, Bioinformatics, Molecular Biology

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2014 – 2019: Biology, University of Valle, Cali – Colombia
Doctorate	2020 – 2024: Biomedical sciences emphasis in molecular biology, University of Valle, Cali – Colombia
Stages of academic/ professional career	Since 2020: Professor of Cell Biology, Metabolism and Fundamentals of Biochemistry, University of Valle, Cali – Colombia Since 2018: Research leader – Congenital metabolic diseases group, University of Valle, Cali – Colombia 2020 – 2021: Professor of Biochemistry, Genetics, Microbiology – Technical Institute – San Gennaro Training Center, Cali – Colombia 2017 – 2019: Biology Teacher (Leveling) – San Vicente Mixed College, Cali – Colombia 2016 – 2017: Monitor In Charge, Microbiological Research Laboratory – University of Valle, Cali – Colombia

SELECTED PUBLICATIONS

1. Pusapaz D, Arturo-Terranova MC, **Arturo-Terranova D**. genética de las fisuras labiopalatinas : una visión general de los factores de riesgos genéticos y ambientales. *Revista Med*. 2022. v.29 fasc.2 p.93 - 106 ,2022, DOI: <https://doi.org/10.18359/rmed.5706>
2. **Arturo-Terranova D**, Moreno LJ, Idrobo H, Satizabal JM . Molecular Characterization of the GBA Gene in Patients from Southwest of Colombia. *Journal of Inborn Errors of Metabolism & Screening*. 2021, Volume 9: e20200018 DOI: <https://doi.org/10.1590/2326-4594-JIEMS-2020-0018>
3. **Arturo-Terranova D**, Moreno L, Satizabal JM. Frequency of GBA gene variants in complex disease patients in Southwestern Colombia. *Genetics and Molecular Research*. 2021. SSN: 1676-5680 ed: Fundacao de Pesquisas Cientificas de Ribeirao Preto v.2 fasc. p.1 - 15 ,2021, DOI: <https://doi.org/10.4238/gmr18818>

PROF. RAFAEL BARRA PEZO

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PERSONAL DATA

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Research Interest	Precision medicine – Pharmacogenomics

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	1999 – 2004: Lic. in Biochemistry. University of Santiago of Chile 2004 – 2006: Biochemist. University of Santiago of Chile
Doctorate	2008 – 2012: Pharmacology of Autonomics nervous system. University of Chile. Chile
Stages of academic/ professional career	Since 2019: Assistant professor in CIBAP. University of Santiago of Chile Since 2017: Researcher in the CIBAP. University of Santiago of Chile 2015 – 2017: Postdoc in drug design. University of Santiago of Chile 2012 – 2015: Postdoc in pharmacology of autonomic nervous system. P. Catholic University of Chile.

SELECTED PUBLICATIONS

- Cayupe B, Troncoso B, Morgan C, Sáez-Briones P, Sotomayor-Zárate R, Constandil L, Hernández A, Morselli E, **Barra R**. The Role of the Paraventricular-Coerulear Network on the Programming of Hypertension by Prenatal Undernutrition. *Int J Mol Sci.* 2022 Oct 8;23(19):11965. doi: 10.3390/ijms231911965. PMID: 36233268; PMCID: PMC9569920.
- Morgan C, Sáez-Briones P, **Barra R**, Reyes A, Zepeda-Morales K, Constandil L, Ríos M, Ramírez P, Burgos H, Hernández A. Prefrontal Cortical Control of Activity in Nucleus Accumbens Core Is Weakened by High-Fat Diet and Prevented by Co-Treatment with N-Acetylcysteine: Implications for the Development of Obesity. *Int J Mol Sci.* 2022 Sep 3;23(17):10089. doi: 10.3390/ijms231710089. PMID: 36077493; PMCID: PMC9456091.
- Piquer B, Ruz F, **Barra R**, Lara HE. Gestational Sympathetic Stress Programs the Fertility of Offspring: A Rat Multi-Generation Study. *Int J Environ Res Public Health.* 2022 Mar 5;19(5):3044. doi: 10.3390/ijerph19053044.
- Cayupe B, Morgan C, Puentes G, Valladares L, Burgos H, Castillo A, Hernández A, Constandil L, Ríos M, Sáez-Briones P, **Barra R**. Hypertension in Prenatally Undernourished Young-Adult Rats Is Maintained by Tonic Reciprocal Paraventricular-Coerulear Excitatory Interactions. *Molecules.* 2021 Jun 11;26(12):3568. doi: 10.3390/molecules26123568.
- Burgos H, Hernández A, Constandil L, Ríos M, Flores O, Puentes G, Hernández K, Morgan C, Valladares L, Castillo A, Cofre C, Milla LA, Sáez-Briones P, **Barra R**. Early postnatal environmental enrichment restores neurochemical and functional plasticities of the cerebral cortex and improves learning performance in hidden-prenatally-malnourished young-adult rats. *Behav Brain Res.* 2019 May 2;363:182-190. doi: 10.1016/j.bbr.2019.02.001.

PAULINA CUBILLOS MORENO

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PERSONAL DATA

Title	M.Sc.
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Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	Precision Cancer Prevention

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2011 – 2015: Medical Technologist with specialization in Morphophysiology and Cytodiagnostics, University of Chile.
Doctorate	2018 – 2021: Medical Informatics, University of Chile.
Stages of academic/ professional career	Since 2022: PhD student at the Statistical Genetics Research Group Since 2022: PhD within the project European-Latin American Consortium for the Eradication of Preventable Gallbladder Cancer – EULAT Eradicate GBC“, La Frontera University, Chile. 2016 – 2022: Cytotechnologist, Center for Preventive Oncology, Faculty of Medicine, University of Chile 2021 – 2022: Academic committee assistant, Master's Program in Medical Informatics, Faculty of Medicine, University of Chile. During 2022: Honorary Lecturer at Mayor University, Chile. 2021 – 2022: Honorary Lecturer at San Sebastian University, Chile.

SELECTED PUBLICATIONS

1. Nancy Farfán, Octavio Orellana, Daniela Herrera, Dominique Chrzanowsky, **Paulina Cubillos**, Gabriel Marín, Antonio García, Enrique Castellón y Héctor Contreras. *SNAIL expression correlates with the translocation of syndecan-1 intracellular domain into the nucleus in prostate cancer cell lines*. International Journal of Molecular Medicine. 2020 Apr;45(4):1073-1080. doi: 10.3892/ijmm.2020.4488.

DR. JOSÉ ERICES RODRÍGUEZ

UNIVERSIDAD DE CHILE, CHILE



PERSONAL DATA

Title	Dr.
First name	José
Name	Erices Rodríguez
Current position	Postdoctoral fellow
Current institution(s) / City, country	Laboratorio Genomica del Cancer, Departamento Oncologia Basico-Clinico Universidad de Chile
Identifiers/ORCID	0000-0003-2898-0541
Webpage	https://medicina.uchile.cl/facultad/campus-y-departamentos/campus-norte/oncologia-basico-clinico .
Research Interest	Cancer Genomics

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2010 – 2011: Bachelor of Science, Universidad Austral de Chile 2010 – 2014: Bachelor's Degree in Biochemistry, Universidad Austral de Chile (UACH) 2010 – 2016: Biochemistry, Universidad Austral de Chile
Doctorate	2017 – 2022: Doctorado en Ciencias, Mención Biología Molecular y Celular, Universidad Austral de Chile
Stages of academic/ professional career	Since 2023: Postdoctoral Researcher, Laboratorio Genómica del Cáncer, Departamento Oncología Basico-Clinico, Universidad de Chile 2022: Postdoctoral Researcher, Laboratorio de Biología Tumoral, Instituto Milenio Inmunóloga e Inmunoterapia, Universidad Austral de Chile 2022: Clinical laboratory staff for COVID detection, VIGIA-UACH 2017 – 2022: <i>Adhonorem</i> professor Universidad Austral de Chile

SELECTED PUBLICATIONS

- Niechi I, **Erices JI**, Carrillo-Beltrán D, Uribe-Ojeda A, Torres Á, Rocha JD, Uribe D, Toro MA, Villalobos-Nova K, Gaete-Ramírez B, Mingo G, Owen GI, Varas-Godoy M, Jara L, Aguayo F, Burzio VA, Quezada-Monrás C, Tapia JC. Cancer Stem Cell and Aggressiveness Traits Are Promoted by Stable Endothelin-Converting Enzyme-1c in Glioblastoma Cells. *Cells*. 2023 Feb 3;12(3):506. doi: 10.3390/cells12030506
- Erices JI**, Bizama C, Niechi I, Uribe I, Rosales A, Fabres K, Navarro-Martínez G, Torres A, San Martín R, Roa JC, Quezada-Monrás C. Glioblastoma Microenvironment and Invasiveness: New Insights and Therapeutic Targets. *Int J Mol Sci*. 2023 Apr; 24(8): 7047. doi: 10.3390/ijms24087047
- Erices JI**, Niechi I, Uribe-Ojeda A, Toro MLÁ, García-Romero N, Carrión-Navarro J, Monago-Sánchez Á, Ayuso-Sacido Á, Martín RS, Quezada-Monrás C. The low affinity A2B adenosine receptor enhances migratory and invasive capacity in vitro and angiogenesis in vivo of glioblastoma stem-like cells. *Front Oncol*. 2022 Aug 18;12:969993. doi: 10.3389/fonc.2022.
- Rocha JD, Uribe D, Delgado J, Niechi I, Alarcón S, **Erices JI**, Melo R, Fernández-Gajardo R, Salazar-Onfray F, San Martín R, Quezada Monrás C. A2B Adenosine Receptor Enhances Chemoresistance of Glioblastoma Stem-Like Cells under Hypoxia: New Insights into MRP3 Transporter Function. *Int J Mol Sci*. 2022 Aug 12;23(16):9022. doi: 10.3390/ijms23169022.
- Torres Á, **Erices J.I.**, Sanchez F, Ehrenfeld P, Turchi L, Virolle T, Uribe D, Niechi I, Spichiger C, Rocha JD, Ramirez M, Salazar-Onfray F, San Martín R, Quezada C. Extracellular adenosine promotes cell migration/invasion of Glioblastoma Stem-like Cells through A3 Adenosine Receptor activation under hypoxia. (2019) DOI:10.1016/j.canlet.2019.01.004.

VALENTINA GARATE

HEIDELBERG UNIVERSITY, GERMANY



PERSONAL DATA

Title	M.Sc.
First name	Valentina
Name	Garate
Current position	PhD student
Current institution(s) / City, country	Statistical Genetics Research Group, Heidelberg University Heidelberg, Germany
Identifiers/ORCID	0000-0001-8577-095X
Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	Precision Cancer Prevention

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2014 – 2016: B.Sc. Engineer in Biotechnology, University of Chile
Doctorate	2016 – 2018: Master of Science in Molecular Biology. University of Chile
Stages of academic/ professional career	Since 2021: Student at the Statistical Genetics Research Group, Heidelberg University. 2018 – 2021: Research Coordinator. Institute of Medical Biometry, Heidelberg University and Department of Basic and Clinical Oncology, Faculty of Medicine, University of Chile. Jan, Apr 2015: Internship on Bioinformatics. Oncogenomics Laboratory. Moores Cancer Center, UCSD. San Diego CA. USA. 2013 – 2014: Laboratory Assistant. Center of Immuno Biotechnology Faculty of Medicine, University of Chile

SELECTED PUBLICATIONS

- Boekstegers, F., Scherer, D., Barahona Ponce, C., Marcelain, K., **Gárate-Calderón, V.**, et al. (2023). Development and internal validation of a multifactorial risk prediction model for gallbladder cancer in a high-incidence country. *International journal of cancer*, 153(6), 1151–1161. <https://doi.org/10.1002/ijc.34607>
- Barahona Ponce C, Scherer D, Brinster R, Boekstegers F, Marcelain K, **Gárate-Calderón, V.**, et al. (2021) Gallstones, Body Mass Index, C-Reactive Protein, and Gallbladder Cancer: Mendelian Randomization Analysis of Chilean and European Genotype Data. *Hepatology*, 73(5):1783-1796. <https://doi.org/10.1002/hep.31537>
- Brägelmann J, Barahona Ponce C, Marcelain K, Roessler S, Goeppert B, Gallegos I, Colombo A, Sanhueza V, Morales E, Rivera MT, de Toro G, Ortega A, Müller B, Gabler F, Scherer D, Waldenberger M, Reischl E, Boekstegers F, **Gárate-Calderón, V.**, Umu SU, Rounge TB, Popanda O, Lorenzo Bermejo J. (2020) Epigenome-wide analysis of methylation changes in the sequence of gallstone disease, dysplasia, and gallbladder cancer. *Hepatology*. <https://doi.org/10.1002/hep.31585>
- Cordova-Delgado M, Pinto MP, Retamal IN, Muñoz-Medel M, Bravo ML, Fernández MF, Cisternas B, Mondaca S, Sanchez C, Galindo H, Nervi B, Ibáñez C, Acevedo F, Madrid J, Peña J, Koch E, Maturana MJ, Romero D, de la Jara N, Torres J, Espinoza M, Balmaceda C, Liao Y, Li Z, Freire M, **Gárate-Calderón, V.**, Cáceres J, Sepúlveda-Hermosilla G, Lizana R, Ramos L, Artigas R, Norero E, Crovari F, Armisen R, Corvalán AH, Owen GI, Garrido M. (2019) High Proportion of Potential Candidates for Immunotherapy in a Chilean Cohort of Gastric Cancer Patients: Results of the FORCE1 Study. *Cancers (Basel)*, 11(9):1275. <https://doi.org/10.3390/cancers11091275>
- Levy E., Marty R., **Gárate-Calderón, V.**, Woo B., Dow M., Armisen R, Carter H, Harismendy O. (2016) Immune DNA signature of T-cell infiltration in breast tumor exomes. *Scientific Reports*, 6: 30064. <https://doi.org/10.1038/srep30064>

BELIA GARCÍA-PARRA

UNIVERSITY OF BARCELONA, SPAIN



PERSONAL DATA

Title	MD Clinical Neurophysiology
First name	Belia
Name	García-Parra
Current position	PhD student in Research, Development and Control of Medicines. Faculty of Pharmacy and Food Sciences, University of Barcelona. Clinical Neurophysiologist in Neurology unit at Bellvitge University Hospital in Barcelona.
Current institution(s) / City, country	Bellvitge University Hospital, University of Barcelona Barcelona, Spain
Identifiers/ORCID	https://orcid.org/0000-0003-4458-2711
Webpage	https://www.researchgate.net/profile/Beliu-Garcia-Parra

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	Medical Degree from University of Granada, Spain 2011 Medical Intern Resident, Clinical Neurophysiology. Hospital del Mar, Barcelona.
Doctorate	PhD student in Research, Development and Control of Medicines. Faculty of Pharmacy and Food Sciences, Barcelona University
Stages of academic/ professional career	University Master's Degree in Medicines, Health and the Health System of the University of Barcelona. Spain. 2022 Since 2016: MD Clinical Neurophysiology at Bellvitge University Hospital, Barcelona. Spain – Electromyography, electroencephalography, evoked potentials, sleep medicine and neuropathic pain Since 2017: Member of the Spanish Society of Pain, SED number 1934 Since 2019: Collective member Spanish Society of Pain - SED Young. Member of the Neuropathic Pain Working Group of the Spanish Pain Society Professor of electrodiagnosis in Epilepsy, consciousness disorder and sleep. Master Neurological Electrodiagnosis at the University of Barcelona. 2019 Professor of practice. Master in Diagnosis and Treatment of Acute Epilepsy. II (2019 – 2020), III (2021 – 2022) Edition Francisco de Vitoria University UFV Madrid

SELECTED PUBLICATIONS

- Muñoz-Vendrell, A; Tena-Cucala, R; Campoy, S; **García-Parra, B**; Prat, J; Martínez-Yélamos, S; Huerta-Villanueva, M. Oral lacosamide for the treatment of refractory trigeminal neuralgia: A retrospective analysis of 86 cases. *Headache*. 2023; 63(4):559-564. doi:10.1111/head.14505
- Yagüe, S; [...]; **García, B**; Montero, J; Valls-Solé, J. Effects of Bihemispheric Transcranial Direct Current Stimulation Combined With Repetitive Peripheral Nerve Stimulation in Acute Stroke Patients. *Journal of Clinical Neurophysiology* 40(1):p 63-70, January 2023. doi: 10.1097/WNP.0000000000000840
- García-Parra B**, Guiu JM, Modamio P, Martínez-Yélamos A, Mariño-Hernández EL, Povedano M. Acceso a medicamentos huérfanos para el tratamiento de la atrofia muscular espinal en España. *Rev Neurol* 2022;75 (09):261-267. doi: 10.33588/rn.7509.2022298
- Gifreu A, [...], **García B**, Arroyo P, Simó M. Risk of Developing Epilepsy after Autoimmune Encephalitis. *Brain Sci*. 2021 Sep 8;11(9):1182. doi: 10.3390/brainsci11091182.
- Álvarez Guerrero, I; **García-Parra, B**; Planellas, L; Flores, I; Rocamora, R. Sleep quality in drug resistant epilepsy patients. *Sleep Medicine* December 2013, vol. 14, supplement 1, page e229. doi.org/10.1016/j.sleep.2013.11.551

CONSTANZA GONZÁLEZ

UNIVERSIDAD DE CHILE, CHILE



PERSONAL DATA

Title	M.Sc.
First name	Constanza
Name	González
Current position	PhD student within the project "EULAT Eradicate GBC"
Current institution(s) / City, country	Universidad Austral de Chile Puerto Montt, Chile
Research Interest	Precision Cancer Prevention

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2008 – 2013: Biologist, Pontifical Catholic University of Chile 2014 – 2018: Masters in Biostatistics, University of Chile
Stages of academic/ professional career	Since 2020: PhD student within the project EULAT Eradicate GBC. 2017 – 2020: Project manager: Laboratory of Proteostasis and Biomedicine, Biomedical Neuroscience Institute, University of Chile. 2020: Professor of the online course "How to teach Scientific Method in the classroom", Biomedical Neuroscience Institute, University of Chile 2018: Statistics consultation for CELL FOR CELL. Stellium product, Universidad De Los Andes 2018: Statistics consultation for the research project "Masseter muscle atrophy impairs bone quality of the mandibular condyle but not the alveolar process early after induction".

SELECTED PUBLICATIONS

1. "Enforced dimerization between XBP1s and ATF6f enhances the protective effects of the UPR in models of neurodegeneration." Vidal RL, Sepulveda D, Troncoso-Escudero P, Garcia-Huerta P, **Gonzalez C**, Plate L, Jerez C, Canovas J, Rivera CA, Castillo V, Cisternas M, Leal S, Martinez A, Grandjean J, Sonia D, Lashuel HA, Martin AJM, Latapiat V, Matus S, Sardi SP, Wiseman RL, Hetz C.
2. "Targeting of the unfolded protein response (UPR) as therapy for Parkinson's disease". Alexis Martinez Nelida Lopez, **Constanza Gonzalez** and Claudio Hetz. Journal of Biology of the Cell.
3. "Masseter muscle atrophy impairs bone quality of the mandibular condyle but not the alveolar process early after induction". Balanta-Melo J, Torres-, Quintana MA, Bemmann M, Vega C, **González C**, Kupczik K, Toro-Ibacache V, Buvinic S.

NOEMÍ HOSTALET

FIDMAG RESEARCH FOUNDATION, SPAIN



PERSONAL DATA

Title	M.Sc.
First name	Noemí
Name	Hostalet
Current position	PhD Student
Current institution(s) / City, country	Bellvitge University Hospital, University of Barcelona Barcelona, Spain
Identifiers/ORCID	0000-0002-6522-3999
Webpage	https://fidmag.org/en/researchers.html
Research Interest	Biomarkers for psychotic disorders

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2010 – 2020: Psychology, Autonomous University of Barcelona (UAB) 2012 – 2017: Archaeology, Autonomous University of Barcelona (UAB)
Master's degree	2018 – 2019: Biological Anthropology, University of Barcelona (UB)
Doctorate	2022 – present: PhD in Biomedicine, specialty Neuroscience, University of Barcelona (UB)
Stages of academic/ professional career	2021 – 2022: Research Assistant at FIDMAG Research Foundation

SELECTED PUBLICATIONS

- Oscoz-Irurzqui M, Almodóvar-Payá C, Guardiola-Ripoll M, Guerrero-Pedraza A, **Hostalet N**, Salvador R, Carrión M.I, Maristany T, Pomarol-Clotet E, Fatjó-Vilas M. Cannabis use and endocannabinoid receptor genes: effects on brain activity in first-episode psychosis. (2023). International Journal of Molecular Sciences. 24-8. ISSN1422-0067.
- Guardiola Ripoll M, Sotero Moreno A, Almodóvar Payá C, **Hostalet N**, Guerrero-Pedraza A, Ramiro N, OrtizGil J, Arias B, Madre M, Soler-Vidal J, McKenna P, Pomarol-Clotet E, Fatjó-Vilas M. Combining fMRI and DISC1 gene haplotypes to understand working memory-related brain activity in schizophrenia (2022). Scientific Reports. 12, 7351.
- Martínez Abadías N, **Hostalet N**, Mariscal Uceda L, González R, González A, Sevillano X, Canales E.J, Salgado P, Salvador R, Pomarol-Clotet E, Fatjó-Vilas. Facial Biomarkers Detect Gender-Specific Traits for Bipolar Disorder. (2021). The FASEB Journal. 35, S1.
- Hostalet N**, González R, González A, Sevillano X, Canales E.J, Salgado P, Salvador R, Pomarol-Clotet E, Martínez Abadías N, Fatjó-Vilas. Neuroanatomical and genetic correlates of facial shape: potential biomarkers for schizophrenia (2021). European Neuropsychopharmacology, 51, E138-E139.
- Martínez Abadías N, **Hostalet N**, González R, González A, Sevillano X, Canales Rodríguez EJ, Salvador R, Pomarol Clotet E, Fatjó-Vilas M. Understanding Brain/Face Integration from Neuropsychiatric Disorders. (2020). The FASEB Journal. 34, 1 - 1.

IRIEL ARACELI JOERIN LUQUE

FEDERAL UNIVERSITY OF PARANÁ, BRAZIL



PERSONAL DATA

Title	M.Sc.
First name	Iriel Araceli
Name	Joerin Luque
Current position	PhD student
Current institution(s) / City, country	Federal University of Paraná (UFPR), Department of Genetics, Laboratory of Human Molecular Genetics (LGMH), Curitiba, Paraná, Brazil
Identifiers/ORCID	0000-0003-3683-5547
Webpage	https://lgmh.ufpr.br/
Research Interest	African and Amerindian ancestry and complex phenotypes

QUALIFICATIONS AND CAREER

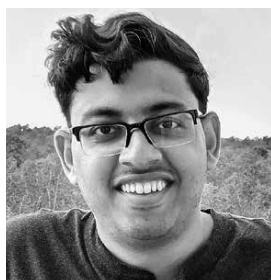
STAGES	PERIODS AND DETAILS
Degree programme	2007 – 2013: Molecular Biology, National University of San Luis, Argentina
Doctorate	2019 – 2023 (ongoing): Genetics, Federal University of Paraná, Brazil
Stages of academic/ professional career	2015 – 2017: Master in Genetics, Federal University of Paraná, Brazil

SELECTED PUBLICATIONS

- Joerin-Luque, I. A.**; Augusto, D. G.; Calonga-Solís, V.; Almeida, R. C.; Lopes, C. V. G.; Petzl-Erler, M. L.; Beltrame, M. H. Uniparental markers reveal new insights on subcontinental ancestry and sex-biased admixture in Brazil. *Mol Genet Genomics*. 2022; 297(2):419-435. doi: 10.1007/s00438-022-01857-7
- Joerin-Luque, I. A.**, Sukow N. M., Bucco I. D., Tessaro J. G., Lopes C. V. G., Barbosa A. A. L., Beltrame, M. H. Ancestry, diversity, and genetics of health-related traits in African-derived communities (quilombos) from Brazil. *Funct Integr Genomics*. 2023; 23(1):74. doi: 10.1007/s10142-023-00999-0

RITWIZ KAMAL

INDIAN INSTITUTE OF TECHNOLOGY, INDIA



PERSONAL DATA

Title	M.Sc.
First name	Ritwiz
Name	Ritwiz Kamal
Current position	PhD scholar, 3 rd year
Current institution(s) / City, country	Indian Institute of Technology, Madras (Bioinformatics & Integrative Data Science Lab, Dept. of CSE) / Chennai, India
Identifiers/ORCID	0000-0002-5898-6883
Webpage	https://sites.google.com/view/ritwizkamal/home
Research Interest	Causality, Causal Inference, Complex Disorders' Genetics & Disease Risk

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2016 – 2020: Bachelor of Technology, Computer Science & Technology, Indian Institute of Engineering Science & Technology, Shibpur, West Bengal, India
Doctorate	2021 – Present: Causal inference using genetic and genomic data to understand complex disorders, Indian Institute of Technology Madras, Chennai, India
Stages of academic/ professional career	Since 2021: PhD student, Indian Institute of Technology Madras, Chennai, India Since 2021: Teaching Assistant, (Artificial Intelligence, Data Analytics with Python) National Programme on Technology Enhanced Learning, India Since 2021: Teaching Assistant, (Pattern Recognition & Machine Learning, Algorithmic Approaches to Computational Biology, Artificial Intelligence) Indian Institute of Technology Madras, Chennai, India 2016 – 2020: Undergraduate Researcher, Indian Institute of Engineering Science & Technology Shibpur, West Bengal, India

SELECTED PUBLICATIONS

- Kamal R.**, Narayanan M. Understanding Population Specific Genetics of Complex Diseases. Annual Research Showcase, Robert Bosch Centre for Data Science and Artificial Intelligence, IIT Madras, Chennai, India. 2023.
- Kamal R.**, Narayanan M. Towards Improved Genetic Risk Scores: Investigating Ancestry Specific Heritability of Parkinson's using LD Score Regression, Graduate Poster Day, Dept. of CSE, IIT Madras, Chennai, India. 2022.

PAMELA ANGELIQUE KUHLMANN

NATIONAL UNIVERSITY OF MISIONES, ARGENTINA



PERSONAL DATA

Title	B.Sc.
First name	Pamela
Name	Angelique Kuhlmann
Current position	PhD Scholarship
Current institution(s) / City, country	GIGA Laboratory, Institute of Subtropical Biology, National University of Misiones, Misiones, Argentina.
Identifiers/ORCID	0009-0009-2684-6606
Webpage	www.ibs.conicet.gov.ar/grupo-de-investigacion-en-genetica-aplicada/
Research Interest	Precision Cancer Prevention

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2005 – 2015: B.S. in Genetics, National University of Misiones, Argentina
Master	2022 – 2023: M.P.H and Infectious Diseases, National University of Misiones, Argentina.
Stages of academic/ professional career	Since 2023: PhD Scholarship, Project: Reference Program and Genomic Biobank of the Argentine Population (PoblAr), Argentina. 2021 – 2022: Professional Geneticist at the Influenza and Respiratory Virus Network Laboratory, Instituto Misionero de Biodiversidad, Argentina. 2020 – 2022: Biobank Technical Manager, IMiBio, Argentina. 2016 – 2019: Professional Assistant in Training at D-Tec Project: Medical genomics and biotechnology: a services platform and regional economic development, UNaM, Argentina. 2013 – 2014: Scientific Initiation Scholarship, Project: The role of single-nucleotide polymorphism (SNPs) in toxicity of induction chemotherapy based on cisplatin and paclitaxel in patients with advanced head and neck cancer, Brazil.

SELECTED PUBLICATIONS

1. Implementation of a biosafety level 2 laboratory for the diagnosis of SARS-CoV-2 in Puerto Iguazú, Misiones. **Pamela A. Kuhlmann**; Lucia Acuna; Katherina Vizcaychipi; Candelaria Sanchez Fernandez; Anibal Depasquino; Santiago Lattar; Tania Alarcon; Karina Salvatierra; Emmanuel Grassi; Erik Ruth. COVID-19 Supplement, Argentine Journal of Public Health. September 2022. Available at: <https://rasp.msal.gov.ar/index.php/rasp/article/view/791>.
2. The role of single-nucleotide polymorphism (SNPs) in toxicity of induction chemotherapy based on cisplatin and paclitaxel in patients with advanced head and neck cancer. Pedro De Marchi; Matias E. Melendez; Ana C. Laus; **Pamela A. Kuhlmann**; Ana Carolina de Carvalho; Lidia Maria R.B. Arantes; Adriane F. Evangelista; Edilene S. Andrade; Gilberto de Castro Junior; Rui M. Reis; André Lopes Carvalho; Luciano de Souza Viana. Oral Oncology. Elsevier. November 2019. DOI: <https://doi.org/10.1016/j.oraloncology.2019.09.013>

IGNACIO MAUREIRA CAVIEDES

HEIDELBERG UNIVERSITY, GERMANY/ UNIVERSIDAD DE CHILE, CHILE



PERSONAL DATA

Title	M.Sc.
First name	Ignacio
Name	Maureira Caviedes
Current position	PhD student at the Statistical Genetics Research Group, Heidelberg University
Current institution(s) / City, country	Institute of Medical Biometry, Heidelberg University, Heidelberg, Germany. Department of Medical Technology, Medical Faculty, Universidad de Chile Santiago, Chile.
Identifiers/ORCID	0000-0002-8660-2779
Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	Precision Medicine, Cancer Genomics, and DNA Methylation.

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2011 – 2016: Medical Technology, University of Chile 2017 – 2019: Genetics, University of Chile
Stages of academic/ professional career	Since 2021: PhD student at Statistical Genetics Research Group, Institute of Medical Biometry, Heidelberg University, Germany. 2019 – 2021: Genomics Research Group, Department of Basic Clinical Oncology, University of Chile. Since 2017: Adjunct Instructor, Department of Medical Technology, University of Chile Cancer.

SELECTED PUBLICATIONS

1. M. Salvo, E. González-Feliú, J. Toro, I. Gallegos, **I. Maureira**, N. Miranda-González, O. Barajas, E. Bustamante, M. Ahumada, A. Colombo, R. Armisen, C. Villaman, C. Ibañez, ML. Bravo, V. Sanhueza, ML. Spencer, G. de Toro, E. morales, C. Bizama, P. García, AM. Carrasco, L. Gutierrez, JL Bermejo, R. Verdugo, K. Marcelain. Validation of an NGS Panel Designed for Detection of Actionable Mutations in Tumors Common in Latin America. *Journal of Personalized Medicine*. 2021. 11(9):899. doi:10.3390/jpm11090899 – open access.

FERNANDA MOGOLLÓN OLIVARES

NATIONAL UNIVERSITY OF COLOMBIA, COLOMBIA



PERSONAL DATA

Title	M.Sc.
First name	Fernanda
Name	Mogollón Olivares
Current position	Population Genetics and Identification Research Group
Current institution(s) / City, country	Institute of Genetics, Faculty of Medicine, National University of Colombia Bogotá, Colombia
Identifiers/ORCID	0000-0001-7138-1662
Webpage	https://genetica.unal.edu.co/integra_web_servicios.php?id_servicio=16
Research Interest	Influence of ancestry on the probability of certain illnesses through the intersection of genetics, statistics and biological anthropology in human populations.

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2012 – 2017: Biology, National University of Colombia
Master	2019 – 2022: Human Genetics, Faculty of Medicine, National University of Colombia, Bogotá, Colombia.
Stages of academic/ professional career	2019 – 2023: Student Researcher Grant: Characterization of the genetic diversity of the Colombian Human Populations. Institute of Genetics, National University of Colombia, Bogotá, Colombia 2020: Lecturer of Population Genetics course applied in cases of filiation applied on filiation and criminal investigation. Institute of Genetics, National University of Colombia, Bogotá, Colombia Since 2018: Research Group Population Genetics and Human Identification, Institute of Genetics, National University of Colombia, Bogotá, Colombia.

SELECTED PUBLICATIONS

- Dayana Suárez Medellín, Raquel Cruz, María Torres, **Fernanda Mogollón Olivares**, Julie Moncada Madero, Ángel Carracedo, William Usaquén, 2021. Ancestry analysis using autosomal SNPs in northern South America, reveals interpretation differences between an AIM panel and an identification panel. *Forensic Science International* ISSN: 0379-0738 ed: Elsevier Bv v.326 fasc.N/A p.1 - 9 ,2021, DOI: 10.1016/j.forsciint.2021.11093
- Fernanda Mogollón Olivares**, Julie Moncada Madero, Andrea Casas-Vargas, Sara Zea Montoya, Dayana Suárez Medellín, Leonor Gusmão, William Usaquén, 2020. Contrasting the ancestry patterns of three distinct population groups from the northernmost region of South America. *American Journal of Physical Anthropology*. 173: 437–447. <https://doi.org/10.1002/ajpa.24130>
- Fernanda Mogollón Olivares**, Andrea Casas-Vargas, Fredy Rodríguez, William Usaquén. Twins from different fathers: A heteropaternal superfecundation case report in Colombia. *Biomédica*. 40(4): 604–608. 10.7705/biomedica.5100

CAMERON NICHOLLS

UNIVERSITY OF BRISTOL, UNITED KINGDOM



PERSONAL DATA

Title	M.Sc.
First name	Cameron
Name	Nicholls
Current position	PhD Student
Current institution(s) / City, country	Bristol Medical School, University of Bristol Bristol, United Kingdom
Webpage	www.biometrie.uni-heidelberg.de/StatisticalGenetics
Research Interest	Genetic Ancestry in mendelian randomization studies

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2016 – 2019: BSc Biological Sciences, University of East Anglia, UK 2019 – 2020: MSc Molecular Medicine, University of East Anglia, UK
Doctorate	Since 2023: PhD population health sciences, University of Bristol, UK
Professional career	2020 – 2021: RNA extraction & PCR scientist, Charles River Laboratories 2021 – 2022: Data Manager & Developer, Animal & Plant Health Agency, UK government

ARNAU NOGUERA SEGURA

POMPEU FABRA UNIVERSITY, SPAIN



PERSONAL DATA

Title	M.Sc.
First name	Arnau
Name	Noguera Segura
Current position	Master in Bioinformatics for Health Sciences student
Current institution(s) / City, country	Pompeu Fabra University, Institute of Molecular Biology of Barcelona (IBMB - CSIC) / Barcelona, Spain
Identifiers/ORCID	0009-0003-8598-6605
Research Interest	Genomic Signatures of Natural Selection / Epigenomics

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Bachelor's degree	2019 – 2023: Genetics, Autonomous University of Barcelona, Spain
Master's degree	2023 – 2025: Master in Bioinformatics for Health Sciences, Pompeu Fabra University, Spain
Stages of academic/ professional career	2022: External academic internship at the Institut de Biotecnologia i de Biomedicina, Bioinformatics of Genome Diversity group, Cerdanyola del Vallès, Spain 2023: JAE Intro Scholarship at the Institute of Molecular Biology of Barcelona, Molecular Signaling and Chromatin group, Barcelona, Spain

SELECTED PUBLICATIONS

1. **Noguera Segura, A.** (2023). *Genomic clues to our history: natural selection signatures in the human genome.* Retrieved from <https://ddd.uab.cat/record/277619>.

CÉSAR PEZOA MORALES

UNIVERSIDAD DE SANTIAGO, CHILE



PERSONAL DATA

Title	M.Sc.
First name	César
Name	Pezoa Morales
Current position	Research Assistant
Current institution(s) / City, country	University of Santiago, Faculty of Medicine, Center of Biomedicine and Applied Science Santiago, Chile
Identifiers/ORCID	18.336.507-K
Research Interest	Population Genetics and Bioinformatics

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2011 – 2016: Biotechnology, La Frontera University
Master	2021 – 2023: Biomedicine, Andres Bello University
Stages of academic/ professional career	2017 – 2019: Research Assistant at Faculty of Biology, PUC, Santiago, Chile. 2019 – 2021: Research Assistant at Andrés Bello University, Santiago, Chile. 2023 – current: Research Assistant at Center of Biomedicine and Applied Science, University of Santiago, Chile

SELECTED PUBLICATIONS

- Jofré I, **Pezoa C**, Cuevas M, Scheuermann E, Freires IA, Rosalen PL, de Alencar SM, Romero F. Antioxidant and Vasodilator Activity of *Ugni molinae* Turcz. (Murtilla) and Its Modulatory Mechanism in Hypotensive Response. *Oxid Med Cell Longev*. 2016;2016:6513416. doi: 10.1155/2016/6513416. Epub 2016 Sep 4. PMID: 27688827; PMCID: PMC5027056.
- Mattar P, Uribe-Cerda S, **Pezoa C**, Guarnieri T, Kotz CM, Teske JA, Morselli E, Perez-Leighton C. Brain site-specific regulation of hedonic intake by orexin and DYN peptides: role of the PVN and obesity. *Nutr Neurosci*. 2022 May;25(5):1105-1114. doi: 10.1080/1028415X.2020.1840049. Epub 2020 Nov 5. PMID: 33151127

DARÍO ALEJANDRO RAMIREZ

UNIVERSIDAD NACIONAL DE CÓRDOBA, ARGENTINA



PERSONAL DATA

Title	M.Sc.
First name	Darío
Name	Alejandro Ramirez
Current position	Doctoral fellow and University lecturer
Current institution(s) / City, country	Instituto de Antropología de Córdoba, Consejo Nacional de Investigaciones Científicas y Técnicas, Universidad Nacional de Córdoba / Córdoba, Argentina Departamento de Antropología, Facultad de Filosofía y Humanidades, Universidad Nacional de Córdoba / Córdoba, Argentina
Identifiers/ORCID	0000-0001-8982-2550
Webpage	https://idacor.conicet.gov.ar/becaries/ https://www.conicet.gov.ar/new_scp/detalle.php?id=57164&datos_academicos=yes&keywords=
Research Interest	Molecular Anthropology, Health, Human Genomics, Infectious diseases

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2012 – 2019: Licenciatura en Antropología, Facultad de Filosofía y Humanidades, Universidad Nacional de Córdoba
Doctorate	2020 – [...]: Doctorado en Ciencias Antropológicas, Facultad de Filosofía y Humanidades, Universidad Nacional de Córdoba
Stages of academic/ professional career	2023: Internship. Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany. Since 2022: Professor (“Jefe de Trabajos Prácticos”). Departamento de Antropología, Facultad de Filosofía y Humanidades, Universidad Nacional de Córdoba, Córdoba, Argentina. 2022: Internship. Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany. Since 2020: Doctoral Fellow (Consejo Nacional de Investigaciones Científicas y Técnicas). Laboratorio de Antropología Molecular, Instituto de Antropología de Córdoba, Córdoba, Argentina.

SELECTED PUBLICATIONS

- Ramirez Darío**, et al. 2021. Detection of *Vibrio cholerae* aDNA in human burials from the fifth cholera pandemic in Argentina (1886-1887 AD). *International Journal of Paleopathology*. DOI: <https://doi.org/10.1016/j.ijpp.2020.12.004>
- Ramirez Darío**, et al. Evidence of parasitosis in historical contexts in the city of Córdoba, Argentina (19th century). *Latin American Antiquity*. DOI: <https://doi.org/10.1017/laq.2021.68>
- Ramirez Darío**, Herrera-Soto María José, Santana-Sagredo Francisca, Uribe-Rodríguez Mauricio, Nores Rodrigo. 2021. Parasites in the Atacama Desert: new insights into the lifestyles of ancient human populations (3000–500 BP). *Journal of Archaeological Science: Reports*. DOI: <https://doi.org/10.1016/j.jasrep.2021.103171>
- Ramirez Darío**, et al. 2023. Gastrointestinal parasites in ancient South American camelid feces from the Atacama Desert (Pampa del Tamarugal, Tarapacá, northern Chile). *Archaeometry*. DOI: <https://doi.org/10.1111/arcm.12862>
- Ramirez Darío**, et al. 2023. Paleoparasitological and Archaeobotanical Studies of Fecal Remains from the Argentine Puna (Pueblo Viejo de Tucute archaeological site, province of Jujuy, 11th to 15th centuries). *Environmental Archaeology*: 1-14. DOI: <https://doi.org/10.1080/14614103.2023.2177013>

RENZO SALAZAR SANCHEZ

UNIVERSIDAD PERUANA CAYETANO HEREDIA, PERÚ



PERSONAL DATA	
Title	M.Sc.
First name	Renzo
Name	Salazar Sanchez
Current position	Laboratory head of Zoonotic Disease Research Laboratory
Current institution(s) / City, country	Universidad Peruana Cayetano Heredia Arequipa, Peru
Identifiers/ORCID	0000-0002-5127-0479
Webpage	https://dina.concytec.gob.pe/appDirectorioCTI/VerDatosInvestigador.do?id_investigador=33342
Research Interest	Microbiome, diseases, and host interaction

QUALIFICATIONS AND CAREER	
STAGES	PERIODS AND DETAILS
Degree programme	1997 – 2002: Biology, Universidad Nacional de San Agustin, Peru
Magister	2013 – 2015: Public Health with focus on Epidemiology and Demography, Universidad Nacional de San Agustin, Arequipa, Peru
Stages of academic/ professional career	<p>Since 2019: Molecular Laboratory Head of Zoonotic Disease Research Laboratory, One Health Unit, Public Health Faculty, Universidad Peruana Cayetano Heredia, Arequipa, Peru</p> <p>2020 – 2021: Molecular Biologist, Qualab SAC, Moquegua, Peru</p> <p>Since 2017: Associate Researcher and consultant, UNSA, Arequipa, Peru</p> <p>2017: Assistant professor, Microbiology and Pathology Department, Human Medicine Faculty, UNSA, Arequipa, Peru</p> <p>Since 2012: Laboratory Head of ZDRL, One Health Unit, Public Health Faculty, UPCH, Arequipa, Peru</p> <p>2010 – 2012: Lab Biology, 'Chagas disease control strategy project, Arequipa, Peru</p> <p>2008 – 2009: Field Biology, "Chagas disease control strategy project", Arequipa, Peru</p>

SELECTED PUBLICATIONS
1. Ascuña-Durand K, Salazar-Sánchez RS , Castillo-neyra R, Ballón-Echegaray J. Relative Frequency of Blastocystis Subtypes 1, 2, and 3 in Urban and Periurban Human Populations of Arequipa, Peru. <i>Trop Med Infect Dis</i> . 2020;5(178):1–12.
2. Salazar-Sánchez RS , Ascuña-Durand K, Ballón-Echegaray J, Vásquez-Huerta V, Martínez-Barrios E, Castillo-Neyra R. Socio-demographic determinants associated with blastocystis infection in arequipa, Peru. <i>Am J Trop Med Hyg</i> . 2021;104(2):700–7.
3. Berry ASF, Salazar-Sánchez R , Castillo-Neyra R, Borrini-Mayorí K, Chipana-Ramos C, et al. Immigration and establishment of <i>Trypanosoma cruzi</i> in Arequipa, Peru. <i>PLoS One</i> . 2019;14(8):e0221678.
4. Waltmann A, Willcox AC, Balasubramanian S, Borrini K, Mendoza S, Mendoza Guerrero S, Salazar Sanchez, Renzo , et al. Hindgut microbiota in laboratory-reared and wild <i>Triatoma infestans</i> . <i>PLoS Negl Trop Dis</i> . 2019;1–26.
5. Berry ASF, Salazar-Sánchez RS , Castillo-Neyra R, Borrini-Mayorí K, Chipana-Ramos C, Vargas-Maquera M, et al. Sexual reproduction in a natural <i>Trypanosoma cruzi</i> population. <i>PLoS Negl Trop Dis</i> . 2019;1–17
6. Peterson JK, Salazar R , Castillo-neyra R, Borrini-mayorí K, Condori C, Bartow-mckenney C, et al. <i>Trypanosoma cruzi</i> Infection Does Not Decrease Survival or Reproduction of the Common Bed Bug, <i>Cimex lectularius</i> . <i>Am J Trop Med Hyg</i> . 2018;98(3):724–34.

MARCELA SALGADO ALFARO

PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE



PERSONAL DATA

Title	Medical Technician
First name	Marcela
Name	Salgado Alfaro
Current position	Medical technology teacher
Current institution(s) / City, country	Department of Medical Technology, Medical Faculty, Universidad de Chile Santiago de Chile, Chile
Webpage	https://uchile.cl/carreras/5017/tecnologia-medica
Research Interest	Precision Cancer Prevention

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	1985 – 1989: Medical Technology, Medicine Faculty, University of Chile 1992 – 1997: Bachelor in Psychology
Master's student	2021 – 2023: Master in Genetics, Medicine Faculty, University of Chile, Chile
Stages of academic/ professional career	<p>Since 2023: Performing master's thesis : „Identification of somatic mutations in South American patients with gallbladder cancer“ in Cancer Genomics Laboratory directed by Prof Katherine Marcelain</p> <p>Since 2019: Professor in charge of the undergraduate course Transfusion Medicine in Medical Technology School</p> <p>2019: Diploma in health sciences education, DECSA, University of Chile</p> <p>Since 2018: Coordinating professor in undergraduate Hematology course in Medical Technology School, University of Chile</p> <p>2016 – 2018: Medical Technologist in the blood bank of the Clinical hospital of the University of Chile.</p> <p>1992 – 2006: Medical Technologist in the blood bank of the Clínica Las Condes, Chile.</p>

ALEJANDRA ZAZUETA

UNIVERSIDAD DE CHILE, CHILE



PERSONAL DATA

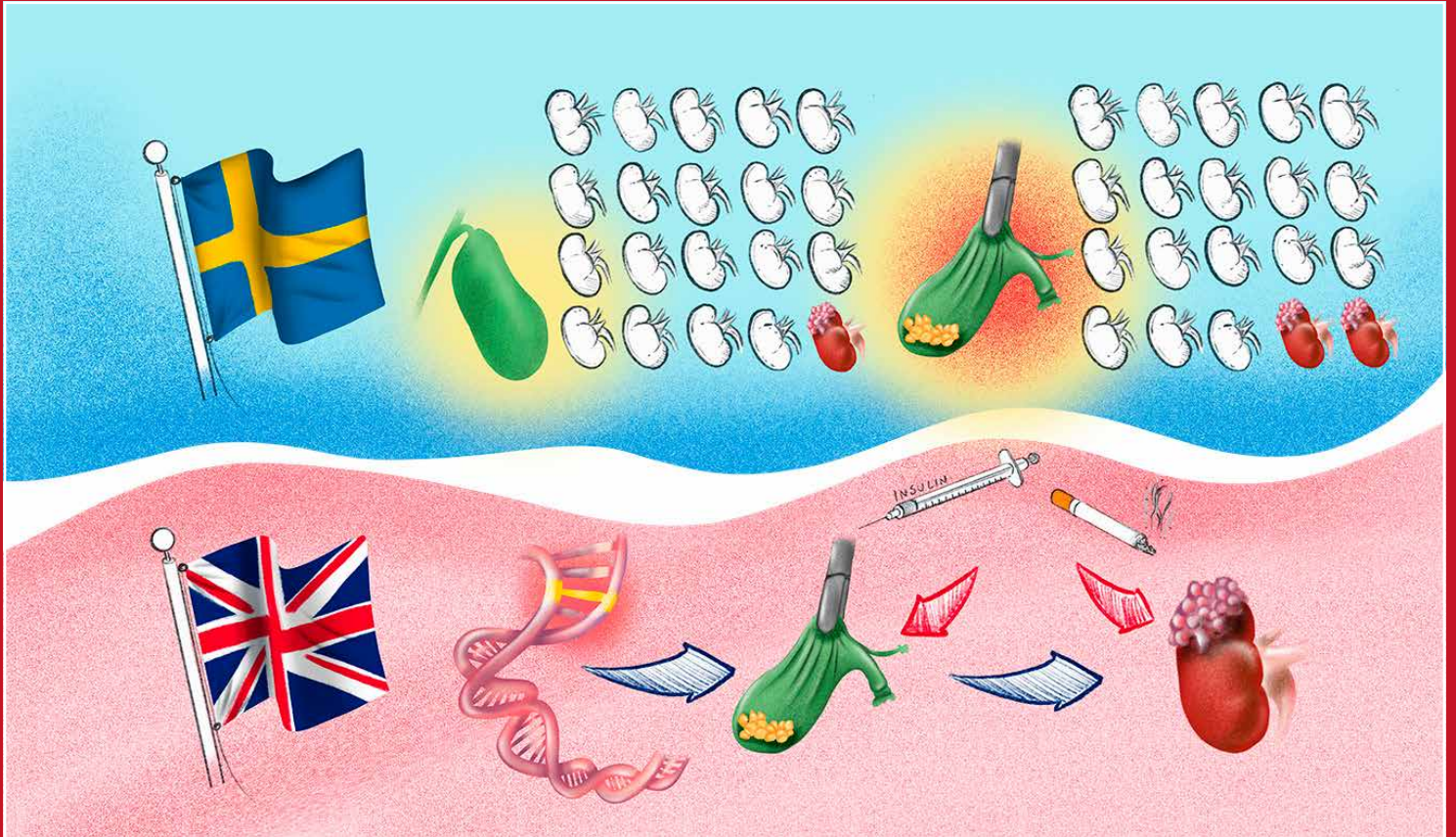
Title	M.Sc.
First name	Zazueta
Name	Alejandra
Current position	Ph.D. Student
Current institution(s) / City, country	University of Chile
Identifiers/ORCID	25.726.378-9
Research Interest	Gut microbiome, IBD, Nutrition

QUALIFICATIONS AND CAREER

STAGES	PERIODS AND DETAILS
Degree programme	2009 – 2014: Nutrition, Universidad Autónoma de Sinaloa (UAS).
Master	2017 – 2019: Master in Genetics, University of Chile.
Doctorate	2020: In progress, at the Nutrition and Food Programme of the Chilean Institute of Nutrition and Food Technology.
Stages of academic/ professional career	2020: Actually lecturer at Universidad del Desarrollo, Chile.

SELECTED PUBLICATIONS

- Magne F, Gotteland M, Gauthier L, **Zazueta A**, Pesoa S, Navarrete P, Balamurugan R. The Firmicutes/Bacteroidetes Ratio: A Relevant Marker of Gut Dysbiosis in Obese Patients? *Nutrients*. 2020 May 19;12(5):1474. doi: 10.3390/nu12051474. PMID: 32438689; PMCID: PMC7285218.
- Zazueta A**, Castillo T, Cavieres Á, González R, Abarca M, Nieto RR, Deneken J, Araneda C, Moya PR, Bustamante ML. Polymorphisms in Schizophrenia-Related Genes Are Potential Predictors of Antipsychotic Treatment Resistance and Refractoriness. *Int J Neuropsychopharmacol*. 2022 Sep 28;25(9):701-708. doi: 10.1093/ijnp/pyac025. PMID: 35416253; PMCID: PMC9515128.
- Salinas V, Villarroel J, Silva H, Herrera L, Jerez S, **Zazueta A**, Montes C, Nieto R, Bustamante ML. SERT and BDNF polymorphisms interplay on neuroticism in borderline personality disorder. *BMC Res Notes*. 2020 Feb 7;13(1):61. doi: 10.1186/s13104-020-4924-6. PMID: 32033618; PMCID: PMC7006183.
- Gotteland M, **Zazueta A**, Pino JL, Fresard A, Sombra V, Codoceo J, Cires MJ, López X, Vivanco JP, Magne F. Modulation of Postprandial Plasma Concentrations of Digestive Hormones and Gut Microbiota by Foods Containing Oat β -Glucans in Healthy Volunteers. *Foods*. 2023 Feb 6;12(4):700. doi: 10.3390/foods12040700. PMID: 36832775; PMCID: PMC9955387.



Graphical abstract of the article "Gallstones, Cholecystectomy, and Kidney Cancer: Observational and Mendelian Randomization Results Based on Large Cohorts", <https://pubmed.ncbi.nlm.nih.gov/37054756/>



Picture of Monte Verde, an archaeological site in south-central Chile and one of the oldest traces of human settlement on the American continent (12,000-14,000 BC)

RESEARCH CONTEXT OF THE SUMMER SCHOOL

1. Multi-omics profiling for P4-Medicine

Predictive, preventive, personalised and participatory Medicine (P4-Medicine) depends heavily on the identification, validation and clinical evaluation of reliable biomarkers for (1) individualized risk prediction and early detection, (2) accurate primary, secondary and tertiary prevention, and (3) personalised diagnosis and treatment. Ethnic minorities have poorer access to the health system in general, and to P4-Medicine in particular. To be clinically useful, biomarkers need to be detectable only in patients truly affected by the disease (sensitivity) and specific for the outcome of interest (specificity). Non-European genetic-molecular data to investigate potential differences in biomarker sensitivity and specificity are underrepresented, the methodology to assess and adjust for these differences is underdeveloped, and the opportunities for P4-Medicine arising from ethnic differences are underexplored.

Our Summer School will focus on several types of biomarkers that are currently investigated in unique collaborative research projects between Heidelberg University, Latin American and Asian institutions. For example, non-coding (nc)RNAs include various types of RNAs that do not encode for proteins but may regulate cellular gene expression via RNA–RNA antisense binding. Among them, microRNAs (miRNAs) with a length of about 22 nucleotides are the best-characterised class of ncRNA molecules. The involvement of miRNAs in carcinogenesis through oncogenic and tumour-suppression properties is well established and miRNA expression can be quantified in serum and plasma. Several studies have investigated the potential of miRNAs as risk biomarkers, and risk scores combining the expression levels of several miRNAs have been proposed. Another example are metabolites – low-molecular-weight molecules that closely reflect intrinsic and extrinsic carcinogenic exposures, and have enormous potential for risk prediction, early detection and assessment of treatment options and prognosis. Proteins were among the first circulating biomarkers for cancer detection. Today, protein biomarkers are available for some tumours (e.g. PSA for prostate cancer and CA125 for ovarian cancer), however often with low to moderate sensitivity and/or specificity.

The possible dependence of biomarker levels on ethnicity – specifically, on the type and proportions of genetic ancestry and inbreeding – is poorly understood. Our Summer School will facilitate the consolidation of an international, multidisciplinary research network to explore

the challenges and opportunities posed by ethnic differences for the identification, validation and clinical evaluation of novel biomarkers for P4-Medicine, as further outlined below.

2. Ancestry and inbreeding in Latin America as show case for population stratification

Modern genetics has shown that demographic history and culture shape human biology, directly influencing the adaptation of human populations to the environment. Our Summer School will specifically address genetic ancestry and inbreeding as the result of Latin America's demographic history and culture, as reflected in current population stratification and its impact on P4-Medicine in this region.

The demographic history of Latin America includes complex processes – e.g. founder events and bottlenecks, endogamy and consanguinity, migration and admixture – since the arrival of *H. sapiens* in Central America about 33,000 years ago. The result is a great genetic diversity and a striking population structure in the region that needs to be taken into account in biomarker assessment and future P4-Medicine. Members of the Summer School's Faculty have consistently found extensive variability in the proportions of Native American, European, Sub-Saharan African and even East Asian ancestry and inbreeding, and quantified the association between ancestry, inbreeding and common causes of death in both adults and children. Of particular relevance to the Summer School, for example, is genetic admixture in the Andean region. Among Peruvians, three predominant components of Native American ancestry are found: Andean-Piedmont Natives (north), Quechua (centre) and Aymara (south). In line with the high population density in the central Andes during the Inca Empire, the Aymara component is also predominant in the north of Chile, while the proportion of Mapuche ancestry is large in the southern regions. In our Summer School, we will review current biostatistics/bioinformatics approaches and ongoing methodological developments for quantifying the individual proportions of genetic ancestry (e.g. genetic principal component analysis, K-Means clustering, F3-Statistics and effective population size estimation).

In addition to the type and proportion of genetic ancestry components, pre-Columbian culture resulted into marked geographic differences in inbreeding. Inbreeding shapes the human genome through both demography/genetic drift and culture/consanguinity, which increase the proportion

of the genome that is in homozygosity and thus the frequency of recessive alleles. Inbreeding has profound effects on individuals and populations, and homozygosity mapping is one of the most successful approaches to characterising rare Mendelian diseases. Preliminary research suggests that both genetic drift and consanguinity are highly variable in Latin American populations, providing a unique opportunity to investigate the relationship between inbreeding and genetic ancestry – in the context of identifying biomarkers for P4-Medicine in genetically admixed populations. The study of inbreeding by runs of homozygosity (ROH) has also revealed dominant effects in the genetic architecture of complex traits, and analysis of ROH islands provides a new tool for gene mapping of diseases and biomarkers for P4-Medicine, as will be presented in our Summer School.

3. Ancestry, inbreeding and risk biomarkers for gallbladder cancer as P4-Medicine model

Every year, more than 85.000 people worldwide die from gallbladder cancer (ICD-10 diagnosis code C23, www.globocan.iarc.fr). Most deaths occur in low- to middle-income countries (e.g. Chile and India), and research on this disease has been largely neglected. In some high prevalence areas, patients with gallstones are offered prophylactic gallbladder surgery (cholecystectomy) to prevent gallbladder cancer (primary prevention). The identification of biomarkers that predict disease development would make it possible to personalise prophylactic cholecystectomy and significantly improve the efficiency of this prevention strategy.

Early detection of gallbladder cancer is difficult. Only about 20% of tumours are found in early stages because symptoms are non-specific. The gallbladder anatomically lacks a separating serosa, and gallbladder tumours often spread to the liver and adjacent organs. The median overall survival for patients with advanced gallbladder cancer is only 6 months and the 5-year survival rate of only 5% has not improved over the past 50 years. Gallbladder cancer confined to the mucosa offers the possibility of cure through surgery (secondary prevention). However, there is no biomarker that reliably detects gallbladder cancer early enough to be used for screening.

Risk and early disease biomarkers in combination with established risk factors (e.g. gallstones, overweight and obesity, and inflammation) would help identify at-risk individuals before gallbladder cancer becomes symptomatic and incurable, and guide the decision, whether cholecystectomy is justified. Gallbladder cancer develops within a time span of five to ten years, providing ample opportunity for prevention. On the other hand, the underrepresentation of non-European genetic-molecular data, and the genetic diversity and striking stratification of populations with a high incidence of gallbladder cancer complicate the identification, validation and clinical evaluation of biomarkers for accurate risk prediction and personalised prevention. Examples from collaborative research on gallbladder cancer between Heidelberg University, Latin America and Asia will be used in our Summer School to illustrate the opportunities and challenges for P4-Medicine arising from genetic ancestry and inbreeding.



The Museo Chileno de Arte Precolombino houses a comprehensive collection of art objects from Central and South America from the time before the Spanish discovery. Some of the exhibits are over 5000 years old and are often animal or human figures made of various materials. In addition, there are mummies, clay vessels and woven objects.

PROGRAMME



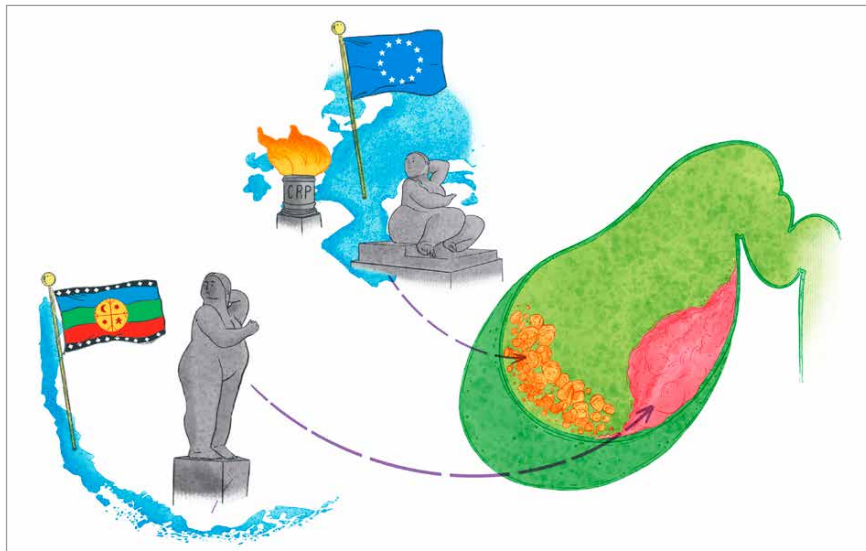
BADEN - WÜRTTEMBERG
HEIDELBERG CENTER PARA AMERICA LATINA
CENTRO DE ESTUDIOS DE POSTGRADO Y POSGRADO
DE LA UNIVERSIDAD DE HEIDELBERG EN SANTIAGO DE CHILE

DAY 1

NOVEMBER 20, 2023 (MONDAY)

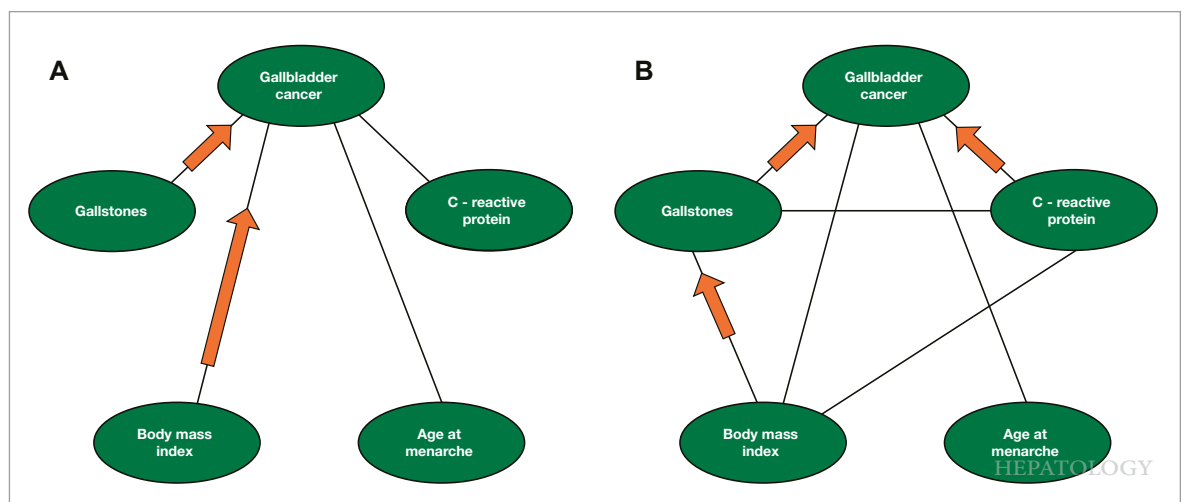
HARNESSING MULTI-OMICS FOR P4-MEDICINE

- 09:00 **Welcome address**
- 09:15 **Introduction to the summer school** (JLB)
- 09:45 **Gallbladder cancer: what is it and what are the issues?** (VKK)
- 10:30 **Coffee break**
- 11:00 **Gallbladder cancer – what needs to be done?** (VKK)
- 11:30 **The European-Latin American Consortium EULAT Eradicate GBC** (JLB)
- 12:15 **Multi-Omics in GBC patients – first results from EULAT Eradicate GBC** (DS)
- 13:00 **Lunch**
- 14:30 **Metabolomics and biomarker discovery in cancer epidemiology** (AS)
- 15:15 **Metabolomics: the missing link between genotype and phenotype** (RKE)
- 16:00 – **Application of genetics to epidemiological study of US Latinos** (RKA)
- 16:45
- 18:00 – **Welcome cocktail reception**
- 20:30



DAY 2 NOVEMBER 21, 2023 (TUESDAY)

- 09:00 **Gut microbiome, metabolite and genetics affecting diet-related disease** (RKA)
- 09:45 **Arsenic, epigenetics, cardiovascular disease and community-based research** (ADR)
- 10:30 **Coffee break**
- 11:00 **Gut barrier integrity, microbial metabolites and gastrointestinal cancer risk** (DH)
- 11:45 **Non-coding RNAs in gallbladder cancer risk prediction** (AB)
- 12:30 **microRNAs as gastric cancer biomarkers: MAGIC study and Magallanes cohort** (YEP)
- 13:15 **Lunch**
- 14:30 **Mendelian randomisation studies on gallbladder cancer** (CBP)
- 15:15 **Multiple mediation: application to smoking, DNA methylation and lung cancer** (ADR)
- 16:00 – **Wrap-up of day 1 and day 2**
- 16:45

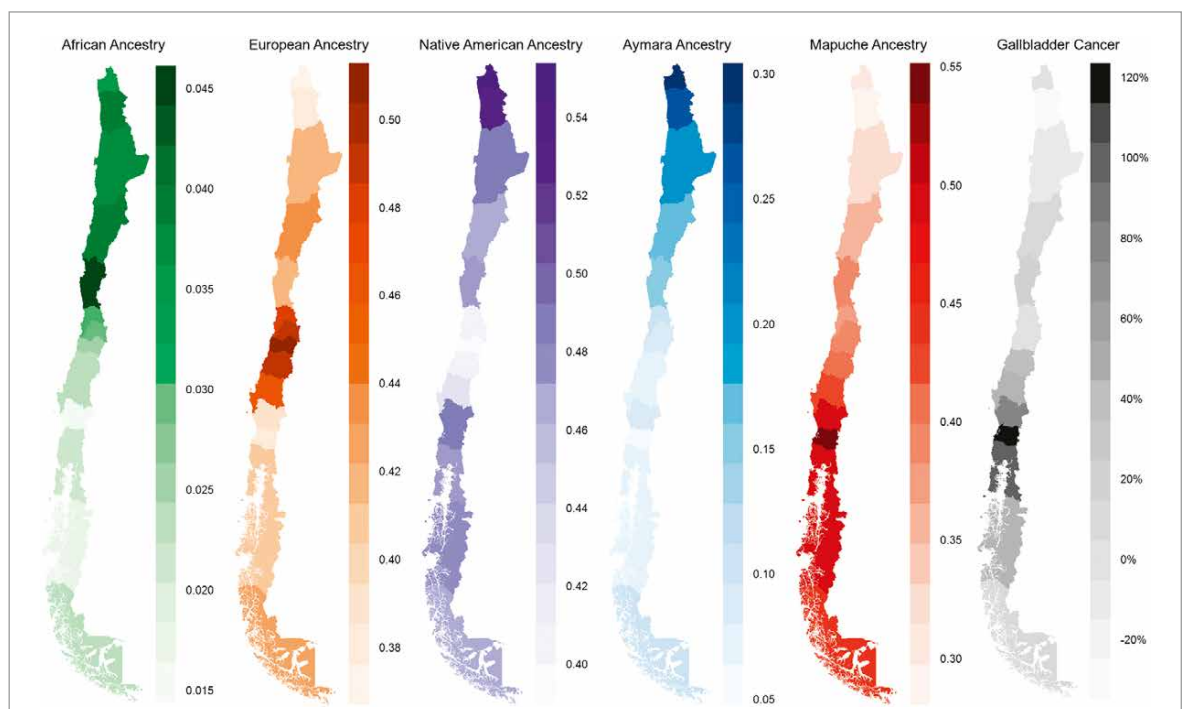


DAY 3

NOVEMBER 22, 2023 (WEDNESDAY)

CHARACTERISING ANCESTRY AND INBREEDING FOR P4-MEDICINE

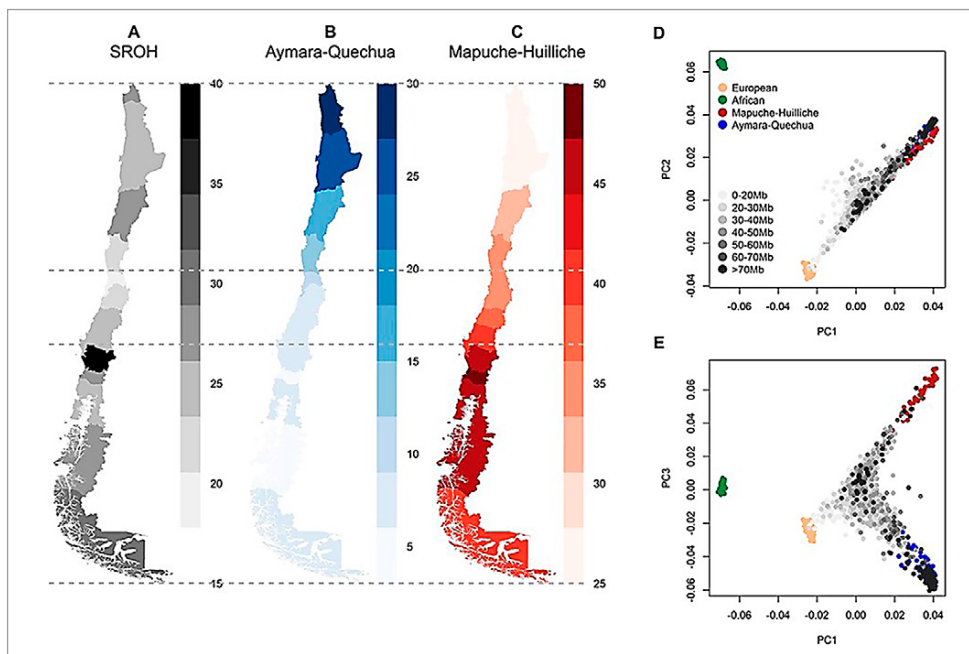
- 09:00 **Estimating ancestry proportions using genotype data** (JLB)
- 09:45 **Hands-on training “Genetic association analysis using R”** (AB)
- 10:45 **Coffee break**
- 11:15 **Hands-on training “Estimation of ancestry components using Admixture”** (LZ)
- 12:15 **Mendelian randomisation analysis of Native American ancestry and disease** (LZ)
- 13:00 **Lunch**
- 14:30 **Human population genomics: how can we communicate better?** (FM)
- 16:00 – **Visit to the Chilean Museum of Pre-Columbian Art**
- 19:00



DAY 4

NOVEMBER 23, 2023 (THURSDAY)

- 09:00 **Runs of Homozygosity: windows into population history and trait architecture** (JW)
- 10:00 **Latin American homozygosity and gallbladder cancer** (FCC)
- 10:30 **Coffee break**
- 11:00 **Hands-on training "Homozygosity I"** (FCC)
- 13:00 **Lunch**
- 14:30 **Hands-on training "Homozygosity II"** (FCC)
- 16:00 **Ancestry in rare actionable and Mendelian variants** (JW)
- 16:45 – **Wrap-up of day 3 and day 4**
- 17:30



DAY 5

NOVEMBER 24, 2023 (FRIDAY)

DELINEATING A RESEARCH PROPOSAL ON GENETIC DIVERSITY AND P4-MEDICINE

- 09:00 **Review and comparison of funding opportunities** (Representative of the German Research Foundation)
- 09:45 **The “Cancer inequities” Challenge as example of funding opportunity** (JLB)
- 10:15 **Gallbladder cancer – What is going on and what would make an attractive research proposal?** (VKK)
- 10:45 **Coffee break**
- 11:15 **Definition of preliminary work packages**
- 11:45 **Delineation, strengths and weaknesses of the work packages (in groups)**
- 12:30 **Objectives, strengths and weaknesses of the work packages (plenary session)**
- 13:15 **Lunch**
- 14:30 **Potential impact and excellence of the preliminary proposal (in groups)**
- 15:15 **Potential impact and excellence of the preliminary proposal (plenary session)**
- 16:00 **Open discussion on the next steps for proposal preparation**
- 16:45 – **Farewell cocktail party**
- 18:00





UNIVERSITÄTS
KLINIKUM
HEIDELBERG

Summer School

**Ancestry meets Molecular Health:
Opportunities of genetic diversity for Predictive, Preventive,
Personalised and Participatory (P4) Medicine**

Prof Dr Justo Lorenzo Bermejo, Dr Dominique Scherer

Statistical Genetics Research Group

www.biometrie.uni-heidelberg.de/StatisticalGenetics

Institute of Medical Biometry, Heidelberg University



Date, duration and venue

- Preparatory sessions on 16.10 and **23.10.2023**
- Summer school from 20 to 24 November 2023 at the Heidelberg Center Latin America in Santiago de Chile

Research areas and Overarching objective

Research areas:

1. Predictive, Preventive, Personalised and Participatory (P4) Medicine
 2. Multi-Omics: ncRNAs, metabolites, proteins, methylation, microbiome *et al.*
 3. Ethnicity (genetic ancestry and inbreeding)
- Interactions between 1, 2 and 3

Overarching objective:

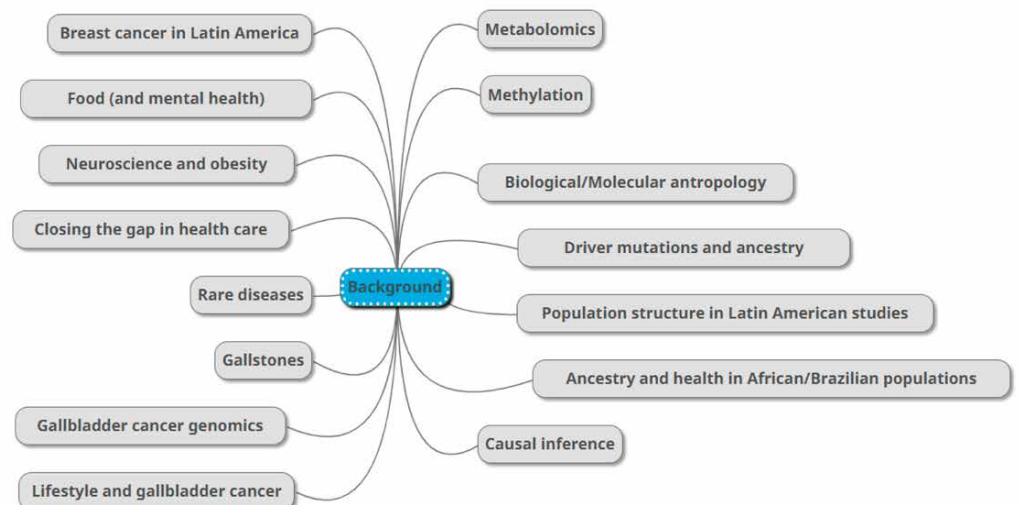
Consolidation of a multidisciplinary research network

- Disease model: Gallbladder cancer (unique data/samples available)

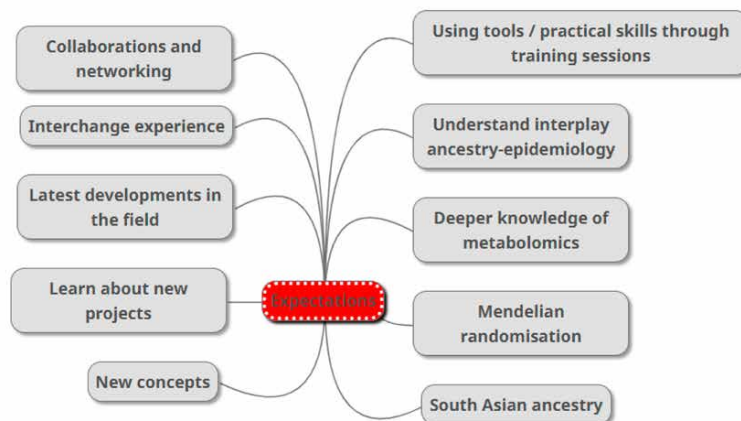
- Latin America and South Asia particularly affected

→ Explore the challenges/opportunities of ethnic differences for P4 Medicine

Students' background



Students' expectations



5

Programme

- Mix of lectures and hands-on training

Days 1-2: Harnessing multi-omics for P4-Medicine:

Keywords: Metabolomics, ncRNAs, microbiome, epigenetics, multi-omics, Mendelian randomisation

Days 3-4: Characterising ancestry and inbreeding for P4-Medicine

Keywords: Admixture, homozygosity

The 4th P (participatory medicine): Communication of genetic-molecular studies

Day 5: Delineating a research proposal on genetic diversity and P4-Medicine

6

Administrative Aspects

- Keep all receipts (e.g. transfer) for reimbursement (only proven expenses can be reimbursed)
- Course material will be sent to the students on Nov 10th



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IMPRINT

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