

# Ibon Martínez-Arranz

Mathematician and Data Scientist



## PROFESSIONAL EXPERIENCE

### Currently

Ibon Martínez-Arranz got his BSc. in Mathematics from the University of the Basque Country (EHU/UPV) and performed a MSc. in Current Applied Statistics Techniques and a MSc. in Mathematical Modeling Research, Statistical Analysis and Computing Sciences. In 2004, he joined the Basque Country Health Service (The Department of Health of the Basque Country Government and Osakidetza) as a data analyst and his work was mainly focused on the epidemiological report of renal patients. When he joined OWL Metabolomics in 2010, Ibon first worked as a researcher in the Metabolomics Department and in 2017, he became the head of the Data Science Department, being responsible for prediction and statistical computation management since then. This highly experienced team supports metabolomics services, laboratory processes, data handling, R&D projects and technology transfer processes.

Currently, I am doing a doctoral thesis entitled "Genetic Algorithms Applied to Translational Strategy in NASH. Learning from Mouse Models" under the supervision of José María Mato (General Director of CIC bioGUNE) and Dae-Jin (Data Science line leader of Basque Center for Applied Mathematics, BCAM) in which I apply genetic algorithms for the selection of NAFLD subtypes. This procedure could be applied to any disease that is based on metabolic changes. This work also has implications in the field of precision medicine.

### Employment

- |           |  |
|-----------|--|
| 2017      | <b>OWL (One Way Liver, S.L.) Data Science Manager.</b><br>Data Processing and Analysis, Statistical Studies and Operational Research. Statistical data processing and analysis. Collaboration in the preparation of technical reports. Elaboration of the statistical methodology used and justification.                          |
| 2010-2017 | <b>OWL (One Way Liver, S.L.) Data Processing and Analysis.</b><br>Data Processing and Analysis, Statistical Studies and Operational Research. Statistical data processing and analysis. Collaboration in the preparation of technical reports. Elaboration of the statistical methodology used and justification.                  |
| 2004-2010 | <b>COHS Consultores en Ciencias Humanas, S.L. Data Processing and Analysis.</b><br>Data Processing and Analysis, Statistical Studies and Operational Research. Statistical data processing and analysis. Collaboration in the preparation of technical reports. Elaboration of the statistical methodology used and justification. |

## EDUCATION

- |           |  |
|-----------|--|
| Currently | PhD student  |
| 2015-2016 | MSc degree in Mathematical Modelling, Statistical Analysis and Computation. <i>University of the Basque Country</i>  |
| 2012-2013 | Expert degree in Multivariate Statistical Techniques, <i>Universidad Nacional de Educación a Distancia, UNED.</i>    |
| 2011-2012 | MSc degree in Current Applied Statistics Techniques, <i>Universidad Nacional de Educación a Distancia, UNED.</i>     |
| 2007-2008 | Expert degree in Advanced Methods of Applied Statistics, <i>Universidad Nacional de Educación a Distancia, UNED.</i> |
| 2006-2007 | Expert degree in Statistics Applied to Health Sciences, <i>Universidad Nacional de Educación a Distancia, UNED.</i>  |
| 2003      | BSc degree in Mathematics. <i>Faculty of Science and Technology, University of the Basque Country.</i>               |

## COMPLEMENTARY EDUCATION

2022	<b>Curso de MongoDB</b> , Datademia, 30h.
2021	<b>Curso completo de SQL</b> , Datademia, 30h.
2021	<b>Python para Ciencia de Datos</b> , Datademia.
2019	<b>Decision, Data and Machine Learning</b> , Santiago Mazuelas. <b>BCAM</b> - UPV/EHU, 10h.
2019	<b>Measurement Error and Misclassification</b> , Helmut Küchenhoff. <b>BCAM</b> - UPV/EHU, 10h.
2018	<b>Introducción a Python para el Análisis de Datos</b> , EUSKADinnova, 8h.
2018	<b>PYTHON y PANDAS</b> , CEINTEC, 20h.
2017	<b>Introducción to Machine Learning</b> , Carlos Cernuda, Carmen Ana Domínguez, Ekhine Irurozki & Aritz Pérez. <b>BCAM</b> - UPV/EHU, 10h.
2017	<b>Second Bilbao Data Science Workshop</b> , <b>BCAM</b> , Bilbao, 16th-17th November, 2017.
2016	<b>Introduction to Statistical Modelling in R</b> , Dae-jin LEE. <b>BCAM</b> - UPV/EHU, 10h.
2006	<b>Introducción a la Programación SAS</b> , Prof. Dra. Rosa Elvira Lillo. Universidad Carlos III de Madrid, 25h.
2005	<b>Diseño en Implantación de Bases de Datos</b> , MIKELDI, Ciclos Superiores y Medios, 60h.
2004	<b>Estadística para todos (Curso de Verano, UPV)</b> , Prof. D. Xavier Tort-Martorell. Universidad Politécnica de Cataluña, 10h.

## COMPUTER & IT SKILLS

<b>Structured Programming</b>	<b>Python</b> , FORTRAN, C/C++, Visual Basic
<b>Scientific Programming &amp; Statistics</b>	<b>R</b> , <b>GNUplot</b> , <b>Julia</b> , SPSS, SAS, Matlab, Mathematica
<b>R Utilities</b>	<b>RStudio</b> , <b>RKward</b> , Tinn-R, Sweave, <b>knitr</b> , <b>Rmarkdown</b> , <b>Tidyverse</b>
<b>Python Utilities</b>	<b>ANACONDA</b> , <b>Jupyter</b> , <b>JupyterLab</b> , <b>Spyder</b>
<b>Data Bases &amp; Big Data Analysis</b>	<b>MySQL</b> , <b>SQLite</b> , <b>spark</b> , <b>H2O</b>
<b>Machine Learning Utilities</b>	<b>Sklearn</b> , <b>Scikit-Learn Laboratory</b> , <b>caret</b>
<b>Linear Programming</b>	<b>CPLEX</b> , <b>COIN-OR</b> , <b>GUSEK</b>
<b>Design</b>	<b>LaTeX</b> , <b>Gimp</b> , <b>Inkscape</b>
<b>Office IT</b>	<b>Microsoft Office</b> (Word, PowerPoint, Excel, Access), <b>OpenOffice</b>

**SOFTWARE  
DEVELOPMENT****OwlStatApp**

Metabolomics research has evolved considerably, particularly during the last decade. Over the course of this evolution, the interest in this omic discipline is now more evident than ever. However, the future of metabolomics will depend on its capability to find biomarkers. For that reason, data mining constitutes a challenging task in metabolomics workflow, being a time-consuming issue which usually requires detailed knowledge of bioinformatics, statistics and specialized software. We have developed OWL Stat App, an easy-to-use web application for metabolomics data analysis. It combines powerful univariate and multivariate data analysis with pathway mapping tools and visualization capacities to facilitate interpretation of the results.

| [OwlStatApp](#) |

**AgingAnalysis**

Metabolomics research has evolved considerably, particularly during the last decade. Over the course of this evolution, the interest in this omic discipline is now more evident than ever. However, the future of metabolomics will depend on its capability to find biomarkers. For that reason, data mining constitutes a challenging task in metabolomics workflow. This work has been designed in support of the research article entitled Enhancing metabolomics research through data mining, which proposed a methodological data handling guideline. An aging research in healthy population was used as a guiding thread to illustrate this process. Here we provide a further interpretation of the obtained statistical results. We also focused on the importance of graphical visualization tools as a clue to understand the most common univariate and multivariate data analyses applied in metabolomics.

| [AgingAnalysis](#) |

**PyGenMet**

A Python package for Genetics Algorithms.

| [PyGenMet](#) | [Manual](#) |

## PUBLICATIONS

- 2022** 2022 **Metabolic subtypes of nonalcoholic fatty liver disease patients exhibit distinctive cardiovascular risk profiles**, Ibon Martínez-Arranz, Chiara Bruzzone, Mazen Nouredin, Ruben Gil-Redondo, Itziar Mincholé, Maider Bizkarguenaga, Enara Arretxe, Marta Iruarizaga-Lejarreta, David Fernández-Ramos, Fernando Lopitz-Otsoa, Rebeca Mayo, Nieves Embade, Elizabeth Newberry, Bettina Mittendorf, Laura Izquierdo-Sánchez, Vaclav Smid, Jorge Arnold, Paula Iruzubieta, Ylenia Pérez Castaño, Marcin Krawczyk, Urko M Marigorta, Martine C Morrison, Robert Kleemann, Antonio Martín-Duce, Liat Hayardeny, Libor Vitek, Radan Bruha, Rocío Aller de la Fuente, Javier Crespo, Manuel Romero-Gomez, Jesus M Banales, Marco Arrese, Kenneth Cusi, Elisabetta Bugianesi, Samuel Klein, Shelly C Lu, Quentin M Anstee, Oscar Millet, Nicholas O Davidson, Cristina Alonso, José M Mato *Hepatology*
- 2020** 2020 **The lipidome of endometrial fluid differs between implantative and non-implantative IVF cycles**, Roberto Matorras, Ibon Martínez-Arranz, Enara Arretxe, Marta Iruarizaga-Lejarreta, Blanca Corral, Jone Ibañez-Perez, Antonia Exposito, Begoña Prieto, Felix Elortza, Cristina Alonso *Journal of Assisted Reproduction and Genetics*, 2020 Feb 37(2): 385-394  
| doi | pubmed |
- 2020 **A novel serum metabolomic profile for the differential diagnosis of distal cholangiocarcinoma and pancreatic ductal adenocarcinoma**, Rocío IR Macías, Luis Muñoz-Bellvis, Anabel Sánchez-Martin, Enara Arretxe, Ibon Martínez-Arranz, Ainhoa Lapitz, M Laura Gutiérrez Adelaida La Casta, Cristina Alonso, Luis M González, Matías A Ávila, María L Martínez-Chantar, Rui E Castro, Luis Bujanda, Jesus M Bañales, Jose J.G. Marín. *Cancers*, 2020.  
| doi |
- 2020 **Agonist of RORA Attenuates Non-Alcoholic Fatty Liver Progression in Mice via Upregulation of microRNA 122**, Chofit Chai, Bryan Cox, Dayana Yaish, Devora Gross, Nofar Rosenberg, Franck Amblard, Zohar Shemuelian, Maytal Gefen, Amit Korach, Oren Tirosh, Tali Lanton, Henrike Link, Joseph Tam, Anna Permikov, Gunes Ozhan, Jonathan Citrin, Haixing Liao, Mirna Tannous, Michal Hahn, Jonathan Axelrod, Enara Arretxe, Cristina Alonso, Ibon Martínez-Arranz, Pablo Ortiz Betés, Rifaat Safadi, Ahmad Salhab, Johnny Amer, Zahira Tber, Seema Mengshetti, Hilla Giladi, Raymond F. Schinazi, Eithan Galun *Gastroenterology*, 2020  
| doi |
- 2020 **CA19-9 capability as predictor of pancreatic cancer resectability in a Spanish cohort**, Herreros-Villanueva M., Ruiz-Rebollo L., Montes M., Rodríguez-Lopez M., Francisco M., Cubiella J., Iyo E., Garabitos E., Martínez Moneo E., Martos M., de Madaria E., Martínez-Arranz I., García-Cougil M., Iglesias-Gómez A., Bujanda L. *Molecular Biology Report*, 2020 Mar 47(3): 1583-1588.  
| doi | pubmed |
- 2019** 2019 **Metabolomics Discloses a New Non-invasive Method for the Diagnosis and Prognosis of Patients with Alcoholic Hepatitis**, Javier Michelena, Cristina Alonso, Ibon Martínez-Arranz, José Altamirano, Rebeca Mayo, Pau Sancho-Bru, Ramón Bataller, Pere Ginès, Azucena Castro, Juan Caballería, *Annals of Hepatology*, 2019 Feb-Mar 18 (1): 144-154  
| doi | abstract | pubmed |
- 2019 **Metabolomics discloses potential biomarkers to predict the acute HVP response to propranolol in patients with cirrhosis**, Enric Reverter, Juan José Lozano, Cristina Alonso, Annalisa Berzigotti, Susana Seijo, Fanny Turon, Anna Baiges, Mari Luz Martínez-Chantar, José M. Mato, Ibon Martínez-Arranz, Vincenzo La Mura, Virginia Hernández-Gea, Jaume Bosch, Juan Carlos García-Pagán, *Liver International*, Jan. 13, 2019  
| doi | abstract | pubmed |
- 2019 **Plasma miRNAs signature validation for early detection of colorectal cancer**, Marta Herreros-Villanueva, Saray Duran-Sanchon, Ana Carmen Martín, Rosa Pérez-Palacios, Elena Vila-Navarro, María Marcuello, Mireia Diaz-Centeno, Joaquín Cubiella, María Soledad Diez, Luis Bujanda, Angel Lanas, Rodrigo Jover, Vicent Hernández, Enrique Quintero, Juan José Lozano, Marta García-Cougil, Ibon Martínez-Arranz, Antoni Castells, Meritxell Gironella and Rocio Arroyo *Clinical and Translational Gastroenterology*, Jan. 10, 2019  
| doi | PMC | pdf |
- 2018** 2018 **Serum metabolites as diagnostic biomarkers for cholangiocarcinoma, hepatocellular carcinoma and primary sclerosing cholangitis**, Jesus M Banales, Mercedes Iñarrairaegui, Ander Arbelaiz, Piotr Milkiewicz, Jordi Muntane, Luis Muñoz-Bellvis, Adelaida La Casta, Luis M Gonzalez, Enara Arretxe, Cristina Alonso, Ibon Martínez-Arranz, Ainhoa Lapitz, Alvaro Santos-Laso, Matías A Ávila, María L Martínez-Chantar, Luis Bujanda, Jose J G Marín, Bruno Sangro, Rocío I R Macías, *Hepatology*  
| doi | pubmed |
- 2018 **Obeticholic Acid Modulates Serum Metabolites and Gene Signatures Characteristic of Human**

- NASH and Attenuates Inflammation and Fibrosis Progression in Ldlr<sup>-/-</sup>.Leiden Mice**, Martine C. Morrison, Lars Verschuren, Kanita Salic, Joanne Verheij, Aswin Menke, Peter Y. Wielinga, Marta Iruarizaga-Lejarreta, Laurent Gole, Wei-Miao Yu, Scott Turner, Martien P.M. Caspers, *Ibon Martínez-Arranz*, Elsbet Pieterman, Reinout Stoop, Arianne van Koppen, Anita M. van den Hoek, José M. Mato, Roeland Hanemaaijer, Cristina Alonso, Robert Kleemann, *Hepatology Communications*, Vol. 2, no. 12, 2018  
| [doi](#) | [abstract](#) | [pubmed](#) | [pdf](#) |
- 2018 **Anti-inflammatory and anti-fibrotic effects of obeticholic acid in Ldlr<sup>-/-</sup>.Leiden mice are paralleled by counterregulation of gene and metabolome signatures that are characteristic for human non-alcoholic steatohepatitis**, Martine Morrison, Lars Verschuren, Kanita Salic, Joanne Verheij, Aswin Menke, Peter Y Wielinga, Marta Iruarizaga-Lejarreta, Gole Laurent, Wei-Miao Yu, Scott Turner, Martien Caspers, *Ibon Martínez-Arranz*, Elsbet Pieterman, Reinout Stoop, Arianne van Koppen, Anita M van den Hoek, José M Mato, Roeland Hanemaaijer, Cristina Alonso, Robert Kleemann, *Translational Research*  
| [doi](#) | [abstract](#) | [pubmed](#) |
- 2018 **Targeted UPLC-MS metabolic analysis of human faeces reveals novel low-invasive candidate markers for colorectal cancer**, Joaquin Cubiella, Marc Clos-García, Cristina Alonso, *Ibon Martínez-Arranz*, Miriam Perez-Cormenzana, Ziortza Barrenetxea, Jesus Berganza, Isabel Rodríguez-Llopis, Mauro D'Amato, Luis Bujanda, Marta Diaz-Ondina, Juan M. Falcón-Pérez, *Cancers*  
| [doi](#) | [pubmed](#) | [PMC](#) |
- 2018 **Metabolomic-based noninvasive serum tests to diagnose nonalcoholic steatohepatitis: Results from discovery and validation cohorts**, Rebeca Mayo, Javier Crespo, *Ibon Martínez-Arranz*, Jesus M Banales, Mayte Arias, Itziar Mincholé, Rocío Aller de la Fuente, Raúl Jimenez-Agüero, Cristina Alonso, Daniel A de Luis, Libor Vitek, Jan Stritesky, Joan Caballería, Manuel Romero-Gómez, Antonio Martín-Duce, Jose Maria Mugüerza Huguet, José Ignacio Busteros-Buraza, Michael O. Idowu, Azucena Castro, M Luz Martínez-Chantar, Pablo Ortiz, Radan Bruha, Shelly C Lu, Pierre Bedossa, Mazen Nouredin, Arun J. Sanyal, José M Mato, *Hepatology Communications* 2018 Jul; 2(7): 807–820  
| [doi](#) | [pubmed](#) | [pdf](#) |
- 2018 **Use of a Metabolomic Approach to Non-invasively Diagnose Nonalcoholic Fatty Liver Disease in Patients with Type 2 Diabetes Mellitus**, Fernando Bril, Laura Millán, Srilaxmi Kalavalalli, Michael J. McPhaul, Michael P. Caulfield, *Ibon Martínez-Arranz*, Cristina Alonso, Pablo Ortíz Betes, José M Mato, Kenneth Cusi, *Diabetes, Obesity and Metabolism*  
| [doi](#) | [abstract](#) | [pubmed](#) | [pdf](#) |
- 2017 **Role of aramchol in steatohepatitis and fibrosis in mice**, Marta Iruarizaga-Lejarreta, Marta Varela-Rey, David Fernández-Ramos, *Ibon Martínez-Arranz*, Teresa C Delgado, Jorge Simon, Virginia Gutiérrez-de Juan, Laura delaCruz-Villar, Mikel Azkargorta, José L. Lavin, Rebeca Mayo, Sebastiaan M. Van Liempd, Igor Aurrekoetxea, Xabier Buqué, Donatella Delle Cave, Arantza Peña, Juan Rodríguez-Cuesta, Ana M. Aransay, Felix Elortza, Juan M. Falcón-Pérez, Patricia Aspichueta, Liat Hayardeny, Mazen Nouredin, Arun J. Sanyal, Cristina Alonso, Juan Anguita, María Luz Martínez-Chantar, Shelly C. Lu, and José M. Mato, *Hepatology Communications*, Volume 1, number 9, November 2017, Pages 911–927  
| [doi](#) | [abstract](#) | [html](#) | [pubmed](#) | [pdf](#) |
- 2017 **Serum extracellular vesicles contain protein biomarkers for primary sclerosing cholangitis and cholangiocarcinoma**, Ander Arbelaiz, Mikel Azkargorta, Marcin Krawczyk, Álvaro Santos-Laso, Ainhoa Lapitz, Maria J. Perugorria, Oihane Erice, Esperanza Gonzalez, Raúl Jimenez-Agüero, Adelaida Lacasta, César Ibarra, Alberto Sánchez-Campos, Juan P. Jimeno, Frank Lammert, Piotr Milkiewicz, Marco Marzoni, Rocio I.R. Macias, José J.G.María, Tushar Patel, Gregory J. Gores, *Ibon Martínez*, Félix Elortza, Juan M. Falcón-Pérez, Luis Bujanda, and Jesus M. Banales, *Hepatology*, Volume 66, issue 4, October 2017, Pages 1125–1143  
| [doi](#) | [pubmed](#) |
- 2017 **A Metabolomics Signature Linked To Liver Fibrosis In The Serum Of Transplanted Hepatitis C Patients**, Ainara Cano, Zoe Mariño, Oscar Millet, *Ibon Martínez-Arranz*, Miquel Navasa, Juan Manuel Falcón-Pérez, Miriam Pérez-Cormenzana, Joan Caballería, Nieves Embade, Xavier Forns, Jaume Bosch, Azucena Castro & José María Mato, *Scientific Reports* 7, article number: 10497.  
| [doi](#) | [pubmed](#) | [pdf](#) |
- 2017 **Metabolomic Identification of Subtypes of Nonalcoholic Steatohepatitis**, Alonso C, Fernández-Ramos D, Varela-Rey M, *Martínez-Arranz I*, Navasa N, Van Liempd SM, Lavin JL, Mayo R, Ilisso CP, de Juan VG, Iruarizaga-Lejarreta M, delaCruz-Villar L, Mincholé I, Robinson A, Crespo J, Martín-Duce A, Romero-Gomez M, Sann H, Platon J, Van Eyk J, Aspichueta P, Nouredin M, Falcón-Pérez JM, Anguita J, Aransay AM, Martínez-Chantar ML, Lu SC, Mato JM., *Gastroenterology*, Volume 152, issue 6, May 2017, Pages 1449–1461.e7  
| [doi](#) | [pubmed](#) | [pdf](#) |
- 2016 **Metabolically active extracellular vesicles released from hepatocytes under drug-induced liver-damaging conditions modify serum metabolome and might affect different pathophysiological**

- processes**, Felix Royo, Laura Palomo, Justyna Mleczko, Esperanza Gonzalez, Cristina Alonso, *Ibon Martínez-Arranz*, Miriam Pérez-Cormenzana, Azucena Castro, Juan M. Falcon-Perez, *European Journal of Pharmaceutical Sciences*, Volume 98, February 2017, Pages 51–57.  
| [doi](#) | [pubmed](#) |
- 2015**    2015    **Enhancing metabolomics research through data mining** *Martínez-Arranz, I.*, Mayo, R., Pérez-Cormenzana, M., Mincholé, I., Salazar, L., Alonso, C., José M Mato, *Journal of Proteomics*, Volume 127 (Part B), September 2015, Pages 275–288.  
| [doi](#) | [pubmed](#) |
- 2015    **Data in support of enhancing metabolomics research through data mining** *Martínez-Arranz, I.*, Mayo, R., Pérez-Cormenzana, M., Mincholé, I., Salazar, L., Alonso, C., José M Mato, *Data in Brief*, Volume 3, June 2015, Pages 155–164.  
| [doi](#) | [pubmed](#) | [pdf](#) | [web application](#) |
- 2013**    2013    **Excess S-adenosylmethionine reroutes phosphatidylethanolamine towards phosphatidylcholine and triglyceride synthesis**, Maite Martínez-Uña, Marta Varela-Rey, Ainara Cano, Larraitz Fernández-Ares, Naiara Beraza, Igor Aurrekoetxea, *Ibon Martínez-Arranz*, Juan L García-Rodríguez, Xabier Buqué, Daniela Mestre, Zigmund Luka, Conrad Wagner, Cristina Alonso, Richard H Finnell, Shelly C Lu, M Luz Martínez-Chantar, Patricia Aspichueta, José M Mato, *Hepatology*, Octubre de 2013. *HEPATOLOGY*, Vol. 58, No. 4, 2013  
| [doi](#) | [pubmed](#) | [pdf](#) |
- 2013    **Solute carrier family 2 member 1 (SLC2A1) is involved in the development of nonalcoholic fatty liver disease**, Vazquez-Chantada, M., Gonzalez-Lahera, A., *Martínez-Arranz, I.*, García-Monzon, C., Maria Regueiro, M., García-Rodríguez, J.L., Karin Anna Schlangen, Mendibil, I., Rodríguez-Ezpeleta, N., Lozano, J.L., Karina Banasik, Johanne M Justesen, Torben Joergensen, Daniel R Witte, Torsten Lauritzen, Torben Hansen, Oluf Pedersen, Nicolas Veyrie, Karine Clement, Joan Tordjman, Albert Tran, Yannik Le Marchand-Brustel, Xabier Buque, Aspichueta, P., Echevarria-Uraga, J.J., Martin-Duce, A., Caballería, J., Philippe Gual, Castro, A., Mato, J.M., Martínez-Chantar, M.L., Aransay, A.M., *Hepatology*, Febrero de 2013. *HEPATOLOGY*, Vol. 57, No. 2, 2013.  
| [doi](#) | [pubmed](#) |
- 2012**    2012    **Metabolic profile associated with alcoholic hepatitis and the response to treatment. Preliminary results**, Javier Michelena, Cristina Alonso, José Altamirano, *Ibon Martínez-Arranz*, Ramón Bataller, MariaLuz Martínez-Chantar, Azucena Castro, Jose M. Mato, Juan Caballería, *Journal of Hepatology*, Volume 56, Supplement 2, Pages S535–S536.  
| [doi](#) |
- 2012    **Obesity dependent metabolic signatures associated with nonalcoholic fatty liver disease progression**, Barr, J., Caballería, J., *Martínez-Arranz, I.*, Domínguez Díez, A., Alonso, C., Muntané, J., Pérez Cormenzana, M., García Monzón, C., Mayo, R., Martín Duce, A., Romero Gómez, M., Lo Iacono, O., Tordjman, J., Andrade, R.J., Pérez Carreras, M., le Marchand Brustel, Y., Tran, A., Fernández Escalante, C., Arévalo, E., García Unzueta, M., Clement, K., Crespo, J., Gual, P., Gómez Fleitas, M., Martínez Chantar, M.L., Castro, A., S.C. Lu, Vázquez Chantada, M., Mato, J.M., *Journal of Proteome Research*, Febrero de 2012. *J. Proteome Res.* 2012, 11, 2521–2532  
| [doi](#) | [pubmed](#) |
- 2011**    2011    **Unidad de Información sobre Pacientes Renales de la CAPV, 2009**, *Servicio Central de Publicaciones del Gobierno Vasco*, Depósito Legal: *Mayo de 2011*.
- 2009**    2009    **Unidad de Información sobre Pacientes Renales de la CAPV, 2008**, *Servicio Central de Publicaciones del Gobierno Vasco*, Depósito Legal: *BI-2458-09, Octubre de 2009*.
- 2009    **Unidad de Información sobre Pacientes Renales de la CAPV, 2007**, *Servicio Central de Publicaciones del Gobierno Vasco*, Depósito Legal: *BI-798-09, Abril de 2009*.
- 2008**    2008    **CERVANTES, Batería Magallanes de Evaluación de la Inteligencia**, COHS, Consultores en Ciencias Humanas, ISBN: 978-84-95180-17-9, Octubre de 2008.  
| [ISBN](#) |
- 2008    **SÓCRATES, Protocolo Magallanes de Evaluación de Variables Moduladoras del Éxito Escolar**, COHS, Consultores en Ciencias Humanas, ISBN: 978-84-95180-36-0, Diciembre de 2008.  
| [ISBN](#) |
- 2007**    2007    **Unidad de Información sobre Pacientes Renales de la CAPV, 2006**, *Servicio Central de Publicaciones del Gobierno Vasco*, Depósito Legal: *BI-1067-08, Octubre de 2007*.
- 2007    **Unidad de Información sobre Pacientes Renales de la CAPV, 2005**, *Servicio Central de Publicaciones del Gobierno Vasco*, Depósito Legal: *BI-2871-07, Octubre de 2007*.  
| [Web](#) |
- 2006**    2006    **Unidad de Información sobre Pacientes Renales de la CAPV, 2004**, *Servicio Central de Publicaciones*

- del Gobierno Vasco, Depósito Legal: BI-2020-06, Octubre de 2006.*
- 2006 **EMA-DDA, Escalas Magallanes de Detección de Problemas en el Desarrollo**, COHS, Consultores en Ciencias Humanas, ISBN: 978-84-95180-26-1, Octubre de 2006.  
| [ISBN](#) |
- 2006 **ESMIDAS, Escalas Magallanes de Identificación de Déficit de Atención en Niños, Adolescentes y Adultos**, COHS, Consultores en Ciencias Humanas, ISBN: 978-84-95180-32-2, Octubre de 2006.  
| [ISBN](#) |
- 2005 2005 **Escala Magallanes de Inteligencia para Niños: EMIN-6**, COHS, Consultores en Ciencias Humanas, ISBN: 978-84-95180-16-2, Agosto de 2005.  
| [ISBN](#) |
- 2005 **Unidad de Información sobre Pacientes Renales de la CAPV, 2003**, *Servicio Central de Publicaciones del Gobierno Vasco, Depósito Legal: BI-1240-05, Octubre de 2005.*
- 2005 **Ley de Benford o Ley del Primer Dígito Significativo**, Martínez Arranz, I., de la Torre Sebastián, L., *SIGMA: Revista de Matemáticas*, 26, pags 131-135 (ISSN 1311-7787), Mayo de 2005.  
| [pdf](#) |

**R&D****LIVERBIOMARK**

**Desarrollo de biomarcadores del grado de fibrosis hepática y del pronóstico de pacientes con enfermedades hepáticas avanzadas mediante el uso de herramientas metabolómicas**, Expediente: IPT-010000-2010-013, Organismo financiador: Ministerio de Ciencia e Innovación, Programa: INNPACTO.  
OWL, MD Renal, CIC bioGUNE y Ciberhed

**BIODETECT**

**Nuevas tecnologías de detección de biomarcadores**, Expediente: ER-2010/00032, Organismo financiador: Gobierno Vasco, Departamento de Industria, Comunicación y Turismo, Programa: ETORGAI.  
Consorcio

**OSALIVER**

**OSALIVER**, Expediente: AB-2011/00209, Organismo financiador: Gobierno Vasco, Departamento de Industria, Comunicación y Turismo, Programa: COMPITE.  
OWL

**LIPIDSCORE**

**Diseño y desarrollo de un kit para el estudio lipídico exhaustivo de muestras biológicas por espectrometría de masas**, Expediente: IG-2012-0000346, Organismo financiador: Gobierno Vasco, Departamento de Industria, Comunicación y Turismo, Programa: GAITEK 2012.  
OWL, MD Renal

**PROYECTO NAFLD**

**PROYECTO NAFLD**, Expediente: 6/12/72/2012, Organismo financiador: Diputación Foral de Bizkaia, Programa: COMPETIR (INNOVACIÓN).  
OWL

**PATENTS GRANTED  
AND PENDING****W02021028562**

**Lipid signatures for determining the outcome of embryo implantation during in vitro fertilization**, The present invention relates to new methods for predicting the outcome of in vitro fertilization (IVF) procedures, as well as selecting the subjects to undergo IVF treatments. It also relates to methods for selecting IVF treatments and decision-making in said treatments as well as wash solutions for use in the treatment of infertility.  
ID Patent: PCT/EP2020/072846

**W02018007511**

**Diagnostic methods based on lipid profiles**, The present invention relates to methods for the diagnosis of NAFLD in a subject, and for the differential diagnosis of NASH or steatosis in a subject suffering from NAFLD, based on the determination in a sample of metabolic markers, particularly lipid metabolic markers.  
ID Patent: EP16382320.6

**W02018007422**

**Identification of human Non-Alcoholic Fatty Liver Disease (NAFLD) subtypes**, The present invention is directed to a profiling method for subtypes in non-alcoholic fatty liver disease (NAFLD) patients and to diagnostic methods within those subtypes to discriminate non-alcoholic steatohepatitis (NASH) versus steatosis patients.  
ID Patent: EP16382319.8 |

**W02017055397**

**Metabolomic signature of diagnosis and disease progression in Non-Alcoholic Fatty Liver Disease (NAFLD)**, The present invention is directed to a diagnostic method for non-alcoholic fatty liver disease (NAFLD) and to a method for monitoring the progression of the disease based on the determination of the levels of different metabolites. The invention also provides a method for determining the efficacy of an NAFLD therapy and a method for identification of compounds suitable for the treatment of NAFLD.  
ID Patent: EP15382477.6



CONGRESS,  
CONFERENCES &  
SEMINARS

2021 2021

**Diagnostic performance of metabolomic test to detect nonalcoholic esteatohepatitis and significant fibrosis in patients at high risk of progressive fatty liver disease**, Rebeca Mayo, Paula Iruzubieta, Itziar Mincholé, Rocío Aller, Luis Ibañez-Samaniego, Javier Ampuero, Javier Abad, Rosa Martín-Mateos, María Teresa Arias-Loste, Agustín Albillos, Rafael Bañares, José Luis Calleja, Manuel Romero-Gomez, Pablo Ortiz, *Ibon Martínez-Arranz*, Javier Crespo, *The Liver Meeting 2021, Annual Meeting of the American Association for the Study of Liver Diseases, November 12-15, 2021. Hepatology, Volume 74, Number 1 (Suppl) | 949A | AASLD 2021 | ID: 1593 |*

2021

**Metabolic Subtypes of Nonalcoholic Fatty Liver Disease Patients Exhibit Distinctive cardiovascular Risk Profiles**, *Ibon Martínez-Arranz*, Chiara Bruzzzone, Rubén Gil-Redondo, Enara Arretxe, Marta Iruarizaga-Lejarreta, Maider Bizkarguenaga, Itziar Mincholé, David Fernández Ramos, Fernando Lopitz Otsoa, Rebeca Mayo, Nieves Embade, Elizabeth Newberry, Martine C. Morrison, Robert Kleemann, Libor Vitek, Radan Bruha, Rocío Aller, Javier Crespo, Manuel Romero Gomez, Jesus Maria Banales, Marco Arrese, Kenneth Cusi, Elisabetta Bugianesi, Samuel Klein, Mazen Nouredin, Shelly C. Lu, Quentin Anstee, Oscar Millet, Nicholas O Davidson, Cristina Alonso, José M. Mato, *The Liver Meeting 2021, Annual Meeting of the American Association for the Study of Liver Diseases, November 12-15, 2021. Hepatology, Volume 74, Number 1 (Suppl) | 966A | AASLD 2021 | ID: 1619 |*

2021

**Non-alcoholic fatty liver disease cardiovascular risk by metabolic subtype**, *Ibon Martínez-Arranz*, Chiara Bruzzzone, Rubén Gil-Redondo, Enara Arretxe, Marta Iruarizaga-Lejarreta, Maider Bizkarguenaga, Itziar Mincholé, David Fernández Ramos, Fernando Lopitz Otsoa, Rebeca Mayo, Nieves Embade, Elizabeth Newberry, Martine C. Morrison, Robert Kleemann, Libor Vitek, Radan Bruha, Rocío Aller, Javier Crespo, Manuel Romero Gomez, Jesus Maria Banales, Marco Arrese, Kenneth Cusi, Elisabetta Bugianesi, Samuel Klein, Mazen Nouredin, Shelly C. Lu, Quentin Anstee, Oscar Millet, Nicholas O Davidson, Cristina Alonso, José M. Mato, *Journal of Hepatology 2021 vol. 75(2) | S294-S803 | EASL ILC 2021 | ID: PO-916 |*

2021

**Serum metabolomics-based steatohepatitis score for the non-invasive identification of patients with non-alcoholic steatohepatitis (NASH) in multiethnic, including type 2 diabetes mellitus population** Pablo Ortiz, Itziar Mincholé, Rebeca Mayo, *Ibon Martínez-Arranz*, Jesus Maria Banales, Marco Arrese, Javier Crespo, Paula Iruzubieta, Libor Vitek, Radan Bruha, Manuel Romero Gomez, Cristina Alonso, Kenneth Cusi, Mazen Nouredin, José M. Mato, Arun Sanyal, *Journal of Hepatology 2021 vol. 75(2) | S294-S803 | EASL ILC 2021 | ID: PO-1518 |*

2021

**Metabolomic predictive models in the diagnosis of drug-induced liver injury** Daniel E. Di Zeo-Sánchez, M. Robles-Díaz, *Ibon Martínez-Arranz*, Inmaculada Medina-Caliz, Aida Ortega-Alonso, Miren García Cortes, Jose Pinazo Bandera, J. Sanabria-Cabrera, Enrique del Campo Herrera, Rocío González-Grande, Miguel Jiménez, Maria Isabel Lucena, Raul J. Andrade, *Journal of Hepatology 2021 vol. 75(2) | S294-S803 | EASL ILC 2021 | ID: PO-1335 |*

2020 2020

**NAFLD subtypes with impaired VLDL secretion segregate with cardiovascular and cancer risk factors** Chiara Bruzzzone, Mazen Nouredin, *Ibon Martínez-Arranz*, Marta Iruarizaga-Lejarreta, Ruben Gil-Redondo, Elizabeth P. Newberry, Enara Arretxe, Maider Bizkarguenaga, Borja Lanza, Nieves Embade, Itziar Mincholé, Rebeca Mayo, David Fernández-Ramos, Fernando Lopitz-Otsoa, Óscar Millet, Nicholas O Davidson, Cristina Alonso, Shelly C Lu, Jose M Mato, *The Liver Meeting 2020, Annual Meeting of the American Association for the Study of Liver Diseases, November 12-15, 2021. Hepatology, vol. 72, | 1729A | Supplementary | ID: 1729 |*

2020

**The serum-based Metabolomics Advanced StEatohepatits Fibrosis Score (MASEF) for the non-invasive identification of patients with NASH and significant fibrosis**, M. Nouredin, R. Mayo, *I. Martínez-Arranz*, I. Mincholé, K. Cusi, F. Bril, J. Banales, M. Arrese, J. Crespo, P. Iruzubieta, L. Valenti, A. Martín-Duce, L. Vitek, R. Bruha, E. Mena, M. Romero-Gómez, C. Alonso, P. Ortiz, J. Dufour, Q. Anstee, J. Mato, A. Sanyal, *The Liver Meeting 2020, Annual Meeting of the American Association for the Study of Liver Diseases, November 12-15, 2021. Hepatology, vol. 72, | 948A | Supplementary | ID: 1560 |*

2020

**Utilidad Clínica de un método no invasivo para el diagnóstico de hígado graso no alcohólico y esteatohepatitis en diabetes tipo 2**, Virginia Bellido, *Ibon Martínez-Arranz*, Antonio J. Amor, Jose Javier Pi, Pedro Gil, Olga González, Sonia Gaztambide,

- SED, Sociedad Española de Diabetes, Madrid, Spain, April 22-24, 2020  
| [web](#) |
- 2020 **Serum metabolic biomarkers for the differential diagnosis of distal cholangiocarcinoma and pancreas ductal adenocarcinoma**, Ana Peleteiro Vigil Jesus M. Banales, Maria Laura Gutierrez, Ainhoa Lapitz, Luis Muñoz-Bellvis, Adelaida La Casta, Enara Arretxe, Cristina Alonso, *Ibon Martínez-Arranz*, Luis M. Gonzalez, Rui E. Castro, Matías A Avila, María Luz Martínez-Chantar, Maria Serrano, Luis Bujanda, Jose Marin, Rocio IR Macias,  
*Liver Cancer Summit 2020, Prague, Czech Republic, February 6-8, 2020*  
| [web](#) |
- 2019 **Obese patients carrying NAFLD-associated genetic variants present specific serum and liver lipidomic profiles: Identification of a lipidomic signature in serum to estimate the liver fat content**, Alvaro Santos-Laso, Leyre Velaz, Cristina Alonso, Emma Eizaguirre, *Ibon Martínez-Arranz*, Maria Jesus Pareja, Ioana Riaño, Jesper Andersen, Enara Arretxe, Itziar Mincholé, Pablo Ortiz, Maria Jesus Perugorria, Ana Landa, Marcin Krawczyk, Frank Lammert, Rui Eduardo Castro, Patricia Aspichueta, Manuel Romero-Gomez, Luis Bujanda, Pedro Miguel Rodrigues and Jesus Banales,  
*The Liver Meeting 2019, The 70th Annual Meeting of the American Association for the Study of Liver Diseases, Boston, (EEUU), November 8-12, 2019.*  
| AASLD Foundation Abstract Award Recipient | ID: 260 |
- 2019 **Non-invasive serum lipidomic approach to discriminate non-alcoholic steatohepatitis in multiethnic patients with type 2 Diabetes Mellitus**, *Ibon Martínez-Arranz*, Rebeca Mayo, Jesus Banales, Itziar Mincholé, Pablo Ortiz, Fernando Bril, Marco Arrese, Javier Crespo Garcia, Cristina Alonso, Jose M. Mato and Kenneth Cusi,  
*The Liver Meeting 2019, The 70th Annual Meeting of the American Association for the Study of Liver Diseases, Boston, (EEUU), November 8-12, 2019.*  
| ID: 1714 |
- 2019 **Serum metabolites as diagnostic biomarkers for Cholangiocarcinoma, Hepatocellular Carcinoma and Primary Sclerosing Cholangitis**, J.M. Banales, M. Iñarrairaegui, A. Arbelaiz, P. Milkiewicz, J. Muntane A. La Casta, L. Muñoz-Bellvis, L.M. Gonzalez, E. Arretxe, C. Alonso, *I. Martínez-Arranz*, A. Lapitz, A. Santos-Laso, M.A. Avila, M.L. Martinez-Chantar, L. Bujanda, J.J.G. Marin, B. Sangro, R.I.R. Macias,  
*The International Liver Congress™, Vienna, Austria, 10-14 April, 2019.*
- 2018 **Targeted UPLC-MS metabolomic analysis of human faeces reveals novel low-invasive candidate markers for colorectal cancer**, Cubiella J., Clos-Garcia M., Alonso C., *Martínez-Arranz I.*, Pérez-Cormenzana M., Cabrera D., Barrenetxea Z., Berganza J., Rodríguez-Llopis I., D'Amato M., Bujanda Fernández de Piérola L., Díaz-Ondina M., Falcón-Pérez J.M.,  
*UEG Week 2018, Vienna, Austria, October 20-24, 2018.*  
| [web](#) |
- 2018 **Application of a Non-Invasive Integrated Screening Algorithm to Improve Enrollment in NAFLD/NASH Clinical Trials**, Gerardo Rodríguez-Araujo, Moises Hernandez, Linda Morrow, Laura Millán, *Ibon Martínez-Arranz*, Marcus Hompesch,  
*2nd Annual NASH Summit, Boston, MA, 23-25 April, 2018.*  
| [web](#) |
- 2018 **Targeting the NAFLD metabolome and the shaping of precision medicine for patients with NASH**, M. Iruarizaga-Lejarreta, *I. Martínez-Arranz*, M.C. Morrison, M. Varela-Rey, D.F. Ramos, L. Delacruz-Villar, M. Nouredin, M.L.Martínez-Chantar, R.Kleemann, C.Alonso, S.C.Lu, J.M.Mato,  
*The International Liver Congress™, Paris, France, 11-15 April, 2018.*  
| [web](#) | ID: THU-516 |
- 2017 **Application of a non-invasive integrated screening approach to facilitate enrollment of clinical trials with investigational NAFLD/NASH therapeutics**, Gerardo Rodríguez-Araujo, Moises Hernández, Christian Weyer, Linda Morrow, Laura Millán, *Ibon Martínez-Arranz*, Marcus Hompesch,  
*EASL, First NAFLD Summit, Rome, Italy, 09-11 November 2017.*  
| [web](#) | [pdf](#) | ID: P03-05 |
- 2017 **Metabolomics approach addresses the heterogeneity of NAFLD and determines subtypes associated with different metabolic alterations**, Marta Iruarizaga-Lejarreta, Marta Varela-Rey, David Fernández-Ramos, *Ibon Martínez-Arranz*, Laura delaCruz-Villar, Rebeca Mayo, Arantza Peña, Juan Rodríguez-Cuesta, Liat Hayardeny, Mazen Nouredin, Cristina Alonso, Juan Anguita, María Luz Martínez-Chantar, Shelly C Lu, José M Mato,  
*The Liver Meeting 2017, The 68th Annual Meeting of the American Association for the Study of Liver Diseases, Washington DC, (EEUU), October 20-24, 2017.*
- 2017 **Serum extracellular vesicles contain protein biomarkers for primary sclerosing cholangitis (PSC), cholangiocarcinoma (CCA) and hepatocellular carcinoma (HCC)**, Ander Arbelaiz, Mikel Azkargorta, Marcin Krawczyk, Alvaro Santos-Laso, Ainhoa Lapitz, Maria J. Perugorria, Oihane Erice, Esperanza Gonzalez, Raul Jimenez-Agüero, Adelaida Lacasta, Cesar Ibarra, Alberto Sanchez-Campos, Juan P. Jimeno, Frank Lammert, Piotr Milkiewicz, Marco Marzoni, Rocio I.R. Macias, Jose J. G. Marin, Tushar Patel, Gregory J. Gores, *Ibon Martinez*, Félix Elortza, Juan M. Falcón-Pérez, Luis Bujanda, and Jesus M. Banales,

- The Liver Meeting 2017, The 68th Annual Meeting of the American Association for the Study of Liver Diseases, Washington DC, (EEUU), October 20-24, 2017.*
- 2017 **A precision medicine approach to comprehensive NAFLD diagnosis through liquid biopsy metabolomics**, Ortiz P, Puri P, *Martínez-Arranz I*, Mincholé I, Idowu M, Arribas J, Lanza B, Dufour J, Mayo R, Romero-Gómez M, Bruha R, Crespo J, Banales J, García-Monzón C, Martín-Duce A, Alonso C, Noureddin M, Bedossa P, Sanyal AJ, Mato JM, *ICFL 2017, 1st International Conference Fatty Liver, Sevilla (Spain), June 1-3, 2017.*  
| [web](#) | ID: ICFL7-0066 |
- 2017 **Benefits of weight loss and mediterranean diet adherence in the evolution of nonalcoholic fatty liver disease. Utility of noninvasive lipidomic test for diagnosis**, Miriam Pérez-Cormenzana, *Ibon Martínez-Arranz*, María Concepción García, Itziar Mincholé, Natalia Mora, Borja Lanza, David Primo, Beatriz Antolín, Jessica Arribas, Cristina Alonso, Rocío Aller, *ICFL 2017, 1st International Conference Fatty Liver, Sevilla (Spain), June 1-3, 2017.*  
| [web](#) | ID: ICFL7-0069 |
- 2017 **Prevalence of nonalcoholic fatty liver disease (NAFLD) in a healthy adult population, using two lipidomic diagnostic methods**, García W, Mayo R, Gil-Aldea I, Cemborain A, Purroy A, Huarte MP, Uriz J, Zozaya JM, Mincholé I, *Martínez-Arranz I*, Lanza B, Arribas J, Vadillo A, Castro A, Ortiz P, *ICFL 2017, 1st International Conference Fatty Liver, Sevilla (Spain), June 1-3, 2017.*  
| [web](#) | ID: ICFL7-0070 |
- 2017 **Comprehensive NAFLD diagnosis based on a noninvasive metabolomic approach in a liquid biopsy**, Puneet Puri, *Ibon Martínez-Arranz*, Itziar Mincholé, Michael O. Idowu, Rebeca Mayo, Jean-François Dufour, Manuel Romero-Gómez, Radan Bruha, Javier Crespo, Jesus M. Banales, Carmelo García-Monzón, Antonio Martín-Duce, Cristina Alonso, Pablo Ortiz, Mamen Noureddin, Shelly C. Lu, Pierre Bedossa, Arun J. Sanyal, José M. Mato, *The International Liver Congress™, Amsterdam, the Netherlands, 19-23 April.*
- 2017 **Noninvasive serum biomarkers reflect the effect of aramchol on mice fibrotic livers**, Marta Iruarrizaga-Lejarreta, Laura delaCruz-Villar, Marta Varela-Rey, Rebeca Mayo, *Ibon Martínez-Arranz*, David Fernández-Ramos, Liat Hayardeny, Cristina Alonso, Juan Anguita, M. Luz Martínez-Chantar, José M Mato, *The International Liver Congress™, Amsterdam, the Netherlands, 19-23 April, 2017.*
- 2017 **Serum extracellular vesicles contain protein biomarkers for primary sclerosing cholangitis and cholangiocarcinoma**, Ander Arbelaiz, Mikel Azkargorta, Marcin Krawczyk, Alvaro Santos-Laso, Ainhoa Lapitz, Maria J. Perugorria, Oihane Erice, Esperanza Gonzalez, Raul Jimenez-Agüero, Adelaida Lacasta, Cesar Ibarra, Alberto Sanchez-Campos, Juan P. Jimeno, Frank Lammert, Piotr Milkiewicz, Marco Marzioni, Rocío I.R. Macias, Jose J. G. Marin, Tushar Patel, Gregory J. Gores, *Ibon Martínez*, Félix Elortza, Juan M. Falcón-Pérez, Luis Bujanda, and Jesus M. Banales, *The International Liver Congress™, Amsterdam, the Netherlands, 19-23 April, 2017.*
- 2017 **Metabolomics, Development of Metabolome-based predictors of liver diseases**, Cristina Alonso, Enara Arretxe, Marta Iruarrizaga-Lejarreta, Itziar Mincholé, Rubén Gil-Redondo, *Ibon Martínez-Arranz*, *VALDIG Conference, Ascona (Switzerland), 19-22 February, 2017.*  
| [poster](#) | [web](#) |
- 2017 **Diagnóstico y monitorización de hígado graso mediante métodos no invasivos: Correlación entre una nueva huella lipidómica en suero y cantidad de grasa hepática medida por resonancia magnética y por métodos bioquímicos**, Raul Jiménez-Agüero, Enara Arretxe, *Ibon Martínez-Arranz*, Luis Bujanda, Jessica Arribas, Borja Lanza, Maria Jesús Pareja-Megía, Manuel Romero-Gómez, Cristina Alonso, María J Perugorria, Emma Eizaguirre, Marcin Krawczyk, Frank Lammert, Azucena Castro, Jesus M Banales, *42º congreso Anual de la AEHH, Madrid, 15-17 de Febrero de 2017.*  
| [web](#) |
- 2017 **Serum extracellular vesicles contain protein biomarkers for primary sclerosing cholangitis and cholangiocarcinoma**, Ander Arbelaiz, Mikel Azkargorta, Marcin Krawczyk, Alvaro Santos-Laso, Ainhoa Lapitz, Maria J. Perugorria, Oihane Erice, Esperanza Gonzalez, Raul Jimenez-Agüero, Adelaida Lacasta, Cesar Ibarra, Alberto Sanchez-Campos, Juan P. Jimeno, Frank Lammert, Piotr Milkiewicz, Marco Marzioni, Rocío I.R. Macias, Jose J. G. Marin, Tushar Patel, Gregory J. Gores, *Ibon Martínez*, Félix Elortza, Juan M. Falcón-Pérez, Luis Bujanda, and Jesus M. Banales, *42º congreso Anual de la AEHH, Madrid, 15-17 de Febrero de 2017.*  
| [web](#) |
- 2016 **OWL Stat App - Una aplicación web para el análisis univariante y multivariante de datos metabolómicos**, *Ibon Martínez-Arranz*, Itziar Mincholé, Maite Gutiérrez-Calzada, Cristina Alonso, *VIII Jornadas de Usuarios de R, Albacete, 17-18 de Noviembre, 2016.*  
| [poster](#) | [web](#) |
- 2016 **Metabolomics in a liquid biopsy provides a noninvasive comprehensive NAFLD-diagnostic tool**, Cristina Alonso, Puneet Puri, *Ibon Martínez-Arranz*, Jesús Bañales, Michael O. Idowu, Azucena Castro, Collaborative Group NASH metabolomics, Mazen Noureddin, Pierre Bedossa, José M. Mato, Arun J. Sanyal, *The 67th Annual Meeting of the American Association for the Study of Liver Diseases (AASLD), Boston, MA, United States on November 11-15, 2016.*
- 2016 **A non-invasive lipidomic test accurately discriminates NASH from steatosis and tracks evolution of the disease**, Miriam Perez-Cormenzana, M Concepción García, Beatriz Antolin, Natalia

- Mora, Ibon Martínez-Arranz, De Luis D. Román, Cristina Alonso, Rocío Aller, *The 67th Annual Meeting of the American Association for the Study of Liver Diseases (AASLD), Boston, MA, United States on November 11-15, 2016.*  
| [web](#) | ABSTRACT FINAL ID: 1108 |
- 2016 **Metabolomic classification of murine and human nonalcoholic fatty liver disease**, Cristina Alonso, Jose L. Lavin, Marta Iruarizaga-Lejarreta, David Fernández, Sebastiaan van Liempd, Laura delaCruz-Villar, Nicolás Navasa, Ibon Martínez-Arranz, Igor Aurrecoechea, Xavier Buqué, Marta Varela, Juan M. Falcon-Perez, Elizabeth P. Newberry, Patricia Aspichueta, Ana M. Aransay, Mazen Noureddin, Juan Anguita, Nicholas O. Davidson, Maria L. Martinez-Chantar, Shelly C. Lu, José Mato, *The 67th Annual Meeting of the American Association for the Study of Liver Diseases (AASLD), Boston, MA, United States on November 11-15, 2016.*  
| [web](#) | ABSTRACT FINAL ID: 1603 |
- 2016 **Translational approach to NASH diversity: learning from mouse models**, Cristina Alonso, Marta Iruarizaga-Lejarreta, Laura delaCruz-Villar, Itziar Mincholé, Ibon Martínez-Arranz, José M Mato, *Translational research in cancer cell metabolism, from 4-6 October 2016 in Bilbao, Spain*  
| [web](#) |
- 2016 **A non-invasive lipidomic test accurately discriminates NASH from steatosis: A blind validation study**, Javier Crespo, Ibon Martínez-Arranz, Tim Montgomery, Manuel Romero-Gómez, Rebeca Mayo, Rocío Aller de la Fuente, Joan Caballería, Daniel A. de Luis, Cristina Alonso, Libor Vitek, Radan Bruha, Pablo Ortiz, *1st International Workshop on NASH Biomarkers, 29-30 April 2016, Washington, DC, USA*  
| [web](#) |
- 2016 **Clinical validation of non-invasive lipidomic test for the diagnosis of Non-Alcoholic Fatty Liver Disease (NAFLD)**, Patricia Salvador, Sonia Blanco, Nahikari Maria Irazabal-Remuiñan, Ibon Martínez-Arranz, Luis Francisco Eraña-Ledesma, Itziar Mincholé, Fernando Menéndez, Rebeca Mayo, Pablo Ruiz, Raquel González-Monasterio, Elvira Delgado, Juan Ignacio Arenas, Maider Martos, Antxon Otegui, Gixane Arregui, María Carmen Eizmendi, Sagrario Urquiola, Ricardo San Vicente, Azucena Castro, Pablo Ortiz, Jose Ignacio Pijoán, Javier Bustamante, *EASL, European Association for the Study of the Liver 2016, Barcelona, April 13-17, 2016.*  
| [poster](#) |
- 2016 **A non-invasive lipidomic test accurately discriminates NASH from steatosis: A blind validation study**, Javier Crespo, Ibon Martínez-Arranz, Manuel Romero-Gómez, Rebeca Mayo, Rocío Aller de la Fuente, Joan Caballería, Cristina Alonso, Libor Vitek, Pablo Ortiz, Radan Bruha, *EASL, European Association for the Study of the Liver 2016, Barcelona, April 13-17, 2016.*
- 2016 **Validación del test OWLiver de segunda generación, un test lipidómico no invasivo para el seguimiento de la enfermedad de hígado graso**, María Teresa Arias-Loste, Paula Iruzubieta, Antonio Cuadrado, Emilio Fábrega, Ibon Martínez-Arranz, Azucena Castro, Will García, Javier Crespo, *41º Congreso Anual de la AEHH, Madrid, 17-19 de Febrero de 2016.*
- 2016 **Evaluación prospectiva en ciego del test lipidómico OWLiver como diagnóstico de enfermedad hepática grasa no alcohólica**, R., Aller, C. Alonso, Ibon Martínez-Arranz, MC., García, E., Berroa, C. Tafur, N., Mora, G. González, S. Lorenzo, DA., de Luis, *41º Congreso Anual de la AEHH, Madrid, 17-19 de Febrero de 2016.*
- 2016 **A novel non-invasive lipidomic test for the diagnosis and follow-up of NAFLD patients**, R. González-Monasterio, P. Salvador, Ibon Martínez-Arranz, N.M. Irazabal-Remuiñan, L.F. Eraña-Ledesma, I. Mincholé, S. Blanco, P. Ruiz, F. Menéndez, R. Mayo, Will García, E. Delgado, J.I. Arenas, M. Martos, A. Otegui, G. Arregui, M.C., Eizmendi, S. Urquiola, R. San Vicente, A. Castro, P. Ortiz, J.I. Pijoán, J. Bustamante, *XXV Congrés de la Societat Catalana de Digestologia, Reus, 30 de Enero, 2016.*
- 2015 2015 **Subtyping nonalcoholic steatohepatitis for the development of effective treatments**, Ibon Martínez-Arranz, Cristina Alonso, David Fernández, Rebeca Mayo, Marta Varela, Mazen Noureddin, Maria L. Martinez-Chantar, Shelly C. Lu, Azucena Castro, Jose M. Mato, *The Liver Meeting 2015, The 66th Annual Meeting of the American Association for the Study of Liver Diseases, San Francisco, CA (EEUU), November 13-17, 2015.*, Hepatology, Volume 62, Number 1 (Suppl) – October 2015, Pages 93A-207A.  
| [doi](#) |
- 2015 **S-Adenosylmethionine Treatment Corrects Deregulated Lipid Metabolic Pathways and Prevents Progression of Non-Alcoholic Steatohepatitis in Methionine Adenosyltransferase 1a Knockout Mice**, David Fernández, Cristina Alonso, Sebastiaan van Liempd, Marta Varela, Nicolás Navasa, Ibon Martínez-Arranz, Patricia Aspichueta, Ana M. Aransay, Juan Anguita, Juan M. Falcón-Perez, Maria L. Martinez-Chantar, Shelly C. Lu, Jose M. Mato, *The Liver Meeting 2015, The 66th Annual Meeting of the American Association for the Study of Liver Diseases, San Francisco, CA (EEUU), November 13-17, 2015.*, Hepatology, Volume 62, Number 1 (Suppl) – October 2015, Pages 93A-207A.  
| [doi](#) |
- 2015 **The lipidomic signature of disease progression in nonalcoholic fatty liver disease (NAFLD)**, Cristina Alonso, Amon Asgharpour, Ibon Martínez-Arranz, Puneet Puri, Mohammad S. Siddiqui, Pablo Ortiz, Jose M. Mato, Arun J. Sanyal, *The Liver Meeting 2015, The 66th Annual Meeting of the American Association for the Study of Liver Diseases, San Francisco, CA (EEUU), November 13-17, 2015.*,

- Hepatology, Volume 62, Number 1 (Suppl) – October 2015, Page 1262A.  
| [poster](#) |
- 2015 **The metabolic structure of nonalcoholic steatohepatitis**, Cristina Alonso, David Fernandez-Ramos, *Ibon Martínez-Arranz*, David Balgoma, Sebastiaan M van Liempd, Mazen Noureddin, Patricia Aspichueta, M Luz Martínez-Chantar, Shelly C Lu, José M Mato, *Metabolomics 2015, Burlingame, San Francisco Bay, CA (EEUU), June 29-July 2, 2015*.  
| [web](#) |
- 2015 **OWL Stat App - An interactive web-application for univariate and multivariate metabolomics data analysis**, *Ibon Martínez-Arranz*, Maite Gutiérrez-Calzada, David Balgoma, Cristina Alonso, *Metabolomics 2015, Burlingame, San Francisco Bay, CA, June 29-July 2, 2015*.  
| [poster](#) | [web](#) |
- 2015 **OWL Stat App - An interactive web-application for univariate and multivariate metabolomics data analysis**, *Ibon Martínez-Arranz*, Maite Gutiérrez-Calzada, David Balgoma, Cristina Alonso, *Science+, Encuentro para estudiantes y profesionales de la Ciencia, Bilbao, 7-9 de Mayo de 2015*.
- 2015 **Lipidomic signature linked to alcoholic hepatitis: characterization of ether-linked glycerophospholipids**, Cristina Alonso, Javier Michelena, Ainara Cano, Jose Altamirano, *Ibon Martínez-Arranz*, David Balgoma, Ramón Bataller, Jose M. Mato, Juan Caballería, *Science+, Encuentro para estudiantes y profesionales de la Ciencia, Bilbao, 7-9 de Mayo de 2015*.
- 2015 **Identification of serum metabolites associated with cholestatic pruritus**, Albert Parés, David Balgoma, Anna Reig, *Ibon Martínez-Arranz*, Azucena Castro, Antoni Mas, *EASL, European Association for the Study of the Liver 2015, Vienna, Abril de 2015*  
Journal of Hepatology, Volume 62, S787–S788.
- 2015 **A metabolic definition of NASH and its resolution by S-Adenosylmethionine in Mat1a KO mice**, José M Mato, David Fernandez-Ramos, *Ibon Martínez-Arranz*, Rebeca Mayo, Sebastiaan M van Liempd, Holger Sann, Julian Platon, Mazen Noureddin, Patricia Aspichueta, Cristina Alonso, M Luz Martínez-Chantar, Shelly C Lu, *EASL, European Association for the Study of the Liver 2015, Vienna, Abril de 2015*  
Journal of Hepatology, Volume 62, Page S717.  
| [doi](#) |
- 2015 **A metabolic definition of NASH and its resolution by S-Adenosylmethionine in Mat1a KO mice**, David Fernandez-Ramos, *Ibon Martínez-Arranz*, Rebeca Mayo, Sebastiaan M van Liempd, Holger Sann, Julian Platon, Mazen Noureddin, Patricia Aspichueta, Cristina Alonso, M Luz Martínez-Chantar, Shelly C Lu, José M Mato, *Liver Metabolism and Nonalcoholic Fatty Liver Disease, Whistler, British Columbia, Canada, Marzo de 2015*.
- 2015 **Incidence of non-alcoholic fatty liver disease in non-obese and non-diabetic individuals during normal aging**, Pablo Ortiz, Rebeca mayo, Miriam Pérez-Cormenzana, *Ibon Martínez-Arranz*, M.L. Martínez-Chantar, S.C. Lu, J.M. Mato, *Industry Colloquium: Novel Targets and Therapies in Liver Disease, Durham, North Carolina, March 20-21, 2015*.  
| [poster](#) |
- 2014 2014 **Lipidomic signature linked to alcoholic hepatitis: characterization of ether-linked glycerophospholipids**, Cristina Alonso, Javier Michelena, Ainara Cano, Jose Altamirano, *Ibon Martínez-Arranz*, David Balgoma, Ramón Bataller, Jose M. Mato, Juan Caballería, *Metabomeeting 2014, London, Septiembre de 2014*.  
| [poster](#) |
- 2014 **Deciphering non alcoholic fatty-liver disease lipidomic fluxes**, Ainara Cano, Cristina Alonso, Miriam Pérez-Cormenzana, Rebeca Mayo, *Ibon Martínez-Arranz*, Azucena Castro, *Biochemical Society, Advancing Molecular Bioscience, Abruzzo (Italy), Mayo de 2014*.  
| [abstract](#) | [web](#) | Reference ID: P010 |
- 2014 **The adipogenic lipidome of obese rat offspring is reversed by slow digesting carbohydrate diets during pregnancy. NIGOhealth study**, López-Pedrosa J.-M., Manzano M., Martin M.-J., Bueno P., Cano A., Castro A., Mayo R., *Martínez I.*, Rueda R., *International Conference on Developmental Origins of Adiposity and Long-term Health, Munich (Alemania), Marzo de 2014*.  
| [web](#) |
- 2013 2013 **The signature biomarkers serum lipids of alcoholic steatohepatitis**, Cristina Alonso, Javier Michelena, *Ibon Martínez-Arranz*, Jose Altamirano, Rebeca Mayo, Ramón Bataller, Jose M. Mato, Juan Caballería, *The Liver Meeting 2013, The 64nd Annual Meeting of the American Association for the Study of Liver Diseases, Washington (EEUU), Noviembre de 2013*.
- 2013 **El exceso de S-adenosilmetionina deriva la fosfatidiletanolamina hacia la síntesis de fosfatidilcolina y de triglicéridos**, Maite Martínez Uña, Marta Varela-Rey, Ainara Cano, Larraitz Fernández-Ares, Naiara Beraza, Igor Aurrekoetxea, *Ibon Martínez-Arranz*, Juan L García-Rodríguez, Xabier Buqué, Daniela Mestre, Zigmund Luka, Conrad Wagner, Cristina Alonso, Richard H Finnell, Shelly C Lu, M Luz Martínez-Chantar, Jose M Mato, Patricia Aspichueta, *XXXVI Congreso de la Sociedad Española de Bioquímica y Biología Molecular, Madrid, Septiembre de 2013*.
- 2013 **Signature lipid biomarker analysis of non-alcoholic liver disease**, Cristina Alonso, *Ibon Martínez-Arranz*, Rebeca Mayo, Miriam Pérez-Cormenzana, Ainara Cano, Joan Caballería, Azucena Castro, *9th Annual Conference of the Metabolomics Society, Glasgow (Scotland), Julio de 2013*



| [poster](#) |

- 2012** 2012 **Metabolic profile associated with alcoholic hepatitis and the response to treatment. Preliminary results**, Javier Michelena, Cristina Alonso, José Altamirano, *Ibon Martínez-Arranz*, Ramón Bataller, MaríaLuz Martínez-Chantar, Azucena Castro, Jose M. Mato, Juan Caballería, *The Liver Meeting 2012, The 63rd Annual Meeting of the American Association for the Study of Liver Diseases, Boston, Massachusetts (EEUU), Noviembre de 2012.*  
| Reference ID: 1363 |
- 2012 **Lipidomic Profiling of Dried Serum Spots (DSS)**, Mayo, R., *Martínez-Arranz, I.*, Ispizua, Z., Alonso, C., Tandrón, Y., Pérez-Cormenzana, M., *2nd Metabolomics & Proteomics Workshop 2012, CIC bioGune, Bilbao, Spain, October, 1-3rd 2012, Bilbao (España), Octubre 2012.*  
| [poster](#) |
- 2012 **Software Tools for UPLC-MS Metabolomics**, Mincholé, I., *Martínez-Arranz, I.*, Falcón, JM., Tandrón, Y., *2nd Metabolomics & Proteomics Workshop 2012, CIC bioGune, Bilbao, Spain, October, 1-3rd 2012, Bilbao (España), Octubre 2012.*  
| [poster](#) |
- 2012 **Lipidomic Profiling of Dried Serum Spots (DSS)**, Mayo, R., *Martínez-Arranz, I.*, Ispizua, Z., Alonso, C., Tandrón, Y., Pérez-Cormenzana, M., *Metabomeeting 2012, Manchester (UK), Septiembre 2012.*  
| [poster](#) |
- 2012 **Utilidad de la metabolómica para establecer la gravedad y predecir la respuesta al tratamiento en la hepatitis alcohólica. Resultados preliminares**, Michelena, J., Alonso, C., Barr, J., Altamirano, J., *Martínez-Arranz, I.*, Bataller, R., Martínez Chantar, M.L., Castro, A., Mato, J.M., Caballería, J., *XXXVII Congreso Anual de la Asociación Española para el Estudio del Hígado (AEEH), Madrid (España), Febrero 2012.*
- 2012 **Perfiles metabólicos dependientes de la obesidad asociados a la progresión del hígado graso no alcohólico**, Barr, J., Caballería, J., *Martínez-Arranz, I.*, Domínguez-Díez, A., Muntané, J., Pérez-Cormenzana, M., García-Monzón, C., Mayo, R., Martín-Duce, A., Romero-Gómez, M., Lo Iacono, O., Clément, K., Andrade, R., Pérez-Carreras, M., Gual, P., Fernández-Escalante, C., Arévalo, E., García-Unzueta, M.T., Tordjman, J., Crespo, J., le Marchand Brustel, Y., Gómez Fleitas, M., Martínez Chantar, M.L., Castro, A., S.C. Lu, Alonso, C., Vázquez Chantada, M., Mato, J.M., *XXXVII Congreso Anual de la Asociación Española para el Estudio del Hígado (AEEH), Madrid (España), Febrero 2012.*
- 2011** 2011 **The development of metabolome-based predictors of nonalcoholic fatty liver disease**, Barr, J., Caballería, J., *Martínez Arranz, I.*, Domínguez Díez, A., Alonso, C., Muntané, J., Pérez Cormenzana, M., García Monzón, C., Mayo, R., Martín Duce, A., Romero Gómez, M., Lo Iacono, O., Tordjman, J., Andrade, R.J., Pérez Carreras, M., le Marchand Brustel, Y., Tran, A., Fernández Escalante, C., Arévalo, E., García Unzueta, M., Clement, K., Crespo, J., Gual, P., Gómez Fleitas, M., Martínez Chantar, M.L., Castro, A., S.C. Lu, Vázquez Chantada, M., Mato, J.M., *7th Annual Advances in Metabolic Profiling conference and exhibition, Dublin (Ireland), Noviembre de 2011.*  
| [poster](#) | Poster Award Winner |
- 2011 **Metabolic profiling as noninvasive tool for nonalcoholic steatohepatitis diagnosis**, Barr, J., Caballería, J., *Martínez Arranz, I.*, Domínguez Díez, A., Alonso, C., Muntané, J., Pérez Cormenzana, M., García Monzón, C., Mayo, R., Martín Duce, A., Romero Gómez, M., Lo Iacono, O., Tordjman, J., Andrade, R.J., Pérez Carreras, M., le Marchand Brustel, Y., Tran, A., Fernández Escalante, C., Arévalo, E., García Unzueta, M., Clement, K., Crespo, J., Gual, P., Gómez Fleitas, M., Martínez Chantar, M.L., Castro, A., S.C. Lu, Vázquez Chantada, M., Mato, J.M., *The Liver Meeting 2011, The 62nd Annual Meeting of the American Association for the Study of Liver Diseases, San Francisco (EEUU), Noviembre de 2011.*  
| [poster](#) |
- 2011 **Utilización de donantes añosos en el trasplante renal**, García-Olaverri Rodríguez, J., Elorrieta, P., Esnaola, K., Rodríguez, P., Marrón, I., Uriarte, I., *Martínez-Arranz, I.*, Aranzabal, J., Moratalla Basante, A., Zabala Egurrola, J.A., Pertusa Peña, C., *XXV Reunión del Grupo de Trasplante, Córdoba (España), Marzo de 2011.*
- 2011 **Trasplante Renal con Donantes añosos (>65 años): Experiencia de 6 años**, Elorrieta, P., Esnaola, K., Gainza, F.J., Zabala, A., Rodríguez, P., Marrón, I., Uriarte, I., *Martínez-Arranz, I.*, Pertusa, C., Aranzabal, J., *XXV Reunión del Grupo de Trasplante, Córdoba (España), Marzo de 2011.*
- 2010** 2010 **Utilidad de la Unidad de Información de pacientes renales del País Vasco (UNIPAR)**, Magaz Lago, A., Aranzabal Pérez, J., *Martínez-Arranz, I.*, Saracho Rotaache, R., Aguirre, R., Ariceta Iraola, G., Argoitia Urresti, A., Maza, A., Minguela Pesquera, I., Rodrigo de Tomás, M.T., *XL Congreso Nacional de la Sociedad Española de Nefrología, Granada (España), Octubre de 2010*  
| [web](#) | [web](#) |
- 2009** 2009 **Impacto del fracaso del injerto y el retrasplante en la supervivencia de diálisis**, Saracho Rotaache, R., Moina Eguren, I., Montenegro Martínez, J., Inza, A., Iribar, I., Maza, A., Celayeta, A., Olivar, E., Gimeno, I., Magaz lago, A., *Martínez-Arranz, I.*,

- XXXIX Congreso Nacional de la Sociedad Española de Nefrología, Pamplona (España), Octubre de 2009  
| [web](#) | [web](#) |
- 2009 **Supervivencia de pacientes en diálisis tras la pérdida del primer injerto. Comparativa con pacientes que inician diálisis sin trasplante previo. Experiencia en el País Vasco**, Rodrigo de Tomás, M.T., Porto, M., Lampreabe Gaztelu, I., García Erauzkin, G., Saracho Rotaache, R., Magaz Lago, A., *Martínez-Arranz, I.*, Aguirre, R., Argoitia Urresti, A., Ariceta Iraola, G., Ruiz de Gauna, R., Maza, A., Moina Eguren, I., Viana Apraiz, F.,  
XXXIX Congreso Nacional de la Sociedad Española de Nefrología, Pamplona (España), Octubre de 2009  
| [web](#) | [web](#) |
- 2009 **New test set to assess Logical Intelligence: CERVANTES**, Magaz Lago, A., García Pérez, E.M., *Martínez-Arranz, I.*, Sarrionandia-Ibarra, L.,  
10th European Conference on Psychological Assessment, Ghent (Bélgica), Septiembre de 2009.
- 2008 **Trasplante Renal con Donantes Mayores de 65 años**, F.J. Gainza, J. Aranzabal, S. Zárraga, G. García Erauzki, *I. Martínez-Arranz, A. Magaz*,  
XXXVIII Congreso de la Sociedad Española de Nefrología, San Sebastián, Octubre de 2008.  
| [web](#) |
- 2008 **Explanation model of the evolution of the End-Stage Renal Disease (ESRD) in the Basque Country, 1991-2002**, Saracho Rotaache, R., Rodrigo de Tomás, M.T., Argoitia Urresti, A., Moina Eguren, I., Viana Apraiz, F., García Erauzkin, G., Aguirre, R., Maza, A., *Martínez-Arranz, I.*, Magaz Lago, A.,  
XLV ERA-EDTA Congress, Estocolmo (Suecia), Mayo de 2008.
- 2007 **Do the differences in prevalence of hipertension and diabetes justify the regional differences of ESRD?**, Moina Eguren, I., Arrieta Lezama, J., Rodrigo de Tomás, M.T., Saracho Rotaache, R., García Erauzkin, G., Argoitia Urresti, A., Maza, A., Gimeno, I., Viana Apraiz, F., Aguirre, R., *Martínez Arranz, I.*, Magaz Lago, A.,  
XLIV ERA-EDTA Congress, Barcelona (España), Junio de 2007.
- 2006 **Prevalencia de la IRC en la edad pediátrica en Euskadi. Informe preliminar**, Ariceta Iraola, G., Aguirre, M., Areses, R., Orive, B., Sánchez, M.C., *Martínez-Arranz, I.*, Magaz Lago, A.,  
XXXII Congreso Nacional de Nefrología Pediátrica, Oviedo (España), Noviembre de 2006.
- 2004 **Influencia de las características del donante en la funcionalidad del injerto renal a medio y largo plazo**, Pérez Beltrán, M.R., Moina Eguren, I., *Martínez-Arranz, I.*, Corral Carames, F., Zárraga Larrondo, S., Magaz Lago, A., Aranzabal Pérez, J., Arrieta Lezama, J.,  
XIX Reunión Nacional e Iberoamericana de Coordinadores de Trasplantes, Tenerife (España), Mayo de 2004.  
2004 **Depresión y supervivencia en enfermos renales crónicos**, Magaz Lago, A., Bragado, C., Arrieta Lezama, J., Aranzabal Pérez, J., *Martínez-Arranz, I.*,  
XIII Congreso de Nefrología e Hipertensión de Latinoamérica, Punta del este (Uruguay), Abril de 2004.

## PROJECTS

### blog

I write a Data Science blog at [imarranz.com](http://imarranz.com) where I apply Mathematics, Python and R to open datasets and write-up the results and write about my experience in Data Science.

## LINKS

-  [ibon.martinez@imarranz.com](mailto:ibon.martinez@imarranz.com)
-  [www.imarranz.com](http://www.imarranz.com)
-  [github](https://github.com)
-  [@imarranz](https://twitter.com/imarranz)

## REFERENCES

Available on request.