

## Research, education, code

### Profile

Alberto Gil de la Fuente was born in Madrid in 1990. He studied Computer Engineering in San Pablo-CEU Universities. He graduated in 2013 obtaining the award to the best academic record. In 2016 he finished his MsC in Computer Engineering in Complutense University, in Madrid. During the MsC he did a period abroad of 6 months in Linköping University, Sweden. I started my PhD in Life and Science Technologies in San Pablo-CEU University in 2015. The project consists in an on-line tool to help with the metabolite identification. I also did a researching stay in the University of Alberta (Wishart Lab) for 6 months during 2018. You can see the results of the PhD development in the web page listed in the header. During his studies, Alberto combined both work and education. He worked as a database administrator in one of the biggest Spanish IT companies (Informatica El Corte Ingles: IECISA). He obtained some of the certifications from Oracle, DB2, MySQL or MongoDB, some of the main database technologies used nowadays. He is currently finishing the project and looking forward to continuing the research in the Metabolomics field, which he believes that it will bring the most significant advances in the systems biology field. At the same time, he recently started to enjoy the synergies of teaching. He thinks that the education is key in the formation of independent and autonomous people. Particularly, he really enjoys High-Performance Computing. We should help the computers to make their work, and he has developed some projects to apply the High-Performance computing to life sciences. Personally, he likes to create products that help people. He enjoys his free time doing sports, socializing with the family and friends and learning new technologies for a subsequent application solving real problems. he regularly does sports, he is part of the futsal team of the CEU-San Pablo University, and he actively participates in different event races, both running or biking. During his university studies he was football trainer of U-12 and U-15 teams, leading the players to become adults and having a lot of fun :)

### Publications

**LAS: A Lipid Annotation Service Capable of Explaining the Annotations it Generates** 2019  
*Fernández-López, M., Gil-de-la-Fuente, A., Godzien, J., Rupérez, F.J., Barbas, C. and Otero, A. Computational and Structural Biotechnology Journal. Impact Factor: 4.720 (Q1)*

**BioTransformer: a comprehensive computational tool for small molecule metabolism prediction and metabolite identification** 2019  
*Djombou-Feunang, Y., Fiamoncini, J., Gil-de-la-Fuente, A., Greiner, R., Manach, C. and Wishart, D.S. Journal of cheminformatics. Impact Factor: 3.893 (Q1)*

**CEU Mass Mediator 3.0: a metabolite annotation tool** 2018  
*Gil-de-la-Fuente, A., Godzien, J., Saugar, S., García-Carmona, R., Badran, H., Wishart, D.S., Barbas, C. and Otero, A. Journal of proteome research. Impact Factor: 3.950 (Q1)*

**Characterization and annotation of oxidized glycerophosphocholines for non-targeted metabolomics with LC-QTOF-MS data** 2018  
*Gil-de-la-Fuente, A., Traldi, F., Siroka, J., Kretowski, A., Ciborowski, M., Otero, A., Barbas, C. and Godzien, J. Analytica Chimica Acta. Impact Factor: 5.123 (Q1)*

**Knowledge-based metabolite annotation tool: CEU Mass Mediator** 2018  
*Gil-de-la-Fuente, A., Godzien, J., Fernández-López, M., Rupérez, F.J., Barbas, C. and Otero, A. Journal of Pharmaceutical and Biomedical Analysis Impact Factor: 2.831 (Q1)*

**Differentiating signals to make biological sense - a guide through databases for MS-based non-targeted metabolomics** 2017  
*Gil-de-la-Fuente, A., Armitage, E.G., Otero, A. Barbas, C. and Godzien, J. Electrophoresis. Impact Factor: 2.744 (Q2)*

**GPU-based Acceleration of ECG Characterization using High-Order Hermite Polynomials** 2016  
*Gil-de-la-Fuente, A., Márquez, D.G., Caffarena, G., Iriarte, A. and Otero, A. Current Bioinformatics. Impact Factor: 0.770 (Q4)*

### Book Chapters

**Processing Metabolomics and Proteomics Data with Open Software. Chapter 11: Metabolite annotation with CEU Mass Mediator** 2019  
*Gil-de-la-Fuente, Godzien, J., A., Otero and A. Barbas, C. Royal Society of Chemistry. Under review*

**Processing Metabolomics and Proteomics Data with Open Software. Chapter 12: Metabolite annotation using in-silico generated compounds: MINE and BioTransformer** 2019  
*Gil-de-la-Fuente, A., Godzien, J., Otero and A. Barbas, C. Royal Society of Chemistry. Under review*

**Processing Metabolomics and Proteomics Data with Open Software. Chapter 3: Metabolomics** 2019  
*Wishart D.S., Godzien, J., Gil-de-la-Fuente, A., Otero and A. Barbas, C. Royal Society of Chemistry. Under review*

**Data Analysis for Omic Sciences: Methods and Applications. Chapter 15: Metabolite Annotation and Identification** 2018  
*Godzien, J., Gil-de-la-Fuente, A., Otero, A. and Barbas, C. Elsevier. ISBN: 978-0-444-64044-4*

<b>Conferences</b>	<b>BioTransformer: a comprehensive computational tool for small molecule metabolism prediction and metabolite identification</b>	2018
	<i>Djombou-Feunang, Y., Fiamoncini, J., Gil-de-la-Fuente, A., Greiner, R., Manach, C. and Wishart D.S. The Second Annual Canadian Metabolomics Conference, Canmore</i>	
	<b>A fast and reliable spectral quality assessment in metabolomics studies</b>	2018
	<i>Gil de la Fuente, A., Traldi, F., Kowalczyk, T., Ciborowski, M., Otero, A., Barbas, C. and Godzien, J. 14th Annual Conference of the Metabolomics Society</i>	
	<b>CMM workshop: Improving Metabolit ID Approaches — Confidence and CASMI</b>	2018
	<i>S., Sumner, L.W., Gil de la Fuente, A., Godzien, J. and Barbas, C. 14th Annual Conference of the Metabolomics Society</i>	
	<b>Ceu Mass Mediator: a knowledge-based tool for metabolite annotation</b>	2017
	<i>Gil de la Fuente, A., Godzien, J., Barbas, C. and Otero, A. 28th Pharmaceutical and Biomedical Analysis Conference</i>	
	<b>Low-power, Low-Latency Hermite Polynomial Characterization of Heartbeats Using a Field-Programmable Gate Array</b>	2016
	<i>Lakhotia, K., Caffarena, G., Gil-de-la-Fuente, A. Márquez, D.G., Otero, A. and Desai, M.P. International Conference on Bioinformatics and Biomedical Engineering</i>	
	<b>Polynomial Characterization of Heartbeats with Graphics Processing Units</b>	2014
	<i>Gil-de-la-Fuente, A., Caffarena, G., Marquez, D.G. and Otero, A. International Conference on Bioinformatics and Biomedical Engineering</i>	
<b>Education</b>	<b>San Pablo-CEU University</b>	2015-current
	<i>PhD in Life Sciences and Technologies.</i>	
	<b>University of Alberta</b>	2018
	<i>Researching period in Wishart Lab.</i>	
	<b>Linköping University</b>	2015-2016
	<i>Erasmus scholarship.</i>	
	<b>Complutense University</b>	2014-2016
	<i>MSc in computer Engineering. GPA 8.69/10.</i>	
	<b>Alfonso X el Sabio University</b>	2013-2014
	<i>Degree in Information Systems Engineering (Grado en Ingeniería de Sistemas de Información). GPA 8.81/10.</i>	
	<b>San Pablo-CEU University</b>	2009-2012
	<i>Computer engineering (Ingeniería Informática de Sistemas). GPA 8.68/10.</i>	
<b>Honors</b>	<b>Santander Scholarships</b>	2018
	Scholarship to help the mobility of researchers. Funding to do a period abroad in the University of Alberta	
	<b>San Pablo-CEU university</b>	2015
	<i>FPI scholarship for PhD studies</i>	
	<b>Spanish ministry of Education and Science</b>	2015
	<i>Erasmus Scholarship</i>	
	<b>Alfonso X el Sabio University</b>	2014
	<i>Distinction in grade Thesis called "Heartbeats clustering using GPUs"</i>	
	<b>San Pablo-CEU University</b>	2013
	<i>Best Academic Record of the year</i>	
	<b>San Pablo-CEU University</b>	2013
	<i>Distinction in grade Thesis called "Characterization of heartbeats by Hermite Polynomials using GPUs"</i>	
	<b>Comunidad de Madrid</b>	2011
	<i>Excellent Academic Performance.</i>	
	Award for students with a GPA higher than 9.25 during an academic year	
<b>Career</b>	<b>PhD Student</b>	2015-current
	<i>San Pablo-CEU University</i>	
	Developing a software tool for metabolite annotation called Ceu Mass Mediator. The project of the thesis project is design, validation and implementation of a software tool for metabolite identification.	
	<b>Research Assistant</b>	2018
	<i>University of Alberta</i>	
	Scholarship to integrate new knowledge into the expert system developed during the thesis in Ceu-San Pablo University. I integrated into a new international environment and I am obtaining experimental knowledge that could be subsequently applied for the metabolites annotation. I support younger researchers regarding the IT architecture and the technological issues occurred.	

	<div>Database Administrator</div> <div>Informatica El Corte Ingles (IECISA)</div> <div>The job in IECISA was my first experience related with IT. I started at the same time than the university. Since my first year I conciliated two tasks and honestly it was an amazing experience. I could use everything I learnt in the mornings in real work environments in the afternoon! It motivated me a lot and I think that it was one of the main reasons I got quite good academic results, ending with the award to the best academic record of my promotion. The environment was friendly so I shared such great moments with my workmates there.</div>	2009-2015
Official Courses		
	<div>Agilent Technologies</div> <div>MS multiplatform Metabolomics Workshop</div>	2016
	<div>Oracle</div> <div>Oracle Database 12c: New features for Administrators</div>	2015
	<div>IESE Business School</div> <div>Leadership and Management Program</div>	2014
	<div>NVIDIA</div> <div>CUDA and OpenAcc</div>	2014
	<div>Oracle</div> <div>MySQL for Database Administrators Ed 3.1</div>	2013
	<div>NVIDIA</div> <div>CUDA and OpenACC</div>	2013
	<div>IBM</div> <div>DB2 IBM BootCamp. DB210</div>	2012
	<div>Universidad a Distancia Española (UNED)</div> <div>Web programming using PHP, JavaScript and HTML</div>	2010
	<div>Universidad a Distancia Española (UNED)</div> <div>.net programming</div>	2010
	<div>Universidad a Distancia Española (UNED)</div> <div>Server Administration</div>	2009
	<div>Universidad a Distancia Española (UNED)</div> <div>Java programming</div>	2009
Certifications		
	<div>Oracle Database 11g Administrator Certified Professional</div> <div>SQL administration II (1Z0-053)</div>	2015
	<div>Oracle Database 11g Administrator Certified Associate</div> <div>SQL Fundamentals, Administration I (1Z0-051 - 1Z0-052)</div>	2015
	<div>Oracle MySQL Certified Professional. 1Z0-873 - 1Z0-874</div> <div>MySQL 5 Database Administrator part I, II (1Z0-873 - 1Z0-874)</div>	2013
	<div>Information Management DB2 10 Technichal Proffesional v3</div> <div>IBM 000-610</div>	2013
	<div>Certified Database Associate — DB2 10.1 Fundamentals</div> <div>IBM 000-N18</div>	2013
Skills	<div>Adaptability</div> <div>Multi-task</div> <div>Teaching</div> <div>CUDA</div> <div>Java</div> <div>C,C++</div> <div>PrimeFaces</div> <div>AWS</div> <div>HTML</div> <div>SQL</div> <div>PL/SQL</div> <div>ORM</div> <div>LaTeX</div>	