



ISAAC AMELA ABELLAN

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PRESENT POSITION

Isaac Amela Abellan
PhD Student
Group of Bioinformatics of Molecular Biology
Institut de Biotecnologia i de Biomedicina (IBB)
Universitat Autònoma de Barcelona (UAB)
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EDUCATION

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| 1997-2000 | Degree in Biology at the Universitat de Girona (UdG). |
| 2001-2004 | Degree in Biotechnology at the Universitat Autònoma de Barcelona (UAB). |
| 2005-2007 | “Diploma en Estudis Superiors Especialitzats (DESE)”, Master in Biotechnology and “Diploma d'Estudis Avançats (DEA)” of the Universitat Autònoma de Barcelona (UAB). |
| 2005 to present | PhD student in the Group of Bioinformatics of Molecular Biology at the Institut de Biotecnologia i de Biomedicina (IBB) of the Universitat Autònoma de Barcelona (UAB). |

OTHER ACADEMIC ACTIVITIES

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| 1999 | <ul style="list-style-type: none">● Course of Odontocet Cetacean Communication, organized by ITACA and guaranteed by the University of Girona (UdG).● Course of Iberian Insectivorous and Carnivorous Mammals, organized by Galanthus in collaboration with DEPANA.● Participation in the academic activities of the Open Science Cycle within the framework of the cultural program of science activities in the science faculty of the University of Girona (UdG). |
| 2000 | Participation in the lectures: The medicine on the doors of the 21st century, organized by the Educational Sciences Institute of the Autonomous University of Barcelona (UAB). |

2003

- Assistance to the Forum 2003 of the “Santa Creu i Sant Pau” Hospital of Barcelona: The biomedicine research at service of the citizen.
- Assistance in the Annual Scientific Meeting of the Spanish Net of Ataxias within the framework of the LII Annual Meeting of the Spanish Society of Neurology in the Conference Hall of Catalonia.
- Participation in the Annual Meeting of the Spanish Federation of Ataxias (FEDAES).

2004

- Assistance to the III International Symposium of Gene Therapy organized by the Thematic Net of Gene Therapy and celebrated in the Genomic Regulation Center of Barcelona.
- Participation in the Scientific Conference about Ataxia organized by the Spanish Federation of Ataxias, the Spanish Net of Ataxias, the “La Paz” University Hospital of Madrid and the Institute of Rare Diseases.
- Participation and given abstract seminar in the Annual Meeting of the Spanish Federation of Ataxias (FEDAES), held in Madrid (Spain), about the ataxia conference mentioned before.

2005

- Participation in the Course of Advances in Cerebellar Ataxias organized by the Spanish Net of Ataxias within the framework of the LVII Annual Meeting of the Spanish Neurology Society in the Conference Hall of Catalonia.
- Assistance to the lecture about hereditary ataxias given by Dr. Michel Koenig of the “Institut de Génétique et de Biologie Moleculaire et Cellulaire (IGBMC)” and held in the Genomic Regulation Center of Barcelona, Spain.

2006

- Participant of the Second INFOBIOMED Training Challenge organized by the Municipal Intitute of Medical Investigation (IMIM) and the Pompeu Fabra University (UPF), being awarded with a 15 days fellowship in one of the INFOBIOMED partner organizations due to team work skills .
- Participation and given talk in the Annual Meeting of the Spanish Federation of Ataxias (FEDAES) held in Cubillos del Sil, Spain. Talk title: *“Análisis bioinformático de la Frataxina y de otras proteínas probablemente implicadas en la Ataxia de Friedreich”*.
- Assistance to the MODREF 2006 Congress held in Barcelona titled “Current challenges in computational structural biology: improving model refinement for functional predictions”, organized by the Barcelona Supercomputing Center (BSC), the National Institute of Bioinformatics (INB), the Barcelona Scientific Park (PCB) and the University of Barcelona (UB), Spain.
- Assistance to the Session II of Bioinformatics under the “Protein Production & Bioinformatics” meeting organized by “GENES” (Structural Genomics) spanish Consortium and held in the Center for Investigation and Development (CID), CSIC of Barcelona, Spain.
- Assistance to the 7th Spanish Symposium on Bioinformatics and Computational Biology held in the University of Zaragoza, Spain.
- Assistance to the V Annual Symposium “Systems Biology: A cell in the computer?” held in the Center for Genomic Regulation (CRG) of the Biomedicine Research Park of Barcelona (PRBB), Spain.

2007

- Assistance to the Workshop “Bioinformática y gestión del conocimiento en I+D de medicamentos: la perspectiva molecular” organized by the *Plataforma Tecnológica Española de Medicamentos Innovadores* and held in the Biomedicine Research Park of Barcelona (PRBB), Spain.

- Assistance to the BSC-IRB Barcelona Conference on Computational Biology organized by the Institute for Research in Biomedicine (IRB) and the Barcelona Supercomputing Center (BSC), Spain.
- Participation and given talk in the Annual Meeting of the Spanish Federation of Ataxias (FEDAES) held in Valladolid, Spain. Talk title: *"Estudio Computacional de la Interacción entre las Proteínas Clave de la Ataxia de Friedreich"*.
- Scientific stage in the Structural Bioinformatics group of the GRIB-PRBB.
- On-line course of the Perl programming language.

2008

- Participation and given talk in the Therapeutic Conference about Friedreich Ataxia held in the "Escuela Nacional de Sanidad. Instituto de Salud Carlos III" of Madrid (Spain) and organized by the "Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER)" and the Spanish Federation of Ataxias (FEDAES). Talk title: *"Ataxia de Friedreich: Modelo computacional dinámico de las proteínas que forman los grupos Hierro-Azufre en Saccharomyces cerevisiae"*.
- Assistance to the BSC-IRB conference on "Grand Challenges in Computational Biology" organized by the Institute for Research in Biomedicine (IRB) and the Barcelona Supercomputing Center (BSC) and held in the Institut d'Estudis Catalans (IEC) of Barcelona, Spain.
- Participation and given talk in the Annual Meeting of the Spanish Federation of Ataxias (FEDAES) held in Valladolid, Spain. Chairman of the basic investigation session. Talk title: *"Adelantos en los Ensayos Computacionales del Modelo de Frataxina"*.
- Assistance and presented poster to the 3rd ESF Functional Genomics and Disease Conference held in the Congress of Innsbruck, Austria. The poster is available at: <http://bioinf.uab.es/rker/poster/innsbruck.pdf> and its title is: *"Friedreich ataxia: computational dynamic model of the key proteins involved in FeS cluster generation in yeast"*.

2009

- Obtaining of the Certificate in Advanced English (CAE), from the University of Cambridge (ESOL Examinations).
- Participation and given talk in the Annual Meeting of the Spanish Federation of Ataxias (FEDAES) held in Valladolid, Spain. Chairman of the basic investigation session. *Talk title: "La Frataxina y el Hierro"*.
- Assistance and presented poster to Symbiosis, the 14th European Congress on Biotechnology held in Barcelona, Spain. The poster is available at: <http://bioinf.uab.es/rker/poster/symbiosis.pdf> and its title is: *"Friedreich Ataxia: A Computational Dynamic Model of the Key Proteins Involved in the Yeast Fe-S Cluster Biogenesis"*.
- Participation and given talk in the International Scientific Meeting of euro-ATAXIA (european federation of hereditary ataxias), held in Valladolid, Spain, under the organization of the Spanish Federation of Ataxias (FEDAES). Talk title: *"Friedreich Ataxia: A Computational Dynamic Model of the Key Proteins Involved in the Yeast Fe-S Cluster Biogenesis"*.
- Participation and given talk in the NEURODEGNET annual meeting held in the "Institut d'Investigació en Ciències de la Salut Germans Trias i Pujol (IGTP), Universitat Autònoma de Barcelona (UAB), Badalona (Barcelona), Spain.
- Assistance to the 4th Critical Assessment of PRedicted Interactions (CAPRI) Evaluation Meeting held in Barcelona, Spain.

2010

- Assistance to the “III Conferencia Anual de las Plataformas Tecnológicas de Investigación Biomédica” held in Barcelona, Spain.
- Given talk in the Vic University (Barcelona, Spain) entitled “*Model Bioinformàtic de les Proteïnes de l'Atàxia de Friedreich*”.
- Participation and presented poster in the Iron-Sulfur Protein and Frataxin Meetings held in the National Institute for Medical Research (NIMR), London, UK. The poster is available at: <http://bioinf.uab.es/rker/poster/symbiosis.pdf> and its title is: “*Friedreich Ataxia: A Computational Dynamic Model of the Key Proteins Involved in the Yeast Fe-S Cluster Biogenesis*”.
- Participation and given talk in the Annual Meeting of the Spanish Federation of Ataxias (FEDAES) held in Valladolid, Spain. *Talk title: "Úlimas conclusiones sobre Frataxina y Clústeres Fe-S"*.

2011

- May 5-7 → Assistance and presented poster to the 4th International Friedreich's Ataxia Scientific Conference held in Strasbourg, France. The poster is available at: <http://bioinf.uab.es/rker/poster/strasbourg.pdf> and its title is: “*Friedreich Ataxia: A Theoretical Model of the Key Proteins Involved in the Iron-Sulfur Cluster Biogenesis*”.
- Participation and given talk in the Annual Meeting of the Spanish Federation of Ataxias (FEDAES) held in Valladolid, Spain. *Talk title: "Bases del complejo proteico donde interviene Frataxina para formar los clústeres Hierro-Azufre"*.
- August 22-25 → Assistance to the 6th International Conference on Fe-S Protein Biogenesis and Regulation held in Cambridge, UK.

From 2000 to present I am collaborating with articles and scientific summaries to the monthly bulletin edited by the Spanish Federation of Ataxias (FEDAES).

PROFESSIONAL EXPERIENCE

1995-1997 Veterinary assistant in “Europa” Veterinary Hospital of Cabrils.

1999

- Company practices in the Institute of Agroalimentary Technology Research (IRTA) of Cabrils in the agreement of educational cooperation university-company/institution.
- Practices in the Recuperation of Sea Animals Center (CRAM), a center that the Foundation for the Conservation and Recovery of Sea Animals has in Premià de Mar.

2000

Out-of-school teacher of computer science at the school “L' Olivera” of Cabrils working for the DELFI Private Foundation.

2001

Practical collaboration with the Biochemists and Molecular Biology Department of the Medicine Faculty of the Autonomous University of Barcelona (UAB).

2004

Scientific collaboration with the Group of Bioinformatics of Molecular Biology, Biotechnology and Biomedicine Institute (IBB), Autonomous University of Barcelona (UAB).

2005-2010 Scholarship of the Autonomous University of Barcelona (UAB). Group of Bioinformatics of Molecular Biology, Biotechnology and Biomedicine Institute (IBB), Autonomous University of Barcelona (UAB). Project name: “*Bioinformatic analysis of frataxin and other proteins involved in Friedreich ataxia*”. See Orphanet webpage (<http://www.orpha.net>) for more project details.

2011 to present Research technician contract of the Autonomous University of Barcelona (UAB) under La Marató de TV3 project. Group of Bioinformatics of Molecular Biology, Biotechnology and Biomedicine Institute (IBB), Autonomous University of Barcelona (UAB). Project name: “*Friedreich Ataxia Integrative Research Consortium: a Pathophysiological and Therapeutical Approach (FAIR)*”. See Orphanet webpage (<http://www.orpha.net>) for more project details.

RESEARCH AREA

Bioinformatics:

- Protein sequence, structure, function and interaction analysis.
- Modeling of protein complexes.
- Vaccine design.

PUBLISHED PAPERS:

- **Amela I., Cedano J., Querol E. (2007)**
Pathogen Proteins Eliciting Antibodies Do Not Share Epitopes with Host Proteins: A Bioinformatics Approach.
PLoS ONE 2(6): e512.
doi:10.1371/journal.pone.0000512
<http://www.plosone.org/article/info:doi/10.1371/journal.pone.0000512>

This paper has been selected for Faculty 1000 Biology that is an award-winning online service that highlights and evaluates the most interesting papers published in the biological sciences, based on the recommendations of over 2000 of the world's top researchers. It was launched in January 2002 and already over 85% of the world's top institutions subscribe (e.g. NIH*, Johns Hopkins and all Max Planck Institutes). Papers are highlighted on the basis of their scientific merit rather than the journal in which they appear.

Faculty of 1000 Biology: evaluations for Amela I et al *PLoS ONE* 2007 2 :512
<http://f1000biology.com/article/id/1091344/evaluation>

- **Amela I., Cedano J., Delicado P., Querol E. (2009)**
Friedreich ataxia: a computational dynamic model of the key proteins involved in the yeast Fe–S cluster biogenesis
New Biotechnology
Volume 25, Supplement 1, September 2009, Pages S342-S343
Abstracts of the 14th European Congress on Biotechnology, Barcelona, Spain 13–16 September, 2009
At <http://dx.doi.org> search by 10.1016/j.nbt.2009.06.1001

- **Amela I.**, Delicado P., Gómez A., Bonàs S., Querol E., Cedano J. (2010)
DockAnalyse: an application for the analysis of protein-protein interactions
BMC Structural Biology 2010, 10:37
doi:10.1186/1472-6807-10-37
<http://www.biomedcentral.com/1472-6807/10/37>

This paper is labeled in BioMed Central as “Highly accessed”.

- Gómez A., Cedano J., **Amela I.**, Planas A., Piñol J., Querol E. (2011)
Gene Ontology function prediction in Mollicutes using protein-protein association networks
BMC Systems Biology 2011, 5:49
doi:10.1186/1752-0509-5-49
<http://www.biomedcentral.com/1752-0509/5/49>
- Gómez A., Hernández S., **Amela I.**, Piñol J., Cedano J., Querol E. (2011)
Do protein-protein interaction databases identify moonlighting proteins?
Mol. BioSyst., 2011, 7, 2379–2382
doi: 10.1039/C1MB05180F
<http://pubs.rsc.org/en/Content/ArticleLanding/2011/MB/c1mb05180f>

AWARDS

- In 2006 I was awarded, by the Second INFOBIOMED Training Challenge, with a 15 days fellowship in one of the INFOBIOMED partner organizations due to team work skills .
- I was awarded with the 2007 price of the “Societat Econòmica Barcelonesa d'Amics del País (SEBAP)” to offset the academic trajectory of university students, depending on their personal and family conditions.
- I was selected for a scholarship of the 4th International Friedreich’s Ataxia Scientific Conference May 2011 based on my abstract submission.

COMPUTER SKILLS

Windows environment at a high level in general.
Good knowledge of the Linux operating system.
Basic knowledge of Perl programming.
Good knowledge about most of the Bioinformatic tools.

LANGUAGES

Spanish and Catalan native speaker.
Certificate of Advanced English (CAE).

OTHERS

- I've got driving licence B1 and my own car.
- My mobility is limited because I use a wheelchair.
- I like very much every type of sports, nature, computer science, internet and science especially. Moreover, I have practiced a lot of sports during many years now I'm still practicing those that my physical condition allows me for (for example skiing).
- During many years I have been "Escolta Català" as a pupil and also as a monitor.