Curriculum vitae

PERSONAL INFORMATION

First Name:	Guillermin
Surname:	Agüero Chapin
Date of Birth:	23rd of November, 1975
Place of Birth:	Santa Clara, Cuba
Gender:	Male
Nationality:	Cuban-Portuguese
Marital Status:	Married
Home Address:	Rua Costa e Almeida 211, R/C izquerdo, 4200-236. Porto, Portugal
Phone:	+351 935985830 (Portugal)
	+53-42-227460 (Cuba)
E-mails:	gchapin@ciimar.up.pt
	gaguero@gmail.com
ORCID	orcid.org/0000-0002-9908-2418

CURRENT POSITION

April 2014-up to date	Postdoc Researcher at CIIMAR- Centro Interdisciplinar de Investigação Marinha e Ambiental, Universidade do Porto, Portugal. Terminal de Cruzeiros do Porto de Leixões, Av. General Norton de Matos, s/n, 4450-208, Porto, Portugal Subject: "Development of an Evolutionary Platform to Engineer the Synthesis of Bioactive Peptides". Funded by the Portuguese Foundation for Science and Technology (SFRH/BPD/92978/2013).

EDUCATION

Nov. 2013	PhD in Biology awarded with honours by the Universidade do Porto, Portugal. Thesis: ¨A Graphical and Numerical Approach for Functional Annotation and Phylogenetic Inference Supervisors: Dr. Agostihno Antunes, Dr. Reinaldo Molina and Prof. Vitor Vasconselos.¨
JAN. 2009	MSc degree in General Biochemistry at the Medicine School "Dr Zerafin Ruiz de Zarate Ruiz", Villa Clara, Cuba
APR. 2008-NOV 2008	Research exchange in the project PTDC/BIA-BDE/69144/2006 by the Portuguese Foundation for Science and Technology (FCT) "Phenogenetic drift in evolution:

	insights into the genetic basis of vertebrate developmental genes" at CIIMAR- Centro Interdisciplinar de Investigação Marinha e Ambiental, Porto, Portugal. Rua, Dos Bragas, 177; 4050-123 Porto, Portugal
	Researching group: Laboratory of Ecotoxicolgy Genomics and Evolution (LEGE) Dr Agostihno Antunes.
Mar. 2006-June 2006	Research exchange in the subject ¨Modelling protein's biological activities, particularly on cellulase function in the breakdown of lignocellulosic wastes¨ at the Dipartimento Farmaco Chimico Tecnologico. Universita´ Degli Studi Di Cagliari, Via Ospedale 72, 09124 Cagliari, Italy.
	Researching group: Design and organic synthesis of novel bioactive coumarines
	Prof: Gianni Podda
Apr. 2002-up to 2008	Training in Quantitative Structure Activity Relationship techniques (QSAR) for modelling drugs and Bioinformatics techniques to predict RNA and proteins biological activity at Centre for Bioactive Chemicals at the Central University of Las Villas, Santa Clara, Cuba. Dr. Humberto González Díaz
Mar. 2000 – Apr. 2002	Training in Molecular Biology and Genetic Engineering of the plants, particularly on ripening control of tropical fruits at Institute of Plant's Biotechnology, Central University of Las Villas, Santa Clara, Cuba. Dr. Juan N. Pérez Ponce
Sept. 1998 – Mar 2000	Training in Molecular Biology and Genetic Engineering of plants, especially on *Bacillus thuringiensis* insecticidal crystal proteins at the Genetic Engineering and Biotechnology Centre (CIGB), Havana, Cuba. Dr. Gustavo de la Riva
Sept. 1993 – July 1998	University Degree in Pharmacy at the Universidad Central de Las Villas, Santa Clara, Cuba.
1990 – 1993	High School at Instituto Preuniversitario de Ciencias Exactas ¨Comandante Ernesto Guevara¨, Santa Clara, Cuba

OTHER STUDIES

Oct 2004 – Jun. 2005	English course at the Language Department of the Central University of Las Villas, Santa Clara, Cuba, (High Degree)
1998 – 2006	Different courses, seminars, conferences, symposiums, etc. related to Molecular Biology and Genetic Engineering in plants, Biochemistry, Plant Physiology, Enzymology, Protein Structure, Bioinformatics and Computational Chemistry Biotechnology.

SCHOLARSHIPS

Apr. 2014-up to date	Postdoc grant (SFRH/BPD/92978/2013) by the Portuguese Foundation for Science and Technology (FCT). "EvoNeering: An Evolution-Based Framework to Engineer the Synthesis of Biologically Active Oligopeptides". CIIMAR- Centro Interdisciplinar de Investigação Marinha e Ambiental, Porto, Portugal
May-Aug/2016	Visiting Scholar supported by the Portuguese Foundation for Science and Technology in the Department of Natural Sciences at Universidad Técnica Particular de Loja (UTPL), Ecuador. Prof. Aminael Sánchez, asanchez2@utpl.edu.ec Subject: Alignment-free phylogenetic approach integrating multiple-distance data.
Jan-April/2016	Visiting Scholar supported by the Department of Computer Science and Artificial Intelligence at the University of Granada. Prof. Francisco Herrera, herrera@decsai.ugr.es Subject: Orthologs detection using big data supervised algorithms
Nov. 2013- Mar. 2014	Research scholarship (2013-2014) in the project "Estudo da modelação das vias de sinalização dos retinóides e das hormonas da tiróide, por disruptores endócrinos, em invertebrados" PTDC/MAR/115199/2009, funded by the FCT, through the "Programa COMPETE (FCOMP-01-0124-FEDER-015451). CIIMAR
Sep.2009-Aug.2013	PhD grant (SFRH/BD/47256/2008) by the Portuguese Foundation for Science and Technology (FCT). "Development of an alignment-free tool based on Quantitative Sequence Function Relationship (QSFR) studies to screen genomes and proteomes of microorganisms: Genomic and proteomic analyses of polyketide synthases and nonribosomal peptide synthetases". CIIMAR- Centro Interdisciplinar de Investigação Marinha e Ambiental, Porto, Portugal
June.2012-Sep 2012	Visiting Scholar at Centre of Molecular and Plant Genetics, Katholic University of Leuven, Belgium "Deciphering the mode of action of repurposed drugs via non-ribosomal synthesis in bacterial synthesis" Prof. Kathleen Marchal
Sept. 2008 –Nov 2008	Visiting Scholar in the Organic Chemistry Department at the Pharmacy Faculty, University "Santiago de Compostela", Spain. "Alignment-free models applied to functional annotation of gene/protein classes" Prof. Eugenio Uriarte

Jun. 2008-July 2008	Scholarship for foreign researches in the Organic Chemistry Department at the Chemistry Faculty, Vigo University, Spain. "Applying QSAR techniques to annotate protein functions". Dra. Martha Teijeiras
Apr. 2008-Sep 2008	Research scholarship in the project PTDC/BIA-BDE/69144/2006 granted by the Portuguese Foundation for Science and Technology (FCT). CIIMAR- Centro Interdisciplinar de Investigação Marinha e Ambiental, Porto, Portugal. "Phenogenetic drift in evolution: insights into the genetic basis of vertebrate developmental genes" Researching group: Laboratory of Ecotoxicolgy Genomics and Evolution (LEGE) Dr Agostihno Antunes.
Mar. 2006-June 2006	Scholarship for researching purposes, sponsored by Dipartimento Farmaco Chimico Tecnologico. Universita´ Degli Studi Di Cagliari, Italy. ¨Modelling cellulase function in the breakdown of lignocellulosic wastes¨ Researching group: Design and organic synthesis of novel bioactive coumarines Prof: Gianni Podda

TECHNICAL SKILLS
- Molecular Biology techniques
- Plant genetic transformation techniques
- Artificial Intelligent Techniques
- Machine Learning Methods
- Bioinformatics, Genomics and Proteomics

COMPUTER SKILLS
- Systems: Windows, Internet resources, Linux
- Software: Word, Excel, PowerPoint, Publisher, CorelDraw, ChemWin, ChemDraw, ChemOffice, HyperChem, and others
- Databases: SciFinder Scholar, Currents Contents, Medline, GenBank, Swissprot, Protein Databank, Pfam, SRS.

LANGUAGES
- Spanish: mother language
- English: fluently
- Portuguese: basic knowledge

AFFILIATION
- LEGE, CIIMAR, Portugal
- Member of the Cuban Chemistry Society.

TEACHING EXPERIENCE

- Assistant professor of Microbiology in the Universidad Central de Las Villas; Cuba, years 2002-2003 and 2003-2004.

- Assistant Professor of Biochemistry in the courses of Chemistry and Chemical Engineering, Faculty of Chemistry and Pharmacy. Central University of Las Villas (UCLV), Cuba. (2003-2007)

- Professor in the Master Program "Research and Drug Development". Subject: Biotechnology Applied to Drug Production.

THESIS SUPERVISED

- Co-Supervisor of the Bachelor thesis entitled "Study of alternatives for the bioethanol production from sugar cane wastes". Student: Naudys Garcia Navarro, Chemistry-Pharmacy Faculty, UCLV, Cuba. July 2005

- Supervisor of the MSc. thesis entitled "Development and application of **TI2BioP** methodology for the identification of bacteriocin-like proteins". Student: Lic. Maylín Rodríguez Pérez, Instituto Superior de Ciencias Médicas "Dr. Serafín Ruíz de Zárate Ruíz", Cuba. July 2010.

- Supervisor of the Bachelor thesis entitled "Programing the in-house software called "Spectro" for bioinformatics and evolution". Student: Antonio Bouza Pérez. Mathematics, Physics and Computation Faculty, UCLV, Cuba. July 2012

OTHER ACTIVITIES

- Guest Editor of the journal Current Topics in Medicinal Chemistry. Special Issue: **Current status of toxins as research tools and future expectations in therapeutics**
- Refeere of the journals: (1) *Current Bioinformatics* (2) *Chemical Biology and Drug Design* (3*) Molecular Biosystem* (4) *Chemometrics and Intelligent Laboratory Systems* (5) *Amino Acids*

PROJECTS

- Research scholarship (2013-2014) in the project "Estudo da modelação das vias de sinalização dos retinóides e das hormonas da tiróide, por disruptores endócrinos, em invertebrados" PTDC/MAR/115199/2009, funded by the FCT, through the "Programa COMPETE (FCOMP-01-0124-FEDER-015451). CIIMAR.
- Research scholarship (2008) in the project PTDC/BIA-BDE/69144/2006 granted by the FCT. "Phenogenetic drift in evolution: insights into the genetic basis of vertebrate developmental genes" CIIMAR- Centro Interdisciplinar de Investigação Marinha e Ambiental, Porto, Portugal. Researching group:

Laboratory of Ecotoxicolgy Genomics and Evolution (LEGE) Dr. Agostihno Antunes.

- Member of the project "Searching efficient cellulase complexes to improve ethanol production from lignocellulosic wastes sponsored by Higher Educational Cuban Ministry and CYTED, Spain (2006-2008)
- Lengthening of post-harvest life of tropical fruits through the manipulation of genes involved in ripening process (2001-2004) sponsored by Higher Educational Cuban Ministry.

PUBLICATIONS
BOOK CHAPTERS

1. **Agüero-Chapin** G, Molina-Ruiz R, Pérez-Machado G, Vasconselos V, Rodríguez-Negrin Z, Antunes A. (2016). **TI2BioP: T**opological **I**ndices **to Biop**olymers. A Graphical-Numerical Approach for Bioinformatics. In: InTechOpen -- Recent Advances in Biopolymers. **ISBN:** 978-953-51-4613-1 Farzana Parveen (Ed.), Chapter 10; p. 254-277 DOI: 10.5772/61887. Croatia.

2. **Agüero-Chapin** G, Pérez-Machado G, Sánchez-Rodríguez A, Santos MM, Antunes A (2016) Alignment-free methods for the detection and specificity prediction of Adenylation domains. In: Methods in Molecular Biology-- Nonribosomal Peptide and Polyketide Biosynthesis. Evans, Bradley S. (Ed.). Humana Press, Springer eds, New York (USA), Vol. 1401, Chapter 16; p. 253-72.**ISBN:**978-1-4939-3373-0.

3. González-Díaz H, **Agüero-Chapin G**, Munteanu C.R, Prado-Prado F, Chou KC, Duardo-Sanchez A, Patlewicz G, and López-Díaz A (2011) In: Advances in Genetics Research (vol. 1), Ed. Maria A. Osborne, **Nova Science Publishers**, Inc., NY, USA, ISBN: 978-1-60692-638-3. Chapter 2: Alignment-free models in Plant Genomics: Theoretical, Experimental, and Legal issues. Web: https://www.novapublishers.com/catalog/product_info.php?products_id=9340

4. **Agüero-Chapin, G,** Sánchez-Rodríguez, A, Antunes, A, de la Riva G.A and González Díaz H. (2010) In: Topological Indices for Medicinal Chemistry, Biology, Parasitology, Neurological and Social Networks. Editors: H. González-Díaz and C.R. Munteanu. **Transworld Research Network**, Kerala, India. ISBN 978-81-7895-989-9. Chapter 5: Network entropies classification of fungi and bacteria of fungi and bacteria cellulases of interes for biotechnology. page: 69-95.

BOOKS

1. González-Díaz H, **Agüero-Chapin G**, Munteanu C.R, Prado-Prado F, Chou KC, Duardo-Sanchez A, Patlewicz G, and López-Díaz A: *Alignment-free models in Plant Genomics: Theoretical, Experimental, and Legal issues* ISBN: 978-1-61668-333-7, Retail Series: Agriculture Issues and Policies, **Pub. Date**: 2010. https://www.novapublishers.com/catalog/product_info.php?products_id=12947

PEER-REVIEW INTERNATIONAL JOURNALS

1. Ruiz-Blanco YB, **Agüero-Chapin G**, García-Hernández E, Álvarez O, Antunes A, Green J. Exploring general-purpose protein features for distinguishing enzymes and non-enzymes within the twilight zone. *BMC Bioinformatics*. 2017 Jul 21;18(1):349

2. **Agüero-Chapin G**, Pérez-Machado G, Collí-Mullc J, Aancede-Gallardo E, Antunes A, de la Riva GA (2016) How the Protein Architecture of RNases III Influences their Substrate Specificity? *Current Pharmaceutical Design, 22, 1-8.*

3. DG Cañizares, del Río García S, Herrera F, Ancede E, Antunes A, **Agüero-Chapin G**. An Effective Big Data Supervised Imbalanced Classification Approach for Ortholog Detection in Related Yeast Species. *BioMed Research International* (**2015**), http://dx.doi.org/10.1155/2015/748681

4. Diaz-Garcia, M**., Agüero-Chapín, G.,** Antunes, A., & Vasconcelos, V**. (2015).** Biological Toxins and Medicinal Chemistry: Research and Therapeutic Tools**.** *Current Topics in Medicinal Chemistry*, *15*(**7**)**: 580**

5. de la Riva GA, Mull-Collí J, Ramón-Quiroz R, García-Ramírez L, **Agüero-Chapin G,** Morales-Aragón JC. A Bacterial Strain that Affects Lifecycle of Whiteflies (Bemisia tabaci G, Hemiptera: Aleyrodidae) Isolated from the Charco Azul, Xichú, Guanajuato (Mexico). *Journal of Pure and Applied Microbiology* (**2014**), Vol. 8 No. 2 Pag. 1031-1042.

6. **Agüero-Chapin G,** Molina-Ruiz R, Maldonado E, de la Riva GA, Vasconcelos V and Antunes A. Exploring the Adenylation Domain Repertoire of Nonribosomal Peptide Synthetases Using an Ensemble of Sequence-Search Methods. *PLoS ONE* **2013** **8(7)**:e65926. doi:10.1371/journal.pone.0065926**.**

7. **Agüero-Chapin G,** Sánchez-Rodríguez A, Hidalgo-Yanes PI, Pérez-Castillo Y, Molina-Ruiz R, Marchal K, Vasconcelos V and Antunes A. An alignment-free approach for eukaryotic ITS2 annotation and phylogenetic inference. *PLoS ONE* **2011;6(10).**

8. **Agüero-Chapin G,** de la Riva GA, Molina-Ruiz R, Sánchez-Rodríguez A, Pérez-Machado G, Vasconcelos V and Antunes A. Non-linear models based on simple topological indices to identify RNase III protein members, *Journal of Theoretical Biology*. **2011; 273(1):167-78**.

9. **Agüero-Chapin G**, Pérez-Machado G, Molina-Ruiz R, Pérez-Castillo Y, Morales-Helguera A, Vasconcelos V and Antunes A (2010) TI2BioP: Topological Indices to BioPolymers. Its practical use to unravel cryptic bacteriocin-like domains. *Amino Acids.* **2011; 40(2):431-42.**

10. González-Díaz H, Dea-Ayuela MA, Pérez-Montoto LG, Prado-Prado FJ, **Agüero-Chapín G**, Bolas-Fernández F, Vazquez-Padrón RI, Ubeira FM. QSAR for RNases and theoretic-experimental study of molecular diversity on peptide mass fingerprints of a new Leishmania infantum protein. *Molecular Diversity* **2010 14:349–369.**

11. **Agüero-Chapin G**, Varona-Santos J, de la Riva GA, Antunes A, Gonza - - . Alignment-Free Prediction of Polygalacturonases with Pseudofolding Topological Indices: Experimental Isolation from Coffea arabica and Prediction of a New Sequence. *Journal of Proteome Research* **2009 8(4):2122-2128.**

12. **Agüero-Chapin G**, Antunes A, Ubeira F; Chou, KC; González-Díaz H. Comparative Study of Topological Indices of Macro/Supra-molecular RNA Complex Networks. *J. Chem. Inf. Model.* **2008 48(11)**: **2265-77, IF= 3.643**

13. González-Díaz H, Cabrera-Pérez MA, **Agüero-Chapin G,** Cruz-Monteagudo M, Castañeda-Cancio N, del Río MA, Uriarte E. Multi-target QSPR Assemble of a Complex Network for the Distribution of Chemicals to Biphasic Systems and Biological Tissues. *Chemometrics Intelligent and Laboratory Systems.* **2008; 94(2) 160-165.**

14. **Agüero-Chapin G**, González-Díaz H, de la Riva G, Rodríguez E, Sánchez-Rodríguez A, Podda G, Vázquez-Padrón RI. MMM-QSAR Recognition of Ribonucleases without Alignment: Comparison with an HMM Model and Isolation from Schizosaccharomyces pombe, Prediction, and Experimental Assay of a New Sequence *J. Chem. Inf. Model.* **2008; 48(2) 434-448.**

15. Cruz-Monteagudo M, González-Díaz H, **Agüero-Chapin G**, Santana L, Borges F, Dominguez E R, Podda G, Uriarte E. Computational chemistry

development of a unified free energy markov model for the distribution of 1300 chemicals to 38 different environmental or biological systems. *J Comput Chem.* **2007; 28(11): 1909–1923.**

16. Gonzalez-Diaz H, **Aguero-Chapin G**, Varona J, Molina R, Delogu G, Santana L, Uriarte E, Podda G. 2D-RNA-coupling numbers: A new computational chemistry approach to link secondary structure topology with biological function. *J Comput Chem*. **2007 Apr 30;28(6):1049-56**.

17. **Agüero-Chapin, G**; González-Díaz, H; Molina R; Varona-Santos, J; Uriarte, E; González-Díaz, Y. Novel 2D maps and coupling numbers for protein sequences. The first QSAR study of polygalacturonases; isolation and prediction of a novel sequence from Psidium guajava L. *FEBS Letters* **580 (2006) 723–730.**

18. 2D RNA-QSAR: assigning ACC oxidase family membership with stochastic molecular descriptors; isolation and prediction of a sequence from Psidium guajava L.Humberto Gonzalez-Dıaz, **Guillermin Aguero-Chapin,** Javier Varona-Santos Reinaldo Molina Gustavo de la Riva and Eugenio Uriarte. *Bioorganic & Medicinal Chemistry Letters* **15 (2005) 2932–2937.**

19. Cryptic endotoxic nature of *Bacillus thuringiensis* Cry1Ab insecticidal crystal protein. Roberto I. Vázquez-Padrón, Gustavo de la Riva, **Guillermin Agüero**, Yussan Silva, Si M. Pham, Mario Soberón, Alejandra Bravo and Abdelouahab Aïtouche. *FEBS Letters* **570 (2004) 30-36**

20. Unified Markov Thermodynamics based on stochastic forms to classify drugs considering molecular structure, partition system, and biologic species. Distribution of the antimicrobial G1 on rat tissues. González-Díaz, H., **Agüero-Chapin G**., Cabrera-Perez M.A., Molina R., Santana L., Uriarte E., Delogu G, Castañedo N. *Bioorg. Med. Chem. Lett. 2004*, **Vol. 15 No. 3, Pages 551-557.**

PEER-REVIEW NATIONAL JOURNALS

1. Advances in bioetanol's production starting from lignocellulosic material. Outlook in Cuba. **Guillermin Agüero Chapin**, Josefina Jover de la Prida, Leyanis Mesa Garriga, Erenio González. *Revista Centro Azúcar* **Vol. 4 pág. 23-26, 2004**

2. Isolation of a ACC Oxidase cDNA fragment expressed during Dwarf Guava (*Psidium guajava* L.) fruit ripening. **Guillermín Aguero**, Edrey Rodríguez, Lisbet Diaz, Neyda Bacallao y Elio Jiménez. *Revista Biotecnología Vegetal* **Vol 3, No 2: 187-189, jul-sep. 2003**

3. Alternatives for by-products derived from bio fuel technology obtaining. Leyanis Mesa, **Guillermin Agüero,** Erenio González. *Revista Centro Azúcar* **Vol. 3 Pág. 38-41, 2003**

4. Parameters optimization in the genetic somatic-embryos transformation of banana utilizing gene gun. Leticia Más, **Guillermín Agüero**, Victor Gil, Maritza Reyes, Rafael Gómez, Bárbara Ocaña y Sandra Martínez. *Revista Biotecnología Vegetal*, **No.1, p51-54, 2000**

5. The inmunopotenciar properties characterization of the Cry 1Ac toxin: possible use of these proteins as adjuvant source in the oral-vaccines preparation. R. I. Vázquez, **Guillermín Agüero Chapin** and Gustavo A. **Libro de Reportes Cortos**. **5to Coloquio Internacional de Biotecnología Vegetal**. Jun/1999, p223.

CONFERENCES

1. **International Society on Toxinology (IST 2016)**, Miami, USA, 18-23 Sept. Exploring the toxin expression in the Harderian gland's transcriptome of three Cuban snakes (Colubroidea). Dany Domínguez-Pérez, Jordi Durban, **Guillermin Agüero-Chapin**, Javier Torres Lopez, Reinaldo Molina Ruiz, Bruno Reis, Juan Calvete, Vítor Vasconcelos and Agostinho Antunes.

2. **VI International Symposium of Chemistry (SIQ 2016)**, Cayo Santa María, June7-10. Topological Indices to Biopolymers (TI2BioP) and Sequence Vectorization for Phylogenetic Analysis (SVPhyLA). Graphical-Numerical tools for Sequence Encoding. Reinaldo Molina, Evys Ancede, Guillermin Agüero, Gisselle Pérez, Agostinho Antunes.

3. *In Proceedings of the MOL2NET*, **5–15 December 2015, Basque Country, Spain; Sciforum Electronic Conference Series, Vol. 1, 2015 , e002; doi:10.3390/MOL2NET-1-e002.** Galpert Cañizares, D.; del Río García, S.; Herrera, F.; Ancede Gallardo, E.; Antunes, A.; Agüero-Chapin, G. Pairwise Ortholog Detection in Related Yeast Species by Using Big Data Supervised Classifications

4. *In Proceedings of the MOL2NET*, **5–15 December 2015, Basque Country, Spain; Sciforum Electronic Conference Series, Vol. 1, 2015 , F011; doi:10.3390/MOL2NET-1-F011.** Agüero-Chapin, G.; Molina Ruiz, R.; Antunes, A. TI2BioP: Topological Indices to BioPolymers

5. **Congreso Internacional de la Sociedad Cubana de Matemática y Computación (COMPUMAT), 25-27 Nov. 2015, La Habana, Cuba.** Esquema de evaluación de algoritmos supervisados y no supervisados de detección de genes ortólogos en levaduras Saccharomycete manejando el desbalance de los datos. Companioni Brito, C.; Galpert Cañizares, D.; Ancede Gallardo, E.; Antunes, A.; Agüero-Chapin, G.

6. **XIII Congreso Nacional de Reconocimiento de Patrones (RECPAT 2015) 27-29 Oct, Santiago de Cuba**. Evaluación de algoritmos supervisados y no supervisados de detección de genes ortólogos manejando el desbalance de los datos. Companioni Brito, C.; Galpert Cañizares, D.; del Río García, S.; Herrera, F.; Ancede Gallardo, E.; Antunes, A.; Agüero-Chapin, G

7. **Evolution 2015. Brazil (26-30 June).** Alignment-free methods for the detection and specificity prediction of Adenylation domains (Poster). Agostinho Antunes, Guillermin Agüero-Chapin, Gisselle Pérez-Machado, Aminael Sánchez-Rodríguez and Miguel Santos.

8. **4th ISCB-Africa ASBCB Conference in Bioinformatics (9-11 March, 2015)**. Alignment-free methods for the detection and specificity prediction of Adenylation domains (Poster/Section: Database and resource development. Miguel Santos, Guillermin Agüero-Chapin, Gisselle Pérez-Machado, Aminael Sánchez-Rodríguez, Agostinho Antunes.

9. **21 Conferencia de Quimica, Universidad de Oriente (December, 2014)**
- Exploring Adenylation Domains Repertoire Of Nonribosomal Peptide Synthetases Using Four-Color Maps. Guillermin Aguero, Reinaldo Molina, Gisselle Perez, Agostinho Antunes
- Paquete de Herramientas Bioinformaticas para la Modelacion y el Diseno de Farmacos. Reinaldo Molina, Evys Ancedes, Yunierkis Perez, Guillermin Agüero, Miguel A Cabrera, Maykel Cruz

10. **V Simposio Internacional de Química (SIQ 2013)**, Cayo Santa María, June 4-7. A Computational Chemistry Approach for ITS2 Annotation and Phylogenetic Inference. Guillermin Agüero-Chapin, Yunierkis Pérez -Castillo, Reinaldo Molina-Ruiz, Vitor Vasconcelos and Agostinho Antunes.

11. **International Work-Conference on Bioinformatics and Biomedical Engineering (IWBBIO)**, Granada, Spain, March 18-20, 2013. An alignment-free approach for eukaryotic ITS2 annotation and phylogenetic inference. Guillermin Agüero-Chapin, Aminael Sánchez-Rodríguez, Pedro I. Hidalgo-Yanes, Yunierkis Pérez -Castillo, Reinaldo Molina-Ruiz, Kathleen Marchal, Vitor Vasconcelos and Agostinho Antunes.

12. **ISCB Africa ASBCB Conference on Bioinformatics,** Casablanca, Morocco**,** March 13-15, 2013. An alignment-free approach for eukaryotic ITS2 annotation and phylogenetic inference. <u>Guillermin Agüero-Chapin</u>**,** Aminael Sánchez-Rodríguez, Pedro I. Hidalgo-Yanes, Yunierkis Pérez -Castillo, Reinaldo Molina-Ruiz, Kathleen Marchal, Vitor Vasconcelos and Agostinho Antunes.

13. **2nd BioSyst.EU**. 2013. 18-22 February. Vienna. TI2BioP: Topological Indices to Biopolymers. Its practical use to unravel cryptic bacteriocin-like domains. <u>Guillermin Agüero-Chapin</u>, Gisselle Pérez-Machado, Reinaldo Molina-Ruiz, Yunierkis Pérez-Castillo, Aliuska Morales-Helguera, Vítor Vasconcelos and Agostinho Antunes

14. **8th Seminars of Advanced Studies on Molecular Design and Bioinformatics**, Habana, Cuba, Julio 2011 (Oral communication)**.** Alignment-free Models supported on the TI2BioP methodology to Identify RNase III Protein Members. <u>Guillermin Agüero-Chapin</u>**,** Gustavo A de la Riva, Reinaldo Molina-Ruiz, Aminael Sánchez-Rodríguez, Gisselle Pérez-Machado, Vítor Vasconcelos and Agostinho Antunes.

15. **2nd Iberic Meeting on Medicinal Chemistry**. Porto, Portugal, June 12-15, 2011 (Poster). Alignment-free Models based on the TI2BioP methodology to identify Rnase III protein members. <u>Guillermin Agüero-Chapin</u>**,** Gustavo A de la Riva, Reinaldo Molina-Ruiz, Aminael Sánchez-Rodríguez, Gisselle Pérez-Machado, Vítor Vasconcelos and Agostinho Antunes.

16. **1er Congreso Multidisciplinario de las Ingenierías**. Morelia, Michoacán, México, Mayo 2011.
- Biodegradación de plásticos (Oral Presentation). Gustavo de la Riva, <u>Guillermin Agüero Chapin</u>, Vitor Vasconcelos and Agostinho Antunes.
- Péptidos No ribosomales y sus sintetasa: genes y productos (Oral Presentation). Gustavo de la Riva, <u>Guillermin Agüero Chapin</u>, Vitor Vasconcelos and Agostinho Antunes.

17. **18th European Symposium on Quantitative Structure–Activity Relationships "Discovery Informatics & Drug Design"**,Rodas, Grecia, 2010. A general QSAR methodology to predict telomerase inhibition by G-quadruplex stabilization. Castillo-González Daimel, Perez-Machado Gisselle, <u>Agüero-Chapin Guillermin</u>, Morales-Helguera Aliuska, Teijeira-Bautista Marta, Cabrera-Perez Miguel Angel.

18. **3er Congreso Internacional de Investigación CIPITECH,** 13-15 de Oct, 2010 Instituto Tecnológico de Parral, México. Comparative enzymatic activity of three recombinant RNAse III and effect of bacterial RNAse III expressed in

transformed yeasts. de la Riva G.A, <u>Agüero–Chapin G</u>, Morales-Aragón JC, Pérez-Machado G, Vasconcelos V and Antunes A

19. **IV International Symposium on Chemistry,** 1-4 of Jun 2010, Santa Clara, Cuba (Poster). A QSFR-like model to detect proteinaceous bacteriocins. Its practical application to the discovery of new bacteriocin-like domains. <u>Guillermin Agüero-Chapin</u>, Gisselle Pérez-Machado, Reinaldo Molina-Ruiz, Yunierkis Pérez-Castillo, Aliuska Morales-Helguera, Victor Vasconcelos and Agostinho Antunes.

20. **Third Join Italian-German Purine Club Meeting. Purinergic Receptors. New Frontiers for Novel Therapies**. Camerino, Italia, Julio 2009. A new approach of the sub-structural analysis toward the design of A1 Adenosine Receptors Agonists. Marta Teijeria Bautista, Maykel Pérez González, Aliuska Morales Helguera, <u>Guillermin Agüero Chapin</u>, Gisselle Pérez Machado, Carmen Terán Moldes.

21. **Biotecnología Habana 2009. Aplicaciones Médicas de la Biotecnología. Habana, Cuba,** del 2-5 de Noviembre del 2009. Telomerase inhibitors by G-quadruplex stabilization: A QSAR approach. Daimel Castillo González, Miguel Ángel Cabrera Pérez, Gisselle Pérez Machado, <u>Guillermin Agüero Chapin</u>, Aliuska Morales Helguera

22. **XIII Congreso Nacional de Bioquímica y Biología Molecular de Plantas,** Guanajuato, México, 9-13 Nov 2009. QSAR study to polymeric sequences embedded in a novel 2D lattice (Poster) Session Omica de Plantas. (Poster) <u>Guillermin Agüero Chapin</u>, Humberto González-Díaz, Gustavo A de La Riva, Gisselle Pérez-Machado, Agostinho Antunes.

23. **III Simposio Internacional de Química** (5-8 de Junio, 2007) Universidad Central de Las Villas, Santa Clara, Cuba. "Computacional design of cellulolytics complexes for improving enzymatic hydrolysis in ethanol production" <u>Guillermin Agüero Chapin</u>, Humberto González-Díaz, Gustavo A de La Riva, Agostinho Antunes.

24. **18 International Conference of Chemistry** (7 - 9 December) 2005 Universidad de Oriente. Cuba, Poster Section
- Study of bagasse hydrolysis using concentrated sulfuric acid for etanol obtaining and technical-economical analysis of this process". **(Chemical Engineering Workshop)**
- 2D RNA-QSAR: assigning ACC oxidase family membership with stochastic molecular descriptors; isolation and prediction of a sequence from *Psidium guajava* L **(Bioinformatics Workshop)**

25. **Vl International Conference of Chemistry and Chemical Engineering (II Simposio Internacional de Bioquímica y Biología Molecular)** 18- 22 Oct, 2004. Cuba. Poster Section
- Isolation of a ACC Oxidase cDNA fragment expressed during Dwarf Guava's (*Psidium guajava* L) fruit ripening. <u>Guillermin Agüero</u>, Edrey Rodríguez, Lisbet Diaz, Neyda Bacallao y Elio Jiménez
- Study of bagasse hydrolysis using concentrated sulfuric acid for etanol obtaining and technical-economical analysis of this process. <u>Guillermin Agüero</u>, Boutros Fouad Sarrouh, Josefina Jover and Erenio González

26. **VIII International Conference on sugar and its derived products. "Diversificación 2004"** 14 -18 June 2004, Havana (Cuba). Poster Section. Study of bagasse hydrolysis using concentrated sulfuric acid for etanol obtaining". Boutros Fouad Sarrouh, <u>Guillermin Agüero</u>, Josefina Jover and Erenio González

27. **II International Chemistry Conference** (2003), Faculty of Chemistry and Pharmacy, Central University of Las Villas, Santa Clara, Cuba. Poster Section
- Advances in bioethanol's production starting from lignocellulosic material. <u>Guillermin Agüero,</u> Josefina Jover, Erenio Suárez
- Alternatives for by-products coming from bio-fuel technology obtaining. Leyanis Mesa, <u>Guillermin Agüero,</u> Erenio Suárez

28. **6th Plant Biotechnology International Colloquium** (2002) Institute of Plant's Biotechnology, Cuba. Poster. Isolation of a ACC Oxidase cDNA fragment expressed during Dwarf Guava (*Psidium guajava* L.) fruit ripening. <u>Guillermin Agüero</u>, Edrey Rodríguez, Neyda Bacallao and Elio Jiménez

29. **Plant Biotechnology International Congress**; BioVeg 2001 (16 April /2001), Cuba. Poster. Isolation of a ACC Oxidase cDNA fragment expressed during Dwarf Guava (*Psidium guajava* L.) fruit ripening.

30. **5th Plant Biotechnology Colloquium** (16-19 June/ 1999), Institute of Plant's Biotechnology, Cuba. Poster.
- Studies of parameters affecting genetic transformation of banana somatic embryos cv. Gran Enano by gene gun
- The inmunopotenciar properties characterization of the Cry 1Ac toxin: possible use of these proteins as adjuvant source in the oral-vaccines preparation.

Scientific or Professional awards.

1. **Annual Award of the Cuban Academy of Sciences (2015).** "Métodos grafo-numéricos de relevancia para la bioinformática. Aplicaciones en la biotecnología vegetal y en el descubrimiento de fármacos". Autor Principal

2. **Annual Regional Award of the Ministry of Science and Technology (CITMA, Cuba, 2013) "**Development of a graphical and numerical approach for functional annotation and phylogenetic inference in gene/protein families involved in drug discovery

3. **Top-50 most cited article 2005-2008 Award / FEBS Letters.** "Novel 2D maps and coupling numbers for protein sequences. The first QSAR study of polygalacturonases; isolation and prediction of a novel sequence from *Psidium guajava* L. *FEBS Letters* **580 (2006) 723–730.** Guillermin Agüero-Chapin, Humberto González-Díaz, Reinaldo Molina, Javier Varona-Santos, Eugenio Uriarte, Yenny González-Díaz.

4. **Annual Award of the Cuban Academy of Sciences to the results in the Scientific Resarch (2005)**: "From molecular structure biological activity: Applications and potentialities of novel computational design methods in QSAR, QSPR, QSPkR, QSTR studies, proteomic and bioinformatics"

5. **Alvaro Reynoso Award (2002) "**Results derived from the micropropagation and genetic improvement of the sugar cane**"**