IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

CV date (dd/mm/yyyy)	24/09/2023

Part A. PERSONAL INFORMATION

First name	Agustín		
Family name	Riscos Núñez		
Gender (*)	Male	Birth date (dd/mm/yyyy)	09/12/1977
e-mail	ariscosn@us.es	URL Web: www.gcn.us.es/ariscosn	
Open Researcher and Contributor ID (ORCID)(*)	0000-0002-5409-3578		

(*) Mandatory

A.1. Current position

Position	Associate Professor (*Prof. Titular de Universidad*)		
Initial date	08/04/2011		
Institution	Universidad de Sevilla		
Department/Center	Dpto. Ciencias de la Computación e Inteligencia Artificial		
Country	Spain	Teleph. number	(+34) 954552792
Key words	Bioinspired models of computation, Membrane Computing, Computational modelling, Complexity Theory, Artificial Intelligence, Parallel computing		

A.2. Previous positions (research activity interruptions, indicate total months)

Period	Position/Institution/Country/Interruption cause
27/07/2017-29/12/2017	Parental leave
04/07/2011-13/10/2011	Parental leave
20/02/2008-07/04/2011	Tenured Assistant professor – Prof. Contratado Doctor / Universidad de Sevilla / Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
Licenciado en Ciencias Matemáticas (5 years degree)	Universidad de Sevilla	2000
DEA CC. Computación e I.A.	Universidad de Sevilla	2002
DEA CC. Computación e I.A.	Univ. Rovira i Virgili (Tarragona)	2004
Doctor por la Universidad de Sevilla (PhD program: Logic, Computing & Artificial Intelligence)	Universidad de Sevilla	2004

(Include all the necessary rows)

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

Agustín Riscos Núñez obtained his PhD degree in 2004 at Universidad de Sevilla, earning the maximum mark (*Sobresaliente cum laude*), and the excellence award (*Premio extraordinario de doctorado*). Since 2011, he serves as Associate professor at the Department of Computer Science and Artificial Intelligence. He is guarantor researcher at the “Smart Computer systems Research and Engineering Lab (SCORE)” unit of excellence, head of the “Research Group on Natural Computing (PAIDI TIC-193)”, founding member and Secretary of the “Research Institute of Computer Engineering (I3US)” at Universidad de Sevilla, Spain. In addition, he is one of the founding members of the “International Membrane Computing Society (IMCS)”, and IEEE Senior Member.

His main areas of expertise are bio-inspired computing and artificial intelligence. His research interests mainly focus in computational complexity theory and computational modelling of

complex systems and population dynamics, as well as other practical applications in the fields of bioinformatics, biomedicine, high performance computing and robotics.

He has co-authored 47 scientific papers published at indexed international journals, and more than 35 conference contributions (some of them as invited speaker). He has also co-authored several book chapters and one monograph, and has served as editor for more than 15 collective volumes.

- Three positive evaluations for research periods from the Spanish Ministry (***sexenios***): 2002-2007; 2008-2013 and 2014-2019.
- ISI WOS (Publons):
  92 publications in Web of Science, **1448 citations** (total number), **h-index 23**.
- SCOPUS**:**
  109 documents, **1819 citations** (total number), **h-index 27**.
- SciVal:
  in the last 4 years (2019-2022), **8** publications in the top 10% most cited publications worldwide, and 13 publications in top 10% journals by CiteScore

Concerning international visibility, it is worth highlighting that the number of papers with international collaborators is quite significant (above 30% in the last decade, and even higher in recent years). This is partially motivated by the contacts that arose after working with two outstanding scientists at the beginning of his research career. On the one hand, Prof. Gheorghe Paun, who joined the natural computing group at Universidad de Sevilla under a *Ramón y Cajal* position, and stayed for several years after that, acting as a catalyst for multiple innovative research lines. On the other hand, Prof. Grzegorz Rozenberg, who offered an invited postdoctoral visit to the *Leiden Center for Advanced Computer Science*. Another key factor is being in the organising committee and participating in the series of *Brainstorming Week on Membrane Computing.* These events have been organized by the Natural Computing group at Universidad de Sevilla on a yearly basis since 2004 (except last two editions, which were cancelled because of COVID restrictions). It is also worth noting that in recent years a fluent and fruitful collaboration has been stablished with Jun Wang's group, from Xihua University (Chengdu, China), investigating mainly variants of neural-like P systems featuring fuzzy logic ingredients and learning mechanisms.

Concerning teaching and dissemination activities, Agustín Riscos Núñez has been in charge of teaching more than 15 different courses from various degrees (e.g. "Databases" for undergraduate Statistics students, "Artificial Intelligence" for undergraduate CS Engineering students, "Decision Support Systems" for Master students from the online program on "Biomedical Engineering and Digital Health", or "Teaching Innovation and Introduction to Research in Education" for Master students from the habilitation program to become Secondary school teachers). He has supervised more than 10 BsC and MsC Theses, as well as 3 PhD theses. He has served multiple times as a member of PhD pannels, or as an external examiner, both in Spain and abroad. He has actively participated in a number of dissemination invited lectures at local primary and secondary schools, has been involved in 5 editions of the *Campus Científicos de Verano* program, and several sessions at the *Aula de la Experiencia* of Universidad de Sevilla (a series of layman-level lectures for adults and elderly people). He is currently a member of the academic committee from the Master's degree on Biomedical Engineering and Digital Health, and member of the International relationships committee of the Faculty of Mathematics. He has performed two Erasmus-related visits to other Universities.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications *(see instructions)*

1. (journal paper) I. Pérez-Hurtado; D. Orellana-Martín; M.Á. Martínez-del-Amor; L. Valencia-Cabrera; **A. Riscos-Núñez**. 2022. A new P-Lingua toolkit for agile development in membrane computing. *Information Sciences*, vol 587, March 2022, pages 1-22.
   (journal ranks 16/164 – **Q1** in category "Comp. Sci., Information Systems" in 2021, SCIE)

2. (journal paper) D. Cascado-Caballero; F. Díaz-del-Río; D. Cagigas-Muñiz; A. Ríos-Navarro, A.; J.L. Guisado-Lizar; I. Pérez-Hurtado; **A. Riscos-Núñez**. 2022. MAREX: A general purpose hardware architecture for membrane computing. *Information Sciences*, vol 584, January 2022, pages 360-386. (journal ranks 16/164 – **Q1** in category " Comp. Sci., Information Systems" in 2021, SCIE)

3. (book) G. Zhang; M.J. Pérez-Jiménez; **A. Riscos-Núñez**; S. Verlan; S. Konur; T. Hinze; M. Gheorghe. 2021. Membrane Computing Models: Implementations. Springer. ISBN: 978-981-16-1565-8.

4. (journal paper) D. Orellana-Martín; M.Á. Martínez-del-Amor; L. Valencia-Cabrera; I. Pérez-Hurtado; **A. Riscos-Núñez**; M.J. Pérez-Jiménez. 2021. Dendrite P systems toolbox: representation, algorithms and simulators. International Journal of Neural Systems, 31 (1), 2050071. (journal ranks 28/139 – **Q1** in category "Artificial Intelligence" at ISI JCR 2020)

5. (journal paper) H. Peng, J. Wang, M.J. Pérez-Jiménez, **A. Riscos-Núñez.** 2019. Dynamic threshold neural P systems. *Knowledge-Based Systems*, vol 163, 1 January 2019, pages 875-884. (journal ranks 15/136 – **Q1** in category "Computer Science, Artificial Intelligence" at ISI JCR 2019)

6. (journal paper) H. Peng; P. Shi; J. Wang; M.J. Pérez Jiménez; **A. Riscos Núñez**. 2017. Fault diagnosis of power systems using fuzzy tissue-like P systems. *Integrated Computer-Aided Engineering*, 24, 4 (2017), 401-411. (journal ranks 21/132 – **Q1** in category "Computer Science, Artificial Intelligence" at ISI JCR 2017)

7. (journal paper) H. Peng; P. Shi; J. Wang; **A. Riscos Núñez**; M.J. Pérez Jiménez. 2017. Multiobjective fuzzy clustering approach based on tissue-like membrane systems. *Knowledge-Based Systems*, 125 (2017), 74-82. (journal ranks 14/132 – **Q1** in category "Computer Science, Artificial Intelligence" at ISI JCR 2017)

8. (journal paper) M.J. Pérez-Jiménez, C. Graciani, D. Orellana-Martín, **A. Riscos-Núñez**, Á. Romero-Jiménez; L. Valencia-Cabrera. 2017. Fuzzy Reasoning Spiking Neural P systems revisited: A formalization. *Theoretical Computer Science*, 701, 216-225. (journal ranks 77/103 – Q3 in category "Computer Science, Theory & methods" at ISI JCR 2017)

9. (journal paper) M.Á. Martínez-del-Amor; M. García-Quismondo; L.F. Macías Ramos; L. Valencia Cabrera; **A. Riscos Núñez**; M.J. Pérez Jiménez. 2015. Simulating P systems on GPU Devices: a survey. *Fundamenta Informaticae*, *136(3), 269–284.* (ranks 75/106 – Q3 in category "Comp. Sci., Software Engineering" at ISI JCR 2015)

10. (book chapter) Colomer-Cugat M.A., García-Quismondo M., Macías-Ramos L.F., Martínez-del-Amor M.A., Pérez-Hurtado I., Pérez-Jiménez M.J., **Riscos-Núñez A.**, Valencia-Cabrera L. (2014). Membrane System-Based Models for Specifying Dynamical Population Systems. In: P. Frisco et al (Eds.). *Applications of Membrane Computing in Systems and Synthetic Biology.* Springer Verlag (series “Emergence, Complexity and Computation” vol. 7), 97-132. ISBN 978-3-319-03191-0

C.2. Congress, indicating the modality of their participation (invited conference, oral presentation, poster)

1. (invited talk) **A. Riscos-Núñez**. On DNA of membrane computing models. 11th Asian Conf. Membrane Computing, Quezon City, Philippines, 2022.

2. (regular contribution) D.H. Cámpora Pérez; N. Neufeld; **A. Riscos-Núñez**. A fast local algorithm for track reconstruction on parallel architectures. *Proceedings - 2019 IEEE 33rd International Parallel and Distributed Processing Symposium Workshops, IPDPSW 2019 (isbn: 9781728135106)*, pp. 698-707. DOI: 10.1109/IPDPSW.2019.00118
3. (invited talk) A. Riscos-Núñez. Borderlines of efficiency: what's up?. 17th Int. Conf. Membrane Computing, Milano (Italy), 2016
4. (invited talk / tutorial) **A. Riscos-Núñez**. "In silico" Membrane Computing: Implementation vs. Simulation. 16th Int. Conf. Membrane Computing, Valencia, Spain, 2015.
5. (regular contribution) C. Graciani; M.Á. Martínez-Del-Amor; **A. Riscos-Núñez**. A New Strategy to Improve the Performance of PDP-Systems Simulators. 16th Int. Conf. Membrane Computing, Valencia (Spain), 2015.
6. (invited talk / special session) **A. Riscos-Núñez**. Current developments on computational modeling using P systems. *Computability in Europe CiE 2011*, Sofia, Bulgaria. https://cie2011.fmi.uni-sofia.bg/indexd46b.html

C.3. Research projects, indicating your personal contribution. In the case of young researchers, indicate lines of research for which they have been responsible.

1. *Desarrollo de modelos computacionales de especies invasoras en el Guadalquivir: herramientas de gestión para su control y prevención*. Supported by: Junta de Andalucía (Consejería de Economía, Conocimiento, Empresas y Universidad), Ref. P20_00486. Duration: 05/10/2021-31/12-2022. Total Budget: 56.000 €. PI: Agustín Riscos Núñez (Universidad de Sevilla). Rol: **PI**
2. *Máquinas bio-inspiradas sobre plataformas de altas prestaciones: Un enfoque multidisciplinar (TIN2017-89842-P).* Supported by: Ministerio de Economía, Industria y Competitividad. Duration: 01/01/2018 - 31/12/2020. Total budget: 52.400 €. PIs: Agustín Riscos Núñez & Mario J. Pérez Jiménez (Univ. de Sevilla). Rol: **co-PI**
3. *Modeling principles of membrane computing models for giant pandas ecosystems.* Supported by: National Natural Science Foundation of China. Grant No. 61672437 Duration: 01/01/2017 - 31/12/2020. PIs: Gexiang Zhang, Dunwu Qi, Mario de J. Pérez Jiménez. Rol: investigator
4. *Research on the unsupervised learning model of membrane computing and its learning mechanism.* Supported by: National Natural Science Foundation of China. Grant No. 61472328. Duration: 01/01/2015 - 31/12/2018. PIs: Jun Wang, Mario de J. Pérez Jiménez, Hong Peng, Agustín Riscos Núñez. Rol: **co-PI**
5. *Cell Based Membrane Computing Systems and their Applications in Biology* (Grant nº 61320106005). Supported by: National Natural Science Foundation of China. Duration: 01/01/2014 - 31/12/2018. Total budget: 2.600.000 CNY. PI: Linqiang Pan (Huazhong University of Science and Technology, Wuhan, China). Rol: investigator
6. *De la Computación Celular a la Computación de Alto Rendimiento. Aplicación a la Dinámica de Poblaciones* (TIN2012-37434). Supported by: Ministerio de Economía y Competitividad. Duration: 01/01/2013 - 31/12/2015. Total budget: 94.208,40 €. PI: Mario de J. Pérez Jiménez (Universidad de Sevilla). Rol: investigator
7. *Modelado y simulación computacional en biología de sistemas* (P08-TIC-04220). Proyecto de Excelencia con Investigador de Reconocida Valía de la Junta de Andalucía. Duration: 14/01/2009 - 13/01/2013. Total budget: 528.403,68 €. PI: Gheorghe Paun (Universidad de Sevilla). Rol: investigator