

Curriculum Vitae

Jorge Carneiro

September 2014

PERSONAL INFORMATION

Full name: Jorge Albino Cadeias Araújo Carneiro
Date of birth: April 7, 1967
Nationality: Portuguese

Contact:

Instituto Gulbenkian de Ciência
Apartado 14
2781-901 Oeiras
Portugal
Phone: (351) 214 407 920
Email: jcarneir@igc.gulbenkian.pt
URL: <http://www.igc.gulbenkian.pt>
URL: <http://qobweb.igc.gulbenkian.pt/>
URL: <http://pdbc.igc.gulbenkian.pt/>

Languages: Portuguese, English (fluent written and spoken)
French, Spanish (basic written and fluent spoken)

DEGREES

- 1997 *Doutoramento* (PhD) in Biomedicine by the University of Porto, Portugal
My dissertation, which was prepared at the Pasteur Institute in Paris under the supervision of Prof. John Stewart (CRNS), was entitled "Towards a comprehensive view of the immune system".
- 1991 *Licenciado* in Biochemistry by the University of Porto, Portugal

PRESENT JOB AND APPOINTMENTS

Deputy director for Science. Instituto Gulbenkian de Ciência, Oeiras, Portugal.
Principal Investigator. Instituto Gulbenkian de Ciência, Oeiras, Portugal.

PRESENT AND PAST RESEARCH POSITIONS

From 1998

Principal Investigator at the Instituto Gulbenkian de Ciência, Oeiras, Portugal

2006-2013

Principal Investigator at the Laboratório Associado ITQB/IGC/IBET Oeiras, Portugal

April – September 2010

Visiting scientist on Sabbatical at Alberto Darszon's laboratory at the *Instituto de Biotecnologia/UNAM*, Cuernavaca, México

July 2002 – June 2006

Associate investigator at the *Laboratório Associado ITQB/IGC/IBET* Oeiras, Portugal

1997 – 1998

Postdoctoral Fellow with Rob de Boer at the Theoretical Biology and Bioinformatics Group of the University of Utrecht, The Netherlands.

1992 – 1996

External PhD Student supervised by Prof. John Stewart at the Unité d'Immunobiologie of the Pasteur Institute, Paris, France.

1990 – 1991

Trainee, supervised by Prof. Arala Chaves, at the Laboratory of Immunology of the Institute for Biomedical Sciences Abel Salazar, Porto, Portugal.

1987 – 1988

Trainee, supervised by Prof. Ferreira Gomes, at the Theoretical Chemistry Group of the Faculty of Sciences of the University of Porto, Portugal.

PROFESSIONAL ACTIVITIES

2013

Member of the Selection Committee of the Graduate Program Science for Development (PGCD)

The PGCD is an innovative advanced training program that is helping to prepare African and East Timorese students to pursue a scientific career and train a new generation of University professors.

<http://pages.igc.gulbenkian.pt/pgcd>

From April 2006-September 2013

Director of the PhD Program in Computational Biology

The PDBC was a pilot program that aimed to train the next generation of computational biologists and was promoted by Fundação Calouste Gulbenkian (FCG.), Fundação para a Ciência e a Tecnologia (FCT), and Siemens SA (Portuguese branch of the global corporation)

<http://pdbc.igc.gulbenkian.pt>

July 2006-December 2012

Vice-Director of the FLAD Computational Biology Collaboratorium

Sponsored by FCT, FCG, Luso-American Foundation for Development (FLAD), Fundação PT (private) and Fundação para Computação Científica Nacional (public) the FCBC is the twin initiative of the PhD Program in Computational Biology, which aims to facilitate the reinsertion of the students in the Portuguese scientific community
<http://bc.igc.gulbenkian.pt/collaboratorium/>

2009-2010

Member of the Selection Committee of the Gulbenkian PhD Program in Integrative Biomedical Sciences.

2003-2006

Vice-president of Portuguese Society of Immunology

2000-2003

Scientific Secretary Portuguese Society of Immunology

1997-2000

General Secretary of Portuguese Society of Immunology

PEER REVIEWING ACTIVITIES

Associate Editor for the Elsevier Journal **BioSystems**

Regularly invited to review manuscripts for international journals, including *PNAS*, *PLoS Computational Biology*, *Journal of Immunology*, *Journal Theoretical Biology*, *Bulletin of Mathematical Biology*.

Expert reviewer for NWO, Innovational Research Incentives Scheme (Netherlands)

Expert reviewer for European Science Foundation (Exploratory Workshop Proposal)

Expert reviewer for Agência de Inovação (Adi) - Sistema de Incentivos à Investigação e Desenvolvimento Tecnológico nas Empresas (Portugal)

Expert reviewer for *Wiener Wissenschafts-, Forschungs- und Technologiefonds* (Austria)

Expert reviewer for Mathematics of Information Technology and Complex Systems. Network of Centres of Excellence (MITACS-NCE) (Canada)

Member of the selection committee and “rapporteur” for the “Poste de Professeur des Universités no 349 (CNU section 29). Université de la Méditerranée Aix Marseille II.

AWARDS

Active grants

Targets and Off targets of Recombination activating genes

FCT grant PTDC/BIA-GEN/116830/2010.

Team member in a grant to Jocelyne Demengeot (IGC)

January 2010 – May 2013

MALIN-Modular modelling and Analysis of Large biological Interacting Networks

FCT grant PTDC/EIA-CCO/099229/2008

Team member in a grant to Claudine Chaouiya (IGC)

February 2010 – April 2013

BiolnstBots: from bio-inspired to institutional-inspired collective robotics

FCT grant PTDC/EEA-CRO/104658/2008

IGC team leader in a multi-institutional grant to Pedro Lima (Robotics Institute, IST, Lisbon)

May 2007 – April 2010

Genetic and biochemical control of Cerl-2 activity during early development

FCT grant PTDC/SAL-OB/69928/2006

IGC team leader in an inter-institutional to José António Belo (Universidade do Algarve)

January 2007 – December 2009

Quantitative and qualitative T cell receptor repertoire requirements for immune tolerance establishment and maintenance

FCT grant PTDC/SAU-MII/71402/2006

Team member in a grant to Jocelyne Demengeot (IGC)

August 2005 – July 2007

Produção de células T na imunodeficiência associada ao VIH

FCT grant POCI/SAU-MMO/60333-2004

IGC team leader in an inter-institutional to Ana Espada de Sousa (IMM)

April 2003 – March 2007

Nature, population dynamics, and mechanism of action of regulatory CD25+ T cells: A biomathematical and experimental approach

FCT grant POCTI/MGI/46477/2002

Principal Investigator

September 2001 – August 2003

Mechanisms involved in the germinal centre reaction; a biomathematical and experimental approach

FCT- Programa Sapiens POCTI 36413/99

Team member in a grant to Jose Faro (IGC)

July 2001 – June 2004

HIV2 infection as a model for the investigation of AIDS pathogenesis

FCT- Programa Sapiens POCTI 36312/99

Team member in a grant to Ana Espada de Sousa (IMM)

July 1999 – June 2002

Mechanisms of lymphocyte cooperation involved in immunoregulation: an experimental and biomathematical approach

FCT grant Praxis/P/BIA/10094/1998

Principal Investigator

Prizes

2004

“Pfizer Research Award” for the work: “Componentes das respostas inflamatórias contribuem para o controlo da inflamação” together with M. Haury, I. Caramalho, S. Zelenay, T. Lopes-Carvalho, M. Rebelo, V. Oliveira and J. Demengeot

2002

Prémio Labmed/LabMed Prize. 1st Honorable Mention together with Ana Espada de Sousa, Zvi Grossman, and Rui Victorino

SUPERVISION OF STUDENTS

Present students

From January 2012

Supervisor of the PhD candidate **Pedro Ângelo Silva** (MSc in Computational Biology from FCUL). The project entitled "*Quantitative analysis of spermatozoa chemotaxis in three dimensions*" was awarded an individual scholarship from Foundation for Science and Technology.

From October 2009

Supervisor of PhD candidate **Tiago Macedo** (BSc in Biomedical Engineering from the Universidade Federal de Pernambuco, Brasil), who is a student of the PhD Program in Computational Biology. His project is entitled: "*Epithelial morphodynamics: modelling and image analysis integration*".

Former students

January 2009-December 2013

Supervisor with Dr. Michal Or-Guil (Charité, Berlin) of PhD candidate **Tom Weber** (BSc. in Physics from Humboldt University, Berlin), who received his PhD by the Humboldt University in Berlin for his thesis entitled: "*Optimal Timing of Phase Resolved Cell Cycle Progression*".

Tom is currently postdoc with Dr. Ken Duffy (NUI Maynooth, Ireland).

July 2009-December 2013

Supervised, together with Dr. Vasco Barreto (IGC) **Thiago Guzella**, who received his PhD in Systems Biology from the Universidade Nova de Lisboa for his thesis entitled: "*Variation in Protein Expression Levels in Cell Populations*".

He is currently a **Postdoc** at the École Normale et Supérieure in Paris with Dr. Henrique Teotónio.

October 2010 – November 2011

Supervised **Pedro Ângelo Silva**, who received a MSc in Computational Biology from the University of Lisbon for his thesis entitled: "*Supervised and unsupervised spermatozoa detection, classification and tracking in imaging data*".

Pedro is currently a **PhD student** in my group at the Instituto Gulbenkian de Ciência.

January 2005 – September 2009

Supervised **Nuno Sepúlveda**, who received his PhD in Biomedicine from the University of Porto for his thesis entitled: "*How is the T cell repertoire shaped?*"

Nuno received the "SPE Award" in 2008 from the Portuguese Society for Statistics for the work developed during his thesis.

He is currently a **Biostatistician** at the London School of Hygiene and Tropical Medicine, London, UK.

October 2007 – December 2008

Supervised **Íris Vilares**, who received her MSc in Applied Maths from the Department of Maths of the Instituto Superior de Agronomia (Technical University of Lisbon), for her thesis entitled: "*Interaction between microorganisms and the innate and adaptive immune systems: a mathematical view*".

Íris was awarded one of the rare MSc fellowships from Foundation for Science and Technology

Íris was a **PhD student** of the Champalimaud Neuroscience Program and prepared her dissertation at Northwestern University and the Rehabilitation Institute of Chicago with Dr. Konrad Korning. She is currently a Post-doctoral researcher at Virginia Tech.

April 2003 – September 2007

Supervised **Tiago Paixão**, who received his PhD in Biomedicine from the University of Porto for his thesis entitled: “The Stochastic Basis of Somatic Variation”

The thesis was short listed and received a Honourable Mention in the Reinhart Heinrich Award for the best doctoral thesis in any area of Mathematical or Theoretical Biology of the European Society for Mathematical and Theoretical Biology.

Tiago is currently **Postdoctoral Researcher** at Institute of Science Technology, Vienna Austria.

April 1998 – December 2003

Supervised **João Sousa**, who received his PhD in Theoretical Biochemistry from the University of Lisbon for his thesis entitled: “Modeling the antigen and cytokine receptors signaling processes and their propagation to lymphocyte population dynamics”.

João is currently the **Head** of the Informatics Technology Unit at the Instituto Gulbenkian de Ciência

April 1999– October 2002

Supervised **Kalet Leon**, who received his PhD in Biomedicine from the University of Lisbon for his thesis entitled: “A quantitative approach to dominant tolerance”.

Kalet is currently the **Scientific Director** of the Institute for Molecular Immunology in Havana, Cuba.

TEACHING

October 2011 to October 2012

Invited Professor of Immunology at the Faculdade de Medicina de Lisboa, Lisbon, Portugal

April 2006 to present

Director of the PhD Program in Computational Biology. Gulbenkian Institute of Science. Oeiras, Portugal.

Recent Courses

(Only the last 5 years)

January 20-24, 2014

Organizer and teacher of the two weeks course “*Statistics and Quantitative Biology*” integrated in the Ph.D Program in Integrative Biology and Biomedicine of the Gulbenkian Institute of Science. Oeiras, Portugal.

<http://qobweb.igc.gulbenkian.pt/courses/sqb2014/>

March 4-8, 2013 2013

Organizer and teacher of the two weeks course “*Statistics and Quantitative Biology*” integrated in the Ph.D Program in Integrative Biological Sciences of the Gulbenkian Institute of Science. Oeiras, Portugal.

<http://qobweb.igc.gulbenkian.pt/courses/sqb2013/>

May 21-25, 2012

Teacher at the Evry'12 Thematic Research School “*Modelling complex biological systems in the context of genomics*” (Organisers: François Kepes *et al.*), Evry, France

November 14 – 18, 2011

Teacher in the “*Molecular and Systems Biology Module*” of the Doctoral Programme in Experimental Biology and Biomedicine (Organiser: A. Salvador). University of Coimbra. Portugal.

http://beb.cncb.pt/det_courses.asp?id=536

<http://qobweb.igc.gulbenkian.pt/courses/coimbrasysbio2011/>

November 7 – 11, 2011

Organizer and teacher of the one week course “*Statistics and Quantitative Biology*” integrated in the Ph.D Program in Integrative Biological Sciences of the Gulbenkian Institute of Science. Oeiras, Portugal.

<http://qobweb.igc.gulbenkian.pt/courses/sqb2011/>

September 27-October 8, 2010

Organizer and teacher of the two weeks course “*Statistics and Quantitative Biology*” integrated in the Ph.D Program in Integrative Biological Sciences of the Gulbenkian Institute of Science. Oeiras, Portugal.

<http://qobweb.igc.gulbenkian.pt/courses/sqb2010/>

June 28-July 7, 2010

Teacher at the “*School of Systems Biology*”. (Organisers: R Zorzenon. S Nair Bao, ;S Soares Filipe. E. Domany). International Institute for Physics, Federal University of Rio Grande do Sul. Natal, Brazil.

June 12-18, 2010

Teacher of the course “*ImagIS-Practical Course on Image Acquisition in Immunology*”

(Organisers: C. Tadokoro, I. Caramalho, & J. Carneiro). Instituto Gulbenkian de Ciência, Oeiras, Portugal.

<http://qobweb.igc.gulbenkian.pt/courses/imagis/>

DOCTORAL THESES COMMITTEES

(Only the last 5 years)

December 17, 2013

“Vogal” in the PhD Thesis Committee of Hugo Fernandes. Uncertainty, generalization, and neural representation of relevant variables for decision making. ITQB-Universidade Nova de Lisboa. Portugal.

December 17, 2013

“Vogal” in the PhD Thesis Committee of Íris Vilares. Uncertainty and Decision-making in the human brain. ITQB-Universidade Nova de Lisboa. Portugal.

December 9, 2013

“Vogal/Orientador” in the PhD Thesis Committee of Thiago Guzella. Variation in Protein Expression Levels in Cell Populations. ITQB-Universidade Nova de Lisboa. Portugal.

October 29, 2012

“Arguente” in the PhD Thesis Committee of Patricia Mostardinha Silva. Universidade de Aveiro. Portugal.

October 3, 2012

“Arguente” in the MSc Thesis Committee of Rita Ferreira. FCT/Universidade Nova de Lisboa, Portugal.

April, 2012

“Vogal” in the PhD thesis Committee of Mariana Coelho Correia da Silva. Epigenetic and cell cycle control of centromere inheritance. ITQB/Universidade Nova de Lisboa.

December 21, 2011

“Vogal” in the PhD thesis Committee of Ana Ines da Cunha Ferreira. Regulation of PLK4 levels and activity to ensure centriole number control. ITQB/Universidade Nova de Lisboa.

December 19, 2011

“Vogal” in the PhD Thesis Committee of Ivo Margutti. ITQB/Universidade Nova de Lisboa.

March 4, 2011

“Vogal” in the PhD Thesis Committee of Raquel de Amaro Lourenço. “Symmetry-out Asymmetry-in: the role of DMRT2”. ITQB/Universidade Nova de Lisboa. Portugal.

December 10, 2010

“Vogal” in the PhD Thesis of Rita M Tavares. The ubiquitin editing enzyme A20 maintains immune homeostasis and prevents autoimmunity. ITQB/Universidade Nova de Lisboa.

July 24, 2010

“Arguente” in the PhD Thesis Committee of Joana Sá, ITQB/Universidade Nova de Lisboa. Portugal.

July 22, 2010

“Arguente” in the PhD Thesis Committee of Nuno Lages, Universidade de Lisboa. Portugal.

March 16, 2010

“External Examiner” in the PhD Thesis Committee of Tendai Mugwawa University of Utrecht. Utrecht, Netherlands.

ORGANIZATION OF MEETINGS AND WORKSHOPS

November 29-30, 2011

XXXVII Annual Meeting of the Portuguese Society of Immunology
Organizers: Jocelyne Demengeot, Ivo Marguti, Thiago Carvalho, Carlos Tadokoro, and **Jorge Carneiro**.
Instituto Gulbenkian de Ciência, Oeiras, Portugal.
<http://qobweb.igc.gulbenkian.pt/symposia/spi2011/>

July 7-10, 2010

IV Spanish-Portuguese Society of Biophysics. Session on Cell Biophysics.
Organizers: Lucia Tabares (Universidad de Sevilla) and **Jorge Carneiro**.
EUITIZ/EUEEZ, Campus Río Ebro, Zaragoza, Spain.
<http://bifi.es/events/biophysics2010/program.html>

June 12-18, 2010

ImagIS: Practical Course on Image Acquisition in Immunology
Organizers: Carlos Tadokoro (IGC), Iris Caramalho (IMM), and **Jorge Carneiro**.
Instituto Gulbenkian de Ciência, Oeiras, Portugal.
<http://qobweb.igc.gulbenkian.pt/courses/imagis/>

July 6-9, 2009

Career paths.
Organizers: Margarida Prado, David Cristina, **Jorge Carneiro**. Instituto Gulbenkian de Ciência.
Instituto Gulbenkian de Ciência, Oeiras, Portugal.
<http://bc.igc.gulbenkian.pt/careers2009/>

October 22-25, 2008

XVI Congresso Nacional de Bioquímica. Session on Computational Biochemistry.
Organizers: Arsénio Fialho (IST) and **Jorge Carneiro**.
Ponta Delgada, Portugal.

June 10-12, 2008

First Portuguese Forum in Computational Biology (FPBC2008)
Organizers: Ana Paula Leite, Bruno Emanuel Correia, Luis Figueiredo, Pedro Tiago Monteiro, **Jorge Carneiro**.
Instituto Gulbenkian de Ciência, Oeiras, Portugal.
<http://bc.igc.gulbenkian.pt/fpbc2008/index.html>

May 2-4, 2007

Postgraduate Course on Bioinformatics and Systems Biology

Organizers: Paula Ludovico, Gil Castro, **Jorge Carneiro**.

Escola de Ciências da Saúde, Braga, Portugal.

<http://www.icvs.uminho.pt/postgraduation/Arquive/2007/bioinf-intro.htm>

September 11-15, 2006

Summer school Mathematics in Biology and Medicine (MBM2006)

Organizers: Isabel Gordo, Gabriela Gomes, Francisco Dionísio, **Jorge Carneiro**.

Instituto Gulbenkian de Ciência, Oeiras, Portugal.

<http://eao.igc.gulbenkian.pt/mbm2006/>

September 4-6, 2006

International Conference in Artificial Immune System (ICARIS2006)

Organizers: Hugues Bersini, Jon Timmis, and **Jorge Carneiro**.

Instituto Gulbenkian de Ciência, Oeiras, Portugal.

<http://iridia.ulb.ac.be/~bersini/icaris/>

September 20-24, 2004

Summer school Mathematics in Biology and Medicine (MBM2004).

Organizers: Gabriela Gomes, **Jorge Carneiro**, Pedro Coutinho, Isabel Gordo, Jose Faro, Francisco Dionísio.

Instituto Gulbenkian de Ciência, Oeiras, Portugal.

<http://eao.igc.gulbenkian.pt/mbm2004/>

June 20, 2003

Oeiras Mathematical and Computational Biology Workshop. Organizers: Luis Rocha and **Jorge Carneiro**.

Instituto Gulbenkian de Ciência, Oeiras, Portugal.

November 25-27, 1999

XXV Annual Meeting of the Portuguese Society of Immunology: "Immunology of Viral Infections".

Organizers: **Jorge Carneiro** *et al.*

Lisbon, Portugal.

PUBLICATIONS

Theses

Carneiro, J. (1997). Towards a comprehensive view of the immune system. PhD Thesis, University of Porto, Porto.

Articles in International Peer-Reviewed Journals

38. Weber, T.S., I. Jaehnert, C. Schichor, M. Or-Guil and **J. Carneiro**. (2014) Quantifying the length and variance of the eukaryotic cell cycle phases by a stochastic model and dual nucleoside pulse labelling. *PLoS Comput. Biol.* **10**, e1003616.
37. Trancoso, I., M. Bonnet, R. Gardner, J. **Carneiro**, V.M. Barreto, J. Demengeot and L.M. Sarmiento (2013) A Novel Quantitative Fluorescent Reporter Assay for RAG Targets and RAG Activity. *Front Immunol.* 4:110. doi: 10.3389/fimmu.2013.00110
36. Guerrero A., J. Espinal, C.W. Wood, **J. Carneiro**, G. Martínez-Mekler and A. Darszon. (2012) Niflumic acid disrupts marine spermatozoan chemotaxis without impairing the spatiotemporal decoding of chemoattractant gradients. *J. Cell Science* **126**, 1477-1487.
35. Pimentel, A., **J. Carneiro**, A. Darszon, and G. Corkidi. (2012). Segmentation of Fast Moving Translucent Cells for Automated Tracking in Timelapse Tridimensional Video Sequences. *J. Microscopy*. **245**, 72-81.
34. Serrano, M., G. Real, J. Santos, **J. Carneiro**, C.P. Moran, and A.O. Henriques. (2011) A negative feedback loop that limits the ectopic activation of a cell type-specific sporulation sigma factor of *Bacillus subtilis*. *PLoS Genetics*. **7**, e1002220.
33. Vélez de Mendizábal, N., **J. Carneiro**, R. Sole, J. Goñi, J. Bragard, I. Martinez-Forero, S. Martinez-Pasamar, J. Sepulcre, J. Torrealdea, F. Bagnato, J. Garcia-Ojalvo, P. Villoslada. (2011). Modeling the effector - regulatory T cell cross-regulation reveal the intrinsic character of relapses in Multiple Sclerosis. *BMC Systems Biology*. **5**, 114.
32. Guerrero, A., **J. Carneiro**, A. Pimentel, C.D. Wood, G. Corkidi, and A. Darszon. (2011). Strategies for locating the female gamete: the importance of measuring sperm trajectories in three spatial dimensions. *Mol Hum Reprod.* **17**, 511-523.
31. Guerrero, A., C.D. Wood CD, T. Nishigaki, **J. Carneiro**, and A. Darszon. (2010) Tuning sperm chemotaxis. *Biochem. Soc. Trans.* **38**, 1270-1273.
30. Naldi, A., **J. Carneiro**, C. Chaouiya, and D. Thieffry. (2010) Diversity and plasticity of Th cell types predicted from regulatory network modelling. *PLoS Comp. Biol.* **6**, e1000912.
29. Guerrero, A., T. Nishigaki, **J. Carneiro**, Y. Tatsu, C.D. Wood, and A. Darszon. (2010) Tuning sperm chemotaxis by calcium burst timing. *Dev. Biol.* **344**, 52-65.
28. Sepúlveda, N, C.D. Paulino, **J. Carneiro**. (2010). Estimation of T-cell repertoire diversity and clonal size distribution by Poisson abundance models. *J. Immunol. Methods*. **352**, 124-137. (Epub 2009 Nov 18)
27. Certal, A.C., R.B. Almeida, E. Wong, N. Moreno, **J. Carneiro**, J. Rodriguez-Leon, H.-M. Wu, A.Y. Cheung, and J. Feijo. (2008). Differential exclusion of proton ATPases from the apical membrane is associated with cell polarity and apical growth in pollen tubes. *Plant Cell*. **20**, 614-634 .
26. Leon, K., K. Garcia, **J. Carneiro**, and A. Lage. (2007). How regulatory CD25+CD4+T cells impinge on tumor immunobiology: On the differential response of tumors to therapies. *J. Immunol.* **179**, 5659-5668.
25. Leon, K., K. Garcia, **J. Carneiro**, and A. Lage. (2007). How regulatory CD25+CD4+T cells impinge on tumor immunobiology? On the existence of two alternative dynamical classes of tumors. *J. Theor. Biol.* **247**, 122-137.
24. Sepúlveda, N., C.D. Paulino, **J. Carneiro**, C. Penha-Goncalves. (2007) Allelic Penetrance Approach As a Tool To Model Two-Locus Interaction in Complex Binary Traits. *Heredity*. **99**, 173-84.
23. Paixão, T., T.P. Carvalho, D.P. Calado, and **J. Carneiro**. (2007). Quantitative insights into stochastic monoallelic expression of cytokine genes. *Immunol. Cell. Biology*. **85**, 315-322.

22. **Carneiro, J.**, K Leon, I Caramalho, C van den Dool, R Gardner, V Oliveira, M.-L. Bergman, N. Sepúlveda, T. Paixão¹, J. Faro, and J. Demengeot. (2007) When three is not a crowd: A crossregulation model of the dynamics and repertoire selection of regulatory CD4 T cells. *Immunol. Reviews* **216**, 48-68.
21. Milutinovic, D, **J. Carneiro**, M.Athans, and P. Lima (2007) Modeling Dynamics of Cell Population Molecule Expression Distribution. *NonLinear Analysis Hybrid Systems* **1**, 81-94.
20. Boucontet, L., N. Sepúlveda, **J. Carneiro**, & P. Pereira. (2005). Mechanisms controlling termination of V-J recombination at the TCR- γ locus: Implications for allelic and isotypic exclusion of TCR- γ chains. *J. Immunol.* **174**, 3912-3919.
19. Sepúlveda, N., L. Boucontet, P. Pereira, & **J. Carneiro**. (2005). Stochastic modeling of T cell receptor γ gene rearrangement. *J. Theor. Biol.* **234**, 153-165
18. **Carneiro, J.**, T. Paixão, D. Milutinovic, J.Sousa, K. Leon, R. Gardner & J. Faro. (2005). Immunological Self-Tolerance: Lessons from Mathematical Modeling. *J. Comp. Appl. Math.* **184**, 77-100.
17. Leon, K., J. Faro, & **J.Carneiro**. (2004). A General Mathematical Framework to Model Generation Structure in a Population of Asynchronously Dividing Cells. *J. Theor. Biol.* **229**, 455-476.
16. Leon, K., J. Faro, A. Lage, & **J.Carneiro**. (2004). Inverse Correlation between the Incidences of Autoimmune Disease and Infection Predicted by a Model of T cell mediated Tolerance. *J. Autoimmunity.* **22**, 31-42.
15. Leon, K., A. Lage, & **J.Carneiro**. (2003). Tolerance and immunity in a mathematical model of T cell mediated suppression. *J. Theor. Biol.* **225**, 107-126.
14. Becker, J., L.C. Boavida, **J.Carneiro**, M. Haury, & J.A. Feijó (2003). Transcriptional profiling of Arabidopsis tissues reveals the unique characteristics of the pollen transcriptome. *Plant Physiol.* **133**, 713-725.
13. Sousa, A., **J.Carneiro**, M. Meier-Schellersheim, Z.Grossman, & R.M.M. Victorino (2002). CD4 T cell depletion is directly linked to immune activation in the pathogenesis of HIV1 and HIV2 but only indirectly to the viral load. *J. Immunol.* **169**, 3400-3406.
12. Léon, K., R.Perez, A.Lage & **J.Carneiro**, (2001). Three-cell interactions in T cell mediated suppression? A mathematical analysis of its quantitative implications. *J. Immunol.* **166**, 5356-5365.
11. Léon, K., R.Perez, A.Lage & **J.Carneiro**, (2000). Modelling T cell mediated suppression dependent on interactions in multicellular conjugates. *J. Theor. Biol.* **207**, 231-254.
10. Sousa, J. & **J.Carneiro**. (2000) Mathematical Analysis of TCR serial triggering and downregulation. *Eur. J. Immunol.* **30**, 3219-3227.
9. Brissac,C., A.Nobrega, **J.Carneiro**, & J.Stewart (1999). Functional Diversity of Natural IgM. *Int. Immunol.* **11**, 1501-1507.
8. Léon, K., **J.Carneiro**, R.Perez, E.Montero & A.Lage. (1998). Natural and induced tolerance in an immune network model. *J. Theor. Biol.* **193**, 519-534.
7. Faro, J., **J.Carneiro**, & S.Velasco. (1997). Further studies on the immune network modelling. *J. Theor. Biol.* **184**, 405-421.
6. **Carneiro, J.**, A.Coutinho, & J.Stewart. (1996). A model of the immune network with B-T cell co-operation. II-The simulation of ontogenesis. *J. Theor. Biol.* **182**, 531-547.
5. **Carneiro, J.**, J.Faro, A.Coutinho, & J.Stewart. (1996). A model of the immune network with B-T cell co-operation. I-Prototypical Structures and Dynamics. *J. Theor. Biol.* **182**, 513-529.
4. **Carneiro, J.**, J.Stewart, A.Coutinho, & G.Coutinho. (1995). The ontogeny of class-regulation of CD4+ T lymphocyte populations. *Int. Immunol.* **7**, 1265-1277.
3. Faro, J. & **J.Carneiro**. (1995). The two signal model and autoreactivity: are they really incompatible? *Scand.J.Immunol.* **41**, 519-522.
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