

Professor in Applied Mathematics since May 2010.

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Coordinator of the BBSRC MATSYB I²M network since December 2007.

Coordinator of the FP7 INTI-IRSES network since January 2009.

Chair of the British Society for Immunology Affinity Group Mathematical Modelling since August 2009.

Previous experience

- 1991 Completed Bachelor Degree in Physics, Universidad de Granada, Spain.
- 1996 Completed Ph.D Thesis, Department of Physics, The University of Texas at Austin, USA.
- 1996-1999 Postdoctoral Fellow (Director's Funded), Los Alamos National Laboratory, USA.
- 2000-01 Postdoctoral Fellow, Centro de Astrobiología (CSIC-INTA), Madrid, Spain.
- 2001-02 EPSRC Research Fellowship, Mathematics Institute, University of Warwick, UK.
- 2002-2008 Lecturer, Department of Applied Mathematics, School of Mathematics, University of Leeds, UK.
- 2008-2010 Reader, Department of Applied Mathematics, School of Mathematics, University of Leeds, UK.

Selected recent publications

1. M. Voliotis, N. Cohen, Carmen Molina-París and T. B. Liverpool. Fluctuations, pauses and backtracking in DNA transcription, *Biophysical Journal* **94**, 334–348, 2008.
2. S. Dunn, E. E. Morrison, T. B. Liverpool, Carmen Molina-París, R. Cross, M. Alonso and M. Peckham. Differential trafficking of kinesin-1 (Kif5c) on tyrosinated and detyrosinated microtubules in live cells, *Journal of Cell Science* **121**, 1085–1095, 2008.
3. E.R. Stirk, Carmen Molina-París and H.A. van den Berg. Stochastic niche structure and diversity maintenance in the T cell repertoire, *Journal of Theoretical Biology* **255**, 237–49, 2008.
4. M. Voliotis, N. Cohen, Carmen Molina-París and T.B. Liverpool. Backtracking and proofreading in DNA transcription, *Phys. Rev. Lett.* **102**, 258101, 2009.
5. E.R. Stirk, Carmen Molina-París, G. Lythe, G.A.D. Hurst and H.A. van den Berg. The limiting conditional distribution in a stochastic model of T cell repertoire maintenance. *Mathematical Biosciences* **224**, 74–86, 2010.
6. E.R. Stirk, G. Lythe, H.A. van den Berg and C. Molina-París. Stochastic competitive exclusion in the maintenance of the naïve T cell repertoire, *Journal of Theoretical Biology* **265**, 396–410, 2010.
7. A. M. Latham, C. Molina-París, S. Homer-Vanniasinkam and S. Ponnambalam. An integrative model for vascular endothelial growth factor A as a tumour biomarker, *Integrative Biology* **2**, 397–407, 2010.

Recent conference talks

1. *Thymic contribution to negative selection*, UK-Singapore Workshop in Mathematical Biology on Host-Pathogen Interactions, Singapore, 2007.
2. *T cell repertoire maintenance: QSD*, SciCADE, St. Maló, France, 2007.
3. *Stochastic modelling of T cell homeostasis*, Frontiers of Science Meeting, Hyderabad, India, 2008.
4. *Stochastic modelling of T cell diversity*, Beyond genome: applying systems biology, San Francisco, California, USA, 2008.
5. *T cell repertoire maintenance: clonotype competition*, European Conference on Mathematical and Theoretical Biology (ECMTB-08), Edinburgh, UK, 2008.
6. *Stochastic modelling of T cell repertoire diversity maintenance*, Dynamics in systems biology, Aberdeen, UK, 2009.
7. *Stochastic modelling of T cell repertoire diversity maintenance*, Statistical mechanics of molecular and cell biology, Warwick, UK, 2009.
8. *Theoretical Immunology in a nutshell*, Veterinary Laboratory Agencies National Conference, Warwick, UK, 2010.

Recent invited seminars at UK institutions

1. May 2010, Department of Engineering Mathematics, University of Bristol.
2. May 2009, Warwick Systems Biology Centre, University of Warwick.

3. April 2009, Institute of Food Research (IFR), Norwich.
4. March 2009, Veterinary Laboratories Agency, Weybridge.
5. January 2009, Babraham Institute (BBSRC), Cambridge.
6. January 2009, Department of Mathematical Sciences, University of Liverpool.
7. June 2008, Institute for Complex Systems, University of Strathclyde.
8. May 2008, Department of Mathematics (DAMTP), University of Cambridge.
9. May 2008, Department of Mathematics, Imperial College London.
10. November 2007, Departments of Mathematics, University of Essex.

Recent research grants

- 2010-2012** Co-investigator. *White Rose Studentship – White Rose Immune Modelling Network* Principal investigator: Mark Coles. Monetary value: £145k.
- 2010-2013** Co-investigator. *Interface dynamics out of equilibrium with applications to condensed matter and biosystems*, Spanish Research Council. Principal investigator: Mario Castro. Monetary Value: €40k.
- 2009-2012** Principal investigator: Carmen Molina-París. *Stochastic modelling of cellular immune responses: crossing the theoretical-experimental divide*, BBSRC Research Development Fellowship, BB/G023395/1. Monetary value: £195k.
- 2009-2012** Principal investigator: Carmen Molina-París. *FP7-PEOPLE-IRSES-2008, International Network in Theoretical Immunology*. Grant Agreement Number: PIRSES-GA-2008-230665. Monetary Value: €230.4k.
- 2008** Principal investigator: Carmen Molina-París. *ESF Exploratory Workshop on Challenges for Theoretical Immunology*, European Science Foundation. Monetary Value: €14k.
- 2008-2010** Principal investigator: Carmen Molina-París. *Immunology Imaging Network*, MATSYB, BBSRC. Monetary value: £105k.
- 2007-2010** Co-investigator. *Interface dynamics out of equilibrium: biological applications*, Spanish Research Council. Principal investigator: Mario Castro. Monetary Value: €45k.
- 2007-2008** Principal investigator: Carmen Molina-París. *New imaging techniques: challenges for experimental and theoretical immunology*, WUN, University of Leeds. Monetary value: £13.5k.

Reviewer for the following journals

CMP currently reviews for the following high-impact international journals: Physical Review D, Zentralblatt, Journal of Theoretical Medicine, Physics Letters A, Physical Review Letters, Journal of Theoretical Biology, Physical Review E, Journal of Mathematical Biology, Proceedings of the Royal Society A, Bulletin of Mathematical Biology, The Journal of Immunology, International Immunology, PLoS ONE, and PLoS Computational Biology. She also carries out book reviewing for Francis and Taylor and Springer.

Reviewer for funding bodies

CMP currently referees grant proposals for the BBSRC and EPSRC and has been a member of the BBSRC Pool of Experts (2008-2009). CMP is an FP7 expert evaluator for Marie Curie Actions and a member of the European Science Foundation Pool of Reviewers. CMP was an evaluator in the previous ERC Advanced Grant Call. In September 2009 she was requested to evaluate proposals for the ERC as *her name had been recommended by members of the evaluation panel for “Immunity and infection” (LS6)*.

Recent conference organisation

1. *Summer School in Theoretical and Experimental Immunology*, University of Leeds, September 2010.
2. *Mathematical modelling in Immunology Session*, Annual Congress of the BSI, November 2008.
3. *Challenges for experimental and theoretical immunology*, ESF Exploratory Workshop, September 2008.
4. *New imaging techniques: challenges for experimental and theoretical immunology*, WUN International Research Collaboration, University of Leeds, September 2007.
5. *Gene Regulation Networks: Complex Systems Challenges*, June 2004.