

CURRICULUM VITAE
ROBERTA SPACCAPELO

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Education and appointments

November 2016 to date: Associate Professor, University of Perugia

November 2007 to October 2015: Research assistant, Department of Experimental Medicine and Biochemistry Science, Microbiology Section, University of Perugia.

October 2000 to October 2007: Research position, University of Perugia.

February 2001 to December 2001 Scientific collaboration with Prof. Andrea Crisanti, Department of Life Science, Imperial College London.

October 1998 to September 2000: Post-doctoral fellowship from Italian Ministry of Health, at Department of Life Science, Imperial College London

June 1998 to September 1998: Research assistant, Department of Life Science, Imperial College London

June 1996 to May 1998: EMBO fellowship, Department of Life Science, Imperial College London

October 1992 to May 1996: Ph.D. in Experimental Medicine at the Institute of Experimental Medicine and Biochemistry Science, Microbiology Section, University of Perugia. Thesis title: "Cytokine and anti-cytokine therapy of *Candida albicans* infection".

January 1992 to September 1992: Research training at the Institute of Experimental Medicine and Biochemistry Science, Microbiology Section, University of Perugia.

October 1991: Degree in Biology (Summa cum laude) Thesis title: "Identification of chicken hemoglobin during the fetal development".

November 1986 to May 1991: Undergraduate student at the Biology Department of the University of Perugia.

July 1986: Final degree (58/60), High School "Istituto Tecnico Femminile, Economa Dietista", Perugia, Italy.

Teaching activities:

2017 to date: Bachelor of Science in Nursing: "General Microbiology"
2010 to date: Medical School: "Molecular diagnostic in microbiology"
2003-2005: Master in "Environmental Biotechnology" course of: "Genetically modified micro-organisms"
2003 to date: Biotechnology Faculty: "Virology and Microbiology".

Publications

1. Romani L, Cenci E, Mencacci A, Spaccapelo R, Grohmann U, Puccetti P and Bistoni F. Gamma Interferon Modifies CD4+ subset expression in murine candidiasis. *Infect Immun.* 1992, 60:4950-4952. IF: 4.212
2. Romani L, Mencacci A, Cenci E, Spaccapelo R, Mosci P, Puccetti P and Bistoni F. CD4+ subset expression in murine candidiasis. Th responses correlate directly with genetically determined susceptibility or vaccine-induced resistance. *J Immunol.* 1993,150:925-931. IF: 7.166
3. Cenci E, Romani L, Mencacci A, Spaccapelo R, Schiaffella E, Puccetti P and Bistoni F. Interleukin-4 and interleukin-10 inhibit nitric oxide-dependent macrophage killing of *Candida albicans*. *Eur J Immunol.* 1993, 23:1034-1038. IF: 5.635
4. Romani L, Mencacci A, Cenci E, Spaccapelo R, Schiaffella E, Tonnetti L, Puccetti P and Bistoni F. Natural killer cells do not play a dominant role in CD4+ subset differentiation in *Candida albicans* -infected mice. *Infect Immun.* 1993, 61: 3769-3774. IF: 4.212
5. Allegrucci M, Lanfaloni L, Bietta C, Spaccapelo R, Fioretti MC and Bistoni F. The electrophoretic karyotype of two strains of *Candida albicans* by transverse alternate field electrophoresis reveals higher number of chromosomes ranging from 1 to 3.5 Mb. *Yeast* 1993, 9:1213-1218. IF: 2.825
6. Romani L, Cenci E, Mencacci A, Spaccapelo R, Schiaffella E, Tonnetti L, Puccetti P and Bistoni F. Anti-cytokine therapy of murine candidiasis. *Combination Therapies 2* E. Garaci and A. L. Goldstein Eds. 1993, plenum press, New York, pp. 195-200. IF: NA
7. Cenci E, Mencacci A, Romani L, Spaccapelo R, Tonnetti L and Bistoni F. La generazione di risposte T-helper a *Candida albicans*: importanza della via di somministrazione. *Immunologia* 1993, 585-589. IF: NA

8. Romani L, Mencacci A, Tonnetti L, Spaccapelo R, Cenci E, Wolf S, Puccetti P and Bistoni F. Interleukin-12 but not interferon-gamma production correlates with induction of T-helper type-1 phenotype in murine candidiasis. *Eur J Immunol.* 1994, 24:900-915. IF: 5.635
9. Fukazawa Y, Cassone A, Bistoni F, Howard DH, Kagaya K, Murphy JW, Cenci E, Lane TE, Mencacci A, Puccetti P, Romani L, Spaccapelo R, Tonnetti L and Wu-Hsieh BA. Mechanisms of cell-mediated immunity in fungal infection. *J Med and Vet Mycol* 1994, 32 (1):123-131. IF: NA
10. Romani L, Puccetti P, Mencacci A, Cenci E, Spaccapelo R, Tonnetti L, Grohmann U and Bistoni F. Neutralization of IL-10 up-regulates nitric oxide production and protects susceptible mice from challenge with *Candida albicans*. *J Immunol.* 1994, 152:3514-3521. IF: 7.166
11. Puccetti P, Mencacci A, Cenci E, Spaccapelo R, Mosci P, Enssle KH, Romani L and Bistoni F. Cure of murine candidiasis by recombinant soluble interleukine-4 receptor. *J Infect Dis.* 1994, 169:1325-1331. IF: 6.410
12. Romani L, Puccetti P, Mencacci A, Spaccapelo R, Cenci E, Tonnetti L and Bistoni F. Tolerance to *Staphylococcal enterotoxin B* initiates Th1 cell differentiation in mice infected with *Candida albicans*. *Infect Immun.* 1994, 62:4047-4053. IF: 4.212
13. Mencacci A, Torosantucci A, Spaccapelo R, Bistoni F, Romani L and Cassone A. A mannoprotein constituent of *Candida albicans* that elicits different levels of delayed-type hypersensitivity, cytokine production and anti candidal protection in mice. *Infect Immun.* 1994, 62:5353-5360. IF: 4.212
14. Romani L, Mencacci A, Tonnetti L, Spaccapelo R, Cenci E, Puccetti P, Wolf S and Bistoni F. IL-12 is both required and prognostic *in vivo* for T helper type 1 differentiation in murine candidiasis. *J Immunol.* 1994, 153:5167-5175. IF: 7.166
15. Mencacci A, Cenci E, Spaccapelo R, Tonnetti L, Romani L, Puccetti P and Bistoni F. Rational for cytokine and anti-cytokine therapy of *Candida albicans* infection. *J. Mycol. Med.* 1995, 5:25-30. IF: 0.571
16. Cenci E, Mencacci A, Spaccapelo R, Tonnetti L, Mosci P, Enssle KH, Romani L and Bistoni F. T helper cell type 1 (Th1)- and Th2-like responses are present in mice with gastric candidiasis but protective immunity is associated with Th1 development. *J Infect Dis.* 1995, 171:1279-1288. IF: 6.410
17. Tonnetti L, Spaccapelo R, Cenci E, Mencacci A, Puccetti P, Coffman RL, Bistoni F and Romani L. Interleukin-4 and -10 exacerbate candidiasis in mice. *Eur J Immunol.* 1995, 1559-1565. IF: 5.635
18. Spaccapelo R, Romani L, Tonnetti L, Cenci E, Mencacci A, Tognellini R, Reed SG, Puccetti P and Bistoni F. TGF-beta is important in determining the in vivo patterns of susceptibility or resistance in mice infected with *Candida albicans*. *J Immunol.* 1995, 155:1349-1360. IF: 7.166
19. Bistoni F, Mencacci A, Cenci E, Spaccapelo R, del Sero G, Puccetti P and Romani L. La risposta T-helper nelle infezioni da *Candida albicans*: basi razionali di immunoterapia. *L'igiene Moderna* 1995, 104:239-249. IF: NA

20. Romani L, Bistoni F, Mencacci A, Cenci E, Spaccapelo R and Puccetti P. IL 12 in *Candida albicans* infections. Res Immunol. 1995, 146:532-538. IF: 1.817
21. Romani L, Mencacci A, Cenci E, Spaccapelo R, Toniatti C, Puccetti P, Bistoni F and Poli V. Impaired neutrophil response and CD4+ T helper cell 1 development in interleukin 6-deficient mice infected with *Candida albicans*. J Exp Med. 1996, 183:1345-1355. IF: 15.882
22. Mencacci A, Cenci E, Spaccapelo R, Tonnetti L, del Sero G, d'Ostiani CF, Bistoni F, Romani L. Neutrophils producing interleukin-10 antagonize the effect of interleukin-12 in mice with candidiasis. Ann N Y Acad Sci. 1996, 795:394-396. IF: 4.383
23. Mencacci A, Spaccapelo R, del Sero G, Enssle KH, Cassone A, Bistoni F and Romani L. CD4+ T-helper-cell responses in mice with low-level *Candida albicans* infection. Infect Immun. 1996 64:4907-4914. IF: 4.212
24. Romani L, Mencacci A, Cenci E, Spaccapelo R, del Sero G, Nicoletti I, Trinchieri G, Bistoni F and Puccetti P. Neutrophil production of IL-12 and IL-10 in candidiasis and efficacy of IL-12 therapy in neutropenic mice. J Immunol. 1997, 158:5349-5356. IF: 6.937
25. Spaccapelo R, del Sero G, Mosci P, Bistoni F and Romani L. Early T cell unresponsiveness in mice with candidiasis and reversal by IL-2: effect on T helper cell development. J Immunol. 1997, 158:2294-2302. IF: 6.937
26. Spaccapelo R, Naitza S, Robson KJ and Crisanti A. Thrombospondin-related adhesive protein (TRAP) of *Plasmodium berghei* and parasite motility. The Lancet 1997, 350. IF: 16.135
27. Wengelnik K, Spaccapelo R, Naitza S, Robson KJ, Janse CJ, Bistoni F, Waters AP, Crisanti A. The A-domain and the thrombospondin-related motif of *Plasmodium falciparum* TRAP are implicated in the process of mosquito salivary glands. EMBO J 1999; 1;18(19):5195-204. IF: 13.973.
28. Wengelnik K, Spaccapelo R, Naitza S, Crisanti A. Analysis of a malaria sporozoite protein family required for gliding motility and cell invasion. Trends Microbiol 2000;8(3):96-7. IF: 6.006
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32. Tewari R, Spaccapelo R, Bistoni F, Holder A, Crisanti A. Function of region I and II adhesive motifs of *Plasmodium falciparum* circumsporozoite protein in sporozoite motility and infectivity. J Biol Chem. 2002; 277(49):47613-8. IF: 6.696

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36. Enjalbert B, Rachini A, Vedyappan G, Pietrella D, Spaccapelo R, Vecchiarelli A, Brown AJ, d'Enfert C. A multifunctional, synthetic *Gaussia princeps* luciferase reporter for live imaging of *Candida albicans* infections. *Infect Immun*. 2009 Nov;77(11):4847-58. IF: 4.205
37. Spaccapelo R, Janse CJ, Caterbi S, Franke-Fayard B, Bonilla A, Syphard LM, Di Cristina M, Dottorini T, Savarino A, Cassone A, Bistoni F, Waters AP, Dame JB and Crisanti A. Plasmepsin 4 Deficient *Plasmodium berghei* Are Virulence-Attenuated and Induce Protective Immunity against Experimental Malaria. *Am J Pathol*. 2010 Jan;176(1):205-17. IF: 5.224
38. Di Cristina M, Nunziangeli L, Giubilei MA, Capuccini B, d'Episcopo L, Mazzoleni G, Baldracchini F, Spaccapelo R and Crisanti A. An antigen microarray immunoassay for multiplex screening of mouse monoclonal antibodies. 2010 *Nature Protocols*, 5 (12), 1932-1944. (Cover of the issue). IF: 8.362
39. Spaccapelo R, Aime E, Caterbi S, Arcidiacono P, Capuccini B, Di Cristina M, Dottorini T, Rende M, Bistoni F and Crisanti A. Disruption of plasmepsin-4 and merozoites surface protein-7 genes in *Plasmodium berghei* induces combined virulence-attenuated phenotype. *Sci Rep*. 2011;1:39. IF: NA
40. Aldrich C, Magini A, Emiliani C, Dottorini T, Bistoni F, Crisanti A and Spaccapelo R. Roles of the Amino Terminal Region and Repeat Region of the *Plasmodium berghei* Circumsporozoite Protein in Parasite Infectivity. *Plos one*, 2012;7(2):e32524. Epub 2012 Feb 29. IF: 3.730

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44. Kaba SA, McCoy ME, Doll TA, Brando C, Guo Q, Dasgupta D, Yang Y, Mittelholzer C, Spaccapelo R, Crisanti A, Burkhard P, Lanar DE. Protective antibody and CD8+ T-cell responses to the *Plasmodium falciparum* circumsporozoite protein induced by a nanoparticle vaccine. *PLoS One*. 2012;7(10):e48304. doi: 10.1371/journal.pone.0048304. IF: 3.730
45. Dottorini T, Persampieri T, Palladino P, Spaccapelo R, Crisanti A. Silencing of the Hsf gene, the transcriptional regulator of *A. gambiae* male accessory glands, inhibits the formation of the mating plug in mated females and disrupts their monogamous behaviour. *Pathog Glob Health*. 2012 Nov;106(7):405-12. doi: 10.1179/2047773212Y.0000000058. IF: NA
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47. Galizi R, Spano F, Giubilei MA, Capuccini B, Magini A, Urbanelli L, Ogawa T, Dubey JP, Spaccapelo R, Emiliani C, Di Cristina M. Evidence of tRNA cleavage in apicomplexan parasites: Half-tRNAs as new potential regulatory molecules of *Toxoplasma gondii* and *Plasmodium berghei*. *Mol Biochem Parasitol*. 2013 Apr;188(2):99-108. doi: 10.1016/j.molbiopara.2013.03.003. IF: 2.243
48. Dottorini T, Palladino P, Senin N, Persampieri T, Spaccapelo R, Crisanti A. CluGene: A Bioinformatics Framework for the Identification of Co-Localized, Co-Expressed and Co-Regulated Genes Aimed at the Investigation of Transcriptional Regulatory Networks from High-Throughput Expression Data. *PLoS One*. 2013 Jun 18;8(6):e66196. IF: 3.534
49. Canavese M, Spaccapelo R. Protective or pathogenic effects of vascular endothelial growth factor (VEGF) as potential biomarker in cerebral malaria. *Pathog Glob Health*. 2014 Mar;108(2):67-75. doi: 10.1179/2047773214Y.0000000130. Epub 2014 Mar 7 IF: 1.656
50. Schwenk R, DeBot M, Porter M, Nikki J, Rein L, Spaccapelo R, Crisanti A, Wightman PD, Ockenhouse CF, Dutta S. IgG2 antibodies against a clinical grade *Plasmodium falciparum* CSP vaccine antigen associate with protection against transgenic sporozoite challenge in mice. *PLoS One*. 2014 Oct 24;9(10):e111020. doi: 10.1371/journal.pone.0111020. eCollection 2014. IF: 3.234
51. Lin JW, Spaccapelo R, Schwarzer E, Sajid M, Annoura T, Deroost K, Ravelli RB, Aime E, Capuccini B, Mommaas-Kienhuis AM, O'Toole T, Prins F, Franke-Fayard

- BM, Ramesar J, Chevalley-Maurel S, Kroeze H, Koster AJ, Tanke HJ, Crisanti A, Langhorne J, Arese P, Van den Steen PE, Janse CJ, Khan SM. Replication of *Plasmodium* in reticulocytes can occur without hemozoin formation, resulting in chloroquine resistance. *J Exp Med*. 2015 May 4. pii: jem.20141731. IF: 12.515
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53. Facchinelli L, Valerio L, Lees RS, Oliva CF, Persampieri T, Collins CM, Crisanti A, Spaccapelo R, Benedict MQ. Stimulating *Anopheles gambiae* swarms in the laboratory: application for behavioural and fitness studies. *Malar J*. 2015 Jul 15;14:271. doi: 10.1186/s12936-015-0792-2. IF: 3.109
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56. Laura Valerio, Ace North, C. Matilda Collins, John D. Mumford, Luca Facchinelli, Roberta Spaccapelo and Mark Q. Benedict. Comparison of Model Predictions and Laboratory Observations of Transgene Frequencies in Continuously-Breeding Mosquito Populations. *Insects* 2016, 7(4), 47; doi:10.3390/insects7040047
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response, during experimental cerebral malaria. Sci Rep. 2016 Dec 19;6:39258. doi:
10.1038/srep39258.

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Perugia, 30 aprile 2018

Roberta Spaccapelo

A handwritten signature in black ink, appearing to read 'Roberta Spaccapelo', written in a cursive style.