**Curriculum vitae** of **MARCO RINALDO OGGIONI**, born in Legnano (Italy) on January 1st 1965. Italian and German citizen.

**CONTACT**

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Dept of Genetics and Genome Biology, University of Leicester, Leicester LE1 7RH, UK mro5@leicester.ac.uk

**POSITION**

2020- Professor of Microbial Genetics, Dip. Farmacia e Biotecnologie FaBiT, Università di Bologna, Bologna, Italy.

2013- Professor of Microbial Genetics, Dept of Genetics and Genome Biology, University of Leicester, Leicester, UK.

**PREVIOUS POSITIONS**

2015-2021 Honorary Consultant Microbiologist, University Hospitals of Leicester NHS Trust, Leicester, UK.

1993-2013 Consultant Clinical Microbiologist, Siena University Hospital (Azienda Ospedaliera Universitaria Senese), and Professor of Microbiology (non-tenure) at the Medical School, University of Siena (Italy).

**EDUCATION/SERVICES**

2023- Registration with the Medical Council of Bologna (Ordine dei Medici)

2022- Steering group Italian Society of General Microbiology SIMGBM

2019- Fellow of the Royal Society of Biology FRSB

2019- Fellow of the International Society of Antimicrobial Chemotherapy FISAC

2016-21 Affiliate member Royal College of Pathologists

2015-18 Chair of the ESCMID Study Group for Infectious Diseases of the Brain (ESGIB)

2015- Fellow of the UK Higher Education Academy FHEA

2015-22 Registration with the UK General Medical Council with Specialist registration in Medical Microbiology

1994 Specialisation Degree in Microbiology and Virology, University of Siena, Italy

1990 Medical Degree, Medical School of the University of Verona, Italy

GRANTS (current)

UK

 2022-27 BRC NIHR203327. Leicester NIHR Biomedical Research Centre. CoI.

 2022-25 BHF Project Grant PG/22/11117. Epigenetic phase variation of periodontal bacteria. CoI.

 2019-23 BBSRC studentship grant 2266943. The fundamental steps in the pathophysiology of meningitis. PI

 2019-23 Australian Research Council DP190102980. Linking bacterial sugar metabolism and cell-to-cell signalling. CoI.

IT

 2023-26 PRIN PNRR grant P2022M8KYE. The innate immune reaction to invasive infection in human organs. PI.

 2023-26 Cystic Fibrosis Foundation FFC grant FFC#13/2023. Aptides for the prevention of Pseudomonas infections. CoI.

 2023-26 EU grant GAP-101131231 AMRAMR. CoI

 2023-26 Ricerca Finalizzata RF-2021-12375437. RNA vaccine for S. pneumoniae and MTB. CoI.

 2022-25 EU grant PNRR PE13 INF-ACT PE00000007. Emerging Infectious Diseases. CoI

 2022-25 PRIN 2020 grant 202089LLEH. The CoDiCo (colonisation to disease concepts) project. PI.

 2022-23 Fondazione del Monte. Migratory birds and risk of viral spillover. CoI.

**CLINICAL TRIALS:**

2018-25 Tissue Models for Invasive Disease (TIMID), ClinicalTrials.gov NCT04620824, REC 18/EM/0057, End date: 31/12/2025. CI

2019-21 Pollution and Health (PHN), REC 19/NW/0584, IRAS 264311, End date: 31/08/2021. CI

2021-24 Tissue Models for Liver Disease (TIMOLD), ClinicalTrials.gov NCT05255042, REC: 21/PR/0287, End date: 13/05/2024. CI

**PATENTS:**

2009Antigenic protein fragments of *Streptococcus pneumoniae*, International patent WO/2009/115509.

**RESEARCH INTERESTS:** Analysis of the molecular basis of mechanisms involved in the interaction of bacterial pathogens with their environment - the human host - by use of genomic tools and the study of microbial physiology. Most recent contributions were the identification of phase variable epigenetic control in bacteria and bacterial replication within a subset of tissue macrophages prior to invasive disease. Additional interests include investigation into the molecular determinants of antimicrobial drug resistance and mechanisms governing mobile genetic elements.

**RECENT PUBLICATIONS (orcid.org/0000-0003-4117-793X):**

* Apte S, S Bhutda, S Ghosh, K Sharma, TE Barton, S Dibyachintan, O Sahay, S Tang, AR Sinha, J Rakshit, S Roy, A Datey, S Santra, J Joseph, S Sasidharan, S Hammerschmidt, D Chakravortty, MR Oggioni, MK Santra, DR Neill, A Banerjee. A novel innate pathogen sensing strategy involving ubiquitination of bacterial surface proteins. Science Advances. 2023 Mar 22;9(12):eade1851. doi: 10.1126/sciadv.ade1851.
* Kanani T, J Isherwood, K ElSamani, WY Chung, K West, MR Oggioni, G Garcea, A Dennison. Development of a novel ex vivo porcine hepatic segmental perfusion proof-of-concept model towards more ethical translational research. Cureus. 2023 Feb 18. 15(2): e35143. DOI 10.7759/cureus.35143.
* Kanani T, J Isherwood, E Issa, WY Chung, M Ravaioli, MR Oggioni, G Garcea, A Dennison. A Narrative Review of the Applications of Ex-vivo Human Liver Perfusion. Cureus. 2023 Feb 09; 15(2):e34804. DOI: 10.7759/cureus.34804
* Kwun MJ, AV Ion, H-C Cheng, JC D’Aeth, S Dougan, MR Oggioni, DA Goulding, SD Bentley, N Croucher. Post-vaccine epidemiology of serotype 3 pneumococci identifies transformation inhibition through prophage-driven alteration of a non-coding RNA. Genome Medicine. 2022 Dec 20;14(1):144. doi: 10.1186/s13073-022-01147-2
* Yesilkaya H, MR Oggioni, PW Andrew. Streptococcus pneumoniae: captain of the men of death and financial burden. Microbiology (Reading). 2022 Dec 2;168(12):001275. doi: 10.1099/mic.0.001275.
* Oggioni MR, U Koedel. The glymphatic systems: a potential key player in bacterial meningitis. mBio. 2022 Oct 26;13(6):e0235022. doi: 10.1128/mbio.02350-22.
* Nyazika TK, L Sibale, J Phiri, M De Ste Croix, Z Jasiunaite, C Mkandawire, R Malamba, A Kankwatira, M Manduwa, D Ferreira, TS Nyirenda, MR Oggioni, HC Mwandumba, KC Jambo. Intracellular survival of Streptococcus pneumoniae in human alveolar macrophages is 2 augmented with HIV infection. Frontiers in Immunology. 2022 Sept 20; 13:992659. doi: 10.3389/fimmu.2022.992659.
* Hames RG, Z Jasiunaite, G Ercoli, JJ Wanford, D Carreno, K Straatman, L Martinez-Pomares, H Yesilkaya, S Glenn, ER Moxon, PW Andrew, CP Kyriacou, MR Oggioni. Diurnal differences in intracellular replication within splenic macrophages correlates with the outcome of pneumococcal infection. Front Immunol. 2022 Jun 2; 13:907461. doi: 10.3389/fimmu.2022.907461.
* An H, C Qian, Y Huang, J Li, X Tian, J Feng, J Hu, Y Fang, F Jiao, Y Zeng, X Huang, X Meng, X Liu, X Lin, Z Zeng, M Guilliams, A Beschin, J Wang, MR Oggioni, JM Leong, J-W Veening, H Deng, R Zhang, H Wang, J Wu, Y Cui, J-R Zhang. Functional vulnerability of liver macrophages to capsules defines virulence of blood-borne bacteria. Journal of Experimental Medicine. 2022 Mar 08;219(4): e20212032. doi: 10.1084/jem.20212032.
* Hames RG, Z Jasiunaite, JJ Wanford, D Carreno, WY Chung, AR Dennison and MR Oggioni. Analysing macrophage infection at the organ level. Methods in Molecular Biology, 2022;2414:405-431. doi: 10.1007/978-1-0716-1900-1\_22.
* Wanford JJ, R Hames, D Carreno, Z Jasiunaite, WY Chung, F Arena, V Di Pilato, K Straatman, K West, R Farzand, M Pizza, L Martinez-Pomares, PW Andrew, ER Moxon, AR Dennison, GM Rossolini, MR Oggioni. Interaction of Klebsiella pneumoniae with tissue macrophages in a murine infection model and ex-vivo porcine organ perfusions: an exploratory investigation. Lancet Microbe. 2021 Dec;2(12):e695-e703. doi: 10.1016/S2666-5247(21)00195-6.
* Carreno D, JJ Wanford, Z Jasiunaite, RG. Hames, WY Chung, AR. Dennison, K Straatman, L Martinez-Pomares, M Pareek, CJ Orihuela, MI Restrepo, WS Lim, PW Andrew, ER Moxon, MR Oggioni. 2021. Splenic macrophages as the source of bacteraemia during pneumococcal pneumonia. EBioMedicine. 2021 Oct 4;72:103601. doi: 10.1016/j.ebiom.2021.103601.
* Kanani T, K ElSamani, W Chung, M Cox, M Sahloul, J Isherwood, MR Oggioni, G Garcea, A Dennison. Ex-vivo normothermic perfusion of an abattoir-derived porcine hepatic segment as a model for scientific research. British Journal of Surgery, 2021 December 15. 108(S9):znab430.107, doi: 10.1093/bjs/znab430.107.
* Wysocka M, R Zamudio, MR Oggioni, J Gołebiewska, M Bronk, B Krawczyk. Genetic background and antibiotic resistance profiles of K. pneumoniae NDM-1 strains isolated from UTI, ABU and the GI tract, from one hospital in Poland, in relation to strains nationally and worldwide. Genes (Basel). 2021 Aug 22;12(8):1285. doi: 10.3390/genes12081285.
* Cumont A, R Zhang, Y Zheng, L Corscadden, MR Oggioni, C Li, R Liu, H Ye. Antibacterial properties of polycrystalline diamond films. Ceramics International. 2021 Aug 18;47:32562–32569. doi 10.1016/j.ceramint.2021.08.151
* Wysocka M, T Monteiro, C de Pina, D Gonçalves, S de Pina, A Ludgero-Correia, J Moreno, R Zamudio, N Almebairik, LJ Gray, M Pareek, DR Jenkins, M Aires De Sousa, H De Lencastre, S Beleza, II Araujo, T Conceição, MR Oggioni. Whole-genome analysis uncovers loss of blaZ associated to carriage isolates belonging to MRSA clone ST5-VI in Cape Verde. Journal of Global Antimicrobial Resistance. 2021 May 27;26:77-83. doi: 10.1016/j.jgar.2021.04.018.
* Huang X, J Wang, J Li, Y Liu, X Liu, Z Li, K Kurniyati, Y Deng, G Wang, J Ralph, M De Ste Croix, S Escobar-Gonzalez, R Roberts, J-W Veening, X Lan, MR Oggioni\*, C Li\*, J-R Zhang\*. Prevalence of Phase Variable Epigenetic Invertons among Host-Associated Bacteria. Nucleic Acids Research 2020 Nov 18; 48(20):11468-11485. doi: 10.1093/nar/gkaa907.
* Pan D, S Sze, JS Minhas, MN Bangash, N Pareek, P Divall, CML Williams, MR Oggioni, IB Squire, L Nellums, W Hanif, K Khunti, M Pareek. The impact of ethnicity on clinical outcomes in COVID-19: A rapid review. EClinicalMedicine 2020 June 3; 23:100404. doi: 10.1016/j.eclinm.2020.