

RESEARCH POSITIONS AND EDUCATION

- 2020-present **Research Associate**
Patel group (Arvind Patel), G2P (Arvind Patel, Massimo Palmarini)
MRC-University of Glasgow Centre For Virus Research (CVR), United Kingdom
- Evaluation of ZIKV viral-like particles (VLPs) vaccine in a prime-boost regimen combined with vector-based ChAdOx ZIKV vaccine.
Evaluation of the VLPs vaccine in a vector (mosquitoes) - host (mouse) model.
Characterization of a panel of ZIKV neutralising monoclonal antibodies.
Validation of COVID-19 research reagents and development of SARS-CoV-2 reverse genetics as part of the *CVR research response to COVID-19*
Member of the *G2P-UK National Virology Consortium*, studying the effect of emerging mutations in SARS-CoV-2. Investigation of the role of the SARS-CoV-2 Spike protein in mediating the route of cell entry and correlated effect of emerging mutations, including pathogenesis in animal models.
- 2016-2020 **Research Assistant**
Patel group (Arvind Patel)
MRC-University of Glasgow Centre For Virus Research (CVR), United Kingdom
- Development and preclinical evaluation in a small animal model of two candidate vaccines, viral-like particles (VLPs) and recombinant viral protein of ZIKV.
Study of the role of ZIKV envelope protein mutations in virus stability and epitopes exposure.
Supervision of different PhD projects: development of a yellow fever reporter virus, development of a vaccine against Louping Ill virus, production of monoclonal antibodies binding yellow fever virus, evaluation of antiviral activity of a GA-Hecate peptide bioconjugate.
- 2016 **PhD degree in Molecular Genetics and Biotechnology**
University of Nova Gorica, Slovenia
- 2013-2016 **PhD Student**
Molecular Immunology lab (Oscar Burrone)
International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy
- Studies of a helper virus-free reverse genetics system for rotavirus.
- 2010-2013 **Research activity**
Molecular Immunology lab (Oscar Burrone)
International Centre for Genetic Engineering and Biotechnology (ICGEB), Italy
- Development of biotinylated rotavirus particles through the incorporation of *in vivo* biotinylated VP6 protein.
- 2011 **Master's degree in Functional Genomics**
University of Trieste, Italy
- 2008 **Bachelor's degree in Biological sciences**
University of Trieste, Italy

AWARDS AND PROFESSIONAL ACHIEVEMENTS

2022	Outstanding Science Prize (Microbiology Society)
2022	MSCA Seals of Excellence. EU quality label for excellent ideas worthy of funding.
2021	Reward for Exceptional Contribution (University of Glasgow).
2020	UofG Academic promotion to recognise and reward excellent performance.
2018	Best postdoc presentation, 16 th Hepacivirus and Flavivirus Meeting
2015	Travel award, 6 th European Rotavirus Biology Meeting
2013	Travel award, 5 th European Rotavirus Biology Meeting
2013	ICGEB Arturo Falaschi Fellowship

- Teaching: supervisor of several honours, master and PHD students.
- Teaching: tutor for MSc Infection Biology journal club.
- Responsible for several international collaborations.
- Member of the *American Society of Microbiology (ASM)*, the *Microbiology Society (MicroSoc)*, the *American Society of Tropical Medicine and Hygiene (ASTMH)*, the *European Society of Clinical Microbiology and Infectious Diseases (ESCMID)*.
- Member of *Frontiers* and *TropicalMed* Editorial Boards.
- Reviewer activity for *Current Research in Immunology (CRIMMU)* and *Journal of general virology (JGV)*.
- Committee member of the *CVR Sir Michael Stoker Prize 2018-2022*.
- Journalistic collaboration with *Nuovoumanesimo.eu*.
- Specialist editor for *The Gist - The Glasgow insight into science and technology*.

COURSES and TRAINING

2022	Managing a research project/team - Glasgow, UK
2019	ScotPIL training course (rodents Personal animal licence) - Glasgow, UK
2019	3Rs Symposium - Glasgow, UK
2019	Cat3 training course - Glasgow, UK
2019	Biological and GM Safety course - Glasgow, UK
2019	Research integrity course - Glasgow, UK

MEETINGS COMMUNICATIONS

- **Microbiology Society JGV Roadshow 2022 - Glasgow (UK)**, October 17th 2022.
Phenotypic analysis of SARS-CoV-2 chimeras reveals the plasticity of Spike proteins and their role in virus virulence.
Oral presentation ****Awarded with Outstanding Science Prize**
- **MicroBiology Society Annual Meeting - Belfast (UK)**, April 4-7th 2022.
Validation of a Zika virus candidate vaccine in a mosquito-mouse transmission model.
Oral presentation
- **ASTMH Annual meeting - National harbour (USA)**, November 20-24th 2019.
ZIKA virus vaccine candidates based on covalently stable E dimers.
Poster presentation
- **MicroBiology Society Annual Meeting - Belfast (UK)**, April 8-11th 2019.
Towards a protein-based Zika virus vaccine: targeting the immune response against dimeric envelope epitopes.
Oral presentation
- **HCV2018 - 25th International Symposium on Hepatitis C Virus and Related Viruses - Dublin (Ireland)**, October 8-11th 2018
Towards a protein-based Zika virus vaccine: targeting the immune response against dimeric envelope epitopes.

- Oral presentation
- **16th Hepacivirus and Flavivirus Meeting - Rydal Hall (UK), May 18-20th 2018**
Towards a protein-based Zika virus vaccine: targeting the immune response against dimeric envelope epitopes.
Oral presentation ****Awarded as Best postdoc presentation**
- **Virus 2018 - Breakthrough in viral replication - Barcelona (Spain), February 7-9th 2018**
Towards a protein-based Zika virus vaccine.
Poster presentation
- **2nd International meeting of Arboviruses and their vectors - Glasgow (UK), Sept 7-8th 2017**
Towards a protein-based Zika virus vaccine.
Oral presentation
- **15th Hepacivirus and Flavivirus Meeting - Rydal Hall (UK), May 19- 21st 2017**
Developing a protein-based ZIKA virus vaccine.
Oral presentation
- **6th European Rotavirus Biology Meeting - Dijon (France), May 17-20th 2015**
A conserved translation regulatory motif (TRM) in the 5'UTRs of rotavirus genome segments.
Oral presentation
- **5th Human RNA virus workshop - Istanbul (Turkey), October 6-8th, 2014**
Biotinylated capsid proteins.
Poster presentation
- **5th European Rotavirus Biology Meeting - Valencia (Spain), October 6-9th 2013**
Biotinylated capsid proteins.
Oral presentation

LIST OF PUBLICATIONS (* co-authors, § corresponding author)

1. *Evaluation of engineered Zika virus-like particles vaccine candidate in a mosquito-mouse transmission model.*
Mancini MV, Tandavanitj R, Ant TH, Gingell D, Murdochy SP, Setthapramote c, Natsrita P, Kohl A, Sinkins SP, Patel AH, **De Lorenzo G§**.
Submitted 2022 (§corresponding author)
2. *Enhanced innate immune suppression by SARS-CoV-2 Omicron subvariants BA.4 and BA.5*
Reuschl AK, Thorne L, Whelan M, Mesner D, Ragazzini R, Dowgier G, Bogoda N, Turner J, Furnon W, Cowton V, **De Lorenzo G**, Bonfanti P, Palmarini M, Patel A, Towers G and Jolly C.
Under revision 2022
3. *The altered entry pathway and antigenic distance of the SARS-CoV-2 Omicron variant map to separate domains of spike protein*
Peacock TP*, Brown J*, Zhou J*, Thakur N, Sukhova K, Newman J, Kugathasan R, Yan A, Furnon W, **De Lorenzo G**, Cowton V, Reuss D, Moshe M, Quantrill J, Platt O, Kaforou M, Patel AH, Palmarini M, Bailey D, Barclay W.
Under revision 2022
4. *Antiviral evaluation of new synthetic bioconjugates based on GA-Hecate: A new class of antivirals targeting different steps of Zika Virus replication.*
da Silva-Sanches P, Sanchez-Velazquez R, Nogueira-Batista M, Moreira-Carneiro B, Bittar C, Calmon C, **De Lorenzo G**, Rahal P, Patel AH; Maffud-Cilli E.
Drafted 2022
5. *The P681H mutation in the Spike glycoprotein confers type I interferon resistance in the SARS-CoV-2 alpha variant*

Lista MJ, Winstone H, Wilson HD, Dyer A, Pickering S, Galao RP, **De Lorenzo G**, Cowton VM, Suarez N, Orton R, Furnon W, Palmarini M, Patel AH, Snell LB, Nebbia G, Swanson C, Neil SJD.
Journal of Virology. in press 2022 (BioRxiv doi: <https://doi.org/10.1101/2021.11.09.467693>)

6. *Rotavirus spike protein VP4 mediates viroplasm assembly by association to actin filaments*
Vetter J*, Papa G*, Seyffert M, Gunasekera K, **De Lorenzo G**, Wiesendanger M, Reymond JL, Fraefel C, Burrone O, and Eichwald C.
Journal of Virology. in press 2022 (doi: <https://doi.org/10.1128/jvi.01074-22>)

7. *SARS-CoV-2 Omicron is an immune escape variant with an altered cell entry pathway.*
Willett BJ*, Grove J*, MacLean OA*, Wilkie C*, **De Lorenzo G*** Furnon W*, Scott S*, Manali M*, Logan N*, Szemiel A, Ashraf S, Vink E, Harvey W, Davis C, Orton R, Hughes J, Holland P, Silva V, Pascall D, Puxty K, da Silva Filipe A, Yebra G, Shaaban S, Holden MTG, Pinto RM, Gunson R, Templeton K, Murcia P, Patel AH, Haughney J, Robertson DL, Palmarini M, Ray S & Thomson EC on behalf of the COVID-19 Deployed VaccinE (DOVE) Cohort Study investigators, The COVID-19 Genomics UK (COG-UK) Consortium, the G2P consortium and the Evaluation of Variants Affecting Deployed COVID-19 Vaccines (EVADE) investigators.
Nature Microbiology | 2022 (DOI:<https://doi.org/10.1038/s41564-022-01143-7>)

8. *Mutations that adapt SARS-CoV-2 to mink or ferret do not increase fitness in the human airway.*
Zhou J*, Peacock* TP, Brown JC*, Goldhill DH*, Elrefaey AME*, Penrice-Randal R, Cowton VM, **De Lorenzo G**, Furnon W, Harvey WT, Kugathasan R, Frise R, Baillon L, Lassauniere R, Thakur N, Gallo G, Goldswain H, Donovan-Banfield I, Dong X, Randle NP, Sweeney F, Glynn MC, Quantrill JL, McKay PF, Patel AH, Palmarini M, Hiscox JA, Bailey D, Barclay WS.
Cell Reports 2022 (DOI:<https://doi.org/10.1016/j.celrep.2022.110344>)

9. *A Plasmid DNA-Launched SARS-CoV-2 Reverse Genetics System and Coronavirus Toolkit for COVID-19 Research.*
Rihn SJ*, Merits A*, Bakshi S*, Turnbull ML*, Wickenhagen A,* Alexander A, Baillie C, Brennan B, Brown F, Bruncker K, Bryden SR, Burness KA, Carmichael S, Cole SJ, Cowton VM, Davies P, Davis C, **De Lorenzo G**, Donald CL, Dorward M, Dunlop JI, Elliott M, Fares M, da Silva Filipe A, Freitas JR, Furnon W, Gestuevo RL, Geyer A, Giesel D, Goldfarb DM, Goodman N, Gunson R, Hastie CJ, Herder V, Hughes J, Johnson C, Johnson N, Kohl A, Kerr K, Leech L, Lello LS, Li K, Lieber G, Liu X, Lingala R, Loney C, Mair D, McElwee MJ, McFarlane S, Nichols J, Nomikou K, Orr A, Orton RJ, Palmarini M, Parr YA, Pinto RM, Raggett S, Reid E, Robertson DL, Royle J, Cameron-Ruiz N, Shepherd J, Smollett K, Stewart DG, Stewart M, Sugrue E, Szemiel AM, Taggart A, Thomson EC, Tong L, Torrie LS, Toth R, Varjak M, Wang S, Wilkinson SG, Wyatt PG, Zusinaite E, Alessi DR, Patel AH, Zaid A, Wilson SJ, Mahalingam S.
Plos Biology, 2021 Feb 25;19(2):e3001091. doi: 10.1371/journal.pbio.3001091.

10. *SARS-CoV-2 Disrupts Splicing, Translation, and Protein Trafficking to Suppress Host Defenses.*
Banerjee AK, Blanco MR, Bruce EA, Honson DD, Chen LM, Chow A, Bhat P, Ollikainen N, Quinodoz SA, Loney C, Thai J, Miller ZD, Lin AE, Schmidt MM, Stewart DG, Goldfarb D, **De Lorenzo G**, Rihn SJ, Voorhees RM, Botten JW, Majumdar D, Guttman M
Cell. 2020 Nov 25;183(5):1325-1339.e21. doi: 10.1016/j.cell.2020.10.004.

11. *Zika virus-like particles bearing covalent dimer of envelope protein protect mice from lethal challenge.*
De Lorenzo G*, Tandavanitj R*, Doig J, Setthapramote C, Poggianella M, Sanchez Velazquez R, Scales HE, Edgar JM, Kohl A, Brewer J, Burrone OR, Patel AH.
Journal of Virology. 2020 Oct 7;JVI.01415-20. doi: 10.1128/JVI.01415-20.

12. *Generation of a reporter yellow fever virus for high throughput antiviral assays.*
Sanchez Velazquez R, **De Lorenzo G**, Tandavanitj R, Setthapramote C, Bredenbeek PJ, Bozzacco B, MacDonald MR, Clark JJ, Rice CM, Patel AH, Kohl A, Varjak M.
Antiviral Res. 2020 Nov;183:104939. doi: 10.1016/j.antiviral.2020.104939.
13. *Immunogenicity and Efficacy of Zika Virus Envelope Domain III in DNA, Protein, and ChAdOx1 Adenoviral-Vectored Vaccines.*
López-Camacho C, **De Lorenzo G**, Slon-Campos J, Dowall S, Abbink P, Larocca RA, Kim Y, Poggianella M, Graham V, Findlay-Wilson S, Rayner E, Carmichael J, Dejnirattisai W, Boyd M, Hewson R, Mongkolsapaya J, Sreaton GR, Barouch DH, Burrone OR, Patel AH, Reyes-Sandoval A.
Vaccines. June 2020, Volume 8, Issue 2, 307. doi:10.3390/vaccines8020307.
14. *Rational development of a protective Zika vaccine via the modulation of antigen membrane anchors in chimpanzee adenoviral vectors.*
López-Camacho C, Abbink P, Larocca RA, Dejnirattisai W, Boyd M, Badamchi-Zadeh A, Wallace ZR, Doig J, Sanchez Velazquez R, Dias Lins Neto R, Coelho DF, Chan Kim Y, Donald CL, Owsianka A, **De Lorenzo G**, Kohl A, Gilbert SC, Dorrell L, Mongkolsapaya J, Patel AH, Sreaton GR, Barouch DH, Hill A, Reyes-Sandoval A.
Nature Communication. 2018 Jun 22;9(1):2441. doi: 10.1038/s41467-018-04859-5.
15. *Identification of a small molecule that compromises structural integrity of rotavirus particles and viroplasm.*
Eichwald C, **De Lorenzo G**, Schraner EM, Papa G, Bollati M, Swuec P, de Rosa M, Milani M, Mastrangelo E, Ackermann M, Burrone OR, Arnoldi F.
Journal of Virology. 2017 Nov 15. pii: JVI.01943-17. doi: 10.1128/JVI.01943-17
16. *An inhibitory motif on the 5'UTR of several rotavirus genome segments affects protein expression and reverse genetics strategies.*
De Lorenzo G*, Drikic M*, Eichwald C, Papa G, Burrone O, Arnoldi F.
PLoS One. 2016 Nov 15;11(11):e0166719.
17. *Lack of Evidence of Rotavirus-Dependent Molecular Mimicry as a Trigger of Celiac Disease.*
Ziberna F, **De Lorenzo G**, Schiavon V; Arnoldi F, Quaglia S, De Leo L, Vatta S, Martellos S, Burrone O, Ventura A, Not T.
Clin Exp Immunol. 2016 Aug 22. doi: 10.1111/cei.12855;
18. *Rotavirus Increases Levels of Lipidated LC3 Supporting Accumulation of Infectious Progeny Virus without Inducing Autophagosome Formation.*
Arnoldi F, **De Lorenzo G**, Mano M, Schraner E, Wild P, Eichwald C, Burrone O.
PLoS One. 2014 Apr 15; 9(4):e95197;
19. *Production of in vivo biotinylated rotavirus particles.*
De Lorenzo G, Eichwald C, Schraner E, Niccolin V, Bortul R, Mano M, Burrone O, Arnoldi F.
J Gen Virol. 2012 Jul; 93(Pt 7):1474-82.

Glasgow 23/11/2022

