

NAME

Giovanni Franzo

ADDRESS**DATE OF BIRTH****EDUCATION**

- November 2017: Second degree master in “Biostatistics and Clinical Epidemiology”, at the University of Pavia, defending a thesis entitled “Comparison and validation of different machine learning methods for the prediction of survival to Canine Parvovirus 2 infection”.
- March 2015: “Doctor in Philosophy” (PhD) in “Veterinary Science” - Veterinary Medicine Faculty, University of Padua (Italy), defending a thesis entitled “Further insight into the molecular epidemiology and evolutionary dynamics of rapidly evolving RNA and ssDNA viruses”
- September 2011: Degree in Veterinary Medicine with the final grade of 110/110 *magna cum laude* at the University of Padua (Italy), discussing the degree thesis “Application of molecular biology assays to the diagnosis of Porcine circovirus type 2 (PCV2) infection”.
- July 2006. Scientific high school diploma with the final grade of 100/100 *cum laude*

PROFESSIONAL ACTIVITIES

- November 2017-Present: Researcher at the Department of Animal Medicine, Production and Health (MAPS), University of Padua (Academic discipline: VET/05 Infectious Diseases of Domestic Animals).
- January 2015-October 2017: Fellow researcher at the Department of Animal Medicine, Production and Health (MAPS), University of Padua (Academic discipline: VET/05 Infectious Diseases of Domestic Animals).
- January 2012-December 2014: PhD Student at the Department of Animal Medicine, Production and Health (MAPS), University of Padua (Academic discipline: VET/05 Infectious Diseases of Domestic Animals).
- October 2011-December 2012. Attending graduate at the Laboratory of infectious diseases of the Department of Public health, Comparative Pathology and hygiene, Padua University.
- June 2009-September 2011: Internship as undergraduate student at the Laboratory of infectious diseases of the Department of Veterinary Public health, Comparative Pathology and hygiene, Padua University.

INTERNATIONAL RESEARCH ACTIVITIES

- 6th November – 22th December 2017: Visiting Researcher at *IRTA*, Centre de Recerca en Sanitat Animal (CReSA, IRTA- UAB), Campus de la Universitat Autònoma de Barcelona, 08193 Bellaterra, Barcelona, Spain. The relative project was focused on the study of within-host *Porcine circovirus type 2* subpopulations using Next Generation Sequencing data. The study aimed to reconstruct the structure of viral subpopulations in longitudinally collected samples. I also took part in metagenomic studies and more traditional molecular epidemiological investigations dealing with *Porcine circovirus type 3*.

- 12th March 2016 – 20th March 2016: Visiting researcher at INRA, UMR Interactions Hotes-Agents Pathogenes, Ecole Nationale Veterinaire, Toulouse. The visit was focused on the analysis of Next Generation Sequencing data (both resequencing and metagenomic analysis) obtained from several avian species (i.e. avian Metapneumovirus, Infectious bronchitis virus, avian Paramixovirus). I also participated in the training of local PhD students.
- 10th November – 5th December 2014: Visiting researcher at MRC University of Glasgow. Centre for Virus Research; Institute of Infection, Immunity and Inflammation; College of Medical, Veterinary and Life Sciences. The relative project was focused on the use of a phylodynamic approach to model and reconstruct population dynamics, evolutionary rates and selective forces shaping *Porcine circovirus type 2* molecular epidemiology and evolution.

SCIENTIFIC ORGANISATIONS

Member of the following scientific societies:

- European College of Veterinary Microbiology (ECVM)
- Italian Society of Avian Pathology (SIPA)
- Italian Society of Swine Pathology and Farming (SIPAS)
- Italian Society of Livestock Veterinarians (SIVAR)
- Italian Society of Veterinary Infectivists (ANIV)
- Member of the EUROPRRS2012 COST Action FA902 and IBV COST Action FA1207

VETERINARY COLLEGE

European College of Veterinary Microbiology (ECVM)

HONOURS

- 3 March 2015: winner of the Houghton Trust Grant to take part in the XIX Congress of the World Veterinary Poultry Association
- 2 November 2016: winner of the SIPAS research scholarship.
- 7 December 2016: winner of the research scholarship entitled “Analisi biomolecolari mediante PCR e Sequenziamento per l'evidenziazione e differenziazione del virus della bronchite infettiva aviaria” at Dept. Animal Medicine, Production and Health (MAPS), University of Padua. Viale dell'Università, 16, 35020, Legnaro (PD), Italy.
- 3 March 2019: winner of the Houghton Trust Grant to participate in the XXI Congress of the World Veterinary Poultry Association
- I have been enlisted among the researchers within the top 2% of scientists of their main discipline in the recently published work: **Ioannidis, John PA, Kevin W. Boyack, and Jeroen Baas. "Updated science-wide author databases of standardized citation indicators." *PLoS Biology* 18.10 (2020): e3000918.** The results have been confirmed the following year.

INSTITUTIONAL ACTIVITIES

- Since 2017 Member of the Dept. MAPS council.
- Since 2018 Member of Biotechnology course council
- Since 2020 Member of Biotechnology for food and science course council.

- Since 2020 Member of the Research Committee of dept.MAPS.
- Since 2021 Member of the Group for Accreditation and Evaluation of the Biotechnology for food and science course.
- Since 2021 Member of Veterinary Medicine course council.
- Since 2021 Member of the Board of the PhD program in Veterinary Science.
- Since 2022 representative of the dept.MAPS for Inclusion and Disability
- Member of the evaluation panel of the PhD Thesis in Veterinary Sciences for the Bologna University (XXXI cycle).
- Member of the PhD commission for the Universidade de Sao Paulo, Brazil (18 November 2015) and Facultat de Veterinària, UAB, Spain (1 July 2021).

PUBLIC SERVICE

I routinely take part in the diagnostic service activity of the Laboratory of infectious disease of my department. I also conduct a consultation activity for other laboratories and companies:

- Diagnostic activity
 - Molecular biology-based assays for viral pathogens of veterinary interest
 - Sequencing
 - Sequence analysis
 - Viral genotyping and epidemiological tracing
- Consultancy
 - Customized diagnostic assays development and validation
 - Training of technicians of private companies
 - Epidemiological studies planning
 - Experimental studies planning
 - Statistical analysis
 - Bioinformatic and phylogenetic analysis
 - Expert opinion in legal quarrels
- Others
 - Seminars and conferences for a generalist audience
 - Writing of educative articles and books for a generalist audience

MAJOR RESEARCH/PROFESSIONAL INTERESTS

The research activities focus mainly on the study of viral evolution and molecular epidemiology using different bioinformatic, phylogenetic-based and biostatistics approaches. To date, my studies have focused mostly on rapidly evolving RNA and single-strand DNA viruses affecting swine (PCV-2, PCV-3 and PRRSV), poultry (aMPV, IBDV and IBV) and pets (CPV and FPV). In the last years, I extensively worked on the epidemiology of these and other viruses (e.g. ASFV, AHSV, WNV, BFDV, etc) in wild animals, both in the Italian scenario and through collaboration with foreign countries, Africa in particular. I have also investigated the effect of these viruses' remarkable heterogeneity on the control strategies (i.e. vaccination efficacy) and performances of molecular biology-based diagnostic assays. Recently, I worked on the development of Machine Learning models aimed to predict the disease outcome based on genetic data or clinical parameter analysis.

MAIN SKILLS

- Laboratory skills: Nucleic acid extraction; PCR, RT-PCR and real-time PCR design, validation and execution; Nucleic acid purification; Sanger sequencing; Cloning.
- Biostatistical skills: Study design and sample size calculation; database creation, management and manipulation; execution of statistical test and hypothesis testing; creation and validation of Machine Learning predictive algorithms; advanced knowledge of tools used for statistical analysis (i.e. R, Stata, SPSS).
- Bioinformatic skills: Sanger sequence quality check; sequence alignment; evolution model selection; recombination detection; phylogenetic analysis; models comparison and hypothesis testing; selective pressure estimation; phylodynamic analysis; epitopes prediction; homology modeling; Next Generation Sequencing data analysis (re-sequencing, de-novo sequencing, sub-population investigations, metagenomic); good knowledge of programming tools like R and Python.

PATENTS

- Italy patent number 102017000031092 - Method for predicting cross-protection between Infectious Bronchitis strains – Inventors: Cecchinato & Franzo.

PUBLICATION LIST

1. Anahory, I.V.; Franzo, G.; Settypalli, T.B.K.; Mapaco, L.P.; Achá, S.J.; Molini, U.; Cattoli, G.; Lamien, C.E.; Dundon, W.G. Identification of porcine circovirus-3 in Mozambique. *Vet Res Commun* **2022**, *46*, 593–596, doi:10.1007/s11259-021-09858-4.
2. Dundon, W.G.; Franzo, G.; Settypalli, T.B.K.; Dharmayanti, N.L.P.I.; Ankhambaatar, U.; Sendow, I.; Ratnawati, A.; Sainnokhoi, T.; Molini, U.; Cattoli, G.; et al. Evidence of coinfection of pigs with African swine fever virus and porcine circovirus 2. *Arch Virol* **2022**, *167*, 207–211, doi:10.1007/s00705-021-05312-7.
3. Feng, H.; Segalés, J.; Wang, F.; Jin, Q.; Wang, A.; Zhang, G.; Franzo, G. Comprehensive Analysis of Codon Usage Patterns in Chinese Porcine Circoviruses Based on Their Major Protein-Coding Sequences. *Viruses* **2022**, *14*, doi:10.3390/v14010081.
4. Franzo, G.; Dundon, W.G.; De Villiers, M.; De Villiers, L.; Coetzee, L.M.; Khaiseb, S.; Cattoli, G.; Molini, U. Phylodynamic and phylogeographic reconstruction of beak and feather disease virus epidemiology and its implications for the international exotic bird trade. *Transbound Emerg Dis* **2022**, doi:10.1111/tbed.14618.
5. Franzo, G.; Faustini, G.; Legnardi, M.; Cecchinato, M.; Drigo, M.; Tucciarone, C.M. Phylodynamic and phylogeographic reconstruction of porcine reproductive and respiratory syndrome virus (PRRSV) in Europe: Patterns and determinants. *Transbound Emerg Dis* **2022**, doi:10.1111/tbed.14556.
6. Franzo, G.; Settypalli, T.B.K.; Agusi, E.R.; Meseko, C.; Minoungou, G.; Ouoba, B.L.; Habibata, Z.L.; Wade, A.; de Barros, J.L.; Tshilenge, C.G.; et al. Porcine circovirus-2 in Africa: Identification of continent-specific clusters and evidence of independent viral introductions from Europe, North America and Asia. *Transbound Emerg Dis* **2021**, *69*, e1142–e1152, doi:10.1111/tbed.14400.
7. Franzo, G.; Ustulin, M.; Zanardelli, P.; Castellan, A.; Villa, N.; Manfreda, A.; Vio, D.; Drigo, M. First detection of porcine circovirus type 2e in Europe. *Vet J* **2022**, *279*, doi:10.1016/j.tvjl.2022.105787.

8. Graziosi, G.; Mescolini, G.; Silveira, F.; Lupini, C.; Tucciarone, C.M.; Franzo, G.; Cecchinato, M.; Legnardi, M.; Gobbo, F.; Terregino, C.; et al. First detection of avian metapneumovirus subtype C Eurasian lineage in a Eurasian wigeon (*Mareca penelope*) wintering in Northeastern Italy: an additional hint on the role of migrating birds in the viral epidemiology. *Avian Pathol* **2022**, *51*, 283–290, doi:10.1080/03079457.2022.2051429.
9. Koutsianos, D.; Athanasiou, L. V.; Mossialos, D.; Franzo, G.; Cecchinato, M.; Koutoulis, K.C. Investigation of Serotype Prevalence of *Escherichia coli* Strains Isolated from Layer Poultry in Greece and Interactions with Other Infectious Agents. *Vet Sci* **2022**, *9*, doi:10.3390/vetsci9040152.
10. Legnardi, M.; Franzo, G.; Tucciarone, C.M.; Koutoulis, K.; Duarte, I.; Silva, M.; Le Tallec, B.; Cecchinato, M. Detection and molecular characterization of a new genotype of infectious bursal disease virus in Portugal. *Avian Pathol* **2022**, *51*, 97–105, doi:10.1080/03079457.2021.2006606.
11. Legnardi, M.; Grassi, L.; Franzo, G.; Menandro, M.L.; Tucciarone, C.M.; Minichino, A.; Dipineto, L.; Borrelli, L.; Fioretti, A.; Cecchinato, M. Detection and Molecular Characterization of a Novel Species of Circovirus in a Tawny Owl (*Strix aluco*) in Southern Italy. *Animals* **2022**, *12*, doi:10.3390/ani12020135.
12. Molini, U.; Coetzee, L.M.; Van Zyl, L.; Khaiseb, S.; Cattoli, G.; Dundon, W.G.; Franzo, G. Molecular Detection and Genetic Characterization of Porcine Circovirus 2 (PCV-2) in Black-Backed Jackal (*Lupulella mesomelas*) in Namibia. *Animals* **2022**, *12*, doi:10.3390/ani12050620.
13. Molini, U.; Franzo, G.; Rautenbach, I.; Otto, H. V.; Khaiseb, S.; Di Gennaro, A.; Ntahonshikira, C.; Baines, I.; Monaco, F.; Savini, G.; et al. Neutralising antibodies to West Nile virus detected in horses in Windhoek, Namibia. *J S Afr Vet Assoc* **2022**, *93*, doi:10.36303/JSAVA.2022.93.1.165.
14. Molini, U.; Franzo, G.; Settypalli, T.B.K.; Hemberger, M.Y.; Khaiseb, S.; Cattoli, G.; Dundon, W.G.; Lamien, C.E. Viral Co-Infections of Warthogs in Namibia with African Swine Fever Virus and Porcine Parvovirus 1. *Animals* **2022**, *12*, doi:10.3390/ani12131697.
15. Franzo, G. SARS-CoV-2 and other human coronavirus show genome patterns previously associated to reduced viral recognition and altered immune response. *Sci Rep* **2021**, *11*, doi:10.1038/s41598-021-90278-4.
16. Franzo, G.; Barbierato, G.; Pesente, P.; Legnardi, M.; Tucciarone, C.M.; Sandri, G.; Drigo, M. Porcine reproductive and respiratory syndrome (PrRS) epidemiology in an integrated pig company of northern Italy: A multilevel threat requiring multilevel interventions. *Viruses* **2021**, *13*, doi:10.3390/v13122510.
17. Franzo, G.; Drigo, M.; Legnardi, M.; Grassi, L.; Menandro, M.L.; Pasotto, D.; Cecchinato, M.; Tucciarone, C.M. Porcine gammaherpesviruses in Italian commercial swine population: Frequent but harmless. *Pathogens* **2021**, *10*, 1–6, doi:10.3390/pathogens10010047.
18. Franzo, G.; Legnardi, M.; Grassi, L.; Dotto, G.; Drigo, M.; Cecchinato, M.; Tucciarone, C.M. Impact of viral features, host jumps and phylogeography on the rapid evolution of Aleutian mink disease virus (AMDV). *Sci Rep* **2021**, *11*, doi:10.1038/s41598-021-96025-z.

19. Franzo, G.; Menandro, M.L.; Tucciarone, C.M.; Barbierato, G.; Crovato, L.; Mondin, A.; Libanora, M.; Obber, F.; Orusa, R.; Robetto, S.; et al. Canine circovirus in foxes from northern Italy: Where did it all begin? *Pathogens* **2021**, *10*, doi:10.3390/pathogens10081002.
20. Franzo, G.; Tucciarone, C.M.; Legnardi, M.; Cecchinato, M. Effect of genome composition and codon bias on infectious bronchitis virus evolution and adaptation to target tissues. *BMC Genomics* **2021**, *22*, doi:10.1186/s12864-021-07559-5.
21. Houta, M.H.; Hassan, K.E.; Legnardi, M.; Tucciarone, C.M.; Abdel-Moneim, A.S.; Cecchinato, M.; El-Sawah, A.A.; Ali, A.; Franzo, G. Phylodynamic and recombination analyses of avian infectious bronchitis gi-23 reveal a widespread recombinant cluster and new among-countries linkages. *Animals* **2021**, *11*, doi:10.3390/ani11113182.
22. Legnardi, M.; Allée, C.; Franzo, G.; Cecchinato, M.; Brown, P. Research Note: Detection of Avian metapneumovirus subgroup C specific antibodies in a mallard flock in Italy. *Poult Sci* **2021**, *100*, doi:10.1016/j.psj.2021.101186.
23. Legnardi, M.; Baranyay, H.; Simon, C.; Molnár, J.; Bijlsma, T.; Cecchinato, M.; Gáspárdy, A.; Bersényi, A.; Tucciarone, C.M.; Franzo, G.; et al. Infectious bronchitis hatchery vaccination: Comparison between traditional spray administration and a newly developed gel delivery system in field conditions. *Vet Sci* **2021**, *8*, doi:10.3390/vetsci8080145.
24. Mescolini, G.; Lupini, C.; Franzo, G.; Quaglia, G.; Legnardi, M.; Cecchinato, M.; Tucciarone, C.M.; Blanco, A.; Turblin, V.; Biarnés, M.; et al. What is new on molecular characteristics of Avian metapneumovirus strains circulating in Europe? *Transbound Emerg Dis* **2021**, *68*, 1314–1322, doi:10.1111/tbed.13788.
25. Molini, U.; Coetzee, L.M.; Hemberger, M.Y.; Khaiseb, S.; Cattoli, G.; Dundon, W.G.; Franzo, G. The oryx antelope (*Oryx gazella*): An unexpected host for porcine circovirus-2 (pcv-2). *Pathogens* **2021**, *10*, doi:10.3390/pathogens10111402.
26. Molini, U.; Franzo, G.; Gous, L.; Moller, S.; Hemberger, Y.M.; Chiwome, B.; Marruchella, G.; Khaiseb, S.; Cattoli, G.; Dundon, W.G. Three different genotypes of porcine circovirus 2 (PCV-2) identified in pigs and warthogs in Namibia. *Arch Virol* **2021**, *166*, 1723–1728, doi:10.1007/s00705-021-05035-9.
27. Molini, U.; Franzo, G.; Nel, H.; Khaiseb, S.; Ntahonshikira, C.; Chiwome, B.; Baines, I.; Madzingira, O.; Monaco, F.; Savini, G.; et al. West Nile Virus Seroprevalence in a Selected Donkey Population of Namibia. *Front Vet Sci* **2021**, *8*, doi:10.3389/fvets.2021.681354.
28. Molini, U.; Marruchella, G.; Matheus, F.; Hemberger, Y.M.; Chiwome, B.; Khaiseb, S.; Cattoli, G.; Franzo, G. Molecular investigation of porcine circovirus type 3 infection in pigs in Namibia. *Pathogens* **2021**, *10*, doi:10.3390/pathogens10050585.
29. Nordio, L.; Bazzocchi, C.; Genova, F.; Serra, V.; Longeri, M.; Franzo, G.; Rondena, M.; Stefanello, D.; Giudice, C. Molecular and Immunohistochemical Expression of LTA4H and FXR1 in Canine Oral Melanoma. *Front Vet Sci* **2021**, *8*, doi:10.3389/fvets.2021.767887.

30. Saporiti, V.; Franzo, G.; Sibila, M.; Segalés, J. Porcine circovirus 3 (PCV-3) as a causal agent of disease in swine and a proposal of PCV-3 associated disease case definition. *Transbound Emerg Dis* **2021**, *68*, 2936–2948, doi:10.1111/tbed.14204.
31. Sibila, M.; Rocco, C.; Franzo, G.; Huerta, E.; Domingo, M.; Núñez, J.I.; Segalés, J. Genotyping of porcine circovirus 2 (Pcv-2) in vaccinated pigs suffering from pcv-2-systemic disease between 2009 and 2020 in Spain. *Pathogens* **2021**, *10*, doi:10.3390/pathogens10081016.
32. Tucciarone, C.M.; Franzo, G.; Legnardi, M.; Fortin, A.; Valastro, V.; Lazzaro, E.; Terregino, C.; Cecchinato, M. Effect of assay choice, viral concentration and operator interpretation on infectious bronchitis virus detection and characterization. *Avian Pathol* **2021**, *50*, 357–365, doi:10.1080/03079457.2021.1959897.
33. Tucciarone, C.M.; Franzo, G.; Legnardi, M.; Lazzaro, E.; Zoia, A.; Petini, M.; Furlanello, T.; Caldin, M.; Cecchinato, M.; Drigo, M. Genetic insights into feline parvovirus: Evaluation of viral evolutionary patterns and association between phylogeny and clinical variables. *Viruses* **2021**, *13*, doi:10.3390/v13061033.
34. Grassi, L.; Franzo, G.; Martini, M.; Mondin, A.; Cassini, R.; Drigo, M.; Pasotto, D.; Vidorin, E.; Menandro, M.L. Ecotyping of *Anaplasma phagocytophilum* from wild ungulates and ticks shows circulation of zoonotic strains in northeastern Italy. *Animals* **2021**, *11*, 1–14, doi:10.3390/ani11020310.
35. Balboni, A.; Franzo, G.; Bano, L.; De Arcangeli, S.; Rizzardi, A.; Urbani, L.; Segatore, S.; Serafini, F.; Dondi, F.; Battilani, M. Culture-Dependent and Sequencing Methods Revealed the Absence of a Bacterial Community Residing in the Urine of Healthy Cats. *Front Vet Sci* **2020**, *7*, doi:10.3389/fvets.2020.00438.
36. Correa-Fiz, F.; Franzo, G.; Llorens, A.; Huerta, E.; Sibila, M.; Kekarainen, T.; Segalés, J. Porcine circovirus 2 (PCV2) population study in experimentally infected pigs developing PCV2-systemic disease or a subclinical infection. *Sci Rep* **2020**, *10*, doi:10.1038/s41598-020-74627-3.
37. Franzo, G.; Drigo, M.; Legnardi, M.; Grassi, L.; Pasotto, D.; Menandro, M.L.; Cecchinato, M.; Tucciarone, C.M. Bovine coronavirus: Variability, evolution, and dispersal patterns of a no longer neglected betacoronavirus. *Viruses* **2020**, *12*, doi:10.3390/v12111285.
38. Franzo, G.; Legnardi, M.; Mescolini, G.; Tucciarone, C.M.; Lupini, C.; Quaglia, G.; Catelli, E.; Cecchinato, M. Avian Metapneumovirus subtype B around Europe: a phylodynamic reconstruction. *Vet Res* **2020**, *51*, doi:10.1186/s13567-020-00817-6.
39. Franzo, G.; Segalés, J. Porcine circovirus 2 genotypes, immunity and vaccines: Multiple genotypes but one single serotype. *Pathogens* **2020**, *9*, 1–12, doi:10.3390/pathogens9121049.
40. Franzo, G.; Tinello, S.; Grassi, L.; Tucciarone, C.M.; Legnardi, M.; Cecchinato, M.; Dotto, G.; Mondin, A.; Martini, M.; Pasotto, D.; et al. Free to circulate: An update on the epidemiological dynamics of porcine circovirus 2 (PCV-2) in Italy reveals the role of local spreading, wild populations, and Foreign countries. *Pathogens* **2020**, *9*, doi:10.3390/pathogens9030221.
41. Franzo, G.; Tucciarone, C.M.; Moreno, A.; Legnardi, M.; Massi, P.; Tosi, G.; Trogu, T.; Ceruti, R.; Pesente, P.; Ortali, G.; et al. Phylodynamic analysis and

- evaluation of the balance between anthropic and environmental factors affecting IBV spreading among Italian poultry farms. *Sci Rep* **2020**, *10*, doi:10.1038/s41598-020-64477-4.
42. Grassi, L.; Tagliapietra, V.; Rizzoli, A.; Martini, M.; Drigo, M.; Franzo, G.; Menandro, M.L. Lack of evidence on the susceptibility of ticks and wild rodent species to PCV3 infection. *Pathogens* **2020**, *9*, 1–8, doi:10.3390/pathogens9090682.
 43. Tegegne, D.; Deneke, Y.; Sori, T.; Abdurahaman, M.; Kebede, N.; Cecchinato, M.; Franzo, G. Molecular epidemiology and genotyping of infectious bronchitis virus and avian metapneumovirus in backyard and commercial chickens in Jimma Zone, Southwestern Ethiopia. *Vet Sci* **2020**, *7*, 1–11, doi:10.3390/vetsci7040187.
 44. Franzo, G.; Ruiz, A.; Grassi, L.; Sibila, M.; Drigo, M.; Segalés, J. Lack of porcine circovirus 4 genome detection in pig samples from Italy and Spain. *Pathogens* **2020**, *9*, 4–9, doi:10.3390/pathogens9060433.
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predicting survival after canine parvovirus infection. *Vet Rec* **2020**, *187*, doi:10.1136/vr.105283.

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CONGRESS PRESENTATION LIST

Invited speaker:

1. Franzo G. *PCV2 molecular epidemiology: to what extent does it affect the infection control?* Presentation during a preliminary meeting before the 13th European Symposium of Porcine Health Management, Budapest, Hungary. 11/05/2022
2. Franzo G. *PCV2 molecular epidemiology and control strategies*. In: Zoetis Peer Circles, PCV2 Control: Optimization Through Vaccination. Webinar for Asian veterinarians. 21/12/2021
3. Franzo G. *Current topics in PCV2 infections, including PCV1, PCV2 and PCV3*. Middle European Congress, Brno, Czech republic. 07/09/2021
4. Franzo G. *Porcine circovirus 2 evolution, genotypes, immunity and vaccines*. Webinar for Asian counties. Sponsored by Philippine Zoetis veterinary division. 14/05/2021
5. Franzo G. *La rivoluzione in evoluzione*. Webinar for Italian veterinarians sponsored by Zoetis. Ostia. 15/06/2021.
6. Franzo G. *Porcine circovirus 2 genotypes immunity and vaccines Multiple genotypes but one single serotype*. Webinar for US veterinarians Sponsored by Zoetis. 01/05/2021
7. Franzo G. *Epidemiologia ed evoluzione del PCV-2*. Webinar Circo Learning, for Italian veterinarians. 26/01/2021
8. Franzo G. *Diagnostica e epidemiologia molecolare*. Webinar *La diagnostica in medicina veterinaria: innovazione e utilizzo consapevole*. Organized by the Scuola

di Specializzazione in Sanità Animale, Allevamento e Produzioni Zootecniche.
05/06/2020

9. Franzo G. *I coronavirus prima del Coronavirus: come li gestiscono i veterinari*. Speech performed during VenetoNight, Padova. 27/11/2020
10. Franzo G. *Quando un coronavirus entra in allevamento: studio e controllo della malattia nella veterinaria del nuovo millennio*. Speech performed during the Galileo Festival, 14/10/2020
11. Franzo G. *Phylodynamics of RNA and ssDNA viruses: a bridge among genetics, epidemiology and evolution*. Centre de Recerca en Sanitat Animal (CRESA), IRTA-UAB. 11/12/2017.
12. Franzo G. *PCV2: Pace clinica (?) e dinamismo evolutivo*. 18° Congresso internazionale SIVAR Cremona. 11-13/05/2016.

Presentations

1. Franzo G., Legnardi M., Grassi L., Houta M. H., Hassan K. E., Tucciarone C.M., Abdel-Moneim A.S., El-Sawah A.A., Ali A., Cecchinato M. *Dall'est all'ovest: ricostruzione filodinamica della storia della Variante 2 (GI-23) del virus della bronchite infettiva aviaria*. VI SIMPOSIO SCIENTIFICO SIPA. Bologna, Hotel Savoia Regency. 19/11/2021
2. Franzo G., Legnardi M., Mescolini G., Tucciarone C.M., Lupini C., Quaglia G., Catelli E., Cecchinato M. *Ricostruzione tramite un approccio filodinamico della circolazione di avian Metapneumovirus sottotipo B in Europa nell'ambito del V Simposio SIPA*, 12. 19/11/2020
3. Franzo G., Klaumann F., Grassi L., Sibila M., Czyzewska-Dors E., Núñez J.I., Cabezón O., Tucciarone C.M., Legnardi M., Drigo M., Segalés J., Menandro M.L. *Porcine circovirus 3 (PCV-3) detection in Italian and Spanish wild ungulates and related ticks: wilder than expected?* Global Virus network Barcelona. 9-12/06/2019.
4. Franzo G., Legnardi M., Tucciarone C.M., Drigo M., Menandro M.L., Pasotto D., Martini M., Cecchinato M. *Is Infectious bronchitis virus reacting to widespread vaccine administration? Evidences from a large-scale Italian field study*. XXIst World Veterinary Poultry Association Congress, Bitek, Bangkok, Thailand. 16-20/09/2019
5. Franzo G., Legnardi M., Massi P., Tucciarone C.M., Tosi G., Fiorentini L., Faccin F., Trogu T., Barbieri I., Lavazza A., Moreno A., Cecchiano M. *From field to laptop: How mathematical models can aid Infectious bronchitis virus epidemics understanding and control*. XXIst World Veterinary Poultry Association Congress, Bitek, Bangkok, Thailand. 16-20/09/2019
6. Franzo G., Legnardi M., Mescolini G., Tucciarone C.M., Lupini C., Quaglia G., Catelli E., Cecchinato M. *Ricostruzione tramite un approccio filodinamico della circolazione di Avian metapneumovirus sottotipo B in Europa*. V Simposio Scientifico SIPA, Verona, Italia. 30/01/2020.
7. Franzo G., Grassi L., Tucciarone C.M., Legnardi M., Pasotto D., Cecchinato M., Martini M., Drigo M., Menandro M.L. *Born to be wild? Detection and characterization of Porcine circovirus 3 (PCV-3) in wild ungulates and associated ticks in Friuli Venezia Giulia*. 73° convegno SISVET. Olbia, Italy. 19-22/06/2019.
8. Franzo G., Legnardi M., Tucciarone C.M., Drigo M., Martini M., Cecchinato M. *Evoluzione del genotipo QX in presenza di differenti strategie vaccinali*. IV simposio scientifico SIPA. 22/11/2019
9. Franzo G., Tucciarone C.M., Andreopoulou M., Prentza Z., Koutoulis K.C., Legnardi M., Chaligiannis I., Cecchinato M. *Piccoli cambiamenti, grandi benefici*:

- indagine dell'effetto di differenti strategie vaccinali sull'epidemiologia molecolare del virus della Bronchite infettiva e del Metapneumovirus aviare in Grecia.* III Simposio Scientifico SIPA. CDH Parma & Congressi, Parma, Italy. 14/09/2018
10. Franzo G., Correa-Fiz F., Llorens A., Segalés J., Kekarainen T., *Studio delle sottopopolazioni virali di Porcine circovirus type 2 effettuata tramite Next Generation Sequencing.* XLIV Meeting annuale SIPAS. Centro Fiera del Garda - Monichiari;BS, Italy.15-16/03/2018.
 11. Franzo G., Tucciarone C.M., Blanco A., Nofrarías M., Biarnés M., Cortey M., Majó N., Cecchinato M. *Changing the vaccination strategies has an impact on IBV QX population dynamics and clinical outbreaks.* In: 20th World Veterinary Poultry Association Congress – Abstracts book. p. 302, Edimburgo. England. 4-8/09/2017.
 12. Franzo G., Tucciarone CM., Catelli E., Cecchinato M. *Impatto di differenti strategie vaccinali sulle dinamiche di popolazione del genotipo QX di Bronchite infettiva e sulla frequenza dei focolai.* II Simposio Scientifico SIPA 2016, Parma, Italy. 23/09/2016.
 13. Franzo G., Naylor C.J., Drigo M., Croville G., Ducatez M.F., Catelli E., Laconi A., Cecchinato M. (2016). *Evidence of subpopulations in aMPV vaccines using NGS.* In: Proceedings of 9th International Symposium on Avian Corona- and Pneumoviruses – 4th Annual Meeting of the Cost Action FA1207 on controlling Avian Coronaviruses. p. 194, ovimex, ISBN: 978-90-9029942-6, Leusden, Utrecht, The Netherlands. 21-24/06/2016.
 14. Franzo G., Tucciarone CM., Drigo M. and Cecchinato M. *Machine learning and IBV strains cross-protection prediction.* COST Action FA1207: Towards Control of Avian Coronaviruses: Strategies for Diagnosis, Surveillance and Vaccination Vienna, Austria. 17-18/02/ 2016.
 15. Franzo G., Cecchinato M., Lelli D., Massi P., Tosi G., Blanco A., Antilles N., Biarnes M., Nofrarías M., Dolz R., Majó N., Moreno A. *Novel variants of infectious bronchitis virus resulting from recombination events in Italy and Spain.* COST Action FA1207: Towards Control of Avian Coronaviruses: Strategies for Diagnosis, Surveillance and Vaccination Vienna, Austria. 17-18/02/ 2016.
 16. Franzo G., Dotto G., Cecchinato M., Pasotto D., Martini M. Drigo. *Reconstruction of Porcine Reproductive and Respiratory Syndrome Virus evolutionary dynamics in Italy.* International PRRSV congress. Ghent, Belgium. 3-5/06/2015.
 17. Franzo G., Naylor C.J., Drigo M., Croville G., Ducatez M.F., Catelli E., Laconi A., Cecchinato M. *Identificazione mediante Next Generation Sequencing di sottopopolazioni virali in un vaccino vivo attenuato per Metapneumovirus aviare sottotipo B e loro implicazione nel fenomeno di reversione a virulenza.* LIV Convegno annuale SIPA. Forlì. Italy.16-17/04/2015.
 18. Franzo G., Drigo M., Lupini C., Catelli E., Laconi A., Listorti V., Naylor CJ, Martini M, Cecchinato M. *Development and validation of a one-step SYBR Green I-based real-time RT-PCR assay for the detection and quantification of Avian Metapneumovirus subtype A and B.* 8th Int. Symposium on Avian Corona- and Metapneumoviruses & Complicating Pathogens /COST Action FA1207, 2nd Annual Meeting, Rauischholzhausen. 17-20/06/2014
 19. Franzo G., Ceglie L., Martini M., Gigli A., Drigo M. *Evidence of PRRSV recombination from field samples in northeastern Italy.* In: EUROPRRS2012 - Understanding and combating PRRS in Europe. p. 78-84, ISBN: 9789632693125, Budapest. 10-12/10/2012.

DISSEMINATION ACTIVITIES

1. Franzo G. *I coronavirus prima del Coronavirus: come li gestiscono i veterinari*. Speech performed during VenetoNight, Padova, 27/11/2020
2. Franzo G. *Quando un coronavirus entra in allevamento: studio e controllo della malattia nella veterinaria del nuovo millennio*. Speech performed during the Galileo Festival, 14/10/2020

TEACHING ACTIVITIES

2016-2017: Lecturer in the course “Molecular basis of disease, immunology and transmissible diseases” of the Master Degree in Biotechnologies for food science (taught in English), Padua University.

2018/2019 and 2019/2020: Lecturer in the course “Biomolecular Techniques Applied to Transmissible Diseases” of the Master Degree in Animal Biotechnology, Bologna University.

Since 2018/2019: Lecturer in the course “Biotechnology applied to microorganisms of agri-food and veterinary interest” of the Biotechnology course, Padua University (32 hours; 3 CFU).

Since 2019/2020: Lecturer in the course “Epidemiology and Risk Analysis” of the Master Degree in Biotechnologies for food science (taught in English), Padua University (32 hours; 4 CFU).

Since 2020/2021: Lecturer in the practical activities of the Infectious disease module of the course in Veterinary Medicine, Padua University (20 hours; 1CFU)

Since 2020/2021: Lecturer in the Master in “Conservation medicine of aquatic animals”, Padua University

05/06/2020 Lecturer in the webinar “LA DIAGNOSTICA IN MEDICINA VETERINARIA: INNOVAZIONE E UTILIZZO CONSAPEVOLE” organized by the Scuola di Specializzazione in Sanità Animale, Allevamento e Produzioni Zootecniche,

**DICHIARAZIONE SOSTITUTIVA
DI CERTIFICAZIONE
Art.46 del DPR 445 del 28/12/2000**

**Il sottoscritto GIOVANNI FRANZO
nato a --- il ---
residente a ---**

Consapevole delle responsabilità penali previste dagli art.75 e 76 del DPR 445/2000 per le ipotesi di falsità in atti e dichiarazioni mendaci, attesta la veridicità di quanto dichiarato nel presente Curriculum Vitae.

**---, 01 Marzo 2023 Il
Dichiarante**

Esente da autentica di firma ed esente da imposta di bollo