

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

- December 2022 Associate professor at the Department of Animal Medicine, Production and Health (MAPS), University of Padua (Academic discipline: VET/05 Infectious Diseases of Domestic Animals).
- 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
- 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).

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.

EDITORIAL ACTIVITY

- Since 2019 Member of the editorial board of Large animal Review
- Since March 2020: Member of the editorial board of Frontiers in Veterinary Science

- Since February 2023 Member of the editorial board of *Animals*
- Since March 2020: Guest editor of *Veterinary Science* in the Special issue “Trends in Poultry Diseases”
- Since February 2021: Guest editor of *Pathogens* in the Special issue “Advances in Circoviruses”
- Since January 2023: Guest editor of *Pathogens* in the Special issue “Evolution and Adaptation of Avian Viruses”

EDITORIAL ACTIVITY

- Author of the chapter “Circoviruses (Circoviridae) in the Encyclopedia of Virology (4th edition). Ed. Elsevier: FRANZO G, SEGALÉS J. CIRCOVIRUSES (CIRCOVIRIDAE). IN: BAMFORD DH, ZUCKERMAN M, EDITORS. ENCYCLOPEDIA OF VIROLOGY. 4TH ED. ELSEVIER SCIENCE; 2020. P. 182–92
- Author of several chapters of the book “MICROBIOLOGIA E VIROLOGIA IN SINTESI”, Fondazione iniziative zooprofilattiche e zootecniche, Brescia.

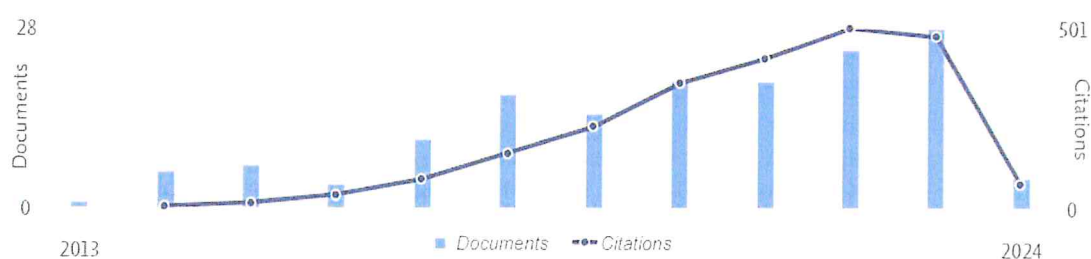
RESEARCH ACTIVITY

Author or co-author of more than 200 scientific publications on national or international scientific journals or proceedings of scientific meetings. Speaker and invited speaker in more than 40 national and international congresses

BIBLIOMETRIC INDICATORS (Source: Scopus)

- Number of papers published= 160
- h-index=26
- Total citations= 2323

Document & citation trends



PUBLICATION LIST

1. Molini, U.; Coetzee, L.M.; Christians, V.; Hemberger, M.Y.; Chiwome, B.; Amukwaya, M.; Khaiseb, S.; Cattoli, G.; Dundon, W.G.; Franzo, G. High detection frequency and genetic diversity of porcine circovirus 3 (PCV-3) in Namibian backyard farms and warthogs. *Acta Trop* **2024**, *249*, doi:10.1016/j.actatropica.2023.107085.
2. Balboni, A.; Franzo, G.; Bano, L.; Urbani, L.; Segatore, S.; Rizzardi, A.; Cordioli, B.; Cornaggia, M.; Terrusi, A.; Vasylyeva, K.; et al. No viable bacterial communities reside in the urinary bladder of cats with feline idiopathic cystitis. *Res Vet Sci* **2024**, *168*, 105137, doi:10.1016/j.rvsc.2024.105137.

3. Faustini, G.; Tucciarone, C.M.; Franzo, G.; Donneschi, A.; Boniotti, M.B.; Alborali, G.L.; Drigo, M. Molecular Survey on Porcine Parvoviruses (PPV1-7) and Their Association with Major Pathogens in Reproductive Failure Outbreaks in Northern Italy. *Viruses* **2024**, *16*, doi:10.3390/v16010157.
4. Legnardi, M.; Poletto, F.; Alam, S.; Cherfane, A.; Le-Tallec, B.; Franzo, G.; Tucciarone, C.M.; Lupini, C.; Pasotto, D.; Cecchinato, M. Molecular epidemiology of infectious bursal disease virus in the Near East and Persian Gulf regions. *Avian Pathol* **2024**, *53*, 56–67, doi:10.1080/03079457.2023.2270531.
5. Legnardi, M.; Franzo, G.; Tucciarone, C.M.; Koutoulis, K.; Cecchinato, M. Infectious bursal disease virus in Western Europe: the rise of reassortant strains as the dominant field threat. *Avian Pathol* **2023**, *52*, 25–35, doi:10.1080/03079457.2022.2130172.
6. Prentza, Z.; Castellone, F.; Legnardi, M.; Antlinger, B.; Segura-Wang, M.; Kefalas, G.; Papaioannou, N.; Stylianaki, I.; Papatsiros, V.G.; Franzo, G.; et al. Administration of a Multi-Genus Synbiotic to Broilers: Effects on Gut Health, Microbial Composition and Performance. *Animals* **2023**, *13*, doi:10.3390/ani13010113.
7. Molini, U.; De Villiers, M.; De Villiers, L.; Coetzee, L.M.; Hoebes, E.; Khaiseb, S.; Cattoli, G.; Dundon, W.G.; Franzo, G. Investigation and sequence analysis of psittacine beak and feather disease virus and avian polyomavirus from companion birds in Windhoek, Namibia. *Acta Trop* **2023**, *238*, doi:10.1016/j.actatropica.2022.106739.
8. Franzo, G.; Segalés, J. Porcine circovirus 3 (PCV-3) variability: Is it in the virus or in the classification criteria? *Virol J* **2023**, *20*, doi:10.1186/s12985-023-01984-6.
9. Grassi, L.; Drigo, M.; Zelená, H.; Pasotto, D.; Cassini, R.; Mondin, A.; Franzo, G.; Tucciarone, C.M.; Ossola, M.; Vidorin, E.; et al. Wild ungulates as sentinels of flaviviruses and tick-borne zoonotic pathogen circulation: an Italian perspective. *BMC Vet Res* **2023**, *19*, doi:10.1186/s12917-023-03717-x.
10. Grillini, M.; Beraldo, P.; Frangipane di Regalbono, A.; Dotto, G.; Tessarin, C.; Franzo, G.; Marchiori, E.; Modrý, D.; Simonato, G. Molecular survey of Cytauxzoon spp. and Hepatozoon spp. in felids using a novel real-time PCR approach. *Front Vet Sci* **2023**, *10*, doi:10.3389/fvets.2023.1113681.
11. Marchiori, E.; Quaglio, F.; Franzo, G.; Brocca, G.; Aleks, S.; Cerchier, P.; Cassini, R.; Marcer, F. Pearl formation associated with gymnophallid metacercariae in *Mytilus galloprovincialis* from the Northwestern Adriatic coast: Preliminary observations. *J Invertebr Pathol* **2023**, *196*, doi:10.1016/j.jip.2022.107854.
12. Blanco-Fuertes, M.; Sibila, M.; Franzo, G.; Obregon-Gutierrez, P.; Illas, F.; Correa-Fiz, F.; Aragón, V. Ceftiofur treatment of sows results in long-term alterations in the nasal microbiota of the offspring that can be ameliorated by inoculation of nasal colonizers. *Anim Microbiome* **2023**, *5*, doi:10.1186/s42523-023-00275-3.
13. Franzo, G.; Legnardi, M.; Faustini, G.; Tucciarone, C.M.; Cecchinato, M. When Everything Becomes Bigger: Big Data for Big Poultry Production. *Animals* **2023**, *13*, doi:10.3390/ani13111804.
14. Tegegne, D.; Tsegaye, G.; Faustini, G.; Franzo, G. First genetic detection and characterization of canine parvovirus type 2 (Carnivore protoparvovirus 1) in

southwestern Ethiopia. *Vet Res Commun* **2023**, *47*, 975–980, doi:10.1007/s11259-022-10027-4.

15. Singh, Y.; Cullere, M.; Bertelli, D.; Segato, S.; Franzo, G.; Frangipane di Regalbono, A.; Catellani, P.; Taccioli, C.; Cappellozza, S.; Dalle Zotte, A. Potential of Full-Fat Silkworm-Based Diets for Laying Quails: Performance and Egg Physical Quality. *Animals* **2023**, *13*, doi:10.3390/ani13091510.
16. Pacini, M.I.; Forzan, M.; Franzo, G.; Tucciarone, C.M.; Fornai, M.; Bertelloni, F.; Sgorbini, M.; Cantile, C.; Mazzei, M. Feline Parvovirus Lethal Outbreak in a Group of Adult Cohabiting Domestic Cats. *Pathogens* **2023**, *12*, doi:10.3390/pathogens12060822.
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18. Lu, M.; Wan, W.; Li, Y.; Li, H.; Sun, B.; Yu, K.; Zhao, J.; Franzo, G.; Su, S. Codon usage bias analysis of the spike protein of human coronavirus 229E and its host adaptability. *Int J Biol Macromol* **2023**, *253*, doi:10.1016/j.ijbiomac.2023.127319.
19. Franzo, G.; Faustini, G.; Tucciarone, C.M.; Pasotto, D.; Legnardi, M.; Cecchinato, M. Conflicting Evidence between Clinical Perception and Molecular Epidemiology: The Case of Fowl Adenovirus D. *Animals* **2023**, *13*, doi:10.3390/ani13243851.
20. Zoroaster, A.; Singh, Y.; Marchiori, E.; Cullere, M.; Dotto, G.; Franzo, G.; Regalbono, A.F. di Differential diagnosis of Eimeria species in farmed Japanese quails (*Coturnix japonica*). *Poult Sci* **2023**, *103*, 103418, doi:10.1016/j.psj.2023.103418.
21. Franzo, G.; Zerbo, H.L.; Ouoba, B.L.; Dji-Tombó, A.D.; Kindo, M.G.; Sawadogo, R.; Chang'a, J.; Bitanyi, S.; Kamigwe, A.; Mayenga, C.; et al. A Phylogeographic Analysis of Porcine Parvovirus 1 in Africa. *Viruses* **2023**, *15*, doi:10.3390/v15010207.
22. Grassi, L.; Franzo, G.; Grillo, S.; Mondin, A.; Drigo, M.; Barbarino, F.; Comuzzo, C.; Legnardi, M.; Bertola, M.; Montarsi, F.; et al. Survey of Tick-Borne Zoonotic Agents in Ixodes Ticks Carried by Wild Passerines during Postbreeding Migration through Italy. *Transbound Emerg Dis* **2023**, *2023*, doi:10.1155/2023/1399089.
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24. Molini, U.; Coetzee, L.M.; Hemberger, M.Y.; Chiwome, B.; Khaiseb, S.; Dundon, W.G.; Franzo, G. First detection and molecular characterization of porcine reproductive and respiratory syndrome virus in Namibia, Africa. *Front Vet Sci* **2023**, *10*, doi:10.3389/fvets.2023.1323974.
25. Legnardi, M.; Poletto, F.; Talaat, S.; Selim, K.; Moawad, M.K.; Franzo, G.; Tucciarone, C.M.; Cecchinato, M.; Sultan, H. First Detection and Molecular Characterization of Novel Variant Infectious Bursal Disease Virus (Genotype A2dB1b) in Egypt. *Viruses* **2023**, *15*, doi:10.3390/v15122388.

26. Franzo, G.; Mira, F.; Schirò, G.; Canuti, M. Not Asian Anymore: Reconstruction of the History, Evolution, and Dispersal of the “Asian” Lineage of CPV-2c. *Viruses* **2023**, *15*, doi:10.3390/v15091962.
27. Molini, U.; Franzo, G.; Bonfini, B.; de Villiers, L.; de Villiers, M.; Khaiseb, S.; Monaco, F.; Savini, G.; D’Alterio, N. Low Seroprevalence of WNV in Namibian Dogs Suggests a Limited Effectiveness as Sentinels for Infection Monitoring. *Trop Med Infect Dis* **2023**, *8*, doi:10.3390/tropicalmed8040203.
28. Roberts, L.C.; Molini, U.; Coetzee, L.M.; Khaiseb, S.; Roux, J.P.; Kemper, J.; Roberts, D.G.; Ludynia, K.; Doherr, M.; Abernethy, D.; et al. Is Penguin Circovirus Circulating Only in the Antarctic Circle? Lack of Viral Detection in Namibia. *Animals* **2023**, *13*, doi:10.3390/ani13091449.
29. Lu, Y.; Wang, W.; Liu, H.; Li, Y.; Yan, G.; Franzo, G.; Dai, J.; He, W.T. Mutation and codon bias analysis of the spike protein of Omicron, the recent variant of SARS-CoV-2. *Int J Biol Macromol* **2023**, *250*, doi:10.1016/j.ijbiomac.2023.126080.
30. Chang’a, J.S.; Bitanyi, S.S.; Kamigwe, A.; Magidanga, B.; Guo, S.; Makoroma, P.; Francis, G.; Jumbe, J.; Jeremiah, M.; Nyakilinga, D.; et al. Molecular characterization of porcine circovirus-2 and-3 in pigs in Tanzania. *J Vet Med Sci* **2023**, *85*, 691–694, doi:10.1292/jvms.23-0031.
31. Franzo, G.; Faustini, G.; Legnardi, M.; Berto, G.; Dal Maso, M.; Genna, V.; Menandro, M.L.; Poletto, F.; Cecchinato, M.; Drigo, M.; et al. Wilder than intense: higher frequency, variability, and viral flows of porcine circovirus 3 in wild boars and rural farms compared to intensive ones in northern Italy. *Front Microbiol* **2023**, *14*, 1234393, doi:10.3389/fmicb.2023.1234393.
32. de Villiers, L.; Molini, U.; Coetzee, L.M.; Visser, L.; Spangenberg, J.; de Villiers, M.; Berjaoui, S.; Khaiseb, S.; Lorusso, A.; Franzo, G. Molecular epidemiology of Canine circovirus in domestic dogs and wildlife in Namibia, Africa. *Infect Genet Evol* **2023**, *112*, 105458, doi:10.1016/j.meegid.2023.105458.
33. Faustini, G.; Tucciarone, C.M.; Legnardi, M.; Grassi, L.; Berto, G.; Drigo, M.; Cecchinato, M.; Franzo, G. Into the backyard: Multiple detections of PCV-2e in rural pig farms of Northern Italy. An unexpected ecological niche? *Prev Vet Med* **2023**, *216*, 105943, doi:10.1016/j.prevetmed.2023.105943.
34. Ramon, G.; Legnardi, M.; Cecchinato, M.; Cazaban, C.; Tucciarone, C.M.; Fiorentini, L.; Gambi, L.; Mato, T.; Berto, G.; Koutoulis, K.; et al. Efficacy of live attenuated, vector and immune complex infectious bursal disease virus (IBDV) vaccines in preventing field strain bursa colonization: A European multicentric study. *Front Vet Sci* **2022**, *9*, doi:10.3389/fvets.2022.978901.
35. Tegegne, D.; Tsegaye, G.; Aman, S.; Faustini, G.; Franzo, G. Molecular Epidemiology and Genetic Characterization of PCV2 Circulating in Wild Boars in Southwestern Ethiopia. *J Trop Med* **2022**, *2022*, doi:10.1155/2022/5185247.
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41. Grassi, L.; Menandro, M.L.; Obber, F.; Drigo, M.; Legnardi, M.; Pasotto, D.; Tucciarone, C.M.; Faustini, G.; Citterio, C.; Cecchinato, M.; et al. Investigation of Carnivore protoparvovirus 1 and Amdoparvovirus infections in red fox populations of the Italian Dolomites. *Vet Res Commun* **2022**, *46*, 1291–1295, doi:10.1007/s11259-022-09965-w.
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CONGRESS PRESENTATION LIST

Invited speaker:

1. Franzo G. *When everything becomes bigger: big data for big poultry production*. Keynote during the XXII congress of the World Veterinary Poultry Association (WVPA), Verona 4-8/09/2023

2. Franzo G. *Epidemiologia ed evoluzione di PCV2: un vecchio, nuovo virus*. Presentation during the XLVIII Meeting annuale SIPAS, Pescantina (VR) 30-31/03/2023
3. 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
4. Franzo G. *PCV2 molecular epidemiology and control strategies*. In: Zoetis Peer Circles, PCV2 Control: Optimization Through Vaccination. Webinar for Asian veterinarians. 21/12/2021
5. Franzo G. *Current topics in PCV2 infections, including PCV1, PCV2 and PCV3*. Middle European Congress, Brno, Czech republic. 07/09/2021
6. Franzo G. *Porcine circovirus 2 evolution, genotypes, immunity and vaccines*. Webinar for Asian counties. Sponsored by Philippine Zoetis veterinary division. 14/05/2021
7. Franzo G. *La rivoluzione in evoluzione*. Webinar for Italian veterinarians sponsored by Zoetis. Ostia. 15/06/2021.
8. 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
9. Franzo G. *Epidemiologia ed evoluzione del PCV-2*. Webinar Circo Learning, for Italian veterinarians. 26/01/2021
10. 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
11. Franzo G. *I coronavirus prima del Coronavirus: come li gestiscono i veterinari*. Speech performed during VenetoNight, Padova. 27/11/2020
12. 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
13. Franzo G. *Phylogenetics of RNA and ssDNA viruses: a bridge among genetics, epidemiology and evolution*. Centre de Recerca en Sanitat Animal (CRESA), IRTA-UAB. 11/12/2017.
14. Franzo G. *PCV2: Pace clinica (?) e dinamismo evolutivo*. 18° Congresso internazionale SIVAR Cremona. 11-13/05/2016.

Presentations

1. G. Faustini, M. Legnardi, F. Poletto, M. Cecchinato, M. Drigo, C.M. Tucciarone, G. Franzo. *Porcine Circoviruses: Peculiar Genetic Features and Unexpected Circulation in Wild and Rural Pig Populations in Italy*. 5th International Conference Of The European College Of Veterinary Microbiology. Bled, Slovenia. 21-23/09/2023
2. G. Franzo, G. Faustini, M. Legnardi, M. Cecchinato, M. Drigo, CM. Tucciarone. *Patterns And Determinants Of Porcine Reproductive And Respiratory Syndrome Virus (PRRSV) In Europe: A Phylogenetic And Phylogeographic Approach*. 14th European Symposium of Porcine Health Management. Thessaloniki, Greece. 31/05-02/06/2023
3. MH. Houta, KE. Hassan, M. Legnardi, CM. Tucciarone, AS. Abdel-Moneim, M. Cecchinato, AA. El-Sawah, A. Ali, G. Franzo. *Avian infectious bronchitis GI-23 phylogenetic and recombination analyses: moving and evolving in the Old World*.

Utrecht. 10th International Symposium on Avian Corona- and Pneumoviruses. The Netherlands. 21-24/06/2023

4. Franzo G., Barbierato G., Pesente P., Legnardi M., Tucciarone C.M., Sandri G., Drigo M. *The epidemiology of porcine reproductive and respiratory syndrome (PRRS) in an integrated pig company of northern Italy: a multiple threats requiring multilevel interventions*. 4th International Conference Of The European College Of Veterinary Microbiology. Bari, Italy. 15-17/09/2022
5. G. Franzo, G. Faustini, M. Legnardi, M. Cecchinato, M. Drigo, C.M. Tucciarone. *Patterns and determinants of porcine reproductive and respiratory syndrome virus (PRRSV) in Europe: a phylogenetic and phylogeographic approach*. 4th International Conference Of The European College Of Veterinary Microbiology. Bari, Italy. 15-17/09/2022
6. 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
7. 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
8. Franzo G., Klaumann F., Grassi L., Sibila M., Czyzewska-Dors E., Núñez J.I., Cabezon 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.
9. 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
10. 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
11. 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.
12. 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.
13. 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
14. 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 aviaria in Grecia*. III Simposio Scientifico SIPA. CDH Parma & Congressi, Parma, Italy. 14/09/2018

15. 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.
16. Franzo G., Tucciarone C.M., Blanco A., Nofrarias 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.
17. 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*. Il Simposio Scientifico SIPA 2016, Parma, Italy. 23/09/2016.
18. 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.
19. 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.
20. Franzo G., Cecchinato M., Lelli D., Massi P., Tosi G., Blanco A., Antilles N., Biarnes M., Nofrarias 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.
21. 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.
22. 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.
23. 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
24. 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,