

## Dr Christophe Lacomme

Senior Virologist

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### Education

- PhD in Plant Molecular and Cellular Biology. *Identification and characterization of early induced genes associated to the hypersensitive response between Arabidopsis thaliana and the phytopathogenic bacteria Xanthomonas campestris pv campestris*. University Paul Sabatier-INRA-CNRS, Toulouse, France (1996).

### Career History

- **Since 2011:** UK representative of EPPO panel “*Diagnostics of Viruses and Phytoplasmas*”.
- **Since 2010:** Coordinator PVY-Wide research network.
- **Since 2009:** Senior Virologist, Virology & Zoology section, Science and Advice for Scottish Agriculture (SASA). Epidemiology, genetic diversity and pathogenicity of potato-infecting viruses.
- **2007-2009:** Senior Research Scientist. *Molecular and cellular biology approaches to characterize the molecular basis of viral RNA trafficking*. Institute of Molecular Plant Sciences, School of Biological Sciences, University of Edinburgh, UK.
- **2005:** Acting Programme Leader, Cell-to-Cell Communication Programme SCRI, UK.
- **2002-2007:** Senior Research Scientist, Principal Investigator. *Mechanism and use of virus-induced gene silencing to study plant-pathogens interactions in model and crop species*. Cell-to-Cell Communication Programme and Plant Pathology Programme, SCRI, UK.
- **2001:** Senior Research Scientist. *Development of virus-derived vectors for gene expression and silencing*. Large Scale Biology Corporation (USA)-Scottish Crop Research Institute (UK), Cell-to-Cell Communication Programme.
- **1998-2001:** Research Scientist, Department of Cell Biology, SCRI, UK. *Development of virus vectors for protein expression in plants and to study plant-pathogen interactions*.
- **1996-1998:** Research Scientist, Department of Virology, Scottish Crop Research Institute (SCRI), UK. *Development of Viral Vectors for gene function analysis in relation to viral resistance*.

### Research interest & recent projects

Study and diagnosis of potato-infecting viruses. Molecular biology/virology. Epidemiology of potato-infecting viruses. Virus transmission. Virus species and strains population dynamics. Diagnosis of viruses using a range of approaches under ISO 17025 accreditation.

- Euphresco project : Faster, cheaper identification of emerging virus problems (VIRFAST) using nanopore high-throughput sequencing (2017-2020).

- COST action FA1407: *Application of next generation sequencing for the study and diagnosis of plant viral diseases in agriculture*.
- Euphresco VIRUSCOLLECT I and II : Euphresco project VirusCollect – fulfilling the need for a common collection of plant viruses and viroids for reference. (2013-2015, 2015-2017)
- Host of numerous short term fellowships, BSc students, PhD studentship. Numerous external examination of PhD thesis.
- Member of the editorial board of Journal of Virological Methods.

### ***Recent Publications and Book Chapters (2010-2020).***

- **Lacomme C**, Botermans M, Roenhorst JW, Faggioli F. PM7 EPPO standard: Pospiviroids (genus *Pospiviroid*). Country consultation stage.
- EFSA Panel on Plant Health (PLH) Bragard C, Dehnen-Schmutz K, Gonthier P, Jacques MA, Anton J, Miret J, Fejer Justesen A, MacLeod A, Magnusson CS, Milonas P, Navas-Cortes JA, Parnell S, Potting R, Reignault PL, Thulke HH, van der Werf W, Civera AV, Yuen J, Zappalà L, Candresse T, **Lacomme C**, Bottex B, Kaluski T, Oplaat C, Roenhorst A, Schenk M, Di Serio F. (2020). List of non-EU viruses and viroids infecting potato (*Solanum tuberosum*) and other tuber-forming Solanum species. EFSA Journal, Volume 18, Issue 1.
- EFSA Panel on Plant Health (EFSA PLH Panel) Bragard C, Candresse T, **Lacomme C**, Bottex B, Oplaat C, Roenhorst A, Schenk M, Di Serio F, *et al.* (2020). Pest categorisation of non-EU viruses and viroids of potato. EFSA Journal, Volume 18, Issue 1.
- EFSA Panel on Plant Health (EFSA PLH Panel) Bragard C, Candresse T, **Lacomme C**, Bottex B, Oplaat C, Roenhorst A, Schenk M, Di Serio F, *et al.* (2020). Pest categorisation of potato virus M (non-EU isolates). EFSA Journal, Volume 18, Issue 1.
- EFSA Panel on Plant Health (EFSA PLH Panel) Bragard C, Candresse T, **Lacomme C**, Bottex B, Oplaat C, Roenhorst A, Schenk M, Di Serio F, *et al.* (2020). Pest categorisation of potato virus S (non-EU isolates). EFSA Journal, Volume 18, Issue 1.
- EFSA Panel on Plant Health (EFSA PLH Panel) Bragard C, Candresse T, **Lacomme C**, Bottex B, Oplaat C, Roenhorst A, Schenk M, Di Serio F, *et al.* (2020). Pest categorisation of potato virus A (non-EU isolates). EFSA Journal, Volume 18, Issue 1.
- EFSA Panel on Plant Health (EFSA PLH Panel) Bragard C, Candresse T, **Lacomme C**, Bottex B, Oplaat C, Roenhorst A, Schenk M, Di Serio F, *et al.* (2020). Pest categorisation of potato virus V (non-EU isolates). EFSA Journal, Volume 18, Issue 1.
- EFSA Panel on Plant Health (EFSA PLH Panel) Bragard C, Candresse T, **Lacomme C**, Bottex B, Oplaat C, Roenhorst A, Schenk M, Di Serio F, *et al.* (2020). Pest categorisation of potato virus X (non-EU isolates). EFSA Journal, Volume 18, Issue 1.
- EFSA Panel on Plant Health (EFSA PLH Panel) Bragard C, Candresse T, **Lacomme C**, Bottex B, Oplaat C, Roenhorst A, Schenk M, Di Serio F, *et al.* (2020). Pest categorisation of potato virus Y (non-EU isolates). EFSA Journal, Volume 18, Issue 1.
- EFSA Panel on Plant Health (EFSA PLH Panel) Claude Bragard, Thierry Candresse **Christophe Lacomme** Bernard Bottex Carla Oplaat Annelien Roenhorst Martijn Schenk Francesco Di Serio *et al.* (2020). Pest categorisation of potato leaf roll virus (non-EU isolates). EFSA Journal, Volume 18, Issue 1.
- Nisbet C, Monger WA, Ross S, Holmes RF, Nova Y, Thomson C, Goodfellow HA, **Lacomme C**, Jeffries CJ. 2019. Biological and molecular characterization of Potato yellow blotch virus, a new species of the genus Potyvirus. Plant Pathology. 68(2):251-260.

- Roenhorst JW, **Lacomme C**, Nisbet C, Leichtfried T, Menzel W, Winter S, van der Vlugt RAA. (2017). Euphresco project VirusCollect – fulfilling the need for a common collection of plant viruses and viroids for reference. EPPO Bulletin, Volume 47, Issue 1.  
<https://doi.org/10.1111/epp.12353>
- **Lacomme C**, Bellstedt D, Karasev A, Jacquot E, Glais L, Dupuis B. (2017). *Potato virus Y: biodiversity, pathogenicity, epidemiology and management*. C Lacomme *et al* eds. Springer. USA.
- **Lacomme C**, Jacquot E. (2017). General Characteristics of Potato virus Y (PVY) and its Impact on Potato Production: an Overview. In *Potato virus Y: biodiversity, pathogenicity, epidemiology and management*. Lacomme C *et al* eds. Springer USA.
- Pompe-Novak M, **Lacomme C**. Molecular and Cellular Events during Infection of Potato by PVY. In *Potato virus Y: biodiversity, pathogenicity, epidemiology and management*. Lacomme C *et al* eds. Springer USA.
- Glais L, Bellstedt DU, **Lacomme C**. (2017). Diversity, Characterisation and Classification of PVY. In *Potato virus Y: biodiversity, pathogenicity, epidemiology and management*. Lacomme C *et al* eds. Springer USA.
- Bellstedt DU, Glais L, Davie K, **Lacomme C**. (2017). Evolution and Origin of PVY. In *Potato virus Y: biodiversity, pathogenicity, epidemiology and management*. Lacomme C *et al* eds. Springer USA.
- Glais L, Chikh-Ali M, Karasev AV, Kutnjak D., **Lacomme C**. (2017). Detection and Diagnosis of PVY. In *Potato virus Y: biodiversity, pathogenicity, epidemiology and management*. Lacomme C *et al* eds. Springer USA.
- **Lacomme C**, Pickup J, Fox A, Glais L, Dupuis B, Steinger T, Rolot JL, Valkonen JPT, Kruger K, Nie X, Modic S, Mehle N, Ravnikar M. (2017). Transmission and Epidemiology of Potato virus Y. In *Potato virus Y: biodiversity, pathogenicity, epidemiology and management*. Lacomme C *et al* eds. Springer USA.
- Dupuis B, Bragard C, Carnegie S, Kerr J, Glais L, Singh M, Nolte P, Rolot JL, Demeulemeester K, **Lacomme C**. (2017). Potato virus Y: Control, Management and Seed Certification Programmes. In *Potato virus Y: biodiversity, pathogenicity, epidemiology and management*. Lacomme C *et al* eds. Springer USA.
- Stevens M, **Lacomme C**. (2017). Transmission of plant viruses. In *Aphids as Crop Pests*. 2<sup>nd</sup> Edition. Eds. HF van Emden and R. Harrington. CAB International.
- Pickup J, **Lacomme C**. (2017). IPM case studies: seed potato. In *Aphids as Crop Pests*. 2<sup>nd</sup> Edition. Eds. HF van Emden and R. Harrington. CAB International.
- Davie K, Holmes R, Pickup J, **Lacomme C**. (2017). Dynamics of PVY strains in field grown potato: impact of strain competition and ability to overcome host resistance mechanisms. *Virus Research*. 15, 95-104. doi: 10.1016/j.virusres.2017.06.012.
- Massart S, Candresse T, Gil J, **Lacomme C**, Predajna L, Ravnikar M, Reynard J-S, Rumbou A, Saldarelli P, Škorić D, Vainio E, Valkonen JPT, vandershuren H, Varveri C, Wetzel T.. (2017). A Framework for the Evaluation of Biosecurity, Commercial, Regulatory, and Scientific Impacts of Plant Viruses and Viroids Identified by NGS Technologies. *Frontiers in Microbiology*. 8:45.

- Roenhorst JW, **Lacomme C**, Nisbet C, Leichtfried T, Menzel W, Winter S, van der Vlugt RAA. (2017). Euphresco project VirusCollect - fulfilling the need for a common collection of plant viruses and viroids for reference. *EPPO Bulletin*. 47(1):41–47.
- **Lacomme C**, Evans F, Holmes R. (2015). Molecular and serological methods for the diagnosis of viruses in potato tubers. *Methods Mol Biol. Plant Pathology Techniques and Protocols*. 1302:161-76. doi: 10.1007/978-1-4939-2620-6\_13.
- **Lacomme C**. (2015). *Plant Pathology: Techniques and Protocols*. Second edition. *Methods in Molecular biology* 1302. Springer Protocols. C Lacomme eds. Humana Press.
- Tilsner J, Linnik O, Wright KM, Bell K, Roberts AG, **Lacomme C**, Santa Cruz S, Oparka KJ. (2012). The TGB1 movement protein of Potato virus X reorganizes actin and endomembranes into the X-body, a viral replication factory. *Plant Physiol*. 158(3):1359-70.
- **Lacomme C**. (2011). Milestones in the development and applications of plant virus vectors as gene silencing platforms. *Current Topics in Microbiology and Immunology*. DOI:10.1007/82\_2011\_186. Palmer KE & Gleba Y eds. Springer-Verlag Berlin Heidelberg 2011.
- Sun X, Gilroy EM, Chini A, Nurmberg PL, Hein I, **Lacomme C**, Birch PR, Hussain A, Yun BW, Loake GJ. (2011). ADS1 encodes a MATE-transporter that negatively regulates plant disease resistance. *New Phytol*. 192(2):471-82.
- Nowara D, Gay A, **Lacomme C**, Shaw J, Ridout C, Douchkov D, Hensel G, Kumlehn J, Schweizer P. (2010). HIGS: host-induced gene silencing in the obligate biotrophic fungal pathogen *Blumeria graminis*. *Plant Cell*. 22 (9):3130-41.
- Eichmann R, Bischof M, Weis C, Shaw J, **Lacomme C**, Schweizer P, Douchkov D, Hensel G, Kumlehn J, Hückelhoven R. (2010). BAX INHIBITOR-1 is required for full susceptibility of barley to powdery mildew. *Mol Plant Microbe Interact*. 23(9):1217-27.
- Pacak A, Strozycski PM, Barciszewska-Pacak M, Alejska M, **Lacomme C**, Jarmołowski A, Szweykowska-Kulińska Z, Figlerowicz M. (2010). The brome mosaic virus-based recombination vector triggers a limited gene silencing response depending on the orientation of the inserted sequence. *Arch Virol*. 155(2):169-79.

***Recent proceedings of symposia, reviewing and examination duties (2010-2020).***

- PhD co-supervisor University of Leuven (Louvain-la Neuve), Belgium. *Development of a crop management method to control Potato virus Y (PVY) spread*. (2014 – 2018).
- External PhD examiner duties: *Diversity and epidemiology of pomoviruses associated with potato (Solanum tuberosum) in Columbia*. University of Aarhus (Denmark, 2015).
- External PhD examiner duties: *The molecular and biological characterization of South-African isolates of PVY<sup>NTN</sup>: implications of pathogenic determinants*. University of Stellenbosch (South-Africa, 2012).
- Davie K, **Lacomme C**, Dickinson M. *The biodiversity and epidemiology of Potato virus Y in Scotland*. *Proceedings Crop Protection in Northern Britain* (2012) p.255-260.
- External examiner PhD thesis. *Biosynthesis and metabolic engineering of oat triterpenoid saponins*. University of Copenhagen, Denmark (2011).
- Pickup J, Fox A, Holmes R, Highet F, Davie K, **Lacomme C**. (2010). *Potato viruses PVA and PVY – Do they have the same aphid vectors?* *Proceedings Crop Protection in Northern Britain* 2010: 219-224.

### *Curriculum vitae – Dr Christophe Lacomme*

- More than 80 communications in national and international conferences symposia and workshops.
- Regular peer-review activities for Plant Journal, Plant Physiology, Molec. Plant-Microbe Int., Trends in Plant Sciences, J. Vir. Meths, *etc...*
- Regular reviewer on UK and overseas grant applications for a wide range of funding agencies such as: BBSRC, German Research Foundation (DFG), EU-FP6, Binational Agricultural Research and Development Fund USA-Israel.

### ***Recent invitations to Seminars and Symposia (2010-2020)***

- Member of scientific committee European Association of Potato Research – Virology section. Chairman 17<sup>th</sup> EAPR Virology Symposium, Laulasmaa, Estonia (2019). Biodiversity and Epidemiology of PVY: Parameters affecting the diagnostic of PVY in dormant tubers.
- Invited keynote speaker Workshop on potato-infecting viruses, Biodiversity and Epidemiology of PVY: Parameters affecting the diagnostic of PVY in dormant tubers. Nigde, Turkey (2018).
- Member of scientific committee European Association of Potato Research – Virology section. Chairman EAPR Virology Session, EAPR Conference, Versailles, France (2017). Biodiversity and Epidemiology of PVY.
- 13<sup>th</sup> International Plant Virus Epidemiology Symposium, Avignon, France (2016). *Genetic diversity of PVY in potato: strain competition and ability to overcome resistance mechanisms.*
- Member of scientific committee European Association of Potato Research – Virology section. Chairman 16<sup>th</sup> EAPR Virology Symposium, Ljubljana, Slovenia (2016). *Biodiversity and Epidemiology of PVY in Scotland.*
- Member of scientific committee European Association of Potato Research – Virology section. Speaker 15<sup>th</sup> EAPR Virology Symposium, Antalya, Turkey (2013). *Biodiversity and Epidemiology of PVY in Scotland.*
- Invited speaker PVY-Wide workshops, 2009-2019: Update on the biological and molecular analysis of PVY field isolates in Scotland (Paris-France, Hamar-Norway, Nyon-Switzerland, Edinburgh-Scotland-Workshop organizer, Idaho-Falls-USA, Antalya-Turkey, Ljubljana-Slovenia, Versailles-France, Laulasmaa-Estonia).
- Invited FOBI sponsored lecture, University of Copenhagen, Denmark (2011). *Friend or foes? Plant viruses in functional genomics and their pathogenicity determinants.*
- Invited speaker 14<sup>th</sup> EAPR Virology Symposium, Hamar, Norway (2010). Nature and epidemiology of PVY and PVA in Scotland – do they have the same aphid vectors?