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## PERSONAL INFORMATION

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## EDUCATION:

Agregação, Universidade do Porto, 2011

Doutor em Ciências Veterinárias (equivalência), Universidade do Porto, 1998

Ph.D. em Imunologia, Cornell University, 1995

M.Sc. em Veterinary Microbiology, Surrey University, 1984

Licenciatura em Medicina Veterinária, Universidade Eduardo Mondlane, 1981

## WORK EXPERIENCE

2011-Present- Professora Associada com Agregação, Universidade do Porto, 2011. Docente e regente das Unidades Curriculares de Microbiologia Veterinária e de Patologia e Clínica das Doenças Infecciosas II do MIMV

2000 – 2011- Professora Associada, Universidade do Porto,

1997 – 2000- Professora Auxiliar, Universidade do Porto,

1995 – 1997- Post-Doc Associate, Cornell University,

1993 – 1995- Teaching Assistant, Cornell University,

1984 – 1989- Assistente - Universidade Eduardo Mondlane

1981 – 1984- Assistente Estagiária Universidade Eduardo Mondlane,

## MAIN RESEARCH INTERESTS

Microbiology, Infectious Diseases, Pathogenesis, Epidemiology.

### AREAS OF INTEREST:

Zoonosis, Emerging Diseases, Molecular Methods, Antimicrobial Resistance, Milk Quality, Public Health.

## SUPERVISIONS

**POST-DOCS:** “Investigation of new molecular approaches for an improved diagnosis and typing of pathogenic *Prototheca* strains. Identification and characterization of *Prototheca* virulence markers to be used as therapeutic models on animal and human health”,

“Characterization of the interactions between Bovine herpesvirus type-1 (BHV-1) with the bovine reproductive system and genetic characterization of BHV-1 field isolates in Portugal”.

**PhDs:** “Abordagem à terapia Fágica do *Staphylococcus aureus* isolado de mastites bovinas”, “Studies on the zoonotic Borna Virus infection in companion and production animals in Portugal”, “The European rabbit and *Lepus europaeus* genome: major natural reservoir for virus’s coding genes of men and animals?”, “Canine parvovirus evolution: a characterization of emerging variants from natural infections”, “Novas plataformas para a detecção e tipificação de *Leptospira* em amostras biológicas”, “Cross-species transmission of Infectious Diseases: A genomic approach tracking Brucellosis in Wildlife, Livestock and Humans”, “A contribution to the understanding of virus-host adaptation and co-evolution of Myxoma virus (MV) and rabbit haemorrhagic disease virus (RHDV) in their natural host, the wild rabbit (*Oryctolagus cuniculus*)”, “Infeções por *Prototheca*: patogénese e riscos para a saúde pública”, “*Mycoplasma bovis*: Estudos Epidemiológicos em Explorações Leiteiras do Entre-Douro e Minho”, “Parvovirose Canina – Caracterização Genética e Estratégias de Imunização”, “Estudios Observacionales de Agentes Infecciosos Asociados a Ineficacia Reproductiva en Exploraciones de Ganado Vacuno Lechero”.

**M.Sc:** “Contribuição para o estudo da Febre Catarral Maligna em Portugal”, “Inspeção Sanitária: Harmonização e Reavaliação Permanentes?”, “Relevância da presença de *Staphylococcus coagulase* positivo (enterotoxigénico) em preparados de carne (salame)”, “A seroprevalence study of antibodies against a novel canine norovirus in canine and human populations”, “Caracterização fenotípica e genotípica de isolados de *E. coli* obtidos de mastites bovinas”, “Estudo preliminar para a avaliação da incidência de Parvovírus Canino na

população portuguesa de lobo: potencialidades e limitações”, “Hemoparasitoses em Bovinos na região de Portalegre”, “Characterization of  $\beta$ -lactam resistance in *Escherichia coli* isolates from bovine mastitis – an approach on PCR optimization”.

## RESEARCH ACTIVITIES

### ONGOING PROJECTS

Host-pathogen interaction: the Rabbit haemorrhagic disease and the European brown hare syndrome. Projecto Ref: PTDC/CVT/108490/2008

### COMPLETED PROJECTS

- Development of methods to increase the fertilizing ability of chilled and frozen stallion semen: a multidisciplinary approach. Projecto Ref: PTDC/CVT/108456/2008.
- Deciphering the mechanisms of rabbit genetic resistance to myxomatosis and rabbit haemorrhagic viral disease. Projecto Ref: POCTI/BIA-BDE/61553/2004.
- Rabbit Haemorrhagic Disease (RHD): Molecular Biology of Resistance and Transmission of Calicivirus. Projecto Ref: POCTI/CVT/66656/2006.
- Estudos imunobiológicos em modelos murinos de infecção por *Neospora caninum* para o desenvolvimento de novas estratégias de vacinação. Projecto Ref: POCTI / 38795 / CVT / 2001.
- Bovine Viral Diarrhea Virus (BVDV): diagnosis, genotype characterization, vaccine efficacy and transmission studies. Projecto Ref:33421/99, FCT. 1999.
- Diagnosis, Isolation and Molecular Epidemiology of CAEV: A Goat Retrovirus. Projecto Ref: POCTI/36245/CVT/99.
- *Neospora caninum* infection: Aspects of diagnostic, immunobiology, epidemiology and therapeutics. Projecto Ref: POCTI/36246/CVT/99.
- Parvovirose Canina. Protocolo de Colaboração Científica entre o ICBAS, e a Intervet-Portugal. (2007-2009)
- Qualidade do Leite. Protocolo de Colaboração Científica com a COOPERATIVA AGRÍCOLA DE VILA DO CONDE. (2006-2009). Programa de Qualidade do Leite.
- Estudo da prevalência de *Mycoplasma* spp. como agentes etiológicos de Mastites em bovinos leiteiros da região de Entre-Douro e Minho. PROTOCOLO DE COOPERAÇÃO PEDAGÓGICA E CIENTÍFICA com a Bayer Portugal SA, SERVIÇOS VETERINÁRIOS DE APOIO EXPLEITE, UNIPESSOAL LTDª (2005-2008).

## PEER-REVIEWED PUBLICATIONS

Ana Sofia Ferreira, Pedro Costa, Teresa Rocha, Ana Amaro, Maria Luísa Vieira, Ahmed Ahmed, **Gertrude Thompson**, Rudy A. Hartskeerl, João Inácio. 2014. **Direct detection and differentiation of pathogenic *Leptospira* species using a multi-gene targeted real time PCR approach.** PLoS ONE. *Accepted*

Ana M Lopes, Sara Marques, Eliane Silva, Maria J Magalhães, Ana Pinheiro, Paulo C Alves, Jacques Le Pendu, Pedro J Esteves, **Gertrude Thompson**, Joana Abrantes. 2014. **Detection of RHDV strains in the Iberian hare (*Lepus granatensis*): earliest evidence of rabbit lagovirus cross-species infection.** Veterinary Research. *Accepted*

Miranda, C, Parrish, CR, **Thompson, G.** 2014. **Canine parvovirus type 2c infection in a cat with severe clinical disease.** J Vet Diagn Invest, Vol. 26, Number 3, May.

Pinho, L., **G. Thompson**, M. Machado, J. Carvalheira. 2013. **Management practices associated with the bulk tank milk prevalence of *Mycoplasma* spp. in dairy herds in Northwestern Portugal.** Preventive Veterinary Medicine, Volume 108, Issue 1, pp 21-27.

Silva E, Marques S, Osório H, Carvalheira J, **Thompson G** (2012). **Endogenous Hepatitis C Virus Homolog Fragments in European Rabbit and Hare Genomes Replicate in Cell Culture.** PLoS ONE 7(11): e49820. doi:10.1371/journal.pone.0049820

Jagielski T, Buzzini P, Lassa H, Malinowski E, Branda E, Turchetti B, Polleichtner A, Roesler U, Lagneau PE, Marques S, Silva E, **Thompson G**, Stachowiak R, Bielecki J (2012). **Multicenter e-test evaluation of in vitro activity of conventional antifungal drugs against European bovine mastitis *Prototheca* sp. isolates.** J. Antimicrob. Chemother. 67(8): 1945-1947

Luís Pinho, **Gertrude Thompson**, Ricardo Rosenbusch, Júlio Carvalheira. 2012. **Genotyping of *Mycoplasma bovis* isolates using Multiple-Locus Variable-Number Tandem-Repeat Analysis.** Journal of Microbiological Methods, 88: 377-385. (Doi: 10.1016 / j.mimet.2012.01.003).

Tomás Merchán, Gregorio Rocha , Fernando Alda, Eliane Silva, **Gertrude Thompson**, Sebastián Hidalgo de Trucios, Albert Pagés. 2011. **Detection of rabbit haemorrhagic disease virus (RHDV) in nonspecific vertebrate hosts sympatric to the European wild rabbit (*Oryctolagus cuniculus*).** *Infection, Genetics and Evolution*, 11: 6, 1469-1474

Alexandra Müller, Eliane Silva, Nuno Santos, and **Gertrude Thompson**. 2011. **Domestic Dog Origin of Canine Distemper Virus (CDV) in free-ranging Wolves in Portugal as revealed by Hemagglutinin Gene Characterization.** *J. Wildlife Diseases*, 47 (3), 725-729

Sara Marques, Eliane Silva, Júlio Carvalheira, **Gertrude Thompson**. 2010. **Temperature sensibility of *Prototheca blaschkeae***. *Journal of Dairy Science*. 93 (11): 5110-5113

Marques S., Silva E., Carvalheira J., **Thompson G**. 2010. **Phenotypic characterization of mastitic *Prototheca* spp. isolates**. *Research in Veterinary Science*. 89: 5–9.

Costa, C. N., J. Carvalheira, J. A. Cobuci, A. F. Freitas and **G. Thompson**. 2009. **Estimation of genetic parameters of test day fat and protein yields in Brazilian Holstein cattle using an autoregressive multiple lactation animal model**. *South African Journal of Animal Science*. 39(Supplement 1):165-168

Marques S., Silva E., Carvalheira J., **Thompson G**. 2009. **In Vitro Susceptibility of *Prototheca* to pH and Salt Concentration**. *Mycopathologia*. doi : 10.1007/s11046-009-9254-0.

**Thompson, G.**, E. Silva, S. Marques, A. Müller and J. Carvalheira. 2009. **Algaemia in a dairy cow by *Prototheca blaschkeae***. *Medical Mycology*. 47(5): 527-531.

Muller, A, E. Silva, J. Abrantes, P.J. Esteves, P.G. Ferreira, J.C. Carvalheira, N. Nowotny, **G. Thompson**. 2010. **Partial sequencing of recent Portuguese myxoma virus field isolates exhibits a high degree of genetic stability**. *Veterinary Microbiology*. 140, 161-166.

Pinho, L., **Thompson, G.**, Machado, M., Silva, E., Santos, A., González, R. N., Carvalheira, J. 2009. **Isolation of *Mycoplasma capricolum subsp. capricolum* from a calf in a dairy herd in Portugal** *Veterinary Record*. 164: 216 – 217.

P. J. Esteves, J. Abrantes, M. Carneiro, A. Muller, **G. Thompson** and W. van der Loo. 2008. **Detection of positive selection in the major capsid protein VP60 of the rabbit haemorrhagic disease virus (RHDV)**. *Virus Research*. Volume 137, Issue 2, Pages 253-256.

Sousa, S., **G. Thompson**, E. Silva, L. Freire, D. Lopes, J. M. C. da Costa, A. Castro, J. Carvalheira, N. Canada. 2009. **Determination of the more adequate Modified Agglutination Test cut-off for serodiagnosis of *Toxoplasma gondii* infection in sheep**. *ZOOZOSES AND PUBLIC HEALTH*. 56 (5): 252-256.

Muller, A., Freitas, J., Silva, E., Le Gall-Reculé, G., Zwingelstein, F., Abrantes, J., Esteves, P. J., Alves, P. C., van der Loo, W., Kolodziez, Y., Nowotny, N., & **Thompson, G**. 2009. **Evolution of Rabbit haemorrhagic disease virus (RHDV) in wild rabbits (*Oryctolagus cuniculus*) in the Iberian Peninsula**. *Veterinary Microbiology*. 135: 368–373.

Ana M. Neves, **Gertrude Thompson**, Júlio Carvalheira, José Costa Trindade, José Rueff, Joaquim Machado Caetano, James W. Casey and Sylvie Hermouet. 2008. **Detection and quantitative analysis of human Herpesvirus in pilocytic astrocytoma**. *Brain Research*. *Brain Research*. Volume 1221, Pages 108-114.

Sara Marques, Eliane Silva, Christine Kraft, Júlio Carvalheira, Arnaldo Videira, Volker A. R. Huss, **Gertrude Thompson**. 2008. **Bovine mastitis associated with *Prototheca blaschkeae***. Journal of Clinical Microbiology. 1941–1945.

Maria João Vieira, Eliane Silva, João Oliveira, Ana Luísa Vieira, Nicola Decaro, Costantina Desario, Alexandra Muller, Júlio Carvalheira, Canio Buonavoglia, and **Gertrude Thompson**. 2008. **Canine parvovirus type 2c infection in central Portugal**. Journal of Veterinary Diagnostic Investigation. 20: 488-491.

Maria João Vieira, Eliane Silva, Costantina Desario, Nicola Decaro, Júlio Carvalheira, Canio Buonavoglia, and **Gertrude Thompson**. 2008. **Natural coinfection with 2 parvovirus variants in dog with gastrointestinal signs**. Emerging Infectious Diseases. Vol 14, Nº 4, 678-679.

Cortez, P. P., Carvalheira, J., Paupério, S., & **Thompson, G.** 2008. **Prevalence study of ovine herpesvirus-2 in the north-west of Portugal**. Veterinary Record. 282-284.

Abrantes, J., Esteves, P. J., Carmo, C. R., Müller, A., **Thompson, G.**, & van der Loo, W. 2008. **Genetic characterization of the chemokine receptor CXCR4 gene in lagomorphs: comparison between the families *Ochotonidae* and *Leporidae***. International Journal of Immunogenetics. 35(2):111-7.

Decaro, N., Desario, C., Addie, D. D., Martella, V., Vieira, M. J., Elia, G., Zicola, A., Davis, C., **Thompson, G.**, Thiry, E., Truyen, U., and Buonavoglia, C. 2007. **Molecular Epidemiology of Canine Parvovirus, Europe**. Emerging Infectious Diseases. 13, 1222 - 1224.

Marques S., Silva E., Carvalheira J., **Thompson G.** 2006. **In vitro antimicrobial susceptibility of *Prototheca wickerhamii* and *Prototheca zoppii* isolated from bovine mastitis**. JOURNAL OF DAIRY SCIENCE. 89: 4202-4204.

Silvia C. Barros, Fernanda Ramos, Sonia Pauperio, **Gertrude Thompson** and Miguel Fevereiro. 2006. **Phylogenetic analysis of Portuguese bovine viral diarrhoea virus**. Virus Research. 118 (1-2): 192-195.

Canada N, Meireles S, Rocha A., Sousa S, **Thompson G.**, Dubey J.P., Correia da Costa J.M.. (2002). **First Portuguese isolate of *Neospora caninum* from aborted fetus from a dairy herd with endemic neosporosis**. Veterinary Parasitology. 110(1-2):11-5.

Cortez P., P. Dias Pereira, A. Cortez, **G. Thompson**. 2001. **First confirmed case of malignant catarrhal fever in a cow in Portugal**. Veterinary Record. 149(18): 558-9.

**Thompson, G.**, N. Canada, M. C. Topa, E. Silva, F. Vaz, A. Rocha. 2001. **First confirmed case of *Neospora caninum*-associated abortion outbreak in Portugal**. Reproduction in Domestic Animals. 36: 1-4.

Naqi, S., **G. Thompson**, B. Bowman, H. Mohammed. 2001. **The Exacerbating Effect of Infectious Bronchitis Virus Infection on the Infectious Bursal Disease Virus-**

**Induced Suppression of Opsonization by *Escherichia coli* Antibody in Chickens.** Avian Diseases. 45:52-60.

**Thompson, G., H. Mohammed, B. Bauman and S. Naqi. 1997. Systemic and local antibody responses to Infectious Bronchitis Virus in chickens inoculated with Infectious Bursal Disease Virus and Control chickens.** Avian Diseases. 41(3):519-527.

**Thompson, G., and S. Naqi. 1997. Cytotoxic activity of cells recovered from respiratory tracts of chickens inoculated with Infectious Bronchitis Virus.** Avian Diseases. 41(3):690-694.

## **BOOK CHAPTERS**

Ana Sofia Ferreira, Maria das Neves Paiva-Cardoso, **Gertrude Thompson**, João Inácio. 2014. **Deteção de Leptospira em amostras biológicas de animais pela reação de polimerase em cadeia em tempo real em formato multiplex.** In DIAGNÓSTICO MOLECULAR EM VETERINÁRIA. EDS. LIDEL-EDIÇÕES TÉCNICAS, LDA. *In Press*