

PETER SIMMONDS, BM, PhD, FRCPath, FRS(E)

Contact information

Virology, Institute of Biomedicine,
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Personal data

- Date of birth 13th July, 1959
- Place of birth Bristol, UK
- Nationality British

Qualifications

- Bachelor of Medicine (BM), University of Southampton, July, 1982
- General Medical Council Registration (GMC no. 2571014) - August, 1993
- PhD, University of Edinburgh, July, 1988
- MRCPPath in Virology (by Exam), July, 1994
- GMC/GDC Registration Number 2571014

Current Appointments

- Visiting Professor, University of Turku

Professional Profile / Research Interests

Peter Simmonds is Visiting Professor in Virology in the Institute of Biomedicine, University of Turku. He graduated in Medicine in Southampton, UK and completed his College of Pathology exams in 1995. He was appointed as Professor of Molecular Virology at the University of Edinburgh (1997) and Professor of Virology in Oxford from 2016-2025. He has an ongoing research / development programme in clinical virology in diagnostic assay development and assessment of the risk of newly discovered human viruses to human health.

He has also worked in the area of virus genetics, evolution and pathogenesis, with particular interests in drivers of virus sequence change, and effects of structural and compositional parameters of RNA virus genomes on recognition and induction of innate antiviral responses. He is a member of the Executive Committee of the International Committee for Taxonomy of Viruses and plays an active role in the development of new classification approaches for viruses emerging in studies applying new sequencing technologies. He is an elected Fellow of the Royal Society of Edinburgh (FRSE).

Professional / Education Record

- Professor of Virology, University of Edinburgh (01/10/01 – 30/03/1) and part-time Consultant in Virology, Lothian University Hospitals Trust
- Darwin Research Fellow, Department of Medical Microbiology, University of Edinburgh, 1/10/95 - 30/09/01
- Clinical Lecturer, Department of Medical Microbiology, University of Edinburgh. 01/09/90 - 30/09/95.
- Post-doctoral fellow, Department of Genetics, University of Edinburgh. 01/10/87 - 31/08/90. MRC Project grant - *Sequence evolution of human immunodeficiency virus.*
- PhD, Department of Bacteriology, University of Edinburgh. 01/10/84 - 30/09/87; *Immune response to infection with herpes simplex virus and human immunodeficiency virus.*
- University. University of Southampton Medical School, October, 1987 - July, 1982

Prizes, Distinctions

- Alouyhan Prize for Medical Research, University of Southampton, 1991
- Fleming Lectureship, Society for General Microbiology, 2000
- Fellow of the Royal Society of Edinburgh (FRSE), May, 2014

Membership of Societies

- Society for General Microbiology, since 1985
- Royal College of Pathologists, since 1994
- Royal Society of Edinburgh since 2014

Current membership of Committees

- Member of the Advisory Committee on the Safety of Blood, Tissues and Organs (SaBTO)
- Elected member of the ICTV Executive Committee (2012)
- ICTV Flaviviridae Study Group, Committee Chair, since 2023, member since 2006.
- International Organising Committee for HCV-Flavi (since 2024)

Current Research Funding

- *National Institute for Health Research. Blood and Transplant Research Unit grant on Transfusion and transplant transmitted infections (NIHR203338).* 1st April, 2022 – 30th March, 2027 (£3,869,914). [P Simmonds \(PI\)](#)
- *Microbiology Society. ICTV Report Management.* 1st August, 2023 – 31st July, 2030 (≈£300,000). Peter Simmonds, Murilo Zerbini

Selected recent publications

- **Simmonds P, Butković A, Grove J, Mayne R, Mifsud JCO, Beer M, Bukh J, Drexler JF, Kapoor A, Lohmann V, Smith DB, Stapleton JT, Vasilakis N, Kuhn JH.** 2025. Integrated analysis of protein sequence and structure redefines viral diversity and the taxonomy of the Flaviviridae. *Nature Microbiology* (in press).
- **Mayne R, Secret S, Geoghegan C, Trebes A, Kean K et al.** Castanet: a pipeline for rapid analysis of targeted multi-pathogen genomic data. *Bioinformatics* 2024;40(10).
- **Secret S, Simmonds P, Olver J, Rajendra P, Hart E et al.** Design and implementation of blood donor sample bioarchives to enhance preparedness for emerging and pandemic pathogens. *Emerg Inf. Dis.* (in press) 2025.
- **Mayne R, Aiewsakun P, Turner D, Adriaenssens EM, Simmonds P.** GRAViTy-V2: a grounded viral taxonomy application. *NAR Genom Bioinform* 2024;6(4):lqae183.
- **Simmonds P.** A Critique of the use of Species and Below-species Taxonomic Terms for Viruses – Time for Change? *Virus evolution* 2024; 10:veae096.
- **Simmonds P.** C→U transition biases in SARS-CoV-2: still rampant 4 years from the start of the COVID-19 pandemic. *mBio* 2024:e0249324.
- **Pyöriä L, Pratas D, Toppinen M, Simmonds P, Hedman K, Sajantila A, Perdomo MF.** 2024. Intra-host genomic diversity and integration landscape of human tissue-resident DNA virome. *Nucleic Acids Res* doi:10.1093/nar/gkae871.
- **McClure CP, Kean K, Reid K, Mayne R, Fu MX et al.** Reconstruction of the historic time course of blood-borne virus contamination of clotting factor concentrates, 1974-1992. *J Med Virol* 2024;96(7):e29774.
- **Buddle S, Forrest L, Akinsuyi N, Martin Bernal LM, Brooks T, Venturini C, Miller C, Brown JR, Storey N, Atkinson L, Best T, Roy S, Goldsworthy S, Castellano S, Simmonds P, Harvala H, Golubchik T, Williams R, Breuer J, Morfopoulou S, Torres Montaguth OE.** 2024. Evaluating metagenomics and targeted approaches for diagnosis and surveillance of viruses. *Genome Med* 16:111.
- **Markov PV, Ghafari M, Beer M, Lythgoe K, Simmonds P et al.** The evolution of SARS-CoV-2. *Nat Rev Microbiol* 2023;21(6):361-379.
- **Simmonds P, Adriaenssens EM, Zerbini FM, Abrescia NGA, Aiewsakun P et al.** Four principles to establish a universal virus taxonomy. *PLoS biology* 2023;21(2):e3001922.
- **Odon V, Fiddaman SR, Smith AL, Simmonds P.** 2022. Comparison of CpG- and UpA-mediated restriction of RNA virus replication in mammalian and avian cells and investigation of potential ZAP-mediated shaping of host transcriptome compositions. *RNA* 28:1089-1109.
- **Simmonds P, Aiewsakun P, Katzourakis A.** Prisoners of war - host adaptation and its constraints on virus evolution. *Nat Rev Microbiol* 2019;17(5):321-328.
- **Ghafari M, Simmonds P, Pybus OG, Katzourakis A.** 2021. A mechanistic evolutionary model explains the time-dependent pattern of substitution rates in viruses. *Curr Biol* 31:4689-4696.e5.
- **Simmonds P.** 2020. Pervasive RNA secondary structure in the genomes of SARS-CoV-2 and other coronaviruses. *MBio* 11:e01661-20.
- **Aiewsakun P, Simmonds P.** The genomic underpinnings of eukaryotic virus taxonomy: creating a sequence-based framework for family-level virus classification. *Microbiome* 2018;6(1):38.
- **Fros JJ, Dietrich I, Alshaiikhahmed K, Passchier TC, Evans DJ, Simmonds P.** CpG and UpA dinucleotides in both coding and non-coding regions of echovirus 7 inhibit replication initiation post-entry. *Elife* 2017;6.

Publications

- **586** authored papers listed on Pubmed, **30** book chapters

Citations

- [Google Scholar](#): h-index = **143**, **79.361** citations