Jeremie GUEDJ

Research Director, INSERM
DoB: June 24th, 1980
3 children
✉ INSERM U1137 / 16, rue Henri Huchard Paris 75018, France
jeremie.guedj@inserm.fr
viral-dynamics.com



Mathematical Modeling of Infectious Diseases

CV in research

Since 2025	**Team leader "Statistical Modeling and Clinical Research in Infectious Diseases" (MOCLID)** Unit leader: F Mentré, Université Paris Cité, France
Since 2021	**Research Director (INSERM)** Team leader: F Mentré, Université Paris Cité, France Unit leader: E Denamur, Université Paris Cité, France
2012	**Research Scientist (INSERM)** Team leader: F Mentré Unit leader : E Denamur Université Paris Cité, France
2009 – 2012	**Postdoctoral research fellow** Supervision: AS Perelson, Los Alamos National Laboratory, USA
2007 – 2009	**Postdoctoral research fellow** Supervision: AU Neumann, Bar-Ilan University, Israel
2003- 2006	**PhD in biostatistics: "Inference in dynamical models of population: application to HIV & HCV"** Supervision: R Thiébaut & D Commenges, Université Bordeaux, France

Publications

1. Merlaud A, Kerioui M, Bruno R, Ronchi D, **Guedj J**, Lin A, Chan P, Wu B, Jin JY, Chanu P, Bertrand J. Organ-specific tumor dynamics determine overall survival across cancers: a Bayesian meta-analysis of multilevel joint models. JCO Precision Oncology 2023.
2. Beaulieu M, Hozé N, Vieillefond V, Goetschy T, Cosentino G, Blanquart F, Débarre F, **Guedj J**. Quantitative analysis of massive SARS-CoV-2 testing in the community in France in 2021-2022 reveals the associations of variant, vaccination, and age with viral dynamics in symptomatic individuals. PLoS Computational Biology 2026.
3. Petit PR, Touret F, Driouich JS, Paré A, de Lamballerie X, Marlin R, Contreras V, Relouzat F, Gallouët, AS, Pascal Q, **Guedj J**, Le Grand R, Nougairède A, Sola C. Favipiravir Tissue Distribution and Inhibitory Quotients in Preclinical Models: Towards a Pipeline for Evidence-Based Antiviral Repurposing. Journal of Antimicrobial Chemotherapy 2026.

4. Lukas P, Gibeaud A, Schumer C, Arruda J, Terrier O, **Guedj J**, Graw F. Multimodal data integration to determine viral and innate immune kinetics in human airway epithelium. PLoS Computational Biology 2026.

5. Schumer C, Mann AJ, Fourati S, Lukas P, Graw F, Catchpole A, **Guedj J**. Viral dynamics of the Respiratory Syncytial Virus during experimental human challenge: implications for transmission and protection. The Journal of Infectious Diseases 2026.
6. Chaput S, Driouich JS, Pastorino B, Amaral R, Piorkowski G, Darbon P, Diarra C, Giocanti M, Néant N, Grard G, Mély S, Lingas G, **Guedj J**, de Lamballerie X, Solas C, Touret F, Nougairède A. Preclinical efficacy of a favipiravir and nitazoxanide combination against Rift Valley Fever Virus. Antiviral Research 2026.
7. Marchal A, Kerdiles T, Perrin A, Gervais A, Bastard P, Bizien L, Lingas G, Massonaud C, Bouscambert-Duchamp M, Gaymard A, Peiffer-Smadja N, Mentre F, **Guedj J**, Abel L, Casanova JL, Puel A, Hites M, Ader F, Bertrand J, Cobat A. High Nasopharyngeal SARS-CoV-2 Load and Delayed Clearance in Hospitalized Patients With Blood Autoantibodies Neutralizing Type I Interferons. The Journal of Infectious Diseases 2026.
8. Beldjenna M, **Guedj J**, van Hasselt JGC, Guo T. Assessing the impact of bacterial heterogeneity on bacteriophage population dynamics. Journal of Pharmacokinetics & Pharmacodynamics 2026.
9. Massonnaud C, et al. Efficacy, safety, pharmacokinetics, immunogenicity, and serum neutralizing activity of AZD7442 (tixagevimab-cilgavimab) in hospitalized COVID-19 patients: long-term results. Clinical Microbiology & Infection 2025.
10. Mitard-de Girardier A, Herate C, Marlin R, Donati F, Rahou Y, Bossevot C, Sconosciuti Q, Cavarelli M, Dereuddre-Bosquet N, Relouzat F, van der Werf S, Simon-Loriere E, Prague M, **Guedj J**, Le Grand R. Exposure history shapes SARS-CoV-2 viral dynamics in Non-Human Primates and provides insights into correlates of protection against infection and transmission. Philosophical Transactions of the Royal Society B 2025.
11. Marc A, Schiffer J, Mentré F, Perelson AS, Guedj J. Viral dynamic models during COVID-19: Are we ready for the next pandemic? CPT:PSP 2025.
12. Nguyen BT, Bertrand J, Agyeman AA, Zhang S, Yu SM, Harris V, Little P, Butler C, Breuer J, Lowe DM, Standing JF, **Guedj J**. A viro-immunological model to characterize the antiviral effect of molnupiravir in SARS-CoV-2-infected outpatients: implication for treatment duration. The Journal of Infectious Diseases 2025.
13. Olivares C, Ruppé E, Ferreira S, Corbel T, Andremont A, de Gunzburg J, **Guedj J**, Burdet C. A model-based comparison of the impact of antibiotics on the gut microbiota diversity. Gut Microbes 2025.
14. Tessandier N, Elie B, Boué V, Selinger C, Rahmoun M, Bernat C, Grasset S, Groc S, Bedin A-S, Beneteau T, Bonneau M, Graf C, Jacobs N, Kamiya T, Kerioui M, Lajoie J, Melki I, Prétet J-L, Reyné B, Schlecht-Louf G, Sofonea MT, Supplisson O, Wymant C, Foulongne V, **Guedj J**, Hirtz C, Picot M-C, Reynes J, Tribout V, Tuaillon É, Waterboer T, Segondy M, Bravo IG, Boulle N, Murall CL, Alizon S. 2024. Viral and immune dynamics of genital human papillomavirus infections in young women with high temporal resolution. PLoS Biology 2025.
15. Vemparala B, Dixit NM, **Guedj J**. Advances in the mathematical modeling of post-treatment control of HIV-1. Current Opinion in HIV & AIDS 2025.
16. Zaaraoui H, Schumer C, Hoen B, Duval X, Opatowski L, **Guedj J**. Modelling the effectiveness of antiviral treatment strategies to prevent household transmission of acute respiratory viruses. PLoS Computational Biology 2024.
17. Vemparala B, Madelain V, Passaes C, Millet A, Avettand-Fenoel V, Djidjou-Demasse R, Dereuddre-Bosquet N, Le Grand R, Rouzioux C, Vaslin B, Sáez-Cirión A, **Guedj J***, Dixit NM*. Antiviral capacity of the early CD8 T-cell response is predictive of natural control of SIV infection: Learning in vivo dynamics using ex vivo data. PLoS Computational Biology 2024.
18. Beaulieu M, Gaymard A, Massonnaud C, Peiffer-Smadja N, Bouscambert-Duchamp M, Carcelain G, Lingas L, Mentré F, Ader F, Hites M, Poignard P, **Guedj J**. Antiviral effect of Evusheld in COVID-19 hospitalized patients infected with pre-Omicron or Omicron variants: a modeling analysis of the randomized DisCoVeRy trial. Journal of Antimicrobial Chemotherapy 2024.
19. Vemparala B, Chowdhury S, **Guedj J**, Dixit NM. Modelling HIV-1 control and remission. NPJ Systems Biology and Applications 2024.
20. Driouich JS, Cochin M, Lingas G, Luciani L, Baronti C, Bernadin C, Gilles M, Villarroel MS, Moureau G, Petit PR, PRECOVIM study group, Touret F, **Guedj J**, de Lamballerie X, Nougairède A. Preclinical pharmacokinetic and pharmacodynamic infection models to predict the activity of AZD7442 against Omicron sublineages of SARS-CoV-2. Biomedicine & Pharmacotherapy 2024.
21. El Messaoudi S, Brichler S, Fougerou-Leurent C, Gordien E, Gerber A, Kortebi A, Lagadic G, Subic-Levrero M, Metivier S, Pol S, Minello A, Ratziu V, Leroy V, Mathurin P, Alric L, Coulibaly F, Pawlotsky

JM, Zoulim F, de Lédinghen V, **Guedj J**. Effect of Peg-IFN on the viral kinetics of HDV infected patients treated with bulevirtide. J HepReports 2024.

22. Marchand M, Gonçalves A, Mercier F, Chanu P, Jin J, **Guedj J**, and Bruno R. Tumor growth and overall survival modeling to support decision making in Phase Ib/II trials: A comparison of joint and two-stage approaches. CPT:PSP 2024.
23. Nguyen, Marc A, Suñer C, Marks M, Ubals M, Hernández-Rodríguez A, Melendez MA, Hruby DE, Russo AT, Mentré F, Mitjà O, Grosenbach DW, **Guedj J**. Early administration of tecovirimat shortens the time to mpox clearance in a model of human infection. PLoS Biology 2023.
24. Chenane HR, Menidjel R, Lebourgeois S, Laouénan C, Tubiana S, Descamps D, Abel L, **Guedj J**, Malhotra S, Kumar-Singh S, Ghosn J, Visseaux B. High sera levels of SARS-CoV-2 N antigen are associated with death in hospitalized COVID-19 patients. Journal of Medical Virology 2023.
25. Passaes C, Desjardins D, Chapel A, Monceaux V, Melard A, Perdomo-Celis A, Planchais D, Dimant N, David A, Dereuddre-Bosquet N, Barrail-Tran A, Lambotte O, **Guedj J**, Müller-Trutwin M, Mouquet H, Rouzioux C, Avettand-Fenoel V, Le Grand R, Sáez-Cirión A. Early antiretroviral therapy favors post-treatment SIV control, which is associated with the expansion of an enhanced memory CD8+ T cell response against rebounding virus – the pVISCONTI study. Nature Communications 2023.
26. Lingas G, Plana D, Péré H, Duffy D, Staropoli I, Chapuis N, Gobeaux C, Veyer D, Delaugerre C, Le Goff J, Getten P, Hadjadj J, Bellino D, Parfait B, Treluyer JM, Schwartz O**, Guedj J**, Kernéis S, Terrier B. Neutralizing antibody levels as a correlate of protection against SARS-CoV-2 infection: a modeling analysis. Clinical Pharmacology & Therapeutics 2023.
27. Gonçalves A, Marchand M, Chan P, Jin JY, **Guedj J**, Bruno R. Comparison of two-stage and joint TGI-OS modeling using data from six atezolizumab clinical studies in metastatic non-small cell lung cancer patients. CPT:PSP 2023.
28. Néant N, Lingas G, Gaymard A, Belhadi D, Hites M, Staub T, Greil R, Paiva JA, Poissy J, Peiffer-Smadja N, Costagliola D, Yazdanpanah Y, Bouscambert-Duchamp M, Gagneux-Brunon A, Ader F, Mentré F, Wallet F, Burdet C, **Guedj J.** Association between SARS-CoV-2 viral kinetics and clinical score evolution in hospitalized patients. CPT:PSP 2023.
29. Marc A, Marlin R, Donati F, Prague M, Kerioui M, Hérate C, Alexandre M, Dereuddre-Bosquet N, Bertrand J, Contreras V, Behillil S, Maisonnasse P, Van Der Werf S, Le Grand R, **Guedj J**. Impact of variants of concern on SARS-CoV-2 viral dynamics in non-human primates. PLoS Computational Biology 2023.
30. Kerioui M, Beaulieu M, Desmée S, Bertrand J, Mercier F, Lin A, Wu B, Jin JY, Bruno R, **Guedj J**. Nonlinear multilevel joint model for individual lesion kinetics and survival to characterize intra-individual heterogeneity in patients with advanced cancer. Biometrics 2023.
31. Clairon Q, Prague M, Planas D, Bruel R, Hocqueloux L, Prazuck T, Schwartz O, Thiébaut R, **Guedj J**. Modeling the kinetics of the neutralizing antibody response against SARS-CoV-2 variants after several administrations of Bnt162b2. PLoS Computational Biology 2023.
32. Bruno R, Chanu P, Kågedal M, Mercier F, Yoshida K, **Guedj J**, Li C, Beyer U, Jin J. Support to early clinical decisions in drug development and personalised medicine with checkpoint inhibitors using dynamic biomarker-overall survival models. British Journal of Cancer 2023.
33. Kerioui M, Bertrand J, Desmée S, Le Tourneau C, Mercier F, Bruno R, **Guedj J**. Assessing the increased variability in individual lesion kinetics during immunotherapy: does it exist, and does it matter ? JCO Precision Oncology 2023.
    ⇨ **Editorial:** Beckman R, Makohon-Moore A, Puzanov I. Intratumoral and Microenvironmental Heterogeneity in Patient Outcome Prediction. JCO Precision Oncology 2023.
34. Mitja O, et al. Viral dynamics in patients with monkeypox infection: a prospective cohort study in Spain. The Lancet Infectious Diseases 2022.
35. El Messaoudi S, Gonçalves A, Lemenuel-Diot A, **Guedj J**. A semi-mechanistic model to characterize the long-term dynamic of HBV markers during treatment with lamivudine and Peg-IFN. Clinical Pharmacology & Therapeutics 2022.
36. Marlin R, Desjardins D, Contreras V, Lingas G, Solas C, Roques P, Naninck T, Pascal Q, Behillil S, Maisonnasse P, de Lamballerie X, **Guedj J***, Le Grand R*. Antiviral efficacy of favipiravir against Zika and SARS-CoV-2 viruses in non-human primates. Nature communications 2022.
    ⇨ See Press release
37. Delattre R, Seurat J, Haddad F, Nguyen TT, Gaborieau B, Kane R, Dufour N, Ricard JD, **Guedj J***, Debarbieux*. Combination of in vivo phage therapy data with in silico model highlights key parameters for treatment efficacy. Cell reports 39, 110825. 2022.
    ⇨ See Press release

38. Guk J Bridier-Nahmias A, Magnan M, Grall N, Duval X, Clermont O, Ruppé E, d'Humières C, Tenaillon O, Denamur E, Mentré F, **Guedj J**, Burdet C. for Modelling the bacterial dynamics in the gut microbiota following an antibiotic-induced perturbation. CPT:PSP 2022.
39. Prague M, Alexandre M, Thiébaut R, **Guedj J**. Within-host models of SARS-CoV-2: What can it teach us on the biological factors driving virus pathogenesis and transmission? Anaesthesia Critical Care & Pain Medicine 2022.
40. Lingas G, Néant N, Gaymard A, Belhadi D, Peytavin F, Hites M, Staub T, Greil R, Paiva JA, Poissy J, Peiffer-Smadja N, Costagliola D, Yazdanpanah Y, Wallet F, Gagneux-Brunon A, Mentré F, Ader F, Burdet C, **Guedj J**, Bouscambert-Duchamp M. Effect of remdesivir on viral dynamics in COVID-19 hospitalized patients: a modeling analysis of the randomized, controlled, open-label DisCoVeRy trial. Journal of Antimicrobial Chemotherapy 2022.
41. Kerioui M, Desmée S, Mercier F, Lin A, Wu B, Jin J, Shen X, Le Tourneau C, Bruno R, **Guedj J**. Assessing the impact of organ-specific lesion dynamics on survival in patients with recurrent urothelial carcinoma treated with atezolizumab or chemotherapy. ESMO Open 2021.
42. Kerioui M, Bertrand J, Bruno R, Mercier F, **Guedj J**, Desmée S. Modelling the association between biomarkers and clinical outcome: an introduction to nonlinear joint models. British Journal of Clinical Pharmacology 2021.
43. Thielebein et al. Virus persistence after recovery from acute Lassa fever in Nigeria: a 2-year interim analysis of a prospective longitudinal cohort study. Lancet Microbe 2021.
44. Eloy P, Malvy D, Le Grand R, **Guedj J.** Combined treatment of molnupiravir and favipiravir against SARS-CoV-2 infection: one + zero equals two? Ebio medicine 2021.
45. Ader F, Bouscambert-Duchamp M, Hites M, Peiffer-Smadja N, Poissy J, Belhadi D, Diallo A, Lê MP, Peytavin P, Staub T, Greil R, **Guedj J**, Paiva JA, Costagliola D, Yazdanpanah Y, Burdet C, Mentré F. Remdesivir plus standard of care versus standard of care alone for the treatment of patients admitted to hospital with COVID-19 (DisCoVeRy): a phase 3, randomised, controlled, open-label trial. Lancet Infectious Diseases 2022.
46. Marc A, Kerioui M, Blanquart F, Bertrand J, Mitjà O, Corbacho-Monné M, Marks M, **Guedj J.** Quantifying the relationship between SARS-CoV-2 viral load and infectiousness. Elife 2021.
47. Cosentino G, Bernard M, Giannoli JM, **Guedj J**, Debarre F, Blanquart F. SARS-CoV-2 viral dynamics in infections with Alpha and Beta variants of concern in the French community. Journal of Infection 2021.
48. Maisonnasse P, Aldon Y, Marc A, Marlin R…, Montefiori DC, Wilson IA, Ginoux E, de Bree GJ, García-Sastre A, Schotsaert M, Coughlan L, Bukreyev A, van der Werf S, **Guedj J**, Sanders RW, van Gils MJ, Le Grand R. COVA1-18 neutralizing antibody protects against SARS-CoV-2 in three preclinical models. Nature Communications 2021.
49. Bonil L, Lingas G, Coupeau D, Lucet JC, **Guedj J**, Visseaux B, Muylkens B. Survival of SARS-CoV-2 on non-porous materials in an experimental setting representative of fomites. Coatings 2021.
50. Reynard S, Gloaguen E, Baillet N, Madelain V, **Guedj J,** Raoul H, de Lamballerie X, Mullaert J, BaizeS. Early control of viral load by favipiravir promotes survival to Ebola virus challenge and prevents cytokine storm in non-human primates. PLoS Neglected Tropical Diseases 2021.
51. Gonçalves A, Maisonnasse P, Donati F, Albert M, Behillil S, Contreras V, Naninck T, Marlin R, Solas C, Pizzorno A, Lemaitre J, Kahlaoui N, Terrier O, Ho Tsong Fang R, Enouf V, Dereuddre-Bosquet N, Brisebarre A, Touret F, Chapon C, Hoen B, Lina B, Rosa Calatrava M, de Lamballerie X, Mentré F, Le Grand R, van der Werf S, **Guedj J**. SARS-CoV-2 viral dynamics in non-human primates. PLoS Computational Biology 2021.
52. Czuppon P, Débarre F, Goncalves A, Tenaillon O, Perelson AS, **Guedj J***, Blanquart F*. Success of prophylactic antiviral therapy for SARS-CoV-2: predicted critical efficacies and impact of different drug-specific mechanisms of action. PLoS Computational Biology 2021.
53. Driouich JS, Cochin M, Lingas G, Moureau G, Touret F, Remi Petit P, Piorkowski G, Barthélémy K, **Guedj J**, de Lamballerie X, Solas C, Nougairède A. Favipiravir antiviral efficacy against SARS-CoV-2 in a hamster model. Nature Communications 2021.
54. Néant N, Lingas G, Le Hingrat Q, Ghosn, J, Engelmann I, Lepiller Q, Gaymard A, Ferré V, Hartard C, Plantier JC, Thibault V, Marlet J, Montes B, Bouiller K, Lescure FX, Timsit JF, Faure E, Poissy J, Chidiac C, Raffi F, Kimmoun A, Etienne M, Richard JC, Tattevin P, Garot D, Le Moing V, Bachelet D, Tardivon C, Duval X, Yazdanpanah Y, Mentré F, Laouénan C*, Visseaux B*, **Guedj J***. Modeling SARS-CoV-2 viral kinetics and association with mortality in hospitalized patients: results from the French Covid-19 cohort. PNAS 2021.
    ⇨ See Press release (in French)

55. Best K, Barouch DH, **Guedj J**, Ribeiro RM, Perelson AS. Zika virus dynamics: Effects of inoculum dose, the innate immune response and viral interference. PLoS Computational Biology 2020
56. Lingas G, Safronetz D, Rosenke K, **Guedj J**. Lassa viral dynamics in non-human primates treated with favipiravir or ribavirin. PLoS Computational Biology 2020.
57. Gonçalves A, Lemenuel-Diot A, Cosson V, Jin Y, Feng S, Bo Q and **Guedj J**. What drives the dynamics of HBV RNA during treatment? Journal of Viral Hepatitis 2020.
58. Mercier F, Kerioui M, Desmée S, **Guedj J**, Bruno R, Krieter O. Longitudinal analysis of individual tumor lesion size in metastatic colorectal cancer patients receiving first line standard chemotherapy in combination with anti-angiogenic treatment: A retrospective analysis. Journal of pharmacokinetics and pharmacodynamics 2020.
59. Kerioui M, Mercier F, Bertrand J, Tardivon C, Bruno R, **Guedj J**, Desmée S. Bayesian inference using Hamiltonian Monte-Carlo algorithm for nonlinear joint modelling in the context of cancer immunotherapy. Statistics in Medicine 2020.
60. Passaes C, Millet A, Madelain V, Monceaux V, David A, Versmisse P, Sylla N, Gostick E, Price DA, Blancher A, Dereuddre-Bosquet N, Desjardins D, Pancino G, Le Grand R, Lambotte O, Müller-Trutwin M, Rouzioux C, **Guedj J**, Avettand-Fenoel V, Vaslin B, Sáez-Cirión A. Optimal maturation of the SIV specific CD8+ T-cell response after primary infection is associated with natural control of SIV. Cell reports 2020.
61. Maisonnasse P*, **Guedj J***, Contreras V*, Behillil S*, Solas C*, Marlin R, Naninck T, Pizzorno A, Lemaitre J, Gonçalves A, Kahlaoui N, Terrier O, Ho Tsong Fang R, Enouf V, Dereuddre-Bosquet N, Brisebarre A, Touret F, Chapon C, Hoen B, Lina B, Rosa-Calatrava M, van der Werf S, de Lamballerie X, Le Grand R. Hydroxychloroquine against SARS-CoV-2 infection in non-human primates. Nature 2020
    ⇨ See Press release (in French)
62. Guk J, **Guedj J**, Burdet C, Andremont A, de Gunzburg J, Ducher A, Mentré F. Modeling the effect of DAV132, a novel colon-targeted adsorbent, on fecal concentrations of moxifloxacin and gut microbiota diversity in healthy volunteers. Clinical Pharmacology & Therapeutics 2020
63. Gonçalves A, Bertrand J, Ke R, Comets E, de Lamballerie X, Malvy D, Pizzorno A, Terrier O, Calatrava M, Mentré F, Smith P, Perelson AS, **Guedj J**. Timing of antiviral treatment initiation is critical to reduce SARS-CoV-2 viral load. Clinical Pharmacology & Therapeutics: PSP 2020.
64. Lê M, Peiffer-Smadja N, **Guedj J**, Néant N, Mentré F, Ader F, Yazdanpanah Y, Peytavin G. Rationale of a loading dose initiation for hydroxychloroquine treatment in COVID-19 infection in DisCoVeRy trial. Journal of Antimicrobial Chemotherapy 2020.
65. Eloy P, Solas C, Touret F, Mentré F, Malvy D, de Lamballerie X, **Guedj J**. Dose rationale for favipiravir use in patients infected with SARS-CoV-2 [letter]. Clinical Pharmacology & Therapeutics 2020.
66. Madelain V, Duthey A, Mentré F, Jacquot F, Solas C, Lacarelle B, Vallvé A, Barron S, Barrot C, Munweiler S, Thomas D, Carbonnelle C, Raoul H, de Lamballerie X, **Guedj J**. Ribavirin does not potentiate favipiravir antiviral activity against Ebola virus in non-human primates. Antiviral Research 2020.
67. Gonçalves A, Lemenuel-Diot A, Mentré F, **Guedj J**. Model Averaging in Viral Dynamic Models. The AAPS Journal 2020.
68. Madelain V, Mentré F, Baize, S, Anglaret X, Laouénan V, Oestereich L, Nguyen THT, Malvy D, Piorkowski G, Graw F, Günther S, Raoul H, de Lamballerie X, **Guedj J.** Modeling favipiravir antiviral efficacy against emerging viruses: from animal studies to clinical trials. CPT:PSP 2019.
69. Friberg L & **Guedj J.** Acute bacterial or viral infection – What's the difference? A perspective from PKPD modellers. Clinical Microbiology & Infection 2019.
70. Bruno R, Bottino D, de Alwis DP, Fojo T, **Guedj J**, Liu C, Swanson KR, Zheng JJ, Zheng Y, Jin JY. Progress and Opportunities to Advance Clinical Cancer Therapeutics Using Tumor Dynamics Models. Clinical Cancer Research 2019.
71. Burdet C, Nguyen TT, Duval X, Ferreira S, Andremont A, **Guedj J**, Mentré F. Impact of antibiotic gut exposure on the temporal changes in microbiome diversity. Antimicrobial Agents & Chemotherapy 2019; 63: e00820-19.
72. Tardivon C, Desmée S, Kerioui M, Bruno R, Wu B, Mentré F, Mercier F, **Guedj J**. Association between tumor size kinetics and survival in urothelial carcinoma patients treated with atezolizumab: implication for patient's follow-up. Clinical Pharmacology & Therapeutics 2019; 106: 810-820.
73. Madelain V, Baize S, Jacquot F, Reynard S, Fizet A, Barron S, Solas C, Lacarelle B, Carbonnelle C, Mentré F, Raoul H, de Lamballerie X, **Guedj J**. Ebola viral dynamics in nonhuman primates: insights into virus immuno-pathogenesis and antiviral strategies. Nature Communications 2018; 9: 4013.

74. Rhodes SJ, **Guedj J**, Fletcher HA, Lindenstrøm T, Scriba TJ, Evans TG, Knight GM and White RG. Using vaccine Immunostimulation/Immunodynamic modelling methods to inform vaccine dose decision-making. Vaccines 2018; 3(36).
75. Quintela BD, Conway JM, Hyman JM, **Guedj J**, Dos Santos RW, Lobosco M, Perelson AS. A New Age-Structured Multiscale Model of the Hepatitis C Virus Life-cycle During Infection and Therapy with Direct-Acting Antiviral Agents. Frontiers in Microbiology 2018; 9: 601.
76. **Guedj J**, Piorkowski G, Jacquot F, Madelain V, Nguyen THT, Rodallec A, Gunther S, Carbonnelle C, Mentré F, Raoul H, de Lamballerie X. Antiviral efficacy of favipiravir against Ebola virus: a translational study in cynomolgus macaques. PLoS Medicine 2018; 15(3): e1002535.
77. Fourati S, **Guedj J**, Chevaliez S, Nguyen THT, Roudot-Thoraval F, Ruiz I, Soulier A, Scoazec G, Varaut A, Poiteau A, Francois M, Mallat A, Hézode C, Pawlotsky JM. Viral kinetics analysis and virological characterization of treatment failures in patients with chronic hepatitis C treated with sofosbuvir and an NS5A inhibitor. Alimentary Pharmacology & Therapeutics 2018; 47(5):665-673.
78. Petit C, Samson A, Morita S, Ursino M, **Guedj J**, Jullien V, Comets E, Zohar S. Unified approach for extrapolation and bridging of adult information in early phase dose-finding paediatric studies. Statistical Methods in Medical Research 2018; 27(6): 1860-77.
79. Carrillo-Bustamante P, Nguyen THT, Oestereich L, Gunther S, **Guedj J**, Graw F. Determining Ribavirin's mechanism of action against Lassa virus infection. Scientific Report 2017; 7: e11693.
80. Nguyen THT, **Guedj J**, Uprichard SL, Kohli A, Kottilil S, Perelson AS. The paradox of highly effective sofosbuvir-based combination therapy despite slow viral decline: can we still rely on viral kinetics? Scientific Report 2017; 7: e10233.
81. Best K, **Guedj J**, Madelain V, Lamballerie X, Lim, SY, Osuna CE, Whitney J, Perelson AS. Zika plasma viral dynamics in non-human primates: insights into early infection and antiviral strategies. PNAS 2017; 114(33): 8847-8852.
82. Desmée S, Mentré F, Veyrat-Follet C, Sébastien B, **Guedj J**. Nonlinear joint models for individual dynamic prediction of risk of death using Hamiltonian Monte Carlo: Application to metastatic prostate cancer. BMC Medical Research Methodology 2017; 17: e105.
83. Cento et al. Improvement of ALT decay kinetics by all-oral HCV treatment: role of NS5A inhibitors and differences with IFN-based regimens. PLoS One 2017; 12(5):e0177352.
84. Vernet et al. Clinical, virological and biological parameters associated with outcomes of Ebola virus infection in Macenta (Guinea). Journal of Clinical Investigation insights 2017; 2(6):e88864.
85. Nguyen THT, **Guedj J**, Anglaret X, Laouénan C, Madelain V, Taburet AM, Baize S, Sissoko D, Pastorino B, Rodallec A, Piorkowski G, Carazo S, Conde MN, Gala JL, Bore JA, Carbonnelle C, Jacquot F, Raoul H, Malvy D, Lamballerie XD, Mentré F. Favipiravir pharmacokinetics in Ebola-infected patients of the JIKI trial reveals concentrations lower than targeted. PLoS Neglected Tropical Diseases 2017; 11(2):e0005389.
86. Madelain V, **Guedj J**, Mentré F, N'Guyen THT, Jacquot F, Oestereich L, Kadota T, Yamada K, Taburet AM, de Lamballerie X, Raoul H. Favipiravir pharmacokinetics in non-human primates: insights for future efficacy studies of haemorrhagic fever viruses. Antimicrobial Agents & Chemotherapy 2017; 61:e01305-16.
87. Sissoko et al. Longitudinal study on persistence and clearance of Ebola virus RNA from seminal fluid of Ebola virus disease survivors. The Lancet Global Health 2017; 5(1): e80–e88.
88. Desmée S, Mentré F, Veyrat-Follet C, Sebastien B, **Guedj J**. Using the SAEM algorithm for mechanistic joint models characterizing the relationship between nonlinear PSA kinetics and survival in prostate cancer patients. Biometrics 2017; 73(1):305-312.
89. Banerjee S, **Guedj J**, Ribeiro RM, Moses M, Perelson AS. Estimating Biologically Relevant Parameters under Uncertainty for Within-Host West Nile Virus Infection. Journal of the Royal Society Interface 2016; 13: 20160130.
90. Sissoko et al. Favipiravir for treatment of Ebola virus disease (the JIKI Trial): A historically-controlled, single arm proof-of-concept trial in Guinea. PLoS Medicine 2016; 13: 1-36.
91. Madelain V, Nguyen THT, Olivo A, de Lamballerie X, **Guedj J**, Taburet AM, Mentré F. Ebola Virus Infection: a review on the pharmacokinetic and pharmacodynamic properties of drugs considered for testing in human efficacy trials. Clinical Pharmacokinetics 2016; 55(8):907-23.
92. Petit C, Jullien V, Samson A, **Guedj J**, Kiechel JR, Zohar S, Comets E. Designing a paediatric study for an antimalarial drug including prior information from adults. Antimicrobial Agents & Chemotherapy 2016; 60(3): 1481-1491.

93. Canini L, **Guedj J**, Chatterjee A, Lemenuel-Diot A, Smith PF, Perelson AS. Modeling the interaction between danoprevir and mericitabine in the treatment of chronic HCV infection. Antiviral Therapy 2016; 21(4), 297-306.
94. Madelain V, Oestereich L, Graw F, Nguyen THT, de Lamballerie X, Mentré F, Günther S, **Guedj J.** Ebola virus dynamics in mice treated with favipiravir. Antiviral Research 2015; 123:70-77.
95. Andrade A, **Guedj J**, Rosenkranz S, Lu D, Richman D, Strain M, Mellors J, Kuritzkes DR, Perelson AS, Ribeiro RM. Early HIV RNA decay during raltegravir-containing regimens exhibits two distinct subphases (1a and 1b). AIDS 2016; 29(18): 2419-2426.
96. Perelson AS*, **Guedj J***. Use of Modeling in Hepatitis C Therapy: Predicting Future Effects of Treatments Now. Nature Reviews Gastroenterology & Hepatology 2015; 12(8):437-445.
97. Desmée S, Mentré F, Veyrat-Follet C, **Guedj J**. Nonlinear mixed-effect models for prostate-specific antigen kinetics and link with survival in the context of metastatic prostate cancer: a comparison by simulation of two-stage and joint approaches. The AAPS journal 2015; 17(3):691-699.
98. Nguyen THT, **Guedj J**. HCV kinetic models and their implications in drug development. Clinical Pharmacology and Therapeutics: Pharmacometrics and System Pharmacology 2015; 4(4): 231-242.
99. Bouazza N, Treluyer JM, Foissac F, Mentré F, Taburet AM, **Guedj J**, Anglaret X, de Lamballerie X, Keïta S, Malvy D, Frange P. Favipiravir for children with Ebola. Lancet 2015; 385(9968): 603-604.
100. Mentré F, Taburet AM, **Guedj J**, Anglaret X, de Lamballerie X, Keita S, Malvy D. Choice of dosage regimen for the first evaluation of favipiravir in humans infected with Ebola virus. The Lancet Infectious Disease 2015; 15(2):150-151.
101. **Guedj J**, Nguyen THT. Can we use viral kinetic models to individualize treatment? Liver International 2015; 35: 297-298.
102. Kutala B, Bedossa P, **Guedj J**, Asselah T, Martinot-Peignoux M, Duval X, Marcellin P. Patients with chronic hepatitis C without advanced fibrosis and hepatocellular carcinoma: A retrospective clinical-pathological study. Digestive and Liver Diseases 2015; 47(4): 296-302.
103. Kutala B, **Guedj J**, Asselah T, Boyer N, Khelifa-Mouri F, Martinot-Peignoux M, Valla D, Marcellin P, Duval X. Impact of treatment against Hepatitis C virus on the overall survival in naive patients with advanced liver disease. Antimicrobial Agents & Chemotherapy 2015; 59(2): 803-810.
104. Laouénan C, **Guedj J**, Peytavin G, Nguyen THT, Lapalus M, Khelifa-Mouri F, Boyer N, Zoulim F, Serfaty L, Bronowicki JP, Martinot-Peignoux M, Lada O, Asselah T, Dorival C, Hézode C, Carrat F, Nicot F, Marcellin P, Mentré F. A model-based illustrative exploratory approach to optimize the dosing of Peg-IFN/RBV in cirrhotic hepatitis C patients treated with triple therapy. Clinical Pharmacology and Therapeutics: Pharmacometrics and System Pharmacology 2015; 4: 1-4.
105. Canini L, Chatterjee A, **Guedj J**, Lemenuel-Diot A, Brennan B, Smith PF, Perelson AS. A pharmacokinetic/viral kinetic model to evaluate the treatment effectiveness of danoprevir against chronic HCV. Antiviral Therapy 2015; 20(5): 469-177.
106. Nguyen THT, Mentré F, Levi M, Yu J, **Guedj J**. A pharmacokinetic - viral kinetic model describes the effect of alisporivir monotherapy or in combination with peg-IFN on hepatitis C virologic response. Clinical Pharmacology & Therapeutics 2014; 96(5): 599-608.
107. **Guedj J**, Rotman Y, Cotler SJ, Koh C, Schmid P, Albrecht J, Haynes-William V, Liang JT, Hoofnagle JH, Heller T, Dahari H. Understanding early serum hepatitis D virus and HBsAg kinetics during pegylated interferon-alfa therapy via mathematical modeling. Hepatology 2014; 60(6):1902-1910.
See commentary: Goyal A, Murray JM. Effect of interferon-alpha on hepatitis D virus. Hepatology (in press)
See commentary: Guedj J, Canini L, Cottler SH, Dahari H. Response to Goyal et al. Hepatology (in press)
108. Nguyen TT, **Guedj J**, Chachaty E, de Gunzburg J, Andremont A, Mentré F. Mathematical modeling of bacterial kinetics to predict the impact of antibiotic colonic exposure and treatment duration on the amount of resistant enterobacteria excreted. PLoS Computational Biology 2014; 10(9): e1003840.
109. Sherman, KE, **Guedj J**, Shata MK, Blackard JT, Rouster SD, Castro M, Feinberg J, Sterling RK, Goodman Z, Aronow BJ, Perelson AS. Modulation of HCV Replication After Combination Antiretroviral Therapy in HCV/HIV Coinfected Patients. Science Translational Medicine 2014; 6; 246ra98.
110. Laouénan C, Marcellin P, Lapalus M, Khelifa-Mouri F, Boyer N, Zoulim F, Serfaty L, Bronowicki JP, Martinot-Peignoux M, Lada O, Asselah T, Dorival C, Hézode C, Carrat F, Nicot F, Peytavin G, Mentré F, **Guedj J**. Using pharmacokinetic and viral kinetic modeling to estimate the antiviral effectiveness of

telaprevir, boceprevir, and Peg-IFN during triple therapy in treatment-experienced HCV infected cirrhotic patients. Antimicrobial Agents & Chemotherapy 2014; 58(9):5332-41.

111. Rong L, **Guedj J**, Dahari H, Perelson AS. Treatment of hepatitis C with an interferon-based lead-in phase: A perspective from mathematical modeling. Antiviral Therapy 2014; 19(5): 469-477.
112. **Guedj J,** Yu J, Levi M, Li B, Kern S, Naoumov N, Perelson AS. Modeling viral kinetics and treatment outcome during alisporivir interferon-free treatment in HCV genotype 2/3 patients. Hepatology 2014; 59(5):1706-14.
113. **Guedj J**, Pang PS, Denning J, Rodriguez-Torres M, Lawitz E, Symonds W, Perelson AS. Analysis of the hepatitis C viral kinetics of viral decline during administration of two DAAs nucleotide analogues: sofosbuvir (GS-7977) and GS-0938. Antiviral Therapy 2014; 19(2):211-20.
114. Rotman Y, Noureddin M, Feld JJ, **Guedj J**, Witthaus M, Han H, Park H, Park SH, Heller T, Ghany MG, Doo E, Koh C, Abdalla A, Gara N, Sarkar S, Thomas E, Ahlenstiel G, Edlich B, Titerence R, Hogdal L, Rehermann B, Dahari H, Perelson AS, Hoofnagle JH, Liang TJ. Effect of Ribavirin on Viral Kinetics and Liver Gene Expression in Chronic Hepatitis C. Gut 2014; 63: 161-169.
115. **Guedj J**, Dahari H, Uprichard SL, Perelson AS. The rapid viral decline with the HCV NS5A inhibitor daclatasvir reveals a dual mode of action and brings a novel estimate of HCV half-life in serum. Expert Review of Gastroenterology and Hepatology 2013; 7(5): 397-99.
116. Nguyen THT, **Guedj J**, Yu J, Levi M, Mentré F. Influence of a priori information, designs and undetectable data on individual parameters estimation and prediction of hepatitis C treatment outcome. Clinical Pharmacology and Therapeutics: Pharmacometrics and System Pharmacology 2013; 2:e56.
117. Cohen J, **Guedj J**, Frey N. Umbilical Artery Doppler assessment: a clear disparity in ultrasound practice in a national survey. Acta Obstet Gynecol Scand 2013; 92(9):1115-6.
118. Laouénan C, **Guedj J**, Mentré F. Clinical trial simulation to evaluate power to compare the antiviral effectiveness of two hepatitis C protease inhibitors using nonlinear mixed effect models: a viral kinetic approach. BMC Medical Research Methodology 2013, **13**:60.
119. Prague M, Drylewicz J, **Guedj J**, Thiébaut R, Commenges D. A Program for Inference via Normal Approximation of the Posterior in Models with Random effects based on Ordinary Differential Equations. Computational Methods and Programs in Biomedicine 2013; 111(2):447-58.
120. **Guedj J***, Dahari H*, Rong L, Sansone N, Nettles RE, Cotler SJ, Layden TJ, Uprichard SL, Perelson AS. Modeling shows that the NS5A inhibitor daclatasvir has two modes of action and yields a new estimate of the hepatitis C virus half-life. PNAS 2013; 110(10):3991-6.
    ⇨ **editorial:** Deuffic-Burban S, Yazdanpanah Y. Mathematical modeling: A tool for selecting agents with complementary modes of action? J Hepatol 2013; 59; 1346-1348.

121. Rong L*, **Guedj J***, Dahari H*, Coffield DJ, Levi M, Smith PF, Perelson AS. Analysis of hepatitis C virus decline during treatment with the protease inhibitor danoprevir using a multiscale model. PLoS Computational Biology 2013; 9(3): e1002959.
122. Lau DTY, Negash A, Chen J, Crochet N, Sinha M, Zhang Y, **Guedj J**, Holder S, Saito T, Lemon SM, Luxon BA, Perelson AS, Gale MJ. Innate Immune Tolerance and the Role of Kupffer Cells in Differential Responses to Interferon Therapy Among Patients with HCV Genotype 1 Infection. Gastroenterology 2013; 144(2): 402-13.
123. Ribeiro RM, Li H, Wang S, Stoddard MB, Learn GH, Korber BT, Bhattacharya T, **Guedj J**, Parrish EH, Hahn BH, Shaw GM, Perelson AS. Quantifying the Diversification of Hepatitis C Virus (HCV) during Primary Infection: Estimates of the In Vivo Mutation Rate. PLoS Pathogens 2012; 8(8):e1002881
124. Zhou Y, Callendret B, Xu D, Brasky KM, Feng Z, Hensley LL, **Guedj J**, Perelson AS, Lemon SM, Lanford RE, Walker CM. Dominance of the CD4+ T helper Cell response during acute resolving hepatitis A virus infection. The Journal of Experimental Medicine 2012; 209 (8):1481-1492.
125. Chatterjee A***, Guedj J***, Perelson AS. Mathematical modeling of HCV infection: what can it teach us in the era of direct-acting antiviral agents? Antiviral Therapy 2012; 17(6):1171-1182.
126. **Guedj J***, Dahari H*, Ferenci P, Pohl RT, Perelson AS. Understanding silibinin's modes of action against HCV using viral kinetic modeling. Journal of Hepatology 2012;56(5):1019-1024.
127. **Guedj J**, Dahari H, Shudo E, Smith PS, Perelson AS. Hepatitis C viral kinetics with the nucleoside polymerase inhibitor mericitabine (RG7128). Hepatology 2012;55(4):1050-1057.
128. Guedj H, **Guedj J**, Negro F, Lagging M, Westin J, Bochud PY, Bibert S, Neumann AU. The impact of fibrosis and steatosis on early viral kinetics in HCV genotype 1 infected patients treated with PEG-IFN-alfa-2a and ribavirin. Journal of Viral Hepatitis 2012; 19(7):488-497.

129. Dahari H, **Guedj J**, Perelson AS, Layden S. Hepatitis C viral kinetics in the era of direct acting antiviral agents and IL28B, Current Hepatitis Report 2011;10(3):214-227.
130. **Guedj J,** Dahari H, Perelson AS. Understanding the nature of early HCV RNA blips and the use of mathematical modeling of viral kinetics during IFN-based therapy [Letter]. Proc. Natl. Acad. Sci. USA 2011; 108 (29) E303.
131. **Guedj J,** Dahari H, Perelson AS. Silibinin mode of action (s) against HCV: A controversy yet to be resolved [Letter]. Hepatology 2011; 54 (2):749.
132. **Guedj J**, Perelson AS. Second-phase hepatitis C virus RNA decline during telaprevir-based therapy increases with drug effectiveness: Implications for treatment duration. Hepatology 2011;53(6):1801-1808.
133. **Guedj J**, Thiebaut R, Commenges D. Joint modeling of the clinical progression and of the biomarkers dynamics using a mechanistic model. Biometrics 2010; 67(1):59-66.
134. **Guedj J**, Rong L, Dahari H, Perelson AS. A perspective on modelling hepatitis C virus infection. Journal of Viral Hepatitis 2010;17(12):825-833.
135. **Guedj J**, Neumann AU. Understanding hepatitis C viral dynamics with direct acting antiviral agents due to the interplay between intracellular replication and cellular infection dynamics. Journal of Theoretical Biology 2010;267:330-340.
136. **Guedj J**, Bazzoli C, Neumann AU, Mentré F. Design evaluation and optimization for models of hepatitis C viral dynamics. Statistics in Medicine 2010;30(10):1045-1056.
137. Drylewicz J, **Guedj J**, Thiebaut R, Commenges D. Modeling the dynamics of Biomarkers during primary HIV infection taking into account the uncertainty of infection date. Annals of Applied Statistics 2010;4:1847-1870.
138. Commenges D, Sayyareh A, Letenneur L, **Guedj J**, Bar Hen, A. Estimating a difference of Kullback-Leibler risks using a normalized difference of AIC: application to logistic regression and HIV dynamics models. Annals of Applied Statistics 2008; 2:1123-1142.
139. **Guedj J**, Thiébaut R, Commenges D. Maximum likelihood estimation in dynamical models of HIV. Biometrics 2007; 63:1198-206.
140. **Guedj J**, Thiébaut R, Commenges D. Practical identifiability of HIV dynamics models. Bulletin of Mathematical Biology 2007;69:2493-513.
141. Thiébaut R, **Guedj J**, Jacqmin-Gadda H, et al. Estimation of dynamical model parameters taking into account undetectable marker values. BMC Medical Research Methodology 2006;6:1-10.
142. Lazaro L, Coureau G, **Guedj J** et al. Change in T-lymphocyte count after initiation of highly active antiretroviral therapy in HIV-infected patients with history of Mycobacterium avium complex infection. Antiviral Therapy 2006; 11:343-350.
143. Commenges D, Jacqmin-Gadda H, Proust C, **Guedj J**. A Newton-like algorithm for likelihood maximization: the robust variance scoring algorithm. arXiv:mathST/0610402 2006.

*: equal contributors

Invited speaker in international conferences

1. Modeling PK/PD of antiviral drugs. European Congress of Pharmacology, Francfort, March 2027.
2. Viral Dynamic Models During COVID-19: Are We Ready for the Next Pandemic? AI-driven precision therapeutics: Bridging omics, drug discovery, and smart drug delivery. Bangkok, October 2026
3. Viral Dynamic Models During COVID-19: Are We Ready for the Next Pandemic? Immunotherapies & Innovations for Infectious Diseases Congress. Lyon, October 2026
4. Viral Dynamic Models During COVID-19: Are We Ready for the Next Pandemic? Data-Driven approaches in modelling cell and tissue dynamics. Paris, October 2026
5. A model for the risk of infection and transmission of respiratory viruses in nursing homes: implication for antiviral treatment strategies. Heterogeneity and Variability in Pathogen Dynamics and in-host Modelling. Banff, February 2026.
6. The use of viral dynamic models to develop therapeutics against tropical viral infections. Anti-infectives meeting in Manchester. December 2024.
7. Modeling respiratory infections. Synergie & Résistances. Aix-en-Provence. October 2023.
8. Modeling viral dynamics of SARS-CoV2: treatment & transmission. Workshop on Mathematical Perspectives on Immunobiology. September 2023, Blagoevgrad, Bulgaria.

9. Modeling HBV & HDV kinetics during antiviral therapy. 10th international HBV Cure meeting, Paris, June 2023.
10. Integrating correlates of protection into mathematical models of SARS-CoV-2 viral dynamics. American Society of Clinical Pharmacology & Therapeutics, Atlanta, March 2023.
11. Modeling viral kinetics during HBV treatment. What it can teach us to optimize future therapies. European Meeting on HIV & Hepatitis, Paris, June 2022.
12. Pharmacometrics to support clinical investigation during COVID-19 pandemics. Page Virtual Meeting, September 2021.
13. Modeling SARS-Cov-2 viral dynamics to optimize antiviral therapy. PK/UK Virtual Meeting. November 2020.
14. Modeling SARS-Cov-2 viral dynamics to optimize therapy. ACOP. Virtual Meeting. November 2020
15. SARS-Cov-2 viral dynamics in NHPs and hospitalized patients. Modelling Heterogeneous Populations with applications in Biology. Grenoble. November 2020
16. Modeling SARS-Cov-2 viral dynamics to optimize therapy. AAPS. Virtual meeting. October 2020
17. Pitfalls of PK/PD of repurposed drugs. ESCMID Conference on Coronavirus Disease (ECCVID). Virtual Meeting. September 2020.
18. Ebola viral dynamics. HPV & microbiota dynamics. Montpellier. March 2019.
19. Mechanistic models in oncology. Recent advances in joint models for cancer and the new statistical challenge of immunotherapy clinical studies. Bordeaux. January 2019.
20. Ebola viral dynamics. Mathematical Biosciences Institute Workshop. Columbia. February 2018.
21. Joint modeling of tumor kinetic and OS. FDA-ISoP Public Workshop: Model Informed Drug Development (MIDD) for Oncology Products. FDA, February 2018.
22. Joint modeling in pharmacokinetics. Fort-Lauderdale. October 2017
23. PK/PD in infectious diseases. FIP Pharmaceutical Sciences World Congress. Stockholm. May 2017
24. The role of pharmacometrics in viral dynamics. Viral dynamics: past, present & future. Santa Fe. May 2017.
25. HCV modeling: insights on drug development. PK UK. London. November 2016.
26. HCV modeling: insights on drug development. Synergie & Résistances. Aix-en-Provence. October 2016.
27. Review on HCV modeling. Kinetic and Dynamic Complexity in Drug Transit-Response in the Human Body. PAGE meeting. Crete. June 2015
28. Viral Dynamic Modeling of DAAs. Journées du Groupement de Recherche Statistique et Santé. Rennes. September 2012.
29. Viral Dynamic Modeling of DAAs. 7th International Workshop on Clinical Pharmacology of Hepatitis Drug. Boston. June 2012
30. Understanding silibinin's modes of action against HCV using viral kinetic modeling. Workshop on Silibinin, Cologn. February 2012.

PhD supervision and cosupervision

1. Antoine Vaglio, “Modeling of flavivirus antibody neutralization mechanisms”, since 2026 (co-supervision with Nathanaël Hozé, INSERM)
2. Laura Mulas, “Modeling the dynamics of acute respiratory infections in the community”, since 2025 (co-supervision with François Blanquart, Collège de France).
3. Nathan Puisieux, “Interactions between respiratory viruses and pathogenic bacteria of the nasal flora - from intra-host dynamics to population transmission dynamics”, since 2025 (co-supervision with Lulla Opatowski, Pasteur Institute).
4. Adrien Mitard, “Correlates of protection in SARS-CoV-2”, since 2023 (co-supervision with Mélanie Prague, INRIA)
5. Clarisse Schumer, “Coinfection of viral respiratory viruses, from in vitro to in vivo analyses”, since 2023.
6. Maxime Beaulieu, “Modeling the efficacy of antiviral strategies against variants of concerns of Sars-CoV-2: from general community to hospitalized patients, since 2022
7. Bharadwaj Vemparala, “Two of a kind: Insights into the mechanisms driving post-treatment and natural HIV control from mathematical modeling”. 2022-2025 (Co-supervision with Narendra Dixit IISC, Bangalore) (now postdoc at La Jolla Institute, San Diego).

8. Selma El Messaoudi, "Modeling to support HBV cure", 2020-2024 (now at Novo Nordisk)
9. Aurélien Marc, "The shifting paradigm of viral load and its implication on transmission", 2020-2023 (now CEA scientist).
10. Guillaume Lingas, "Modélisation de la dynamique virale du SARS-CoV-2 : implications pour l'évaluation thérapeutique », 2019-2022 (now resident in Critical care).
11. Marion Kerioui, "Modèles conjoints de la dynamique des lésions cibles et de la survie : application à la prédiction de la réponse à l'immunothérapie dans le cancer de la vessie", 2018-2022 (now INSERM researcher)
    - ⇨ Recipient of the 2023 prize Daniel Schwartz rewarding the best PhD thesis in biostatistics
12. Antonio Gonçalves, "Development of a modeling framework to optimize combination therapy of new antiviral agents against HBV", 2017-2020 (now at Certara).
13. Vincent Madelain, "Viral dynamics during infection with Ebola virus and treatment with favipiravir", 2015-2018 (now at Servier).
14. Solène Desmée, "Modélisation conjointe de données longitudinales non-linéaires et de données de survie : applications au cancer de la prostate métastatique", 2013-2016 (now associate professor at Université de Tours)
15. Tram Nguyen, "Handling data below the quantification limit in viral kinetic modeling for model evaluation and prediction of treatment outcome", 2011-2014 (now at Sanofi)
16. Cédric Laouénan, "Utilisation des modèles dynamiques pour l'évaluation des traitements de l'hépatite C", 2011-2014 (now Professor of Biostatistics at Université Paris Cité).

PhD reviewer

1. Sofia Kaisaradi, « Subtype identification through disease progression modeling: application to CADASIL", Sorbonne Université, 2026.
2. Paul-Rémi Petit, "Évaluation d'antiviraux à large spectre : considérations pharmacodynamiques et pharmacocinétiques en modèle préclinique », Aix-Marseille Université, 2025.
3. Akshay Tiwari, "Mathematical and Statistical Modeling of Epidemiology of Asymptomatic COVID-19 Infections and Vaccine Design Strategies", Indian Institute of Science, 2025.
4. Léonie Courcoul, « Modèles conjoints avec variance résiduelle hétéroscédastique : application à l'étude de l'impact de la variabilité de la pression artérielle sur des événements de santé compétitifs », Université de Bordeaux 2024.
5. Macauley Locke, "Understanding viral infections using mathematical models and statistical analysis", University of Leeds, 2023.
6. Denis Rustand, "Modèles conjoints pour un biomarqueur semi-continu et un évènement terminal avec application aux essais cliniques en cancérologie", Université de Bordeaux, 2020.
7. Thibault Etienne, « Modélisation mathématique de la dégradation des ARNm bactériens et intégration de données omiques », Université Lyon 1, 2020.
8. Ronan Duchesne, "Erythroid differentiation *in vitro* under the lens of mathematical modelling", ENS Lyon, Université Lyon 1, 2019.
9. Vincent Aranzana-Climent, « Apport de la modélisation semi-mécanistique dans l'étude PK/PD des antibiotiques seuls et en combinaison dans la lutte contre les bactéries résistantes », Université de Poitiers, 2019.
10. Rubest Raja, "Modelling and optimization of novel therapies for HIV and hepatitis C virus infections", Indian Institute of Science, 2018.
11. Laura Villain, " Analyse et modélisation de l'effet des injections d'interleukine 7 sur les patients infectés par le VIH", Université de Bordeaux, 2018.

Habilitation reviewer

1. Raphaelle Metras, "Modelling vector-borne and zoonotic pathogens », Sorbonne Université, 2022.
2. Max Von Kleist Contributions to the Mathematical Systems Medicine of Antimicrobial Therapy and Genotype-Phenotype Inference, Freie Universitat Berlin, 2020.

Reviewer (not exhaustive)

Biostatistics & Biomathematics	Bioinformatics. Bulletin of Mathematical Biology, Epidemics, CPT: Pharmacometrics & System Pharmacology, Journal of Statistical Planning & Inference, Journal of Pharmacokinetics & Pharmacodynamics, Journal of the Royal Statistical Society C, Journal of Theoretical Biology, Mathematical Biosciences, Mathematical Medicine & Biology, Philosophical Transactions of the Royal Society B, PLoS Computational Biology, Statistical Methods & Applications
Medicine	Antimicrobial Agents & Chemotherapy, Antiviral Therapy, Antiviral Research, Clinical Infectious Diseases, Clinical Pharmacology & Therapeutics Ebio medicine, Journal of Hepatology, Journal of Virology, Hepatology, Lancet Infectious Diseases, Microbiome, Nature Communications, Nature Medicine, PLoS Biology, PNAS, PLoS Pathogens, Science
Editorial Board	Journal of Hepatology

Scientific & Educational Societies

Since 2026	President du Comité Scientifique de l'AAP Colloques et Publications de l'ANRS MIE
Since 2023	Member of the ANRS « groupe sur les antiviraux et les anticorps monoclonaux thérapeutiques »
Since 2021	Member of the INSERM evaluation and recruitment committee (CSS 6)
Since 2021	AC ANRS« Modélisation des maladies infectieuses »
2020-2022	Member of the preclinical group on SARS-CoV-2 (ANRS)
2020-2022	Drug expert committee, EU Response
2020-2022	Groupe d'évaluation des mAbs anti-Covid, Reacting (ANRS)
Since 2019	Conseil de l'école doctorale ED393 Pierre Louis de Santé Publique
2012-2016	ANRS CSS3 « Recherches cliniques et thérapeutiques sur le VIH »
Since 2014	AC34 (since 2014) « HBV Cure »

Grant as PI (or WP PI)

2022-2025	Modelling of viral respiratory co-infection dynamics in human epithelium (ANR/DGF, 885KE incl 150 KE)
2021-2023	Emergen, ANRS (70 KE)
2021-2024	Multiscale modeling in HBV, PI, Roche (200 KE).
2020-2023	Mechanism of natural control of HIV, French Embassy in India
2020-2023	Therapeutics accelerator Covid-19, PI, Bill & Melinda Gates Foundation (250 KE)
2020-2022	Viral dynamics modeling, PI, ANR (200, incl 70 KE)
2020-2022	HIV modeling control, WP leader, NIH (150 KE)
2020-2022	Phage therapy, WP leader, French-German ANR (70 KE)
2020-2023	Nipah pathogenesis, WP leader, MESRI. (210 KE)
2018-2021	Modeling immune-oncology, PI, Genentech. (40 KE)
2017-2020	HBV Modeling, PI, Roche. (150 KE)
2014-2017	Prostate cancer therapeutic optimization, PI, Sanofi (150 KE).
2014-2016	Favipiravir against Ebola, WP leader, EU H2020 (

Prize & Fellowship

2015-2018	Laureate APHP "Contrat d'Interface"
2012-2027	INSERM « Prime d'Excellence »
2009-2012	Los Alamos Postdoctoral Fellowship
2008-2009	French Consulate in Tel-Aviv, « Volontaire-International Chercheur »
2007	Postdoctoral Fellowship « Fondation de la recherche médicale »
2003-2006	PhD fellowship from the National Agency for Research in AIDS (ANRS)