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WORK

04/23 - present	**Research Associate** Department of Immunology and Microbiology, Institute for Genome Sciences, University of Maryland, Baltimore, USA
01/21 - 03/23	**Senior Post-doctoral Associate** Serre lab, Institute of Genome Sciences, University of Maryland, Baltimore, USA
05/20 - 07/20	**Volunteer at the University of Cambridge/GSK/AstraZeneca Covid19 diagnostic center**
08/18 - 12/20	**Post-doctoral research associate**, Merrick's lab, Pathology Department, University of Cambridge, Cambridge, UK
10/12 - 01/18	**Pre-doctoral researcher**, Molecular Parasitology Unit, Biomedical Sciences department, ITM, Antwerp

EDUCATION

2012 - 2018	**Ph.D in Biomedical Sciences,** "Role of gene dosage in the acquisition of antimony resistance in *L. donovani*: experimental evidence" University of Antwerp/Institute of Tropical Medicine, Antwerp, Belgium
2010 - 2012	**M.Sc in Molecular and Cellular Biology, specialty Medical Parasitology and Mycology** "Methodology for the study of *Leishmania major* interaction between MAP kinase 7 and Metacaspase" Université Pierre et Marie Curie (Paris VI)/Institut Pasteur, Paris, France
2007 - 2010	**B.Sc Biology, specialty Biotechnology** Université Libre des Sciences et Technologies, Lille, France

BIBLIOGRAPHY

Total count on the 03/14/2026: 18 publications; citations: 1,069; h-index: 12; i10-index: 12
For full citation information see https://scholar.google.com/citations?user=XtCabmwAAAAJ&hl=en

* Authors have equally contributed to the work
+ Corresponding author

1) **Dumetz F[1+]**, Watson KJ[1], Perry M[2], Bromley RE[1], Shome AR[1], Dunning Hotopp JC[1], Hamza I[2], Serre D[1]. The UTRs of *Leishmania donovani* vary in length and are enriched in potential regulatory structures. ***PLoS Pathogens*,** 22(3): e1013551. doi: 10.1371/journal.ppat.1013551
2) Inbar E, Samantray I, Alford RT, Harrell RA, Jennings G, Pascini TV, Wai TT, **Dumetz F**, Eappen AG, Hoffman SL, Billingsley PF. Successful insertion and expression of a tetracycline transactivator in *Anopheles stephensi* associated with increased egg production and decreased hatching rate. ***Parasites & Vectors***, 2025, 18(1): 433. doi: 10.1186/s13071-025-07003-7
3) Grünebast J, Singhal R, Bromley R, Kanatani S, Watson K, **Dumetz F**, Pascini TV, Tripathi A, Dunning Hotopp J, Sinnis P, Llinás M, and Serre D. Degradation of ribosomal RNA during *Plasmodium falciparum* gametocytogenesis. ***mBio***. 2025, Sep 22:e0256525. doi: 10.1128/mbio.02565-25. PMID: 40980880
4) **Dumetz F***, Enright AJ*, Zhao J, Kwok CK, Merrick CJ. The *in vivo* RNA structurome of the malaria parasite *Plasmodium falciparum*, a protozoan with an A/U-rich transcriptome. ***PLoS ONE***, 2022, 17(9): e0270863, doi: 10.1371/journal.pone.0270863

5) Wijnant G-J, **Dumetz F,** Dirkx L, Bulté D, Cuypers B, Van Bocxlaer K and Hendrickx S. Tackling drug resistance and other causes of treatment failure in leishmaniasis. ***Frontiers in Tropical Diseases/ Insight in Antimicrobial Resistance***, 12 May 2022, 3. doi: 10.3389/fitd.2022.837460

6) **Dumetz F***, Chow EY-C*, Harris LM, Umar MI, Jensen A, Chung B, Chan TF, Merrick CJ and Kwok CK. G-quadruplex RNA motifs influence gene expression in the malaria parasite *Plasmodium falciparum.* ***Nucleic Acids Research***, 2021; 49(21), 12486-12501. doi: 10.1093/nar/gkab1095

7) Cuypers B*, **Dumetz F***, Meysman F, Laukens K, De Muylder G, Dujardin JC, Domagalska MA. The absence of C-5 DNA methylation in *Leishmania donovani* allows DNA enrichment from complex samples. ***Microorganisms***, 2020; 8(8),1252. doi: 10.3390/microorganisms8081252

8) **Dumetz F** and Merrick CJ. Parasitic protozoa: Unusual roles for G-quadruplexes in early-diverging eukaryotes. ***Molecules*****,** 2019; 24 (7), 1339. doi: 10.3390/molecules24071339

9) Bussotti G, Evi Gouzelou E, Côrtes Boité M, Kherachi I, Harrat Z, Eddaikra N, Mottram J, C, Antoniou M, Christodoulou V, Bali A , Guerfali F,Z , Laouini D, Mukhtar M, **Dumetz F**, Dujardin JC, Smirlis D, Lechat P, Pescher P, El Hamouchi A, Lemrani M, Chicharro C, Llanes-Acevedo IP, Botana L, Cruz I, Moreno J, Jeddi F, Aoun K, Bouratbine A, Cupolillo E, and Späth G, F. *Leishmania* genome dynamics during environmental adaptation reveals strain-specific differences in gene copy number variation, karyotype instability, and telomeric amplification. ***mBio***, 2018; 9 (6), 1–18. doi: 10.1128/mBio.01399-18

10) Cuypers B, Berg M, Imamura H, **Dumetz F**, de Muylder G, Domagalska MA, Rijal S, Bhattarai N, Maes I, Cotton J, Meysman P, Laukens K and Dujardin J-C. Integrated genomic and metabolomic profiling of ISC1, an emerging *L. donovani* population in the Indian sub-continent. ***Infection, Genetics and Evolution***, 2018; 62: 170-178. doi: 10.1016/j.meegid.2018.04.021

11) **Dumetz F**, Cuypers B, Imamura H, Zander D, D'Haenens E, Maes I, Domagalska MA, Clos J, Dujardin J-C and De Muylder G. Molecular pre-adaptation to antimony resistance in *Leishmania donovani* of the Indian sub-continent. ***mSphere***, 2017; 3(2): e00548-17. doi: 10.1128/mSphere.00548-17

12) Vanaerschot M, **Dumetz F**, Jara M, Dujardin J-C, Ponte-Sucre A. Chapter 17: The concept of fitness in *Leishmania* In: ***Drug Resistance in Leishmania Parasites – 2nd edition*****.** Editor: Ponte-Sucre A, Publisher: Springer. 2018 ISBN: 978-3-319-74185-7 https://link.springer.com/book/10.1007/978-3-319-74186-4

13) Prieto-Barja P, Pescher P, Bussotti G, **Dumetz F**, Imamura H, Kedra D, Domagalska MA, Chaumeau V, Himmelbauer H, Pages M, Sterkers Y, Dujardin JC, Notredame C and Spaeth GF. Asexual maintenance of genetic diversity in the protozoan pathogen *Leishmania donovani*. ***Nature Ecology & Evolution***, 2017; 1(12):1961-1969. doi: 10.1038/s41559-017-0361-x

14) Cuypers B, Domagalska MA, Meysman P, de Muylder G, Vanaerschot M, Imamura H, **Dumetz F**, Verdonckt TW, Myler PJ, Ramasamy G, Laukens K, and Dujardin J-C. Multiplexed Spliced-Leader Sequencing: A high-throughput, selective method for RNA-seq in *Trypanosomatids*. ***Scientific Reports***, 2017; 7: 3725. doi: 10.1038/s41598-017-03987-0

15) **Dumetz F**, Imamura H, Sanders M, Seblova V, Myskova J, Pescher P, Cuypers B, De Muylder G, Späth GF, Bussotti G, Vermeesch JR, Berriman M, Cotton JA, Volf P, Dujardin J-C, Domagalska MA. Modulation of aneuploidy in *Leishmania donovani* during adaptation to different *in vitro* and *in vivo* environments and its impact on gene expression. ***mBio***, 2017; 8(3): e00599-17. doi: 10.1128/mBio.00599-17

16) Kauffmann F, **Dumetz F**, Hendrickx S, Muraille E, Dujardin J-C, Maes L, Magez S and De Trez C. *In vivo* characterization of two additional *Leishmania donovani* strains using the murine and hamster model. ***Parasite Immunology***, 2016; 38(5):290-302. doi: 10.1111/pim.12316

17) Imamura H, Downing T, Van den Broeck F, Sanders MJ, Rijal S, Sundar S, Mannaert A, Vanaerschot M, Berg M, De Muylder G, **Dumetz F**, Cuypers B, Maes I, Domagalska M, Decuypere S, Rai K, Uranw S, Raj Bhattarai N, Khanal B, Kumar Prajapati V, Sharma S, Stark O, Schönian G, De Koning HP, Settimo L, Vanhollebeke B, Syamal Roy, Ostyn B, Boelaert M, Maes L, Berriman M, Dujardin J-C and Cotton JA. Evolutionary genomics of epidemic visceral leishmaniasis in the Indian subcontinent. ***eLife***, 2016; 5: e12613. doi: 10.7554/eLife.12613

18) Vanaerschot M, **Dumetz F**, Roy S, Ponte-Sucre A, Arevalo J, Dujardin J-C. Treatment failure in leishmaniasis: drug-resistance or another (epi-) phenotype? ***Expert Review of Anti-Infective Therapy***, 2014; 12(8):937-946. doi: 10.1586/14787210.2014.916614

FUNDING AND AWARDS

Funding

Research Fellowship (2014 and 2015)
Funding body:
Short-term fellowship (1 month – January 2015)
Funding bodies: European Molecular Biology Organization - EMBO (id: ASTF 616-2014) and FWO (Flemish Research Foundation)

Awards

Cambridge university award Professional Services Recognition Scheme 2020 in the Cross University category
Award given to all the volunteers who got involved in the Cambridge university, AstraZeneca, GSK Covid-19 testing centre
Prize winner of the Royal Academy for Overseas Sciences section Natural Science (Belgium, 2018)
Prize awarded after deliberation of the jury of the academy for the most significant submitted PhD thesis of the year in the field of microbial drug resistance.
Zoetis Travel Award (May 2017)
Competitive travel award to go to WorldLeish6 in Toledo, Spain, in May 2017

CONFERENCES

Major Speeches:

"Using Direct RNA sequencing to explore *Leishmania* gene expression regulation", Molecular Parasitology Meeting XXXV, September 2024 – Woods Hole, USA

"Using Direct RNA sequencing to explore *Leishmania* gene expression regulation." PAraCon2023 July 2023 – State College, USA

"RNA guanine-quadruplexes: do they play a role in post transcriptional regulation in *P. falciparum*?" XVI (EMBL), May 2020 – Heidelberg, Germany (Virtual).

"Main populations of *L. donovani* in the Indian sub-continent differ in their pre-adaptation to antimony resistance." Vth Trypanosomatid Parasites meeting, December 2017 - Paris, France.

"Pre-adaptation to antimonials is general in *Leishmania donovani* in the Indian subcontinent." Sixth World Conference on Leishmaniasis, May 2017 - Toledo, Spain.

"Aneuploidy variation during the life cycle of Leishmania donovani." Annual meeting of the Belgian Society of Parasitology and Protistology, May 2017 - Brussels, Belgium.

"*L. donovani* from the Indian Subcontinent is pre-adapted for a rapid development of antimonial resistance driven by aneuploidy." Second International ParaFrap Conference, October 2016 - Ile des Embiez, France.

"Genome and transcriptome dynamics during the life cycle of *Leishmania*." IVth Trypanosomatid Parasites meeting, May 2015 - Paris, France

Posters:

Dumetz F., Watson K., Perry M., Bromley R., Hamza I., Dunning Hotopp J. & Serre, D. "Using Direct RNA sequencing to explore *Leishmania* gene expression regulation", Molecular Parasitology Meeting XXXIV, September 2023 – Woods Hole, USA

Son O, Cuzin L, Dumetz F. "Characteristics of an ideal STI Anonymous Partner Notifications app for French MSM on PrEP: KYSS – Know Your Status©", STI &* HIV World Congress 2023, July 2023 – Chicago, USA

Son O, Cuzin L, Dumetz F. "KYSS – Know Your Status© : application "idéale" de notification anonyme de partenaires en cas d'IST ?" de notification anonyme de partenaires en cas d'IST ?" 23e Congrès National de la Société Française de Lutte contre le Sida, November 2022 – Paris, France

Dumetz F, Serafim TD, Bogale HN, Iniguez E, Kamhawi S, Serre D. "Single Cell transcriptional characterisation of *L. major* retroleptomonad promastigotes" (August 2022) WorldLeish7 August 2022 -

TEACHING ACTIVITIES AND STUDENT SUPERVISIONS

Summer 2025	Mentoring of Anushka Shome, an undergrad student from Purdue university on "Refining the genome assembly of *Crithidia bombi* using PacBio and Nanopore long read technologies" Anushka also participated to "The UTRs of *Leishmania donovani* vary in length and are enriched in potential regulatory structures.", making this article her first. A few others in preparation.
May 2025	Mentoring of Blyssalyn Bieber regarding basics of bioinformatics, ONT Direct RNA sequencing and genome assembly of *Crithida bombi*
2024 - present	GPILS core course "RNA processing"
Summer 2024	Mentoring of Thomas Ludecke, a high school student on "Characterisation of *Theleiria parva* alpha clade Trp as diagnostic marker"
March 2024	"Studying the genome plasticity of Leishmania from *in vitro* to *in vivo*", MICR 6292 -Tropical Infectious Diseases, George Washington University, Washington, DC, USA
2022 - present	"Introduction to parasitology", School of Dentistry, University of Maryland, Baltimore, Baltimore, USA
April 2022	Hosting a day long eukaryotic pathogens teaching seminar (fungi and *Leishmania*), and teaching a half day on malaria, Institute for Continuous Education, Cambridge university, Cambridge, UK
April 2021	Tutoring and Q&A session on *Leishmania* and group activity on the "Social and Economic impact of Leishmaniasis", Institute for Continuous Education, Cambridge University, Cambridge, UK
02/21	Invited Lecture: "Leishmania: a general overview", Erasmus Medical Centre, Rotterdam, NL
2019 - 2021	Practical designer and demonstrator, Department of Pathology, University of Cambridge
2020	Practical assistant for students with disabilities
03/18	Invited lecture: "Fundamental of *Leishmania* biology and pathology" (in English and in French), Post Graduate Certificate in Tropical Medicine and International Health, ITM, Belgium
10/17	Invited lecture: "Leishmania, from the field to the lab", University of Ohio, Athens, Ohio, USA
05/16	Invited Lecture: "Genome and transcriptome dynamics during the life cycle of Leishmania". Faculty of Biology, Pontifica Universidad Catolica del Ecuador, Quito, Ecuador.
Jan - June 2015	Matilda Svensson, MSc thesis: *Argininosuccinate Synthase role in antimony resistance in Leishmania donovani*
Oct 2013 - June 2014	Natania Peelman, MSc thesis: *Functional Analysis of the MRPA episome in Leishmania donovani*

PROFESSIONAL SOCIETY MEMBERSHIP

2021 - present	General Member, American Society of Tropical Medicine and Hygiene and American Committee of Molecular, Cellular and Immunoparasitology
2021 - present	General Member, RNA Society
2019 - 2021	General Member, British Society for Parasitology
2016 - 2021	General Member, Belgium Society for Parasitology and Protistology

SERVICE TO THE COMMUNITY/PROFESSIONAL DEVELOPMENT

August 2025	Presentation at BUGSS "Discussion around Nanopore sequencing: advantages and comparison with other sequencing methods, and research and hands-on applications"
2025	Curation of a table summarising known Spliced-Leader sequences across organisms https://figshare.com/articles/dataset/SL_table_list_v3-030425/28536629?file=52795733
2025 - present	Member of the Institutional Biosafety Committee of Sanaria Inc
Feb 2025	Science slam for BUGSS
2022 - 2023	Member of the Inclusion, Diversity, and Equity Strategic Planning Committee, University of Maryland, Baltimore
2022 - 2024	Mentor for the Linked Mentoring program of GSA link, a non-profit organisation providing support to LGBTQ+ youth
2022 - present	Member of the Membership Committee of ASTMH
2020 - present	Member of Pathogens Reviewer Board
2021 - 2022	Discussion facilitator in the Responsible Conduct of Research training (University of Maryland School of Medicine)
2021 - 2022	STAR-PREP statement review committee (University of Maryland, Baltimore)
2019 - 2020	Post Doc representative in the Tripos Education Committee and at the Public Engagement and Outreach Committee
2019 - 2020	Board member of the Post Doc committee of the Pathology department
2018 - 2019	Rising Stars public engagement training, Cambridge University
2016 - 2017	PhD Representative at the Scientific Advisory Committee of the Institute of Tropical Medicine of Antwerp (ITM)
2015 - 2017	Member of the Gay Pride Organisation Committee of the STI free-clinic of Antwerp
2015 - 2016	PhD representative at the ITM Education Council
2012 - 2018	Organiser of the departmental weekly social event: Beer Time
2013 - 2017	PhD representative at the ITM Biomedical Sciences Department board

Journal revision

2026	*BMC Genomics* - *ad hoc* reviewer
2023	*Genome Research* - *ad hoc* reviewer
2022	*Microbial Genomics* - *ad hoc* reviewer
2021	Epidemiologia - *ad hoc* reviewer
2020 and 2023	*Acta Parasitologica* - *ad hoc* reviewer
2020	*PLoS NTD* - *ad hoc* reviewer
2020	*Biomolecules* - *ad hoc* reviewer
2020 - present	*Pathogens* - *ad hoc* reviewer
2019	*Acta Tropica* - *ad hoc* reviewer
2019	*Genes* - *ad hoc* reviewer
2019	*Molecules* - *ad hoc* reviewer
2019	*PLoS One* - *ad hoc* reviewer
2013 and 2019	*Parasitology Research* - *ad hoc* reviewer