

Curriculum Vitae

Sébastien Boutin PhD.

d.o.b. November 09th, 1985, in Cholet, France

University Education

- 2013 Ph. D. in Biology, UNIVERSITY LAVAL, QUEBEC (Canada)
2009 Master in Biology, speciality in Ethology, Ecology and Evolution, UNIVERSITY of RENNES, Rennes, France
2006 Bachelor in Biology, UNIVERSITY of POITIERS, Poitiers, France

Scientific Career

- Since 2022 Group leader “Influence of the microbiome on the course of infection in chronic lung disease” at the Institute of Medical microbiology, UKSH, campus Lübeck, Lübeck, Germany.
2020-2022 Junior Group leader “Microbiome” at the Translational Lung Research Center Heidelberg (TLRC/DZL), Heidelberg, Germany.
2014-2019 Post-doctoral Researcher at Department of Medical Microbiology and Hygiene, University hospital heidelberg, heidelberg, germany.
2013-2014 Post-doctoral Researcher at Institute for Integrative Systems Biology (IBIS), University Laval, Québec, Canada.

Awards and Honors

- 2011 Travel award: Canadian Society of ecology and evolution (CSEE)
2012 Best presentation award (2nd position) : 15ème édition du colloque annuel du Centre Interuniversitaire de Recherche sur le Saumon Atlantique (CIRSA)
2019 ECFS Young Fellows Travel Award

Citation Record

Total citations: 5,529; h-index:35; h-index since 2021: 32 (Google Scholar February 24th, 2026)

Top-10 selected Publications

Frey DL, Helm B, Guerra M, Hagner M, Lu J, Dittrich AS, Wege S, Eberhardt R, Herth FJF, Sommerburg O, Schultz C, Dalpke AH, Klingmüller U, Mall MA, **Boutin S**. SputOMiCs identifies common and distinct markers in cystic fibrosis and chronic obstructive pulmonary disease. **Sci Rep**. 2025 Dec 24;15(1):44418. doi: [10.1038/s41598-025-32565-y](https://doi.org/10.1038/s41598-025-32565-y).

Boutin S, Käding N, Belheouane M, Merker M, Rupp J, Nurjadi D. Towards unraveling antimicrobial resistance dynamics: a longitudinal exploration of rectal swab metagenomes. **BMC Microbiol**. 2025 Mar 17;25(1):150. doi:[10.1186/s12866-025-03874-z](https://doi.org/10.1186/s12866-025-03874-z).

Chung J, **Boutin S**, Frey DL, Joachim C, Mall MA, Sommerburg O. Nasal lavage microbiome, but not nasal swab microbiome, correlates with sinonasal inflammation in children with cystic fibrosis. **J Cyst Fibros**. 2024 Mar;23(2):226-233. doi: [10.1016/j.jcf.2023.12.011](https://doi.org/10.1016/j.jcf.2023.12.011).

Mirhakkak MH, Chen X, Ni Y, Heinekamp T, Sae-Ong T, Xu LL, Kurzai O, Barber AE, Brakhage AA, **Boutin S**, Schäuble S, Panagiotou G. Genome-scale metabolic modeling of *Aspergillus fumigatus* strains reveals growth dependencies on the lung microbiome. **Nat Commun**. 2023 Jul 20;14(1):4369. doi:[10.1038/s41467-023-39982-5](https://doi.org/10.1038/s41467-023-39982-5).

Schaupp L, Addante A, Völler M, Fentker K, Kuppe A, Bardua M, Duerr J, Piehler L, Röhmel J, Thee S, Kirchner M, Ziehm M, Lauster D, Haag R, Gradzielski M, Stahl M, Mertins P, **Boutin S**, Graeber SY, Mall MA. Longitudinal effects of elexacaftor/tezacaftor/ivacaftor on sputum viscoelastic properties, airway

infection and inflammation in patients with cystic fibrosis. **Eur Respir J.** 2023 Aug 3;62(2):2202153. doi: [10.1183/13993003.02153-2022](https://doi.org/10.1183/13993003.02153-2022).

Graeber SY, **Boutin S**, Wielpütz MO, Joachim C, Frey DL, Wege S, Sommerburg O, Kauczor HU, Stahl M, Dalpke AH, Mall MA. Effects of Lumacaftor-Ivacaftor on Lung Clearance Index, Magnetic Resonance Imaging, and Airway Microbiome in Phe508del Homozygous Patients with Cystic Fibrosis. **Ann Am Thorac Soc.** 2021 Jun;18(6):971-980. doi: [10.1513/AnnalsATS.202008-1054OC](https://doi.org/10.1513/AnnalsATS.202008-1054OC).

Schmitt FCF, Brenner T, Uhle F, Loesch S, Hackert T, Ulrich A, Hofer S, Dalpke AH, Weigand MA, **Boutin S**. Gut microbiome patterns correlate with higher postoperative complication rates after pancreatic surgery. **BMC Microbiol.** 2019 Feb 18;19(1):42. doi: [10.1186/s12866-019-1399-5](https://doi.org/10.1186/s12866-019-1399-5).

Boutin S, Graeber SY, Stahl M, Dittrich AS, Mall MA, Dalpke AH. Chronic but not intermittent infection with *Pseudomonas aeruginosa* is associated with global changes of the lung microbiome in cystic fibrosis. **Eur Respir J.** 2017 Oct 5;50(4):1701086. doi: [10.1183/13993003.01086-2017](https://doi.org/10.1183/13993003.01086-2017).

Boutin S, Klein S, Untergasser G, Loka TP, Jakob S, Caf Y, Khatamzas E, Knabl L, Wrettos G, Knobloch H, Nurjadi D. Evaluating Seqstant LiveGene Analysis in real-time assessment of metagenomic next-generation sequencing (mNGS) data from respiratory samples. **Infection.** 2025 Nov 11. doi: [10.1007/s15010-025-02665-y](https://doi.org/10.1007/s15010-025-02665-y).

Frey DL, Bridson C, Dittrich S, Graeber SY, Stahl M, Wege S, Herth F, Sommerburg O, Schultz C, Dalpke A, Mall MA, **Boutin S**. Changes in Microbiome Dominance Are Associated With Declining Lung Function and Fluctuating Inflammation in People With Cystic Fibrosis. **Front Microbiol.** 2022 May 13;13:885822. doi: [10.3389/fmicb.2022.885822](https://doi.org/10.3389/fmicb.2022.885822).