

Prof.dr. Stanley Brul Chair Molecular Biology and Microbial Food Safety

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URL: <http://uva-view.nl/permalink/321386>;

<https://sils.uva.nl/research/collaborationinitiatives/microbiologie/microbiology.html>

EXPERTISE: Biochemistry; Molecular Biology; Molecular stress physiology of (micro)organisms; 'Microbiome' studies relevant to beneficial and pathogenic microorganisms, in particular Bacilli.

SCIENTIFIC CAREER:

1990-1994 Post-doc Microbiol., Univ. Nijmegen & short stay Rockefeller Univ. (NWO-Talent).

1994-1997 Food Preservation project. manager, Unilever R&D, NL & UK.

1997-2002 Preservation program & Technology Platform man., Unilever R&D, NL & UK.

2000-2002 Professor of Industrial Microbiology, endowed chair at SILS, UvA.

2002-2007 0,4 FTE Senior Scientist Preservation, Food Microbiology, Unilever R&D, NL & UK.

2002-2007 0,6 FTE Professor Molecular Biology and Microbial Food Safety, MBMFS-SILS, UvA.

2007-present Professor Molecular Biology and Microbial Food Safety, MBMFS-SILS, UvA.

ACADEMIC POSITIONS: 0,6 FTE Research head of laboratory MBMFS, Master track coordinator Medical Biochemistry & Biotechnology (formerly known as Biochemistry & Metabolic Disease), Biomedical Sciences, FNWI & AMC; 2002-present (10-15 students per year); Director of the College of Life Sciences (FNWI) & bachelor Biomedical Sciences FNWI & AMC (present).

ACADEMIC SERVICES: Editorial boards: International Journal of Molecular Sciences; Food Microbiology; Innov. Food Sci. & Emerg. Technol.; Biomed. Research International.; FEMS Yeast Research (until 2017); Guest editor special issue Current Opinion Food Science (2016); Guest editor International Journal of Food Microbiology (2017). Referee for: PNAS, Nature, Curr. Opinion Microbiology, ASM & FEMS Journals, PLoS.

Evaluation panels: NWO, BBSRC, IWT, EU. Co-evaluator of the Dutch Technology Institute (TNO) Life Science Program (2005). Evaluator of the Australian Food Safety Centre (Tasmania, Melbourne, Sydney, Brisbane) (2007). Chair of the education evaluation committee of the five biomedical sciences bachelor & master courses in Flanders (2013). Chair of the research evaluation committee of the Fungal Biodiversity Centre of the Netherlands Royal Dutch Academy of Sciences (2014). Regular Evaluator of Dutch Food Safety Authority policy documents. Member of the Expert panel Institutional Science review Institute Food Research Norwich (IFR, UK). Expert Science Advisor Gut Health Food Safety program Quadram Institute UK (2015). Expert member of the evaluation Ci. Chemistry of the BSc & MSc programs at the Univ. Utrecht (2018). Chair of the new program audit Int. BioScience, Leiden Univ. (2018). Chair of the international institutional review committee of the Life Science program Wageningen Univ. (~8000 students; 2018/2019). Member of the TNO Master Tropical Medicine, Institute for Tropical Medicine, Antwerp (2019), Chair site-visit panel "ontwikkelingsgericht visiteren" Wageningen University Biology program (2020).

Member of the national task force sector Biology on behalf of the UvA (2020) delivery sector image en now member of the Biology Council preparing the groundwork for a sector plan Biology (2021). Member of the Dutch European feedback council Horizon 2020.

Board member of scientific & related organizations: 2009-present chair of the Dutch Institute for Biology (NIBI). 2010-Former president (2003-2009) and present Federation European Microbiological Societies (FEMS) representative of the Royal Dutch Society for Microbiology (2009-2017). Co-organizer FEMS 2015 Congress of European microbiologists in Maastricht. Member of the Agri-Food cluster of the Amsterdam Economic Board.

AWARDS/PRIZES/MAJOR MBMFS GRANTS: Unilever Research Prize lecture (1998); Distinguished Research Fellow University Tasmania (2007); Lecturer at the Unilever Research Prize Symposium 2017. Unilever Innovation Fund Grant Novel Food Preservation (1 M€ 2002-2007); EET grant Food Preservation (2.5 M€; 2002-2006); STW grant Bacterial Spore germination (0.8 M€; 2003-2007); Casimir grant Bacterial Spore inactivation (0.22 M€ ; 2007-2009); STW grant Targeted Inhibition Bacterial Spores (0.3 M€; 2010-2014); Dutch Food Safety Authority grants antibiotic resistance (1,1M€; 2011-2015 & 2014-2018; 2016-2020); TNO grants microbial food safety and fungal growth optimization (0.3 M€;2012-2016); Nanonext participation in Food Stability project (0.15 M€; 2011-2015); EFRO grant on valorization of bioactive compounds from algae; various Erasmus Mundus PhD fellowships; various CSC scholarships (5 ongoing); MBMFS hosts tenure track Dr. Jianbo Zhang who came over from MIT to focus on Host-Microbe Interactions (0.8 M€; VENI interview Nov. 2021); Dutch National Science Council (ALW) The Molecular Basis of Endospore Heterogeneity (0.25 M€; 2017-2020) POP 3 'Verduurzamen gewasteelt met microwieren' (0.25 M€; 2018-2021). Dutch National Science Council (Closed Cycles) (0.25 M€ 2018-2022); Funding / Grants with co-PI's from Research Priority Areas Systems Biology of Host-Microbe Interactions & Urban Mental Health (1 M€; 2020-2024). Grants with co-PI from the Dutch Food Safety Authority 1.2 M euro (2014-2022).

OUTPUT: Publications (Google scholar): Total number of publications: ~200. Total citations: 10380; Most cited: 1020 (2002), 1286 (1999); H-index 51 (36 from 2016); i10 index 132 (99 from 2016).

5 Selected publications See otherwise: <https://pubmed.ncbi.nlm.nih.gov/?term=brul+s&sort=date>

Weglarz-Tomczak E., Tomczak, J.M. and Brul S. 2021. M2R: a python add-on to cobrapy for modifying human genome-scale metabolic reconstruction using the gut microbiota models. *Bioinformatics* doi: 10.1093/bioinformatics/btab060

Integrative analysis of proteome and transcriptome dynamics during *Bacillus subtilis* spore revival. Swarge, B. Abhyankar, W., Jonker, M., Hoefsloot, H., Kramer, G.J., Setlow, P., Brul, S., and de Koning, L.J. 2020. *mSphere* 00463-20.

Investigating synthesis of the MalS Malic enzyme during *Bacillus subtilis* spore germination and outgrowth and the influence of spore maturation and sporulation conditions. Sware, B., Nafid, C. Vischer, N., Kramer, G. Setlow, P. And Brul, S. 2020. *mSphere* 00464-20.

Genome rearrangements in *Escherichia coli* during de novo acquisition of resistance to a single antibiotic or two antibiotics successively. Hoeksema, M., Jonker, M.J., Bel, K., Brul, S. and Ter Kuile, B.H. 2018. *BMC Genomics* 19: 973.

Evaluating novel synthetic compounds active against *Bacillus subtilis* and *Bacillus cereus* spores using Live imaging with SporeTrackerX. 2018. Ouardien, S., ter Beek, A., Vischer, N., Montijn, R., Schuren, F. and Brul, S. *Scientific Reports* 8, 9128.

Supervision & external examiner of PhD theses: Number of PhD students supervised to date: 25 (2000-2020); ~100+ PhD theses examined (Netherlands, Belgium, Norway, UK, France, Germany).

IP Valorisation: Recent patent WO2019243587 Use of green microalgae to improve plant growth (total 10 patents); Keijser, B.J.F. 2007. Control of Preservation by Biomarkers. EP 05077246.6.

Selected Congresses and seminars (last 3 years):

9th European Spore Conference, April 2018, London, UK. 'Omics', germinosome visualization and antimicrobial resistance of bacterial spores.

8th European Congress for Microbiologists, July 2019, Glasgow, UK, Mechanisms of bacterial spore germination and outgrowth.

10th European Spore Conference, April 2021, Naples, Italy, Visualization and live-imaging of germination proteins in wild-type Bacilli with a novel super-resolution technique.

Mind Mood & Microbes, May 2021, Banda, T, et al..... **Brul, S.**, Korosi, A. and Lok, A. The effect of early life stress on the gut microbiome across species @ <https://www.mindmoodmicrobes.org/>.

Dutch Neuroscience Meeting, June 2021, Korenblik V, et al. **Brul, S.** and Lok, A. Using multiple imputation to handle missing data concerning childhood trauma. @ <https://dnm21.azuleon.org/>.