

LIST OF PUBLICATIONS

Peer reviewed publications 2226 total citations, 20 h-index (Google Scholar);

* indicates equally contributing authors

1. **Bulgheresi S.**, Kleiner E., Knoblich J.A. Inscuteable dependent apical localization of the microtubule-binding protein Cornetto suggests a role in asymmetric cell division. 2001. **Journal of Cell Science**. 114:3655-62.
2. Ott J.A., Bright M., **Bulgheresi S.** Marine Microbial Thiotrophic Ectosymbioses. 2004. *Oceanography & Marine Biology, an Annual Review* 42:95-118.
3. Ott J.A., Bright M., **Bulgheresi S.** Symbioses between marine nematodes and sulfur- oxidizing chemoautotrophic bacteria. 2004. **Symbiosis** 36:103-126.
4. **Bulgheresi S.**, Schabussova I., Chen T., Mullin N. P., Maizels R. M., Ott J.A. A new C-type lectin similar to the human immunoreceptor DC-SIGN mediates symbiont acquisition by a marine nematode. 2006. **Applied and Environmental Microbiology**. 72:2950-2956.
 - First report of the functional role of a conserved, key innate immune effector in microbial symbiosis maintenance
5. Zhang P., Snyder S., Feng P., Azadi P., Zhang S., **Bulgheresi S.**, Sanderson K., He J.J., Klena J.D., Chen T. Role of N-Acetylglucosamine within Core Lipopolysaccharide of Several Species of Gram-negative Bacteria in Targeting the DC-SIGN (CD209). 2006. **Journal of Immunology**. 177(6):4002-4011.
6. Zhang P., Skurnik M., Zhang S., Schwartz O., Kalyanasundaram R., **Bulgheresi S.**, He J.J., Klena J.D., B. Hinnebusch J., Chen T. Human DC-SIGN (CD209) is a receptor for *Yersinia pestis* that promotes phagocytosis by dendritic cells. 2008. **Infection and Immunity**. 76(5):2070-9.
7. Nabatov A.A., de Jong M.A.W.P., de Witte L., **Bulgheresi S.***, Geijtenbeek T.H.B.* C- type lectin Mermaid inhibits dendritic cell mediated HIV-1 transmission to CD4+ T cell. 2008. **Virology**. 378(2):323-8.
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9. Mittal R., **Bulgheresi S.**, Emami C., Prasadarao N.V. *Enterobacter sakazakii* targets DC-SIGN to induce immunosuppressive responses in dendritic cells by modulating MAP kinases. 2009. **Journal of Immunology**. 183(10):6588-99.
10. Bright M., **Bulgheresi S.** Microbial symbiont transmission. 2010. **Nature Reviews Microbiology**. 8(3):218-30.
 - Overview of the molecular mechanisms that mediate symbiont attraction and accumulation, inter-partner recognition and selection, as well as symbiont confrontation with the host immune system
11. **Bulgheresi S.**, Gruber-Vodicka H.R., Heindl N.R., Dirks U., Kostadinova M., Breiteneder H., Ott J.A. Sequence variability of the pattern recognition receptor Mermaid

- mediates specificity of marine nematode symbioses. 2011. **The ISME Journal**. 5(6):986-98.
12. Heindl N.R., Gruber-Vodicka H.R., Bayer C., Luecker S., Ott J.A., **Bulgheresi S.** First detection of thiotrophic symbiont phylotypes in the pelagic environment. 2011. **FEMS Microbiology Ecology**. 77(1):223-7.
13. Gruber-Vodicka H., Dirks U., Leisch N., Baranyi C., Stoecker K., **Bulgheresi S.**, Niels R. Heindl, Horn M., Lott C., Loy A., Wagner M., Ott J.A. *Paracatenula*: an ancient symbiosis between Thiotrophic *Alphaproteobacteria* and catenulid flatworms. 2011. **Proceedings of the National Academy of Sciences US**. 108(29):12078-83.
14. **Bulgheresi S.** Calling the roll on *Laxus oneistus* immune defense molecules. 2011. **Symbiosis** 55:127-135.
15. Dirks U., Gruber-Vodicka H.R., Leisch N., **Bulgheresi S.**, Egger B., Ladurner P., Ott J.A. Bacterial Symbiosis Maintenance in the Asexually Reproducing and Regenerating Flatworm *Paracatenula galateia*. 2012. **PLoS ONE** 7(4): e34709.
16. Murfin K.E., Dillman A.R., Foster J.M., **Bulgheresi S.**, Slatko B.E., Sternberg P.W., Goodrich-Blair H. Nematode-Bacterium Symbioses - Cooperation and Conflict Revealed in the 'Omics' Age. 2012. **The Biological Bulletin** 223(1):85-102.
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• First report of FtsZ-based longitudinal binary fission in a rod-shaped bacterium
[http://www.cell.com/current-biology/pdf/S0960-9822\(12\)00998-0.pdf](http://www.cell.com/current-biology/pdf/S0960-9822(12)00998-0.pdf)
18. Pende N., Leisch N., Gruber-Vodicka H.R., Heindl N.R., Ott, A.J., den Blaauwen, T., **Bulgheresi S.** Size-independent division in extraordinary long polyploid cells. 2014. **Nature Communications**. 5:4803.
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22. Leisch N., Pende N., Weber M.P., Gruber-Vodicka R.H., Verheul J., Vischer N.O.E., Abby S., den Blaauwen T., **Bulgheresi S.** Asynchronous division by non-ring FtsZ in the gammaproteobacterial symbiont of *Robbea hypermnestra*. 2016. **Nature Microbiology**. 2:16182.
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23. Petersen J.M., Kemper A., Gruber-Vodicka R.H., Cardini U., van der Geest M., **Bulgheresi S.**, Mußmann M., Seah K.B.B., Chakkiath P.A., Herbold C., Belitz A.,

Miriam W. Chemosynthetic sulphur-oxidizing symbionts of marine invertebrate animals are capable of nitrogen fixation. 2016. **Nature Microbiology**. 2:16195.

24. Pende N., Wang J., Weber P.M., Verheul J., Kuru E., Rittmann S.K.-M.R., Leisch N., Michael S. VanNieuwenhze M., Brun Y.V., den Blaauwen T., Bulgheresi S. Host-polarized cell growth in animal symbionts. 2018. *Current Biology*. 28:1-13.

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25. Yang K., He Y., Park C.G., Zhang P., Han Y., Cui Y., **Bulgheresi S. et al.** *Yersinia pestis* interacts With SIGNR1 (CD209b) for promoting host dissemination and infection. 2019. **Front Immunol**. 10: 96.

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29. Weber P.M., Paredes G.F., Viehböck T., Pende N., Volland J.M., J.A. Ott, Gros O., **Bulgheresi S.** 2022. FtsZ-mediated fission of a cuboid bacterial symbiont. 2021. **iScience** 25.1.

30. Wang, J., **Bulgheresi, S.**, & den Blaauwen, T. (2022). The Longitudinal Dividing Bacterium *Candidatus Thiosymbion Oneisti* Has a Natural Temperature-Sensitive FtsZ Protein with Low GTPase Activity. *International Journal of Molecular Sciences*, 23(6), 3016.

31. Paredes, G. F., Viehboeck, T., Markert, S., Mausz, M. A., Sato, Y., Liebeke, M., ... & **Bulgheresi, S.** (2022). Differential regulation of degradation and immune pathways underlies adaptation of the ectosymbiotic nematode *Laxus oneistus* to oxic-anoxic interfaces. *Scientific Reports*, 12(1), 9725.

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33. Ott, J., **Bulgheresi, S.**, Gruber-Vodicka, H., Gruhl, A., König, L., & Leisch, N. (2023). Meiofauna Meets Microbes—Chemosynthetic Symbioses. In *New Horizons in Meiofauna Research: Profiles, Patterns and Potentials* (pp. 79-119). Cham: Springer

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34. Dudek, N. K., Galaz-Montoya, J. G., Shi, H., Mayer, M., Danita, C., Celis, A. I., Viehböck T., Wu G.-H., Behr B., Bulgheresi S., Huang K.C., Chiu W., Relman, D. A. (2023). Previously uncharacterized rectangular bacterial structures in the dolphin mouth. *Nature Communications*, 14(1), 2098.

35. Viehboeck, T., Weber, P. M., Krause, N., Varoquaux, N., Bocard, F., Junier, I., **Bulgheresi S.**, Lioy, V. S. (2023). Stable chromosome configuration and loop-based polarization in animal symbionts. *bioRxiv*, 2023-12.

Books

Bulgheresi S. Brave genomes, microbial genome plasticity in the face of environmental change, 1st Edition, Elsevier/Academic Press (available from January 2025).

<https://www.amazon.com/Brave-Genomes-Environmental-Biochemistry-Biotechnology/dp/0443187894>

Book Chapters

Bulgheresi S. Microbial symbiont transmission: basic principles and dark sides. 2011. In *Beneficial Microorganisms in Multicellular Life Forms*, E. Rosenberg/U. Gophna (eds), Springer-Verlag, p.299-311.

Ott J.A., **Bulgheresi S.** et al. Chemosynthetic symbioses in meiofauna (in preparation) In *Meiofauna as a link between the micro- and macroworld*, O. Giere/J.A. Ott (eds), Springer-Verlag (in preparation).

Ott, J., Bulgheresi, S., Gruber-Vodicka, H., Gruhl, A., König, L., Leisch, N. Meiofauna Meets Microbes—Chemosynthetic Symbioses. In: Giere, O., Schratzberger, M. (eds) *New Horizons in Meibenthos Research*. Springer, Cham., DOI: 10.1007/978-3-031-21622-0_4