

## CV – Gert Bange, Marburg

**Prof. Dr. Gert Bange** (born 1st December 1977; Married; 2 daughters: \*2008 & 2012)

Philipps-University Marburg, SYNMIKRO Research Center & Department of Chemistry  
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### Academic education and qualification

2007 Dr. rer. nat., University of Heidelberg (D)

2002 Diploma in Biochemistry, Martin-Luther-University, Halle/Saale (D)

### Professional career

2022 - today Vize President for Research, University of Marburg

2021 - today Fellow of the Max Planck Society

2019 – 2022 Vize-managing Director SYNMIKRO Research Center, Marburg

2018 – today Full Professor (W3) for „Systems-Biochemistry“, University of Marburg (D)

2013 - 2017 Independent Research Group Leader, SYNMIKRO, University of Marburg (D)

2007 - 2012 PostDoc, Peter&Traudl Engelhorn Fellow, University of Heidelberg (D)

### Miscellaneous (selected)

2021 - ERC Advanced Grant “KIWIsome”

2021 - Editorial Board: Journal of Bacteriology (JBac)

2020 Award for excellent supervision of PhD students at the University of Marburg

2020 - 2022 Senator of the Philipps University Marburg

2020 - Chair of the Biotechnology and Nanotechnology Initiative Marburg

2018 - Member Senat “Studium und Lehre” der Philipps-Universität Marburg

2018 Winner iGEM Giant Jamboree (Overgrad), as instructor

2017 - Editorial Board: Journal of Biological Chemistry (JBC)

2017 - PI and member of steering committee in the DFG CRC/TRR 174

2016 Head of DFG-Core Facility “MIDAS - Marburg core facility for Interactions, Dynamics and macromolecular Assembly Structure”

2016 Special Issue Editor: Current Opinion in Chemical Biology, Vol 34, 2016.

2016 - 2020 PI and steering committee member in the DFG CRC 987

2016 - Spokesman of the “Marburg School of Microbiology”

2016 - PI in the DFG priority Program 1879 “Nucleotide Second Messenger Signaling in Bacteria”

2014 - Member of Steering Committee and Faculty of IMPRS-Mic

2012 - Reviewer for various journal and funding agencies

### Research Areas

Macromolecular machines and their biogenesis (flagellum and ribosome), Microbial stress response and nucleotide-based second messengers, microbe-plant interaction, CRISPR-Cas systems

### Selected publications (past 10 years, out of >110)

Giammarinaro PI, Young MKM, Steinchen W, Mais CN, Hochberg G, Yang J, Stevenson DM, Amador-Nogues D, Paulus A, Wang JD, **Bange G** (2022). Diadenosine tetraphosphate regulates biosynthesis of GTP in *Bacillus subtilis*. **Nature Microbiology**, *in press*

Altegoer A, Quax TEF, Weiland P, Nußbaum P, Giammarinaro PI, Patro M, Li Z, Oesterhelt D, Grininger M, Albers SV, **Bange G** (2022). Structural insights into the mechanism of archaeal rotational switching. **Nature Communications**, 13(1):2857

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Czech L, Mais CN, Kartzat H, Sarmah P, Giammarinaro P, Freibert S, Esser Esser H, Musial J, Berninghausen O, Steinchen W, Beckmann R, Koch HG, **Bange G** (2022). Inhibition of SRP-dependent protein secretion by the bacterial alarmone (p)ppGpp. **Nature Communications**, 13(1):1069

Hoffmann T, Mrusek D, Bedrunka P, Burchert F, Mais NC, Kearns DB, Altegoer F, Bremer E, **Bange G** (2021). Structural and functional characterization of the bacterial biofilm activator RemA. **Nature Communications**, 12:5707

Osorio-Valeriano M, Altegoer F, Das CK, Steinchen W, Panis G, Connolley L, Giacomelli G, Feddersen H, Corrales-Guerrero L, Giammarinaro PI, Hanßmann J, Bramkamp M, Viollier PH, Murray S, Schäfer LV, **Bange G**, Thanbichler M (2021). The CTPase activity of ParB determines the size and dynamics of prokaryotic DNA partition complexes. **Molecular Cell**, S1097-2765(21)00738-3

Blagotinsek V, Schwan M, Steinchen W, Mrusek D, John C. Hook, Rossman F, Freibert SA, Kratzat H, Murat G, Kressler D, Beckmann R, Beeby M, Thormann KM, **Bange G** (2020). An ATP-dependent partner switch mechanism links flagellar C-ring assembly with gene expression. **PNAS**, <https://doi.org/10.1073/pnas.2006470117>

Pausch P, Abdelshahid M, Steinchen W, Schäfer H, Gratani FL, Freibert SA, Wolz C, Turgay K, Wilson DN, **Bange G** (2020). Structural basis for regulation of the opposing (p)ppGpp synthetase and hydrolase within the stringent response regulator Rel. **Cell Reports**, 32(11):108157

Osorio-Valeriano M, Altegoer F, Steinchen W, Urban S, Liu Y, **Bange G\***, Thanbichler M\* (2019). ParB-type DNA segregation proteins are CTP-dependent molecular switches. **Cell**, 179(7):1512-1524.e15; \* *Joint corresponding authors*

Han X, Altegoer F, Steinchen S, Schuhmacher J, Glatter T, Giammarinaro PI, Djamei A, Rensing SA, Reissmann S, Kahmann R, **Bange G** (2019). A kiwellin disarms the metabolic activity of a secreted fungal virulence factor. **Nature** 565(7741):650-653

Pausch P, Steinchen W, Wieland M, Klaus T, Freibert SA, Altegoer F, Wilson DN, **Bange G** (2018). Structural basis for (p)ppGpp-mediated inhibition of the GTPase RbgA. **JBC**, 293(51):19699-19709

Pausch P, Müller-Esparza H, Gleditzsch D, Randau L, **Bange G** (2017). Structural variation of type I-F CRISPR RNA guided DNA surveillance. **Molecular Cell** 67(4):622-632.e4.

Altegoer F, Rensing SA, **Bange G** (2016). Structural basis for the CsrA-dependent modulation of translation initiation by an ancient regulatory protein. **PNAS** 113 (36), 10168-10173.

Steinchen W, Schuhmacher J, Altegoer F, Fage CD, Srinivasan V, Linne U, Marahiel M, **Bange G** (2015). Catalytic mechanism and allosteric regulation of an oligomeric (p)ppGpp synthetase by an alarmone. **PNAS** 112 (43), 13348-13353

Schuhmacher JS, Rossmann F, Dempwolff F, Knauer C, Altegoer F, Steinchen W, Dorrich A, Klingl A, Stephan M, Linne U, Thormann K, **Bange, G** (2015) The MinD-like ATPase FlhG effects location and number of bacterial flagella during C-ring assembly. **PNAS**, 112(10):3092-7