

List of publications

List of publications

1. Gao Y, Tan DS, Girbig M, Hu H, Zhou X, Xie Q, Yeung SW, Lee KS, Ho SY, Cojocaru V, Yan J, Hochberg GKA, de Mendoza A, Jauch R (2024). The emergence of Sox and POU transcription factors predates the origins of animal stem cells. *Nat Commun* **15**, 9868. <https://doi.org/10.1038/s41467-024-54152-x>
2. Reyes V, Giulini M, Cojocaru V, Engel A, Xu X, et al. (2024). Integrative modeling in the age of machine learning: a summary of HADDOCK strategies in CAPRI rounds 47-55. *Proteins*, <https://doi.org/10.1002/prot.26789>
3. Orsetti A, van Oosten D, Vasarhelyi RG, Danescu TM, Huertas J, van ingen H, Cojocaru V (2024). Structural dynamics in chromatin unraveling by pioneer transcription factors. *Biophysical Reviews* **16**: 365-382. <https://doi.org/10.1007/s12551-024-01205-6>
4. MacCarthy CM, Wu G, Malik V, Menuchin-Lasowski Y, Velychko T, Keshet G, Fan R, Bedzhov I, Church GM, Jauch R, Cojocaru V, Schöler HR, Velychko S (2024). Highly cooperative chimeric super-SOX induces naive pluripotency across species. *Cell Stem Cell* **31**(1): 127-147. <https://doi.org/10.1016/j.stem.2023.11.010>
5. Tan DS, Cheung SA, Gao Y, Weinbuch M, Hu H, Shi L, Ti AC, Hutchins AP, Cojocaru V, Jauch R (2023). The homeodomain of Oct4 is a dimeric binder of methylated CpG elements. *Nucleic Acids Research* **51**(3):1120-1138. <https://doi.org/10.1093/nar/gkac1262>

6. MacCarthy CM, Huertas J, Ortmeier C, vom Bruch H, Tan DA, Reinke D, Sander A, Bergbrede T, Jauch R, Schöler HR, Cojocaru V (2022). OCT4 interprets and enhances nucleosome flexibility. *Nucleic Acids Research* 50(18):10311-10327. <https://doi.org/10.1093/nar/gkac755>
7. Guni F, Krishuns T, Schreiber JA, Henschel L, Wahrenburg M, Drexler HCA, Leidel SA, Cojocaru V, Seebohm G, Mellmann A, Schwemmle M, Ludwig S, Brunotte L (2023). The ubiquitination landscape of the influenza A virus polymerase. *Nature Communications* 14(787). <https://doi.org/10.1038/s41467-023-36389-0>
8. Huertas J, Schöler HR, Cojocaru V (2021). Histone tails cooperate to control the breathing of genomic nucleosomes. *PLoS Computational Biology* 17(6): e1009013 (featured on issue cover), <https://doi.org/10.1371/journal.pcbi.1009013>
9. Huertas J, Cojocaru V (2021). Breaths, twists, and turns of atomistic nucleosomes. *Journal of Molecular Biology* 433:166744, <https://doi.org/10.1016/j.jmb.2020.166744>
10. Huertas J, MacCarthy CM, Schöler HR, Cojocaru V (2020). Nucleosomal DNA Dynamics Mediate Oct4 Pioneer Factor Binding. *Biophysical Journal* 118(9):2280-2296 (featured on issue cover), <https://doi.org/10.1016/j.bpj.2019.12.038>
11. Öztürk MA, De M, Cojocaru V, Wade RC (2020). Chromatosome Structure and Dynamics from Molecular Simulations. *Annual Review of Physical Chemistry* 71:101-119, [https://doi.org/10.1146/annurev-physchem-071119-040043](https://doi.org/10.1146/annurevophyschem-071119-040043)
12. Viplav A, Saha T, Huertas J, Selenschik P, Ebrahimkutty MP, Grill D, Lehrich J, Hentschel A., Biasizzo M, Mengoni S, Ahrens R, Gerke V, Cojocaru V, Klingauf J, Galic M (2019). ArhGEF37 assists dynamin 2 during clathrin-mediated endocytosis. *Journal of Cell Science* 132(9):jcs226530, <https://doi.org/10.1242/jcs.226530>
13. Srivastava Y, Senna Tan D, Malik V, Weng M, Javed A, Cojocaru V, Wu G, Veerapandian V, Cheung LWT, Jauch R (2019). Cancer-associated missense mutations enhance the pluripotency reprogramming activity of OCT4 and SOX17. *FEBS Journal* 287(1):122-144, <https://doi.org/10.1111/febs.15076>
14. Wang C, Srivastava Y, Jankowski A, Malik V, Wei Y, del Rosario R, Cojocaru V, Prabhakar S, Jauch R (2018). DNA mediated dimerization on a compact sequence signature controls enhancer engagement and regulation by FOXA1. *Nucleic Acids Research* 46(11):5470-5486, <https://doi.org/10.1093/nar/gky259>
15. Öztürk MA, Cojocaru V, Wade RC (2018). Towards an ensemble view of the linker histone - nucleosome complex structure: A paradigm shift from one to many. *Structure* 26(8):1050-1057, <https://doi.org/10.1016/j.str.2018.05.009>
16. Öztürk MA, Cojocaru V, Wade RC (2018). Dependence of chromatosome structure on linker histone sequence and post-translational modifications. *Biophysical Journal* 114(10):2363-2375, <https://doi.org/10.1016/j.bpj.2018.04.034>
17. Jerabek S, Ng CKL, Wu G, Arauzo-Bravo MJ, Kim KP, Esch D, Malik V, Chen Y, Velychko S, Yang X, Cojocaru V, Schöler HR and Jauch R (2017). Changing POU dimerization

- preferences converts Oct6 into a pluripotency inducer. *EMBO Reports* 18(2):319-333, <https://doi.org/10.15252/embr.201642958>
18. Hu C, Malik V, Chang YK, Veerapandian V, Srivastava Y, Huang YH, Hou L, Cojocaru V, Stormo GD, Jauch R (2017). Coop-Seq Analysis Demonstrates that Sox2Evokes Latent Specificities in the DNARecognition by Pax6. *Journal of Molecular Biology* 429:3626-3634, <https://doi.org/10.1016/j.jmb.2017.10.013>
19. Öztürk M, Pachov G, Wade RC, Cojocaru V (2016). Conformational selection and dynamic adaptation upon linker histone binding to the nucleosome. *Nucleic Acids Research* 19;44(14):6599-613 (featured on issue cover), <https://doi.org/10.1093/nar/gkw514>
20. Yu X, Nandekar P, Mustafa G, Cojocaru V, Lepesheva GI, Wade RC (2015). Ligand tunnels in *t. brucei* and human CYP51: Insights for parasite-specific drug design. *Biochimica Biophysica Acta* 1:67-78, <https://doi.org/10.1002/jmr.2412>
21. Tapia N, MacCarthy C, Esch D, Marthaler AG, Tiermann U, Arauzo-Bravo MJ, De Miguel MP, Jauch R, Cojocaru V, and Schöler HR (2015). Dissecting the role of distinct OCT4-SOX2 heterodimer configurations in pluripotency. *Scientific Reports* 5:13533, <https://doi.org/10.1038/srep13533>
22. Merino F, Bouvier B, Cojocaru V (2015). Cooperative DNA recognition modulated by an interplay between protein-protein interactions and DNA-mediated allostery. *PLoS Computational Biology* 11(6): e1004287, <https://doi.org/10.1371/journal.pcbi.1004287>
23. Yu X, Cojocaru V, Mustafa G, Salo-Ahen OM, Lepesheva GI, Wade RC (2015). Dynamics of CYP51: implications for function and inhibitor design. *Journal of Molecular Recognition* 28(2):59-73, <https://doi.org/10.1002/jmr.2412>
24. Narasimhan K, Pillay S, Huang YH, Jayabal S, Udayasuryan B, Veerapandian V, Kolatkar P, Cojocaru V, Pervushin K, Jauch R (2015). DNA-mediated cooperativity facilitates the co-selection of cryptic enhancer sequences by SOX2 and PAX6 transcription factors. *Nucleic Acids Research* 43(3):1513-28, <https://doi.org/10.1093/nar/gku1390>
25. Merino F, Ng CKL, Veerapandian V, Schöler HR, Jauch R, Cojocaru V (2014). Structural basis for the SOX-dependent genomic redistribution of OCT4 in stem cell differentiation. *Structure* 22(9):1274-86, <https://doi.org/10.1016/j.str.2014.06.014>
26. Jerabek S, Merino F, Schöler HR, Cojocaru V (2014). OCT4: dynamic DNA binding pioneers stem cell pluripotency. *Biochimica Biophysica Acta* 1839(3):138-54, <https://doi.org/10.1016/j.bbagr.2013.10.001>
27. Esch D, Vahokoski J, Groves MR, Pogenberg V, Cojocaru V, Vom Bruch H, Han D, Drexler HC, Araúzo-Bravo MJ, Ng CK, Jauch R, Wilmanns M, Schöler HR (2013). A unique Oct4 interface is crucial for reprogramming to pluripotency. *Nature Cell Biology* 15(3):295-301, <https://doi.org/10.1038/ncb2680>

28. Yu X, Cojocaru V, Wade RC (2013). Conformational Diversity and Ligand Tunnels of Mammalian Cytochrome P450s. *Biotechnology and Applied Biochemistry* 60(1):134-45, <https://doi.org/10.1002/bab.1074>
29. Veith N, Feldman-Salit A, Cojocaru V, Henrich S, Kummer U, Wade RC (2013). Organism-adapted specificity of the allosteric regulation of pyruvate kinase in lactic acid bacteria. *PLoS Computational Biology* 9(7):e1003159, <https://doi.org/10.1371/journal.pcbi.1003159>
30. Feldman-Salit A, Hering S, Messiha HL, Veith N, Cojocaru V, Sieg A, Westerhoff HV, Kreikemeyer B, Wade RC, Fiedler T (2013). Regulation of the activity of lactate dehydrogenases from four lactic acid bacteria. *Journal of Biological Chemistry* 288(29):21295-306, <https://doi.org/10.1074/jbc.m113.458265>
31. Tapia N, Reinhardt P, Duemmler A, Wu G, Araúzo-Bravo MJ, Esch D, Greber B, Cojocaru V, Rascon CA, Tazaki A, Kump K, Voss R, Tanaka EM, Schöler HR (2012). Reprogramming to pluripotency is an ancient trait of vertebrate Oct4 and Pou2 proteins. *Nature Communications* 3:1279, <https://doi.org/10.1038/ncomms2229>
32. Cojocaru V, Winn PJ, Wade RC (2012). Multiple, ligand-dependent routes from the active site of cytochrome P50 2C9. *Current Drug Metabolism* 13(2):143-154, <https://doi.org/10.2174/138920012798918462>
33. Cojocaru V, Balali-Mood K, Sansom MS, Wade RC (2011). Structure and dynamics of the membrane-bound cytochrome P450 2C9. *PLoS Computational Biology* 7(8):e1002152 (featured on issue cover), <https://doi.org/10.1371/journal.pcbi.1002152>
34. Slanchev K, Stebler J, Goudarzi M, Cojocaru V, Weidinger G, Raz E (2009). Control of Dead end localization and activity-implications for the function of the protein in antagonizing miRNA function. *Mechanisms of Development* 126:270-277, <https://doi.org/10.1016/j.mod.2008.10.006>
35. Cojocaru V, Winn PJ, Wade RC (2007) The ins and outs of cytochrome P450s. *Biochimica et Biophysica Acta* 770(3):390-401 (featured on issue cover), <https://doi.org/10.1016/j.bbagen.2006.07.005>
36. Cojocaru V, Klement R, Jovin TM (2005). Loss of G-A base pairs is insufficient for achieving a large opening of U4 snRNA K-turn motif. *Nucleic Acids Research* 33:3435-3446 (featured on issue cover), <https://doi.org/10.1093/nar/gki664>
37. Cojocaru V, Nottrott S, Klement R, Jovin TM (2005). The snRNP 15.5K protein folds its cognate K-turn RNA: A combined theoretical and biochemical study. *RNA* 11:197-209, <https://doi.org/10.1261/rna.7149605>
38. Stebler J, Spieler D, Slanchev K, Molyneaux KA, Richter U, Cojocaru V, Tarabykin V, Wylie C, Kessel M, Raz E (2004). Primordial germ cell migration in the chick and mouse embryo: the role of the chemokine SDF-1/CXCL12. *Developmental Biology* 272:351-61, <https://doi.org/10.1016/j.ydbio.2004.05.009>

Doctoral Thesis

1. Molecular motions at the 5' stem-loop of U4 snRNA: Implications for U4/U6 snRNP assembly.
University of Göttingen, 2005 (<https://ediss.uni-goettingen.de/bitstream/handle/11858/00-1735-0000-0006-B6C3-D/cojocaru.pdf>)