Felix Naef: Full Publication list

Articles in peer reviewed journals

2016

1. J. Wang, D. Mauvoisin, E. Martin, F. Atger, A. Núñes Galindo, L. Dayon, F. Sizzano, A. Palini, M. Kussmann, P. Waridel, M. Quadroni, V. Dulic, F. Naef and F. Gachon, "Nuclear proteomics uncovers diurnal regulatory landscapes in mouse liver", Cell Metabolism (in press).

2. I. Gotic, S. Omidi, F. Fleury-Olela, N. Molina, F. Naef, and U. Schibler, "Temperature regulates splicing efficiency of the cold-inducible RNA-binding protein gene Cirbp", Genes & Dev, in press.

3. M. Bischofberger, I. Iacovache, D. Boss, F. Naef and F. G. van der Goot and N. Molina, "Revealing Assembly of a Pore-Forming Complex Using Single-Cell Kinetic Analysis and Modeling", Biophys J, 110(7), p. 1574-81, (2016).

2015

4. F. Atger, C. Gobet, J. Marquis, E. Martin and J. Wang, B. Weger, G. Lefebvre, P. Descombes, F. Naef and F. Gachon, "Circadian and feeding rhythms differentially affect rhythmic mRNA transcription and translation in mouse liver" PNAS, 112(47), p. E6579-E6588, (2015).

5. B. Zoller, D. L. Nicolas, N. Molina and F. Naef, "Structure of silent transcription intervals and noise characteristics of mammalian genes", Mol Syst Biol, 11(7), p. 823-823, (2015).

6. S. Blanchoud, D. Nicolas, B. Zoller, O. Tidin and F. Naef, "CAST: An automated segmentation and tracking tool for the analysis of transcriptional kinetics from single-cell time-lapse recordings", Methods, 85, p. 3-11, (2015).

7. S. Blanchoud, C. Busso, F. Naef and P. Gönczy, "Quantitative Analysis and Modeling Probe Polarity Establishment in C. elegans Embryos", Biophys J, 108(4), p. 799-809, (2015).

2014

8. M. Quinodoz, C. Gobet, F. Naef and K. B. Gustafson, "Characteristic bimodal profiles of RNA polymerase II at thousands of active mammalian promoters", Genome Biol, 15(6), p. R85, (2014).

9. J. Bieler, R. Cannavo, K. Gustafson, C. Gobet, D. Gatfield and F. Naef, "Robust synchronization of coupled circadian and cell cycle oscillators in single mammalian cells", Mol Syst Biol, 10, p. 739, (2014).

10. J. Hoffmann, L. Symul, A. Shostak, T. Fischer and F. Naef and M. Brunner, "Non-Circadian Expression Masking Clock-Driven Weak Transcription Rhythms in U2OS Cells", PLoS, 9(7), p. e102238, (2014).

11. B. Knight, S. Kubik, B. Ghosh, M. J. Bruzzone and M. Geertz, V. Martin, N. Dénervaud, P. Jacquet, B. Ozkan, J. Rougemont, S.J. Maerkl, F. Naef and D. Shore, "Two distinct promoter architectures centered on dynamic nucleosomes control ribosomal protein gene transcription", Genes Dev, 28(15), p. 1695-1709, (2014).

12. D. Mauvoisin, J. Wang, C. Jouffe, E. Martin and F. Atger, P. Waridel, M. Quadroni, F. Gachon and F. Naef, "Circadian clock-dependent and -independent rhythmic proteomes implement distinct diurnal functions in mouse liver", PNAS, 111(1), p. 167-172, (2014).

2013

13. N. Molina, D. M. Suter, R. Cannavo, B. Zoller, I. Gotic and F. Naef, " Stimulus-induced modulation of transcriptional bursting in a single mammalian gene", PNAS, 110(51), p. 20563-20568, (2013).

14. T. d'Eysmond, A. De Simone and F. Naef, "Analysis of precision in chemical oscillators: implications for circadian clocks", Phys Biol, 10(5), p. 056005, (2013).

15. N. Dénervaud, J. Becker, R. Delgado-Gonzalo, P. Damay A. S. Rajkumar, M. Unser, D. Shore, F. Naef and S.J. Maerkl, "A chemostat array enables the spatio-temporal analysis of the yeast proteome", PNAS, 110(39), p. 15842-7, (2013).

16. J. Simicevic, A. W. Schmid, P. A. Gilardoni, B. Zoller, S. K. Raghav, I. Krier, C. Gubelmann, F. Lisacek, F. Naef, M. Moniatte, B. Deplancke, "Absolute quantification of transcription factors during cellular differentiation using multiplexed targeted proteomics", Nat Methods, 10(6), p. 570-6, (2013).

17. C. Jouffe, G. Cretenet, L. Symul, E. Martin, F. Atger, F. Naef and F. Gachon, "The Circadian Clock Coordinates Ribosome Biogenesis", in PLoS Biol, 11(1), 2013. coordinates ribosome biogenesis", PLoS Biol. 11(1), p.e1001455, (2013).

2012

18. G. Le Martelot, D. Canella, L. Symul, E. Migliavacca, F. Gilardi, R. Liechti, O. Martin, K. Harshman, M. Delorenzi, B. Desvergne, W. Herr, B. Deplancke, U. Schibler, J. Rougemont, N. Guex, N. Hernandez, F. Naef, "Genome-Wide RNA Polymerase II Profiles and RNA Accumulation Reveal Kinetics of Transcription and Associated Epigenetic Changes During Diurnal Cycles", PLoS Biol, 10(11), p. e1001442, (2012).

19. J. Morf, G. Rey, K. Schneider, M. Stratmann, J. Fujita, F. Naef, U. Schibler, "Cold-inducible RNA-binding protein modulates circadian gene expression posttranscriptionally", Science, 338(6105), p. 379-83, (2012).

20. M. Stratmann, D. Suter, N. Molina, F. Naef, U. Schibler, "Circadian Dbp transcription relies on highly dynamic BMAL1-CLOCK interaction with E-boxes and requires the proteasome", Mol Cell, 48(2), p. 277-87, (2012)

2011

21. D. M. Suter, N. Molina, D. Gatfield, K. Schneider, U. Schibler, F. Naef, "Mammalian Genes Are Transcribed with Widely Different Bursting Kinetics", Science, 332(6028), p.472-4, (2011).

22. G. Rey, F. Cesbron, J. Rougemont, H. Reinke, M. Brunner, F. Naef, "Genome-Wide and Phase-Specific DNA-Binding Rhythms of BMAL1 Control Circadian Output Functions in Mouse Liver", PLoS Biol, 9(2), p. e1000595, (2011).

23. J. Bieler, C. Pozzorini, F. Naef, "Whole-embryo modeling of early segmentation in Drosophila identifies robust and fragile expression domains", Biophys J, 101(2), p. 287-96, (2011).

24. I. Gyurjan, B. Sonderegger, F. Naef, D. Duboule, "Analysis of the dynamics of limb transcriptomes during mouse development.", BMC Dev Biol, 11(1), p.47, (2011).

2010

24. G. Stoll, M. Bischofberger, J. Rougemont, F. Naef, "Stabilizing patterning in the Drosophila segment polarity network by selecting models in silico", Biosystems, 102(1), p. 3-10, (2010).

25. M. Preti, C. Ribeyre, C. Pascali, M. C. Bosio, B. Cortelazzi, J. Rougemont, E. Guarnera, F. Naef, D. Shore, G. Dieci, "The Telomere-Binding Protein Tbf1 Demarcates snoRNA Gene Promoters in Saccharomyces cerevisiae", Mol Cell, 38(4), p. 614-20, (2010).

26. S. Blanchoud, Y. Budirahardja, F. Naef, P. Gonczy, "ASSET: A Robust Algorithm for the Automated Segmentation and Standardization of Early Caenorhabditis elegans Embryos", Dev Dyn, 239(12), p. 3285-96, (2010).

2009

27. S. P. Hazen, F. Naef, T. Quisel, J. M. Gendron, H. M. Chen, J. R. Ecker, J. O. Borevitz, S. A. Kay, "Exploring the transcriptional landscape of plant circadian rhythms using genome tiling arrays", Genome Biol, 10(2), p. R17, (2009).

28. C. Dibner, D. Sage, M. Unser, C. Bauer, T. d'Eysmond, F. Naef, U. Schibler, "Circadian gene expression is resilient to large fluctuations in overall transcription rates", EMBO J, 28(2), p. 123-34, (2009).

29. J. D. Benazet, M. Bischofberger, E. Tiecke, A. Goncalves, J. F. Martin, A. Zuniga, F. Naef, R. Zeller, "A Self-Regulatory System of Interlinked Signaling Feedback Loops Controls Mouse Limb Patterning", Science, 323(5917), p. 1050-3, (2009).

2008

30. M. O. Sauvain, A. P. Dorr, B. Stevenson, A. Quazzola, F. Naef, M. Wiznerowicz, F. Schutz, V. Jongeneel, D. Duboule, F. Spitz, D. Trono, "Genotypic features of lentivirus transgenic mice", J Virol, 82(14), p. 7111-9, (2008).

31. J. Rougemont, A. Amzallag, C. Iseli, L. Farinelli, I. Xenarios, F. Naef, "Probabilistic base calling of Solexa sequencing data", BMC Bioinformatics, 9, p. 431, (2008).

32. E. R. Paquet, G. Rey, F. Naef, "Modeling an evolutionary conserved circadian cis-element", Plos Comput Biol, 4(2), p. e38, (2008).

2007

33. G. Stoll, J. Rougemont, F. Naef, "Representing perturbed dynamics in biological network models", Phys Rev E, 76(1 Pt 1), p. 011917, (2007).

34. J. Rougemont, F. Naef, "Dynamical signatures of cellular fluctuations and oscillator stability in peripheral circadian clocks", Mol Syst Biol, 3, p. 93, (2007).

35. F. Parisi, P. Wirapati, F. Naef, "Identifying synergistic regulation involving c-Myc and sp1 in human tissues", Nucleic Acids Res, 35(4), p. 1098-107, (2007).

36. C. E. Boothroyd, H. Wijnen, F. Naef, L. Saez, M. W. Young, "Integration of light and temperature in the regulation of circadian gene expression in Drosophila", PloS Genet, 3(4), p. e54, (2007).

2006

37. H. Wijnen, F. Naef, C. Boothroyd, A. Claridge-Chang, M. W. Young, "Control of daily transcript oscillations in Drosophila by light and the circadian clock", PloS Genet, 2(3), p. e39, (2006). First co-author.

38. G. Stoll, J. Rougemont, F. Naef, "Few crucial links assure checkpoint efficiency in the yeast cell-cycle network", Bioinformatics, 22(20), p. 2539-46, (2006).

39. J. Rougemont, F. Naef, "Collective synchronization in populations of globally coupled phase oscillators with drifting frequencies", Phys Rev E, 73(1 Pt 1), p. 011104, (2006).

40. D. Retelska, C. Iseli, P. Bucher, C. V. Jongeneel, F. Naef, "Similarities and differences of polyadenylation signals in human and fly", BMC Genomics, 7, p. 176, (2006).

41. F. Naef, H. Wijnen, M. Magnasco, "Reply to "Comment on 'Solving the riddle of the bright mismatches: Labeling and effective binding in oligonucleotide arrays'"", Phys Rev E, 73(6 Pt 1), p. 063901, (2006).

42. D. A. Lim, M. Suarez-Farinas, F. Naef, C. R. Hacker, B. Menn, H. Takebayashi, M. Magnasco, N. Patil, A. Alvarez-Buylla, "In vivo transcriptional profile analysis reveals RNA splicing and chromatin remodeling as prominent processes for adult neurogenesis", Mol Cell Neurosci, 31(1), p. 131-48, (2006).

43. N. Ben-Haim, C. Lu, M. Guzman-Ayala, L. Pescatore, D. Mesnard, M. Bischofberger, F. Naef, E. J. Robertson, D. B. Constam, "The nodal precursor acting via activin receptors induces mesoderm by maintaining a source of its convertases and BMP4", Dev Cell, 11(3), p. 313-23, (2006).

2005

44. H. Wijnen, F. Naef, M. W. Young, "Molecular and statistical tools for circadian transcript profiling", Methods Enzymol, 393, p. 341-65, (2005).

45. F. Naef, J. Huelsken, "Cell-type-specific transcriptomics in chimeric models using transcriptome-based masks", Nucleic Acids Res, 33(13), p. e111, (2005).

46. T. J. Gardner, F. Naef, F. Nottebohm, "Freedom and rules: The acquisition and reprogramming of a bird's learned song", Science, 308(5724), p. 1046-9, (2005).

47. E. Fishilevich, A. I. Domingos, K. Asahina, F. Naef, L. B. Vosshall, M. Louis, "Chemotaxis behavior mediated by single larval olfactory neurons in Drosophila", Curr Biol, 15(23), p. 2086-96, (2005).

2004

48. E. Nagoshi, C. Saini, C. Bauer, T. Laroche, F. Naef, U. Schibler, "Circadian gene expression in individual fibroblasts: Cell-autonomous and self-sustained oscillators pass time to daughter cells", Cell, 119(5), p. 693-705, (2004).

49. D. A. Lim, M. Suarez-Farinas, F. Naef, B. Menn, C. Hacker, M. Magnasco, N. Patil, A. Alvarez-Buylla, "Biological insights from the transcriptional profiles of adult mouse subventricular zone (SVZ) stem cell neurogenesis", Neuro-Oncology 6, 347 (2004).

2003

50. N. Sato, I. M. Sanjuan, M. Heke, M. Uchida, F. Naef, A. H. Brivanlou, "Molecular signature of human embryonic stem cells and its comparison with the mouse", Dev Biol, 260(2), p. 404-13, (2003).

51. F. Naef, N. D. Socci, M. Magnasco, "sa", Bioinformatics, 19(2), p. 178-84, (2003).

52. F. Naef, M. O. Magnasco, "Solving the riddle of the bright mismatches: Labeling and effective binding in oligonucleotide arrays", Phys Rev E, 68(1 Pt 1), p. 011906, (2003).

53. D. Hekstra, A. R. Taussig, M. Magnasco, F. Naef, "Absolute mRNA concentrations from sequence-specific calibration of oligonucleotide arrays", Nucleic Acids Res, 31(7), p.1962-8, (2003).

54. M. Asmal, J. Colgan, F. Naef, B. Yu, Y. Lee, M. Magnasco, J. Luban, "Production of ribosome components in effector CD4(+) T cells is accelerated by TCR stimulation and coordinated by ERK-MAPK", Immunity, 19(4), P. 535-48, (2003).

2002

55. F. Naef, D. A. Lim, N. Patil, M. Magnasco, "DNA hybridization to mismatched templates: A chip study", Phys Rev E, 65(4 Pt 1), p. 040902, (2002).

56. F. Naef, C. R. Hacker, N. Patil, M. Magnasco, "Empirical characterization of the expression ratio noise structure in high-density oligonucleotide arrays", Genome Biol, 3(4), p. RESEARCH0018, (2002).

2001

57. A. Claridge-Chang, H. Wijnen, F. Naef, C. Boothroyd, N. Rajewsky, M. W. Young, "Circadian regulation of gene expression systems in the Drosophila head", Neuron, 32(4), p. 657-71, (2001).

1997-2000 Earlier publications in physics:

58. X. Zotos, F. Naef, M. Long, P. Prelovsek, "Reactive Hall response", Phys Rev Lett, 85(2), p. 377-80, (2000).

59. F. Naef, X. Q. Wang, "Nuclear spin relaxation rates in two-leg spin ladders", Phys Rev Lett, 84(6), p. 1320-3, (2000).

60. F. Naef, X. Wang, X. Zotos, W. von der Linden, "Autocorrelations from the transfer-matrix density-matrix renormalization-group method", Phys Rev B, 60, p. 359, (1999).

61. F. Naef, X. Zotos, "Spin and energy correlations in the one dimensional spin-1/2 Heisenberg model", Journal of Physics-Condensed Matter, 10, p. L183, (1998).

62. X. Zotos, F. Naef, P. Prelovsek, "Transport and conservation laws", Phys Rev B, 55, p. 11029, (1997).

Reviews

63. D. M. Suter, N. Molina, F. Naef, U. Schibler, "Origins and consequences of transcriptional discontinuity", Curr Opin Cell Biol, 23(6), (2011)

64. U. Schibler, F. Naef, "Cellular oscillators: rhythmic gene expression and metabolism", Current Opinion in Cell Biol, 17, p. 223 (2005).

65. F. Naef, "Circadian clocks go in vitro: purely post-translational oscillators in cyanobacteria", Molecular Systems Biology 1(1), (2005).

Books and book chapters

66. J. Mermet, J. Yeung and F. Naef, "Systems Chronobiology: Global Analysis of Gene Regulation in a 24-Hour Periodic World", Cold Spring Harbor Perspectives, in press.

67. J. Rougemont, F.Naef, "Computational analysis of protein-DNA interactions from ChIP-seq data", Methods Mol Biol, 786, p. 263-73, (2012)

68. T. d'Eysmond, F. Naef, «Systems Biology and Modeling of Circadian Rhythms" in The Circadian Clock. Series: Protein Reviews (Springer), Vol. 12 Albrecht, Urs (Ed.) 2010, ISBN 978-1-4419-1261-9

69. J. Rougemont, F. Naef, "Stochastic phase oscillator models for circadian clocks", *Cellular Oscillatory Mechanisms,* 641, p. 141, (2008).

70. X. Q. Wang, K. Hallberg, F. Naef, "Calculation of dynamical properties", *Density-Matrix Renormalization,* 528, p. 173, (1999).

Other publications such as reports or contributions to proceedings

71. J. D. Benazet, M. Bischofberger, E. Tiecke, A. Gonalves, J. F. Martin, A. Zuniga, F. Naef, R. Zeller, "A Self-regulatory System of Interlinked Signaling Feedback Loops Controls Mouse Limb Patterning", *Research in Computational Molecular Biology (RECOMB), Proceedings,* 6044, p. 575, (2010).

72. F. Parisi, H. Koeppl, F. Naef, "Network Inference by Combining Biologically Motivated Regulatory Constraints with Penalized Regression", *Challenges of Systems Biology: Community Efforts to Harness Biological Complexity,* 1158, p. 114, (2009).

73. J. Rougemont, F. Naef, "Stochastic phase oscillators and circadian bioluminescence recordings", *Cold Spring Harbor Symposia on Quantitative Biology,* 72, p. 405, (2007).