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LIST OF PUBLICATIONS

PUBLICATIONS IN SCIENTIFIC JOURNALS

- [1] **Exact Functional Renormalization Group for Wetting Transitions in 1+1 Dimensions**
F. Jülicher, R. Lipowsky and H. Müller-Krumbhaar
Europhys. Lett. **11**, 657 (1990).
- [2] **Influence of Size of Regions of Interest on PET Evaluation of Caudate Glucose Consumption**
T. Kuwert, T. Ganslandt, P. Jansen, F. Jülicher, H. Lange, H. Herzog, D. Scholz, A. Aulich and L.E. Feinendegen
Journal of Computer Assisted Tomography, **16**, 789 (1992).
- [3] **Domain-Induced Budding of Vesicles**
F. Jülicher and R. Lipowsky
Phys. Rev. Lett. **70**, 2964 (1993).
- [4] **Conformal Degeneracy and Conformal Diffusion of Vesicles**
F. Jülicher, U. Seifert and R. Lipowsky
Phys. Rev. Lett. **71**, 452 (1993).
- [5] **Phase Diagrams and Shape Transformations of Toroidal Vesicles**
F. Jülicher, U. Seifert and R. Lipowsky
J. Phys. II France **3**, 1681 (1993).
- [6] **Supercoiling Transitions of Closed DNA**
F. Jülicher
Phys. Rev. E **49**, 2429 (1994).
- [7] **Shape Equations for Axisymmetric Vesicles: A clarification**
F. Jülicher and U. Seifert
Phys. Rev. E **49**, 4728 (1994).
- [8] **Cooperative Molecular Motors**
F. Jülicher and J. Prost
Phys. Rev. Lett. **75**, 2618 (1995).
- [9] **Quantitation of Regional Blood-flow with O-15-butanol and Positron Emission Tomography**
H. Herzog, R.J. Seitz, L. Tellmann, E.R. Kops, F. Jülicher, G. Schlaug, A. Kleinschmidt, H.W. Müllergärtner
Journal of Cerebral Blood Flow and Metabolism **16**, 645 (1996).
- [10] **Shape Transformations of Vesicles with Intramembrane Domains**
F. Jülicher and R. Lipowsky
Phys. Rev. E **53**, 2670 (1996).
- [11] **The Morphology of Vesicles of Higher Topological Genus: Conformal Degeneracy and Conformal Modes**
F. Jülicher
J. Phys. II France **6**, 1797 (1996).

- [12] **Spontaneous Oscillations of Collective Molecular Motors**
F. Jülicher and J. Prost
Phys. Rev. Lett. **78**, 4510 (1997).
- [13] **Pulling on a Filament**
A. Ajdari, F. Jülicher and A. Maggs
J. Phys. I France **7**, 823 (1997).
- [14] **Motion of RNA polymerase along DNA: A Stochastic Model**
F. Jülicher and R. Bruinsma
Biophys. J. **74**, 1169 (1998).
- [15] **Acting on Actin: The Electric Motility Assay**
D. Riveline, A. Ott, F. Jülicher, D.A. Winkelmann, O. Cardoso, J.J. Lacapère, S. Magnusdottir, J.L. Viovy, L. Gorre-Talini and J. Prost
Eur. Biophys. J. **27**, 403 (1998).
- [16] **Self-Organized Beating and Swimming of Internally Driven Filaments**
S. Camalet, F. Jülicher and J. Prost
Phys. Rev. Lett. **82**, 1592 (1999).
- [17] **Dynamic Fluctuations of Semiflexible Filaments**
R. Everaers, F. Jülicher, A. Ajdari and A. Maggs
Phys. Rev. Lett. **82**, 3717 (1999).
- [18] **On the Listeria Propulsion Mechanism**
F. Gerbal, V. Noireaux, C. Sykes, F. Jülicher, P. Chaikin, A. Ott, J. Prost, R. Goldstein, E. Friedrich and D. Louvard
Pramana J. Phys. **53**, (1999).
- [19] **Energy Transduction of Isothermal Ratchets: Generic Aspects and Specific Examples Close to and Far From Equilibrium**
A. Parmeggiani, F. Jülicher, A. Ajdari and J. Prost
Phys. Rev. E **60**, 2127 (1999).
- [20] **Reply “Cooperative Molecular Motors”**
F. Jülicher and J. Prost
Phys. Rev. Lett. **83**, 5404 (1999)
- [21] **Auditory sensitivity provided by self-tuned critical oscillations of hair cells**
S. Camalet, T. Duke, F. Jülicher and J. Prost
Proc. Natl. Acad. Sci. USA **97**, 3183 (2000).
- [22] **Actively Contracting Bundles of Polar Filaments**
K. Kruse and F. Jülicher
Phys. Rev. Lett. **85**, 1778-1781 (2000).
- [23] **Generic Aspects of Axonemal Beating**
S. Camalet and F. Jülicher
New. J. Phys. **2**, 24 (2000).

- [24] **Physical Basis of Two-Tone Interference in Hearing**
F. Jülicher, D. Andor and T. Duke
Proc. Natl. Acad. Sci. **98**, 9080 (2001).
- [25] **Self-Propagating Patterns in Active Filament Bundles**
K. Kruse, S. Camalet and F. Jülicher
Phys. Rev. Lett. **87**, 138101 (2001).
- [26] **Detachment of Molecular Motors under Tangential Loading**
A. Parmeggiani, F. Jülicher, L. Peliti and J. Prost
Europhys. Lett. **56**, 603 (2001).
- [27] **Comparison of a Hair Bundle's Spontaneous Oscillations with its Response to Mechanical Stimulation Reveals the Underlying Active Process**
P. Martin, J.A. Hudspeth and F. Jülicher
Proc. Natl. Acad. Sci. **98**, 14380 (2001).
- [28] **Bidirectional Cooperative Motion of Molecular Motors**
M. Badoual, F. Jülicher and J. Prost
Proc. Natl. Acad. Sci. **99**, 6696 (2002).
- [29] **Formation and Interaction of Membrane Tubes**
I. Derenyi, F. Jülicher and J. Prost
Phys. Rev. Lett. **88**, 238101 (2002).
- [30] **Motion of an Adhesive Gel in a Swelling Gradient: A Mechanism for Cell Locomotion**
J.F. Joanny, F. Jülicher and J. Prost
Phys. Rev. Lett. **90**, 168102-1 (2003).
- [31] **Active Travelling Wave in the Cochlea**
T. Duke and F. Jülicher
Phys. Rev. Lett. **90**, 158101-1 (2003).
- [32] **Self-organization and Mechanical Properties of Active Filament Bundles**
K. Kruse and F. Jülicher
Phys. Rev. E **67**, 051913-1 (2003).
- [33] **Membranes with Rotating Motors**
P. Lenz, J.-F. Joanny, F. Jülicher and J. Prost
Phys. Rev. Lett. **91**, 108104-1 (2003).
- [34] **Morphogenetic Oscillations during Symmetry Breaking of Regenerating Hydra Vulgaris Cells**
C. Fütterer, C. Colombo, F. Jülicher and A. Ott
Europhys. Lett. **64**, 137 (2003).
- [35] **Continuum Theory of Contractile Fibres**
K. Kruse, A. Zumdick and F. Jülicher
Europhys. Lett. **64**, 716 (2003).

- [36] **A Motor that Makes its Own Track: Helicase Unwinding of DNA**
M.D. Betterton and F. Jülicher
Phys. Rev. Lett. **91**, 258103 (2003).
- [37] **Asters, Vortices and Rotating Spirals in Active Gels of Polar Filaments**
K. Kruse, J.-F. Joanny, F. Jülicher, J. Prost and K. Sekimoto
Phys. Rev. Lett. **92**, 078101 (2004).
- [38] **Role of Tensile Stress in Actin Gels and a Symmetry-Breaking Instability**
K. Sekimoto, J. Prost, F. Jülicher, H. Boukellal and A. Bernheim-Grosswasser
Eur. Phys. J. E **13**, 247 (2004).
- [39] **Membranes with Rotating Motors: Microvortex Assemblies**
P. Lenz, J.-F. Joanny, F. Jülicher, and J. Prost
Eur. Phys. J. E **13**, 379 (2004).
- [40] **Active Hair-Bundle Motility Harnesses Noise to Operate Near an Optimum of Mechanosensitivity**
B. Nadrowski, P. Martin, and F. Jülicher
Proc. Natl. Acad. Sci. USA **101**, 12195 (2004).
- [41] **Fluid Membranes Exchanging Material with External Reservoirs**
P. Girard, F. Jülicher, and J. Prost
Eur. Phys. J. E **14**, 387 (2004).
- [42] **Dpp Gradient Formation by Dynamin-Dependent Endocytosis: Receptor Trafficking and the Diffusion Model**
K. Kruse, P. Pantazis, T. Bollenbach, F. Jülicher, and M. González-Gaitàn
Development **131**, 4843 (2004).
- [43] **Universal Critical Behavior of Noisy Coupled Oscillators**
T. Risler, J. Prost, and F. Jülicher
Phys. Rev. Lett. **93**, 175702 (2004).
- [44] **Robust Formation of Morphogen Gradients**
T. Bollenbach, K. Kruse, P. Pantazis, M. González-Gaitàn, and F. Jülicher
Phys. Rev. Lett. **94**, 18103 (2005).
- [45] **Opening of Nucleic-Acid Double Strands by Helicases: Active Versus Passive Opening**
M.D. Betterton and F. Jülicher
Phys. Rev. E **71**, 011904 (2005).
- [46] **Generic Theory of Active Polar Gels: A Paradigm for Cytoskeletal Dynamics**
K. Kruse, J.-F. Joanny, F. Jülicher, J. Prost, and K. Sekimoto
Eur. Phys. J. E **16**, 5 (2005).
- [47] **Filament Depolymerization by Motor Molecules**
G. Klein, K. Kruse, G. Cuniberti, and F. Jülicher
Phys. Rev. Lett. **94**, 108102 (2005).

- [48] **Theory of Mitotic Spindle Oscillations**
S.W. Grill, K. Kruse, and F. Jülicher
Phys. Rev. Lett **94**, 108104 (2005).
- [49] **Universal Critical Behavior of Noisy Coupled Oscillators:
A Renormalization Group Study**
T. Risler, J. Prost, and F. Jülicher
Phys. Rev. E **72**, 016130 (2005).
- [50] **Velocity and Processivity of Helicase Unwinding of Double-Stranded Nucleic Acids**
M.D. Betterton, and F. Jülicher
J. Phys.: Condens. Matter **17**, 3851 (2005).
- [51] **Continuum Description of the Cytoskeleton:
Ring Formation in the Cell Cortex**
A. Zumdick, M. Cosentino Lagomarsino, C. Tanase K. Kruse, B. Mulder,
M. Dogterom, and F. Jülicher
Phys. Rev. Lett. **95**, 258103 (2005).
- [52] **Hydrodynamic Flow Patterns and Synchronization of Beating Cilia**
A. Vilfan and F. Jülicher
Phys. Rev. Lett. **96**, 058102 (2006).
- [53] **Postsynaptic Mad Signaling at the Drosophila Neuromuscular Junction**
V. Dudu, T. Bittig, E. Entchev A. Kicheva, F. Jülicher, and M. González-Gaitàn
Current Biology **16**, 625 (2006).
- [54] **Contractility and Retrograde Flow in Lamellipodium Motion**
K. Kruse, J.-F. Joanny, F. Jülicher and J. Prost
Phys. Biol. **16**, 3 (2006).
- [55] **Dynamics and Mechanics of Motor-Filament Systems**
K. Kruse and F. Jülicher
Eur. Phys. J. E **20**, 459 (2006).
- [56] **Calibration of Optical Tweezers with Positional Detection in the
Back Focal Plane**
S. Tolic-Norrelykke, E. Schäffer, J. Howard, F.S. Pavone, F. Jülicher, and
H. Flyvbjerg
Review of Scientific Instruments **77**, 103101 (2006).
- [57] **Spindle Oscillations during Asymmetric Cell Division Require a Threshold Number
of Active Cortical Force Generators**
J. Pecreaux, J.-C. Röper, K. Kruse, F. Jülicher, A. Hyman, S. Grill and J. Howard
Current Biology **16**, 2111 (2006).
- [58] **Morphogen Transport in Epithelia**
T. Bollenbach, K. Kruse, P. Pantazis, M. González-Gaitàn and F. Jülicher
Phys. Rev. E **75**, 011901 (2007).

- [59] **Kinetics of Morphogen Gradient Formation**
A. Kicheva, P. Pantazis, T. Bollenbach, Y. Kalaidzidis, T. Bittig, F. Jülicher and M. González-Gaitàn
Science **315**, 521 (2007).
- [60] **Experimental and Theoretical Study of Mitotic Spindle Orientation**
M. Théry, A. Jiménez-Dalmaroni, V. Racine, M. Bornens and F. Jülicher
Nature **447**, 493 (2007).
- [61] **Precision of Genetic Oscillators and Clocks**
L. Morelli and F. Jülicher
Phys. Rev. Lett. **98**, 228101 (2007).
- [62] **Chemotaxis of Sperm Cells**
B. M. Friedrich and F. Jülicher
Proc. Natl. Acad. Sci. USA **104**, 13256 (2007).
- [63] **Response and Fluctuations of a Two-state Signaling Module with Feedbacks**
M. Gopalakrishnan, P. Borowski, F. Jülicher and M. Zpatocky
Phys. Rev. E **76**, 021904 (2007).
- [64] **Stress Generation and Filament Turnover during Actin Ring Constriction**
A. Zumdick, K. Kruse, H. Bringmann, A. A. Hyman and F. Jülicher
Plos ONE **2**, e696 (2007).
- [65] **Unifying the Various Incarnations of Active Hair-Bundle Motility by the Vertebrate Hair Cell**
J. Y. Tinevez, F. Jülicher and P. Martin
Biophys J. **93**, 4053 (2007)
- [66] **How Molecular Motors Shape the Flagellar Beat**
I. H. Riedel-Kruse, A. Hilfinger, J. Howard and F. Jülicher
HFSP J. **1**, 192 (2007).
- [67] **Hydrodynamic Theory for Multi-Component Active Polar Gels**
J.-F. Joanny, F. Jülicher, K. Kruse and J. Prost
New. J. Phys. **9**, 422 (2007).
- [68] **The Influence of Cell Mechanics, Cell-Cell Interactions and Proliferation on Epithelial Packing**
R. Farhadifar, J.-C. Röper, B. Algouy, S. Eaton and F. Jülicher
Current Biology **17**, 2095 (2007).
- [69] **Quantitative Differences in Tissue Surface Tension Influence Zebrafish Germ Layer Positioning**
E.-M. Schötz, R. D. Burdine, F. Jülicher, M. S. Steinberg, C.-P. Heisenberg and R. A. Foty
HSFP J. **2**, 42 (2008).
- [70] **Precision of the Dpp gradient**
T. Bollenbach, P. Pantazis, A. Kicheva, C. Bökel, M. González-Gaitàn and F. Jülicher
Development **135**, 1137 (2008).

- [71] **The Chirality of Ciliary Beats**
A. Hilfinger and F. Jülicher
Phys. Biol. **5**, 016003 (2008).
- [72] **Two-state Approach to Stochastic Hair Bundle Dynamics**
D. Clausznitzer, B. Lindner, F. Jülicher and P. Martin
Phys. Rev. E **77**, 041901 (2008).
- [73] **Dynamics of Anisotropic Tissue Growth**
T. Bittig, O. Wartlick, A. Kicheva, M. González-Gaitàn and F. Jülicher
New J. Phys. **10**, 63001 (2008).
- [74] **Thermal and Non-Thermal Fluctuations in Active Polar Gels**
A. Basu, J.F. Joanny, F. Jülicher and J. Prost
Eur. Phys. J. E **27**, 10364 (2008).
- [75] **Enhancement of Sensitivity Gain and Frequency Tuning by Coupling of Active Hair Bundles**
K. Dierkes, B. Lindner and F. Jülicher
Proc. Natl. Acad. Sci. USA. **105**, 18669 (2008).
- [76] **The Stochastic Dance of Circling Sperm Cells: Sperm Chemotaxis in the Plane**
B. Friedrich and F. Jülicher
New J. Phys. **10**, 123025 (2008).
- [77] **Delayed Coupling Theory of Vertebrate Segmentation**
L. Morelli, S. Ares, L. Herrgen, C. Schröter, F. Jülicher and A. Oates
HFSP J. **3**, 55 (2009).
- [78] **Generic Theory of Colloidal Transport**
F. Jülicher and J. Prost
Eur. Phys. J. E **29**, 27 (2009).
- [79] **Self-Organization of Dynein Motors Generates Meiotic Nuclear Oscillations**
S. Vogel, N. Pavin, N. Maghelli, F. Jülicher and Iva Tolic-Norrelykke
Plos Biology **7** (4) e1000087 (2009).
- [80] **Nonlinear Dynamics of Cilia and Flagella**
A. Hilfinger, A. K. Chattopadhyay and F. Jülicher
Phys. Rev. E **79**, 051918 (2009).
- [81] **Germline P Granules Are Liquid Droplets that Localize by Controlled Dissolution/Condensation**
C. P. Brangwynne, C. R. Eckmann, D. S. Courson, A. Rybarska, C. Hoegge, J. Gharakhani, F. Jülicher and A. A. Hyman
Science, **324**, 1729 (2009).
- [82] **Steering Chiral Swimmers along Noisy Helical Paths**
B. M. Friedrich and F. Jülicher
Phys. Rev. Lett., **103**, 068102 (2009).

- [83] **Comment on "Osmotic Propulsion: The Osmotic Motor"**
F. Jülicher and J. Prost
Phys. Rev. Lett., **103**, 079801 (2009).
- [84] **Spontaneous Movements and Linear Response of a Noisy Oscillator**
F. Jülicher, K. Dierkes, B. Lindner, J. Prost and P. Martin
Eur. Phys. J. E **29**, 449 (2009).
- [85] **Quantification of Growth Asymmetries in Developing Epithelia**
T. Bittig, W. Wartlick, González-Gaitán and F. Jülicher
Eur. Phys. J. E **30**, 93 (2009).
- [86] **Increased Cell Bond Tension Governs Cell Sorting at the Drosophila Anteroposterior Compartment Boundary**
K. P. Landsberg, R. Farhadifar, J. Ranft, D. Umetsu, T. J. Widmann, T. Bittig, A. Said, F. Jülicher and C. Dahmann
Current Biology **19**, 1950 (2009).
- [87] **Local Exponents of Nonlinear Compression in Periodically Driven Noisy Oscillators**
B. Lindner, K. Dierkes and F. Jülicher
Phys. Rev. Lett. **103**, 250601 (2009).
- [88] **Centrosome Size Sets Mitotic Spindle Length in Caenorhabditis elegans Embryos**
G. Greenan, C. P. Brangwynne, S. Jaensch, J. Gharakhani, F. Jülicher and A. A. Hyman
Current Biology **20**, 353 (2010).
- [89] **High-precision Tracking of Sperm Swimming Fine Structure Provides Strong Test of Resistive Force Theory**
B. M. Friedrich, I. H. Riedel-Kruse, J. Howard and F. Jülicher
Journal of Experimental Biology **213**, 1226 (2010).
- [90] **Bipedal Locomotion in Crawling Cells**
E. L. Barnhart, G. M. Allen, F. Jülicher and J. A. Theriot
Biophys J. **98**, 933 (2010).
- [91] **Coupling a Sensory Hair-Cell Bundle to Cyber Clones Enhances Nonlinear Amplification**
J. Barral, K. Dierkes, B. Lindner, F. Jülicher and P. Martin
Proc. Natl. Acad. Sci. USA **107**, 10765 (2010).
- [92] **Intercellular Coupling Regulates the Period of the Segmentation Clock**
L. Herrgen, S. Ares, L. G. Morelli, C. Schröter, F. Jülicher and A. C. Oates
Current Biology **20**, 1244 (2010).
- [93] **The interplay between Active Hair Bundle Motility and Electromotility in the Cochlea**
D. O Maoileidigh and F. Jülicher
J. Acoust. Soc. Am., **128**, 1175 (2010).
- [94] **Cell Flow Reorients the Axis of Planar Polarity in the Wing Epithelium of Drosophila**
B. Aigouy, R. Farhadifar, D. B. Staple, A. Sagner, J.-C. Röper, F. Jülicher and S. Eaton
Cell **142**, 773 (2010).

- [95] **Anisotropies in Cortical Tension Reveal the Physical Basis of Polarizing Cortical Flows**
M. Mayer, M. Depken, J. Bois, F. Jülicher and S. Grill
Nature **467**, 617 (2010).
- [96] **Collective Behavior of Antagonistically Acting Kinesin-1 Motors**
C. Leduc, N. Pavin, F. Jülicher and S. Diez
Phys. Rev. Lett. **105**, 128103 (2010).
- [97] **Mechanics and Remodelling of Cell Packings in Epithelia**
D.B. Staple, R. Fahardifar, J.-C. Röper, B. Aigouy, S. Eaton and F. Jülicher
Eur. Phys. J. E **33**, 117, (2010).
- [98] **Fluidization of Tissues by Cell Division and Apoptosis**
J. Ranft, M. Basan, J. Elgeti, J.-F. Joanny, J. Prost and F. Jülicher
Proc. Natl. Acad. Sci. USA **107**, 20863 (2010).
- [99] **Pattern Formation in Active Fluids**
J. S. Bois, F. Jülicher and S. Grill
Phys. Rev. Lett. **106**, 028103 (2011).
- [100] **Dynamics of Dpp Signaling and Proliferation Control**
O. Wartlick, P. Mumcu, A. Kicheva, T. Bittig, C. Seum, F. Jülicher and M. Gonzalez-Gaitan
Science **331**, 1154 (2011).
- [101] **Hydrodynamics of Active Permeating Gels**
A. C. Callan-Jones and F. Jülicher
New. J. Phys. **13**, 093027 (2011).
- [102] **The Taylor–Couette motor:
Spontaneous Flows of Active Polar fluids between Two Coaxial Cylinders**
S. Fürthauer, M. Neef, S. W. Grill, K. Kruse and F. Jülicher
New. J. Phys. **14**, 023001 (2012)
- [103] **Response to Comment on
„Dynamics of Dpp Signaling and Proliferation Control“**
O. Wartlick, P. Mumcu, F. Jülicher and M. Gonzalez-Gaitan
Science **335**, 401 (2012).
- [104] **Cortical Dynein Controls Microtubule Dynamics to Generate Pulling Forces that Position Microtubule Asters**
L. Laan, N. Pavin, J. Husson, G. Romet-Lemonne, M. van Duijn, M. Preciado López, R. D. Vale, F. Jülicher, S. L. Reck-Peterson and M. Dogterom
Cell **148**, 502 (2012).
- [105] **Physical Mechanisms Shaping the *Drosophila* Dorsoventral Compartment Boundary**
M. Aliee, J.-C. Röper, K. P. Landsberg, C. Pentzold, T. J. Widmann, F. Jülicher and C. Dahmann
Current Biology **22**, 967 (2012).

- [106] **Collective Modes of Coupled Phase Oscillators with Delayed Coupling**
S. Ares, L. G. Morelli, D. J. Jörg, A. C. Oates and F. Jülicher
Phys. Rev. Lett. **108**, 204101 (2012).

- [107] **A Mean-field Approach to Elastically Coupled Hair Bundles**
K. Dierkes, F. Jülicher and B. Lindner
Eur. Phys. J. E **35**, 37 (2012).
- [108] **Tissue Dynamics with Permeation**
J. Ranft, J. Prost, F. Jülicher and J.-F. Joanny
Eur. Phys. J. E **35**, 46 (2012).
- [109] **Topology and Dynamics of the Zebrafish Segmentation Clock Core Circuit**
C. Schröter, S. Ares, L. G. Morelli, A. Isakova, K. Hens, D. Soroldoni, M. Gajewski,
F. Jülicher, S. J. Maerkl, B. Deplancke and A. C. Oates
PLoS Biol **10**, e1001364 (2012).
- [110] **Establishment of Global Patterns of Planar Polarity during Growth of the Drosophila Wing Epithelium**
A. Sagner, M. Merkel, B. Aigouy, J. Gaebel, M. Brankatschk, F. Jülicher and S. Eaton
Current Biology **22**, 967 (2012).
- [111] **A General Theoretical Framework to Infer Endosomal Network Dynamics from Quantitative Image Analysis**
L. Foret, J. E. Dawson, R. Villaseñor, C. Collinet, A. Deutsch, L. Bruschi, M. Zerial,
Y. Kalaidzidis and F. Jülicher
Current Biology **22**, 1381 (2012).
- [112] **Adhesion Functions in Cell Sorting by Mechanically Coupling the Cortices of Adhering Cells**
J.-L. Maître, H. Berthoumieux, S. F. G. Krens, G. Salbreux, F. Jülicher, E. Paluch and
C.-P. Heisenberg
Science **338**, 253 (2012).
- [113] **Investigating the Principles of Morphogen Gradient Formation: From Tissues to Cells**
A. Kicheva, T. Bollenbach, O. Wartlick, F. Jülicher and M. Gonzales-Gaitan
Curr. Opin. Genet. Dev. **22**, 527 (2012)
- [114] **Flagellar Synchronization Independent of Hydrodynamic Interactions**
B. M. Friedrich and F. Jülicher
Phys. Rev. Lett. **109**, 138102 (2012).
- [115] **Active Chiral Fluids**
S. Fürthauer, M. Stempel, S. W. Grill and F. Jülicher
Eur. Phys. J. E **35**, 89 (2012).
- [116] **Positioning of Microtubule Organizing Centers by Cortical Pushing and Pulling Forces**
N. Pavin, L. Laan, R. Ma, M. Dogterom and F. Jülicher
New J. Phys. **14**, 105025 (2012).
- [117] **Anomalous Behavior of the Diffusion Coefficient in Thin Active Films**
A. Basu, J.-F. Joanny, F. Jülicher and J. Prost
New J. Phys **14**, 115001 (2012).

- [118] **Active Chiral Processes in Thin Films**
S. Fürthauer, M. Stempel, S. W. Grill and F. Jülicher
Phys. Rev. Lett. **110**, 048103 (2013).
- [119] **XMAP215 Activity Sets Spindle Length by Controlling the Total Mass of Spindle Microtubules**
S. B. Reber, J. Baumgart, P. O. Widlund, A. Pozniakovsky, J. Howard, A. A. Hyman and F. Jülicher
Nature Cell Biol. **15**, 1116 (2013).
- [120] **Spatial Organization of the Cell Cytoplasm by Position-Dependent Phase Separation**
C. F. Lee, C. P. Brangwynne, J. Gharakhani, A. A. Hyman and F. Jülicher
Phys. Rev. Lett. **111**, 088101 (2013).
- [121] **Cell-body Rocking is a Dominant Mechanism for Flagellar Synchronization in a Swimming Alga**
V. F. Geyer, F. Jülicher, J. Howard, and B. M. Friedrich
Proc. Natl. Acad. Sci. USA, **110**, 18058 (2013).
- [122] **General Theory for the Mechanics of Confined Microtubule Asters**
R. Ma, L. Laan, M. Dogterom, N. Pavin and F. Jülicher
New J. Phys. **16** 013018 (2014).
- [123] **Mechanically Driven Interface Propagation in Biological Tissues**
J. Ranft, M. Aliee, J. Prost, F. Jülicher and J.-F. Joanny
New J. Phys. **16** 035002 (2014).
- [124] **Wnt-regulated Dynamics of Positional Information in Zebrafish Somitogenesis**
L. Bajard, L. G. Morelli, S. Ares, J. Pécrciaux, F. Jülicher and A. C. Oates
Development **141** 1381 (2014).
- [125] **Growth Control by a Moving Morphogen Gradient during Drosophila Eye Development**
O. Wartlick, F. Jülicher and M. Gonzales-Gaitan
Development **141** 1884 (2014).
- [126] **Synchronization Dynamics in the Presence of Coupling Delays and Phase Shifts**
D. J. Jörg, L. G. Morelli, S. Ares and F. Jülicher
Phys. Rev. Lett. **112**, 174101 (2014).
- [127] **Transduction Channels' Gating can Control Friction on Vibrating Hair-Cell Bundles in the Ear**
V. Bormuth, J. Barral, J.-F. Joanny, F. Jülicher and P. Martin
Proc. Natl. Acad. Sci. USA **111**, 7185 (2014).
- [128] **Pulsatory Patterns in Active Fluids**
K. V. Kumar, J. S. Bois, F. Jülicher and S. W. Grill
Phys. Rev. Lett. **112**, 208101 (2014).
- [129] **Motor Regulation Results in Distal Forces that Bend Partially Disintegrated Chlamydomonas Axonemes into Circular Arcs**
V. Mukundan, P. Sartori, V. F. Geyer, F. Jülicher and J. Howard
Biophys J. **106**, 2434 (2014).

- [130] **Active Elastic Thin Shell Theory for Cellular Deformations**
H. Berthoumieux, J.-L. Maître, C.-P. Heisenberg, E. K. Paluch, F. Jülicher
and G. Salbreux
New J. Phys. **16**, 065005 (2014).
- [131] **Centrosomes are Autocatalytic Droplets of Pericentriolar Material Organized by Centrioles**
D. Zwicker, M. Decker, S. Jaensch, A. A. Hyman and F. Jülicher
Proc. Natl. Acad. Sci. USA, **111**, E2636 (2014).
- [132] **A Doppler Effect in Embryonic Pattern Formation**
D. Soroldoni, D. J. Jörg, L. G. Morelli, D. L. Richmond, J. Schindelin, F. Jülicher
and A. C. Oates
Science **345**, 222 (2014).
- [133] **Multimotor Transport in a System of Active and Inactive Kinesin-1 Motors**
L. Scharrel, R. Ma, R. Schneider, F. Jülicher and S. Diez
Biophys. J. **107**, 365 (2014).
- [134] **Active Phase and Amplitude Fluctuations of Flagellar Beating**
R. Ma, G. S. Klindt, I. H. Riedel-Kruse, F. Jülicher and B. Friedrich
Phys. Rev. Lett. **113**, 048101 (2014).
- [135] **Local Increases in Mechanical Tension Shape Compartment Boundaries by Biasing Cell Intercalations**
D. Umetsu, B. Aigouy, M. Aliee, S. Sui, S. Eaton, F. Jülicher and C. Dahmann
Current Biology **24**, 1798 (2014).
- [136] **An Active Oscillator Model Describes the Statistics of Spontaneous Otoacoustic Emissions**
F. Fruth, F. Jülicher and B. Lindner
Biophys. J. **107**, 815 (2014).
- [137] **Quantification of Surface Tension and Internal Pressure Generated by Single Mitotic Cells**
E. Fischer-Friedrich, A. A. Hyman, F. Jülicher, D. J. Müller and J. Helenius
Scientific Reports **4**, 6213 (2014).
- [138] **Stress Distributions and Cell Flows in a Growing Cell Aggregate**
M. Delarue, J.-F. Joanny, F. Jülicher and J. Prost
Interface Focus **4**, 20140033 (2014).
- [139] **The Balance of Prickle/Spiny-Legs Isoforms Controls the Amount of Coupling between Core and Fat PCP Systems**
M. Merkel, A. Sagner, F. S. Gruber, R. Etoornay, C. Blasse, E. Myers, S. Eaton and F. Jülicher
Current Biology **24**, 2111 (2014).
- [140] **Synchronization in Networks of Mutually Delay-Coupled Phase-Locked Loops**
A. Pollakis, L. Wetzel, D. J. Jörg, W. Rave, G. Fettweis and F. Jülicher
New J. Phys. **16**, 113009 (2014).

- [141] **Active Torque Generation by the Actomyosin Cell Cortex Drives left-right Symmetry Breaking**
S. R. Naganathan, S. Fürthauer, M. Nishikawa, F. Jülicher and S. W. Grill
eLife **3**, e04165 (2014).
- [142] **Dynamic Force Balances and Cell Shape Changes during Cytokinesis**
A. Sain, M. M. Inamdar and F. Jülicher
Phys. Rev. Lett. **114**, 048102 (2015).
- [143] **A Hybrid Particle-Mesh Method for Incompressible Active Polar Viscous Gels**
R. Ramaswamy, G. Bourantas, F. Jülicher and I. Sbalzarini
Journal of Computational Physics **291**, 334 (2015).
- [144] **Scaling and Regeneration of Self-Organized Patterns**
S. Werner, T. Stückemann, M. Beirán Amigo, J. C. Rink, F. Jülicher and B. M. Friedrich
Phys. Rev. Lett. **114**, 138101 (2015).
- [145] **Interplay of Cell Dynamics and Epithelial Tension during Morphogenesis of the Drosophila Pupal Wing**
R. Etournay, M. Popovic, M. Merkel, A. Nandi, C. Blasse, B. Aigouy, H. Brandl, G. Myers, G. Salbreux, F. Jülicher and S. Eaton
eLife, **4**:e07090 (2015).
- [146] **Suppression of Ostwald Ripening in Active Emulsions**
D. Zwicker, A. A. Hyman and F. Jülicher
Phys. Rev. E **92**, 012317 (2015).
- [147] **Continuum Theory of Gene Expression Waves during Vertebrate Segmentation**
D. J. Jörg, L. G. Morelli, D. Soroldoni, A. C. Oates and F. Jülicher
New J. Phys. **17**, 093042 (2015).
- [148] **Synchronization of Mutually Coupled Digital PLLs in Massive MIMO Systems**
D. J. Jörg, A. Pollakis, L. Wetzel, M. Dropp, W. Rave, F. Jülicher and G. Fettweis
2015 IEEE International Conference on Communications (ICC), 1716 (2015).
- [149] **A Local Difference in Hedgehog Signal Transduction Increases Mechanical Cell Bond Tension and Biases Cell Intercalations along the Drosophila Anteroposterior Compartment Boundary**
K. Rudolf, D. Umetsu, M. Aliee, L. Sui, F. Jülicher and C. Dahmann
Development **142**, 3845 (2015).
- [150] **Pulled Polymer Loops as a Model for the Alignment of Meiotic Chromosomes**
Y. T. Lin, D. Frömberg, W. Huang, P. Delivani, M. Chacón, I. M. Tolic, F. Jülicher, and V. Zaburdaev
Phys. Rev. Lett. **115**, 208102 (2015).
- [151] **Polarized Endosome Dynamics by Spindle Asymmetry During Asymmetric Cell Division**
E. Derivery, C. Seum, A. Daeden, S. Loubéry, L. Holtzer, F. Jülicher and M. Gonzalez-Gaitan
Nature **528**, 280 (2015).

- [152] **Decision Making in the Arrow of Time**
E. Roldán, I. Neri, M. Dörpinghaus, H. Meyr and F. Jülicher
Phys. Rev. Lett. **115**, 250602 (2015).
- [153] **Interface Contractility between Differently Fated Cells Drives Cell Elimination and Cyst Formation**
C. Bielmeier, S. Alt, V. Weichselberger, M. La Fortezza, H. Harz, F. Jülicher, G. Salbreux, A. Classen
Current Biology **26**, 563 (2016).
- [154] **Persistence, Period and Precision of Autonomous Cellular Oscillators from the Zebrafish Segmentation Clock**
A. B. Webb, I. M Lengyel, D. J. Jörg, G. Valentin, F. Jülicher, L. G Morelli and A. C. Oates
eLife **5**: e08438 (2016).
- [155] **Antagonistic Self-Organizing Patterning Systems Control Maintenance and Regeneration of the Anteroposterior Axis in Planarians**
T. Stückemann, J. P. Cleland, S. Werner, H. T. Vu, R. Bayersdorf, S. Liu, B. Friedrich, F. Jülicher and J. C. Rink
Dev. Cell **40**, 248 (2016).
- [156] **Activity Induces Traveling Waves, Vortices and Spatiotemporal Chaos in a Model Actomyosin Layer**
R. Ramaswamy and F. Jülicher
Scientific Reports **6**, 20838 (2016).
- [157] **Autonomous Chemical Oscillator Circuit Based on Bidirectional Chemical-Microfluidic Coupling**
G. Paschew, J. Schreiter, A. Voigt, C. Pini, J. P. Chávez, M. Allerdißen, U. Marschner, S. Siegmund, R. Schüffny, F. Jülicher and A. Richter
Adv. Mater. Technol. **1**, 1600005 (2016).
- [158] **Determining Physical Properties of the Cell Cortex**
A. Saha, M. Nishikawa, M. Behrndt, C.-P. Heisenberg, F. Jülicher and S. W. Grill
Biophys J., **110**, 1421 (2016).
- [159] **Independent Control of the Static and Dynamic Components of the Chlamydomonas Flagellar Beat**
V. F. Geyer, P. Sartori, B. M. Friedrich, F. Jülicher and J. Howard
Current Biology **26**, 1098 (2016).
- [160] **Paired Arrangement of Kinetochores together with Microtubule Pivoting and Dynamics Drive Kinetochores Capture in Meiosis I**
G. Cojoc, A.-M. Florescu, A. Krull, A. H. Klemm, N. Pavin, F. Jülicher and I. M. Tolić
Scientific Reports **6**, 25736 (2016).
- [161] **Dynamic curvature regulation accounts for the symmetric and asymmetric beats of Chlamydomonas flagella**
P. Sartori, V. F. Geyer, A. Scholich, F. Jülicher and J. Howard
eLife **5**: e13258 (2016).

- [162] **TissueMiner: a Multiscale Analysis Toolkit to Quantify how Cellular Processes Create Tissue dynamics**
R. Etournay, M. Merkel, M. Popovic, H. Brandl, N. Dye, B. Aigouy, G. Salbreux, S. Eaton and F. Jülicher
eLife **5** :e14334 (2016).
- [163] **Rheology of the Active Cell Cortex in Mitosis**
E. Fischer-Friedrich, Y. Toyoda, C. J. Cattin, D. J. Müller, A. A. Hyman and F. Jülicher
Biophys J, **111**, 589 (2016).
- [164] **The Selector Gene *apterous* and Notch Are Required to Locally Increase Mechanical Cell Bond Tension at the *Drosophila* Dorsoventral Compartment Boundary**
M. Michel, M. Aliee, K. Rudolf, L. Bialas, F. Jülicher and C. Dahmann
Plos ONE **11**, e0161668 (2016).
- [165] **Polar Positioning of Phase-Separated Liquid Compartments in Cells Regulated by an mRNA Competition Mechanism**
S. Saha, C. A. Weber, M. Nusch, O. Adame-Arana, C. Hoege, M. Y. Hein, E. Osborne-Nishimura, J. Mahamid, M. Jahnel, L. Jawerth, A. Pozniakovski, C. R. Eckmann, F. Jülicher, and A. A. Hyman
Cell **166**, 1572 (2016).
- [166] **Interface Dynamics of Competing Tissues**
N. Podewith, F. Jülicher, G. Gompper, J. Elgeti
New J. Phys. **18**, 083020 (2016).
- [167] **Polo kinase Phosphorylation Determines *C. elegans* Centrosome Size and Density by Biasing SPD-5 toward an Assembly-competent Conformation**
O. Wueseke, D. Zwicker, A. Schwager, Y. L. Wong, K. Oegema, F. Jülicher, A. A. Hyman, and J. Woodruff
Biol Open (2016) **5**(10): 1431-1440 (2016).
- [168] **Sequential Pattern Formation Governed by Signaling Gradients**
D. J. Jörg, A. C. Oates and F. Jülicher
Phys. Biol. **13** (2016).
- [169] **Curvature Regulation of the Ciliary Beat Through Axonemal Twist**
P. Sartori, V. F. Geyer, J. Howard and F. Jülicher
Phys. Rev. E, **94**, 042426 (2016).
- [170] **Growth and Division of Active Droplets Provides a Model for Protocells**
D. Zwicker, R. Seyboldt, C. A. Weber, A. A. Hyman and F. Jülicher
Nature Physics **13**, 408 (2017).
- [171] **Statistics of Infima and Stopping Times of Entropy Production and Applications to Active Molecular Processes**
I. Neri, É. Roldán and F. Jülicher
Phys. Rev X **7**, 011019 (2017).
- [172] **Active Dynamics of Tissue Shear Flow**
M. Popovic, A. Nandi, M. Merkel, R. Etournay, S. Eaton, F. Jülicher and G. Salbreux
New J. Phys. **19**, 033006 (2017).

- [173] **Triangles Bridge the Scales: Quantifying Cellular Contributions to Tissue Deformation**
M. Merkel, R. Etoornay, M. Popovic, G. Salbreux, S. Eaton and F. Jülicher
Phys. Rev. E **95**, 032401 (2017).
- [174] **Controlling Contractile Instabilities in the Actomyosin Cortex**
M. Nishikawa, S. R. Naganathan, F. Jülicher and S. W. Grill
eLife **6**:e19595 (2017).
- [175] **Self-organized Synchronization of Digital Phase-locked Loops with Delayed Coupling in Theory and Experiment**
L. Wetzel, D. J. Jörg, A. Pollakis, W. Rave, G. Fettweis and F. Jülicher
Plos ONE **12**, e0171590 (2017).
- [176] **Droplet Ripening in Concentration Gradients**
C. Weber, C. F. Lee and F. Jülicher
New J. Phys. **19**, 053021 (2017).
- [177] **Physical Limits of Flow Sensing in the Left-right Organizer**
R. R. Ferreira, A. Vilfan, F. Jülicher, W. Supatto, J. Vermot
eLife **6**:e25078 (2017).
- [178] **Mechanics of Active Surfaces**
G. Salbreux and F. Jülicher
Phys. Rev. E **96**, 032404 (2017).
- [179] **Generic Properties of Stochastic Entropy Production**
S. Pigolotti, I. Neri, E. Roldán and F. Jülicher
Phys. Rev. Lett. **119**, 140604 (2017).
- [180] **Cell Dynamics Underlying Oriented Growth of the Drosophila Wing Imaginal Disc**
N. A. Dye, M. Popovic, S. Spann, R. Etoornay, D. Kainmüller, S. Ghosh, E. W. Myers, F. Jülicher and S. Eaton
Development **144**, 4406 (2017).
- [181] **Friction from Transduction Channels' Gating Affects Spontaneous Hair-Bundle Oscillations**
J. Barral, F. Jülicher and P. Martin
Biophys J. **114**, 425 (2018).
- [182] **Chemical event chain model of coupled genetic oscillators**
D. J. Jörg, L. G. Morelli and F. Jülicher
Phys. Rev. E **97**, 032409 (2018).
- [183] **Critical Point in Self-Organized Tissue Growth**
D. Aguilar-Hidalgo, S. Werner, O. Wartlick, M. Gonzalez-Gaitan, B. M. Friedrich and F. Jülicher
Phys. Rev. Lett. **120**, 198102 (2018).
- [184] **Discontinuous switching of position of two coexisting phases**
S. Krüger, C. A. Weber, J.-U. Sommer, F. Jülicher
New J. Phys. **20**, 075009 (2018).

- [185] **Morphogenetic Degeneracies in the Actomyosin Cortex**
S. R. Naganathan, S. Fürthauer, J. Rodriguez, B. T. Fievet, F. Jülicher,
J. Ahringer, C. V. Cannistraci and S. W. Grill
eLife **7**:e37677 (2018).
- [186] **Role of Hydrodynamic Flows in Chemically Driven Droplet division**
R. Seybodt and F. Jülicher
New J. Phys. **20**, 105010 (2018).
- [187] **Differential Lateral and Basal Tension Drive Folding of Drosophila Wing Discs through Two Distinct Mechanisms**
L. Sui, S. Alt, M. Weigert, N. Dye, S. Eaton, F. Jug, E. W. Myers, F. Jülicher,
G. Salbreux and Christian Dahmann
Nature Communications **9**, 4620 (2018).
- [188] **Position of Particles in Active Droplets**
D. Zwicker, J. Baumgart, S. Redemann, T. Müller-Reichert, A. A. Hyman and F. Jülicher
Phys. Rev. Lett. **121**, 158102 (2018).
- [189] **Exactly Solvable Dynamics of Forced Polymer Loops**
W. Huang, Y. T. Ling, D. Frömberg, J. Shin, F. Jülicher and V. Zaburdaev
New J. Phys. **20**, 113005 (2018).
- [190] **Salt-Dependent Rheology and Surface Tension of Protein Condensates Using Optical Traps**
L. M. Jawerth, M. Ijavi, M. Ruer, S. Saha, M. Jahnel, A. A. Hyman, F. Jülicher and
E. Fischer-Friedrich
Phys. Rev. Lett. **121**, 258101 (2018).
- [191] **Guiding Self-organized Pattern Formation in Cell Polarity Establishment**
P. Gross, K. V. Kumar, N. W. Goehring, J. S. Bois, C. Hoege, F. Jülicher and S. W. Grill
Nature Physics **15**, 293 (2019).
- [192] **Self-organized Shape Dynamics of Active Surfaces**
A. Mietke, F. Jülicher and I. Sbalzarini
Proc. Natl. Acad. Sci. USA, **116**, 29 (2019).
- [193] **Body Size-dependent Energy Storage Causes Kleiber's Law Scaling of the Metabolic Rate in Planarians**
A. A. Thommen, S. Werner, O. Frank, J. Philipp, O. Knittelfelder, Y. Quek, K. Fahmy, A.
Shevchenko, B. M. Friedrich, F. Jülicher, J. C. Rink
eLife **8**:e38187 (2019).
- [194] **Epithelial Viscoelasticity is Regulated by Mechanosensitive E-cadherin Turnover**
K. Venkatesan Iyer, R. Piscitello-Gómez, J. Pajmians, F. Jülicher and S. Eaton
Current Biology **29**, 578 (2019).
- [195] **Extreme Reductions of Entropy in an Electronic Double Dot**
S. Singh, É. Roldán, I. Neri, I. M. Khaymovich, D. S. Golubev, V. F. Maisi, J. T. Peltonen,
F. Jülicher and J. P. Pekola
Phys. Rev. B **99**, 115422 (2019).

- [196] **Field Induced Cell Proliferation and Death in a Model Epithelium**
N. Sarkar, J. Prost and F. Jülicher
New J. Phys. **21**, 043035 (2019).
- [197] **Cell-Level 3D Reconstruction and Quantification of the Drosophila Wing Imaginal Disc**
D. E. Breen, L. Sui, L. Bai, F. Jülicher and C. Dahmann
Int. J. Bioinformatics Research and Applications **15**, 174 (2019).
- [198] **Liquid-Crystal Organization of Liver Tissue**
H. Morales-Navarrete, H. Nonaka, A. Scholich, F. Segovia-Miranda, W. de Back, K. Meyer, R. L. Bogorad, V. Kotliansky, L. Bruschi, Y. Kalaidzidis, F. Jülicher, B. M. Friedrich, M. Zerial
eLife **8**:e44860 (2019).
- [199] **Active Cargo Positioning in Antiparallel Transport Networks**
M. Richard, C. Blanch-Mercader, H. Ennomani, W. Cao, E. M. De La Cruz J.-F. Joanny, F. Jülicher, L. Blanchoinc, and P. Martin
Proc. Natl. Acad. Sci. USA **116**, 14835 (2019).
- [200] **Fluid Pumping and Active Flexoelectricity can Promote Lumen Nucleation in Cell Assemblies**
C. Duclut, N. Sarkar, J. Prost and F. Jülicher
Proc. Natl. Acad. Sci. USA **116**, 19264 (2019).
- [201] **Integral Fluctuation Relations for Entropy Production at Stopping Times**
I. Neri, E. Roldan, S. Pigolotti and F. Jülicher
J. Stat. Mech., 104006 (2019).
- [202] **Soluble Tubulin is Significantly Enriched at Mitotic Centrosomes**
J. Baumgart, M. Kirchner, S. Redemann, A. Bond, J. Woodruff, J.-M. Verbavatz, F. Jülicher, T. Müller-Reichert, A. A. Hyman and J. Brugués
J Cell Biol. **218**, 3977 (2019).
- [203] **Minimal Model of Cellular Symmetry Breaking**
A. Mietke, V. Jemseena, K. Vijay Kumar, I. F. Sbalzarini and F. Jülicher
Phys. Rev. Lett. **123**, 188101 (2019).
- [204] **Casimir Stresses in Active Nematic Films**
A. Basu, J.-F. Joanny, F. Jülicher and J. Prost
New J. Phys. **21**, 123046 (2019).
- [205] **Phase Separation Provides a Mechanism to Reduce Noise in Cells**
K. Klosin, F. Oltsch, T. Harmon, A. Honigmann, F. Jülicher, A. A. Hyman, C. Zechner
Science **367**, 464 (2020).
- [206] **BMP Signaling Gradient Scaling in the Zebrafish Pectoral Fin**
R. Mateus, L. Holtzer, C. Seum, Z. Hadjivasiliou, M. Dubois, F. Jülicher, and M. Gonzalez-Gaitan
Cell Reports **30**, 4292 (2020).
- [207] **Active Forces Shape the Metaphase Spindle Through a Mechanical Instability**
D. Oriola, F. Jülicher, and J. Brugués
Proc. Natl. Acad. Sci. USA **117**, 16154 (2020).

- [208] **Flagellar Length Control in Biflagellate Eukaryotes: Time-of-Flight, Shared Pool, Train Traffic and Cooperative Phenomena**
S. Patra, F. Jülicher, and D. Chowdhury
New J. Phys. **22**, 083009 (2020).
- [209] **Liquid Phase Separation Controlled by pH**
O. Adame-Arana, C. A. Weber, V. Zaburdaev, J. Prost, and F. Jülicher
Biophys J. **119**, 1590 (2020).
- [210] **Power-Law Population Heterogeneity Governs Epidemic Waves**
J. Neipel, J. Bauermann, S. Bo, T. Harmon, F. Jülicher
PLoS ONE **15(10)**, e0239678 (2020).
- [211] **Stability and Transient Dynamics of PLLs in Theory and Experiments**
R. F. Riaz, D. Prousalis, C. Hoyer, J. Wagner, F. Ellinger, F. Jülicher, L. Wetzel
European Conference on Circuit Theory and Design (ECCTD), **1** (2020).
- [212] **Extreme-Value Statistics of Stochastic Transport Processes**
A. Guillet, E. Roldan, and F. Jülicher
New J. Phys. **22**, 123038 (2020).
- [213] **Protein Condensates as Aging Maxwell Fluids**
L. Jawerth, E. Fischer-Friedrich, S. Saha, J. Wang, T. Franzmann, X. Zhang, J. Sachweh, M. Ruer, M. Ijavi, S. Saha, J. Mahamid, A. A. Hyman, F. Jülicher
Science **370**, 1317 (2020).
- [214] **Quantification of nematic cell polarity in three-dimensional tissues**
A. Scholich, S. Syga, H. Morales-Navarrete, F. Segovia-Miranda, H. Nonaka, K. Meyer, W. de Back, L. Bruschi, Y. Kalaidzidis, M. Zerial, F. Jülicher, B. M. Friedrich
PLoS Computational Biology **17**, e1009349 (2021).
- [215] **Continuum Theory of Active Phase Separation in Cellular Aggregates**
H.-S. Kuan, W. Pönisch, F. Jülicher, and V. Zaburdaev
Phys. Rev. Lett. **126**, 018102 (2021).
- [216] **Epithelial Colonies In Vitro Elongate through Collective Effects**
J. Comelles, S. S. Soumya, L. Lu, E. Le-Maout, S. Anvitha, G. Salbreux, F. Jülicher, M. M. Inamdar, D. Riveline
eLife **10**:e57730 (2021).
- [217] **Transcription Organizes Euchromatin via Microphase Separation**
L. Hilbert, Y. Sato, K. Kuznetsova, T. Bianucci, H. Kimura, F. Jülicher, A. Honigmann, V. Zaburdaev, and N. L. Vastenhout
Nature Communications **12**, 1360 (2021).
- [218] **Theory of Time Delayed Genetic Oscillations with External Noisy Regulation**
J. Negrete Jr, I. M. Lengyel, L. Rohde, R. A. Desai, A. C. Oates, and F. Jülicher
New J. Phys. **23**, 033030 (2021).
- [219] **Active Viscoelasticity of Odd Materials**
D. Banerjee, V. Vitelli, F. Jülicher, and P. Surówka
Phys. Rev. Lett. **126**, 138001 (2021).

- [220] **Apico-Basal Cell Compression Regulates Lamin A/C Levels in Epithelial Tissues**
K. V. Iyer, A. Taubenberger, S. A. Zeidan, N. A. Dye, S. Eaton, and F. Jülicher
Nature Communications **12**, 1756 (2021).
- [221] **Self-Organized Patterning of Cell Morphology via Mechanosensitive Feedback**
N. A. Dye, M. Popovic, K. V. Iyer, J. Fuhrmann, R. Piscitello-Gómez, S. Eaton, and F. Jülicher
eLife **10**:57964 (2021).
- [222] **Inferring the flow properties of epithelial tissues from their geometry**
M. Popović, V. Druelle, N. A. Dye, F. Jülicher, and M. Wyart
New J. Phys. **23**, 033004 (2021).
- [223] **Mutual Synchronization with 24 GHz Oscillators**
C. Hoyer, D. Prousalis, L. Wetzel, R. Riaz, J. Wagner, F. Jülicher, and F. Ellinger
IEEE International Symposium on Circuits and Systems (ISCAS), 1 (2021).
- [224] **Hydraulic and Electric Control of Cell Spheroids**
C. Duclut, J. Prost, and F. Jülicher
Proc. Natl. Acad. Sci. USA **118**, e2021972118(2021).
- [225] **A Hydraulic Instability Drives the Cell Death Decision in the Nematode Germline**
N. T. Chartier, A. Mukherjee, J. Pfanzelter, S. Fürthauer, B. T. Larson, A. W. Fritsch, R. Amini, M. Kreysing, F. Jülicher, and S. W. Grill
Nature Physics **20**, 920 (2021).
- [226] **Force Generation by Protein–DNA Co-Condensation**
T. Quail, S. Golfier, M. Elsner, K. Ishihara, V. Murugesan, R. Renger, F. Jülicher, and J. Brugués
Nature Physics **17**, 1007 (2021).
- [227] **Quantifying Entropy Production in Active Fluctuations of the Hair-Cell Bundle from Time Irreversibility and Uncertainty Relations**
É. Roldán, J. Barral, P. Martin, J. M R Parrondo, and F. Jülicher
New J. Phys. **23**, 083013 (2021).
- [228] **Local Thermodynamics Govern Formation and Dissolution of *Caenorhabditis elegans* P Granule Condensates**
A. W. Fritsch, A. F. Diaz-Delgadillo, O. Adame-Arana, C. Hoege, M. Mittasch, M. Kreysing, M. Leaver, A. A. Hyman, F. Jülicher, and C. A. Weber
Proc. Natl. Acad. Sci. USA **118**, 37 (2021).
- [229] **Thermodynamics of Wetting, Prewetting and Surface Phase Transitions with Surface Binding**
X. Zhao, G. Bartolucci, A. Honigmann, F. Jülicher and C. Weber
New J. Phys. **23**, 123003 (2021).
- [230] **Nonlinear Rheology of Cellular Networks**
C. Duclut, J. Pajmans, M. M. Inamdar, C. D. Modes, and F. Jülicher
Cells and Development **168**, 203746 (2021).

- [231] **Stochastic dynamics of single molecules across phase boundaries**
S. Bo, L. Hubatsch, J. Bauermann, C. A. Weber and F. Jülicher
Phys. Rev. Research **3**, 043150 (2021).
- [232] **Morphogen Gradient Scaling by Recycling of Intracellular Dpp**
M. Romanova Michailidi, Z. Hadjivasiliou, D. Aguilar-Hidalgo, D. Basagiannis, C. Seum, M. Dubois, F. Jülicher and M. Gonzalez-Gaitan
Nature **602**, 287 (2022).
- [233] **Sequence-dependent Surface Condensation of a Pioneer Transcription Factor on DNA**
J. A. Morin, S. Wittmann, S. Choubey, A. Klosin, S. Golfier, A. A. Hyman, F. Jülicher and S. W. Grill
Nature Physics **18**, 271 (2022).
- [234] **A Gelation Transition Enables the Self-organization of Bipolar Metaphase Spindles**
B. A. Dalton, D. Oriola, F. Decker, F. Jülicher and J. Brugués
Nature Physics **18**, 132 (2022).
- [235] **Hydrodynamics of Chiral Squirmers**
P.S. Burada, R. Maity and F. Jülicher
Phys Rev E **105**, 024603 (2022).
- [236] **Co-condensation of Proteins with Single- and Double-stranded DNA**
R. Renger, J. A. Morin, R. Lemaitre, M. Ruer-Gruss, F. Jülicher, A. Hermann and S. Grill
Proc. Natl. Acad. Sci. USA **119**, e2107871119 (2022).
- [237] **Coarse-grained curvature tensor on polygonal surfaces**
C. Duclut, A. Amiri, J. Pajmans and F. Jülicher
SciPost Phys. Core **5**, 011 (2022).
- [238] **Molecular Assembly Lines in Active Droplets**
Tyler S. Harmon and F. Jülicher
Phys. Rev. Lett. **128**, 108102 (2022).
- [239] **Active T1 Transitions in Cellular Networks**
C. Duclut, J. Pajmans, M. M. Inamdar, C. D. Modes and F. Jülicher
Eur. Phys. J. E **45**, 29 (2022).
- [240] **Passive Odd Viscoelasticity**
R. Lier, J. Armas, S. Bo, C. Duclut, F. Jülicher and P. Surówka
Phys. Rev. E. **105**, 054607 (2022).
- [241] **Flagella-like Beating of Actin Bundles Driven by Self-organized Myosin Waves**
M. Pochitaloff, M. Miranda, M. Richard, A. Chaiyasitdhi, Y. Takagi, W. Cao, E. M. De La Cruz, J. R. Sellers, J.-F. Joanny, F. Jülicher, L. Blanchoin and P. Martin
Nature Physics **18**, 1240 (2022).
- [242] **A Condensate Dynamic Instability Orchestrates Actomyosin Cortex Activation**
V. T. Yan, A. Narayanan, T. Wiegand, F. Jülicher and S. W. Grill
Nature **609**, 597 (2022).

- [243] **Energy and Matter Supply for Active Droplets**
J. Bauermann, C. A. Weber and F. Jülicher
Ann. Phys. (Berlin) **534**, 2200132 (2022).
- [244] **Theory of Nematic and Polar Active Fluid Surfaces**
G. Salbreux, F. Jülicher, J. Prost, A. Callan-Jones
Phys. Rev. Research **4**, 033158 (2022).
- [245] **Long-range Morphogen Gradient Formation by Cell-to-Cell Signal Propagation**
J. E. M. Dickmann, J. C. Rink and F. Jülicher
Phys. Biol. **19**, 066001 (2022).
- [246] **Chemical Kinetics and Mass Action in Coexisting Phases**
J. Bauermann, S. Laha, P. M. McCall, F. Jülicher and C. A. Weber
J. Am. Chem. Soc., **144**, 19294 (2022).
- [247] **Broken Living Layers: Dislocations in Active Smectic Liquid Crystals**
F. Jülicher, J. Prost and J. Toner
Phys. Rev. E **106**, 054607 (2022).
- [248] **Heat Fluctuations in Chemically Active Systems**
J. Mabillard, C. A. Weber and F. Jülicher
Phys. Rev. E **107**, 014118 (2023).
- [249] **Polarized Branched Actin Modulates Cortical Mechanics to Produce Unequal-size Daughters during Asymmetric Division**
A. Daeden, A. Mietke, E. Derivery, C. Seum, F. Jülicher and M. Gonzalez-Gaitan
Nature Cell Biology **25**, 235 (2023).
- [250] **Topological Morphogenesis of Neuroepithelial Organoids**
K. Ishihara, A. Mukherjee, E. Gromberg, J. Brugués, E. M. Tanaka and F. Jülicher
Nature Physics, **19**, 177-183 (2023).
- [251] **Entrainment of Mutually Synchronized Spatially Distributed 24 Ghz Oscillators**
C. Hoyer, L. Wetzel, D. Prousalis, J. Wagner, F. Jülicher and F. Ellinger
IEEE Transactions on Circuits and Systems I: Regular Papers (2023).
- [252] **Optimal Information Usage in Binary Sequential Hypothesis Testing**
M. Dörpinghaus, I. Neri, É. Roldán and F. Jülicher
Theory Probab. Appl., **68**, 77-87 (2023).
- [253] **Spontaneous Flow Instabilities of Active Polar Fluids in Three Dimensions**
A. Singh, Q. Vagne, F. Jülicher and I. F. Sbalzarini
Phys. Rev. Research, **5**, L022061 (2023).
- [254] **Theory of Rheology and Aging of Protein Condensates**
R. Takaki, L. Jawerth, M. Popović and F. Jülicher
PRX Life, **1**, 013006 (2023).
- [255] **Random Traction Yielding Transition in Epithelial Tissues**
A. Amiri, C. Duclut, F. Jülicher and M. Popovic
Phys. Rev. Lett. **131**, 188401 (2023).

- [256] **Lift force in Odd Compressible fluids**
R. Lier, C. Duclut, S. Bo, J. Armas, F. Jülicher and P. Surówka
Phys. Rev. E **108**, L023101 (2023).
- [257] **Liquid spherical shells are a non-equilibrium steady state of active droplets**
A. M. Bergmann, J. Bauermann, G. Bartolucci, C. Donau, M. Stasi, A-L. Holtmannspötter, F. Jülicher, C. A. Weber and J. Boekhoven
Nature Communications. **14**, 6552 (2023).
- [258] **Formation of Liquid Shells in Active Droplet Systems**
J. Bauermann, G. Bartolucci, J. Boekhoven, C. A. Weber, and F. Jülicher
Phys. Rev. Research **5**, 043246 (2023).
- [259] **Odd Cosserat Elasticity in Active Materials**
P. Surówka, A. Souslov, F. Jülicher, and D. Banerjee
Phys. Rev. E **108**, 064609 (2023).
- [260] **Core PCP Mutations Affect Short-time Mechanical Properties but not Tissue Morphogenesis in the Drosophila Pupal Wing**
R. Piscitello-Gómez, F. S. Gruber, A. Krishna, C. Duclut, C. D. Modes, M. Popovic, F. Jülicher, N. A. Dye, S. Eaton
eLife **12**:e85581 (2023).
- [261] **Probe Particles in Odd Active Viscoelastic Fluids: How Activity and Dissipation Determine Linear Stability**
C. Duclut, S. Bo, R. Lier, J. Armas, P. Surówka and F. Jülicher
Phys. Rev. E **109**, 044126 (2024).
- [262] **A Cytokinetic Ring-Driven Cell Rotation Achieves Hertwig's Rule in Early Development**
T. C. Middelkoop, J. Neipel, C. E. Cornell, R. Naumann, L. G. Pimpale, F. Jülicher and S. W. Grill
Proc. Natl. Acad. Sci. USA **121**, e2318838121 (2024).
- [263] **Droplet Differentiation by a Chemical Switch**
X. Chen, R. Seyboldt, J.-U. Sommer, F. Jülicher and T. Harmon
Phys. Rev. Lett. **133**, 028402 (2024).
- [264] **Emergent Chirality in Active Solid Rotation of Pancreas Spheres**
T. H. Tan, A. Amiri, I. Seijo-Barandiaran, M. F. Staddon, A. Materne, S. Tomas, C. Duclut, M. Popovic, A. Grapin-Botton and F. Jülicher
PRX LIFE **2**, 033006 (2024).
- [265] **Charge Separation at Liquid Interfaces**
A. Majee, C. A. Weber and F. Jülicher
Phys. Rev. Research **6**, 033138 (2024).
- [266] **Membrane Prewetting by Condensates Promotes Tight-Junction Belt Formation**
K. Pombo-García, O. Adame-Arana, C. Martin-Lemaitre, F. Jülicher and A. Honigmann
Nature **632**, 647 (2024).

- [267] **Active Shape Programming Drives Drosophila Wing Disc Eversion**
J. F. Fuhrmann, A. Krishna, J. Pajmans, C. Duclut, G. Cwikla, S. Eaton, M. Popović,
F. Jülicher, C. D. Modes, N. A. Dye
Sci. Adv. **10**, eadp0860 (2024).
- [268] **Condensate Formation in Chiral Lattice Gas**
B. Wang, F. Jülicher and P. Pietzonka
New J. Phys. **26**, 093031 (2024).
- [269] **Theory of Wetting Dynamics with Surface Binding**
X. Zhao, S. Liese, A. Honigmann, F. Jülicher and C. A. Weber
New J. Phys. **26**, 103025 (2024).
- [270] **Chemical Reactions Regulated by Phase-Separated Condensates**
S. Laha, J. Bauermann, F. Jülicher, T. C. T. Michaels and C. A. Weber
Phys. Rev. Research **6**, 043092 (2024).
- [271] **Concentration Buffering and Noise Reduction in Non-equilibrium Phase-separating Systems**
C. Zechner and F. Jülicher
Cell Systems **16**, 101168 (2025).
- [272] **Nonequilibrium Transitions in a Template Copying Ensemble**
A. Genthon, C. D. Modes, F. Jülicher and S. W. Grill
Phys. Rev. Lett. **134**, 068402 (2025).
- [273] **Active Loop Extrusion Guides DNA-Protein Condensation**
R. Takaki, Y. Savich, J. Brugués and F. Jülicher
Phys. Rev. Lett. **134**, 128401 (2025).
- [274] **Chemically Active Wetting**
S. Liese, X. Zhao, C. A. Weber and F. Jülicher
Proc. Natl. Acad. Sci. USA **122**, e2403083122 (2025).
- [275] **A Mechanism for MEX-5-driven Disassembly of PGL-3/RNA Condensates in Vitro**
N. S. Lewis, S. Zedlitz, H. Ausserwöger, P. M. McCall, L. Hubatsch, M. Nousch,
M. Ruer-Gruß, C. Hoege, F. Jülicher, C. R. Eckmann, T. P. J. Knowles and A. A. Hyman
Proc. Natl. Acad. Sci. USA **122**, e2412218122 (2025).

CONFERENCE PROCEEDINGS AND BOOK CHAPTERS

- [276] **Molecular Motors: From Individual to Collective Behavior**
F. Jülicher and J. Prost
Prog. Theor. Phys. Supplement **130**, 9 (1998).
- [277] **Two-Tone Interference Caused by Active Amplification**
T. A. J. Duke, D. Andor and F. Jülicher
published in *Biophysics of the Cochlea* Titisee 2002 Conference Proceedings.
edited by A. W. Gummer
Singapore: World Scientific, pp. 559-560 (2003)

- [278] **The Contribution of Transduction Channels and Adaptation Motors to the Hair Cell's Active Process**
P. Martin, F. Jülicher and A.J. Hudspeth
published in *Biophysics of the Cochlea* Titisee 2002 Conference Proceedings.
edited by A. W. Gummer
Singapore: World Scientific, pp. 3-15 (2003)
- [279] **Active Amplification by Critical Oscillations**
F. Jülicher, S. Camalet, J. Prost and T. Duke
published in *Biophysics of the Cochlea* Titisee 2002 Conference Proceedings.
edited by A. W. Gummer
Singapore: World Scientific, pp. 16-27 (2003)
- [280] **Active Amplification by Spontaneous Hair Bundle Oscillations**
F. Jülicher
published in *Unsolved Problems of Noise and Fluctuations*
UPoN 2002: Third International Conference on Unsolved Problems of Noise
and Fluctuations in Physics, Biology, and High Technology
edited by Sergey M. Bezrukov
AIP Conference Proceedings, Vol. 665, Melville, New York, (2003).
- [281] **Active Amplification in Hearing**
F. Jülicher
published in *Nova Acta Leopoldina: N. F., Bd. 88, Nr. 332*
Nonlinear Dynamics and the Spatiotemporal Principles of Biology
Conference Proceedings Darmstadt 13 - 15 May 2002
edited by F. Beck, M.-T. Hütt, and U. Lüttge
Stuttgart Wissenschaftl. Verlagsges. (2003).
- [282] **Physical Basis of Interference Effects in Hearing**
T. Duke, D. Andor and F. Jülicher
Ann. Henri Poincaré **4**, Suppl. 2, 667 (2003).
TH 2002 Conference Proceedings Paris, 22 - 27 July 2002.
- [283] **Active Behaviors in Living Cells**
F. Jülicher
Ann. Henri Poincaré **4**, Suppl. 2, 671 (2003).
TH 2002 Conference Proceedings Paris, 22 - 27 July 2002.
- [284] **Force and Motion Generation in Cells**
F. Jülicher
published in *Proc. Idea-Finding Symposium*
Frankfurt Institute for Advanced Studies (2003) 95-101
Conference Proceedings Idea-Finding Symposium, Frankfurt 15 - 17 April 2003
EP Systema, Debrecen (2004).
- [285] **Spontaneous Oscillations in Mechanosensory Hair Bundles**
B. Nadrowski, P. Martin and F. Jülicher
published in *Fluctuations and Noise in Biological, Biophysical,*
and Biomedical Systems III
Proceedings of SPIE Vol. 5841, Austin, Texas, 24 - 26 May 2005
edited by N.G. Stocks, D. Abott, R.P. Morse
SPIE, Bellingham, WA (2005).

- [286] **Spontaneous Movements of Mechanosensory Hair Bundles**
 B. Nadrowski, P. Martin and F. Jülicher
 published in *Noise and Fluctuations: 18th International Conference on Noise and Fluctuations - ICNF 2005*
 AIP Conference Proceedings, Vol. 780, pp 557-562, Aug. 2005.
- [287] **Active Hair-Bundle Motility Harnesses Noise to Operate Near an Optimum of Mechanosensitivity**
 P. Martin, B. Nadrowski and F. Jülicher
 published in *Auditory Mechanisms - Processes and Models*
 Proceedings of the Ninth International Mechanics of Hearing Workshop,
 Portland, Oregon, 23 - 28 July 2005
 edited by A.L. Nuttall, T. Ren, P. Gillespie, K. Grosh and E. de Boer
 World Scientific Publishing (2006).
- [288] **Wave Propagation by Critical Oscillators**
 D. Andor, T. Duke, A. Simha and F. Jülicher
 published in *Auditory Mechanisms - Processes and Models*
 Proceedings of the Ninth International Mechanics of Hearing Workshop,
 Portland, Oregon, 23 - 28 July 2005
 edited by A.L. Nuttall, T. Ren, P. Gillespie, K. Grosh and E. de Boer
 World Scientific Publishing (2006).
- [289] **Critical Oscillators as Active Elements in Hearing**
 T. A. J. Duke and F. Jülicher
 in *Active Processes and Otoacoustic Emissions*,
 edited by G. A. Manley, R. R. Fay, A. N. Popper
 Springer Handbook of Auditory Research,
 Springer (2008).
- [290] **Biophysik der Zellbewegungen**
Von molekularen Motoren zu zellulärem Transport
 F. Jülicher
 in *Nova Acta Leopoldina NF 97*, **358**, 103-114 (2008).
- [291] **Active Hair-Bundle Motility by the Vertebrate Hair Cell**
 J-Y. Tinevez, P. Martin and F. Jülicher
 published in *Concepts and Challenges in the Biophysics of Hearing*
 Proceedings of the 10th International Workshop on the Mechanics of Hearing
 Keele University, Staffordshire, UK, 27 - 31 July 2008
 edited by N. P. Cooper and D. T. Kemp
- [292] **The Interplay Between Active Hair Bundle Mechanics and Electromotility in the Cochlea**
 D. O Maoileidigh and F. Jülicher
 published in *Concepts and Challenges in the Biophysics of Hearing*
 Proceedings of the 10th International Workshop on the Mechanics of Hearing
 Keele University, Staffordshire, UK, 27 - 31 July 2008
 edited by N. P. Cooper and D. T. Kemp

- [293] **Mechanical Properties of Coupled Hair Bundles**
K. Dierkes, B. Lindner and F. Jülicher
published in *Concepts and Challenges in the Biophysics of Hearing*
Proceedings of the 10th International Workshop on the Mechanics of Hearing
Keele University, Staffordshire, UK, 27 - 31 July 2008
edited by N. P. Cooper and D. T. Kemp
- [294] **Microtubules and motor proteins:
Mechanically regulated self-organization in vivo**
S. K. Vogel, N. Pavin, N. Maghelli, F. Jülicher and I. M. Tolic-Norrelykke
Eur. Phys. J. ST **178**, 57 (2010).
- [295] **Noise and Oscillations in Biological Systems: Multidisciplinary Approach Between
Experimental Biology, Theoretical Modelling and Synthetic Biology**
E. Ullner, S. Ares, L. G. Morelli, A.C. Oates, F. Jülicher, E. Nicola, R. Heussen,
D. Whitmore, K. Blyuss, M. Fryett, A. Zakharova, A. Koseska, N. R. Nene and A. Zaikin
International Journal of Modern Physics B **26**, 1246009 (2012).
- [296] **Hair-bundle friction from transduction channels's gating forces**
V. Bormuth, J. Barral, J.-F. Joanny, F. Jülicher and P. Martin
AIP Conf. Proc. **1703**, 030003 (2015).
- [297] **Emergence of Tissue Shape Changes from Collective Cell Behaviours**
F. Jülicher and S. Eaton
Seminars in Cell & Developmental Biology, **67**, 103 (2017).
- [298] **An Information Theoretic Analysis of Sequential Decision-Making**
M. Dörpinghaus, E. Roldán, I. Neri, H. Meyr and F. Jülicher
IEEE International Symposium on Information Theory (ISIT), 3050 (2017).
- [299] **Heterogeneity in Time Delays between Mutually Synchronized 24 GHz Oscillators**
C. Hoyer, L. Wetzel, D. Prousalis, J. Wagner, F. Jülicher and F. Ellinger
21st IEEE Interregional NEWCAS Conference (NEWCAS), Edingburgh, United Kingdom, 2023, pp.1-5, doi: 10.1109/NEWCAS57931.2023.10198039 (2023).

REVIEWS, THESES, BOOKS

- [300] **Funktionale Renormierung an einem Modell zum Benetzungsübergang**
F. Jülicher
Diplomarbeit, Bericht der KFA Jülich Nr. 2318 (1989).
- [301] **Die Morphologie von Vesikeln**
F. Jülicher
Doktorarbeit, Bericht der KFA Jülich Nr. 2902 (1994).
- [302] **La Physique des Liposomes**
X. Michalet, F. Jülicher, B. Fourcade, U. Seifert et D. Bensimon
La Recherche **269**, 1012 (1994).

- [303] **Modeling Molecular Motors**
F. Jülicher, A. Ajdari and J. Prost
Rev. Mod. Phys. **69**, 1269 (1997).
- [304] **Force and Motion Generation of Molecular Motors:
A Generic Description**
F. Jülicher
published in *Transport and Structure: Their Competitive Roles in Biophysics and Chemistry*,
edited by S.C. Müller, J. Parisi and W. Zimmermann, Lecture Notes in Physics,
Springer, Berlin (1999).
- [305] **Mechanical Oscillations at the Cellular Scale**
F. Jülicher
C.R. Acad Sci. (Paris) IV, No. 6, p. 849 (2001).
- [306] **Les Houches Session LXXV
Physics of Bio-Molecules and Cells**
edited by H. Flyvbjerg, F. Jülicher, P. Ormos, and F. David
EDP Sciences and Springer Verlag, (2002).
- [307] **Oscillations in Cell Biology**
K. Kruse and F. Jülicher
Current Opinion in Cell Biology **17**, 20 (2005).
- [308] **Statistical Physics of Active Processes in Cells**
F. Jülicher
Physica A **369**, 185 (2006).
- [309] **Molekulare Motoren und zelluläre Dynamik**
F. Jülicher
Physik Journal **5**, 59 (2006).
- [310] **Active Behavior of the Cytoskeleton**
F. Jülicher, K. Kruse, J. Prost and J.-F. Joanny
Phys. Rep. **449**, 3 (2007).
- [311] **The Remarkable Cochlear Amplifier**

J. Ashmore, P. Avan, W.E. Brownell, P. Dallos, K. Dierkes, R. Fettiplace, K. Grosh,
C.M. Hackney, A.J. Hudspeth, F. Jülicher, B. Lindner, P. Martin, J. Meaud, C. Petit,
J.R. Santos Sacchi, B. Canlon
Hearing Research **266**, 1 (2010).
- [312] **A Critique of the Critical Cochlea:
Hopf—a Bifurcation—Is Better Than None**
A. J. Hudspeth, F. Jülicher and P. Martin
J Neurophysiol. **104**, 1219 (2010).
- [313] **Enhanced SnapShot: The Segmentation Clock**
D. Roellig, L.G. Morelli, S. Ares, F. Jülicher, and A.C. Oates
Cell **145**, 800 (2011).

- [314] **Active fluids and gels**
F. Jülicher
published in *Les Houches, Session XCII, New Trends in the Physics and Mechanics of Biological Systems*, edited by M. B. Amar, A. Goriely, M. M. Müller, L. F. Cugliandolo
Oxford University Press, (2011).
- [315] **Understanding morphogenetic growth control - lessons from flies**
O. Wartlick, P. Mumcu, F. Jülicher and M. Gonzalez-Gaitan
Nat. Rev. Mol. Cell Biol. **12**, 594 (2011)
- [316] **Cell flow reorients planar polarity in the wing of *Drosophila***
B. Aigouy, R. Etnounay, A. Sagner, D.B. Staple, R. Farhadifar, J.-C. Röper, S. Eaton, F. Jülicher
Med Sci (Paris) **27**, 117 (2011).
- [317] **Cell flow and tissue polarity patterns**
S. Eaton and F. Jülicher
Curr. Opin. Genet. Dev. **21**, 747 (2011)
- [318] **La mécanique de l'adhésion cellulaire dans la gastrulation du poisson zèbre**
J.-L. Maître, H. Berthoumieux, S. F. G. Krens, G. Salbreux, F. Jülicher, E. Paluch, C.-P. Heisenberg
Med Sci (Paris) **29**, 147 (2013).
- [319] **The Role of Endocytosis during Morphogenetic Signaling**
M. Gonzalez-Gaitan and F. Jülicher
Cold Spring Harb Perspect Biol. **6**, 016881 (2014).
- [320] **Liquid-Liquid Phase Separation in Biology**
A. A. Hyman, C. Weber and F. Jülicher
Annu. Rev. Cell Dev. Biol. **30**, 39 (2014).
- [321] **Active Gel Physics**
J. Prost, F. Jülicher and J-F. Joanny
Nature Physics **11**, 111 (2015).
- [322] **The Wing and the Eye: a Parsimonious Theory for Scaling and Growth Control?**
M. Romanova-Michaelides, D. Aguilar-Hidalgo, F. Jülicher and M. Gonzalez-Gaitan
Dev. Biol. **4**, 591 (2015).
- [323] **Theory of Cargo and Membrane Trafficking**
L. Foret, L. Brusch and F. Jülicher
published in *Encyclopedia of Cell Biology, Vol. 4*, Waltham, MA
edited by R. A. Bradshaw and P. D. Stahl
Academic Press, pp. 56-62 (2016).
- [324] **Mechanochemical Pattern Formation in the Actomyosin Cortex**
M. Nishikawa, S. R. Naganathan, F. Jülicher and S. W. Grill
Seibutsu Busuri **58**, 27 (2018).
- [325] **Hydrodynamic Theory of Active Matter**
F. Jülicher, S. W. Grill and G. Salbreux
Rep. Prog. Phys. **81**, 076601 (2018).

- [326] **Physics of Active Emulsions**
C. A. Weber, D. Zwicker, F. Jülicher and C. F. Lee
Rep. Prog. Phys. **82**, 064601 (2019).
- [327] **Die Physik Dynamischer Tropfen**
C. A. Weber, L. Hubatsch, F. Jülicher
Physik Journal **12**, 42 (2020).
- [328] **Length Control of Long Cell Protrusions: Rulers, Timers and Transport**
S. Patra, D. Chowdhury and F. Jülicher
Physics Reports **987**, 1 (2022).
- [329] **Droplet Physics and Intracellular Phase Separation**
F. Jülicher and C. A. Weber
Annu. Rev. Condens. Matter Phys. **15** (2024).
- [330] **Martingales for Physicists: A Treatise on Stochastic Thermodynamics and Beyond**
É. Roldán, I. Neri, R. Chetrite, S. Gupta, S. Pigolotti, F. Jülicher and K. Sekimoto
Advances in Physics, **72** (2024).

EDITORIALS

- [331] **Focus on Physics of the Cytoskeleton**
J. Käs and F. Jülicher
New. J. Phys. **9**, 1 (2007).
- [332] **Soft Matter and Biological Physics**
R.A.L. Jones, F. Jülicher and G. Maret
Eur. Phys. J. E. **28**, 1 (2009).
- [333] **Morphogenetic Processes in Animals and Plants**
K. Kruse and F. Jülicher
Eur. Phys. J. E **33**, 97 (2010).
- [334] **Theme Issue in Memory of Tom Duke**
F. Jülicher
Interface Focus **4**, 20140072 (2014).