

PROF. DR. FRANK JÜLICHER

Max Planck Institute for the Physics of Complex Systems

Nöthnitzer Strasse 38 · 01187 Dresden · Germany

Tel: +49 351 871 1202 · Fax: +49 351 871 1299

Email: julicher@pks.mpg.de

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
Curr. Biol. **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
Curr. Biol. **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. Zapatocky
Phys. Rev. E **76**, 021904 (2007).
- [64] **Stress Generation and Filament Turnover during Actin Ring Constriction**
A. Zumdieck, 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
Curr. Biol. **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. Hoege, 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
Curr. Biol. **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
Curr. Biol. **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
Curr. Biol. **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** (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
Curr. Biol. **22**, 1 (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).

CONFERENCE PROCEEDINGS AND BOOK CHAPTERS

- [107] **Molecular Motors: From Individual to Collective Behavior**
F. Jülicher and J. Prost
Prog. Theor. Phys. Supplement **130**, 9 (1998).
- [108] **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, 2003, S. 3-15
- [109] **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, 2003, S. 16-27
- [110] **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.
- [111] **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.
- [112] **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.
- [113] **Active Behaviors in Living Cells**
F. Jülicher
Ann. Henri Poincaré **4**, Suppl. 2, 671 (2003).
TH 2002 Conference Proceedings Paris, 22 - 27 July 2002.
- [114] **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.

- [115] **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.
- [116] **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.
- [117] **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.
- [118] **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.
- [119] **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).
- [120] **Biophysik der Zellbewegungen
 Von molekularen Motoren zu zellulärem Transport**
 F. Jülicher
 in *Nova Acta Leopoldina NF 97*, **358**, 103-114 (2008).
- [121] **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

- [122] **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
- [123] **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
- [124] **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)

REVIEWS, THESES, BOOKS

- [125] **Funktionale Renormierung an einem Modell zum Benetzungsübergang**
 F. Jülicher
Diplomarbeit, Bericht der KFA Jülich Nr. 2318 (1989).
- [126] **Die Morphologie von Vesikeln**
 F. Jülicher
Doktorarbeit, Bericht der KFA Jülich Nr. 2902 (1994).
- [127] **La Physique des Liposomes**
 X. Michalet, F. Jülicher, B. Fourcade, U. Seifert et D. Bensimon
La Recherche **269**, Vol. 25, 1012 (1994).
- [128] **Modeling Molecular Motors**
 F. Jülicher, A. Ajdari and J. Prost
Rev. Mod. Phys. **69**, 1269 (1997).
- [129] **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).
- [130] **Mechanical Oscillations at the Cellular Scale**
 F. Jülicher
C.R. Acad Sci. (Paris) IV, No. 6, p. 849 (2001).

- [131] **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).
- [132] **Oscillations in Cell Biology**
K. Kruse and F. Jülicher
Current Opinion in Cell Biology **17**, 20 (2005).
- [133] **Statistical Physics of Active Processes in Cells**
F. Jülicher
Physica A **369**, 185 (2006).
- [134] **Molekulare Motoren und zelluläre Dynamik**
F. Jülicher
Physik Journal **5**, 59 (2006).
- [135] **Active Behavior of the Cytoskeleton**
F. Jülicher, K. Kruse, J. Prost and J.-F. Joanny
Phys. Rep. **449**, 3 (2007).
- [136] **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).
- [137] **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).
- [138] **Enhanced SnapShot: The Segmentation Clock**
D. Roellig, L.G. Morelli, S. Ares, F. Jülicher, and A.C. Oates
Cell **145**, 800 (2011).
- [139] **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).
- [140] **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)
- [141] **Cell flow reorients planar polarity in the wing of Drosophila**
B. Aigouy, R. Etoarnay, A. Sagner, D.B. Staple, R. Farhadifar, J.-C. Röper, S. Eaton,
F. Jülicher
Med Sci (Paris) **27**, 117 (2011).

- [142] **Cell flow and tissue polarity patterns**
S. Eaton and F. Jülicher
Curr. Opin. Genet. Dev. **21**, 747 (2011)

EDITORIALS

- [143] **Focus on Physics of the Cytoskeleton**
J. Käs and F. Jülicher
New. J. Phys. **9**, 1 (2007).
- [144] **Soft Matter and Biological Physics**
R.A.L. Jones, F. Jülicher and G. Maret
Eur. Phys. J. E. **28**, 1 (2009).
- [145] **Morphogenetic Processes in Animals and Plants**
K. Kruse and F. Jülicher
Eur. Phys. J. E **33**, 97 (2010).