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Gabor Forgacs and Stuart A. Newman
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Biological Physics of the Developing Embryo

During development, cells and tissues undergo dynamic changes in pattern and form that employ a wider range of physical mechanisms than at any other time during an organism's life. *Biological Physics of the Developing Embryo* presents a framework within which physics can be used to analyze these biological phenomena.

Written to be accessible to both biologists and physicists, major stages and components of biological development are introduced and then analyzed from the viewpoint of physics. The presentation of physical models requires no mathematics beyond basic calculus. Physical concepts introduced include diffusion, viscosity and elasticity, adhesion, dynamical systems, electrical potential, percolation, fractals, reaction-diffusion systems, and cellular automata.

With full-color figures throughout, this comprehensive textbook teaches biophysics by application to developmental biology and is suitable for graduate and upper-undergraduate courses in physics and biology.

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Professor Forgacs has held positions at the Central Research Institute for Physics, Budapest, at the French Atomic Energy Agency, Saclay, and at Clarkson University, Potsdam. He has been a Fulbright Fellow at the Institute of Biophysics of the Budapest Medical University and has organized several meetings on the frontiers between physics and biology at the Les Houches Center for Physics. He has also served as advisor to several federal agencies of the USA on the promotion of interdisciplinary research, in particular at the interface of physics and biology. He is a member of a number of professional associations, such as The Biophysical Society, The American Society for Cell Biology, and The American Physical Society.

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Professor Newman has been an INSERM Fellow at the Pasteur Institute, Paris, and a Fogarty Senior International Fellow at Monash University, Australia. He is a co-editor (with Brian K. Hall) of *Cartilage: Molecular Aspects* (CRC Press, 1991) and (with Gerd B. Müller) of *Origination of Organismal Form: Beyond the Gene in Developmental and Evolutionary Biology* (MIT Press, 2003). He has testified before US Congressional committees on cloning, stem cells, and the patenting of organisms and has served as a consultant to the US National Institutes of Health on both technical and societal issues.

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Contents

Acknowledgments	<i>page</i> vii
Introduction: Biology and physics	1
<hr/>	
1 The cell: fundamental unit of developmental systems	6
The eukaryotic cell	6
Diffusion	8
Osmosis	15
Viscosity	16
Elasticity and viscoelasticity	21
Perspective	22
<hr/>	
2 Cleavage and blastula formation	24
The cell biology of early cleavage and blastula formation	24
Physical processes in the cleaving blastula	29
Physical models of cleavage and blastula formation	39
Perspective	50
<hr/>	
3 Cell states: stability, oscillation, differentiation	51
Gene expression and biochemical state	52
How physics describes the behavior of a complex system	53
Oscillatory processes in early development	57
Multistability in cell-type diversification	63
Perspective	76
<hr/>	
4 Cell adhesion, compartmentalization, and lumen formation	77
Adhesion and differential adhesion in development	78
The cell surface	80
Cell adhesion: specific and nonspecific aspects	81
The kinetics of cell adhesion	84
Differential adhesion of embryonic tissues	90
The physics of cell sorting	95
Perspective	97
<hr/>	
5 Epithelial morphogenesis: gastrulation and neurulation	99
Physical properties of epithelia	100
Gastrulation	108
Convergence and extension	117
Neurulation	122

	Perspective	128
	Appendix: Linear stability analysis	128
6	Mesenchymal morphogenesis	131
	Development of the neural crest	134
	The extracellular matrix: networks and phase transformations	138
	Mesenchymal condensation	149
	Perspective	154
7	Pattern formation: segmentation, axes, and asymmetry	155
	Basic mechanisms of cell pattern formation	157
	Segmentation	162
	Epithelial patterning by juxtacrine signaling	168
	Mesoderm induction by diffusion gradients	171
	Reaction–diffusion systems	173
	Control of axis formation and left–right asymmetry	177
	Perspective	187
8	Organogenesis	188
	Development of the cardiovascular system	190
	Fractals and their biological significance	197
	Branching morphogenesis: development of the salivary gland	203
	Vertebrate limb development	210
	Perspective	222
9	Fertilization: generating one living dynamical system from two	223
	Development of the egg and sperm	224
	Interaction of the egg and sperm	233
	Propagation of calcium waves: spatiotemporal encoding of postfertilization events	236
	Surface contraction waves and the initiation of development	242
	Perspective	247
10	Evolution of developmental mechanisms	248
	The physical origins of developmental systems	249
	Analyzing an evolutionary transition using physical concepts: segmentation in insects	256
	The evolution of developmental robustness	262
	Perspective	272
	Glossary	273
	References	291
	Index	327

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