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Developmental biology gilbert

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The saga of the germ line Ch. 20. An overview of plant development Ch. 21. Medical implications of developmental biology Ch. 22. Environmental regulation of animal development Ch. 23. Developmental mechanisms of evolutionary change. United States Jump To Register or Log In Editorial reviews Publisher Synopsis Always a firm favourite, this has since last year become my textbook of choice. I have found the digital resources associated with this book extremely helpful, and have made grateful use of the teaching ideas that the authors have shared. * Dr Casper J. Breuker, Department of Biological and Medical Sciences, Oxford Brookes University * Development Biology is a very readable, balanced, and thorough introduction covering all the most important aspects of this fascinating field. This is an excellent textbook for introducing beginners, advanced students, and even experts from other fields to the beauty and complexity of developmental and regenerative biology. * Michael Levin, Tufts University * This is the definitive developmental biology textbook - a real classic that has been updated to include newly-understood concepts from fast-moving fields. It is inspiring to students to see how quickly the entire field of developmental biology has been transformed into a molecular science. * Jessica LaMae Whited, Harvard University * This book is the gold standard in developmental biology. The many micrographs and its comprehensiveness make it an indispensable resource for serious students in the field. * Jeff Hardin, University of Wisconsin-Madison * Read more... User-contributed reviews Add a review and share your thoughts with other readers. Be the first. Add a review and share your thoughts with other readers. Be the first. Delivery Update: We're currently shipping orders daily. However, due to supply issues for print and paper in some geographies, deliveries may be delayed. To provide our customers with immediate access to content, we are offering a 50% discount on Science & Technology print & eBook bundles for instant downloading of eBooks: Terms & conditionsEvolutionary Developmental Biology, Volume 141 focuses on recent research in evolutionary developmental biology, the science studying how changes in development cause the variations that natural selection operate on. Several new hypotheses and models are presented in this volume, and these concern x homology may be properly delineated, how neural crest and y placode cells emerged and how they formed the skull and jaw, and how plasticity and developmental symbiosis enable normal development to be regulated by environmental factors. New models for homology New hypotheses for the generation of chordates New models for the roles of plasticity and symbionts in normal developmentStudents, teachers, and researchers in the fields of developmental biology, evolution, or evolutionary developmental biology. People who have some background in at least one of these areas and who wish to expand their knowledge of how animal developmental history and evolutionary history interact1. A developmental perspective of homology and evolutionary noveltyKenneth Z. McKenna, Günter P. Wagner and Kimberly L. Cooper 2. Modularity and hierarchy in biological systems: Using gene regulatory networks to understand evolutionary changeWilliam L. Hatleberg and Veronica F. Hinman 3. Molecular insights into deuterostome evolution from hemichordate developmental biologyChristopher J Lowe 4. Cephalochordates: A window into vertebrate originsLinda Z. Holland and Nicholas D. Holland 5. 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Bosch and Margaret McFall-NgaiNo. of pages: 452Language: EnglishCopyright, © Academic Press 2021Published: February 12, 2021Imprint: Academic PressBook ISBN: 9780128149690Hardcover ISBN: 9780128149683Scott F. Gilbert is the Howard A. Schneiderman Professor of Biology (emeritus) at Swarthmore College, where he has taught developmental genetics, embryology, and the history and critiques of biology. He is also a Finland Distinguished Professor (emeritus) at the University of Helsinki. He received his B.A. in both biology and religion from Wesleyan University (1971), and he earned his PhD in biology from the Johns Hopkins University (1976). His M.A. in the history of science, is also from The Johns Hopkins University. He pursued postdoctoral research at the University of Wisconsin in both molecular biology and developmental immunology. Scott is married to Anne M. Raunio, an obstetrician-gynecologist, and they have three children. Scott's biological research has two foci. The first concerns how changes in developmental mechanisms can generate evolutionary novelty. Studying "the arrival of the fittest," he literally investigates how the turtle gets its shell. The second focus concerns the integration of symbionts into a holobiont, and how the symbiotic microbes and host cells facilitate and scaffold each other's development, truly "becoming with the other." Scott has received several awards for his work in evolutionary developmental biology, including the Medal of François I from the Collège de France, the Kowalevsky Prize in Evolutionary Developmental Biology, the Viktor Hamburger Award for developmental biology education, and the Service Award from the Pan-American Society for Evolutionary Developmental Biology. He has been awarded honorary degrees from the University of Helsinki and the University of Tartu. Scott currently has three co-authored books in print: (1) Developmental Biology, now in its twelfth edition) which is one of the most widely used textbook in the field; (2) Ecological Developmental Biology, which is attempting to help construct a new area of biological science by bringing together aspects of embryology, medical physiology, ecology, and evolution; and (3) Fear, Wonder, and Science in the Age of Reproductive Biotechnology, a science trade-book concerning both the scientific and emotional aspects of reproductive biotechnology.Senior Research Associate, Howard A. Schneiderman Professor Emeritus, Developmental Biology, Swarthmore College, PA, USAWrite a reviewThere are currently no reviews for "Evolutionary Developmental Biology." Developmental biology is a great field for scientists who want to integrate different levels of biology. We can take a problem and study it on the molecular and chemical levels (e.g., How are globin genes transcribed, and how do the factors activating their transcription interact with one another on the DNA?), on the cellular and tissue levels (Which cells are able to make globin, and how does globin mRNA leave the nucleus?), on the organ and organ system levels (How do the capillaries form in each tissue, and how are they instructed to branch and connect?), and even at the ecological and evolutionary levels (How do differences in globin gene activation enable oxygen to flow from mother to fetus, and how do environmental factors trigger the differentiation of more red blood cells?).Developmental biology is one of the fastest growing and most exciting fields in biology, creating a framework that integrates molecular biology, physiology, cell biology, anatomy, cancer research, neurobiology, immunology, ecology, and evolutionary biology. The study of development has become essential for understanding any other area of biology.PrefaceAcknowledgmentsPart 1. Principles of development in biologyChapter 1. Developmental biology: The anatomical traditionThe Questions of Developmental BiologyAnatomical Approaches to Developmental BiologyComparative EmbryologyEpigenesis and preformationNaming the parts: The primary germ layers and early organsThe four principles of Karl Ernst von BaerFate mapping the embryoCell migrationEvolutionary EmbryologyMedical Embryology and TeratologyMathematical Modeling of DevelopmentThe mathematics of organismaal growthThe mathematics of patterningPrinciples of Development: Developmental AnatomyReferencesChapter 2. 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