DESCRIPTION

Developmental Biology (DB) publishes original research on mechanisms of development, differentiation, growth, homeostasis and regeneration in animals and plants at the molecular, cellular, genetic and evolutionary levels. Areas of particular emphasis include transcriptional control mechanisms, embryonic patterning, cell-cell interactions, growth factors and signal transduction, and regulatory hierarchies in developing plants and animals.

Research Areas Include: Regulation of stem cells and regeneration Gene regulatory networks Morphogenesis and self organization Differentiation in vivo and in vitro (organoids) Growth factors and oncogenes Genetics and epigenetics of development Evolution of developmental control Analysis of development at the single cell level

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Cell and Developmental biologists. Focuses on: mechanisms of development, differentiation, and growth in animals and plants.

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Zebrafish, Nervous system, Hindbrain, Neural crest, Cell migration, Evolution

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Cell biology, Developmental biology, Cytoskeleton, Cell migration, Cancer biology, Immunology, Mouse, Zebrafish

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Stem Cell Biology, Myogenesis, Satellite Cells, Cellular Biology, Transcriptional Regulation, Transcriptional Networks, Gene Expression, Signal Transduction, Differentiation, Molecular Genetics

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Planaria, New research organisms, Regeneration, Stem cells, Single cell, Hox genes

Makoto Sato, Kanazawa University, Kanazawa, Japan
neural stem cell, column formation, axon guidance, Drosophila, visual system, mathematical model, mechanochemistry, neural development

Andreas Schedel, University of Côte d'Azur, Nice, France
Developmental biology, stem cell research, kidney formation, adrenal gland, Wnt signalling, sexual dimorphism

Thomas Schilling, University of California Irvine, Irvine, California, United States of America
Developmental biology, cell biology, genetics, neurobiology, skeletal biology, systems biology

Gerhard Schlosser, University of Galway, Galway, Ireland
Placodes, Xenopus, Nervous system, Peripheral nervous system, Evolution of development, Sensory organs, Ear, Lateral line

Ashley Seifert, University of Kentucky, Lexington, Kentucky, United States of America
Regeneration biology, tissue regeneration, evolution and development, skin development, appendage development

Lila Solnica-Krezel, Washington University in St Louis School of Medicine, Saint Louis, Missouri, United States of America
Developmental Biology, Genetics, Embryogenesis, Gastrulation

Beatrix Sosa-Pineda, Northwestern University Feinberg School of Medicine, Chicago, Illinois, United States of America
Liver, Pancreas, Cancer, Regeneration, Mouse, Morphogenesis

Michelle Southard-Smith, Vanderbilt University Medical Center, Nashville, Tennessee, United States of America
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Paul Trainor, Stowers Institute for Medical Research, Kansas City, Missouri, United States of America
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Morphogenesis, Cell polarity, Neural tube defects, Ciliogenesis, Cilia beating, Ciliopathies, Proteomics, Birth defects

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Hox genes, Musculoskeletal, Morphogenesis, Organogenesis, MSCs/mesenchymal stromal cells, Muscle biology, Mouse genetics

Athula H. Wikramanayake, University of Miami, Department of Biology, Coral Gables, Florida, United States of America
Cnidarians, Echinoderms, AV axis, Cell polarity, Maternal mRNAs, Wnt, Endomesoderm specification, Gastrulation, Evolution

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INTRODUCTION
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Developmental Biology’s goal is to publish high quality papers providing causal insight into the cellular and molecular mechanisms that govern developmental processes.

Studies which simply confirm an established functional role for a developmental component by presenting analysis in a new species lack sufficient novelty for consideration. Descriptive studies will only be considered if/when they represent a timely and novel insights or resources to the field.

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Developmental Biology seeks to publish only the very best papers that contribute new information to our understanding of developmental mechanisms. We require that manuscripts specifically address biological relevance and conform to the following guidelines:

Expression profiling and gene expression studies must contain supporting functional data. Studies solely based on analysis of expression by microarray, northern blots, PCR or in situ hybridization that are too descriptive or preliminary would not justify full review.

Developmental Biology is pleased to publish classical experimental embryology papers that provide unusual new insights.

Experiments using interfering DNA or proteins to address gene function are expected to be highly controlled. In particular, experiments with Morpholino, RNAi, siRNA or dominant negative constructs are expected to contain very precise controls to address the specificity of the effects observed.

Studies in which the expression, structure or function of a gene/protein is altered but leads to no phenotypic consequences are not appropriate. Furthermore, studies of mutants which simply show that a gene/protein is required for development will be discouraged unless attempts are made to address the mechanistic basis, causal roles or tissues and processes affected.

Experiments using stem cells must advance our understanding of biological functioning. Studies that simply grow/isolate stem cells from a tissue and show what markers they express are not appropriate.

Studies using cell culture must show direct (in vivo) relevance in a developmental context.

Resource Papers
Resource papers are original research papers which provide important and timely information that will have an impact on the work of developmental biologists. Examples of such papers are studies describing novel spatial gene expression patterns and gene phylogeny, new model systems or containing a usable collection of data of particular value to the field. This would not include, for example, a description of the expression pattern of a gene in one species that has already been described in another species, or an expression pattern with no obvious link to a developmental process.
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Short communications are intended to provide quick publication of good impact results, thus portraying current advances in the field of Developmental Biology. This new format of paper in DB should contain approximately four figures and a single scientific conclusion. Although there is no specific word limit, typical short communications are in the range of 2,000-3,000 words.

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