

Genes | Genomes | Genetics

About G3

G3: Genes | Genomes | Genetics (ISSN 2160-1836) is an open-access, peerreviewed and peer-edited journal published monthly by the Genetics Society of America (GSA). The journal seeks to serve the genetics community by providing an outlet for dissemination of findings and experimental resources in genetics and genomics—an outlet unrestricted by subjective editorial criteria of perceived significance or predicted breadth of interest. G3 is interested in publishing papers that describe useful, well-executed and lucidly-interpreted genetic studies of all kinds, from those involving microbes to humans, from individuals to populations, and from classic "wet lab" experimentation to the most recent innovations in bioinformatics.

Through a fair and rapid peer-review and publication process, G3 seeks to provide a unified home for reporting genome sequences, genetic and physical maps of organisms, mutant screens, QTL mapping, genome wide association studies, as well as many other important and useful datasets. The GSA through G3 recognizes its responsibility to enable documentation of reagents and resources, descriptions of high-quality foundational work in developing areas of genetics, and datasets for meta-analysis, to name a few.

Publication is open equally to members and nonmembers of the GSA. G3's articles are distributed under the terms of the CreativeCommons Attribution 4.0 International License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. For more information, please refer to our Instructions for Authors or contact the Editorial Office.

Submit manuscripts at http://submit.g3journal.org

Website: www.g3journal.org ISSN 2160-1836

GSA Journals Editorial Office Genetics Society of America 9650 Rockville Pike Bethesda, MD 20814-3998

Telephone: (412) 226-5930 (412) 226-5931 E-mail: g3-gsa@thegsajournals.org

About the Cover

The mono- and bi-orientation of sister chromatids on metaphase I spindle during meiosis. Image: Hemant K. Prajapati. See Prajapati et al., 3691-3701.

Editor-in-Chief Brenda Andrews University of Toronto

Deputy Editor Dirk-Jan de Koning Swedish University of Agricultural Sciences

Executive Editor Tracey DePellegrin

Board of Senior Editors Eduard Akhunov Kansas State University

David S. Fay University of Wyoming

Susan L. Forsburg University of Southern California

Temple University Howard D. Lipshitz University of Toronto Jeffrey Ross-Ibarra

Rob J. Kulathinal

University of California, Davis

Series Editor Lauren M. McIntyre University of Florida

Editorial Board

Clemson University Michelle Arbeitman Florida State University Michael J. Axtell Penn State University David A. Baltrus The University of Arizona Jay R. Hesselberth Danika L. Bannasch Medicine University of California, Davis Arash Bashirullah

University of Wisconsin-Madison Judith Berma University of Minnesota & Tel Aviv

University Esther Betrán University of Texas at Arlington James A. Birchler University of Missouri Charles Boone University of Toronto Michael Boutros DKFZ & Heidelberg University Grant W. Brown University of Toronto

Patrick J. Brown University of California, Davis Rita M. Cantor University of California, Los

Angeles Susan E. Celniker Lawrence Berkeley National Laboratory J. Michael Cherry

Stanford Universit Barak A. Cohen Washington University School of

Josep M. Comeron Gloria M. Coruzzi New York University William S. Davidson Simon Fraser University

University of Georgia Gustavo A. de los Campos Michigan State University Job Dekker University of Massachusetts

Medical School Rebecca W. Doerge Carnegie Mellon University Andrew Doust

Oklahoma State University Aimée M. Dudley Pacific Northwest Research Institute

Jay C. Dunlap Dartmouth Medical School Mark Estelle

University of California, San Diego Marie-Anne Félix Elizabeth R. Gavis

Princeton University Cayetano Gonzalez IRB Barcelona Brian D. Gregory University of Pennsylvania

David J. Gresham New York University David J. Grunwald The University of Utah Kris Gunsalus New York University Ryan Hernandez University of California

University of Colorado School of Charles S. Hoffman

Boston College James B. Holland USDA & North Carolina State University

Emma Huang Janssen Pharma R & D Matthew Hufford Iowa State University Timothy R. Hughes University of Toronto

The Roslin Institute

Scott A. Jackson University of Georgia Mattias Jakobsson Uppsala University Jean-Luc Jannink USDA-ARS

Sue L. Jaspersen Medical Research

Nicholas Katsanis Duke University John K. Kim Johns Hopkins University Yuseob Kim Ewha Womans University

Éric Lécuyer IRCM Siu Sylvia Lee Cornell University Jianxin Ma Purdue University

Jun Ma Zhejiang University Stuart J. Macdonald The University of Kansas Trudy Mackay Clemson University Daniel Macqueen University of Aberdeen

Christian R. Marshall

Sarah Mathews Tara C. Matise Rutgers University Andrew S. McCallion Johns Hopkins University School

The Hospital for Sick Children

Kim S. McKim Todd Mockler Donald Danforth Plant Science

Center Peter L. Morrell University of Minnesota Geoffrey Morris

of Medicine

Chad L. Myers University of Minnesota Brian Oliver NIDDK. National Institutes of Health Fernando Pardo-Manuel de Villena University of North Carolina,

Chapel Hill Isobel Parkin Agriculture and Agri-Food Canada

Andrew H. Paterson University of Georgia Stephen Pearce Craig S. Pikaard Indiana University

James Prendergast University of Edinburgh Bruce Reed University of Waterloo

Nick Rhind University of Massachusetts Medical School

Jasper Rine University of California, Berkeley Matthew Rockman New York University

Antonis Rokas Vanderbilt University Matthew S. Sachs Texas A&M University Helen K. Salz

Case Western Reserve University

David S. Schneider Stanford University Steve Scofield USDA-ARS Tanja Slotte University of Stockholm

Shavannor M. Smith University of Georgia Marcus B. Smolka Cornell University Dina A. St. Clair University of California, Davis

Lars M. Steinmetz European Molecular Biology Laboratory & Stanford

University Hidenori Tachida Kyushu University Kevin Thornton University of California, Irvine David W. Threadgill Texas A&M University Sarah A. Tishkoff University of Pennsylv Olga Troyanskaya Princeton University Mike Tyers Université de Montréal

Joshua Udall Brigham Young University Marian Walhout University of Massachusetts Medical School

Mick Watson University of Edinburgh Jonathan F. Wende Iowa State University Randall Wisser University of Delaware José Manuel Yáñez University of Chile Monique Zetka McGill University