The Journal of Problem Solving

JPS is a peer-reviewed multidisciplinary journal that publishes empirical and theoretical papers on mental mechanisms involved in solving problems, which include (but are not limited to) optimization problems such as the Traveling Salesman Problem, mathematics and physics problems, theorem proving, games and puzzles, knowledge discovery problems, insight problems and a range of problems in applied settings. The emphasis is put on those aspects of solving problems which set human beings apart from existing artificial systems.

Editor-in-Chief

Zygmunt Pizlo, Department of Psychological Sciences, Purdue University

Michael Brusco
Department of Marketing,
Florida State University
http://www.cob.fsu.edu/mar/display_faculty_info.cfm?pID=45

Nick Burns
School of Psychology,
University of Adelaide, Australia
http://www.adelaide.edu.au/psychology/staff/burns.html

Richard Eglese
Management School,
Lancaster University, England
http://www.lums.lancs.ac.uk/profiles/72/

Robert L. Goldstone
Department of Psychology,
Indiana University
http://cognitrn.psych.indiana.edu/rgoldsto/rob.html

Guenther Knoblich
Radboud University Nijmegen,
The Netherlands
http://web.mac.com/gknoblich/

Walter G. Kropatsch
Inst. of Computer Aided Automation,
Vienna Univ. of Technology, Austria
http://www.prip.tuwien.ac.at/~krw/

Michael D. Lee
Department of Cognitive Sciences,
University of California, Irvine
http://www.socsci.uci.edu/~mdlee/

James MacGregor
School of Public Administration,
University of Victoria, Canada
http://publicadmin.uvic.ca/faculty/macgregor/index.htm

Stellan Ohlsson
Department of Psychology,
University of Illinois at Chicago
http://www.psch.uic.edu/stellan.asp

Thomas Ormerod
Psychology, Lancaster University, England
http://www.psych.lancs.ac.uk/people/TomOrmerod.html

Cole Smith
Industrial & Systems Engineering,
University of Florida
http://www.ise.ufl.edu/cole/

Brian Stankiewicz
Psychology, University of Texas
http://stankiewiczlab.psy.utexas.edu/~bstankie/

Ulrike Stege
Computer Science,
University of Victoria, Canada
http://www.cs.uvic.ca/~stege/

Niels Taatgen
Psychology, Carnegie Mellon University
http://www.ai.rug.nl/~niels/

Iris van Rooij
Radboud University Nijmegen, The Netherlands
http://www.nici.ru.nl/~irisvr/

Jennifer Wiley
Department of Psychology,
University of Illinois at Chicago
http://tigger.uic.edu/~jwiley/

Editorial Board

Cover Designer

David Black

Published by Purdue University Press

ISSN 1932-6246

http://dx.doi.org/10.7771/1932-6246.1077

Submission Guidelines

The Journal of Problem Solving (*JPS*) is a multidisciplinary journal that publishes original empirical and theoretical work on human problem solving. A full statement of the scope of *JPS* is available on the journal's website.

JPS is fully peer-reviewed, with a distinguished international editorial board serving under Editor-in-Chief Dr. Zygmunt Pizlo (Purdue University, USA). Manuscripts should be submitted for publication through the journal's website, http://docs.lib.purdue.edu/jps/.

Manuscripts should be prepared according to the latest edition of the Publication Manual of the American Psychological Association. *JPS* will not consider manuscripts that have been previously published in other journals, nor will it consider manuscripts that are concurrently submitted for publication in other journals. Work that has been partially reported in conference proceedings may be included in manuscripts submitted to *JPS;* appropriate acknowledgment should be added to the author note. For manuscripts reporting work with human participants, a statement that ethical approval was obtained from the relevant Institutional Review Board, Ethics Committee or similar must be incorporated in the methods section. Authors are responsible for ensuring that permission to reproduce material in print and electronic form is obtained and conveyed to *JPS* if any copyrighted material or photographs of people are contained in the manuscript.

JPS is an open access online journal, initially published semiannually. As with many such journals, there is a publication charge to authors. This enables the publisher, Purdue University Press, to cover costs (as hard-copy subscriptions, the traditional source of revenue for journal publishers, will not be marketed). The charge per published paper will be 500 US dollars. There is no charge for manuscript review.

Please note that these Instructions to Authors may be periodically updated; the most current version will be posted on the *JPS* website.

Contents

The Effect of Strategy on Problem Solving: An fMRI Study
Sharlene D. Newman, Benjamin Pruce, Akash Rusia, and Thomas Burns Jr. 1

Heuristics in Problem Solving: The Role of Direction in Controlling Search Space
Yun Chu, Zheng Li, Yong Su, and Zygmunt Pizlo 27

When Do Words Promote Analogical Transfer?
Ji Y. Son, Leonidas A. A. Doumas, and Robert L. Goldstone 52

Minimal Paths in the City Block: Human Performance on Euclidean and Non-Euclidean Traveling Salesperson Problems
Amy L. Walwyn and Daniel J. Navarro 93

Causality in Solving Economic Problems
A. Emanuel Robinson, Steven A. Sloman, York Hagmayer, and Christopher K. Hertzog 106

The Journal of Problem Solving

Volume 3, Number 1 Fall 2010
ISSN 1932-6246