JOURNAL OF QUANTITATIVE ANALYSIS IN SPORTS

EDITOR-IN-CHIEF

Mark Glickman, Boston University, USA

EDITORIAL BOARD

Jim Albert, Bowling Green State University, USA
Elaine Allen, UCSF, USA
Ben Baumer, Smith College, USA
Luke Bornn, Simon Fraser University, Canada
James J Cochran, University of Alabama, USA
Phillip Everson, Swarthmore College, USA
Gil Fellingham, Brigham Young University, USA
Mike Fry, University of Cincinnati, USA
Dries Goossens, KU Leuven, Belgium
Joe Hilbe, Arizona State University, USA
Armann Ingolfsson, University of Alberta, USA
Albyn Jones, Reed College, USA
Ruud Koning, University of Groningen, The Netherlands
Brian Macdonald, Florida Panthers, USA
Ian McHale, University of Manchester, United Kingdom

Jeff Ohlmann, University of Iowa, USA
Phil Scarf, University of Salford, United Kingdom
Michael Schuckers, St. Lawrence University, USA
Kenny Shirley, AT&T Research, USA
Frits Spieksma, KU Leuven, Belgium
Ray Stefani, California State University, Long Beach, USA
Tim Swartz, Simon Fraser University, Canada
Andrew Swift, University of Nebraska – Omaha, USA
Paul van Staden, University of Pretoria, South Africa
Andrew Thomas, University of Florida, USA
Jan Vecer, The Frankfurt School of Finance and Management,
Germany
Keith Willoughby, University of Saskatchewan, Canada
Abraham Wyner, Wharton School, University of Pennsylvania, USA

Kary Myers, Los Alamos National Laboratory, USA

DE GRUYTER

The JOURNAL OF QUANTITATIVE ANALYSIS IN SPORTS (*JQAS*), an official journal of the American Statistical Association, publishes timely, high-quality peer-reviewed research on the quantitative aspects of professional and amateur sports, including collegiate and Olympic competition. The scope of application reflects the increasing demand for novel methods to analyze and understand data in the growing field of sports analytics. Articles come from a wide variety of sports and diverse perspectives, and address topics such as game outcome models, measurement and evaluation of player performance, tournament structure, analysis of rules and adjudication, within-game strategy, analysis of sporting technologies, and player and team ranking methods. *JQAS* seeks to publish manuscripts that demonstrate original ways of approaching problems, develop cutting edge methods, and apply innovative thinking to solve difficult challenges in sports contexts. *JQAS* brings together researchers from various disciplines, including statistics, operations research, machine learning, scientific computing, econometrics, and sports management.

All information regarding notes for contributors, subscriptions, Open Access, back volumes and orders is available online at www.degruyter.com/jqas.

ISSN 2194-6388 · e-ISSN 1559-0410

ABSTRACTED/INDEXED IN Cabell's Directory · CABI: Agricultural Economics Database; CAB Abstracts; Global Health; Leisure Tourism Database; Leisure, Recreation and Tourism Abstracts (printed); Rural Development Abstracts · Celdes · CNKI Scholar (China National Knowledge Infrastructure) · CNPIEC · Current Index to Statistics · EBSCO: PORTDiscus; TOC Premier; Discovery Service · Elsevier: SCOPUS · Google Scholar · J-Gate · Naviga (Softweco) · Primo Central (ExLibris) · ProQuest: Advanced Technologies Database with Aerospace; Aerospace Database; Aluminium Industry Abstracts; ANTE: Abstracts in New Technologies and Engineering; Ceramic Abstracts/World Ceramics Abstracts; Civil Engineering Abstracts; Computer and Information Systems Abstracts; Copper Technical Reference Library; Corrosion Abstracts; Earthquake Engineering Abstracts; Electronics and Communications Abstracts; Engineered Materials Abstracts; Engineering Research Database; Materials Business File; Materials Research Database; Mechanical & Transportation Engineering Abstracts; METADEX (Metals Abstracts); Physical Education Index; Solid State and Superconductivity Abstracts; Technology Research Database · Research Papers in Economics (RePEc) · SCImago (SJR) · Summon (Serials Solutions/ProQuest) · TDOne (TDNet) · Ulrich's Periodicals Directory/ulrichsweb · WorldCat (OCLC) · Zentralblatt Math

RESPONSIBLE EDITOR Mark Glickman, Department of Health Policy and Management, Boston University School of Public Health, Edith Nourse Rogers Memorial Hospital (152), Bldg 70, 200 Springs Road, Bedford, MA 01730, USA.

Email: mg@bu.edu

JOURNAL MANAGER Theresa Haney, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany.

Tel.: +49 (0)30 260 05-375, Fax: +49 (0)30 260 05 -250

Email: Theresa. Haney@degruyter.com

RESPONSIBLE FOR ADVERTISEMENTS Heiko Schulze, De Gruyter, Genthiner Straße 13, 10785 Berlin, Germany.

Tel.: +49 (0)30 260 05-358, Fax: +49 (0)30 260 05-264

Email: anzeigen@degruyter.com

© 2015 Walter de Gruyter GmbH, Berlin/Boston

TYPESETTING Compuscript Ltd., Shannon, Ireland

PRINTING Franz X. Stückle Druck und Verlag e.K., Ettenheim Printed in Germany

COVER ILLUSTRATION Petr Nad/iStock/Thinkstock



Contents

Francesco Bartolucci and Thomas Brendan Murphy

A finite mixture latent trajectory model for modeling
ultrarunners' behavior in a 24-hour race —— 193

Simon Demers

Riding a probabilistic support vector machine to the Stanley Cup \longrightarrow 205

Kevin Snyder and Michael Lopez

Consistency, accuracy, and fairness: a study
of discretionary penalties in the NFL —— 219

Magne Aldrin

Fair compensation for gate and wind conditions in ski jumping – estimated from competition data using a mixed model —— 231