The *Statistics Education Research Journal* (SERJ) is a peer-reviewed electronic journal of the International Association for Statistical Education (IASE) and the International Statistical Institute (ISI). SERJ is published twice a year and is free.

SERJ aims to advance research-based knowledge that can help to improve the teaching, learning, and understanding of statistics or probability at all educational levels and in both formal (classroom-based) and informal (out-of-classroom) contexts. Such research may examine, for example, cognitive, motivational, attitudinal, curricular, teaching-related, technology-related, organizational, or societal factors and processes that are related to the development and understanding of stochastic knowledge. In addition, research may focus on how people use or apply statistical and probabilistic information and ideas, broadly viewed.

The Journal encourages the submission of quality papers related to the above goals, such as reports of original research (both quantitative and qualitative), integrative and critical reviews of research literature, analyses of research-based theoretical and methodological models, and other types of papers described in full in the Guidelines for Authors. All papers are reviewed internally by an Associate Editor or Editor, and are blind-reviewed by at least two external referees. Contributions in English are recommended. Contributions in French and Spanish will also be considered. A submitted paper must not have been published before or be under consideration for publication elsewhere.

Further information and guidelines for authors are available at: http://www.stat.auckland.ac.nz/serj

**Submissions**

Manuscripts must be submitted by email, as an attached Word document, to co-editor Tom Short <tshort@iup.edu>. Submitted manuscripts should be produced using the Template file and in accordance with details in the Guidelines for Authors on the Journal’s Web page: http://www.stat.auckland.ac.nz/serj

© International Association for Statistical Education (IASE/ISI), May 2008

Publication: IASE/ISI, Voorburg, The Netherlands
Technical Production: California Polytechnic State University, San Luis Obispo, California, United States of America
Web hosting and technical support: Department of Statistics, University of Auckland, New Zealand

**ISSN: 1570-1824**

**International Association for Statistical Education**

**President:** Allan Rossman (United States of America)
**President-Elect:** Helen MacGillivray (Australia)
**Past-President:** Gilberte Schuyten (Belgium)
**Vice-Presidents:** Andrej Blejec (Slovenia), John Haraway (New Zealand), James Nicholson (Ireland), Delia North (South Africa), Enriqueta Reston (Phillipines)
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorial</td>
<td>2</td>
</tr>
<tr>
<td>Jared Keeley, Ryan Zayac, and Christopher Correia</td>
<td>4</td>
</tr>
<tr>
<td><em>Curvilinear Relationships Between Statistics Anxiety and Performance Among Undergraduate Students: Evidence for Optimal Anxiety</em></td>
<td></td>
</tr>
<tr>
<td>Randall Groth</td>
<td>16</td>
</tr>
<tr>
<td><em>Assessing Teachers’ Discourse about the Pre-K–12 Guidelines for Assessment and Instruction in Statistics Education (GAISE)</em></td>
<td></td>
</tr>
<tr>
<td>Jackie Reid and Chris Reading</td>
<td>40</td>
</tr>
<tr>
<td><em>Measuring the Development of Students’ Consideration of Variation</em></td>
<td></td>
</tr>
<tr>
<td>Forthcoming IASE Conferences</td>
<td>60</td>
</tr>
<tr>
<td>Other Forthcoming Conferences</td>
<td>66</td>
</tr>
</tbody>
</table>
EDITORIAL

Welcome to SERJ Volume 7 Number 1! In this issue Jared Keeley, Ryan Zayac, and Christopher Correia conjecture that an optimal anxiety level exists in undergraduate students to maximize performance in statistics courses. Randy Groth assesses teacher awareness of, perceptions about, and preparation for the American Statistical Association-endorsed “Pre-K-12 Guidelines for Assessment and Instruction in Statistics Education” (GAISE) document. Jackie Reid and Chris Reading present research on “Measuring the Development of Students’ Consideration of Variation,” a sequel to their 2006 SERJ article.

Iddo Gal’s term as SERJ Co-editor ended in December 2008. Iddo’s energy, enthusiasm, and high standards will be missed. His influence on SERJ is so pervasive that it is only now, nearly six months after his term has ended, that we are catching all of the references to his name and contact information on the SERJ Web site and making appropriate revisions. Thank you, Iddo, for your inspiration.

Peter Petocz joins me as the new SERJ Co-editor, for a four-year term from 2008 through 2011. Peter is an Associate Professor of Statistics in the Department of Statistics at Macquarie University in Sydney, Australia. Peter’s statistics education research experience emphasizes student conceptions of the importance of statistics in their future careers, and assessments of the importance of statistics and mathematics in the adult work force. He has also published collaborative articles in orthodontics and nutrition. Welcome, Peter!

Work for SERJ became less of a priority for Peter in early April 2008, when he had a brain tumor surgically removed. Thankfully, he seems to be experiencing a full recovery. Best wishes for future good health, Peter!

SERJ thanks Mokaeane Victor Polaki from the National University of Lesotho for service as an Associate Editor, and we welcome Nick Broers from the Department of Methodology and Statistics at Maastricht University in the Netherlands to the Editorial Board.

In November 2008 SERJ will publish a special issue on reasoning about informal statistical inference. Dave Pratt and Janet Ainley are serving as guest editors for the special issue, and they are working with Peter Petocz to guide manuscripts through the review and revision process. Beginning in 2009 we propose to publish two regular issues of SERJ in May and November, regardless of the publication schedule for special issues. Our manuscript load has enough to support two regular issues each year.

Happily, the statistics education research community as a whole is supporting more publication across a variety of forums. The “Teacher’s Corner” in The American Statistician is now publishing regularly again, and the December 2007 issue of the International Statistical Review was entirely devoted to statistics education. SERJ continues to receive more manuscripts than can be easily handled, suggesting a profound increase in the awareness and scholarly activity associated with statistics education research.

Two other exciting initiatives are getting started in 2008. The “Variety in Statistics Assessment” (ViSA) project (http://www.rsscse.org.uk/activities/visa) is being hosted by the Royal Statistical Society Centre for Statistical Education and currently has a “Call for Contributions” posted on its Web site. In addition, Joan Garfield and Dennis Pearl received a small grant through the American Statistical Association’s Member Initiative...
program to host a workshop on key components of graduate programs in statistics education.

Thank you for reading SERJ. We welcome manuscripts, suggestions, and feedback!

TOM SHORT, for PETER PETOCZ