

# STAPP CAR CRASH JOURNAL AND CONFERENCE GUIDE FOR AUTHORS

Enclosed is information for use throughout the paper review process and for final paper submission. **Please refer to these instructions before preparing your manuscript for review** and again before submitting your final manuscript if your paper offer is approved for publication. Forms with a YELLOW heading block are to be submitted with the initial manuscript submission, as indicated in the upper right-hand corner. Forms with a BLUE heading block are to be submitted with the final paper submission, as indicated in the upper right-hand corner.

## CONTENTS

The Stapp Association, Stapp Car Crash Journal, and Stapp Conference	2
Submission Schedule	2
Requirements for Technical Papers	2
Criteria for Papers Reporting on Development and/or Use of Computer Models	3
Initial Manuscript Submission and Paper Review Process	4
Final Approved Paper Submission	5
Presentation at the Stapp Conference	6
Technical Paper Awards	6
People to Contact If You Need Additional Information	6
Template File Information and Stapp Journal Organization & Format	7
Writing Requirements and Guidelines	11
Electronic File Submission Instructions	13
Forms to be returned to Leda L. Ricci, Executive Editor	14
<b>Initial Manuscript Submission Package</b> (Yellow Heading Blocks)	
• Form A: Assurance of Unpublished Results or Developments and of Paper Presentation at the Stapp Conference	
• Form B: Author Statement on Research Involving Direct Use of Human or Animal Subjects	
• Form C: Author Information	
Forms to be returned to Judy Zelent, SAE Publications	19
<b>Final Paper Submission Package</b> (Blue Heading Blocks)	
• Form D: Stapp Association Copyright Assignment	
• Form E: Quantity Paper Order (optional)	

## THE STAPP ASSOCIATION, STAPP CAR CRASH JOURNAL, AND STAPP CONFERENCE

The purpose of the Stapp Car Crash Conference and Stapp Journal is to disseminate new data and developments from research in impact biomechanics, human injury tolerance, and related fields that advance the knowledge of land-vehicle crash injury and occupant protection. The Stapp Association, comprised of an autonomous Stapp Advisory Committee, was formed in 1999 to honor Dr. John Paul Stapp (1910-1999) and to ensure the perpetuity and scientific integrity of the work presented at the Stapp Conference and published in the Stapp Journal. Papers in the Stapp Journal are reports of original

research studies and are peer reviewed by the Stapp Advisory Committee, an international board of experts in impact biomechanics. The Stapp Association is an independent nonprofit organization that provides for the technical management of the annual conference, administration of the conference, and publication of the Stapp Car Crash Journal. The Stapp Car Crash Journal is a publication of The Stapp Association and is marketed and distributed by the Society of Automotive Engineers.

### SUBMISSION SCHEDULE

March 10	Abstracts due for review
March 31	Manuscript invitations or rejections sent to authors
May 19	Manuscript due for review
September 18	Final approved papers due for publication
September 29	Final program available

**IMPORTANT**

### STAPP ADVISORY COMMITTEE REQUIREMENTS FOR TECHNICAL PAPERS

**IMPORTANT**

- **Abstract acceptance does not ensure acceptance of a paper** for presentation at the Stapp Conference and publication in the Stapp Car Crash Journal.
- Following acceptance of an abstract, authors are required to submit a **single-sided double-spaced, complete** manuscript for peer review and consideration by members of the Stapp Advisory Committee. Incomplete manuscripts will not be reviewed and will be returned to the author.
- Papers must be written in an objective, scholarly, and scientific manner, and must be free of commercialism, advertisement, and product identification.
- All papers accepted for publication in the Stapp Journal **must** be based on new data, results, and/or developments that will not be published elsewhere prior to publication in the Stapp Journal. Please sign and submit Form A.
- Papers involving the development and/or use of mathematical models must comply with requirements provided on page 3, *Criteria for Papers Reporting on Development and/or Use of Computer Models*.
- An appropriate summary of previous peer-reviewed work must be included in the manuscript. Omission of published archival papers relevant to the paper under consideration can be reason for disapproval of a paper, particularly if Journal reviewers have indicated that the omitted papers should be cited.
- All papers accepted for the Stapp Journal must be presented at the Conference. Please sign and submit Form A.
- The principal investigator or responsible author of **all** papers offered for consideration **must** sign and submit Form B, *Author Statement on Research Involving Direct Use of Human or Animal Subjects*, with the first manuscript submission.
- Authors reporting on research that directly involves human or animal subjects are required to provide appropriate acknowledgment in a footnote of the paper in the Methods section that the research was approved by a properly constituted institutional review board or ethics committee. Paper offers that cannot provide this information will not be accepted for consideration.
- All papers accepted for the Stapp Journal and the Stapp Conference must be written according to conventional English usage. **Authors whose first language is not English must have their paper edited for proper English prior to submitting their manuscript for review.**
- Papers and visual material must be prepared using SI units. English units may be included in parentheses, if desired.
- There is no restriction on the length of papers. However, authors should strive to make the paper concise without sacrificing the completeness necessary to clarify and substantiate methods and conclusions. **It is recommended that final manuscripts not exceed 20 pages.**

## CRITERIA FOR PAPERS REPORTING ON DEVELOPMENT AND/OR USE OF COMPUTER MODELS

The Stapp Journal and Conference are forums for dissemination of new data and developments on issues of biomechanical responses and human tolerance, restraint systems, occupant protection, and automotive safety related to human injury prevention. The role of mathematical models is increasing in the design and validation of safety systems, and therefore studies related to the development and application of these models are generally relevant to the Stapp Journal and the Stapp Conference. In addition to the principal criteria that the paper must be relevant to occupant safety, the Stapp Advisory Committee has developed additional criteria for modeling papers related to the documentation and validation of the models.

Papers that deal primarily with the development and/or application of a mathematical model should add to the modeling knowledge base and should report on new modeling techniques and/or modeling data. The model should be described in a complete manner that enables a knowledgeable reader to understand and appreciate the basis, nature, and unique features of the model. Also, the paper should provide sufficient details about model parameters, parameter values, and how those parameter values were determined, so that the modeling approach and results can be verified by other experienced modelers. Simply showing that a model has been developed with the capability to model a phenomenon or device is not sufficient.

The following are examples of appropriate types of modeling papers that will be considered for the Stapp Journal and the Stapp Car Crash Conference.

- The paper may report on new modeling technology related to injury biomechanics, but should not simply report on a known or existing capability in a new computer code. That is, the paper may describe the development of a new model with new capabilities to simulate the human or human surrogate in crash environments. However, the paper must include evidence of model validation based on comparisons with experimental data for a range of impact conditions that are different from those used to develop the model.
- The paper may describe the utilization of an existing model to explore injury mechanisms or human responses. In this case, the paper must include evidence of, and/or reference to, validation of the model for conditions representative of the particular application, as well as a clear description and interpretation of the results obtained.
- The paper may offer an objective review of current modeling technologies along with a statement and/or description of future direction. That is, the paper may offer a state-of-the-art review of models, a comparison of results from models that use different computer codes, etc.

If you have questions on Stapp requirements and criteria for modeling papers, please contact Leda L. Ricci, Executive Editor.

## INITIAL MANUSCRIPT SUBMISSION AND PAPER REVIEW PROCESS

**IMPORTANT**

Manuscript Review Package DUE BY MAY 19, 2006	SEND TO:
<p><b>Author Checklist</b> — Items to be returned with manuscript:</p> <ol style="list-style-type: none"> <li>1. Five (5) <b>single-sided double-spaced</b> copies of the manuscript. <b>Please indicate submission number on each copy.</b></li> <li>2. Form A: Author Assurance of Unpublished Results or Developments and of Paper Presentation at the Stapp Conference</li> <li>3. Form B: Author Statement on Research Involving Direct Use of Human or Animal Subjects—<b>must be submitted for all papers</b></li> <li>4. Form C: Author Information</li> </ol>	<p>Leda L. Ricci, Executive Editor Stapp Car Crash Journal UMTRI 2901 Baxter Road Ann Arbor, MI 48109-2150</p> <p>Phone: 734-936-1104 Fax: 734-647-3330 E-mail: leda@umich.edu</p>

Manuscripts submitted for review are required to be in **single-column (1-1/4 inch margins), single-sided, double-spaced format**, but must be organized as described on page 7 and outlined in the Stapp Writing Requirements and Guidelines on page 11. **NOTE: Do not submit your manuscript by e-mail attachment.**

**1. PAPER REVIEW PROCESS** — The manuscript will be evaluated in accordance with procedures and requirements of the Stapp Advisory Committee. Reviewers will assess whether the paper makes a useful contribution to impact biomechanics, whether the methodology and analysis of data are clearly explained and appropriately performed, whether conclusions are substantiated by the data and results, and whether the discussion provides meaningful interpretation of the results and explains limitations and conditions on the findings. Authors will receive all reviewer comments, and the paper will be assigned to one of the following categories.

*Approved* — The manuscript is judged by all reviewers to comply with Stapp requirements and is accepted as submitted. No modifications and no further review are necessary.

*Approved with Suggested Modifications* — The paper is accepted for publication in the Stapp Car Crash Journal, but the reviewers have suggested changes that would improve its clarity and/or usefulness. There will be no further review of the paper. However, authors are strongly encouraged to take suggested reviewer comments under advisement when preparing the final manuscript.

*Resubmit with Required Modifications* — This category requires that the authors make modifications to the paper or otherwise address reviewer concerns, and *resubmit the paper for additional review(s). Author responses and paper modifications must be submitted in writing by the date provided in the transmittal letter.* Late responses to reviewer comments may result in the paper being dropped from the review process. It is important that authors respond completely and clearly to the modifications required by the reviewers. If the author does not, or cannot, adequately address reviewer concerns, the paper will be disapproved.

*Resubmit Next Year* — The manuscript reports on a study that the reviewers consider worthy of publication, but there is not sufficient time to complete the work that is required to make the manuscript acceptable for the current year's Journal and Conference. Review of the manuscript will continue for the following year's Journal and Conference.

*Disapproved* — The paper has been judged by two or more reviewers to be unacceptable for the Stapp Journal and Conference and will not be further considered.

**2. FORM A: ASSURANCE OF UNPUBLISHED RESULTS OR DEVELOPMENTS, AND OF PAPER PRESENTATION AT THE STAPP CONFERENCE** — The author of all Stapp papers must sign and return this form with their initial manuscript submission. Paper offers must be based on new data, results, and/or developments that will not be published elsewhere. All papers accepted for the Stapp Conference and the Stapp Journal must be presented at the Conference.

**3. FORM B: AUTHOR STATEMENT ON RESEARCH INVOLVING DIRECT USE OF HUMAN OR ANIMAL SUBJECTS** — The principal investigator or responsible author of **all** papers must sign and return this form with the manuscript, whether or not the paper reports on the use of human or animal subjects.

**4. FORM C: AUTHOR CONTACT INFORMATION** — It is important that complete and accurate information be submitted for **all** authors. Please clearly indicate the corresponding author and contact information. This information will be used during the paper review process.

## FINAL APPROVED PAPER SUBMISSION

**IMPORTANT**

Final Manuscript Package DUE BY SEPTEMBER 18, 2006	SEND TO:
<p><b>Author Checklist</b> — Items to be submitted to the SAE with the final manuscript:</p> <ol style="list-style-type: none"> <li>1. One (1) well-proofed PDF file of the complete paper (including images) on disk or CD.</li> <li>2. One (1) laser-printed original printed from the PDF file</li> <li>3. One (1) MSWord file of the final paper on disk or CD</li> <li>4. Form D: Stapp Association Copyright Assignment</li> <li>5. Form E: Quantity Paper Order (optional)</li> </ol>	<p>Judy Zelent  Publications Dept., SAE  400 Commonwealth Drive  Warrendale, PA 15096-0001  Phone: 724-772-7176  Fax: 724-776-4670</p>

**For final approved manuscripts:** Upon receiving notification that the Stapp Advisory Committee has approved your manuscript, please prepare your paper for publication using the attached template. **You are required to submit your final manuscript in two electronic formats, in a PDF file and in a MS Word file on disk or CD, along with other materials as described below.**

1. ONE (1) WELL-PROOFED PDF FILE OF THE COMPLETE PAPER (including images) ON DISK OR CD — The PDF file of your manuscript will be used for printing the Stapp Journal. The PDF file should be made using Adobe Acrobat and should be optimized for press (i.e., **printed at press quality**). To assure that your manuscript is formatted to the appropriate publication specifications, you must use the attached template file. **Do not use this template when submitting your manuscript for review. Use black and white photographs or line art only. Do not use color.** Refer to the Template File Information and Stapp Journal Style section on page 7 for publication formatting instructions and organizational requirements. Proofread your final manuscript carefully. It will be printed exactly as it is received. Please be sure that your paper includes the Stapp author running head on page 2 and all subsequent pages of the manuscript. *Please do not use Asian fonts. Adobe Acrobat will not embed Asian fonts into PDF files.* Give the PDF the same filename (\*.PDF) as your MSWord file.
2. ONE (1) LASER-PRINTED ORIGINAL PRINTED FROM THE PDF FILE — This hard copy will be used as a proof copy for comparison to the electronic versions of the paper.
3. ONE (1) MSWORD FILE OF THE FINAL PAPER ON DISK OR CD — The disk or CD copy of your manuscript will be used for inclusion of your paper in the SAE electronic database. Please refer to the Electronic File Submission Instructions on page 13 of this author guide for information on submitting your paper in MSWord electronic file format. **Indicate on the disk or CD: Stapp Car Crash Journal, author name, and submission number.**
4. FORM D: STAPP ASSOCIATION COPYRIGHT ASSIGNMENT — Please note that the Stapp Association holds the copyright for all papers published in the Stapp Journal. The Stapp Association copyright assignment form must be returned with the final manuscript package. *Your paper will not be published unless the copyright transfer has been signed and returned with the final manuscript.*
5. FORM E: QUANTITY PAPER ORDER (optional) — If you would like to order reprints of your paper at the special quantity paper rate, please fill out the SAE order form and return it with your final manuscript package.

## PRESENTATION AT THE STAPP CONFERENCE

**IMPORTANT**

Computer projection is the preferred method of presentation using either PC- or Mac-based laptop computers. Overhead projection is not an option. Presenters are required to provide their own computer laptop. **It is strongly recommended that presenters have a backup file copy of their presentation in case of computer problems or difficulties.** The total time allocated for each paper is 30 minutes. Twenty minutes is for your presentation, and 10 minutes is for questions and answers. The author making the presentation should arrive at the conference room 30 minutes before the session to meet with co-chairs of the session to confirm capability of computer projection, and/or give other visual materials to the projectionist. Further details regarding the date and time of

your presentation will be forwarded to you soon after the final program becomes available in late September.

The meeting room for the Stapp Conference is large in order to provide classroom seating for approximately 350 attendees. Slides and other visuals must be clearly legible to all attendees. Keep your slides as simple as possible. Use large characters, lines, and colors that contrast well with the background color. Do not crowd slides with too many numbers and words that cannot be read or understood by the attendees. In order to optimize the use of the projector screen in a large room, **please do not use vertical slides.**

## TECHNICAL PAPER AWARDS

**The John Paul Stapp Award** is offered annually for the Stapp paper presented at the previous Conference that best meets the goals of the Stapp Car Crash Journal and Conference as judged by the Stapp Advisory Committee.

**John Paul Stapp Association Student Awards** are presented annually to the three students who are judged by the Scholarship

Committee to have made the most significant contribution to the research represented in a Stapp paper. Authors of accepted papers that include significant contributions by a student will be invited to describe those contributions in a letter in order for that student to be considered. The three awards are made at the end of the Conference in which the papers were presented.

## PEOPLE TO CONTACT IF YOU NEED ADDITIONAL INFORMATION

All communication with regard to technical review of papers or Stapp Association copyright authorization should be directed to Leda L. Ricci, the Stapp Executive Editor. She may be reached by phone at 734-936-1104, by fax at 734-647-3330, or by e-mail: [leda@umich.edu](mailto:leda@umich.edu).

Judy Zelent, SAE Publications, is responsible for publishing the papers in the Stapp Car Crash Journal. If you have questions regarding the formatting of your final manuscript, the final computer file submission, or if you are unable to meet the final paper deadline, Ms. Zelent may be reached by phone at 724-772-7176, by fax at 724-776-4670, or by e-mail: [zelent@sae.org](mailto:zelent@sae.org).

**For additional information regarding The John Paul Stapp Association and the Stapp Car Crash Conference, visit the website at [www.stapp.org](http://www.stapp.org)**



## TEMPLATE FILE INFORMATION AND STAPP JOURNAL STYLE

The attached Stapp template file for Microsoft Word will assist you in formatting your paper for publication in the Stapp Journal. If you are unable to use Microsoft Word, please contact Judy Zelent at 724-772-7176. If you need help formatting your paper or have questions about how to use the template file, please call the Electronic Paper Document Specialists at 724-772-8588.

The attached template file includes predefined styles that should be used to format your final manuscript. Use of these styles and sections, described below, will ensure that your paper format and organization meet the publication guidelines. To use the file, open the read-only template file and save it using a different name. You may then insert your text into the appropriate sections of the renamed file.

## ORGANIZATION OF THE MANUSCRIPT

Using the style tags in the template file, organize your approved Stapp paper to include the sections described below and in the Paper Writing Requirements and Guidelines on page 11. The Introduction, Methods, Results, Discussion, Conclusions, and References sections must be included in your paper. An Abstract and Keywords section are also required for all papers.

**Title/Author Information** — Type the exact title of the paper single-spaced (i.e., no space between lines) using upper and lower case bold font. Titles should not be statements or sentences, and should accurately represent the primary focus of the paper. Include name of author(s) and affiliations(s). Do not include author titles (e.g., Prof., Dr.), positions (President, Research Engineer), or degrees (M.D., Ph.D.).

**Abstract** — The abstract must not exceed 250 words and should be clearly written. It should provide a concise summary of the objectives, methodology, key results, and major conclusions of the study. It should be written in complete sentences, without subheadings.

**Keywords** — The abstract must be followed by 3 to 10 key words or phrases for publication, indexing, and word searches.

**Introduction** — The introduction should briefly indicate the reasons for the study, including a summary of relevant background material published in the scientific literature, such as epidemiology of the problem and previous research and developments, to clarify why the study was undertaken.

**Methods** — The methods section should identify the apparatus and procedures used in the study in sufficient detail to allow others to reproduce the results. When reporting experiments on *human subjects*, a footnote is required in this section indicating review and approval of the study's use of human subjects by a properly constituted Institutional Review Board (IRB) or ethics committee and giving the authority for establishing the IRB or ethics committee, including a statement that the study was conducted in accordance with the practice of the responsible governing authority. When reporting experiments on *animal subjects*, a footnote is required in this section indicating the

use and care of subjects was reviewed and approved by a duly authorized Institutional Review Board (IRB) or ethics committee and giving the authority for establishing the IRB or ethics committee, including a statement that the care and use of animals was followed in accordance with the guidelines and procedures of an established institution or a recognized governing authority.

**Results** — The results section should briefly and clearly present the experimental findings of the study. Results presented in tables, figures, and graphs should be clearly and objectively explained, but should generally not be discussed or explained. Comments about why the results may or may not agree with hypotheses, or why they are otherwise unexpected or limited, should be reserved for the discussion section.

**Discussion** — The discussion section should comment on the results and findings of the study and should interpret the results in terms of study hypotheses and expectations and findings from other published work dealing with the same or closely related studies. The discussion should include comments on the validity and limitations of the methods and observations, as well as a statement of the possible significance of the work. The discussion may also recap what was done and accomplished, i.e., a summary and discussion section, and may end with suggestions or recommendations for future work.

**Conclusions** — The conclusion section is a brief summary of what was accomplished and what was determined by the study. It should not include comments and discussion on the results, reference to other research work, or recommendations for future work, which should be done in the discussion.

**Acknowledgements** — The acknowledgements section should include acknowledgement of external financial sources of support and, with approval, those who assisted in the study.

**References** — The references section contains a list of all the literature that has been cited in the paper. Only published and "in press" references should appear in the references. All key references must be from published materials and available to readers. *Note that Biomechanics Workshop papers are works in progress and should not be referenced.*

## TEMPLATE FILE INFORMATION (continued)

### HEADINGS

There are three types of headings in the template file. Use of the style tags listed on page 10 and included in the template file will ensure the proper heading format. *The Stapp Paper Writing Requirements and Guidelines* (pp.11-12) illustrate the three types of headings described below.

**MAIN HEADING (Heading 1)** — A main heading (Heading 1) is required for each major section (i.e., the Introduction, Methods, Results, Discussion, Conclusions, Acknowledgments, References, Appendix). A main heading appears in **BOLD** type, in all capital letters, and is printed on its own line.

**Subheading (Heading 2)** — A subheading (Heading 2) within a major section appears in **BOLD** type, in mixed case, and is printed on its own line. The text of the first paragraph begins on the line after the subheading.

**Sub-Subheading (Heading 3)** — In a sub-subheading (Heading 3), only the first letter of each key word is a capital letter. The sub-subheading is *italicized* and the text of the first paragraph begins on the same line in normal type.

### RUNNING HEAD

Be sure the running head (header) is appropriately positioned and included in your final manuscript submission. The running head is centered on the second page and all subsequent pages of your manuscript. The running head is in italics and identifies the author(s) of the paper and includes the journal citation. For papers with three or more authors, use the surname of the first author *et al.* format. For papers with one or two authors, insert the surname of the author(s) and delete *et al.* See examples below.

*Brands et al. / Stapp Car Crash Journal 46 (November 2002) 103-121*

*Kleiven and Hardy / Stapp Car Crash Journal 46 (November 2002) 123-144*

**Page Numbers** — The first page number of your manuscript should be centered at the bottom of the page. For subsequent pages, page numbers on odd pages are right justified (i.e., aligned with the right text margin), and page numbers on even pages are left justified (aligned with the left text margin). Paginate your final submission beginning with page 1. **Journal pagination will be assigned by the publisher.**

### TABLES AND FIGURES

Do not use complex formatting, borders, or shading in your tables or figures. Place tables and figures as close as possible to, but not before, their first reference in the paper. Keep information contained in tables and figures as simple as possible, dividing information into more than one table or figure if necessary. Consider placing tables or figures that contain large volumes of data and information in an appendix.

TABLES should be captioned with a consecutive table number and title, which appear **above** the table. Whenever possible, tables should be oriented portrait rather than landscape.

FIGURES include graphs, illustrations, and photographs. Each figure should be numbered **below** the figure using

consecutive numbers assigned separate from table numbers. The figure numbers should be followed by a caption or legend that clearly indicates what the figure shows. All axes of graphs must be appropriately labeled with characters having a sufficiently large font to be easily read in the printed paper. Multiple curves on graphs must be clearly distinguished and identified. Use different line types (e.g., solid, dashed, dotted), and an appropriate legend on the graph, or directly annotate each curve. **Do not use colors to identify different curves on the same plot, since the paper is printed without colors in the Stapp Journal.**



## TEMPLATE FILE INFORMATION (continued)

### REFERENCES

All publications cited in the text must be included in the Reference section. Acceptable references include: journal articles, published conference proceedings, books, dissertations, numbered paper reprints from conferences, and published reports. **Workshop papers are not acceptable references.** In the text, references should be identified by surnames of the authors and the year of publication, e.g. Brown (1985) or (Taub and Shaw 1990; Lee and King 1984). When citing references in the text having three or more authors, et al. should be used, e.g., (Croth et al. 1997). The full reference should be unnumbered and listed alphabetically by author surname in the Reference section at the end of the paper. Examples of reference forms are as follows.

#### JOURNAL

Baratta, R., and Solomonow, M. (1991) The effect of tendon viscoelastic stiffness on the dynamic performance of isometric muscle. *Journal of Biomechanics* 24(2): 1647-1652.

Stitzel, J.D., Duma, S.M., Cormier, J.M., and Herring, I.P. (2002) A nonlinear finite element model of the eye with experimental validation for the prediction of globe rupture. *Stapp Car Crash Journal* 46: 81-102.

#### PAPER IN AN EDITED BOOK

Goldstein, S., Frankenburg, E., and Kuhn, J. (1993) Biomechanics of bone. In *Accidental Injury: Biomechanics and Prevention*, ed. A.M. Nahum and J.W. Melvin, pp. 198-223. Springer-Verlag, New York.

#### BOOK

Letournel, E., and Judet, R. (1993) *Fractures of the acetabulum*. Springer-Verlag, New York.

#### PROCEEDINGS

Shreiber, D.I., Bain, A.C., and Meaney D.F. (1997) In vivo thresholds for mechanical injury to the blood-brain barrier. *Proc. 41<sup>st</sup> Stapp Car Crash Conference*, pp. 277-292. Society of Automotive Engineers, Warrendale, PA.

#### THESES

Reber, J.G. (1978) Lumped parameter model of whiplash. MS Thesis, University of California, Berkeley.

### EQUATIONS

Equations can be incorporated in your paper as scanned images, with symbol fonts, or with equation editing tools of the word processor. They should be numbered consecutively throughout

the document, left justified within the text column, and the equation number should be enclosed in brackets flush to the right-hand margin.

## TEMPLATE FILE INFORMATION (continued)

### STYLE TAGS

The following style tags are provided in the template file to format headings, text, lists, figures, equations, footnotes, and references. Use of the appropriate style tag will ensure the proper format of your paper.

Appendix Heading — Use for Appendix heading

Abstract Body — Abstract text; insert on the same line as the abstract heading

Abstract Heading

Affiliation — Identify the place of employment of the author(s) in the title block of the first page

Author — Author and co-author names; insert in the title block of the first page

Author Contact Information

Body — General text

Copyright — Stapp Association copyright information in title block of the first page—*Delete text if you are exempt, but do not remove the blank line.*

Default Paragraph Font — General body text

Equation — All equations, graphic or text, in document

Figure Number — Numerical figure identification followed by a period (.); insert **below** the figure

Figure Title — Figure caption; insert on the same line as the Figure Number

Footnote Reference

Footnote Text

Header — Running head, author/paper identification; must appear on page 2 and all subsequent pages of the manuscript; insert author name(s) as specified on page 8, Running Heads.

Heading 1 — Use for all major headings *except* for Introduction and Appendix headings

Heading 2 — Subsection heading

Heading 3 — Sub-subsection heading

Intro Head — Use for Introduction heading

Journal Citation — Stapp Journal identification appearing above the copyright line in the title block of the first page

Keywords Body — Text for keywords section; insert on the same line as the keywords heading

Keywords Heading

Normal — General text

Ordered List — Numerical or alphabetical list

Page Number — Paper pagination; page numbers on odd pages are right justified. On even pages, they are left justified

Reference — Reference listings; unnumbered and alphabetized by first author's last name

Submission Number — Insert in title block of the first page

Table Number — Numerical table identification followed by a period (.); insert **above** the table

Table Title — Table caption; insert on the same line as the Table Number

Title — Paper title; insert in the title block of the first page

Unordered List — Bulleted list

### PAGE FORMAT and SPECIFICATIONS

The template file includes the following page format and specifications, which are provided below for your information and reference.

Paper Size	A4 or 8-1/2" x 11"
Type Style	Times
Type Size	10 point for text; 9 point for abstract, keywords, table, and figure legends
Spacing	Single spaced
Margin Style	Flush left, right justified
Side Margins	25 mm or 1"
Bottom Margins	25 mm or 1"
Column Line Width	76 mm or 3.0"
First Page	
Top Margin	102 mm or 4.0" (above the abstract)
Column Depth	152 mm or 6.5"
All Succeeding Pages	
Top Margin	25 mm or 1"
Column Depth	228.5 mm or 9.0"

*Stapp Car Crash Journal*, Vol. 50 (November 2006), pp.  
Copyright © 2006 The Stapp Association

## Type the Title of Your Paper Here

Type the author name(s) here (also include co-author(s) here if they are of the same affiliation)  
Type the affiliation here

Type the co-author name(s) here  
Type the affiliation here

---

**ABSTRACT** – The abstract provides readers with sufficient information to determine if the paper contains material of interest. A good abstract should briefly identify the main ideas detailed in the complete paper. It should indicate new data, conclusions, or perspectives that the paper offers, and should provide a brief statement of the significance of this new material. The abstract should not contain references to the literature. The abstract should not exceed 250 words and is required for each paper.

---

## INTRODUCTION

The introduction follows immediately after the abstract. It should provide background on the problem being addressed by the study, including references to relevant literature and the reasons for doing the research. It should also indicate the overall scope of the material covered in the paper, and should briefly indicate how the problem was investigated. These paragraphs present the basis for the detailed presentation in the paper. The introduction should not indicate results or key findings, which are mentioned briefly in the abstract and described in greater detail in the Results and Conclusions sections of the paper.

## METHODS

For most papers reporting on experimental or analytical research, the Introduction is followed by a Methods section. The methods used in the research, including methods of data collection and analysis, or methods of model development and use, should be separate from, and come before the presentation of results. There may be two or more subheadings for the Methods section.

### Heading 2 (Subheading)

A subheading (Heading 2) within a major section is in mixed case and in bold type. A blank line is between the subheading and the text of the first paragraph.

---

Address correspondence to corresponding author name, author mailing address. Electronic mail: author e-mail address

*Heading 3 (Sub-subheading)*. In a sub-subheading (Heading 3), only the first letter of each key word is capitalized. The sub-subheading is italicized and the text of the first paragraph begins on the same line as the sub-subheading as shown.

## RESULTS

Results should be presented objectively after the methods have been described. There may be two or more subheadings for the Results section.

## DISCUSSION

Comments about the results should be reserved for the Discussion section, where all of the study findings can be discussed and integrated with the results in the literature. The Discussion section should summarize what was done and what was found, while simultaneously providing commentary to interpret the results. Any limitations of the findings, or possible sources and magnitudes of error, should be mentioned. The Discussion section is also where the authors will recommend or indicate plans for future research.

## CONCLUSIONS

The conclusions section provides a simple summary of all that was learned or accomplished by the study. The reader must be able to find supporting evidence in the Results section for each conclusion.

## ACKNOWLEDGMENTS

The Acknowledgments section is used by authors to recognize external financial sources of support and those who assisted in the study.

## REFERENCES

List references alphabetically and unnumbered. Examples of reference format for journal, paper in an edited book, book, and conference proceedings follow.

Baratta, R., Solomonow, M. (1991) The effect of tendon viscoelastic stiffness on the dynamic performance of isometric muscle. *Journal of Biomechanics* 24(2): 1647-1652.

Goldstein, S., Frankenburg, E., and Kuhn, J. (1993) Biomechanics of bone. In *Accidental Injury: Biomechanics and Prevention*, ed. A.M. Nahum and J.W. Melvin, pp. 198-223. Springer-Verlag, New York.

Letournel, E., and Judet, R. (1993) *Fractures of the acetabulum*. Springer-Verlag, New York.

Reber, J.G. (1978) Lumped parameter model of whiplash. MS Thesis, University of California, Berkeley.

Shreiber, D.I., Bain, A.C., and Meaney, D.F. (1997) In vivo thresholds for mechanical injury to the blood-brain barrier. Proc. 41<sup>st</sup> Stapp Car Crash Conference, pp. 277-292. Society of Automotive Engineers, Warrendale, PA.

Stitzel, J.D., Duma, S.M., Cormier, J.M., and Herring, I.P. (2002) A nonlinear finite element model of the eye with experimental validation for the prediction of globe rupture. *Stapp Car Crash Journal* 46: 81-102.

## APPENDIX

This section may be used for large tables and detailed descriptions of procedures and analysis techniques.

## ELECTRONIC FILE SUBMISSION INSTRUCTIONS

These instructions pertain to the files that must be submitted on disk or CD.

1. The attached template file contains a word-processing template for Microsoft Word. **Please format your paper using the template according to the instructions on pages 7-12 of this author guide**, and copy the complete manuscript onto a diskette or CD.
  2. Figures that were not originally created in Microsoft Word should not be embedded in the manuscript file, but should be saved separately and individually in separate files on the same disk.
  3. All separately saved figures should be in TIFF. This is a typical file format for scanned images. On some computer systems, the names of TIFF files usually have the format \*.tif.
  4. Use the following file-naming convention: E = equation, T = table, and F = figure. For example, equation 1 would be saved as E1.tif, and Figure 12 would be saved as F12.tif.
  5. If the software used to create the figures cannot save to TIFF, the figures must be digitally scanned from a laser-printed hard copy into a program that is able to create TIFF files (such as Adobe Photoshop).
  6. If available, LZW compression may be used when saving the TIFF files to reduce file size. This is an option when saving from many graphics programs, including Adobe Photoshop.
  7. Line art should be saved in black-and-white mode (one bit per pixel) at 600 dots per inch (dpi). Grayscale images should be saved using 8 or 16 bits per pixel at 300 dpi.
  8. You may use multiple diskettes if necessary, or you may submit your files on an Iomega Zip disk or a CD-ROM (ISO 9660 Format). Note that diskettes or other media will not be returned.
  9. Label disk or CD with the following information: Stapp Car Crash Journal, author name, and submission number.
  10. PDF files should be made using Adobe Acrobat and optimized for press (i.e., **printed at press quality**).
- If you have any questions concerning the computer file submission, please call Judy Zelent at 724-772-7176.

**If your manuscript is approved for publication,  
your paper must be submitted to the SAE by September 18, 2006.  
(1) in MSWord on disk or CD, (2) in a PDF file on disk or CD, and (3) in laser-printed hard copy.**

**Forms to be returned  
to THE STAPP ADVISORY COMMITTEE  
with INITIAL Manuscript**

Send to:

Leda L. Ricci  
Stapp Conference Advisory Committee  
UMTRI  
2901 Baxter Road  
Ann Arbor, MI 48109-2150

Phone: 734-936-1104  
Fax: 734-647-3330  
E-mail: [leda@umich.edu](mailto:leda@umich.edu)





NOVEMBER 6-8, 2006

**ASSURANCE OF UNPUBLISHED RESULTS OR  
DEVELOPMENTS AND OF PAPER PRESENTATION  
AT THE STAPP CONFERENCE**

Submission Number \_\_\_\_\_

Paper Title \_\_\_\_\_

\_\_\_\_\_

I hereby acknowledge that the paper offered for review by the Stapp Advisory Committee is based on new data, results, and/or developments that will not be published elsewhere prior to the Conference. In addition, if the paper is accepted by the Stapp Advisory Committee, I understand that an author of the paper is required to make the presentation at the Conference. (Note: If an author is unable to present the paper, please contact Leda Ricci, Executive Director.)

\_\_\_\_\_

First or Primary Author (please print)

\_\_\_\_\_

Signature

\_\_\_\_\_

Date



NOVEMBER 6-8, 2006

**AUTHOR STATEMENT ON RESEARCH INVOLVING  
DIRECT USE OF HUMAN OR ANIMAL SUBJECTS**

The Stapp Advisory Committee requires that ethical standards be followed in all research involving the use of human or animal subjects that is published in the Stapp Car Crash Journal. Compliance with these standards must be reviewed and approved by a properly constituted Institutional Review Board (IRB) or ethics committee. The IRB is usually an eclectic committee of individuals whose mission is to ensure that ethical standards are followed when conducting research using human or animal test subjects. Paper offers that cannot provide this information will not be accepted for consideration by the Stapp Advisory Committee.

**The principal investigator or responsible author of each paper submitted for review by the Stapp Advisory Committee must check the appropriate box (below), certify by signing this form in the space indicated, and return this form with the draft manuscript.**

☐ The research described in this paper does not involve human or animal test subjects.

☐ The research described in this paper involves the use of animal subjects.

The use and care of the subjects was reviewed and approved by a duly authorized Institutional Review Board (IRB) or ethics committee. A statement indicating review and approval by the IRB or ethics committee and giving the authority for establishing the IRB or ethics committee is included as a footnote in the Methods section of the paper.

☐ The research described in this paper involves the use of human subjects.

This study was reviewed and approved by a properly constituted Institutional Review Board (IRB) or ethics committee and was conducted in accordance with the practice of the responsible governing authority. A statement indicating review and approval by the IRB or ethics committee and giving the authority for establishing the IRB or ethics committee is included as a footnote in the Methods section of the paper.

---

**Submission Number**

---

**Title of Paper**

---

**STAPP CAR CRASH CONFERENCE  
AUTHOR INFORMATION**

**INFORMATION MUST BE COMPLETE FOR EACH AUTHOR.** This information will be used for paper review correspondence, to prepare the program, and to mail the Conference program and hotel registration form. **Please clearly print or type.**

SUBMISSION NUMBER \_\_\_\_\_

PAPER TITLE \_\_\_\_\_

PRESENTING AUTHOR \_\_\_\_\_

**CORRESPONDING AUTHOR**

NAME \_\_\_\_\_

JOB TITLE \_\_\_\_\_

DIV/DEPT \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ POSTAL CODE \_\_\_\_\_

COUNTRY \_\_\_\_\_

PHONE \_\_\_\_\_ FAX \_\_\_\_\_

E-MAIL \_\_\_\_\_

**1st AUTHOR**

NAME \_\_\_\_\_

JOB TITLE \_\_\_\_\_

DIV/DEPT \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ POSTAL CODE \_\_\_\_\_

COUNTRY \_\_\_\_\_

PHONE \_\_\_\_\_ FAX \_\_\_\_\_

E-MAIL \_\_\_\_\_

**2nd AUTHOR**

NAME \_\_\_\_\_

JOB TITLE \_\_\_\_\_

DIV/DEPT \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ POSTAL CODE \_\_\_\_\_

COUNTRY \_\_\_\_\_

PHONE \_\_\_\_\_ FAX \_\_\_\_\_

E-MAIL \_\_\_\_\_

**3rd AUTHOR**

NAME \_\_\_\_\_

JOB TITLE \_\_\_\_\_

DIV/DEPT \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ POSTAL CODE \_\_\_\_\_

COUNTRY \_\_\_\_\_

PHONE \_\_\_\_\_ FAX \_\_\_\_\_

E-MAIL \_\_\_\_\_

**ADDITIONAL AUTHORS**

Please use the spaces below as needed for additional authors. Be sure to provide complete information for each author.

**4th AUTHOR**

NAME\_\_\_\_\_

JOB TITLE\_\_\_\_\_

DIV/DEPT\_\_\_\_\_

COMPANY\_\_\_\_\_

STREET\_\_\_\_\_

CITY\_\_\_\_\_

STATE\_\_\_\_\_ POSTAL CODE\_\_\_\_\_

COUNTRY\_\_\_\_\_

PHONE\_\_\_\_\_ FAX\_\_\_\_\_

E-MAIL\_\_\_\_\_

**5th AUTHOR**

NAME\_\_\_\_\_

JOB TITLE\_\_\_\_\_

DIV/DEPT\_\_\_\_\_

COMPANY\_\_\_\_\_

STREET\_\_\_\_\_

CITY\_\_\_\_\_

STATE\_\_\_\_\_ POSTAL CODE\_\_\_\_\_

COUNTRY\_\_\_\_\_

PHONE\_\_\_\_\_ FAX\_\_\_\_\_

E-MAIL\_\_\_\_\_

**6th AUTHOR**

NAME\_\_\_\_\_

JOB TITLE\_\_\_\_\_

DIV/DEPT\_\_\_\_\_

COMPANY\_\_\_\_\_

STREET\_\_\_\_\_

CITY\_\_\_\_\_

STATE\_\_\_\_\_ POSTAL CODE\_\_\_\_\_

COUNTRY\_\_\_\_\_

PHONE\_\_\_\_\_ FAX\_\_\_\_\_

E-MAIL\_\_\_\_\_

**7th AUTHOR**

NAME\_\_\_\_\_

JOB TITLE\_\_\_\_\_

DIV/DEPT\_\_\_\_\_

COMPANY\_\_\_\_\_

STREET\_\_\_\_\_

CITY\_\_\_\_\_

STATE\_\_\_\_\_ POSTAL CODE\_\_\_\_\_

COUNTRY\_\_\_\_\_

PHONE\_\_\_\_\_ FAX\_\_\_\_\_

E-MAIL\_\_\_\_\_

**Forms to be returned  
TO SAE  
with Final Manuscript**

Send to:

Judy Zelent  
SAE Publications  
400 Commonwealth Drive  
Warrendale, PA 15096-0001

Phone: 724-772-7176

Fax: 724-776-4670

**STAPP ASSOCIATION  
COPYRIGHT ASSIGNMENT**

**Stapp Car Crash Journal  
UMTRI, 2901 Baxter Road, Ann Arbor, MI 48109-2150**

This assignment is effective this \_\_\_\_ day of \_\_\_\_\_, 200\_\_, by and between the Stapp Association and

Author(s) \_\_\_\_\_

Submission Number \_\_\_\_\_

Title of work \_\_\_\_\_ ("Work").

If the Work is a work-made-for-hire pursuant to 17 USC § 101 of the Copyright Act, then such undersigned entity (e.g., employer) shall be deemed the Author for purposes of this Assignment ("Assignor").

Assignor represents and guarantees the Work is an original unpublished work, that no portion of the Work is covered by a prior copyright; or, for any portion copyrighted, the author has obtained permission for its use, and that the Work contains no material whose publication would violate any copyright or other personal or proprietary right of any person or entity. Assignor acknowledges this Work is not a work made for the United States Government.

For Consideration, receipt of which is acknowledged, Assignor hereby assigns all right, title and interest in and to Assignor's copyright in the exclusive right to reproduce and distribute copies of the Work. Assignment of the reproduction and distribution copyright shall include all copies of the Work. Assignment of the reproduction and distribution copyright shall include all medium and format throughout the universe. The Stapp Association shall have the right with respect to all or part of the Work to edit, annotate, comment, format/reformat and abstract the Work or incorporate it into a compilation or other work. No other exclusive rights in the Work are hereby assigned.

Assignor: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ E-mail: \_\_\_\_\_

By: \_\_\_\_\_

Authorized Representative/Author

☐ This Paper is a work of the U.S. Government / No signature is required.



# Bulk Order Your Papers

**Code: 3888**

You may need extra copies of your technical papers for distribution to colleagues inside and outside of your organization. You can save up to 80% off the list price if you take advantage of this special offer today. All bulk orders will be shipped after the meeting directly to the address you indicate.

**Return this form to:**

Judy Zelent  
SAE International  
400 Commonwealth Drive  
Warrendale, PA 15096-0001 USA  
Ph: 724-772-7176  
Fax: 724-776-4670  
E-mail: techpaper@sae.org

**Deep Discounts for Authors**

50 to 200 copies of same paper	\$3.50 each	65% off list price*
201 to 450 copies of same paper	\$3.00 each	70% off list price
451 to 999 copies of same paper	\$2.50 each	75% off list price
1000 or more copies of same paper	\$2.00 each	80% off list price

\* Based on SAE's standard \$10 per paper list price.

**Quantity Discount Guidelines**

- Discount applies only to authors ordering their own paper.
- The minimum order amount is 50 copies and all quantity orders must be placed in multiples of 25.
- Returns are not accepted on bulk orders.
- Orders will be shipped directly to you for your convenience.
- Orders will not be available on-site during the meeting.
- Orders from U.S.A.-based customers must reference a Purchase Order number OR be prepaid by credit card.
- Orders from customers outside of the U.S.A. must be prepaid by credit card.
- No additional member discounts apply.

☐ Yes! I'd like to take advantage of terrific savings on my technical paper.

Meeting \_\_\_\_\_ Paper Title \_\_\_\_\_

Paper Number (if known) \_\_\_\_\_ Number of Copies Orders \_\_\_\_\_

Telephone Number \_\_\_\_\_ Author Signature \_\_\_\_\_

Author Name \_\_\_\_\_

**BILL TO:** ☐ Check here if same as shipping address.

**PURCHASE ORDER NO.:** \_\_\_\_\_

INDIVIDUAL \_\_\_\_\_

COMPANY DIVISION OR DEPARTMENT \_\_\_\_\_

COMPANY NAME \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE + 4 \_\_\_\_\_

COUNTRY \_\_\_\_\_

**SHIP TO:** (Please type or print clearly)

INDIVIDUAL \_\_\_\_\_

COMPANY DIVISION OR DEPARTMENT \_\_\_\_\_

COMPANY NAME \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP CODE + 4 \_\_\_\_\_

COUNTRY \_\_\_\_\_

**PAYMENT INFORMATION:**

- ☐ Charge my credit card
- ☐ VISA ☐ American Express ☐ Discover
- ☐ MasterCard ☐ Diner's Club

(Account #) \_\_\_\_\_ (Exp. Date) \_\_\_\_\_

(Signature) \_\_\_\_\_

Order Amount		Handling Charges	
\$ 5. -	\$50		\$ 6.00
\$ 50.01-	\$125		\$ 9.00
\$ 125.01-	\$500		\$ 12.00
\$ 1000.01-	\$2000		\$ 20.00
\$ 2000.01-	or more		\$ 25.00

Prices subject to change without notice; all orders will be filled at current prices.  
\*\*\* California residents add 7% sales tax; District of Columbia residents add 5.75% sales tax;  
Florida residents add 6%, plus applicable county sales tax; Michigan residents add 6% sales tax;  
and Pennsylvania residents add 7% (6% State; 1% County) sales tax; or provide a tax-exemption  
certificate. Canadian residents are subject to 7% goods and sales tax (GST).

The shipping cost chart applies to prepayment orders paid by check.  
All other orders are charged actual shipping costs.

**Thank you for your order!**  
Prices are subject to change without notice.