

Information for Contributors

with Multimedia Addition



(Submission of Manuscripts via an On-Line Peer-Review System – Manuscript Central,
Updated June 17, 2009)

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Field of Interest: The scope of interest of the IEEE Ultrasonics, Ferroelectrics, and Frequency Control (UFFC) Society shall include theory, technology, materials, and applications relating to: (1) the generation, transmission, and detection of mechanical waves and vibrations and their interactions with other phenomena; (2) medical ultrasound, including hyperthermia, bioeffects, tissue characterization and imaging; (3) ferroelectric, piezoelectric, and piezomagnetic materials, including crystals, polycrystalline solids, films, polymers, and composites; (4) frequency control, timing and time distribution, including crystal oscillators and other means of classical frequency control, and atomic, molecular and laser frequency control standards. Areas of interest range from fundamental studies to the design and/or applications of devices and systems.

Broad categories of the field of interest are summarized in the following Technical Interest Profiling System (TIPS). When submitting a manuscript, authors are requested to select **ONE** and **ONLY ONE** of the TIPS categories and subcategories (i.e., choose one category and one subcategory that belongs to the category) that best reflects the focus of their manuscript.

I. MEDICAL ULTRASONICS:

- (a) Medical Beamforming and Beam Steering
- (b) Biological Effects
- (c) Exosimetry
- (d) Blood Flow Measurement
- (e) Contrast Agents
- (f) Elastography
- (g) Medical Imaging
- (h) Medical Signal and Image Processing
- (i) Medical Tissue Characterization
- (j) Therapeutics, Hyperthermia, Ultrasound in Surgery
- (k) Biophysical Mechanisms
- (l) Chemical Effects and Mechanisms

II. SENSORS, NDE, AND INDUSTRIAL APPLICATIONS:

- (a) Acoustic Microscopy & Imaging
- (b) Acoustic Sensors
- (c) General NDE Methods
- (d) Material & Defect Characterization
- (e) Wave Propagation

- (f) Signal and Image Processing
- (g) Transducers: NDE and Industrial
- (h) Flow Techniques
- (i) High Power Ultrasound
- (j) Industrial Measurement and Control

III. PHYSICAL ACOUSTICS:

- (a) Bulk Wave Effects & Devices
- (b) General Physical Acoustics
- (c) Geophysical Ultrasonics
- (d) Underwater Ultrasound
- (e) Magnetic Interactions
- (f) Optical Interactions
- (g) Ultrasonic Motors & Actuators
- (h) Piezoelectric Transformers

IV. SURFACE ACOUSTIC WAVES (SAW):

- (a) SAW Acoustoelectric Effects & Devices
- (b) SAW Devices & Oscillators
- (c) SAW Filters & Transducers
- (d) SAW Materials & Propagation
- (e) SAW System Applications
- (f) SAW Signal Processing
- (g) SAW Thin-Films & Devices
- (h) Micromachining

V. TRANSDUCERS & TRANSDUCER MATERIALS:

- (a) Transducer Modeling (FEA and Analytical)
- (b) Transducer Fabrication Technology
- (c) Transducer Material Characterization and Modeling
- (d) Materials/Technology for Medical Transducers
- (e) Medical Transducers
- (f) Transducers - Air Coupled
- (g) Micromachined Ultrasound Transducers
- (h) Piezoelectric and Ferroelectric Transducer Materials

VI. FERROELECTRICS:

- (a) Ferroelectric Devices
- (b) Piezomagnetic materials

- (c) Ferroelectric Materials: Single Crystal, Polycrystal Thin Film, Polycrystalline Solids, Polymers, and Composite Forms
- (d) Ferroelectric Properties: Dielectric, Piezoelectric, Pyroelectric, Electro-Optic, Nonlinear Optic, and Electrostrictors
- (e) Ferroelectric Phenomena: Domains, Phase Boundaries, Switching, Poling, Fatigue, and Imprint
- (f) Ferroelectric Applications: Capacitors, Transducers, Sensors, Actuators, DRAM, Fe RAM, Long Wire IR Thermal Sensing, and Imaging
- (g) Integrated Ferroelectrics

VII. FREQUENCY CONTROL:

- (a) Timing and Time Distribution
- (b) Crystal Oscillators and Filters
- (c) Atomic, Molecular, and Laser Frequency Control
- (d) Other means of classical frequency control
- (e) Frequency measurement and statistics

Submission via Manuscript Central (MC): To qualify for publication in the IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control (TUFFC), the submissions must be unpublished, specifically prepared for TUFFC, and not be under consideration elsewhere (see “Ethics” later in this document). However, previously published conference papers are an exception - provided that the papers have not been previously peer reviewed. An example is a paper for which only the abstract had been reviewed and where there exists no copyright conflict with the publisher of the conference paper. All the conference manuscripts will receive the same level of review as any other manuscript to ensure a consistent quality of the TUFFC. For manuscripts that have more than one author, the corresponding author must ensure that all the authors are aware that the manuscript is being submitted to the Transactions.

Manuscripts are accepted electronically only – through a system called Manuscript Central (MC) at <http://mc.manuscriptcentral.com/tuffc-ieee>. After logging into MC, please follow the “Submission Instructions” accessible via the “User Tutorials” listed under the Resources block on the right hand side of the Welcome Page.

Benefits of Electronic Submission and Peer-Review: The Manuscript Central is an electronic manuscript submission and peer-review system produced by a commercial company (ScholarOne: <http://www.scholarone.com/>). It is user-friendly and eliminates the need for handling paper manuscripts and correspondence. All the correspondence and reminders to both authors and reviewers can be generated automatically. All the manuscripts are automatically tracked from the moment of submission until the decisions are made, eliminating the need of a laborious separate tracking and reporting database, reducing potential errors, improving handling quality, and saving the costs of editorial offices. Authors, reviewers, Associate Editors (AEs), the Editor-in-Chief (EIC), and the Associate Editor-in-Chief (AEIC) are able to view the status of manuscripts on the web anytime at their convenience. The MC also has an interface for electronic production of journals. The new electronic peer-review system has shortened the peer-review cycle, resulting in a faster dissemination of research findings, which is an important benefit to our members, authors, and readers. The new system has removed the burden on authors from copying, packing, and mailing their manuscripts, and thus avoiding delays and potential loss of manuscripts. The reviewers can get all the necessary information from the web to review manuscripts and make comments to both the authors and AEs electronically thus increasing their efficiency. AEs can track manuscripts and the peer-review process on the web and do not need to mail a large number of manuscripts and correspondence and thus reduce their workload.

With electronic manuscript submission and reviews, the UFFC society has reduced the time from submission to publication, and made the review process more transparent to the author by allowing electronic status checking of the review progress.

Types of Contributions: There are five types of contributions as follows. PAPERS may be of any length and must generally satisfy requirements for completeness. Manuscripts may be returned to the authors for revision in response to reviewers’ recommendations. (Papers may include Special Issue papers, Review papers, and Invited papers.) CORRESPONDENCES

are narrower in scope and shorter than Papers. Correspondences typically do not occupy more than four Transactions pages. Both Papers and Correspondences receive the same level of review. LETTERS are short, rapid communications for which timeliness is essential. **Letters will be reviewed only for acceptance or rejection to speed up the process.** Published Letters must occupy no more than two Transactions pages. FRONT COVER IMAGES of the IEEE Transactions on UFFC include a contributed image. When a manuscript is revised and resubmitted, authors are encouraged to submit the color version of an image in the manuscript as a front cover image. There is no publication charge to authors for front cover images. Front cover images will be subject to a peer-review process to judge their appropriateness. Images submitted independent of a manuscript will also be considered but preference will be given to those with manuscripts that are going to appear in the corresponding issue. Because there are only 12 images that can be published in the front covers each year, not all accepted images will appear on the front covers. When there is more than one image accepted for a particular issue, only one will be used for that issue. The remaining images plus others submitted independently may be used in a future issue where there is no suitable image for that issue. Recent front cover images can be found at: <http://www.ieee-uffc.org/main/publications/tr/cov.asp>. ERRATA provide a forum for authors to make corrections to their papers published previously in the TUFFC. An example can be found in Vol. 47, No. 3, Nov. 2000 at <http://www.ieee-uffc.org/main/publications/tr/>.

Preparation: Manuscripts must be prepared carefully and written in a clear and concise style. The Editors emphasize the necessity of using correct English. Since the TUFFC publishes only in English, contributors for whom English is not a native language should consult a competent colleague for the purpose of editing the original manuscript.

The text of manuscripts must be prepared according to IEEE guidelines. See the IEEE publication “Information for Authors” for a complete description of formatting, notation, captioning, and bibliographic style. This publication is available at <http://www.ieee.org/web/publications/pubtoolsandpolicyinfo/authorpub.html#Periodicals>. Special notice should be taken of Section IV, “General Manuscript Preparation.”

The font size of manuscripts should be 11 or 12 points. The margin is of 1 inch on all sides. The page size should be set to 11” × 8.5” (27.9 cm × 21.6 cm) with the Portrait orientation in the “Page Setup” of your word processing file. The text should be double-spaced and in single-column. Each contribution must contain an abstract (not more than 200 words for Papers and 50 words for Correspondences and Letters). The abstract should indicate the scope of the manuscript and summarize the author’s conclusions. This will make the abstract, itself, a useful tool for information retrieval. Illustrations (graphics) and tables may be inserted into the text sections of a manuscript without the text wrapped around or be placed together at the end of the manuscript after separate figure and table legend pages. In any case, all illustrations and tables should be included in the same electronic file as the manuscript text so that editors and reviewers do not need to spend a lot of time downloading a large number of individual figures and tables in addition to the manuscript text. Each figure and table should have a caption that is intelligible without requiring reference to the text. If illustrations and tables are inserted into the text sections, figure captions should be under the figures, identified with a bold “Fig. #.”, center justified, and with a different font (such as Helvetica or Arial) and of 1 point smaller in size than the main text. Table captions have a similar requirement, beginning with a bold “Table #.” placed above the table. References must be complete, in IEEE style, and appear in a separate reference section at the end of the contribution, double-spaced, single-column, with corresponding items in the text referred to by numerals in square brackets. Reference style for papers: Author, first initial followed by last name, title, periodical, volume, inclusive page numbers, month, year. Reference style for books: Author, title, publisher, year, chapter or page numbers.

For graphics, all lettering must be of uniform size and large enough to permit legible reduction to column width (3.5 in or 8.9 cm). Use lettering only where necessary.

After the manuscript is prepared with a word processor, the authors can print the manuscript to a “PRN” file with a PostScript driver instead of to a printer. Then, rename the extension “PRN” to “PS” for uploading to MC.

Other acceptable file formats for the manuscript are listed in the “Submission Instructions” at the MC site. (Click on the “Instructions and Forms” icon on the login or any other screen at <http://mc.manuscriptcentral.com/tuffc-ieee/>.) Some word processing software such as Microsoft Word allows direct conversion of files to PDF if authors have a full version of Adobe Acrobat 4.0 or later installed in their computer. For Microsoft Word files, MC can automatically convert them into PDF.

The Front Cover Images can be ultrasound images, illustrations of UFFC-related techniques, or images from modalities of UFFC-related phenomena. The image or illustration will be accompanied with a TITLE and up to fifty (50) words of ABSTRACT (text) describing the image or illustration, including noncommercial credits. Because we try to match the front cover image with the issue that contains the image, if possible, authors should include the manuscript number at the end of the title of the Front Cover Image, for example, TITLE – TUFFC-01234-2003, where “TUFFC-01234-2003” is the corresponding manuscript number produced by MC. When submitting an image, on the “Title” line in MC, provide a brief title of the image. In the “Abstract” space, type in up to 50 words description of the Front Cover Image.

Procedures for Submission via MC: There is a step-by-step guide on screen for submission of manuscripts via MC. Please notice that when you submit a file of a format such as Microsoft Word (with a .doc extension), MC will automatically convert it to PDF. However, MC also saves your original .doc file in the system. We encourage you to manually move the file from the folder “Original Files / Files Not For Review” to “Files For Review”. This makes it easier for reviewers or an AE to add comments or changes directly to your original manuscripts.

Copyright: It is the policy of the IEEE to own the copyright to the technical contributions it publishes. To comply with IEEE copyright policy, authors are required to sign an IEEE Copyright Transfer Form and submit it with the manuscript. The copyright form can be obtained by clicking on the “Instructions and Forms” icon at the MC site at <http://mc.manuscriptcentral.com/tuffc-ieee/> or downloaded from <http://www.ieee-uffc.org/main/publications/tr/copyrt.pdf>. The form can be filled out electronically and printed out. After the form is signed, it can be converted to an electronic image in a web-viewable format such as “JPG” (Joint Photographic Group) using a scanner. If you have a full Adobe Acrobat software version 4 or higher, you can sign the form digitally and then upload the PDF form with your manuscripts in MC.

Submission of Files for Production of Transactions: When the revised manuscripts are submitted via MC, authors are also requested to submit the original revised word-processing file of the manuscript (not just the PDF file) and high-quality graphics for journal production. For each file uploaded to MC during the submission process, the authors should provide a description including computer hardware and software used (both the operating system and application versions), file type such as EPS, and figure and table numbers (such as figure1_a and table2_b) corresponding to the manuscript. To avoid graphics being reduced to an unacceptably small size during the production, please specify a suggested publication width (our standard width is one of the following: 21, 33, and 43 picas, where 6 picas are equal to 1 inch or 25.4 mm) for each illustration (a “Description” window will automatically pop up for each file uploaded in MC). For best results, please submit your graphics in one of the three standard widths above.

i) **Graphics and Tables:** The graphics and tables in the word processing files usually do not have production quality due to, for example, the conversion during the copy/paste operation with GhostView. Therefore, in addition to the word processing file that should include a crude version of all illustrations and tables for the peer-review purpose, please submit your original high-quality graphics/illustrations artwork and tables separately via MC.

The desirable formats for graphics files are TIFF, PNG, or EPS. If submitting vector-based EPS files, converting fonts to outlines will help prevent loss of information. JPG and other lossy compression formats may produce a smaller file size but usually result in a poorer quality, especially at a high compression rate.

To avoid unnecessarily large file sizes and to reduce the cost for using the MC system, each graph should not be bigger than 7 inch × 10 inch. The

desired resolution of grayscale or color graphs for sufficient Transactions production quality is 300 pixels per inch (ppi). Each pixel has a depth of “1-bit”, “8-bit”, or “24-bit”. A “24-bit” graph will result in a file size 24 times larger than 1-bit. In an extreme case (7 inch × 10 inch with 24 bit depth at 300 ppi resolution), the uncompressed file size will be 18.9 MB. For monochrome bitmaps (such as black-and-white line plots), the desired production resolution is 600 pixels per inch. In this case, each pixel should be 1-bit in depth (a pixel at 1-bit depth is called a dot). “Dots per inch or dpi” is used to measure resolution in this case. For most authors who do not submit color graphs, 8-bit for grayscale and 1-bit for monochrome bitmaps are sufficient. To reduce file sizes and thus the uploading and downloading time, it is necessary to compress all files that are used for production (graphics, bitmaps, line plots, and word processing files with figures, etc) before uploading.

ii) **Word Processing Files:** Equations entered as graphic elements will be lost in translation during journal production, and should be avoided. Files must be self-contained; that is, there should be no pointers to your system setup. Do not create special macros. The preferred format for Word Processing files is Microsoft Word doc files with equations created in MathType. Word 2007 users should save files as Word 97–2003 documents. Word 2007 docx files will not be accepted. Files created using page layout software such as Ventura, Pagemaker, or Quark are not acceptable. Please notice that the acceptable file formats of the manuscript for peer-review are different from those for production and are listed in the “Submission Instructions” at the MC site. (Click on the “Instructions and Forms” icon on any screen at <http://mc.manuscriptcentral.com/tuffc-ieee/>.)

iii) **Author Photos and Biography:** Photos and biographies are required for full papers only; they are not used in correspondences and letters. Authors should submit their biographies and recent photographs (taken within the past five years) via MC. A suggested biography format consists of three paragraphs: 1) name, where and when born, degrees earned, field(s) of study, school, city, state; 2) chief employment dates, organizations, positions held, type of work, responsibilities, present position; and 3) professional society membership, offices, awards. The biography should be submitted as a separate ASCII text or word processing file. A 1.5 inch × 2 inch photo with 300 ppi at 8-bit pixel depth will have sufficient resolution for the Transactions.

Color Illustrations: Authors are responsible for the incremental cost of printing in color, typically \$900 per page. Payment of fees on color reproduction in the print version of the Transactions is not negotiable or voluntary, and the author’s agreement to publish the manuscript in the Transactions is considered acceptance of this requirement.

Voluntary Page Charges: After a manuscript has been accepted for publication, the author’s company or institution will be requested to pay a charge of \$115 per printed page to cover part of the cost of publication. Page charges for the Transactions are not obligatory nor is their payment a prerequisite for publication. The author will receive 100 free offprints without covers if the page charge is honored. Detailed instructions will accompany the page proof.

Mandatory Page Charges: Mandatory Page Charges of \$175 per page is required for contributions longer than eight (8) Transactions pages. The Publisher holds the right to withhold publication of the current submission or any future submissions from the author(s) if this charge is not honored. If only the mandatory overlength page charge is paid, no free reprints will be sent. Only the Editor-In-Chief can waive the mandatory overlength page charge under extenuating circumstances.

Estimating Number of Transactions Pages: To estimate the number of Transactions pages, the following guidelines are provided. They are based on approximately 250 words per submitted, double-spaced manuscript page. Estimated number of Transactions pages = (number of submitted pages)/3 + (number of figures and tables)/4 + (number of references)/50.

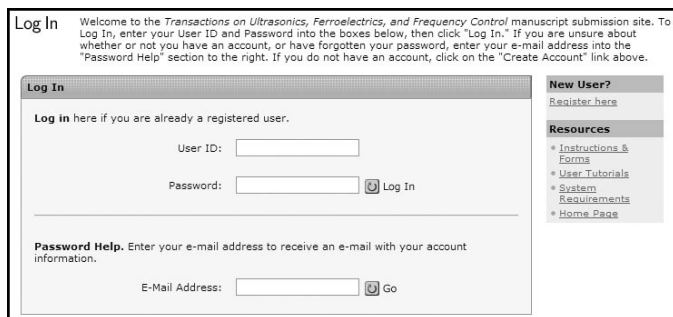
Ethics: It is the responsibility of authors to obtain all necessary approval and to follow ethics when treating human subjects and animals. A footnote should appear in the manuscripts to indicate such approval.

It is unethical for authors to submit a manuscript to multiple journals simultaneously for review. Plagiarism in any form is strictly prohibited and

punishments are listed in the Section 8.2 of the IEEE Publication Services and Products Board (PSPB) Operation Manual accessible from: <http://www.ieee.org/web/publications/rights/>. The IEEE Code of Ethics can be found at: <http://www.ieee.org/portal/pages/iportals/aboutus/ethics/code.html>.

IEEE Author Information: Information for IEEE Transactions and Journal Authors is available on request from IEEE Operations Center, Transactions/Journal Department, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331, by email to trans@ieee.org, by fax at 908-562-0545 or online at <http://www.ieee.org>. The complete IEEE “Information for Authors” can be downloaded at <http://www.ieee.org/web/publications/pubtoolsandpolicyinfo/authorpub.html#Periodicals>.

Your MC Login Window: You can login to the MC system by providing your User ID and Password and then clicking on the “Log In” icon. (For UFFC members, please notice that the MC account is neither the IEEE Web Account nor the UFFC account.) If you forget your User ID and/or Password, you can follow the instructions in the “Password Help” box and you will receive your account information via email. If you don’t have an account, go to **New User?** and click on “Register Here”.

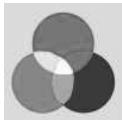


Multimedia Addition

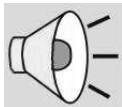
Starting Date: On August 1, 2003, IEEE Transactions on UFFC started to accept multimedia manuscripts via Manuscript Central.

Multimedia Files: For Transactions publication purposes, multimedia files are defined as the following three categories: (1) color figures corresponding to grayscale figures in print, (2) sound only, and (3) movies or animations with or without sound. These files can be accessed online via links through the three types of multimedia icons below:

Icon for color figures:



Icon for sound only:



Icon for movies or animations with or without sound:



Starting with the October 2006 issue, in addition to the access through the color figures icon above, which allows viewing details from the files submitted directly by authors, color figures will replace the grayscale figures online for multimedia manuscripts without additional charges to the authors. (If the authors also wish to publish their color figures in the print, they should pay a mandatory charge of about \$900 per page. Please see the instructions in an earlier paragraph.) The icon will also appear in the print to indicate that a color version is available online. Because of the file sizes of color figures (they can be three times as large as corresponding grayscale figures) and the additional editorial work such as making two sets of PostScript files in which they remain identical after replacing grayscale with color, authors should request color figures online only when it is necessary.

Authors desiring online color images must select a manuscript type that includes “(with Multimedia Files)” in the name and indicate which figures should appear in color online. Simply submitting color images with your manuscript is not sufficient.

Acceptable Multimedia File Types and Total File Size: For color figures, the file types must be JPEG (.jpg) or GIF (.gif). For sound, the only acceptable file type is MP3 (.mp3). The file type for movies or animations should be MPEG (.mpeg) or GIF (.gif). (For the compatibility with older versions of movie viewing software and thus to smooth the peer-review process and avoid difficulties to readers, the desirable MPEG format is MPEG1.) For each manuscript, the TOTAL size of all multimedia files to be linked should be less than or equal to 10MB. This is important to avoid overloading TUFFC internet server and to reduce costs. For a manuscript with more than 10MB multimedia contents and/or incorrect file types, authors may be asked to reduce the file sizes and/or correct the file types before the manuscript is reviewed (the manuscript may be withdrawn administratively and authors may resubmit after the required modifications). Manuscripts containing file types other than those listed in this paragraph may increase their difficulty in peer review, production, and/or distribution. (An example of multimedia document to help you control the total file size can be found at: <http://www.ieee-uffc.org/main/publications/tr/mexample.pdf>.)

Submission: When you submit your multimedia manuscript, you should use a red color and bold typeface with the following words to indicate where to insert links to your corresponding multimedia files: “Media-Color 1, 2, ...” for color pictures, “Media-Sound 1, 2, ...” for sound, and “Media-Movie 1, 2, ...” for both movies and animations. Your multimedia files should be named accordingly and uploaded to MC one-by-one. Otherwise, your manuscript may be treated as a regular manuscript without multimedia content during peer-review and journal production. The multimedia icons above will be used in your manuscripts as links to multimedia files during journal production. (The icon files are also downloadable from http://www.ieee-uffc.org/main/publicationstr/mexample_icons.zip for inclusion into your manuscripts if you wish.) A text file named “Multimedia-index” could be generated independent of your manuscript to add additional instructions on your multimedia files to facilitate the peer-review and journal production process if necessary.

Multimedia Example: For your convenience, an example of multimedia document is provided at: <http://www.ieee-uffc.org/main/publications/tr/mexample.pdf>. This example contains details of various multimedia files and may help you to control the total size of the multimedia files in your manuscripts. If you don’t have a fast internet connection, or you want to avoid difficulties due to complicated layers of internet security settings, you may download the following zip-compressed file to your computer for a smooth playback of multimedia contents. After you unzip the file, a folder (directory) “mexample” that contains all relevant multimedia files is produced. In this folder, please open the file, [mexample.pdf](#), and then click on icons in the file for your multimedia experiences. The zip-compressed multimedia example is downloadable from: <http://www.ieee-uffc.org/main/publications/tr/mexample.zip>.