



The Vertical Flight
Technical Society

Authors' Guide

FORUM⁷⁴

A H S I N T E R N A T I O N A L
MAY 14-17, 2018 PHOENIX, ARIZONA

KEY DEADLINE DATES

The deadline to submit your Forum 74 paper is **April 2, 2018**
Don't wait to begin the process!

Early bird registration – register by **April 6, 2018** for discounted rates

Hotel Reservations
Hyatt Regency Phoenix by **April 19, 2018**
Sheraton Grand Phoenix by **April 23, 2018**

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Visit the AHS web site (www.vtol.org) for the most current information regarding all aspects of AHS including the Society's staff, Chapters, the Forum, Technical Committees, Technical Meetings, AHS Awards, publications, etc. All of the resources you should need for the Forum are available starting at:

www.vtol.org/forum

Overview

The information in this package will help you prepare your paper and plan for your presentation and attendance at the AHS Forum. It is important that you review it carefully and submit the proper materials in accordance with the instructions and deadlines listed.

Forum Papers

- **Should be concise and ideally approximately 10 to 15 pages in length. Papers that exceed 30-pages in length will not be accepted.**
- **The optimal file size is between 2 and 3 MB, not to exceed 15 MB in size.**
- **Please use either the Microsoft Word or LaTeX templates for starting your formatted paper.** These templates are available on the Mira submission (www.vtol.org/mira) site and the AHS Forum event page (www.vtol.org/forum).
- **Your final paper submission format needs to be a PDF — the Mira site can also perform conversions from Word to PDF.** Detailed guidance materials for your paper are under Sections B and C, Part I of this document.

Forum Presentation

- **Presentation guidance materials are detailed under Section C, Part II.**
- Your electronic presentation at the AHS Forum is required to be either a **Microsoft PowerPoint (pptx) OR Adobe Acrobat (pdf). These are the only allowable file formats.**
- **Note: new this year — screens and projectors will be optimized for 9:16 widescreen.** Older 4:3 ratio slide shows should still show fine, but authors are strongly encourage to design their slideshows for 9:16.

Visa Letters of Invitation: if you require a Visa Letter of Invitation to travel to the AHS Forum to present your paper, please email Betty Chen, Forum Registrar at bchen@vtol.org (and cc Julie M. Gibbs, Technical Programs Director at jmgibbs@vtol.org) and provide the following information:

- Full Name as it Appears on your Passport
- Organization Name
- Full Mailing Address of Organization
- Email Address
- Title of your AHS Forum paper and session name

A. Important Dates

A1. Final Paper Deadlines

The Mira web site is open for paper submittals and **the following documents are ALL due by April 2, 2018.**

- Your paper must be submitted via the Mira Forum 74 web site at www.vtol.org/mira.
- "Assignment of Copyright" form must be accepted via Mira.
- "Speaker bio information" must be submitted via Mira.
- In order to be eligible for the AHS Best Forum Paper Award, **you must submit your paper by the deadline date listed above** — late papers are not eligible.

Please note: AHS will not produce a supplemental CD for Forum 74. In some instances, late papers may still be accepted, but will only be available online. If you are unable to submit your paper by the deadline, please contact your session chair to see if it can still be accepted. There is a strict "no paper/no podium" policy — if you do not submit your paper, you will be removed from the presentation schedule.

A2. Hotel Reservation Deadlines

April 19, 2018 (Hyatt) or by April 23, 2018 (Sheraton) are the deadlines to obtain discounted Forum 74 Hotel Reservations. We recommend making your hotel reservations as soon as possible at one of the AHS Forum hotels. **Government rate rooms are available but very limited, so government personnel should book ASAP.**

Forum 74 discounted hotel room rates are available at the Sheraton Grand Phoenix and the Hyatt Regency Phoenix (a short walk to the convention center). Book rooms on the AHS website www.vtol.org/forum-hotels to receive discounted rates.

All deposits for individual room reservations are fully refundable if a reservation is cancelled within the stated cancellation period – **note the cancellation policy before you book a reservation.**

Please note: *AHS has negotiated reduced hotel room rates to make your trip to Phoenix as affordable as possible. By booking one of the Forum 74 hotels you are supporting the Society by lowering overall Forum costs. As a special incentive, a complimentary copy of the Forum 74 Proceedings will be provided to those who stay at an official Forum hotel. Please do not stay anywhere else!*

Please only make your reservations through the official hotel site at: www.vtol.org/forum-hotels.

A3. Forum Registration Deadlines

April 6, 2018: Deadline for Early Bird Forum 74 registration. Please register as soon as possible. Registration information will be available on our website at www.vtol.org/forum.

Only registered attendees will be able to access the technical presentation rooms, so all speakers must register for Forum 74. **Only the individuals who are the actual speakers are eligible for registration at the "Speaker" reduced rate, and only one per paper.**

B. General Paper Guidelines

Please use the templates provided on the AHS or Mira websites, either in Word or LaTeX format.

B1. Tips for Paper/Presentation Preparation

- When preparing your paper: Write it ... THEN format it. Don't spend unwarranted time formatting and reformatting as you are writing and rewriting.
- Review your final PDF and look at it on someone else's computer screen. Be sure it appears correctly.
- Print your final paper on a printer from someone else's computer. Be sure it looks the way you want someone else to see it.
- Before you come to the Forum, be sure to look at your presentation using an LCD projector. What looks good on a computer screen **may not be readable** from the back of the room when projected.
- **Starting this year, screens and projectors at Forum 74 will be optimized for 9:16 widescreen.** Older 4:3 ratio slide shows should still show fine, but authors are strongly encouraged to design their slideshows for 9:16, which is now becoming the industry standard.

Paper Format and Page Layout

- Requirements and guidelines for the overall format for the paper and the layout of pages are described in Section C (Detailed Guidelines).
- You may use color in the electronic version of your paper (i.e., in the file which will be included on the CD-ROM of the Proceedings). **However, the printed versions of the Proceedings will be produced in black ink only.** Be sure to print a black and white copy of your final paper to ensure that all graphics and photos are still clearly readable in greyscale.

B2. Clearance for Publication and Presentation – **START EARLY!**

- Your paper and presentation must be **cleared by your organization prior to submission for publication and presentation, no later than the April 2, 2018 submission deadline date.** It is the author's responsibility to determine and acquire the appropriate types and levels of clearances — internal and external — for the paper to be published and presented. For example, in the U.S., clearance typically includes vetting through a public release approval process by both the employer and the US government.
- Obtaining clearance may take a very long time — particularly if your paper has authors from more than one organization. **In order to avoid surprises, it is suggested that you immediately initiate the action to get guidance from your organization** (and that of the organizations of your co-authors, if any) on the steps that must be accomplished. **Getting a clearance will often take a couple of months. Start early!**
- Note that the AHS Forum is open to all interested parties of all nationalities and all organizations. **Therefore, absolutely no classified, sensitive or otherwise restricted material may be published or presented in conjunction with the Forum.**

B3. Assignment of Copyright Ownership

- The Assignment of Copyright Ownership must be accepted online when submitting your final paper to Mira.
- The copyright laws require written transfer of copyright. This transfer protects you from unauthorized use of your presentation and gives the AHS permission to publish your paper. The author also always retains copyright of the paper. See below for the Copyright Form that you will be asked to accept when making your final submission.
- **Please accept the release form on the Mira site.** In the case of multiple authors, only one author is required to accept the release.

- **If you are a U.S. government employee, you may still accept the release form because you are only signing to the extent transferable.** A copyright release is required for each paper. Government employees should use a different copyright statement in the bottom left of the first page (see Section C, below).
- For those organizations using their own copyright release, you must clear it with AHS International please contact Julie M. Gibbs at jmgibbs@vtol.org.

ASSIGNMENT OF COPYRIGHT OWNERSHIP

AHS International — *The Vertical Flight Technical Society*

FORUM 74

May 14-17, 2018
Phoenix Convention Center
Phoenix, Arizona, USA

(Information will be generated automatically in Mira)

I, _____, (hereinafter, "the author") as author(s) (or employer, in the case of work made for hire) of the article entitled: _____

_____ (hereinafter "the article")

hereby grant and assign to the AHS International (hereinafter, "the publisher") all rights of copyright ownership now and hereafter protected in the article (for U.S. Government employees, to the extent transferable) effective if and when the article is accepted for publication in the *AHS International 74th Annual Forum Proceedings*, including, but not limited to, derivation rights, the right to reproduce and distribute the article as part of the issue, and the right to grant or refuse permission to third parties to republish all or part of the article.

Provided, however, that the right to grant or refuse permission to third parties to republish all or part of this article (subject to giving proper credit including the copyright notice) shall also be held by the author.

And further provided, however, that the author reserves the right as author or editor to republish or use all or part of this article in future works, but not limited to lectures, press releases, reviews, or textbooks.

Name: (Generated by Mira).

(Check the "Accepted" box on the Mira website.)

B4. Speaker Information

Speaker information must be completed online at the Mira site for each individual(s) who will be presenting at the Forum. **Only one author needs to complete this section for each paper regardless of the number of authors.** The information on this form will be used for the following:

- To provide a point of contact for your paper
- To list your presentation correctly in the official Forum program and any signage

B5. Electronic Format and Submittal of Paper

Overview

All papers MUST be submitted as electronic files through the Mira Forum 74 website at www.vtol.org/mira by the deadline date. No papers may be submitted in hardcopy or on a disc.

Your paper should be concise and ideally 10 to 15 pages in length and may not exceed 30-pages in length. The optimal file size is between 2 and 3 MB and may not exceed 15 MB in size.

The preferred paper submission file format is Adobe Acrobat's PDF (Portable Document Format). This is the file format in which papers will be made available as part of the electronic Proceedings.

The Mira site will also perform conversions to PDF if you submit your paper in Microsoft Word format. Mira will convert your Word document to a PDF file and give you the opportunity to preview and approve it. This is your final review before it is included in the online and CD-ROM collections of the Forum 74 Proceedings.

Please use one of the Microsoft Word or LaTeX templates as the basis for starting your formatted paper.

Guidelines When Creating LaTeX Files

If you use LaTeX, please observe the following instructions: In order to generate screen-readable PDF you must include the following lines in the preamble:

```
\usepackage{times}% set default font to "Times"  
\usepackage{mathptm}% use Times in equations too  
\usepackage{helvetica}% set \sf font to Helvetica
```

Guidelines When Creating Word Files

Times New Roman is the preferred font to use. If you are using other than a "Mira-standard" font, you must embed that non-standard font in the file. Mira-standard fonts include the following TrueType fonts: **Times New Roman** and **Helvetica**

Note: Using any other fonts (e.g. special symbols) and not embedding them could cause production problems, which could lead to your paper not being included in the Proceedings. If you are including graphics, equations, or photos, you must also embed them in your file. **Links to other files are NOT permitted.** Any embedded macros will be disabled.

Before you submit the final version of the file of your paper, it is strongly recommended that you take the file to a computer other than the one on which it was created. In addition, print and review the paper in black and white and, if appropriate, in color. If possible, use someone who is not an author or a previous reviewer to look at this final version on the screen and on the printed paper.

If you have any technical questions about formatting or submitting your electronic file, please contact: Jackie Phillips at Mira at +1-866-341-9589 x215 between 9:00 a.m. - 5:00 p.m. (Central US Time, GMT-6) or by e-mail at AHS2018@mirasmart.com

B6. No Paper – No Podium Rule

A strict “No Paper – No Podium” policy will be in effect for contributed papers. This policy means that an author will not be scheduled to speak if a written paper has not been received by the deadline date. Any exemptions to this rule may only be made by prior approval of the Session Chair and Forum Technical Chair.

B7. Speaker Registration Information/Housing Reservations

Forum 74 Registration – all speakers must register for Forum 74 and are eligible for the speaker registration rate. **Speaker registration rates apply only to the actual speaker (one per paper) – not to all authors.** We encourage you to register online at www.vtol.org/forum no later than **April 6, 2018** to take advantage of early-bird registration rates.

Forum 74 Hotel Reservations – we urge you to book a Forum 74 hotel as soon as possible. Discounted hotel rates are available until **April 19, 2018 for the Hyatt and April 23, 2018 for the Sheraton.** **Government rate rooms are available but very limited, so government personnel should book early.** Please make your reservations through the official hotel site at www.vtol.org/forum-hotels

B8. *Journal* Publication

Papers presented at the Forum may be suitable for publication in the *Journal of the AHS*. Guidelines for submitting a paper may be found in each issue of the *Journal* and online at: www.vtol.org/journal-guidelines.

Please note that *Journal* papers are limited to 12 pages in length.

B9. Alfred Gessow Forum Best Paper Award

Overview:

Each year, the best technical paper presented at the Annual Forum is selected for the "Alfred Gessow Best Paper Award." Paper eligibility and the selection process are outlined below. Papers must be submitted to the Mira web site by the submission deadline date for consideration.

An exchange program has been initiated whereby the winner of the European Rotorcraft Forum (ERF) Ian Cheeseman Best Paper Award is invited to present his or her paper at the AHS Annual Forum. In exchange, the author of the Alfred Gessow Best Paper at the AHS Annual Forum will be sent to the ERF to present his or her paper. This year's winner will attend the 44th European Rotorcraft Forum, September 18-21, 2018 in Delft, The Netherlands.

Eligibility:

All AHS Forum technical papers submitted by the paper submission deadline date are eligible, **with the exception of the Lichten Award winner and runner-up papers and the Ian Cheeseman Best Paper winner.**

The Award:

The winning author(s) will receive a plaque, and expenses for the principal author's air travel to the European Rotorcraft Forum (up to USD\$1,500). Registration and accommodations will be provided by the ERF.

Submission of the Alfred Gessow Best Paper for publication in the *Journal of the AHS* is expected.

C. Detailed Paper & Presentation Guidelines

Part I: Papers

The requirements that follow help ensure that your paper will be well formatted for inclusion in the Forum Proceedings and your presentation at the Forum is successful. Responsibility for the successful implementation of these requirements falls not only on the authors, but also on the Session Chairs, the Forum Technical Chair, the AHS headquarters staff, and the many volunteers who participate.

Meeting the date requested for receipt of your paper is critical. If your paper is not submitted by the deadline, it likely will not be able to be included in the Proceedings, and your presentation will be deleted from the Forum technical schedule.

Top-Level Format Requirements

- Please use the MS Word or LaTeX Forum paper templates, available online at the Mira submission site at www.vtol.org/mira or the AHS Forum site at www.vtol.org/forum.
- The paper should be formatted for printing on **8.5-inch by 11-inch** blank paper.
- Corporate letterhead may NOT be used.
- ISO A4-sized pages may NOT be used.
- Paper title in upper/lower case – **NOT in capitals**.
- The first page **must include a Copyright Statement**. The statement should be a footnote at the bottom left column.
- Margins should be at least 0.75 inches [19 mm] and not more than 1.0 inch [25.4 mm] on the top, bottom and sides.
- A standard proportional font (such as Helvetica or Times New Roman) should be used and Times New Roman is preferred.
- Per the templates, the font size in the title must be 14 point.
 - Authors' names and information 12 point font.
 - Title block and abstract centered across the width of the first page.
 - The Abstract and the rest of the paper should be 10-point.
 - To minimize your exposure to spam, author email address should not be listed on the front page, but rather at the end of the paper.
- Except for the title block and abstract (which are centered across the page), fully justified text throughout the paper is preferred. Left justified is acceptable.
- The body of a paper should be single-spaced and in two columns of equal width, with a 0.20 inch [5 mm] "gutter" between columns.
- Elements of the paper plus the sections and subsections within the body of the paper should NOT be numbered or lettered.
- The titles for the elements of the paper plus the sections and subsections may be in bold or underlined, but should not be both and should be in capital letters. The formatting in the templates is the preferred style.

- The use of color should be limited to Figures and Tables. When using color, remember that the printed version of the Proceedings will be in black and white ONLY. You must satisfy yourself that anything in color will be readable and intelligible when printed in black and white.

Organization

The paper should consist of the following elements. Except for the “Source Footnote,” the elements should be arranged in exactly the following order:

- Title Block – not in capitals
- Source/Copyright Footnote (bottom of first page/left column)
- Abstract
- Notation (optional)
- Introduction
- Main Body (including text, figures, tables, and equations)
- Conclusions
- Author Contact Information
- Appendix or Appendices (optional)
- Acknowledgments (optional)
- References

Description of Elements

Title Block:

The Title Block should consist of the title itself and information on each author.

Title: The title should be brief and concise. Clever and catchy titles that are appropriate for informal presentations are not generally appropriate for archival publications. Avoid unnecessary acronyms, symbols, abbreviations, and punctuation (hyphens, slashes, colons and question marks).

Author Information: Place the author's(s) full name(s), official title, employer, and simple address (city and state [and country for non-US authors]) on separate lines below the author's(s) name. ***Please note: do not include the email address on the 1st page but rather at the end in the Conclusion information this will help reduce your spam after the paper is posted online.***

For multiple authors with the same employer, formatting approaches that minimize repeating the same information are encouraged (e.g., a block for the organizational name and address with names of authors evenly distributed above it, and footnotes for individual titles). **Do not include academic degrees, sub-levels within your organization, or the full mailing address.**

Source/Copyright Footnote:

A footnote should be placed at the bottom of the left column of the first page to show the source of the paper. It should include the specific Forum, the location, and the date. The second line should indicate copyright. Please refer to the example below:

Presented at the AHS International 74th Annual Forum & Technology Display, May 14-17, 2018, Phoenix, Arizona, USA. Copyright © 2018 by AHS International. All rights reserved.

For US government agencies:

Presented at the AHS International 74th Annual Forum & Technology Display, May 14-17, 2018, Phoenix, Arizona, USA. This is a work of the U.S. Government and is not subject to copyright protection in the U.S.

Abstract:

An abstract of approximately 150 words is required. It should consist of a single paragraph only. It should be a summary, not an introduction, and be complete in itself. It should not contain any numerical references to figures or references contained in the paper. The abstract should indicate the subject covered in the paper and should state the objectives of the investigation. Newly observed facts and conclusions must be stated in summary form. Readers should not have to read the paper to understand the abstract. The abstract should be centered across the width of the first page.

The abstract will become part of the metadata for your paper in the online proceedings and other searchable databases, so make it an accurate and complete — but concise — summary of the paper.

Notation

This section is optional if only a few symbols or simple equations are used. In this case, the symbols should be defined in the text when introduced. If more than a few symbols or equations are used, a Notation section should be included. It should list and define the symbols used (including units). Place the symbols in alphabetical order, English first, Greek next, and then subscripts. Metric and US customary units should always both be used wherever possible. If used, this section is the first section in the two-column format.

Introduction

The introduction should introduce the subject, provide some background, including a brief assessment of prior work by others (citing relevant references), and an explanation of how the paper contributes to the field. It is not a summary. The introduction tells analysis/data completed, further work to be done, and how the present results relate to past work and present work.

Main Body

Organize the main body under logical headings and subheadings. Do not number the headings.

- Main headings are centered on the page
- Subheadings begin at the left margin above the text, and sub-subheadings are set at the left margin on the first line of the paragraph.
- Use third person
- Avoid jargon, slang and commercialism
- Use acronyms and footnotes sparingly
- Use simple English prose in paragraph form wherever possible
- Metric and US customary units should always both be used wherever possible

Equations

Unless only a few are used, all equations should be numbered in the order introduced and referred to by number in the text. Equations and/or symbols may be presented in any suitable form; however, clarity for the printer is essential. Special symbols should be identified.

Placement of Figures and Tables

Figures and tables should be inserted in the Main Body. Each figure or table should be placed as soon after its reference in the text as is practical. If including them within the Main Body proves too difficult, grouping all Figures together and then all of the Tables together after the last section of the Main Body is acceptable. Note that Figures and Tables should all be within the Main Body or all after the Main Body.

Figures

Illustrations and graphics used in Figures must be clear and sharp. Converting to PDF files can sometimes affect the resolution of images: If you do the conversion to PDF, carefully review the conversion of all images to ensure they are of adequate quality. Lettering should be large enough to be legible, at least 1/16" (4 mm) high. If needed for clarity, selected figures can be double column width. Illustrations/figures showing plotted data should have axes labeled with appropriate names and units. Symbol keys should be included to identify plotted lines and data when needed. Additional information or parameter values related to a figure should generally be placed in the figure caption rather than on the figure itself. Each figure must be numbered and have a caption. A reference in the text should appear before the figure.

Tables

The number of tables should be kept to a minimum. Each table must have a number and a caption and should be cited in numerical order in the text. A reference in the text should appear before the table. Tables should be simple and arranged in the following format. Use a thicker line at the top and bottom of each table and a thinner line under the column headings. Table footnotes should be placed under the bottom line and should be indicated by the letters a, b, c, d, etc. Both metric and US customary units should be presented.

The following example is given for illustrative purposes only:

Table 1. AgustaWestland AW609 Aircraft Characteristics.

Characteristic	English	Metric
Engines	2 x P&WC ^a PT6C-67A turboshaft	
Passengers	6 to 9 pax + 1-2 crew	
Engine Power	2 x 1,940 shp	2 x 1,450 kW
Wingspan	33.8 ft	10.3 m
Length	46 ft	14.0 m
Height	15 ft	4.5 m
Proprotor Diameter	26 ft	7.9 m
Max Useful Load	5,500 lb	2,500 kg
Max Gross Weight	16,000 lb	6,974 kg
Range	750 nm	1,389 km
Service ceiling	25,000 ft	11,364 m
Vmax (at cruise)	275 kt	509 km/h

^a P&WC: Pratt & Whitney Canada

Conclusions

The most important results of the paper should be summarized as a concise list of numbered items. Conclusions should be supported by development in the main text and no new material should be introduced in this section. If the paper did not result in specific conclusions, then the section may be entitled Concluding Remarks or Concluding Recommendations, with brief summary comments as appropriate.

Author Contact Information

It is recommended, but not required, that emails for main author and any additional authors desired are added as a separate paragraph under Conclusions.

Appendices

Should be used for highly specialized data, derivations, etc. They should be lettered (A, B, C, ...) if more than one is used. Each appendix must be cited in the main text.

Acknowledgments

If used, this should be placed at the end of the paper, before the references.

References

All reference material should be grouped in the final section of the paper, numbered, and placed in the order cited in the text. Reference only that material which is readily available to the reader. Do not include classified material, internal company memoranda, or reports unavailable to the reader. Use the following style:

Book:

Johnson, W., *Helicopter Theory*, Princeton University Press, New Jersey, 1980, pp. 808-813.

Periodical:

Chopra, I., "Dynamic Stability of a Bearingless Circulation Control Rotor Blade in Hover," *Journal of the American Helicopter Society*, Vol. 30, (4), October 1985.

Report:

Straub, F., "Study to Eliminate Ground Resonance Using Active Controls," *NASA CR 166609*, October 1984.

Meeting Paper:

Esculier, J., and Bousman, W., "Calculated and Measured Blade Structural Response of a Full-Scale Rotor," *Proceedings of the American Helicopter Society 42nd Annual Forum*, Washington, DC, June 1986.

Website:

Hirschberg, M., "Commentary: Vertical Flight Saves Lives," AHS International, dated Oct. 29, 2017, <https://vtol.org/news/commentary-vertical-flight-saves-lives> (accessed Dec. 1, 2017).

Part II: Presentations

Before you present it, project it! ... don't just view it.

Before you come to the Forum, you should electronically project your presentation.

It may look great on your computer screen,
but colors and font sizes may look unacceptably different when projected.

Introduction

Each session room will be equipped with an LCD projector connected to a computer running the Microsoft Windows operating system. If speakers have a special audio-visual request, they must advise AHS Headquarters by **April 2, 2018**.

File Format and Delivery

The only acceptable file formats for presentations at the Forum are Microsoft PowerPoint 2007 or later and Adobe Acrobat 6.0 or later.

****Do **NOT** send or e-mail your presentation to AHS Headquarters.****

Presenters must bring the file(s) for their presentation to the Forum on a CD or a USB Flash Drive.

After registering, deliver your presentation at the Novelty/Registration desk where it will be transferred onto a computer for final use in your session. You will also be required to confirm that your presentation has been delivered/received.

All removable media must be readable by Windows 7 or later. Those who develop their presentation under an operating system other than Windows should transfer the file to a computer running Windows with Microsoft PowerPoint 2007 or later for Windows (or Adobe Acrobat-compatible reader) and test the conversion.

We will pre-load the presentations the evening before your session. If you arrive on the day of your session and your presentation is in the morning, deliver your presentation directly to your session room. **All presenters should report to their session rooms at least 30 minutes prior to the start of the session, where an audio-visual technician will make sure that the presentations are loaded onto the computer provided in the assigned room.**

Presentation Appearance

Every chart should:

- a. Carry the message in a concise, condensed, and technically correct manner.
- b. Be legible from the back row. Assume the distance to be 75 feet (23 m).
- c. Standardize the typeface throughout and use bold face characters. In general:

- All upper case is ONLY acceptable for the title, but Title Case is preferred
 - Sentence case is recommended for the body of the presentations i.e., first letter of first word of a line is capitalized; everything else in lower case.
 - "Title Case" is also acceptable (i.e., first letter of all words [except short words like "a", "the", "and"] is capitalized; all other letters are lower case).
- d. In general, a figure or plot that is clearly legible in a paper is likely not very legible when projected. Some simplification and clarification of a printed figure(s) is required to ensure clear legibility when projected.

Suggestions for having readable charts:

- a. A hard copy placed on the floor should be legible from a standing position.
- b. Your presentation charts should not be crammed or overly full. The chart should only be a prompt for the speaker and not text for the speaker or audience to read.
- c. Letters and numerals should be large. The smallest lettering that can be read easily is 1:40 of the height of the frame (0.187" within a 10" × 7.5" frame). Under no circumstances should the lettering be less than 1:50 of the frame height (0.15").

Some additional recommendations for chart preparation are as follows:

- Avoid vertical legends (and Y-axis labeling).
- Multiple lines on a graph should be individually labeled, not cross-checked to a legend.
- Avoid charts with complex equations.
- Use a concise title at the top of each chart. The title can be a declarative statement to inform the audience of what can be learned from the image.
- A boxed statement at the bottom of a chart with a very concise statement/major point can be effective.
- A number of attendees could potentially be colorblind. Red–green color blindness affects up to 8% of males and 0.5% of females of Northern European descent. Red-green "stoplight" charts should be avoided, as well as red-green color-coding where possible. Use of different symbols is preferred to lines of different colors.

Session Rooms and Equipment

Each session room will be pre-set with the following:

- Computer running Microsoft Office
- Video Projector
- Projection Screen
- Speaker timer
- Laser pointer
- Podium microphone and Lavalier (for speaker)
- Standing microphone (audience questions)

Student volunteer(s) will be assigned to each technical session and professional audio/visual (A/V) representatives can be summoned if there are any technical difficulties.

If you require additional A/V, please contact the Julie M. Gibbs, Technical Programs Director, by e-mail at jmgibbs@vtol.org. All special requests for audio/visual equipment must be made by **April 2, 2018** and **any additional AV requirements will at the expense of the user**. A Speaker Ready Room will be available onsite.

Delivery

- **Presentations are on a 30-minute cycle:**
 - 5 minutes for introduction
 - **20 minutes for the presentation**
 - 5 minutes for questions.
 - Complete your talk at least 5 minutes before the end of your time to allow for questions.
- **The 30-minute cycle must be observed** in accordance with the published program to allow audience migration between sessions.
- A speaker who appears as if he or she may run over their time will be warned and, if necessary, stopped to preserve the schedule.

Be sure to:

- Present only selected parts of your written paper. Limit selection so that your oral presentation is compatible within the allotted time and questions/answers.
- Prior to your presentation, conduct a dry run in front of your colleagues to rehearse timing, delivery and content. The presenter is also strongly encouraged to rehearse the presentation at least once using electronic projection – this is an invaluable exercise for both the presenter and the audience.
- Stand at the podium and face your audience at all times – **do not turn your back**.
- Speak loudly and clearly enough to be heard in the back row. **Do not read your speech or your charts verbatim and avoid a monotonous, uninteresting delivery.**
- Refer only to abbreviated notes of your presentation. It is helpful to create a handout view of your presentation as a prompter and as an outline to your presentation speech.
- When introducing a plot or graph on an image, briefly describe the abscissa and ordinate axes, before you get into an interpretation of the results.
- Avoid commercialism and sales nuances.
- Include “Proprietary” or similar appropriate marking on your slides.
- Use a laser pointer when necessary to direct attention to specific points on your image but be sure to turn it off when it is not in use to avoid distraction. Use both hands if necessary to steady the pointer.