

L^AT_EX template for research and review papers in ASM journals

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Third Author and Fourth Author are co-senior authors.

ABSTRACT

Different article types have different formatting requirements and not all variations are captured in this template. Refer to the specific instructions for individual journals, especially the pages on the Submission and Review Process and Article Types, to understand the relevant formatting elements.

The Abstract (called Summary in CMR and MMBR reviews) should concisely summarize the basic content of the paper without presenting extensive experimental details. Because it will be published separately by abstracting services, it must be complete and understandable without reference to the text. Avoid abbreviations and references; if it is essential to include a reference, use the format shown under “Citations in abstracts” here. Limit of 250 words for full-length texts and research articles,

23 resource reports, methods and protocols, observations, reviews, and minireviews; 150
24 words for opinion/hypothesis papers; and 75 words for JVI gems and AAC short forms;
25 new-data letters do not have abstracts.

26 **IMPORTANCE**

27 Some article types require an Importance section, which provides a nontechnical
28 explanation of the significance of the study to the field. These types are full-length texts in
29 AEM, IAI, and JVI, research articles, resource reports, methods and protocols, and
30 observations. The limit is ≤ 150 words, except for full-length texts in IAI, where it should
31 be ≤ 120 words.

32 **INTRODUCTION**

33 The introductory portion should supply sufficient background information to allow
34 the reader to grasp the focus or rationale of your paper, understand the hypothesis you
35 address, and evaluate the results of the study without referring to previous publications
36 on the topic.

37 **L^AT_EX files**

38 Files from a project may be transferred directly to a selected ASM journal once for
39 initial manuscript submission. A compiled PDF alone is acceptable for initial submission
40 of a manuscript prepared in L^AT_EX; refer to the [Initial Submission Checklist](#) for more
41 details. At the revision stage, ASM requires all L^AT_EX files from a project to be uploaded.
42 On the journal submission site, the .tex file should be classified as a Manuscript Text File.
43 Other supporting files that appear in the package (i.e., .bib, .bst, .cls, .ldf, and .sty files)
44 should all be included and classified as L^AT_EX Support Files. Figures should be classified
45 as Figure files; see the [guidance for figures](#) for formatting requirements. At the revision
46 stage, when the manuscript record already exists, any files requiring modification must be

47 replaced. Contact journal staff with questions related to file conversion in the manuscript
48 record.

49 **Sectioning commands**

50 Use `\section` to get a first-level heading. You can use `\subsection` or just `\textbf` to get
51 a subheading. Further sectioning levels, such as `\subsubsection`, are ignored. First-level
52 heads (boldface, all caps) for the Materials and Methods, Results, and Discussion sections
53 are required only in full-length texts, research articles, resource reports, and methods and
54 protocols.

55 **Reviews, minireviews, and Gems**

56 Reviews, minireviews, and Gems may have specific length limits and, for some
57 journals, may be submitted by invitation only. Refer to the
58 specific instructions for individual journals, especially the pages on the Submission and
59 Review Process and Article Types, for details. Instead of Materials and Methods, Results,
60 and Discussion, these papers typically have first-level heads (boldface, all caps)
61 delineating the desired major sections, as well as subsection heads as needed. Brief
62 biographies of the authors and author photos may be included at the end of the
63 manuscript (see the end of this template for more information).

64 **Citations and references**

65 This template uses BibTeX and natbib, so `\citep` and `\citel` such as
66 `\citep{caserta:etal:2012}`, `\citel{johnson:robinson:2016}` can be used as usual to produce
67 the correct citation style, and the reference list is generated automatically. In the
68 References list, references are numbered in the order in which they are cited in the article
69 (citation-sequence reference system). In the text, references are cited parenthetically by
70 number in sequential order. Data that are not published or not peer reviewed are simply
71 cited parenthetically in the text. For additional guidelines and examples, see this page.

72 MATERIALS AND METHODS

73 The materials and methods section in primary-research papers should include
74 sufficient technical information to allow the experiments to be repeated.

75 Math and equations

76 Equations can be presented either inline in the text or as centered display equations,
77 with or without numbering:

```
78 \begin{equation}
79 \frac{\partial^2 \Phi}{\partial x^2} + \frac{\partial^2 \Phi}{\partial y^2} +
80 \frac{\partial^2 \Phi}{\partial z^2} =
81 \frac{1}{c^2} \frac{\partial^2 \Phi}{\partial t^2}
82 \end{equation}
```

83 Please note that display equations in the template may be rendered with a slightly
84 different presentation in the final published ASM journal article.

```
85 \begin{equation}
86 \int_0^\infty e^{-\alpha x^2} \mathrm{d}x =
87 \frac{1}{2} \sqrt{\frac{\pi}{\alpha}}
88 \int_{-\infty}^\infty e^{-\alpha y^2} \mathrm{d}y =
89 \frac{1}{2} \sqrt{\frac{\pi}{\alpha}}
90 \end{equation}
```

91 RESULTS

92 In the Results section, include the rationale or design of the experiments as well as the
93 results; reserve extensive interpretation of the results for the Discussion section. For
94 shorter research papers, these two sections can be combined under a single "RESULTS
95 AND DISCUSSION" first-level head.

96 **Figures**

97 On initial submission, figures and legends should be embedded in the text near where
98 they are cited, to assist review. Here is an example of a figure citation (Fig. 1).



99
FIG 1 This is an example figure with caption. Include each figure and its
legend within the manuscript near where it is cited in the text.

100 At the modification stage, separate production quality digital files must be provided
101 for figures, and legends should appear after the References section in the main text. See
102 the guidance for figures for formatting requirements. All graphics submitted with
103 modified manuscripts should be grayscale or in the RGB color mode and should be at
104 their intended publication size.

105 **Tables**

106 The tabularx, booktabs, and siunitx packages are loaded by asm-article.cls; see
107 `\autoref{tab:example}` for an example table. Use
108 `\verb|\begin{fullwidth}...\end{fullwidth}|` in your table for the table to span the entire
109 width of the page. Shading in the field of tables is allowed, to demonstrate relationships
110 among data. You can use the `\verb|\columncolor|`, `\verb|\rowcolor|`, or
111 `\verb|\cellcolor|` commands to do this: allowed color values are `\verb|black!20|` and
112 `\verb|black!30|`. Here is an example (Table 1).

TABLE 1 Automobile land speed records (GR 5-10)^a

| Speed (mph) | Driver | Car | Engine | Date | Extra comments |
|----------------|--------------------|----------------------|-----------|----------|---|
| 407.447 | Craig Breedlove | Spirit of America | GE J47 | 8/5/63 | (Just to demo a full-width table with auto-wrapping long lines) |
| 413.199 | Tom Green | Wingfoot Express | WE J46 | 10/2/64 | |
| 434.22 | Art Arfons | Green Monster | GE J79 | 10/5/64 | |
| 526.277 | Craig Breedlove | Spirit of America | GE J79 | 10/15/64 | |
| 536.712 | Art Arfons | Green Monster | GE J79 | 10/27/65 | |
| 622.407 | Gary Gabelich | Blue Flame | Rocket | 10/23/70 | |
| 633.468 | Richard Noble | Thrust 2 | RR RG 146 | 10/4/83 | |
| 763.468 | Andy Green | Thrust SSc | RR Spey | 10/15/97 | |

^aTable adapted from https://www.sedl.org/afterschool/toolkits/science/pdf/ast_sci_data_tables_sample.pdf with permission.

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119 permissions as additional files during manuscript submission or otherwise forwarding
120 them to ASM Journals staff. Proper attribution for any such material must be provided in
121 the manuscript.

122 **DISCUSSION**

123 The Discussion section should provide an interpretation of the results in relation to
124 previously published work and to the experimental system at hand and should not
125 contain extensive repetition of the Results section or reiteration of the introduction. In
126 shorter research papers, the Results and Discussion sections may be combined.

127 **ACKNOWLEDGMENTS**

128 Statements regarding sources of direct financial support (e.g., grants, fellowships,
129 scholarships, etc.), personal assistance, or contributor roles appear in this section.

130 Use `\begin{acknowledgments}...\end{acknowledgments}` environment to place your
131 acknowledgments section, commands to do this: output will not come in the pdf for
132 double blind mode.

133 **DATA AVAILABILITY STATEMENT**

134 Per ASM's open data policy, a condition of publication in ASM journals is that authors
135 make data fully available and without restriction, except in rare circumstances. Data
136 availability will be confirmed prior to publication and must be provided during the
137 modification stage, if not before. Upon request, data must also be made available for peer
138 review. Include a data availability statement that contains a description of the data, name
139 of the repository, and digital object identifiers (DOIs) or accession numbers.

140 **CLINICAL TRIALS**

141 Add clinical trial registry name and number here, if applicable.

142 **ETHICS APPROVAL**

143 Provide an ethics approval statement for your study here, if applicable.

144 **FUNDING**

145 Add funding info here: funder name, grant number, and name of recipient author.

146 Use `\begin{funding}...\end{funding}` environment to place your funding section,
147 commands to do this: output will not come in the pdf for double blind mode.

148 **CONFLICTS OF INTEREST**

149 State all conflicts of interest here or say, “The authors declare no conflict of interest.”

150 Use `\begin{conflictsinterest}...\end{conflictsinterest}` environment to place your
151 conflicts of interest section, commands to do this: output will not come in the pdf for
152 double blind mode.

153 **Supplemental material**

154 If you have supplemental material intended for posting by ASM, cite it in the
155 manuscript but do NOT include the file(s) or legends in this template. Instead, in the
156 journal submission portal, upload supplemental material separate from the main
157 manuscript file(s) as either a single PDF (preferred) or individual files, with legends
158 included in said file(s). References related only to the supplemental material should be
159 included within the supplemental file(s) rather than in the References section of the main
160 paper.

161 REFERENCES

162 asm-sample.bib goes here.

163 @article{caserta:etal:2012,

164 author = {Caserta, E. and Haemig, H. A. H. and Manias, D. A. and Tomsic, J. and Grundy,

165 F. J. and Henkin, T. M. and Dunny, G.M.},

166 title = {\emph{In vivo} and \emph{in vitro} analyses of regulation of the

167 pheromone-responsive \emph{prgQ} promoter by the PrgX pheromone receptor protein},

168 journal = {Journal of Bacteriology},

169 year = {2012},

170 volume = {194},

171 pages = {3386--3394},

172 }

173 @article{johnson:robinson:2016,

174 author = {Johnson, J. and Robinson, V.R.},

175 title = {Cleavage of JPS-1 in cells infected with human rhinovirus},

176 journal = {mSystems},

177 year = {2016},

178 volume = {1},

179 pages = {e00001-15},

180 }

181 @article{winnick:etal:2005,

182 title={How do you improve compliance?},

183 author={Winnick, Sheldon and Lucas, David O and Hartman, Adam L and Toll, David},

184 journal={Pediatrics},

185 volume={115},

186 pages={e718--e724},

187 year={2005},

188 }

189 **AUTHOR BIOGRAPHIES**

190 Author biographies (≤ 150 words each) and photos (black and white, passport size)
191 can be inserted here. They are required for reviews in CMR and MMBR but optional for
192 minireviews in other journals and Gems in JVI. Do not include them for primary-research
193 articles. See the specific instructions for individual journals for more information.

194 Use `\begin{authorbios}...\end{authorbios}` environment to place your author
195 biographies section, commands to do this: output will not come in the pdf for double
196 blind mode.