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**The IEEE Open Journal of Control Systems (OJ-CSYS)** is a rapid turnaround, open access, and rigorously peer-reviewed IEEE Control Systems Society publication that expands its journal program to offer original research across the broad spectrum of all areas of Dynamic Systems and Controls. The journal aims to publish high-quality papers on the theory, design, optimization, and applications of dynamic systems and control, while promoting open access to all control systems research and education publications, including software, and data.

Papers submitted to the OJ-CSYS should address an important and timely topic that is relevant to the broad area of theory and applications of systems and control, and report results that are of potentially high impact and likely to be regarded by the community as a significant contribution to the state-of-the-art in our field. The technical correctness of the paper is of fundamental importance, but alone does not guarantee the paper acceptance. OJ-CSYS is an electronic-only, open-access journal.

## **ARTICLE TYPES AND REQUIREMENTS**

### **Regular Papers**

These are standard journal articles, presenting significant research on analysis relevant for dynamic control systems, and/or applications. These papers can extend work presented at a previous conference. Papers should be written in as concise a manner as possible.

Length: Twelve pages, not including references, or shorter. A paper longer than 12 pages may incur longer review times and require justification.

### **Overview Paper Proposals**

These proposals are to discuss the importance and timeliness of a proposed overview paper topic and related subtopics. The senior editorial board will either encourage or discourage the authors from submitting a full overview paper ten weeks later. Only if encouraged, authors can submit a full overview paper that will be sent for further review.

The editorial board will evaluate overview paper proposals based on the proposal's breadth and timeliness, and the authors' depth of knowledge and recognized expertise in the proposed topic. An encouragement does not imply automatic acceptance of the full overview paper.

Length: Six pages, including references. This is a strict required length.

## **Overview Papers**

Before submitting a full overview paper, authors should submit an overview paper proposal, which will be encouraged or discouraged for further development and submission. Overview papers are mostly survey papers, but with tutorial-like elements. As such, these papers should provide an introduction to the topic being surveyed, starting with key definitions and statements that allow a reader to get a clear grasp of the fundamental components of the area being reviewed. Taking this as a starting point, authors should provide an overview of techniques applied to address main questions in the area, describing pros-cons of an important subset of competing techniques with the goal of finding the limits to the state of the art. Overview papers can make more emphasis on one particular approach to solve a set of questions, but cannot fail to cite competing approaches, to provide the reader with a comprehensive view. As in a literature review, the cited references should give the reader clear information of what to find in the mentioned references.

Length: Twenty-five pages, not including references, or shorter. A paper longer than 25 pages may require longer review time and does require justification.

## **Position/Outlook Paper Proposal**

Unsolicited position paper proposals may be submitted to the journal. In this proposal, the authors should indicate i) whether their paper is of technical type or of perspective type, ii) provide a solid motivation of why this type of problems are of interest, iii) concisely describe the issues and approaches that will be included in the paper. After this, the position paper will be either encouraged or discouraged for submission. The following criteria will be employed to encourage a position paper: a) the accredited knowledge / area of expertise / authority of at least one of the co-authors in the proposed area, b) the timeliness of the topic.

Length: Six pages, including references. This is a strict required length.

## **Position/Outlook Papers**

These are short papers presenting state of the art assessments, future challenges, and offer new insights or resolutions in dynamic systems and controls. Each paper should strive to be accessible to a broad audience, but there are two possible styles for position papers:

**Technical:** This paper advocates for a certain technical approach of the current research areas (and, the opposite, argue that a certain set of approaches are inadequate to do so). These papers need to be supported with technical arguments and evidence, providing critical overview of past research (quick state-of-the-art review), a short technical description of the proposed approach, and convincing arguments of why such approaches are the most promising. They can conclude with a technical commentary on current research activities and challenges in the area of interest.

**Perspective:** A perspective position paper can provide a personal analysis of a scientific problem in the area of Dynamic Systems and Controls. Broadly, a position paper can identify key research challenges or questions for the adoption of a control system technology, offer a personal perspective of these problems, and propose solutions to those stakeholders who can play an important role in this adoption (researchers, educators, regulatory agencies, social stakeholders).

**Length:** Three to six pages, not including references. A paper longer than six pages requires justification.

### **Tools Papers**

Under this category of papers, authors can submit 1. tutorial-like papers describing new testbeds, software, data, and benchmark tests with appropriate links to these tools, and 2. report on the performance of control algorithms, as compared to others on benchmarking tests or other case studies with practical relevance.

1. **Tools Papers:** These submissions consist of i) a paper describing new accessible testbeds, software, benchmarking tests, and data, which should be of tutorial type. And ii) a link to the testbed, software and/or corresponding data repository.

- o **Testbeds and benchmark tests description:** The paper should provide a clear description of the testbed elements, how it is built, how the testbed elements are integrated, what the requirements to access the testbed are, and what the capabilities of the testbed currently are, how to interface with the testbed, and usage support. Ideally, the testbed designers will include a set of benchmarking tests which can be used to validate and compare a variety of control algorithms. The tutorial should illustrate the usefulness and benefits of using the testbed by describing example test results, and evidence of testbed usage. Authors should also provide some data about testbed usage over time, success stories and challenges in experiments. Recommendations for future upgrades, or challenges to overcome for the creation of new testbeds are also welcome. This is not a space for “selling” a particular product, but a space to describe how to access a testbed setting and how that testbed works.

- o **Open-access software description:** This is the description of new developed software and open access software that has been developed by the authors. A comparison with similar software should be made, and arguments for the adoption of such software should be provided. For example, this can be done by including the results of software implementations and providing data about the usage of the software. The software should be first shared with reviewers via a link to a repository provided by the authors. Then, this repository should be permanently uploaded into the free IEEE Code Ocean.

o Dataset description: This is the description of a data set which has been obtained and made freely available by the authors. The data will be included into the IEEE Dataport free repository. The data can be synthetic or real data. If synthetic, the paper should describe how it was created in detail, and should make the case why this data is good enough to perform a given experiment. If real, the data should be completely anonymized. The paper should describe the data format, how it can be imported, and managed. It is not necessary to include a case study showcasing a data usage, but it would add value to the paper description. The data should be first shared with reviewers via a link to a repository provided by the authors. Then, this repository should be permanently uploaded into the free IEEE Data Port.

2. Research case-study outcomes This is the report on the outcomes of a research study that is performed on a benchmarking test or a sophisticated simulation (high-fidelity, with hardware in the loop.) Though encouraged, the data of the research case study does not have to be widely shared, but the authors have to be ready to disclose any amount of information and data that can be needed for reviewing purposes. These research case studies have to be of significant nature, with the goal of bringing the application of a control methodology closer to solving real-world problems. These papers should compare the benefits of a given methodology against an accepted baseline.

Length: Twelve pages, not including references. Longer papers will require justification in the cover message.

For papers going above the respective article type's length, the authors must give a justification in their cover message. More information on the types of papers, as well as the required length can be found [here](#).

## **PAPER FORMAT REQUIREMENTS AND TEMPLATES**

**Templates for both Word and LaTeX can be found on the IEEE Author Resources website.**

Please feel free to contact the [editorial assistant](#) if you have any questions.

1. The First page of the paper must include:
  - a. Title of Paper (without Symbols);
  - b. Author(s) and affiliation(s);
  - c. Abstract (not exceeding 200 words);
  - d. For each author: complete mailing address, telephone number, and e-mail address;
  - e. Preferred address for correspondence and return of proofs; and

- f. Footnotes (if desired) containing acknowledgment of financial or other support.
2. Provide an Introduction that includes a statement of the purpose and contribution of the paper.
3. If appropriate, indicate advantages, limitations, and possible applications in a Conclusion section.
4. References should be numbered and appear in a separate bibliography at the end of the paper. Use numerals in square brackets to cite references, e.g., [15]. References should be complete and in the IEEE style (in LaTeX use `\bibliographystyle{IEEEtran}`).
5. According to the new IEEE policy for manuscript submission, OJ-CSYS requires an Open Researcher and Contributor ID (ORCID) for all Authors at the time of initial submission. ORCID is a persistent unique identifier for researchers and functions similarly to an article's Digital Object Identifier (DOI). Authors will need a registered ORCID in order to submit a manuscript to OJ-CSYS through the submission site. You can register your ORCID with any of your PaperPlaza PINs [here](#).

You must submit:

1. **Manuscript file**
2. **Supplementary material(s) (if applicable)**
  - a. **For papers that are expansions of conferences:** Please include the final conference version of the paper, for review purposes only.
  - b. **As supporting material:** You are encouraged to submit other materials (e.g. figures, formulas, etc.) to support your manuscript.

There is no length limit for supplementary materials, and acceptable files are:

- Text: TXT, DOC, DOCX, or PDF
- Image: JPG, TIF, PNG, GIF, PDF, PS, EPS, or BMP
- Video: MP4, MOV, WMV, or AVI
- Audio: MP3, AIFF, MOV (Quicktime Audio), RA (Real Audio), or WAV

(Windows Audio)

Please visit the [IEEE Author Center](#) for any additional questions on preparing the manuscript and supplementary materials.

**Your paper will be returned to you if your manuscript does not conform to the IEEE OJ-CSYS template and/or the required supplementary material is not included with submission.**

## SUPPLEMENTARY CODE, SOFTWARE, DATA

OJ-CSYS accepts computer code associated with an article (e.g., implementing algorithms) which can be submitted with the final accepted manuscript. Once accepted, this code should be publicly accessible (unless indicated otherwise by the submitting author) and linked to the accepted paper.

A SUMMARY file must be included which describes the overall components and intent of the code. A README file must be included which describes the steps required to reproduce simulated results and/or to build/execute the provided code. If possible, minimize the amount of effort required to reproduce the development environment (Ex. specify Matlab/Simulink version, use virtual environments for Python code, or define Docker containers). Describe any software library dependencies (and include their licenses) or specialized hardware required to run the code (Ex. GPUs or lab equipment).

Authors must specify and include the license file for [the type of license](#) under which the provided source code may be used.

There are several ways to submit your source code and data at the time of paper submission.

1. Include the source code and data in a zip file/tar ball, along with any additional supplementary material for your paper and upload to PaperPlaza.
2. Upload the source code and data to a public repository (such as [CodeOcean](#) or [IEEE DataPort](#)). A link to this repository must be provided in a text file, along with any additional supplementary material for your paper, and uploaded to PaperPlaza. Create a Document Object Identifier (DOI, for example, on [CodeOcean](#) or [DataPort](#)) and include this DOI as a reference within the submitted paper.
3. Authors who have submitted their research data to [DataPort](#) now have an option to include this information during the article submittal process and link the data to their submitted article. You can now add your DataPort DOI and title within PaperPlaza. If the article is published in Xplore, there will be a “Datasets Available” icon and a link to the dataset for Xplore readers. Contact [dataport@ieee.org](mailto:dataport@ieee.org) if you have questions about submitting your data.

## CODE OCEAN

Code Ocean is a cloud-based computational reproducibility platform that can be accessed and run by readers of the article through the IEEE Xplore. Code Ocean is an executable research platform that allows authors to share their algorithms with the scientific community. Anyone can run an algorithm posted to Code Ocean, modify it, and test the modifications. The published algorithm that an author posts will remain unchanged.

Once the algorithm is uploaded to Code Ocean, it will get its own DOI and can be linked to the associated article in IEEE Xplore by having the paper's DOI entered into the “capsule” data. Users in IEEE Xplore will be able to discover and access the link to run the algorithm in Code Ocean, and similarly CodeOcean users can access the paper on IEEE Xplore from its linked capsule. Any author that has had an IEEE journal article published on IEEE Xplore in the past five years can sign up and upload associated algorithms to Code Ocean.

Users can:

- Upload code (software) implementing algorithms in articles
- Discover, browse, and run code
- Modify, experiment with code, and build on research without any other setup or software license.

In essence, it is a way for authors to preserve their code, data, and the complete environment so that the code always runs. An outline of this feature and the functionality it offers is described in this Code Ocean Outline. Additional information and instructions are at the Code Ocean website.

#### **Process for Authors:**

(Public can view all capsules through [CodeOcean.com/explore](https://codeocean.com/explore) without signing up.)

##### **1. To upload code:**

- a. Visit repository through [CodeOcean.com/explore](https://codeocean.com/explore) or IEEE Xplore Widget
- b. [Sign Up](#) Code Ocean for free
- c. Select “New Capsule” on top, right-hand corner

##### **2. To modify code:**

- a. Visit repository through [CodeOcean.com/explore](https://codeocean.com/explore) or IEEE Xplore Widget
- b. [Sign Up](#) Code Ocean for free
- c. Search for capsule you want to modify (keyword, research field, title, author, DOI)
- d. “Edit Capsule” button on right-hand corner
- e. Keep & publish new capsule

## **IEEE DATAPORT**

IEEE DataPort™ serves as a valuable and easily accessible repository of datasets and data analysis tools. The repository is designed to accept all types of datasets, including Big Data datasets up to 2TB, and it provides both downloading capabilities and access to Cloud services to enable data analysis in the Cloud. IEEE DataPort™ is a universally accessible web-based portal that serves four primary purposes:



- Enable individuals and institutions to make datasets easily accessible to a broad set of researchers, engineers and industry;
- Enable researchers, engineers and industry to gain access to datasets that can be analyzed to advance technology;
- Make data analysis tools and capabilities available to enable analysis of datasets;
- Retain referenceable data for reproducible research.

IEEE DataPort™ is an online data repository created and supported by both the IEEE Signal Processing Society (SPS) and the IEEE Big Data Initiative (BDI). IEEE DataPort™ will support IEEE's overall mission of Advancing Technology for Humanity.

### **Process for Authors:**

Open Access datasets are available to all users, however standard datasets are only available to IEEE DataPort subscribers. As an Open Access journal, we do offer open access dataset publishing for our authors after articles have been selected for publishing.

#### **1. To upload code:**

- Visit repository through <http://ieee-dataport.org/>
- [Sign Up](#) to IEEE DataPort for free
- Each author submitting a dataset to IEEE DataPort will have an opportunity to identify the journal to which they are submitting and if submitting to an OA journal, the author will get a OA dataset upload credit (worth \$1950) so they can upload their dataset as OA.

Your code will be given a DOI and you will get unlimited access to their datasets without an expiration date.

### **SUPPLEMENTARY VIDEOS**

OJ-CSYS accepts supplementary videos, which can help authors illustrate concepts or summarize findings in an accessible way. You can include your video during the article submission process and include a DOI for the video, if applicable. If the article is published in IEEE Xplore, there will be a "Media" icon and link in the outline of the article. Please also include a video summary during submission.

Save or export your video in MP4, MOV, or AVI format. Video file size is limited to 100MB. Contact [editorsupport@ieee.org](mailto:editorsupport@ieee.org) with questions about specifications, or email the [editorial assistant](#) with any other questions.

See an example of a video on Xplore here: [Optimally Biomimetic Passivity-Based Control of a Lower-Limb Exoskeleton Over the Primary Activities of Daily Life | IEEE Journals & Magazine | IEEE Xplore](#)

For more information on supplementary videos, visit the [IEEE Author Center](#).

## **STYLE FOR ILLUSTRATIONS**

Please follow the instructions in “Guidelines for Author-Supplied Electronic Text and Graphics.”

## **PUBLICATION DECISIONS**

The OJ-CSYS is a rapid publication whose target is to provide authors with a final decision about their submitted manuscripts within 20 weeks from their initial submissions. For this reason, it is the journal policy to allow for each paper at most two rounds of review. Authors will receive the first decision, along with review comments, within ten weeks from submission for Regular and Overview papers.

**The first decision is of three types only: Accept for Publication, Reject, or Revise and Resubmit.**

**If the first decision is Accept for Publication**, authors are required to submit the camera-ready version of their paper within two weeks.

**If the first decision is Revise and Resubmit**, authors can resubmit a revised version along with a Statement of Changes letter indicating how comments by the Associate Editor and by reviewers have been addressed. The revision has to be resubmitted within five weeks from reception of the first review.

Failure to meet these deadlines means the paper will be automatically moved to the Reject category. Unfortunately, the tight timeline of the journal will allow no extensions or exceptions to this rule.

**Authors will receive a second and final decision within 20 weeks from initial submissions. Final decisions are only of two types: Accept for Publication or Reject.**

**If the final decision is Accept for Publication**, authors are required to submit the camera-ready version of their paper within two weeks (more below about the format).

Upon receipt of the final version of the paper from the authors, and provided that all formatting and style requirements are met, the camera-ready PDF file will appear as a Rapid Posting preprint on IEEE Xplore. Rapid Posting preprints are citable papers and have a DOI.

Any paper submitted to OJ-CSYS will either appear on Xplore in six months or be rejected.

Shortly after Rapid Posting preprint appearance, a moderately edited and XML tagged version will be prepared by IEEE, submitted as galley proofs to the Authors, and eventually published as replacement of the preprint.

## **RESEARCH ON HUMAN AND ANIMAL SUBJECTS**

Authors of articles reporting on research involving human subjects or animals shall confirm upon submission of an article to the Editor whether or not an approval was obtained from a relevant Review Board (or equivalent local/regional review). If such an approval was obtained, the original source and reference shall be provided to the Editor at the time of submission and shall appear in the article. For further information on IEEE policy, please visit the [IEEE Author Center](#).

## **OPEN ACCESS**

This publication is an Open Access manuscript submission; selection “YES” to the Open Access question in the submission webpage, **upon acceptance of the paper, you commit to pay the OA fee of \$1,950 in order to enable unrestricted public access** (waivers or discounts could apply—see “Discounts” below).

## **DISCOUNTS**

IEEE members will receive a 5% discount, and members of IEEE societies will receive a 15% discount. IEEE society members will receive a 20% discount. Discounts cannot be combined and do not apply to undergraduate and graduate students.

Corresponding authors from low-income countries (as classified by the World Bank) are eligible for a 100% waiver on article processing charges (APCs). Corresponding authors from lower-middle-income countries are eligible for a 50% discount on APCs.

In a transformative agreement with the IEEE, the University of California and University of Illinois have agreed to cover the full cost of the article processing charges, or APCs, to corresponding authors at these campuses to publish open access in IEEE journals. See your library website for more details.

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## **OVERLAP WITH PUBLISHED WORK**

Submission of a manuscript signifies that it has neither been copyrighted nor published, submitted, or accepted for publication elsewhere. IEEE policy requires that authors, when using their own previously published or submitted material as a basis for a new submission, must disclose such use in their cover message and “cite the previous work(s) and very clearly indicate how the new submission differs from the previously published work(s).” [IEEE Publications Operations Manual, Section 8.2.4F.] The submission of the previously published material as Supplementary Material is also required.

If a submitted manuscript has been published or has been accepted for publication in the Proceedings of an IEEE conference, it may be considered for publication if evidence is provided that it adds value relative to its conference version (for example, it contains detailed proofs omitted from the conference version, new material, and/or additional numerical results). This ensures consistency with the policy stated in the previous paragraph.

If, at its time of submission, a manuscript has also been submitted for publication in the Proceedings of an IEEE conference, it will be considered for publication in the journal with the understanding that, should it be found publishable in both venues, evidence will be provided that its final version adds value relative to its conference version, as explained in the previous paragraph. Please refer to the [CSS Policy for Overlap](#) for further information.

**In either of the above cases, the conference version must be uploaded as supplementary material.**

## **PLAGIARISM, DOUBLE SUBMISSIONS AND OTHER UNETHICAL BEHAVIORS**

At the time of submission, each manuscript is automatically checked through the software Crosscheck-iThenticate to detect possible overlap with other published material. The Editorial Board will review, in high overlap cases, and will verify how extended and how meaningful are the parts that overlap with other publications and take a decision based on those aspects. They will decide whether to involve the CSS Ethics in Publishing committee or not.

IEEE recognizes that technical research is often published first as a conference article with preliminary findings. As those initial findings become fully developed, the conference article can evolve into a journal or magazine article which contains your more developed research and conclusions. IEEE supports this evolutionary publishing process provided that:

- Both the conference and journal articles undergo standard peer review.
- The journal article contains substantially more technical information than the conference article.

- The journal article cites the conference article and clearly indicates how the two articles differ.

If the overlap is with other journal papers by the same authors or with non-IEEE conference papers (for which there may be copyright issues) the evaluation of the added value will be more strict.

## **POLICY ON REFERENCES**

Papers should cite the most relevant related work and avoid excessive citations to the work of the authors or others. In particular, self-citations should be kept to an appropriate minimum (no more than five). The connection of each reference to the paper should be apparent from the text. The editorial board reserves the right to reject papers that it considers violate the above policy and include citations for the purpose of influencing bibliometric indices.

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More information can be found at the [IEEE Author Center](#).

Questions can be directed to [copyrights@ieee.org](mailto:copyrights@ieee.org).

## **PRE-SCREENING**

The editorial board will pre-screen all submissions and remove from further consideration those that, in its opinion, do not meet one or more requirements that include, but are not limited to: areas of interest to our readership; quality and clarity of the presentation; novelty; significance of contribution. In all cases where a submission does not pass the pre-screening stage, it will promptly be returned to the authors.

Administrative rejection based on lack of technical substance may be appealed by the author. If appealed, the EiC must consult with at least two members of the editorial board to see if they agree with the rejection. Upholding the rejection requires that the EiC and those consulted are in agreement on the appropriateness of the rejection.

## REVIEW PROCESS

The articles in this journal are peer reviewed in accordance with the requirements set forth in the [IEEE Publication Services and Products Board Operations Manual](#) (sections 8.2.1.C & 8.2.2.A).

Each published article is reviewed by a minimum of two independent reviewers using a single-blind peer review process, where the identities of the reviewers are not known to the authors, but the reviewers know the identities of the authors. Articles are screened for plagiarism before acceptance.

## SUBMISSION GUIDELINES

All prospective authors must submit their manuscripts electronically by accessing the IEEE Open Journal of Control Systems (OJ-CSYS) submission site. Instructions to upload the pdf file are available in the submission site.

Please make sure that your **pdf file can be printed out correctly both on standard US paper size (8 1/2 x 11") and on A4 paper size (210 x 297 mm).**

Authors outside the USA: Please make sure that your **postscript or pdf files can be printed out correctly on standard US paper size (8 1/2 x 11")**. For example, with dvips, use the option “-t letter.”

## ACCEPTED PAPERS – AFTER FINAL DECISION

Once your paper has gone through the two review rounds and been accepted, the following actions are followed:

1. The paper is exported to the IEEE.
2. The author is contacted by CSS for the open access fee.

3. The early access version of the paper is posted to Xplore within 2 to 3 business days. This is the accepted version of the paper without editing by IEEE.
4. At the same time, IEEE will edit and reformat the paper. Proofs are sent to the author for review one week later.
5. The paper is published on [Xplore](#) after the author's corrections are made.