ICET-lab Publication Strategy

The ICET-lab publication strategy governs (1) how we plan and scope research, (2) how we select publication venues, (3) what venues we prioritize, and (4) what our ambition is. The strategy is a guideline, not a rulebook - exceptions do, and will continue to, come up.

This document is intended primarily as an internal guideline for new lab members. Discussed KPIs are internal goals. The document does not describe official policy, neither of the CSE department nor of Chalmers / GU in general.

General

The ambition of ICET-lab is to conduct rigorous, high-impact research, and to publish this research in internationally well-reputed venues. Our ambition is specifically *not* to write a large number of not-so-great papers (e.g., through salami slicing or by focusing on small, non-competitive venues), and neither is our ambition to conduct research that is only of very localized interest. Researchers shall be measured based on the best work they produce regularly, not on the volume of work they produce.

We particularly value high-impact papers (e.g., papers with lots of citations), papers in top-venues, papers that win awards, and papers that generate a stir in the research community.

> *For PhD students*: We acknowledge that the above policy can be seen as in conflict with the realities of a PhD program, in the following ways:
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> (1) A PhD program is first and foremost a training program. Starting PhD students cannot, and should not, be expected to produce world-class research from Day 1. Some papers are written as training for a doctoral student (both, as a writing-to-learn and learning-to-write training). This is encouraged, particularly before the licentiate. The publication strategy should not be seen as opposing this.
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> (2) Successfully submitting a PhD dissertation requires (some) volume of work. We acknowledge that it may sometimes be required to submit smaller papers to buy oneself the freedom (both, in terms of headspace and for securing graduation) to work on more ambitious projects. That said, all ICET-lab members are encouraged to aim high, even if that will invariably lead to occasional setbacks and rejection.

Publication Venues

We acknowledge that computer science is a conference-driven field, and we do not put special emphasis on journal publications for the sake of having a "journal paper" (although some research contributions are a better fit for the longer page limit of a journal). We distinguish three levels of target venues, broadly following the CORE conference ranking:

Publication in a <u>top venue</u> is a big success (for researchers in any career stage, but particularly for doctoral students and postdocs), and should be celebrated accordingly. We encourage every member of the lab with the exception of starting PhD students to at least <u>submit</u> one paper to a top venue per year (not all of them will be accepted, that is fine - sometimes the top paper you submit in year 3 is a revision of the paper that got rejected in year 2). Everybody should be working towards a top venue submission at most times.

Publications in <u>disciplinary venues</u> are important to build our profile and stay in touch with relevant communities (e.g., ICPE for the software performance engineering community). Further, not every research that is valuable to conduct and publish realistically has the making of a top paper. Publication in a disciplinary venue is still competitive and getting such a paper accepted is a clear win. That said, disciplinary venues should not be the *only* venues lab members submit to. Every PhD student should aim to publish in a top venue at least once or twice.

Publications to "other venues" are supported, but there should be a clear reason for why it is valuable to commit time (and potentially funding) to this activity. This can, for example, entail submitting to a workshop to attend ICSE, as training for a fresh doctoral student, wanting to connect to a different research community or breaking into a new field of study, submitting early results that are not yet mature enough for a more competitive paper, etc. Publications in "other venues" should not be a "means unto itself" - there should be a reason for this paper to exist that goes beyond adding a line to the CV of the involved researchers, and lab members should rarely spend significant time and energy with the express goal of writing a paper in an "other venue".

We do acknowledge that there are quality differences within these tiers (e.g., ICSE may be marginally more competitive than FSE, and one FSE paper may be of higher potential impact than another). However, these three tiers serve as a useful framework to provide quick orientation and a discussion frame among an almost infinite number of potential target venues.

An underlying theme of how we select target venues is that *every paper takes time to write*. Nothing comes for free, and ICET-lab members are encouraged to evaluate if working on a submission in an "other venue" is truly the best use of their valuable worktime (sometimes it is, but that should be a conscious decision between student and supervisor(s)).

Submitting Thesis Work as Papers

The guidelines above also apply to papers resulting from undergraduate student projects. Most student projects deliver results that are "good enough" to submit to a workshop, but that does not mean it's always valuable to do so.

That said, if a thesis project can be published in a disciplinary or top venue with low or moderate effort we should always strive to do so.

KPIs

These are the yearly publication goals for the lab overall.

> Top venues: 1-2 accepted papers per year, 3-4 submitted papers per year
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> Disciplinary venues: 3-4 accepted papers per year

Every additional paper in a top venues can make up for roughly 2 disciplinary papers (that is, a year in which we have three top papers but only one disciplinary paper is still a good year). Disciplinary papers do not make up for a lack of top papers. Publications in "other venues" are valued, but do not make up for a lower number of top or disciplinary papers.

Publications count towards the year when they have been *accepted* (or given a minor revision, in the case of journal papers).

> *Sidenote:* as per our general strategy:
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> *"We particularly value high-impact papers (e.g., papers with lots of citations), papers in top-venues, papers that win awards, and papers that generate a stir in the research community."*
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> We note that from these factors only "papers in top venues" is covered explicitly here. That does not mean that we value the other factors less. However, they are (1) much more outside of our direct control (e.g., a lab member cannot decide that they will now have their papers cited more), and (2) mostly become evident years after the research has been published. Hence, they are a good way to assess how well we are doing after some time, but not a good vehicle to steer our week-to-week work.

Collaboration

ICET-lab values collaboration. Every paper "counts" towards our KPIs, independently of whether an ICET-lab member was the first author of a paper or not.

Collaborations with other faculty or students (within IDSE / CSE or outside) are encouraged. A PhD student's advisor may or may not be part of this collaboration (and an author of subsequent papers); it is the student's responsibility to clarify this with their advisor(s) when working on a collaboration.

ICET-lab does *not* support courtesy co-authorships. We do not accept authorship on papers we had nothing to do with, and do not add authors who have not, at least in a minor way, contributed to the paper. This rule applies to advisors as much as to students and postdocs.

For PhD students: We acknowledge that working towards a dissertation requires papers where the PhD student had a significant intellectual contribution. The most common indicator of this is first-authorship, but contributions as second or third author can (usually) still be a valuable piece of a dissertation as long as a clear and important role according to the [CRediT model](#) can be assigned. This should not stop collaboration between doctoral students, but it does mean that students are well-served discussing author order and roles in the project early on.

Author Order

Like most of applied Computer Science, ICET-lab prefers contribution-based authorship order, i.e., the authors are listed in order of their intellectual contributions to the research, with the first author being understood as the person with the biggest contribution. This is often, but not necessarily, also the order of who put in most time.

Preprints, Replication Packages, Open Access, and Open Science

ICET-lab encourages publishing preprints (e.g., on arXiv), replication packages, or open access publications, but does not mandate it. All of the above have been shown to increase the potential impact of papers (and can be seen as being a "good academic citizen" in general), but it is up to the individual lab members how much effort they are willing to put into, for example, cleaning up replication packages or making their research widely accessible.

Journal-First Publications

Journal papers that have not yet been presented at a conference may be submitted to a Journal-First track at ICSE or another topically relevant A* venue *if funding for the trip is available* (this should not be automatically assumed, and needs to be cleared with the advisor and/or Head of Unit first). We usually do not submit Journal-First papers to disciplinary or "other" venues (the investment of time and money is usually not worth it).