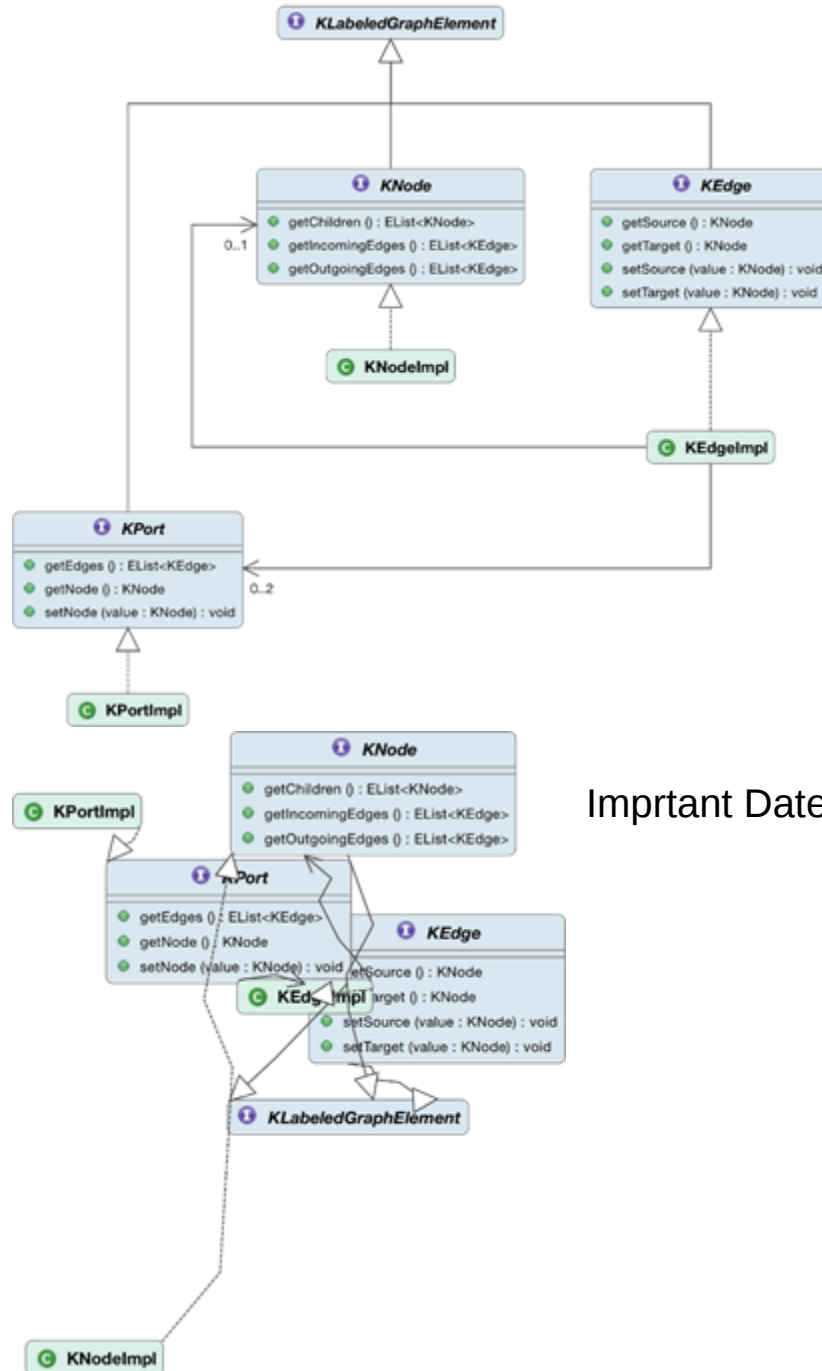


# WS21/22 (Layout)

The purpose of this seminar is to independently scientifically work on a layout algorithm topic. The goal is to summarize the topic in an oral presentation and a written elaboration in form of a paper. Another purpose of this seminar is to practice working in structured and time-driven workflows (e.g. for conferences or workshops). Moreover, both of these aspects are good preparation for working on your thesis. We have many theses regarding these topics available; contact us if you are interested in that.

This seminar is a bachelor and master module at the same time. Compared to the bachelor seminar, we expect that master students include more related papers and therefore write a longer paper and hold a longer presentation (see below).



Important Dates

|                   |                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------|
| Requirements      | Wissenschaftliches Arbeiten von Prof. Peters                                                     |
| Lecturers         | Reinhard von Hanxleden (rvh@informatik.uni-kiel.de)<br>Sören Domrös (sdo@informatik.uni-kiel.de) |
| Block seminar day | 29.01.22                                                                                         |

# Topics

You may choose one of the following papers from the different topics. The papers marked with a ★ are the ones that we deemed more important.

The papers are assigned via *first-come-first-serve*. Already taken papers are crossed out. Many of the links do only work in the university network. If any problems occur feel free to contact us.



Some papers are not freely available. These papers are linked in an internal page in our wiki. You can log in with your Ifi-account. If any problems occur contact sdo.

## Aesthetics and Perception

★ Lloyd, Rodgers, and Roberts. "Metro map colour coding: effect on usability in route tracing." In *International conference on Theory and Application of Diagrams*, pp. 411-428. Springer, 2018. [PDF](#)

★ Helen C. Purchase, Daniel Archambault, Stephen Kobourov, Martin Nöllenburg, Sergey Pupyrev, Hsiang-Yun Wu. "The Turing Test for Graph Drawing Algorithms". In *Processings of the 28th International Symposium on Graph Drawing and Network Visualization (GD 2020)*, pp. 466-481. [PDF](#)

Burns, Carberry, Elzer, and Chester. "Automatically recognizing intended messages in grouped bar charts." In *International Conference on Theory and Application of Diagrams*, pp. 8-22. Springer, 2012. [PDF](#)

## Human Computer Interaction

★ Pourali, Atlee. "A Focus+Context Approach to Alleviate Cognitive Challenges of Editing and Debugging UML Models." In *ACM/IEEE 22nd International Conference on Model Driven Engineering Languages and Systems (MODELS)*, pp. 183-193. 2019. [PDF](#)

★ Frisch, Dachsett. "Off-Screen visualization techniques for class diagrams." In *Proceedings of the 5th International Symposium on Software Visualization*, pp. 163-172. 2010. [PDF](#)

Pietriga. "A Toolkit for Addressing HCI Issues in Visual Language Environments." In *IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC)*, pp.145-152. 2015. [PDF](#)

Green, Petre. "Usability Analysis of Visual Programming Environments - A Cognitive Dimensions Framework." In *Journal of Visual Languages and Computing*, pp. 131-174, Issue 7-2. 1996. [PDF](#)

## Graph Drawing

★(Master) Julien Walter, Johannes Zink, Joachim Baumeister, Alexander Wolff. "Layered Drawing of Undirected Graphs with Generalized Port Constraints". In *Processings of the 28th International Symposium on Graph Drawing and Network Visualization (GD 2020)*, pp. 220-234. [PDF](#)

★ Chevalier and Saffo. "Comparison of coarsening schemes for multilevel graph partitioning." In *International Conference on Learning and Intelligent Optimization*, pp. 191-205. Springer, 2009. [PDF](#)

Athenstädt, Hartmann, and Nöllenburg. "Simultaneous embeddability of two partitions." In *International Symposium on Graph Drawing*, pp. 64-75. Springer, 2014. [PDF](#)

Reyan Ahmed, Felice De Luca, Sabin Devkota, Stephen Kobourov, Mingwei Li. "Graph Drawing via Gradient Descent". In *Processings of the 28th International Symposium on Graph Drawing and Network Visualization (GD 2020)*, pp. 3-17. [PDF](#)

Amyra Meidiana, Seok-Hee Hong, Peter Eades. "New Quality Metrics for Dynamic Graph Drawing". In *Processings of the 28th International Symposium on Graph Drawing and Network Visualization (GD 2020)*, pp. 450-465. [PDF](#)

## Euler Diagrams

★ Bottoni, Costagliola, and Fish. "Euler diagram encodings." In *International Conference on Theory and Application of Diagrams*, pp. 148-162. Springer, 2012. [PDF](#)

★ Chapman, Stapleton, Rodgers, Micallef, and Blake. "Visualizing sets: an empirical comparison of diagram types." In *International Conference on Theory and Application of Diagrams*, pp. 146-160. Springer, 2014. [PDF](#)

## Other Types of Diagrams

★ Erwig and Smeltzer. "Variational Pictures." In *International Conference on Theory and Application of Diagrams*, pp. 55-70. Springer, 2018. [Seite mit PDF](#)

# Schedule

Dates in the semester (currently not final)

| Datum                              | Meilenstein                                                                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mo., 25.10., 23:59                 | Deadline for topic                                                                                                                                                    |
| Mo., 25.10., 12:00                 | Kick-off<br><i>The kick-off will take place online. We will send you the corresponding link.</i>                                                                      |
| Mo., 15.11., 23:59                 | Deadline of the first draft in EasyChair<br><i>Content: abstract, introduction, outline, notes for chapter contents, bibliography</i>                                 |
| In week of above, individual dates | Individual dates<br><i>Online, as discussed with advisor</i>                                                                                                          |
| Mo., 13.12., 23:59                 | Deadline of the first full version<br><i>Submission-Update in EasyChair</i>                                                                                           |
| In week of above, individual dates | Individual dates<br><i>Online, as discussed with advisor</i>                                                                                                          |
| Mo., 10.01., 23:59                 | Deadline of the review version<br><i>Submission-Update in EasyChair</i>                                                                                               |
| subsequently                       | Review assignment<br><i>By e-mail</i>                                                                                                                                 |
| Mo., 17.01., 23:59                 | Deadline reviews<br><i>In EasyChair</i>                                                                                                                               |
| tbd                                | Talk on how to do talks/presentations (the talk-talk)?                                                                                                                |
| In the week of Mo., 10.01.         | Individual dates for presentation slides<br><i>Online, as discussed with advisor. The slides have to be available online or have been sent beforehand via e-mail.</i> |
| Mo., 24.01., 23:59                 | Deadline final version<br><i>Submission-Update in EasyChair</i>                                                                                                       |
| Sa. 29.1.                          | Presentations                                                                                                                                                         |

## The Final Presentations

Currently, it is unclear how the talks will take place. This will be influenced by the development of the pandemic. We can think of recorded videos or a live conference or other alternatives. We expect to be able to make a decision at the beginning of January.

## Schedule and Grading

### Papers, Talks, Review

This seminar includes the creation of a paper, a talk, and two reviews.

### Paper

The paper should provide an overview of the chosen topic. It should be written in a style that late bachelor student can understand it. The paper should be 6 (master) or 4 (bachelor) pages long, not more not less, and it should use the ACM LaTeX-style (more details below). We advise you to read the [writing advice](#) for writing a thesis.

### Talk/Discussions

Your talk should be 40 minutes (master) or 25 minutes (bachelor) long. This is followed by 5 minutes of questions. The slides should contain page numbers to allow the participants to ask specific questions after the talk. It would be great to include a short tool demo if your topic includes some concrete implementation. You can freely choose your presentation tool. The talk can be held in English or German.

Your talk is followed by a discussion that should involve your fellow students (not just the lecturers). That means that you should also make an effort to get engaged in your fellow students' talks as well.

### Review

A review consist of two parts:

1. General comments (what do you like / not like regarding content, structure, and readability) as well as general suggestions to improve the paper
2. In detail remarks and corrections

The first part of the review should be at least half an A4 page long. It should be written in full text and not only consist of notes. The review content should be similar to the review you get during the individual dates, however, it should be more in detail and with a clear focus on content, structure, and readability of the paper.

It is not possible to add files in the EasyChair review form. Therefore, it is not possible to add an annotated pdf as detailed correction.

The reviews are assigned after the review-version deadline and are based on the submitted version of the papers.

## Grades

This seminar is graded. The grade is based on each milestone (the different versions of the paper, the reviews, the slides, the talk, your engagement in the discussion of other talks). For each milestone, quality and timeliness (see dates) are considered. If you miss deadlines, you may fail the seminar.

## Technical Details

### LaTeX

Your papers should be created using LaTeX and have to be in the ACM style. You can find all necessary files in this [archive](#), including an example document that includes helpful LaTeX-hints to start with. Copy all files in some folder and begin to write your paper.

LaTeX can create a bibliography (it includes scientific publications, which are referenced to prove statements) too. The example includes a file named `myrefs.bib`, which holds the references. ACM provides a short overview with [examples](#) of bibliography entries.

While writing your paper keep the following in mind:

- Think about whether you want to write your paper in German or English and make use to use the corresponding ACM-style.
- Graphics from your original paper should not just be screenshots and added to your paper. Ideally, you create your own graphic (ideally as a vector graphic) to have good quality graphics.
- A paper always consists of an introduction, at least one main chapter, and a conclusion.

## EasyChair Tutorial

You can find our seminar in EasyChair [here](#).

We use the [EasyChair](#) system to manage our seminar. EasyChair is a popular system to manage conferences. Should you end up as a PhD student, it is likely that you won't get around using it at some point in your career.

This section describes how to use EasyChair over the course of the seminar.

## Registration

If you do not have an EasyChair account (which is most likely), you need to sign up for an account first.

Go to the [registration page](#). First solve the very challenging Captcha and then fill in your personal data.



Use your university mail address!

|                                         |                                                                 |
|-----------------------------------------|-----------------------------------------------------------------|
| First name <sup>†</sup> (*):            | <input type="text" value=" &lt;First Name&gt;"/>                |
| Last name (*):                          | <input type="text" value=" &lt;Last Name&gt;"/>                 |
| Email address (*):                      | <input type="text" value=" &lt;stu12345&gt;@mail.uni-kiel.de"/> |
| Retype email address (*):               | <input type="text" value=" &lt;stu12345&gt;@mail.uni-kiel.de"/> |
| <input type="button" value="Continue"/> |                                                                 |

You will receive an **activation mail** with a link. When you navigate to the given site, you need to provide further information. Choose a username and password and create the account.

To use EasyChair, you must agree to its Terms of Service ([view terms](#)), ([download terms](#)).

☒ I agree to EasyChair Terms of Service

Enter your personal data.

First name<sup>†</sup>: <First Name>

Last name (\*): <Last Name>

Organization (\*): Kiel University, Department of Computer Science

Country (\*): Germany

The Web page is used to provide a link to it on some EasyChair pages, for example when you are mentioned as an author of paper. It is optional. Please do not use the Web page of your organization here: if you fill this out, it should only be your personal Web page.

Your personal  
Web page:

Enter your account information. Note that user names are case-insensitive

User name (\*): <username>

Password (\*): <password>

Retype the  
password (\*): <password>

Create my account

## Creating a new Submission

To create your submission, visit the EasyChair site of the seminar (link provided above). First you need to log in, then you will be asked for the role you want to enter as. Choose the only option: Author. During the seminar you will get an additional role, [see PC section](#). Next, click on the *New Submission* button in the header bar.

Complete the form with the information about you and your paper. Note that, all fields are not final and can be changed later on.

## Author Information

Please fill out the form below. Some items on the form are explained here:

- **Email address** will only be used for communication with the author. It will not appear in public Web pages of this conference.
- **Web page** can be used on the conference Web pages, for example, for making the program. It should be a Web page of the author, not the Web page of her or his organization.

|                   |                                                                               |
|-------------------|-------------------------------------------------------------------------------|
| <b>Author</b>     |                                                                               |
| First name†:      | <input type="text" value=" &lt;First Name&gt;"/>                              |
| Last name (*):    | <input type="text" value=" &lt;Last Name&gt;"/>                               |
| Email (*):        | <input type="text" value=" &lt;stu12345&gt;@mail.uni-kiel.de"/>               |
| Country (*):      | <input type="text" value=" Germany"/> ▾                                       |
| Organization (*): | <input type="text" value=" Kiel University, Department of Computer Science"/> |
| Web page:         | <input type="text"/>                                                          |

† Note: leave first name blank if there is no first name. If you are not sure how to divide a name into the first and last name, [read the Help article about names](#).

## Title

The title should be entered as plain text, it should not contain HTML elements.

|            |                                                        |
|------------|--------------------------------------------------------|
| Title (*): | <input type="text" value=" &lt;Your Paper Title&gt;"/> |
|------------|--------------------------------------------------------|

## Keywords

Type a list of keywords (also known as key phrases or key terms), **one per line** to characterize your submission. You should specify at least three keywords.

|               |                                                                                  |
|---------------|----------------------------------------------------------------------------------|
| Keywords (*): | <div><div>&lt;Keyword1&gt;<br/>&lt;Keyword2&gt;<br/>&lt;Keyword3&gt;</div></div> |
|---------------|----------------------------------------------------------------------------------|

## Topics

Please select topics relevant to your submission from the following list.

|                                 |                                              |
|---------------------------------|----------------------------------------------|
| <input type="checkbox"/> Master | <input checked="" type="checkbox"/> Bachelor |
|---------------------------------|----------------------------------------------|

## Uploads

|                                                                                            |          |
|--------------------------------------------------------------------------------------------|----------|
| <b>Paper (*).</b> Upload your paper. The paper must be in PDF format (file extension .pdf) |          |
| <input type="button" value="Browse..."/>                                                   | test.pdf |

## Ready?

If you filled out the form, press the 'Submit' button below. **Do not press the button twice: uploading may take time!**

|                                       |
|---------------------------------------|
| <input type="button" value="Submit"/> |
|---------------------------------------|



Use the *New Submission* option **only once** for your first submission!

All following uploads of your paper and milestone submissions must be updates of your existing submission (see next section).

## Updating your Submission

After you created a new submission, you can access your submission via the new button *Submission <your number>* in the header bar. The page then displays the current state and information about your submission.

You can update these information using the options in the top right box of this site.

New SubmissionSubmission 3Kiel-rtsys-semPremium

### Kiel-rtsys-sem Submission 3

If you want to **change any information** about your paper, use links in the upper right corner.  
For all questions related to processing your submission you should contact the conference organizers.  
[Click here to see information about this conference.](#)

[Update information](#)  
[Update authors](#)  
[Update file](#)  
[Withdraw](#)

| Paper 3          |                                                                                                       |
|------------------|-------------------------------------------------------------------------------------------------------|
| Title:           | <Your Paper Title>                                                                                    |
| Submission:      |  (Sep 24, 11:18 GMT) |
| Author keywords: | Keyword1<br>Keyword2<br>Keyword3                                                                      |
| Topics:          | Bachelor                                                                                              |
| Submitted:       | Sep 24, 11:18 GMT                                                                                     |
| Last update:     | Sep 24, 11:18 GMT                                                                                     |

| Authors      |             |                             |         |                                                 |          |                |
|--------------|-------------|-----------------------------|---------|-------------------------------------------------|----------|----------------|
| first name   | last name   | email                       | country | organization                                    | Web page | corresponding? |
| <First Name> | <Last Name> | <stu12345>@mail.uni-kiel.de | Germany | Kiel University, Department of Computer Science |          | ✓              |

## Program Committee (PC)

During the seminar (usually after the second deadline) you will receive an invitation into the Program Committee (PC) of the seminar. This the a prerequisite for the reviewing process. Hence, it is **important that you accept the invitation** as soon as you receive it.

The invitation mail features a response link. Click on that link, make sure that "I accept the initiation" is selected and click on *Answer Invitation*. You do not need to provide a response message (*Email body*) or specify the *Email subject*.

☒ I accept the invitation.  
☐ I decline the invitation.  
☐ I will decide later.

Email subject:

Email body:

Answer Invitation

## Different roles in EasyChair

As soon as you are part of the PC, you have different roles in which you can access/enter the seminar page on EasyChair. The roles have different purposes and permissions.

| Role      | Purpose                           |
|-----------|-----------------------------------|
| Author    | Create and update your submission |
| PC member | Create and update reviews         |

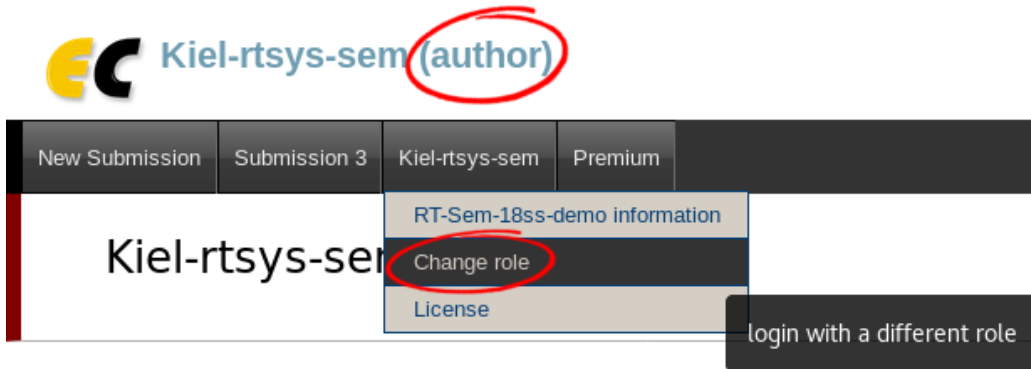
This means you cannot edit your submission when you are in the *PC* role and you cannot create reviews in the *Author* role.

## Changing your role

When you access the EasyChair page of the seminar you are usually asked in which role you want to enter.

Your current role is always displayed in parentheses after the seminar title at the top of the page.

You can change your role by accessing the conference menu (e.g. Kiel-rtsys-sem-18ws) in the top bar and selecting *Change role*.



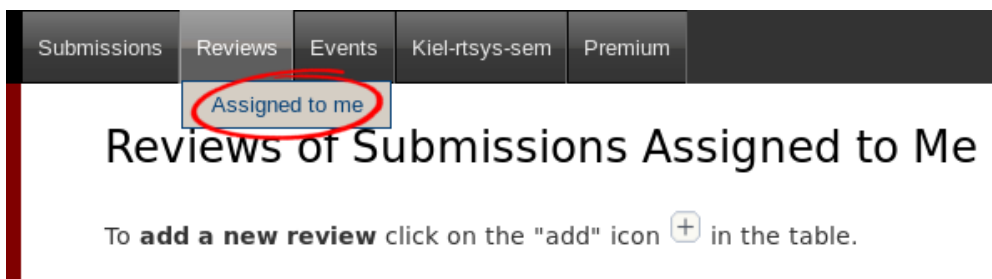
You can log in to Kiel-rtsys-sem using any of the following roles:

- [PC member](#)
- [author](#)

## Writing Reviews

After the deadline for the review versions, you will be assigned as reviewer for two other submissions. You will be notified by mail when the assignment is done. The mail will not contain a direct link. Hence, visit the EasyChair page of the seminar, but this time enter in your **PC member role**.

Click on *Assigned to me* in the *Review* menu and download the paper you are assigned to review (submission column with file/pdf symbol). When you have read the paper and you are ready to write the review click on the + button to create your review.



| # | Submission                             | Details | submission | Add new review |
|---|----------------------------------------|---------|------------|----------------|
| 2 | <First Name> <Last Name>.<Paper Title> |         |            |                |

Complete the review form and submit it. Note that the form may have additional fields you need to fill out.

## Paper and reviewer information

**Title:** <Paper Title>  
**Authors:** <First Name> <Last Name>  
**PC member:** <First Name> <Last Name>

## Evaluation

**General evaluation (\*).** Please provide a detailed review.

This paper is great, one of the greatest.  
You will make this seminar great again!

**Detailed comments.** You may provide detailed comments on, for example, spelling mistakes or grammar issues.

In line 1, "Despite the constant negative press covfefe.", I assume you misspelled coverage or is covfefe a word?

**Submit review**



If you want to update your review, navigate to the *Assigned to me* page but **do not create a new review**. Click on the link with your name in the new (*Update review*) *PC member* column to edit your review.

## Viewing Reviews of your own Submission

When all reviews are finished, you will receive an Email with the reviews for your paper.

Alternatively, you can log in with your **Author role** and access the reviews on your submission page (*Submission <your number>*).

## Ressources

In general, it is advised to look for related work in the university network since you will get access to many online libraries. We the following search engines and web pages:

- Google Scholar: <http://scholar.google.de/>
- dblp: <http://dblp.uni-trier.de/>
- CiteSeer: <http://citeseer.ist.psu.edu/>
- IEEE-Xplore: <http://ieeexplore.ieee.org/Xplore/dynhome.jsp>
- ACM Digital Library: <http://portal.acm.org/dl.cfm>
- Universitätsbibliothek Digitale Medien: <http://www.uni-kiel.de/ub/emedien/index.html>