



# THE ZBT RESEARCH SCHOOL

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## Concept

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# EXECUTIVE SUMMARY

The ZBT research school aims at **fostering a culture of scientific excellence and collaboration** among scientists working in the **ZBT research fields**. These can be employees of the ZBT (eligible for full membership) or of partner institutions (eligible for associated membership). The research school is open for master students - if they are (co-)supervised at ZBT -, PhD students, postdocs and senior scientists. The goal is to create a community that values **continuous learning and encourages innovation**. This concept outlines aims, structure, activities and a timeline for the ZBT research school, launched in 2023. Its implementation was accompanied by an **assessment of the target group's needs** which was considered to ensure that services are tailored to fit those needs and that resources are used effectively to reach the desired outcomes.

The research school hosts a **weekly seminar** in which members present their **research projects and scientific publications**. This provides opportunities for members to learn about the research activities of their colleagues, share ideas and explore possible collaborations. The research school encourages members to engage in **professional development opportunities**, such as workshops, trainings, and coaching sessions. Members can engage in trainings on topics such as writing scientific publications or grant proposals, project management, science communication as well as data analysis and visualization. This aims to helping members to develop new skills and become more competitive in their fields.

In addition, the research school hosts an **annual conference** where members can present their research findings to a wider audience, learn from invited speakers and network with peers from other institutions. Furthermore, an **annual retreat and celebration ceremonies** are held. The retreats provide an opportunity for members to engage in team-building activities, brainstorm new research ideas, and form closer relationships with colleagues, enhancing team spirit. In celebration ceremonies members are recognized have made significant contributions to the research community. This could include members who have published scientific papers or received grants, as well as those who have graduated from their respective programs. The ceremonies provide opportunities to celebrate the accomplishments of the research school community, boosting morale and enhancing motivation among members.

# AIMS

- foster an academic research culture and create a group identity for all those employees that focus mostly on science and research
- facilitate information flow between departments to identify internal collaboration potential
- ensure constant discussion about and consideration of international state-of-the-art research in the ZBT research fields
- increase number and quality of research outputs, i.e. scientific articles, grant proposals, conference contributions etc.
- support professional development by encouraging members to engage in trainings and workshops
- supporting employees to successfully communicate their activities to peers (“inreach”) as well as to a broader audience (“outreach”)

# STRUCTURE

## Management

The ZBT Research School has a director, manager and a management board. The director should be represented by the scientific director of the ZBT. Accordingly, this role is currently personified through Prof. Dr. Harry Hoster. The manager should be represented by the head of the staff unit Science Management and Communication at ZBT. Accordingly, this role is currently personified through Dr. Theresa Schredelseker.

As advisory board, the management board of the Research School has two additional members. When the research school was founded in 2023, two volunteers were installed as additional board members, Sebastian Hirt and Dr. Sercan Erdogan. It is planned, that they act for a period of two years. After that time, the research school members will be asked to vote

which members should hold this position. Re-election is possible. All important decisions are made with the involvement of the management board.

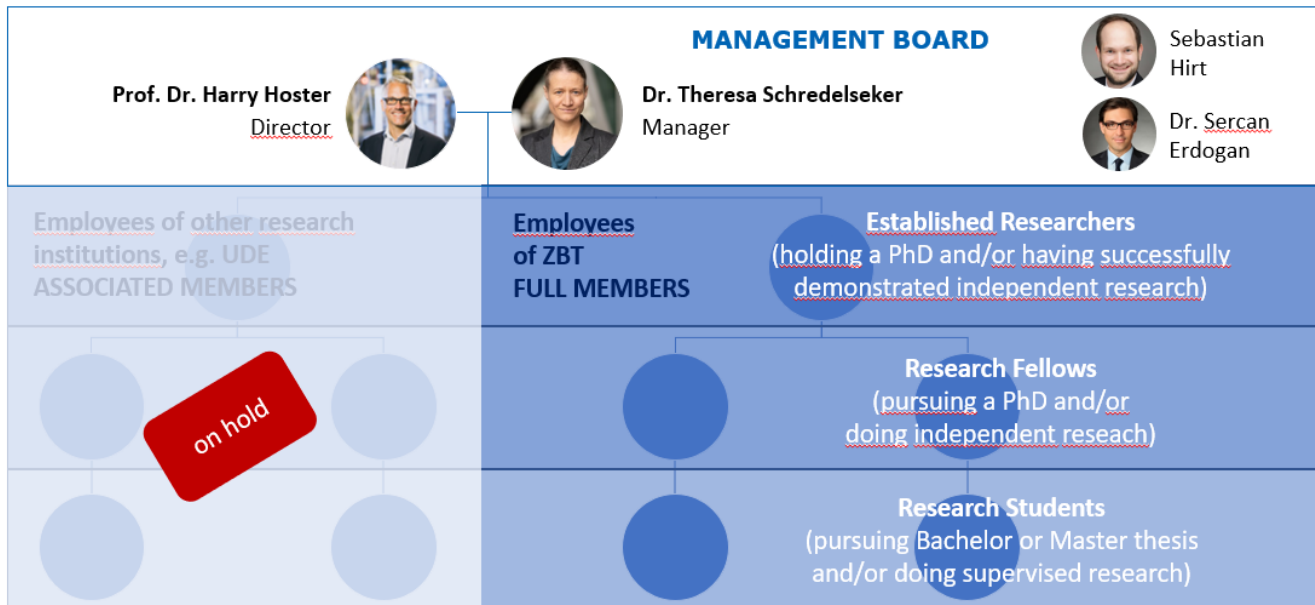


Figure 1: Structure of the ZBT research school in 2024. Details to be found in text.

## Types of Membership

- membership types might be divided by two orthogonal categories: **career stage and employer**
- this allows to assign **different benefits and/or obligations** to each of the six resulting groups if needed
- in terms of **career stage**, three categories might be distinguished:
  - **established researchers** are holding a PhD and/or have successfully demonstrated to be capable of conducting independent research
  - **research fellows** are pursuing a PhD and/or conduct largely independent research
  - **research students** are working on a Bachelor or Master thesis and/or conduct supervised research
- due to NDA issues, the research school will most likely first be launched with full members only; in the future, in terms of **employment**, two categories might be distinguished:
  - **full members** are on the ZBT payroll
  - **associated members** are employed by another research institution

- membership might be mandatory, e.g. for ZBT employees pursuing an academic degree, but in general is **voluntary**
- researchers from the “ZBT research fields” might apply to become member through an online form
- members nominate a representative / spokesperson for each of the three career levels

## Membership Benefits and Obligations

Members might...	Members are expected to....
<a href="#">join annual retreat</a>	<a href="#">attend the weekly seminar</a>
<a href="#">participate in ceremonies (paper acceptance, grant approval, degree completion)</a>	<a href="#">present in project report (approx. every 12 months)</a>
<a href="#">apply for publication funds</a>	<a href="#">present in journal club (approx. every 12 months)</a>
<a href="#">be awarded best paper award</a>	<a href="#">regularly contribute to conferences, especially to the school’s annual symposium</a>
<a href="#">participate in trainings organized by the school</a>	<a href="#">actively pursue publication of their research</a>

Table 1: Benefits (left) and Obligations (right) of ZBT research school members.

## Interplay with PhD Peer Mentoring Program

Due to the large and heterogeneous nature of the group at the ZBT Research School, it is not ideally suited for providing individualized dissertation advice and support. Instead, such personalized guidance is available through the PhD Peer Mentoring program, which was initiated in 2024. This program operates with smaller groups, allowing for more focused and tailored support for each PhD candidate.

The ZBT scientific director is part of the PhD Peer Mentoring program to evaluate the dissertation plans and discuss potential supervisors. A science manager coordinates and moderates the program. A third person, ideally someone who completed their PhD while working at ZBT, acts as advisor to share experience. The group mentoring aspect of the program is exceptionally beneficial, providing very concrete help to jump-start a PhD. Participants learn what it takes to pursue a PhD, find suitable supervisors, tackle the necessary paperwork, and discuss their dissertation projects in detail.

# ACTIVITIES AND SERVICES

## Weekly Seminar

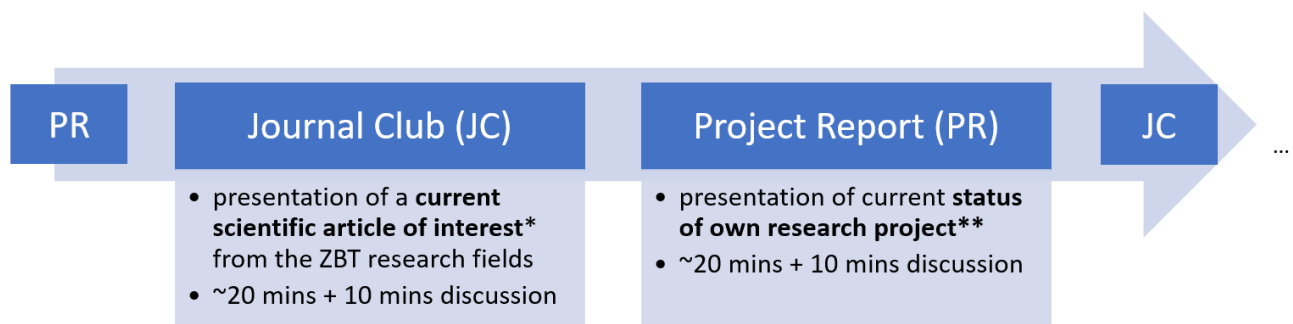
- attendance is mandatory for members
- presenter schedule will be set up and circulated
- in weekly alternation: **journal club** and **project report**
- for both formats each member will present approx. once a year
- presentations should be around 20 mins long, followed by discussion

### JOURNAL CLUB

- presenters pick a paper from the ZBT research fields that is extraordinary in at least one of the following aspects: impact, approach/methodology, results, discussion
- the journal article needs to be announced a week in advance to allow circulation to all members a few days before seminar
- research students should seek approval by their supervisor about their choice

### PROJECT REPORT

- presenter should give an overview over (one of) their current research project(s)
- it should include scientific background, context, aims as well as (preliminary) results



*Figure 2: Nature of weekly seminar series.* \*Decision might be based on high impact, or important/controversial results, or interesting methodology or other reason. Established researchers and research fellows might choose themselves; research students are asked to discuss with their supervisors; paper need to be picked and announced one week in advance to be circulated before seminar. \*\*MSc students will be scheduled to have one single presentation towards the end of their project, i.e. close to the time in which they most likely need to prepare their defense/colloquium for their PI/chair/commission/institute anyway; PhD students should report on the status of their dissertation project; established researcher can pick one project from their portfolio; this could be an ongoing or finished research project but could also be an idea, i.e. A planned project which they might consider turning into a grant proposal in the future.

## Trainings

- existing courses offered by the **Graduate Center Plus**, the **Research Academy Ruhr** and other institutions to which ZBT members have access are curated to specifically meet the target group's needs and circulated within members
- specifically requested and designed workshops and/or coaching sessions might be organized by the staff unit for science management and communication and offered to members

## Ceremonies, Certificates and Awards

- the school supports small ceremonies, i.e. get-togethers, when
  - a member **graduates** from their pursued **degree**
  - a scientific **journal article** with substantial contributions from members get accepted for publication ("**paper parties**")
  - **grant proposals** with substantial contribution from members get approved
- **paper parties** consist of a short presentation of the journal article content (~10 mins) and some shared experiences about manuscript preparation, submission and review (~5 mins) and after a short discussion round end with snacks and drinks
- the school issues **certificates for graduates** which list their extracurricular activities within the research school, e.g. participation in trainings, representative functions, voluntary support in the school administration, event organization etc.
- the school recognizes outstanding scientific journal articles by members with an **annual best paper award**

## Annual Conference / Symposium

- the school organizes an annual symposium in Duisburg
- first occasion: Hydrogen Energy Symposium on October 30, 2024 (<https://indico.h2fc.center/event/29/>)
- full day program with 1-2 invited keynote lectures, several sessions with short talks from research school members, poster session and reception
- the research school management board acts as organizing committee

## Annual Retreat

- 2 days with overnight stay outside Duisburg, filled with talks, workshops and group activities
- first occasion took place at June 27 and 28 in Brilon with a focus on data analysis (<https://indico.h2fc.center/event/27/>)
- management board acts as organizing committee but might include others selected based on their expertise in the specific annual focus topic

## TIMELINE AND MILESTONES

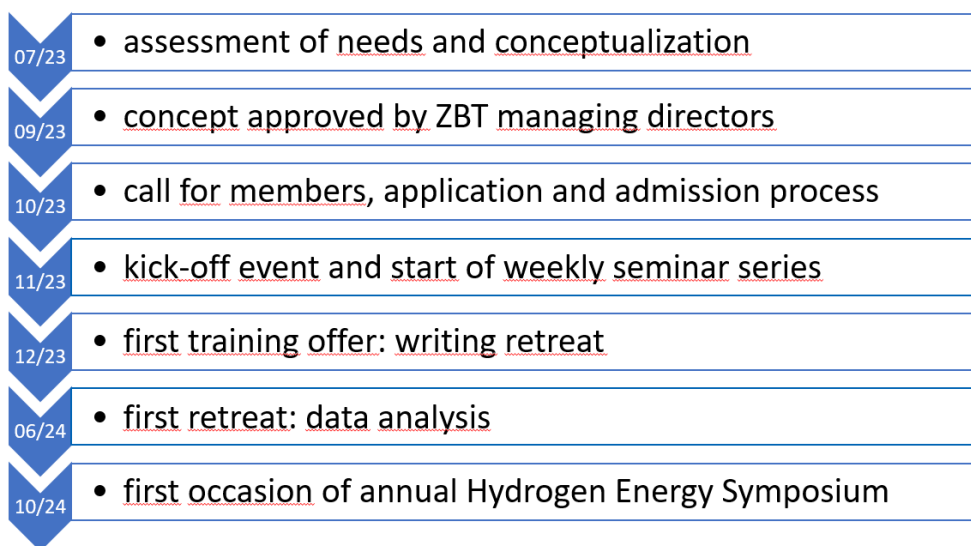


Figure 3: Timeline of ZBT research school launch and operation during its first year.