



The Ruhr area, one of Europe's largest metropolitan regions, offers attractive career opportunities for excellent scientists and scholars from around the world. In 2021, Ruhr University Bochum, TU Dortmund University and the University of Duisburg-Essen established the Research Alliance Ruhr to bundle their cutting-edge international research on the most urgent challenges facing humankind. There are four research centers and a college. This is just the latest chapter in our long-standing collaboration as the University Alliance Ruhr (UA Ruhr), a community of 14,000 researchers and 120,000 students in the heart of Germany.

As part of the Research Alliance Ruhr, the Research Center Trustworthy Data Science and Security is bringing the expertise of its universities together to bridge the gaps between Psychology & Social Sciences, Artificial Intelligence & Machine Learning, Data Science & Statistical Learning, and Cybersecurity & Privacy. The following position is to be filled:

PHD position in Inclusive Communication Technologies (f/m/d)
(salary 13 TV-L, 100 %)

The Inclusive Technology and Collective Engagement Group seeks a PhD researcher to work on the development of novel technologies to support individuals with communication disabilities. Our group takes a collaborative participatory approach, seeking to engage users, their families, and other relevant stakeholders to help ensure that technologies fit the needs of the individual, their socio-technical contexts, thus promoting meaningful impact in their daily lives.

We are looking for a PhD researcher to investigate how AI and other emerging technologies can be leveraged to create new applications and devices that can assist those who face barriers as a result of medical conditions causing impaired speech, as well as other disabilities which might affect verbal or non-verbal communication. This could involve: (1) assessing gaps in how mainstream agentic speech technologies fail to account for the needs of disabled users; (2) conducting empirical research on available Augmentative and Alternative Communication, voice banking, or automatic speech recognition technologies in different context to identify opportunities for innovation; (3) engage in co-design of new digital applications or physical tools that can help people express themselves and be understood on their own terms in a variety of life situations. You will join a supportive interdisciplinary research environment, have opportunity to engage in collaborative research with partners across the Global North and Global South, ultimately contributing to address real-world challenges for individuals with communication disabilities, their families, and society at large.

Your responsibilities

- Take ownership of a defined research direction aligned with the group's themes, working with a high degree of independence and initiative.
- Conduct research using methods appropriate to the project and your background — including quantitative and qualitative approaches — and develop tools, prototypes, or other artefacts to explore and demonstrate key ideas.
- Publish and present research at top-tier venues and contribute to the academic community.
- Collaborate with researchers across disciplines and institutions, contributing to a supportive and engaged research environment.
- Contribute to the broader impact of the work, including engagement with organizations for people with disabilities, medical professionals, and the public at large.

Your profile

Research Areas and Directions

We welcome applicants with a wide range of interests and backgrounds that are relevant to accessibility and inclusive design. Potential topics include (but are not limited to):

- Automatic Speech Recognition applications for atypical speech in one or more languages
- Voice-based Inclusive Agentic Technologies
- Novel Approaches to Voice Banking and Voice Cloning
- Robotics and Physical Computing for non-verbal communication

- Context aware Augmentative Alternative Communication with diverse input modalities
- Inclusive Communication Technologies for Global South contexts

The research will be shaped according to the selected candidate's strengths and interests and may involve self-initiated directions aligned with the broad focus on technology to support people with communication disabilities.

Who We Are Looking for

We welcome applicants from a wide range of disciplines, including computer science and engineering (e.g. AI/ML, HCI, HRI, NLP, robotics), assistive technology & rehabilitation science (e.g. rehabilitation engineering, speech and language therapy, linguistics), and disability studies, to name a few.

You should have:

- A strong Master's degree (completed, near-completion, or equivalent experience) in a relevant discipline
- A demonstrated interest in Accessibility and Inclusive Technology
- Excellent analytical, writing, and communication skills in English
- The ability to work independently and collaboratively in an interdisciplinary setting

Whether your strengths lie in technical development, empirical user studies, participatory design, or somewhere else, we encourage you to apply.

What we offer

Successful candidates will join the Inclusive Technology and Collective Engagement Group, which is part of the broader **RC-Trust**: Research Centre for Trustworthy Data Science and Security. RC-Trust is a multi-university collaboration focusing on developing trustworthy intelligent systems through a human-centered, interdisciplinary approach. Work will also involve collaboration with the Centre for Digital Language Inclusion based at University College London.

Candidates will have access to:

- A highly interdisciplinary and collaborative research environment.
- Opportunities to engage with external stakeholders and contribute to the creation of novel tools with direct impact on the lives of persons with disabilities.
- Travel opportunities for conferences, workshops, and research collaborations.
- A network of researchers, clinical and industry partners, as well as international disability organizations.

This position is embedded in a creative, dynamic, and internationally renowned research environment. Your research will play a crucial role in developing our new Research Centre and promoting trustworthy technology to the general public including marginalized groups. Our extensive international network of researchers and industry partners ensures a seamless transition into your next career step, whether in academia or international research institutions.

We prioritize a balanced and family-friendly work-life relationship, offering options for flexible working hours and part-time remote home-office arrangements.

Appointment date: as soon as possible

Contract duration: 3 years

Position type: 100 percent of a full-time position (part-time is possible)

Application deadline: **20.11.2025**

If you are interested in applying for the position, please provide the usual documents: motivation letter, 1-page summary of your expected project, CV, copies of your certificates, and 2 candidates who can provide a reference letter for you. Applications and requests for information can be sent via email directly to Prof. Dr. Giulia Barbareschi (giulia.barbareschi@uni-due.de) quoting the reference number **568-25**.

Further information about the Research Center can be found at: <https://rc-trust.ai>

The University of Duisburg-Essen aims to promote the diversity of its members (see <https://www.uni-due.de/diversity>).

It seeks to increase the proportion of women on academic staff and, therefore, strongly encourages qualified women to apply.

Women will be given preferential treatment according to the NRW State Equality Act if they have equal qualifications.

Applications from suitable severely disabled persons and those of equal status according to § 2 Abs. 3 SGB IX are welcome.

