#TRANSFORMINGTOMORROW: MAKE A DIFFERENCE WITH US.

IT:U is Austria's emerging public university dedicated to understanding, driving, and evaluating digital transformation for the benefit of our societies, our economy, and our environment.

The Johannes Kepler University Linz (JKU) is the largest educational and research Institution in Upper Austria. As a broad-based university pursuing an interdisciplinary, transdisciplinary and future-oriented approach, JKU is contributing significantly to transformation and building resilience in education, academia, science, research, and in society.

Shape the future with us in the

IT:U & JKU Doctoral School

PhD program Digital Transformation in Learning

up to 6 PhD positions, full-time, 4 years, on-site in Linz

The earliest start date for employment is October 1, 2025.

PROGRAM DESCRIPTION

Artificial intelligence and other emerging technologies are changing when, what, and how we learn in higher education and at the workplace. However, this transformation must not be one-sided or solely driven by technology. We focus on the learners and their learning process to ensure that they are not passive recipients but are empowered to take responsibility for their own learning and solve the problems they face.

In the PhD program for "Digital Transformation in Learning," we develop intelligent technologies for active and project-based learning in collaboration with the PhD students, researchers, and professionals within our network. For example, we research technology-enhanced learning in terms of the social dynamics in interdisciplinary projects, the coordination of individual and collaborative learning, the integration of learning and regulation, the role of intelligent educational technologies on the learning process and the role of emotions and well-being. Understanding these processes of active learning goes hand in hand with the design of effective learning practices within inclusive, transparent, and fair technology-enhanced learning environments. This way, we can transform how we learn and work to address societal and industrial challenges.

The PhD program for "Digital Transformation in Learning" combines IT:U's innovative interdisciplinary teaching approaches and emerging technologies-based learning labs with the well-established and proven concept of JKU's Linz School of Education. Our structured PhD program aims to equip students with skills in computational thinking, design-based research, and interdisciplinary research, such as developing and evaluating how emerging technologies could enhance and expand active learning.

In our PhD program, we aim to explore new ways of learning from a wide range of disciplines including psychology, pedagogy, physics, and computer science and perspectives, including STEM education, instructional design, and professional learning. You will work with outstanding supervisors from our local and international ecosystem who will offer their perspectives to support your academic progress.

This novel learning environment, combined with the wide range of perspectives, will demand interdisciplinary methods to effectively explore and create innovative solutions. The combination of subject-specific knowledge and interdisciplinary key competencies aims to prepare students for key roles in a future driven by digital transformation and provides a creative ecosystem to think beyond usual research approaches.

RESPONSIBILITIES AND TASKS

You are up! We expect you to acquire new knowledge and skills (e.g., learning psychology, computational thinking & programming) within our projects and learning labs to independently conduct interdisciplinary research. During the PhD, you will apply the acquired knowledge and skills to design and analyze digital solutions such as conversational agents and learning analytics, and to answer scientific research questions while addressing educational problems at the same time. You will also gain valuable educational experience while having the opportunity to teach other students in your field of expertise. Over the course of four years, you will write and publish several research papers, culminating in writing and defending your PhD thesis. To achieve all of this, we expect you to work independently while also collaborating with your team and relevant stakeholders in the inspiring atmosphere of the JKU and IT:U university campuses in Linz, Austria.

SKILLS AND QUALIFICATIONS

To qualify for the PhD program, you must have completed a degree equivalent to a master's degree in a field related to your desired project. Your academic background can vary – from psychology to computer science to medicine, for example – but a strong interest in active learning and technology-driven solutions is essential. We are looking for curious minds eager to acquire skills in computational methods and intelligent learning systems. A willingness to engage with the intersection of learning and technology, along with fluent English communication and academic writing skills, is key to succeeding in this interdisciplinary research environment.

WHAT YOU CAN EXPECT

We value your work! You will be employed at IT:U during your entire PhD. We offer a gross salary in line with the market of EUR 3.714,80 on a 40-hour full-time basis. Our employees also benefit from a free Austria Climate Ticket, which covers all modes of public transportation. And of course, your coffee and snacks are on us.

PLEASE APPLY

- Motivational letter in which you let us know what topic(s) you are interested in your future research and why:

    1. Technology-enhanced learning
    2. Digital transformation
    3. Computational thinking
    4. Active learning

- Contact information of two professional references (professors, collaborators, etc.) for recommendations
- Master's diploma (or equivalent)
- Master's transcripts
- Curriculum vitae
- IT:U requires students to have minimum C1 level English as defined by the Common European Framework of Reference for Languages (CEFR). A certificate is recommended, but not required. Shortlisted candidates will be contacted for an interview to assess English level and fit with IT:U

To apply, please fill in the IT:U application form and upload your files at:
https://it-u.limesurvey.net/159343?lang=en

DEADLINE: April 30th, 2025

***come as you are** – we value and promote diversity in our team. Everyone is encouraged to realize their full potential, realize ideas and seize opportunities. Regardless of age, skin colour, religion, gender, sexual orientation or origin, we welcome applications from all people equally.

SUPERVISORY COMMITTEE

Ass.Prof. Dr. Sebastian Dennerlein is a cognitive psychologist with a focus on technology-enhanced learning, co-evolving learning innovations and practices in higher education and at the workplace. In challenge-based learning and professional innovation teams, for example, he aims at unfolding the interactive process of self- and socially regulated transformative learning to collaboratively design effective learning affordances in the doctoral school. Leveraging computational approaches is a cornerstone in his ambition to understand and support learning processes, as well as focusing on ethical reflection practices for the development of responsible AI.

Prof. Dr. Markus Hohenwarter (JKU) is a technology and mathematics education expert, specializing in the development and application of dynamic mathematics software in education. He is the founder of GeoGebra, an interactive software application used worldwide for teaching and learning mathematics. His research focuses on the integration of digital tools in education, enhancing student engagement and understanding through innovative software solutions. Within the doctoral school, Markus will provide training and support in the use of educational technologies, digital curriculum development, and the design of interactive learning environments to foster deeper mathematical comprehension and creativity.

Prof. Dr. Zsolt Lavicza (JKU) is a mathematician and education researcher specializing in educational innovations, design, creativity, sustainability, and the integration of technologies into education. Zsolt has extensive experience working on projects and supervising PhD students addressing educational issues from around the world. Within the doctoral school, Zsolt will offer educational research training and support on topics such as educational innovations, project-based learning, technology-enhanced teaching and learning, maker education, and designing creative and sustainable educational ecosystems.

Prof. Dr. Lana Ivanjek (JKU) is a physics education researcher specialized in development and validation of research-based teaching materials for university level and for high school. She has experience in development and validation of concept tests for middle-school, high school and university level, as well as with the development of critical thinking skills test related to climate change. Within the doctoral school her focus will be on new teaching-learning environments in university settings, virtual reality for improving teaching and eye tracking in educational research.

Prof. Dr. Lars-Peter Kamolz, M.Sc. is a plastic surgeon and heads the University Clinic for Surgery at the LKH University Hospital Graz, Medical University of Graz; In this role he is not only a doctor, but also a researcher and teacher. He is also very active in the area of medical innovations. Within the doctoral school his focus will be to support the development and implementation of new teaching-learning techniques and environments in medical universities. Kamolz will also offer research training and support on topics within the medical and life science field.

Prof. Manuela Paechter is an educational and media psychologist whose research emphasizes the collaborative and contextual nature of learning, where knowledge is co-constructed through interactions with peers, instructors, and digital environments. She explores how cognitive, emotional, and motivational factors intertwine in effective learning environments. Within the doctoral school, developing and evaluating AI tools and digital learning scenarios that foster self-regulated learning, active engagement, motivation, and meaningful, positive learning experiences are central to her work.