

Doctoral College for Computational Sustainability

Call for Topics



Call opens: **March 19th 2025**

Call closes: **April 16th 2025**

Submission: **via e-mail as a single pdf document to DKCS@tuwien.ac.at**

Purpose

TU Wien and Johannes Kepler University Linz (JKU Linz) are joining forces to establish a **Doctoral College for Computational Sustainability**, fostering interdisciplinary research on sustainable technologies. TU Wien invites the submission of proposals in key areas of computational sustainability, driving innovation at the intersection of computing, energy efficiency, and environmental responsibility. Potential supervisors are encouraged to submit PhD topics.

Research Areas

The research areas for topic submissions include **Sustainable Computing**, **Computational Sustainability in Architecture & the Built Environment**, and **Computational Sustainability in Material Science**. The specific sub-areas within each research field are outlined below.

- **Sustainable Computing:**
 - Green Data Centers & Cloud Computing
 - Energy-Efficient Computing
 - Carbon-Aware Computing
 - Lifecycle Management & E-Waste Reduction
 - Sustainable Large Language Models
 - Edge and IoT Sustainability
- **Computational Sustainability in Architecture & the Built Environment**
 - Water Management
 - Bioenergy & Air Quality
 - Sustainable Materials
 - Climate-Responsive Architecture
- **Computational Sustainability in Material Science**
 - Green Catalysts
 - Energy Materials
 - Multiscale & AI-Driven Approaches
 - Nanoelectronics & Quantum Materials
 - Computational Efficiency

Who can apply?

Professors of all stages (tenure-track Assistant, Associate, Full).

Proposal structure

Formatting: 11 pt font size, 15 pt line spacing, and 2 cm margins

Formal information: PI name, contact information (max. 1 page)

Scientific aspects:

- State-of-the-art (1 page)
- Research questions, vision, alignment to the research areas and topics of the Doctoral College (1 page)
- Methodology, risk management (1 page)
- Qualification of the PI for the project (1/2 page)
- Optional: potential collaboration with JKU (1/2 pages)
(max. 4 pages, for references, use footnotes or hyperlinks)

Funding and additional information

The PhD program in Computational Sustainability will be part of the PhD School in Computer Science. TU Wien will fund PhD positions for 30 h/week for 4 years. The PI can optionally finance additional 10h. Each PI is allowed to submit a maximum of one proposal.

Evaluation

Proposals that meet the formal criteria (eligibility and alignment with the Doctoral College Computational Sustainability scope) will be reviewed by a panel of international and national experts. Reviewers will assess each proposal based on predefined criteria, assign scores, and provide brief evaluations. A ranking will be established based on these scores and reviews. The Initiation Board will make the final decision on funding or rejection.

- Approved projects can start in October 2025 but no later than March 30, 2026.
- Evaluation aspects include novelty, scope of computational sustainability, interdisciplinarity, and feasibility.

Inter-institutional Collaboration

This Doctoral College is established in collaboration with JKU Linz. When applicable, suggest the co-supervisor from JKU Linz.

For questions, please refer to the email: DKCS@tuwien.ac.at