



Colloquium

Environmental Footprint of Computing; How is ISTA Doing?

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ISTA

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Experimental research across all fields is increasingly incorporating computing to analyze large datasets, model molecular dynamics, and use AI models to identify new patterns. Whereas 10 years ago these approaches were largely limited to computer scientists, today virtually every scientific discipline relies on computing on a daily basis. This evolution has been further accelerated by recent developments in the AI field, which have made computing more accessible and easier to apply across different areas of research. Since experimental research already has a substantial environmental footprint, primarily from equipment and consumables, we aimed to assess the environmental footprint of computing at ISTA. Mapping the use of scientific computing at ISTA, including data storage and external services, allowed us to calculate both energy consumption and material footprint. Although most laboratories use scientific computing, usage can vary significantly depending on the type of project, leading to big asymmetries in demand. In addition to active computing, data storage accounts for a considerable share of the overall footprint. External computing services were also analyzed and are increasingly used, largely driven by the adoption of AI tools. We present a first estimate of the ISTA AI footprint and identify the tools most commonly used. Although a fast-changing environment, proper and responsible use of computing resources will be essential to ensure that research remains sustainable and fit for the future.

Monday, April 13, 2026 11:30am - 12:30pm

ISTA | Central Building | Raiffeisen Lecture Hall



This invitation is valid as a ticket for the ISTA Shuttle from and to Heiligenstadt Station. Please find a schedule of the ISTA Shuttle on our webpage: <https://ista.ac.at/en/campus/how-to-get-here/> The ISTA Shuttle bus is marked ISTA Shuttle (#142) and has the Institute Logo printed on the side.