

Sara Papi 2024 best PhD in Engineering and Information Science

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The University of Trento has honored young researcher Sara Papi for her outstanding contribution to automatic speech translation and its application in complex scenarios.

During the University's **Graduation Day** on Friday, May 9, **Sara Papi** received the prestigious *Best Research Doctor 2024 award for the PhD program in Information Engineering and Computer Science*. This distinction is awarded annually to twelve exceptional graduates—one for each scientific area—among the university's newly minted PhDs.

After completing her master's thesis internship at Fondazione Bruno Kessler (FBK), Papi chose to relocate permanently to Trento to pursue her doctoral studies in collaboration with **FBK's Machine Translation (MT)** unit, under the supervision of Dr. Matteo Negri. Originally from Tuscany, she began her academic journey at the University of Siena, where she earned both a bachelor's degree in Information Engineering and a master's degree in Computer and Automation Engineering.

Her doctoral dissertation, titled "[*Direct Speech Translation in Constrained Contexts: the Simultaneous and Subtitling Scenarios*](#)," tackled two of the most challenging issues in the field: simultaneous speech translation and automatic subtitle generation. By leveraging direct translation models, she demonstrated that systems trained offline can compete with—and even outperform—those specifically built for real-time inference, achieving an effective balance between translation quality, latency, and computational efficiency. She also introduced novel methods for adapting subtitles to screen time and space constraints, laying the groundwork for more accurate and user-friendly speech translation (ST) systems.

The scientific community has already recognized the significance of her work. In 2024, her dissertation received a [*Special Mention for the Best Thesis Award*](#) from the Italian Association for Artificial Intelligence (AIxIA). Additionally, she earned multiple honors for related research, including the *Outstanding Paper Award* and *SAC Award* at the ACL conference, and the *Social Impact Paper Award* at EMNLP.

“My goal is to continue conducting research in a stable and impactful way,” says Papi. “I want to help develop language technologies that are more accessible, inclusive, and useful in real-world scenarios. Speech translation has the potential to break down communication barriers and promote inclusion, but it requires a combination of scientific rigor and social impact awareness. I strive to create advanced, efficient, and truly usable systems that can make a difference in complex environments.”

Since January 2024, Sara Papi has been a Postdoctoral Researcher in the MT unit at FBK, where she continues her work in *speech processing*. Her current research focuses on integrating speech models with *Large Language Models (LLMs)* to build advanced multimodal systems capable of handling complex tasks like translation. She is also contributing to the European Horizon *project Meetween*, which explores new forms of multimodal interaction.

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