

NEXGEN: the future of women in science

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FBK female researchers recently took center stage in an inspiring meeting with high school students, sharing their professional journeys.

It's not just an employment issue. It's about development, equity, and the future. **STEM** professions—those tied to science, technology, engineering, and mathematics—are increasingly vital in today's job market. Yet, they remain critically understaffed. In Trentino alone, 86% of STEM positions go unfilled. Even more concerning is the lack of female candidates.

Against this backdrop, the event “NexGEN: [Space, Climate, Gender, Health, and AI – Tomorrow Is Now](#)” was held. Open to the public but primarily designed for students at Trento's Buonarroti High School for Technics and Technology, the initiative emerged from a partnership between the FIDAPA chapters of Trento and Rome. At the heart of **the event were researchers from Fondazione Bruno Kessler (FBK): Dominique Cappelletti, Elena Donini, Monica Moroni, and Elena Tomasi**. Their work spans predictive medicine, meteorology, space science, and artificial intelligence. These are women conducting science at the highest levels—concrete and inspiring role models for the next generation.

The meeting opened with a tribute to **Amalia Ercoli Finzi**, a pioneer in Italian engineering. The first woman to graduate in Aeronautical Engineering from the Politecnico di Milano—where she was the only woman in her class—Finzi remains a powerful advocate for women in science. “Women and technology is still considered an improper combination by some,” she noted. “But nothing could be more wrong. We've always worked hard and can offer crucial contributions to solving today's complex problems—also in professions still perceived as male-dominated.”

Interestingly, for many of the FBK researchers present, the gender gap was not something they acutely felt. Their paths into science were natural and driven by curiosity. Competent, passionate, and diverse in background, they conveyed a shared message: scientific research is not only important, but also stimulating and fun. **Elena Donini**, who works in the [Remote Sensing for Digital Earth](#) research group **at FBK's Center for Digital Society**, shared how her passion for science evolved from varied university experiences. She's now part of the European JUICE space mission studying the Jovian system. She is now developing algorithms to analyze radar data—tools that can also be used to monitor climate change on Earth.

Monica Moroni, a mathematician with a PhD in neuroscience, works **at FBK's Center for Digital Health & Wellbeing**. She leads projects [like Neuro ArtP3](#), which applies AI to

predictive, preventive, and personalized medicine.

Elena Tomasi, an expert in meteorology and climate, is part of the **Data Science for Industry and Physics unit at FBK's Center for Digital Industry**. She focuses on high-resolution forecasting: *"Artificial intelligence is transforming how we predict extreme weather events and support Civil Protection," she explained.*

Their stories highlight the importance of breaking free from stereotypes. None of these researchers followed a conventional path. One transitioned from classical studies to mathematics; another was influenced by both a civil engineer father and an environmental engineer mother. What unites them is how they turned passion into profession—now working at the cutting edge of technology innovation.

To emphasize the urgency of addressing gender imbalance in STEM, **Dominique Cappelletti**, a researcher at FBK's **IRVAPP (Institute for Evaluation Research on Public Policies)**, **shared a compelling insight**: *"We need more gender balance in STEM. Diversity is not just a social value—it's a productive one. It leads to better, more representative, and more creative decisions. The gender gap is also an obstacle to development."*

Closing that gap requires early action—starting in schools. That's the mission of the **Sparkle** project, promoted by FBK. The initiative involves twelve schools across Trentino and Veneto and offers experimental labs, coaching, and teacher training. A concrete action to break the too rigid educational trajectories and allow everyone to choose with freedom and awareness.

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