From Sardinian Dreams to Scientific Pursuit: The Academic Journey of Alessia Soru

How a young scientist is exploring connections between traditional medicine and modern technology in cancer treatment

June 4, 2025

In an era where artificial intelligence meets oncology and digital twins could transform clinical trials, one scientist from Sardinia is contributing to the development of medicine's future.

1 Academic Beginnings from Rural Sardinia

Alessia Soru's academic path began in a small village in Sardinia, where opportunities for scientific discovery were limited. Today, she works in oncological research, demonstrating how curiosity and determination can lead to meaningful contributions in the fight against cancer.

Her journey reflects the challenges and opportunities that many young scientists face, particularly those from smaller communities seeking to make their mark in competitive research fields.

> *"Italy is a country that can be valued. We need freshness and new possibilities, but we also have incredible potential." — Alessia Soru*

2 The Path to Scientific Focus

2.1 From CSI to Cancer Research

Like many students, Alessia's initial interest in science came from popular culture representations. Inspired by CSI characters in white lab coats, she pursued her academic studies in industrial biotechnology, initially considering forensic science applications.

Her experience during a research scholarship at UC Berkeley proved to be a turning point. While working on projects aimed at blocking tumor growth, she discovered her interest in oncology research.

2.2 A Shift in Focus

> *"I realized I wanted to make a difference and help people." — Alessia Soru*

This experience shifted her focus from forensic applications to the medical potential of cancer research. It illustrates how academic paths often evolve through practical experience rather than initial planning.

3 Building Professional Networks

3.1 Leading Young Professionals

Alessia serves as the founding Young Ambassador for Women&Tech® ETS, where she has built a community of over 60 young professionals, predominantly women, working in STEM fields.

Her role in this organization demonstrates her interest in supporting the next generation of scientists and addressing gender representation in traditionally male-dominated fields.

3.2 The STEAM Approach

Through Women&Tech, Alessia promotes the integration of STEAM (Science, Technology, Engineering, Arts, and Mathematics), recognizing that scientific progress benefits from ethical considerations and human-centered approaches.

Her work reflects the growing recognition that innovation benefits from diverse perspectives and collaborative approaches across disciplines.

4 Current Research Focus

4.1 Addressing Medical Challenges

Currently working as a research fellow at the University of Bologna, Alessia focuses on metastatic tumors with unknown primary sources. These rare cases have historically presented significant treatment challenges, representing an area of unmet medical need.

Her approach incorporates consideration of how technology and medicine might work together in new ways.

4.2 Digital Applications in Medicine

Her research interests extend to digital transformation in healthcare. Alessia is particularly interested in the potential of "digital twins" in medicine—detailed virtual models of patients that could potentially improve clinical trials.

These digital models could potentially make drug testing:

- More efficient in terms of time
- More cost-effective
- Less invasive for patients
- More personalized for individual treatment plans

This approach could potentially accelerate the development of personalized treatments and improve patient outcomes.

5 Exploring Healthcare Technology

Alessia's research interests encompass several areas of healthcare technology:

5.1 Virtual and Augmented Reality

Exploring applications in medical training and patient care, from surgical simulations to therapeutic interventions.

5.2 Metaverse Integration

Investigating virtual hospital environments that could enable remote consultations and collaborative medical meetings across geographical boundaries.

5.3 Artificial Intelligence

Examining how AI might enhance diagnostic accuracy, optimize treatment planning, and predict patient responses to therapies.

5.4 Predictive Medicine

Developing virtual patient models that could forecast disease progression and treatment outcomes before therapies are administered.

Her interdisciplinary approach reflects an understanding that future medical developments may emerge from the intersection of technology, science, and healthcare practice.

6 Commitment to Italian Science

6.1 Choosing to Stay and Contribute

Despite opportunities abroad, Alessia remains committed to contributing to Italy's scientific community. She envisions a future where Italy can retain its talented scientists while providing them with adequate resources and environment to conduct meaningful research.

6.2 Collaborative Participation

Her participation in events like the Taranto Biotech Days demonstrates her interest in collaborative innovation and her dedication to building connections between academic research, industry, and society.

Alessia represents a generation of Italian scientists who see potential in building research capabilities within their home country.

7 Mentoring and Education

7.1 Supporting Young Scientists

Beyond her research work, Alessia is involved in mentoring young people and encouraging them to pursue careers in science. Her own journey—from a small Sardinian village to international research collaborations—serves as an example of what's possible with persistence and opportunity.

7.2 Key Principles for Emerging Scientists

She emphasizes several important aspects for young scientists:

Interdisciplinary thinking
: Embracing connections between different fields to spark innovation

Staying curious
: Continuously learning and adapting to new developments in rapidly evolving fields

Seizing opportunities
: Being prepared to embrace new experiences and challenges

Building networks

Connecting with diverse communities and perspectives across disciplines and cultures

8 Looking Forward: Future Goals

As Alessia prepares to begin her PhD in oncology, her goals remain both ambitious and realistic. While acknowledging the complexity of cancer treatment, her commitment to "trying her hardest" and "making a difference in her own small way" reflects the approach that drives scientific progress.

> *"I want to make a difference and help people. Even if it's in my own small way, I want to try my hardest."*

Her work represents scientific advancement alongside hope for patients facing difficult diagnoses, inspiration for young scientists charting their own paths, and evidence that with determination and vision, meaningful contributions to science are possible.

9 Ongoing Contributions

Alessia Soru's journey from a Sardinian village to oncological research demonstrates that scientific innovation can emerge from diverse geographical and social backgrounds. Her story continues to develop, with the potential for new discoveries, technological applications, and contributions to patient care.

In a field where technology and medicine are rapidly evolving, Alessia represents what's possible when scientific training meets practical application, and when individual determination combines with collaborative innovation.

9.1 Contributing to Future Medical Developments

Her current work contributes to the foundation for future medical developments. Through her research, her leadership with Women&Tech® ETS, and her participation in international scientific events, Alessia continues to demonstrate that the future of medicine benefits from innovative, interdisciplinary, and collaborative approaches.

Alessia Soru continues her research while supporting the next generation of scientists through her work with Women&Tech® ETS and her participation in international scientific events like the Taranto Biotech Days.