

TCFT Vice-Chair Candidate Felicità Di Giandomenico

Biography

Felicità Di Giandomenico is a Senior Researcher at the Institute ISTI of the Italian National Research Council, which she joined in 1989 and where she is currently leading the Software Engineering and Dependable Computing research laboratory. She spent nine months (from August 1991 to April 1992) visiting the Computing Laboratory of the University of Newcastle upon Tyne (UK) as Guest Member of Staff.

She has been involved in research on dependability and fault tolerance since she was a student, being her master thesis rooted in the Byzantine Generals' Problem. Along the years, her research contributions focussed on fault diagnosis, efficient solutions for software implemented fault tolerance, modeling and evaluation of dependability attributes (mainly reliability, availability, and performability). More recently, her research studies addressed the analysis of interdependencies in electrical utilities infrastructures and approaches to adaptive dependability assessment in dynamic and evolving connected systems. She has been involved in numerous European and National projects in the area of dependable computing systems, for several of which she acted as ISTI-CNR principal investigator. For the last ten years, she regularly assisted the European Commission as expert reviewer in the area of Embedded systems, Security&Dependability, Cyber Physical Systems.

Her service contributions within the dependability related community includes the PC co-chairmanship of i) Fast Abstracts Track at DSN-2004, ii) IEEE WADS Workshop at DSN 2007; iii) IEEE SRDS 2008; iv) SAFECOMP 2014. Moreover, she has been Program chair of IEEE DSN-PDS 2009, Workshop chair of EWDC 2011, and General chair of SERENE 2012. She regularly serves as member of the program committee of the most representative conferences and workshops in the area of dependable computing, distributed systems, fault tolerant systems, autonomous and interoperable systems, dependability and performance modeling (including IEEE FTCS, IEEE DSN, IEEE SRDS, SAFECOMP, EDCC, HASE, ISAS, IEEE ICDCS, ACM SAC (DADS track))

She has been member of the SC of DSN during the years 2008-2011 and is member of the SC of EDCC since 2009. She is a member of the IEEE Computer Society and of the IFIP WG10.4 on Dependable Computing and Fault Tolerance.

Position Statement

Even more than in the past, our community on Dependable, Secure and Fault- Tolerant Computing has a great mission ahead!

We are continuously called to face new challenges posed by a society that evolves at high speed, with the need also to permeate through neighbouring disciplines and to relate with a multitude of stakeholders in traditional and new emerging critical sectors. Therefore,

the contribution expected from scientists, researchers, practitioners, developers and maintainers in the area of dependable and secure computing is crucial and of great significance. At the same time, we experience a reduction of investments in research, pushing for an increased competition with respect to funding agencies and other financial sources, both at National and International level. Increasing the visibility and reputation of our community appears therefore a necessary means to strengthen a leading role as primary actor in assisting and improving the quality of life through assuring dependence on computing systems that work dependably despite faults and attacks.

All this started to be realized inside our community, and especially recent Chairs and Vice-chairs of TCFT promoted discussion and innovation strategies to make our research topics more and more attractive to a wider audience. I believe this is the way to go, and it is time to be even more incisive and courageous in the actions to be taken.

If elected as TC Vice-Chair, in synergy with the current TC Chair, I will strive to further improve the high-quality standards and value of our TCFT research and technical activities, especially to keep our conferences (primarily, DSN) attractive, open and lively events for a varied audience spanning students, researchers and practitioners from our community but also from related communities, from theoretical subjects to system engineering developments. Some of the objectives that I believe need remarkable attention are:

- **Multidisciplinary attitude:** given its transversal nature, research in dependability, resilience and trustworthiness is becoming more and more central to a variety of scientific events that are not historically part of our community. This results in strong competition in the ability to attract high quality researchers to our DSN. Effective strategies to contrast the risk of loss of attractiveness and strengthen the leadership of our forum are crucial, e.g. based on: i) preferring the transversal research nature over a niche research area; ii) promoting the organization of satellite events to be held in conjunction with DSN, keeping an open-mind vision on topics that intersect and/or complement well established research topics of our community. Setting up tracks such as “Dependability in Practice”, “Dependability in Society”, “Education and Training in Dependability” appear interesting innovations to discuss; iii) promoting cross-fertilization with linked communities such as software engineering and security&privacy, e.g. by inviting highly qualified members to join the boards of our major initiatives (primarily, DSN and IFIP WG10.4); iv) strengthening the relation with top-level archival journals related to our topics, especially IEEE TDSC, with the objective of reinforcing multidisciplinary at the highest publication levels.

- **Promotion of participation and transparency:** the excellence and success of our events is highly dependent on the contribution of each individual community member and on the reputation that our community gains not only from the inside, but primarily from the outside. Reinforcing means to stimulate and motivate such participation is therefore crucial, e.g. strengthening the communications strategy through the usage of social media to favour exchange of information and ideas, to

convey feedbacks, and to promote awareness of opportunities offered by participating in the TC. At the same time, it is of utmost importance to assure fairness and high quality in the evaluation processes at every level, as well as transparency of the rules set up at the organizational level by the SC and of their application. This aspect is extremely important to be able to attract higher participation and new members.

- **Attract vital young talent:** no doubt that the involvement of students in any research community is vital. Therefore, instruments and strategies to attract their scientific curiosity and facilitate their networking within our research community need to be strengthened. Talent does not discriminate with respect to gender, and dedicating special attention to encourage young talented women in research is in my view a duty of our community, to benefit from a more balanced blend of human attitudes. In addition to extend dedicated programs inside conferences, enhancing the involvement of students in the organization of our events will make them feel really protagonist in the community!
- **Symbiotic partnership with industry:** increasing the interactions with industries in the critical sectors of our interest is another must. Accounting for dedicated tracks in the events, in principle managed by industrial leaders, as well as the organization of panels with members of industry, to discuss existing challenges, opportunities for research and technology transfer, emerging topics, and future trends, are directions to be reinforced.