CASS Conference Highlights

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DEICAS-YPCAS Event at ICECS 2023

On 5 December 2023, a joint Diversity, Equity, and Inclusion in Circuits and Systems (DEICAS) and Young Professionals in Circuits and Systems (YPCAS) event took place in the 30th IEEE International Conference on Electronics, Circuits and Systems (ICECS), Istanbul, Turkey, which was supported by IEEE DEICAS and IEEE YPCAS committees. In alignment with the principles outlined in the IEEE Diversity Statement, which asserts "*IEEE is committed to advancing diversity in the technical profession, and to promoting an inclusive and equitable culture*," this event focused on fostering an equitable culture within the circuits and systems field. Moreover, this event also supports the career development for IEEE Circuits and Systems Society (CASS) members, particularly those at early career stages. This event provided a platform for professionals from diverse backgrounds, ages and occupations in CAS to engage in discussions regarding the essential conditions and opportunities for creating an inclusive and equitable environment.

A panel on "Innovation and Start-ups in CAS," organized by Tuba Ayhan (MEF University) and Okan Zafer Batur (Bilgi University) on 5 December 2023, catered specifically to individuals in the early steps of their CAS career or those who would like to implement their idea by themselves, or just exploring the options. The panel featured four distinguished speakers: **Özlem Özbay**, an

Figure 1. Panelists of the joint DEICAS-YPCAS event that took place during the ICECS 2023, from left to right, Özlem Özbay, Anıl Akseki, Akın Şibay, Melike Atay Karabalkan and moderator Tuba Ayhan.

Digital Object Identifier 10.1109/MCAS.2024.3368968
Date of current version: 15 August 2024

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experienced Electronics Engineer affiliated with companies of various scales; **Melike Atay Karabalkan**, a seasoned researcher, designer, and trainer with a decade of experience in CAS projects; **Anıl Akseki** and **Akın Şibay**, enthusiastic co-founders of a young interdisciplinary research company. The panelists are seen in Figure 1.

After a brief introduction to DEICAS, YPCAS, and an overview of the panelists, the session unfolded in four rounds. The subsequent sections provide key highlights of the discussion.

The first round centered on innovation. Across diverse fields, varying definitions emerge for what qualifies as an innovative process or product, i.e., cost reduction and the inclusion of security parameters. However, panelists agree that innovations and businesses developed by start-ups are the results of sustained effort. This sentiment, articulated by M. Atay Karabalkan, underscored the importance of patience and not giving up. Ö. Özbay explained the evolution of innovation in research and design through years. She emphasized the monumental shifts in communication and design tools, providing us with opportunities for visualization, simulation, and creation. Recently, the ascendancy of digitalization and data-driven technologies steer numerous sectors. Reflecting on her role as a digital circuit designer, M. Atay Karabalkan remarked, "*we see that the boundaries of the digital design world are being pushed*."

The second and third rounds focused on the "Start-up Journey" from both a knowledge and product perspective, respectively. We compared the methods to address design challenges that extend beyond the team's expertise. Ö. Özbay initiated the discussion by presenting the critical factors to consider before making decisions on hiring, training, subcontracting, and outsourcing. These factors encompassed budget constraints, time considerations, relevance to the project, scope and depth of knowledge required,

Figure 2. More than 40 people attended the panel, some of them are in the group photo.

and accessibility of knowledge sources. Drawing from their early experiences in the startup realm, Akseki and Şibay candidly shared insights, cautioning the audience about seeking external support before tasks become overwhelming. M. Atay Karabalkan said they never outsource in their company, but for other companies they provide training, offer design support, or a combination of both. This underscores that the knowledge acquisition method is project-specific, while maintaining know-how within a company depends on cultivating a supportive environment. Then the audience was briefly informed about finding financial support for design and productization. The panelists concluded that the funding agencies and practices vary based on the target sector and economic region. Nevertheless, stability of the team and low team circulation in long term projects are the key factors for taking cutting-edge research and designs from the laboratory to the market.

Finally, the panelists shared advice for young processionals. M. Atay Karabalkan emphasized the significance of combining academic expertise with hands-on experience, underscoring its positive impact on startup ventures.

Drawing attention to the difficult paths on their start-up journey, Akseki and Şibay suggested to work on different projects concurrently to widen knowledge in different fields. However, they cautioned against the expectation of commercializing everything simultaneously. Özbay shared an inspiring perspective, stating "*I have never seen anyone who worked diligently and did their utmost with good intention not succeed*." Her advise included focusing on strengths, working projects that ignite excitement, keeping up with the new developments, specializing, seeking a job where state-of-the-art technology is used, and maintaining a balance between work and private life.

The panel was well attended (see the group photo in Figure 2). The ICECS 2023 conference DEICAS and YPCAS co-chairs thank all attendees and panelists, as well as the IEEE YPCAS co-chairs Chi-Seng Lam and Yang Jiang, and IEEE DEICAS co-chairs Giulia Di Capua and Yoko Uwate, for their support during the planning of this event. They also thank the IEEE Circuits and Systems Society for the financial support received for organizing the event.

This report was prepared by Tuba Ayhan (MEF University) and Okan Zafer Batur (Bilgi University).