

Meeting report: “Forum on Philosophy, Engineering and Technology”. Conference, 2024, Karlsruhe, DE

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Where the construction of lofty theory and heavy machinery meet, reflection needs to bridge the gap between high-level explanations and down-to-earth approaches. This interdisciplinary balancing act which stands at the center of the “Forum on Philosophy, Engineering, and Technology (fPET)” conference (17.-19. September 2024) is as demanding as it is rewarding. And since such interdisciplinary ventures are highly creative endeavors, the location of the fPET’s 2024 iteration was undoubtedly fitting. The ZKM Center for Art and Media and the Karlsruhe University of Arts and Design presented a suitable environment for all kinds of inventive ideas at the intersection of engineering and philosophy.

Tracks, sessions and keynotes

But while creativity is a key aspect of interdisciplinary work, some structure is needed to give researchers the necessary foothold. During the conference, this structure was achieved in a compelling way by creating thematic tracks that presented a common thread running through the entire event. The numerous tracks gave participants the freedom to explore various ideas, allowing them to create a more personalized experience that reflected their multidisciplinary backgrounds. The clustering of talks under specific topics also made for stringent sessions and informed discussions. Particularly pleasant were those sessions that brought together renowned academics and up-and-coming junior scholars. This combination made for a great balance and presented an excellent guiding principle for the composition of future sessions.

However, the sheer amount of ideas expressed in the different tracks lead to an experience which was at times overwhelming. The up to seven sessions happening in parallel not only made it

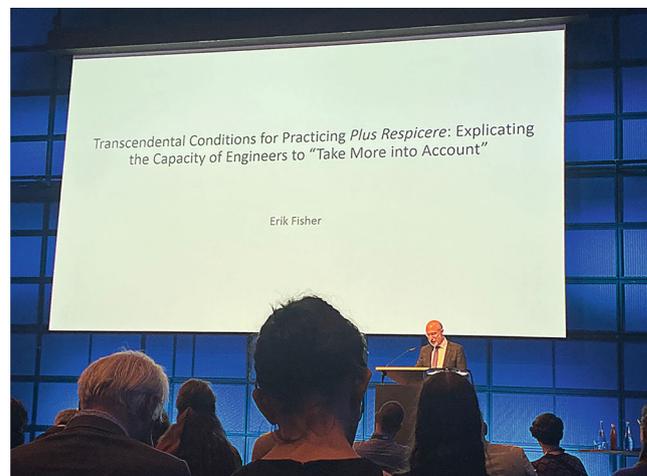
hard to decide where to go, the great number of simultaneous talks also made conference attendees spread out in a way that left some sessions with few listeners and consequently sluggish discussions.

But this was of course not an issue for the keynote speakers. Among all the inspiring keynotes, we want to highlight the one by Professor Mieke Boon (University of Twente). With her impressive interdisciplinary background, Boon was exceptionally well-suited as a speaker at fPET. What made her presentation particularly engaging was that she did not simply provide a scientific summary of her work; instead, she invited us on a journey through her professional life and across disciplinary boundaries. When an accomplished philosopher reflects on her engineering career, and considers how she has personally evolved over time, it holds particular significance for young scholars. Boon’s approach to epistemological responsibility was not presented in theoretical detail but demonstrated through her own experiences – which made it especially relatable for her listeners.

The social issue

Social themes were omnipresent within all tracks of the fPET 2024, emphasizing societal issues that revolve around the socio-cultural and ethical dimensions embedded in engineering and technology. For example, some sessions explored the social implications of implementing artificial intelligence (AI) and emerging technologies, such as: AI developments and challenges, deep-fakes and political and ethical issues in AI, gender, and health. These topics highlighted the broader challenges associated with AI and digital technologies intersecting with areas like gender, bias, and trust.

Some presentations also incorporated case studies from various regions. While the inclusion of global case studies is commendable, most case studies highlighted at fPET 2024 were drawn from European perspectives. This underscores the underrepresentation of case studies and viewpoints from the Global South. Such case studies could enhance understanding by show-



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casing different socio-economic conditions, cultural challenges, and local approaches to the adoption and development of emerging technologies. These perspectives might differ from those of the Global North, making it interesting to observe the diverse critical insights from other regions.

Our personal highlights

As our scientific backgrounds differ, so do our personal highlights at the fPET:

Risk and trust. Attending the session 12B on risk and trust, led by Ibo van de Poel, was especially enlightening for understanding the concepts of risk ethics and the foundational elements of trust in technological and engineering contexts. This session provided an in-depth analysis of how risks could be morally justified. The talk emphasized the importance of evaluating risks through a critical ethical lens to determine whether they were justifiable and acceptable in various situations. The discussion also highlighted key principles to consider in research, especially when assessing potential disadvantages to local communities or stakeholders, including equity, informed consent, and harm minimisation.

Experimental session. Among the different sessions, those following an experimental format made for especially interactive experiences. The experimental session ‘Interdisciplinary speculations for the future of biohybrid robots’ provided an excellent example of this participatory approach since it did not only examine the topic of biohybrid robots from a variety of angles, it also invited attendees to either reflect on potential governance and regulation issues or to take an artistic approach in using different design prompts to conjure up a variety of prototypes using generative AI.

And while there might be more engaging ways of harnessing creativity than through AI image generators, such artistic approaches are of great help when it comes to working at the forefront of emerging technologies where imagination is the main driving force. Since art and design are thus powerful partners in dealing with novel technological developments for engineers and philosophers alike, the role that art played throughout the conference could have been emphasized even more. Placing art exhibitions connected to the conference in a more central location and encouraging more inter- and transdisciplinary design and artistic perspectives throughout the sessions could be a starting point for future iterations.

Particularly pleasant were those sessions that brought together renowned academics and up-and-coming junior scholars.

Maintenance. One of the outstanding sessions of the conference was dedicated to a topic that has been largely overlooked in philosophy but is still crucial: What happens to technology after it reaches the market – how do people use, maintain, and retrofit it? Under the theme of retrofitting, session 12C explored how technology is adapted and personalized in use. Mark Thomas Young pointed out that it is not just people who change with technology – technology itself is changed by people in their daily use! The often-discussed co-shaping of technology and society applies not just during the manufacturing phase, but also during its everyday use.

However, it became evident during the talks that we do not have a clear definition of what maintenance truly means. In 1999, Carl Mitcham noted that we need to distinguish between maintenance done by experts and maintenance as self-management by users. On the one hand, when I change the batteries in my computer mouse, that’s user maintenance. On the other hand, maintaining a bridge under construction and repair should be handled by experts. Furthermore, there is also retrofitting, such as when I customize my computer with stickers to reflect my personal style. How can we understand these different types of maintenance and use? And how do they change our relationship to technology? This session raised more questions than it provided answers – but if that is not philosophy, then what is?

Most impressive: vegan food. Apart from feeling somewhat overloaded at times, the organisation of the fPET 2024 merited praise on several levels. From the venue to the conference material and keynote speakers, the event presented a great setting for interdisciplinary thinking and networking. And when it came to organisational matters, the vegan and vegetarian cuisine offered throughout the three days of the conference shall not go unmentioned. Or, to put it a little more tongue-in-cheek: when engineers come together to eat vegan food, it must be fPET.

Further information

Conference website: <https://www.fpet2024.org/24.php>