IET International Travel Award 2024

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50th European Conference on Optical Communication, Frankfurt, Germany

I would like to express my deepest gratitude to IET for providing the travel funding that enabled me to attend the 50th European Conference on Optical Communication (ECOC 2024) held in Frankfurt, Germany. This support was instrumental in covering my travel expenses from Montreal, Canada, to Frankfurt, making my participation in this prestigious event possible. Attending the conference in person allowed me to present my work, receive immediate feedback from peers, and engage directly with leading experts and industry pioneers.

ECOC is one of the largest and most influential conferences in the field of optical communications. Celebrating its 50th year, the 2024 event brought together academics, industry leaders, and researchers to explore cutting-edge developments in optical technologies. Key themes included advancements in high-speed data transmission (800G/1.6T) and the transformative role of artificial intelligence in optical communication systems. This year's conference highlighted the critical innovations shaping the future of telecommunications, particularly in meeting the demand for greater data rates and sustainable network solutions.

The conference offered an array of technical talks and panel discussions. Of particular interest were the advancements in high-speed optical transmission systems supporting data rates of 800G/1.6T, which showcased the challenges and breakthroughs in achieving reliable and energy-efficient communication links. Additionally, several sessions explored the integration of artificial intelligence for real-time network management, demonstrating its potential to improve performance, reduce latency, and optimize energy consumption. These sessions not only provided a comprehensive overview of the current trends but also contextualized the importance of bridging research and industry to address real-world challenges.

I presented our paper titled "Net 200 Gbps O-band IM/DD Transmission Over 80 km SMF Using InP EML with Sub 1-Vpp Driving Signal and QD-SOA." This work, in collaboration with leading companies like Lumentum and Ciena, demonstrated a record-breaking net data rate of 200 Gbps in the O-band over 80 km. The study highlighted the integration of advanced

InP EML technology with low-noise QD-SOAs, achieving significant performance gains. During my presentation, I emphasized the potential industrial applications of this research in metropolitan networks and its relevance to the ongoing evolution toward 800G/1.6T systems. Engaging with the audience during and after my talk was incredibly rewarding. Feedback from industry representatives and academics not only validated our approach but also provided fresh perspectives for further exploration. Many expressed interest in potential collaborations, underscoring the industry's enthusiasm for translating cutting-edge research into commercial solutions.

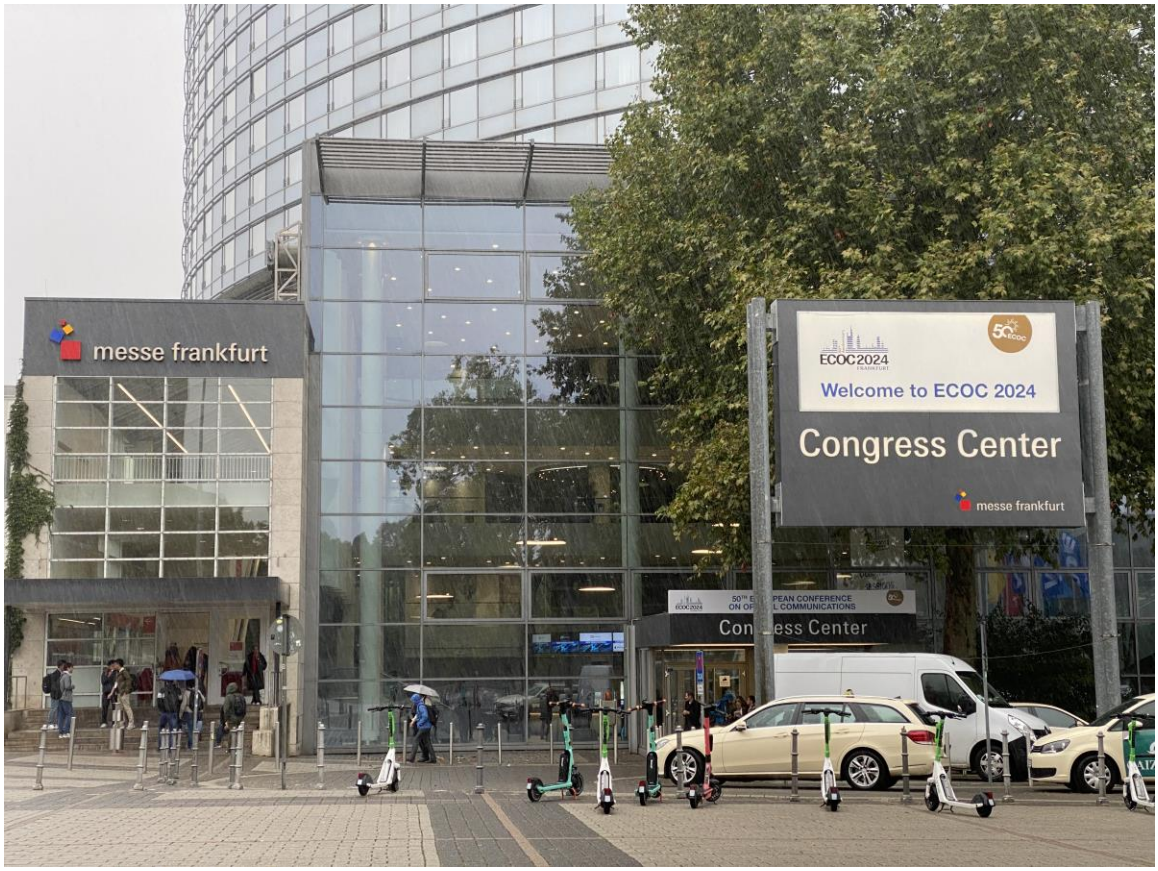
ECOC's exhibition and networking sessions offered invaluable opportunities to connect with key industry leaders. I had insightful discussions with technical leaders from Keysight, Ciena, Lumiphase, Innolume, and Hyperlight. These conversations not only enhanced my understanding of current market dynamics but also paved the way for potential collaborations. For instance, the dialogue with representatives from Hyperlight revolved around integrating our advanced modulation techniques into their next-generation products.

The IET International Travel Award was instrumental in facilitating this experience. Without this support, attending the conference in person—a critical aspect of presenting and networking—might not have been feasible. The ability to interact directly with experts, witness live demonstrations of cutting-edge technologies, and receive immediate feedback was transformative. This immersive experience enriched my perspective, allowing me to better align my research with industry needs.

Attending ECOC 2024 has been a pivotal moment in my academic and professional journey. The event underscored the importance of bridging the gap between laboratory research and real-world applications. Moving forward, I aim to leverage the insights and connections gained from this conference to align our laboratory's cutting-edge research with industry demands. This approach will help foster innovation and contribute meaningfully to the rapidly evolving field of optical communications.

I sincerely thank the IET for this opportunity and encourage other researchers and students to apply for similar grants. Such initiatives play a crucial role in advancing careers and fostering international collaboration, ultimately driving progress in engineering and

technology.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