Summary of the WIC Midwinter Meeting 2020 by Femke de Bot and Elwin Hameleers.

We participated in the WIC midwinter meeting as students and it was an inspirational day with presentations about information theory in the optical communication domain. The day started a bit chaotic, because Maxim Kuschnerov coming from Huawei Munich was not able to visit the event because of the Corona virus. Therefore the first presentation was in the form of a skype presentation. It was a good overview over everything that is happening in the world of optical communications. After this Alex Alvarado told us about the different regimes in optical fiber communication and he presented results about the behavior of and how to model the non-linearities in optical fiber. The last lecture before the lunch break was a more physics-oriented talk from Konrad Banaszek about the quantum limits in optical communications. The different outlook on how to transmit information was very interesting but due to quantum physics also quite difficult for an Electrical Engineering student. During the lunch break we had some time for discussions, while enjoying some sandwiches.

The afternoon program was filled with speeches which were not discussing optical fibers, but ways to use light for wireless communication. First of all the presentation of Jean-Paul Linnartz was about using LEDs for Li-Fi and how these LED sources should be adapted to implement them as wireless communication devices. A lecture about ways to use sunlight in wireless communication was given by Marco Zuniga. He is coming from the software science department and made clear what the main differences are between software science and electrical engineering, and encouraged more collaboration between the two research areas. In computer science they are doing research about more practical implementations, with for example detecting people or cars using light. Finally Ton Koonen told the audience about the research done at the TU/e using infrared optical beams for communication and the challenges and advantages of this technology compared to others.

The day ended with an informal drink. While enjoying a beer, we discussed the day. As master students we realized we could link the topics discussed during the WIC Midwinter Meeting to our courses, like Wireless Communications, Optical Fiber Communications Technology, and Information Theory. This made the entire day a great addition to our curriculum.