

Highlights for 2019

Year 2019 marks yet another successful year at the Center for Quantum Devices (QDev), a year where we can celebrate our seventh year of continued growth. The Center now exceeds 130 researchers and staff, including professors, postdocs, PhD candidates, Master and Bachelor student-researchers, collectively supported by Center funding and 20 other grants.

The year also marks a year of an organizational change. After almost 7 years as center leader Professor Charles Marcus handed over the torch to Professor Karsten Flensberg. Under Charles Marcus' leadership the center has grown from two handfuls of people to what it is today; always striving for excellence, and the new center leader Karsten Flensberg is continuing the strong emphasis on top research in close contact and collaboration Professor Marcus and the QDev faculty. The transition has been very smooth and seen from the viewpoint of the members of the center very little has changed.

Research in QDev continued to receive international attention. Highlights include a number of papers in high-profile journals, including Nature, Nature Physics, Nature Communications, Nanotechnology, Physical Review Letters and Science. Work in QDev was also recognized with a number of awards and honors: Charles Marcus got the Industrial Award 2019 from The Danish Academy of Natural Sciences. Associate Professor Ferdinand Kuemmeth got the *KU SCIENCE* Industrial Award 2019 and Peter Krogstrup was awarded the *Electro prize* from the Danish Society of Engineers (IDA).



Ferdinand Kuemmeth's group in the lab

The Researchers at QDev have had a fruitful year when it comes to attaching external funding. In 2019 Karsten Flensberg started the Independent Research Fund Denmark funded project on nonlocal and nonabelian degrees of freedom; Michele Burrello the project ArcAnyon funded by the Villum Foundation and Jesper Nygård started projects on two EU Horizon 2020 grants called AndQC and SpinScreen. In addition, we have been very successful in securing the prestigious ERC grants to QDev: Thomas Sand Jespersen was awarded the ERC Consolidator grant and Karsten Flensberg, Ferdinand Kuemmeth, Martin Leijnse, and Charles Marcus were awarded an ERC Synergy grant. Both grants will initiate in 2020 and have a duration beyond the Center grant, thus ensuring the sustainability of the activities of the Center.

During 2019 QDev has been able to attract media attention. Special focus has been on public outreach where Charles Marcus participated in the event Bloom in Søndermarken and discussed art and research at the event Art Hub. QDev was also present at this year's Culture Night where PhD Asbjørn Drachmann did a well visited talk on Quantum Nano Electronics. Among more traditional media coverage is an article in Weekendavisen called Modern Alchemy by Mark Rudner. In international outreach, QDev hosted 124 international visitors and had 30 seminars and lectures in 2019.