

# Annual Highlights

## DNRF Chair Peter Jørgensen, Aarhus University

The DNRF Chair began 1 August 2021, and three appointments have been made:

- Jenny August (PhD from the University of Edinburgh) started as a postdoc on 1 September 2021.
- Raphael Bennett-Tennenhaus (PhD from the University of Leeds) will start as a postdoc on 1 August 2022.
- Anders Kortegård (MSc from Aarhus University) started as a PhD student on 1 August 2021.

Jenny August and Raphael Bennett-Tennenhaus work on Calabi-Yau categories, which are the main topic of the Chair. August published two single authored papers on the subject, and Bennett-Tennenhaus is a co-author of several papers on triangulated categories, which have Calabi-Yau categories as a special case.

The staff members appointed under the DNRF Chair join the vibrant research environment created by the rest of the Aarhus Homological Algebra Group, which comprises two more PhD students, three more postdocs, and DNRF Chair Peter Jørgensen.

Our group hosted five international visitors, three of whom were female:

- Esther Banaian (University of Minnesota)
- Raphael Bennett-Tennenhaus (University of Bielefeld)
- Francesca Fedele (University of Verona)
- Sira Gratz (University of Glasgow)
- Greg Stevenson (University of Glasgow)

We had five algebra seminars and the symposium “Friezes and Triangulated Categories”, which consisted of three talks on 20 October. Four of the seminars and talks were by female speakers, and all speakers bar two were international.

Members of the group gave talks at conferences and seminars based at the Isaac Newton Institute in Cambridge, the University of Bielefeld, and the University of Manchester.

The autumn of 2021 also saw the online publication of the peer-reviewed journal article “Sifting and tilting for weakly symmetric algebras” by Jenny August and Alex Dugas and the preprint “Proper abelian subcategories of triangulated categories and their tilting theory” by Peter Jørgensen. The article by August and Dugas studied the distinction between two important classes of complexes known as sifting and tilting. The two classes are known to coincide over symmetric algebras, but August and Dugas broke new ground by demonstrating that they are different already for weakly symmetric algebras such as the one defined by the quiver in Figure 1 with suitable relations.

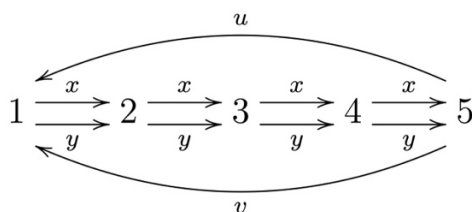


Figure 1: A quiver defining a weakly symmetric algebra