## Preview: Practice session

Having learnt various concepts and techniques in the context of first extension groups we now take a break from the theory and consider examples.

In the first part, we focus on path algebras of quivers. There we determine projective resolutions and projective dimensions of simple modules associated with vertices of the quiver. The resulting formulae will be purely combinatorial and we also will be able to interpret the quiver itself in terms of extensions of simples.

In the second part we consider a much larger class of algebras, certain quotients of path algebras, called bound quiver algebras. This class is much too large to obtain general formulae. But the connection with quivers will persist, and on the other hand we will see in examples how many different things can happen with projective resolutions and projective dimensions.