



**CIMAT**

Centro de Investigación en Matemáticas, A.C.

---

Series of conferences on **Advances in Representation Theory of Algebras (ARTA)**  
Guanajuato-Toruñ-Montréal  
Guanajuato, Mexico. June 22-26, 2015.

**NAME:** Ana Garcia Elsener

**INSTITUTION AFILIATION:** Universidad Nacional de Mar del Plata

**TITLE:** On syzygies over 2-Calabi-Yau tilted algebras

**ABSTRACT:**

In this talk we consider the category of Cohen Macaulay modules over 2-Calabi-Yau tilted algebras,  $CM(B)$ . In this context the objects in the category are the syzygies over the algebra. We study homological properties of this category showing the relation between the Auslander-Reiten translation and the syzygy functor. We explore the connections with the representation dimension of algebras, the Igusa-Todorov functions, and periodic resolutions. We consider the particular case of Jacobian algebras arising from surfaces without punctures and from the punctured disk (Dynkin type D). We give a geometric description of  $CM(B)$  modules and we describe the projective resolutions over these algebras.

CIMAT