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

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TITLE: **The Krull-Gabriel dimension of cycle-finite algebras**

ABSTRACT:

Given an artin algebra A, we denote by mod A the category of finitely generated right A-modules and $\mathcal{F}(A)$ the category of all finitely presented contravariant functors from mod A to the category $\mathcal{A}$b of abelian groups. It is a hard problem to describe the category $\mathcal{F}(A)$ even if the category mod A is well understood. A natural approach to study the structure of $\mathcal{F}(A)$ is via the associated Krull-Gabriel filtration by Serre subcategories $\mathcal{F}(A)_n$, $n \in \mathbf{N}$, where $\mathcal{F}(A)_n$ is the subcategory of all functors F in $\mathcal{F}(A)$ which become of finite length in the quotient category $\mathcal{F}(A)/\mathcal{F}(A)_{n-1}$, where $\mathcal{F}(A)_{-1} = 0$. Then the Krull-Gabriel dimension $KG(A)$ of A is is defined as $KG(A) = \min \{n \in \mathbf{N}, \mathcal{F}(A) = \mathcal{F}(A)_n\}$, if such a minimum exists, and $KG(A) = \infty$ else.

The aim of the talk is to present characterizations of artin algebras A with $KG(A)$ finite and mod A having only finite cycles of indecomposable modules.