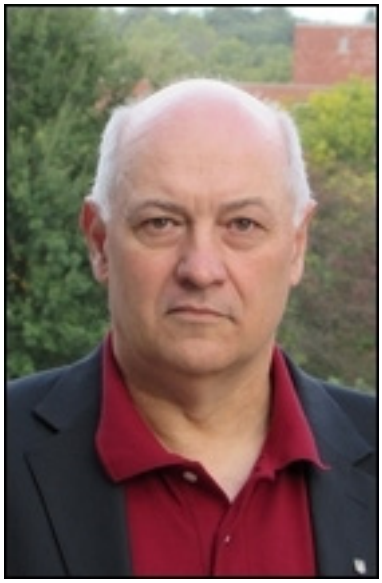
DEPARTMENT OF MATHEMATICS & STATISTICS

UNIVERSITY OF WYOMING

Thursday
September 20, 2018
4:10 - 5:00 pm AG 1030

Reception before the talk:
RH 261 at 3:30 pm



Sergey Bezuglyi
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Bratteli Diagrams: dynamics, structure, measures

Abstract:
In 1972 O. Bratteli introduced special infinite graphs (subsequently called Bratteli diagrams) which were extremely useful for classification of approximately finite-dimensional C*-algebra. From a different direction came the fruitful idea of A. Vershik to associate dynamics with Bratteli diagrams by introducing a lexicographic ordering on the infinite paths of the diagram. During the last two decades, Bratteli diagrams turned out to be a very powerful and productive tool for the study of dynamical systems on measure spaces, Cantor, and Borel spaces. It turns out that, roughly speaking, every transformation can be realized as a map acting on the space of infinite paths of a Bratteli diagram. Surprisingly, not every diagram admits dynamics.

In the talk, I will focus mostly on the role of Bratteli diagrams in Cantor dynamics.
It will be explained why Bratteli diagrams are used to construct models of transformations. I will discuss the structure of simple and non-simple Bratteli diagrams, the existence of dynamics on an arbitrary Bratteli diagram, the existence and properties of finite and infinite invariant measures.