

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, November 16
2:00 – 3:00 PM
Maria Sanford, Room 101

COMPACT-OPEN-LIKE TOPOLOGIES ON $C(X)$ AND APPLICATIONS

VASIL GOCHEV

CENTRAL CONNECTICUT STATE UNIVERSITY

ABSTRACT

We introduce the notion of (compact in S)-(open in R_τ) topology on $C(X)$. Here S is a dense subset of X and R_τ is the set of real numbers with some topology τ not necessarily the usual metric topology. If we let S vary in some family of dense subsets of X we get a family of topologies on $C(X)$ for which we consider its infimum in the lattice of all topologies defined on the set $C(X)$. Now we ask: What are the properties of the space $C(X)$ with this topology? Since this is too general, we consider the case when X is a compact Hausdorff space with assigned filter F of dense open subsets on it and S varies in F_δ - the set of all countable intersections of elements of F . Also we consider only the cases when τ is the usual topology or the discrete topology on the set R . We study these topologies and establish some of their properties. We use them to characterize the monomorphisms in the category $LSpFi$ of spaces with Lindelöf filters defined by R. Ball, A. Hager and A. Molitor.

For further information:

gotchevi@ccsu.edu 860-832-2839
<http://www.math.ccsu.edu/gotchev/colloquium/>