

## Description of research interests

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My research activity concentrates on the following topics:

- Topological properties of the function space  $C_p(X)$  of continuous real valued functions on completely regular spaces  $X$  with the topology of pointwise convergence. Relationship between topological and descriptive set-theoretical properties of a space  $X$  and the function space  $C_p(X)$ .
- Constructions of specific complete regular spaces  $X$ , such that the space  $C_p(X)$  has attractive properties.
- Preservation of topological properties of a space  $X$  by homeomorphisms, uniform homeomorphisms and linear homeomorphisms of spaces  $C_p(X)$ .
- Constructions of topological groups.
- Applications of descriptive set-theoretical methods, in particular to constructions of functions between separable, metrizable spaces.
- Problems concerning various classes of compact spaces  $K$  distinguished by certain topological properties of the function spaces, e.g. Eberlein, Corson, Talagrand, Gulko, Valdivia and Rosenthal compacta.
- Measure properties of topological spaces.