



XIAMEN UNIVERSITY MALAYSIA

廈門大學 馬來西亞分校

Research Talk XMUM

DESCRIPTIVE SET THEORY VIA ANALYSIS, AND ITS GENERALIZATIONS TO HIGHER CARDINALS

April 1, 2024 (Monday), 3:30–4:30 pm Room A5#119



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Research interests: History of Modern Logic and Topology (especially Eastern Bloc, and East-West Interaction), Methods of Mathematical Change, Descriptive Set Theory, Generalized Analysis, Axiomatic and Deterministic Community Ecology

SPEAKER INTRODUCTION

Dr. Ned Wontner was a Postdoctoral Scholar at Universiteit van Amsterdam, ILLC. He was graduated from Universiteit van Amsterdam, ILLC 2023. Dr. Ned Wontner got his Master on Non-Standard Analysis at University of Cambridge 2019, and his Bachelor at University of Oxford 2017.

ABSTRACT

This talk has two parts. In the first, more established part, I give an outline of some main motivations, ideas, and results in classical descriptive set theory. Throughout, I keep close to the historical roots in real analysis, notably the (classical) analysis of Baire functions. I mention Borel and analytic sets, and their regularity properties. In the second part, I gesture towards more recent work in generalized real analysis. I mention how descriptive set theory has been well generalized to higher cardinals, and look at one option to do the same for the real number ordered field. I state some generalizations, or lack thereof, of classical theorems of real analysis to these generalized real numbers, using various generalizations of continuity.