



Department of
Mathematical Sciences

PhD Proposal Hearing

Ms. Syeda Ashrafi

PhD Graduate Student

Under the Supervision of Dr. Daniel Gervini

**Thursday,
Apr. 23, 2020
at 10:00 am**

*Online via
Microsoft Team's*



**Ms. Syeda
Ashrafi**

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Department of
Mathematical Sciences**

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Functional Data Analysis in Non-Linear Space

Functional data are essentially high dimensional and thus become a vast source of information that gives wide opportunities for research and data analysis. However, in many situations, these functions belong to non-linear spaces and might have certain restrictions. Our aim is to redefine the original problem such that our function to be estimated becomes unconstrained. We will consider two cases of non-linear spaces: 1) Monotone increasing function and 2) Probability density functions. The warping function approach will be used for monotone increasing function. The data has been used is Knee variable of gait data for warping function and income variable of socioeconomic household data (from Family expenditure survey of Great Britain) for the density function approach.

Committee Members:

Prof. Daniel Gervini (Advisor); Vytautas Brazauskas, David Spade, Wei Wei & Chao Zhu



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