

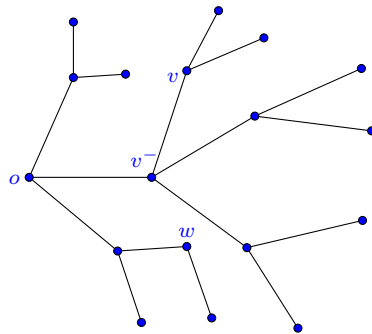
# STudent REsearch TalkS (StReTs)

Mason Experimental Geometry Lab (MEGL)

## Multiplication Operators on the Zygmund Space over a Tree

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### Abstract

In this talk, we define the space  $\mathcal{Z}$  of functions on an infinite rooted tree  $T$  such that  $f'$  belongs to the Lipschitz space  $\mathcal{L}$ , that is, satisfies  $|f'(v) - f'(w)| \leq C d(v, w)$ ,  $v, w \in T$ , for some  $C > 0$ , where  $d(v, w)$  is the number of edges in the unique geodesic path from  $v$  to  $w$ . The space  $\mathcal{Z}$  may be considered as a discretization of the familiar Zygmund space of analytic functions on the open unit disk. We then discuss an important class of operators, the *multiplication operators*  $M_\psi(f) = \psi f$ , where  $\psi$  is a function defined on  $T$  and  $f \in \mathcal{Z}$ . We characterize the bounded and compact operators  $M_\psi$  on  $\mathcal{Z}$  and describe the spectra.

Date: Friday, February 20, 2014

Time: 2:30pm–3:30pm

Place: Exploratory Hall 4106

**Pizza and soda will be served at the presentation.**

For further information or for special accommodations, please contact Sean Lawton via email at [seanlawton@gmail.com](mailto:seanlawton@gmail.com) or drop by the MEGL.