

## GEOMETRY SEMINAR

**Geometric Flows on Hypersurfaces in the Space Forms and Some Applications.****Neilha Marcia Pinheiro**

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Time: 10:30 am

Acesso à sala virtual:

**Abstract.** In this talk we discuss geometric flows on hypersurfaces in the space forms and present few applications. First, we give a brief introduction about geometric flows. Second, we consider an inequality conjectured by Ge, Wang and Wu in 2015 for hypersurfaces in hyperbolic space. More precisely, using a geometric flow, which we call the support function flow (SFF), we give a counterexample to the conjectured inequality assuming the initial condition to be zero and that the ambient space is of dimension three. Moreover, we prove an inequality very similar to the conjectured one. Finally, we present some open problems which we believe can be solved by means of geometric flows.

**References**

- [1] F. Girão, D. Pinheiro, N. M. Pinheiro and D. Rodrigues, Weighted Alexandrov - Fenchel Inequalities in Hyperbolic Space and a Conjecture of Ge, Wang and Wu, Proc. Amer. Math. Soc., 149 (2021). no 1, 369-382 DOI: 10.1090/proc/15127.