

# SEMINÁRIO DE GEOMETRIA USP-UNICAMP

## A TOY MODEL FOR HOMOGENEOUS CONTACT GEOMETRY

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### ABSTRACT

The aim of this talk is to discuss how the Hopf fibration can be seen as a toy model for study the construction of certain geometric structures on compact homogeneous contact manifolds. We also will show how some ideias coming from of this basic model can be employed to construct concrete examples of Ricci-flat Kähler manifolds, and Hermitian non-Kähler manifolds ([1],[2]). Our approach will be done essentially by taking into account elements of representation theory of complex simple Lie algebras and complex geometry.

### REFERENCES

- [1] Correa, E. M.; Homogeneous contact manifolds and resolutions of Calabi-Yau cones, (2018); e-print: arXiv:1801.02763.
- [2] Correa, E. M.; Hermitian non-Kähler structures on products of principal  $S^1$ -bundles over flag manifolds, (2018); e-print: arXiv:1803.09170.