

# INVITATION TO A TALK

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**Dr. Mehrdad Nasernejad**

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**“In search of normally torsion-free and minimally not normally torsion-free square-free monomial ideals”**

📍 N.2.35

📅 Wednesday, 24 July 2024

🕒 10:00 a.m.

## Abstract

In this talk, we first review the necessary definitions of commutative algebra such as minimal primary decomposition and normally torsion-freeness. After that, let  $I \subset R = K[x_1, \dots, x_n]$  be a square-free monomial ideal,  $q$  be a prime monomial ideal in  $R$ ,  $h$  be a square-free monomial in  $R$  with  $\text{supp}(h) \cap (\text{supp}(q) \cup \text{supp}(I)) = \emptyset$ , and  $L := I \cap (q, h)$ . We concentrate on the associated primes of powers of  $L$  and explore the normally torsion-freeness of  $L$ . Next, we give an application on a combinatorial result. Finally, we study when a square-free monomial ideal is minimally not normally torsion-free, in particular, we introduce a class of square-free monomial ideals, which are minimally not normally torsion-free.

This talk is based on a joint work with Veronica Crispin Quiñonez and Winfried Hochstättler, cf. [1].

## References

- [1] M. Nasernejad, V. Crispin Quiñonez, and W. Hochstättler, *On the normally torsion-freeness of square-free monomial ideals*, *Journal of Algebra and Its Applications*

Roswitha Rissner and the Department of Mathematics look forward to seeing you at the talk!

