

## NITheCS COLLOQUIUM:

# What are the possible near field structures one can define over the multiplicative group of a near field?

Dr Leandro Boonzaaier (SU) and Dr Sophie Marques (SU)

**Attend in person at the Neelsie Cinema\* or online**

\*1st Floor The Neelsie Langenhoven Student Centre, Stellenbosch University

**Monday, 13 February 2023 | 16h00 – 17h00 SAST**

Cheese and wine will be served after the event

### ABSTRACT

Have you ever wondered if there was more than one addition on the real numbers that turns  $\mathbb{R}$  into a field? More generally, suppose we take a near-field, and forget about the additive structure on it and consider it only as the multiplicative structure. How many additions will turn this multiplicative structure into a field? What are the potential applications of such a question? These are the questions we will explore in this talk.

### BIOGRAPHIES



Leandro Boonzaaier holds a PhD in Theoretical Physics from Stellenbosch University (SU). He was a faculty member in the Department of Physics at SU from 2006 to 2014. Since then, he has pursued several business ventures and done consulting work, mostly involving mathematical modelling across different industries. He has continued his involvement with the SU Physics Department through regular teaching in the department over the past few years. He is currently employed in the telecommunications industry as a researcher.



Sophie Marques did her PhD in the Algant programme between the Universities of Padova and Bordeaux, focusing on the intersection of Algebraic Geometry and Algebraic Number Theory. She was then appointed as visiting assistant professor at the Courant Institute in New York for two years. She stayed two more years as a clinical assistant professor. In 2017, Sophie moved to South Africa and engaged in postdoctoral studies at the University of Cape Town until she was appointed as a senior lecturer at Stellenbosch University in 2019 – her current position. She is the founder of *Wisaarkhu* magazine, which aims to make advanced contemporary mathematics more accessible to a larger community of new generations of students and researchers, and inspire more interest in it.

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