



# UNIVERSITÀ DI PARMA

DIPARTIMENTO DI SCIENZE MATEMATICHE, FISICHE E INFORMATICHE

<http://smfi.unipr.it>

## SEMINARIO BAT-MAT

### CICLO DI SEMINARI BAT-MAT (Biscuits and Tea - Maths)

Dott. **Thomas Charles Holt**, assegnista Dipartimento SMFI

**Mercoledì 15 marzo 2023, ore 15:00**

**Sala Riunioni, Plesso di Matematica**

### Harmonic analysis on Torus bundles

Tutti gli interessati sono invitati a partecipare

Organizzatori: Davide Addona, Paolo Baroni, Nicoletta Tardini

*Abstract: Harmonic analysis is a branch of analysis in which the action of a topological group plays an essential role. Often seen as a generalisation of Fourier analysis, this area of mathematics provides us with tools to simplify and solve certain families of PDEs.*

*In this talk we will focus mainly on torus bundles over  $S^1$ , e.g. the Heisenberg manifold. First making use of the Fourier transform to decompose the space of  $L^2$  functions and then viewing the same construction from a representation theory perspective. We will also see how these techniques can be applied to a range of PDEs which would otherwise be quite tricky.*

Alla fine del seminario verrà offerto un piccolo rinfresco in Common Room.