



Du  
**27**  
MARS.  
2021

16h30  
-  
17h30

## **SÉMINAIRE BOURBAKI**

**Thomas Bloom — Quantitative Inverse theory of Gowers uniformity norms (after F. Manners)**

Exposé en ligne. Instruction de connexion à venir

INSCRIPTION

Gowers uniformity norms are the central object of higher-order Fourier analysis, one of the cornerstones of additive combinatorics, and play an important role in both Gowers' proof of Szemerédi's theorem and the Green-Tao theorem. The inverse theorem states that if a function has a large uniformity norm, which is a robust combinatorial measure of structure, then it must correlate with a nilsequence, which is a highly structured algebraic object. This was proved in a qualitative sense by Green, Tao, and Ziegler, but with a proof that was incapable of providing reasonable bounds. In 2018 Manners achieved a breakthrough by giving a new proof of the inverse theorem. Not only does this new proof give a wealth of new insights but it also, for the first time, provides quantitative bounds, that are at worst only doubly exponential. This talk will give a high-level overview of what the inverse theorem says, why it is important, and the new proof of Manners.

URL de la page : <https://www.ihp.fr/fr/agenda/thomas-bloom-quantitative-inverse-theory-gowers-uniformity-norms-after-f-manners>



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### **HORAIRES**

L'institut :

- lundi au vendredi de 8h30 à 18h,
- fermé les jours fériés.

Le musée - Maison Poincaré :

- lundi, mardi, jeudi et vendredi de 9h30 à 17h30,
- samedi de 10h à 18h,
- fermé le mercredi et le dimanche.