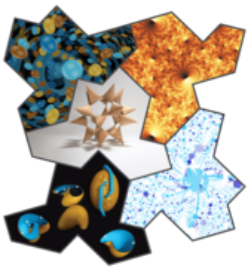

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A dichotomy in the tail behaviour of quadratic Weyl sums

mercredi 25 mars 2026 10:30 (25 minutes)

Jointly with Tariq Osman, we completed the classification of the tail behaviour of the limiting distributions of all quadratic Weyl sums of the form 1/\sqrt{N} \sum_{n=1}^N e(((1/2)n^2+\beta n)x+\alpha n).
When \alpha and \beta are both rational, while trying to understand the contribution of certain orbits to the heavy tails, we discovered that some pairs actually lead to a compactly supported limiting distribution. I will especially emphasise the role of mathematical illustration in our understanding of the geometry of the relevant orbits, as well the importance of numerical simulations to validate our results and prompt new questions.

Orateurs: CELLAROSI, Francesco (Queen's University); CELLAROSI, Francesco (Queen's University)