ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

# Invitation to a Guest Lecture

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**"Sieve theory and primes"**

N.1.43 | Wednesday, 10 January 2024 | 11:00 a.m.

**Abstract**
Prime numbers are the subject of many conjectures - there is a huge gap between what we believe to be true and what we can prove. However, in the last few decades several key breakthroughs were achieved with the aid of sieve methods: a notable example is Yitang Zhang's groundbreaking work on bounded gaps between primes. Zhang showed that there is some positive integer h which occurs infinitely often as the gap between two consecutive primes. This is a step towards resolving the twin prime conjecture.
In my talk, I will give an introduction to sieve methods, with a particular focus on their application to twin primes. I will also briefly talk about recent progress in improving upper bounds on those gaps between m consecutive primes which appear infinitely often.

Clemens Heuberger and the Department of Mathematics look forward to seeing you at the talk!