Program för Svenska matematikersamfundets årsmöte
Lund, 4 juni 2019

Hörmandersalen, Matematikhuset, Sölvegatan 18a, Lund

13:15–13:55   Robert Berman, *presentation av David Witt Nyströms arbeten.*

14:00–14:40   David Rydh, *presentation av Dan Petersens arbeten.*

14:45–14:50   *Utdelning av 2018 års Wallenbergspris.* Pristagarna är Dan Petersen och David Witt Nyström.

14:50–15:15   Paus.

15:15–16:00   Jacob Stordal Christiansen (Lund), *Chebyshev polynomials.*

A classical problem that goes back to Chebyshev is to approximate x^n by polynomials of lower degree on some compact interval. As is well known, the monic degree n polynomial that deviates the least from zero on $[-1, 1]$ is given by $T_n(x) = 2^n \cos(n\theta)$ with $x = \cos\theta$. This polynomial oscillates for x between -1 and 1 and grows faster than any other monic polynomial of the same degree outside $[-1, 1]$. But how can we describe the monic polynomials of least deviation from zero on $\mathsf{E} \subset \mathbb{R}$ when E is the union of, say k, intervals or a Cantor-type set?

In the talk, I shall discuss the theory for these polynomials that also bear the name of Chebyshev. I'll focus on their asymptotic behavior and the asymptotics of the approximation error. One may ask how this depends on the size and geometry of E. As we shall see, potential theory enters the field and part of the analysis relies on studying the zeros in gaps of E. If time permits, I shall also explain how relatively little is known when E is a compact subset of $\mathbb{C}$. Several open problems will be discussed.

The talk is based on joint work with B. Simon (Caltech), P. Yuditskii (JKU Linz), and M. Zinchenko (UNM).

16:15   *Årsmöte.* Dagordning anslås på Svenska matematikersamfundets hemsida, `http://www.swe-math-soc.se`.

19:00   *Middag.* Anmäl till Tomas Persson om du vill deltaga i middagen, senast 26 maj.

För frågor och anmälan till middagen, kontakta Tomas Persson, per epost `tomasp@maths.lth.se`, eller telefon 046–222 85 66.