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**MYRTO MAVRAKI**, University of British Columbia

*Simultaneous torsion points in a Weierstrass family of elliptic curves*

In 2010, Masser and Zannier proved that there are at most finitely many complex numbers  $t$ , not equaling 0 or 1, such that the two points on the Legendre elliptic curve  $y^2 = x(x-1)(x-t)$  with x-coordinates 2 and 3 are simultaneously torsion. Recently, Stoll proved that there is in fact no such  $t$ , and it is his result that inspires our work. In this talk we will focus on the Weierstrass family of elliptic curves  $E_t : y^2 = x^3 + t$ , and show that in many instances there is no parameter  $t$  such that the points  $(a, *)$  and  $(b, *)$  are simultaneously torsion in  $E_t$ . In contrast to the original approach of Masser and Zannier, our approach is dynamical. We focus on studying whether  $a$  and  $b$  are simultaneously preperiodic for a Lattès map.