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**NICOLA TARASCA**, Fields Institute

*Du Val curves and the pointed Brill-Noether theorem*

The pointed Brill-Noether theorem describes under which condition a general pointed curve admits a linear series with prescribed vanishing sequence at the marked point. While the statement holds for a general pointed curve, no examples was known of *smooth* pointed curves satisfying the theorem. In recent joint work with Gavril Farkas, we show that a general pointed Du Val curve satisfies the theorem. In particular, we give explicit examples of smooth pointed curves of arbitrary genus defined over  $\mathbb{Q}$  which satisfy the pointed Brill-Noether theorem.