

# How to Conjecture and Prove that the Generating Function of the Yang- Zagier Numbers is Algebraic (in person)

*Wednesday, 1 December 2021 14:50 (50 minutes)*

In a recent paper Don Zagier mentions a mysterious integer sequence  $(a_n)_{n \geq 0}$  which arises from a solution of a topological ODE discovered by Marco Bertola, Boris Dubrovin and Di Yang. In my talk I show how to conjecture, prove and even quantify that  $(a_n)_{n \geq 0}$  actually admits an algebraic generating function which is therefore a very particular period. The methods are based on experimental mathematics and algorithmic ideas in differential Galois theory, which I will show in the interactive part of the talk. The presentation is based on joint work with A. Bostan and J.-A. Weil.

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