## B. O. & T. Q.

## ILIAS KOTSIREAS

WILFRID LAURIER UNIVERSITY - CARGO LAB WATERLOO, ONTARIO, CANADA

## Abstract

We shall explain the meaning of the cryptic title "B. O. & T. Q.", an acronym inspired by one of the birthday boys! Subsequently, we will describe several such new B. O. & T. Q. pertaining to:

- 1. Periodic Golay pairs
- 2. Legendre pairs
- 3. quaternary Legendre pairs
- 4. Hadamard matrices
- 5. weighing matrices
- 6. T-sequences
- 7. Base sequences
- 8. Orthogonal Designs
- 9. Turyn-type sequences

As an important corollary, we provide several different proofs of Marco Buratti's motivation theorem, presented at CODESCO 2024 in Sevilla.

