▶ ALBERTO MARCONE, *Jumping in the Weihrauch degrees.*

Dipartimento di Scienze Matematiche, Informatiche e Fisiche, Università di Udine, via delle Scienze 206, 33100 Udine, Italy.
E-mail: `alberto.marcone@uniud.it`.
URL Address: `http://www.dimi.uniud.it/marcone`.

The jump is a fundamental operation in the Turing degrees and jumps operators have been defined also in other degree structures, such as the enumeration degrees.

Given a quasi-order $(Q, \leq)$, an operator $J : Q \to Q$ can be considered a jump if it satisfies $p < J(p)$ and $J(p) \leq J(q)$ whenever $p \leq q$ (the latter condition ensures that J is degree-theoretic, i.e. can be lifted to the quotient partial order).

In the Weihrauch degrees a natural operator called "jump" was introduced a few years ago ([1]) and then widely used. However this operator fails to satisfy both abstract properties mentioned above (although it satisfies the second one with respect to strong Weihrauch reducibility). We propose a natural definition of a jump operator which satisfies both properties and we compute explicitly the jumps of many well-known Weihrauch degrees. This jump is connected with the (non degree-theoretic) operation of total continuation.

If time allows, we will also mention results about the existence of jumps in arbitrary quasi-orders.

This is joint work with Uri Andrews, Steffen Lempp, Joe Miller and Manlio Valenti.

[1] BRATTKA, VASCO; GHERARDI, GUIDO; MARCONE, ALBERTO, *The Bolzano-Weierstrass theorem is the jump of weak Kőnig's lemma*, **Annals of Pure and Applied Logic**, vol. 163 (2012), no. 6, pp. 623–655.