



## **Palynostratigraphic alignment chronology versus independent dating methods. <sup>14</sup>C, OSL and tephra: an example from Lake Fimon, northern Italy**

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New independent dating evidence is presented for a lacustrine record for which an age-depth model had already been derived through the interpretation of the pollen signal. Quartz OSL ages support radiocarbon ages that were previously considered to suffer an underestimation due to contamination, and imply a younger chronology for the core. The successful identification of the Campanian Ignimbrite as a cryptotephra within the core also validates this younger chronology, as well as extending the known geographical range of this tephra layer within Italy. These new results suggest that care should always be taken when building chronologies from proxy records that are correlated to the tuned records from which the global signal is often derived (i.e. double tuning). We do not offer this as the definitive chronology for Lake Fimon, but multiple lines of dating evidence show that there is sufficient reason to seriously consider it. The Quaternary dating community should always have all age information available, even when significant temporal offsets are apparent between various lines of evidence to be: 1) better informed when they face similar dilemmas in the future and 2) allow multiple working hypotheses to be considered.