

## Determining the age of a fingerprint



In forensics it is common to use fingerprints to connect a person to a place, but it is difficult to say when a fingerprint was set or planted. The arguments "I was there at another time" or "I discovered the victim at another time" arise and create problems for the evidence that the fingerprint potentially could establish. Therefore, a possibility to time stamp fingerprints would help to show when the fingerprint was planted to sort out such claims.

Surface analysis by mass spectrometry could potentially reveal time-dependent compositional changes in a fingerprint. Attempts has been made to use both MALDI (matrix assisted laser desorption and ionization) and secondary ion mass spectrometry (SIMS) to obtain such information, but a coherent study has yet to be presented. A further advantage of mass spectrometry-based methods is the added ability to also study other things in the fingerprints, such as drugs and or explosives.

### Method

By taking fingerprints at different times and analysing these using mass spectrometry we seek to find out if there is a time-dependent change in the composition of the fingerprint. This could be translated into a time span for when the fingerprint was set or planted. Hopefully the result can point to an understanding on what happens with a fingerprint over time and lead to a model for aging of fingerprints that can be used professionally.



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