

Pig carcasses could hold key to death puzzle

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(PhysOrg.com) -- After five years of studying decomposing pig carcasses, Victoria University (New Zealand) graduate Rachel Parkinson could hold the key to determining the time since death in forensic cases.

"Human decomposition is a little-understood process and even less is known about the microbiology involved. My research aimed to investigate the bacterial species that decompose human bodies and determine whether they can tell us when that person died."

As part of her PhD research, Dr Parkinson allowed used a variety of chemistry and molecular biology methods to explore how and when [bacterial communities](#) change during the course of decomposition of pig carcasses.

She also spent three months in the United States at the University of Tennessee Forensic Anthropology Facility, where she was able to work with human cadavers.

"This research showed that the bacteria from the body itself do a lot of the decomposing, with bacteria from the surrounding environment also playing a part. The pig carcasses and human cadavers had very similar decomposition bacteria, suggesting that using pig carcasses as models for human decomposition is a good option. This means a lot more research can be performed here in New Zealand."

Dr Parkinson says her research could have far-reaching implications for forensic post mortem investigations.

"By discovering that different [bacterial species](#) are associated with different stages of decomposition, we now believe that the development of a forensic post mortem interval estimation tool based on bacterial succession is possible in the near future."

Having a better understanding of the complex process of [decomposition](#) will also help forensic investigators interpret death scenes more accurately.

Dr Parkinson is currently working at the Environmental Science Research (ESR) in another field of forensics, but says she is keen to further her research in this area.

Dr Parkinson, who received funding support from ESR and Victoria University, graduated last December with a degree in Biological Sciences. Her supervisors were Dr Jacqui Horswell and Dr Geoffrey Chambers.

Provided by Victoria University

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