

FROM DINOSAURS TO MICROPLASTICS

UNDERSTANDING EVOLUTION WITH SCOTTY THE T. REX

Scotty, the world's largest T. Rex, has captured the public's attention since it was discovered in Saskatchewan in 1991. Researchers from the University of Regina and the Royal Saskatchewan Museum used the CLS to study the dinosaur's bones. They discovered structures similar to blood vessels within the bone. These structures are much like human bone in their function, but have some differences in their shape that the researchers plan to explore.

URI: <https://hdl.handle.net/10294/15919>



SWEET RESULTS

University of Guelph researchers used the CLS to study a key ingredient that could revolutionize the chocolate industry. For the first time, they were able to get detailed imaging of the internal structure of dark chocolate, thanks to our BMIT and BXDS beamlines. The group confirmed the positive effect their phospholipid had on obtaining the ideal structure for chocolate.

DOI: [10.1038/s41467-021-25206-1](https://doi.org/10.1038/s41467-021-25206-1)

EARTHWORMS HELP REVEAL WHERE MICROPLASTICS GO

An increasing amount of microplastic is making its way into the environment, but little is known about whether they move into body tissue if they are ingested. Researchers from the University of Guelph studied what happens when earthworms swallow these tiny pieces of waste material. They found the material stayed in the gut and was pooped out within a day – it did not go into other parts of the worm's body. The finding suggests that, like earthworms, humans may pass microplastics without them spreading to our body tissues.



DOI: [10.1093/etj/etjg072](https://doi.org/10.1093/etj/etjg072)

CONSERVING RITA LETENDRE'S FAMOUS ARTWORKS

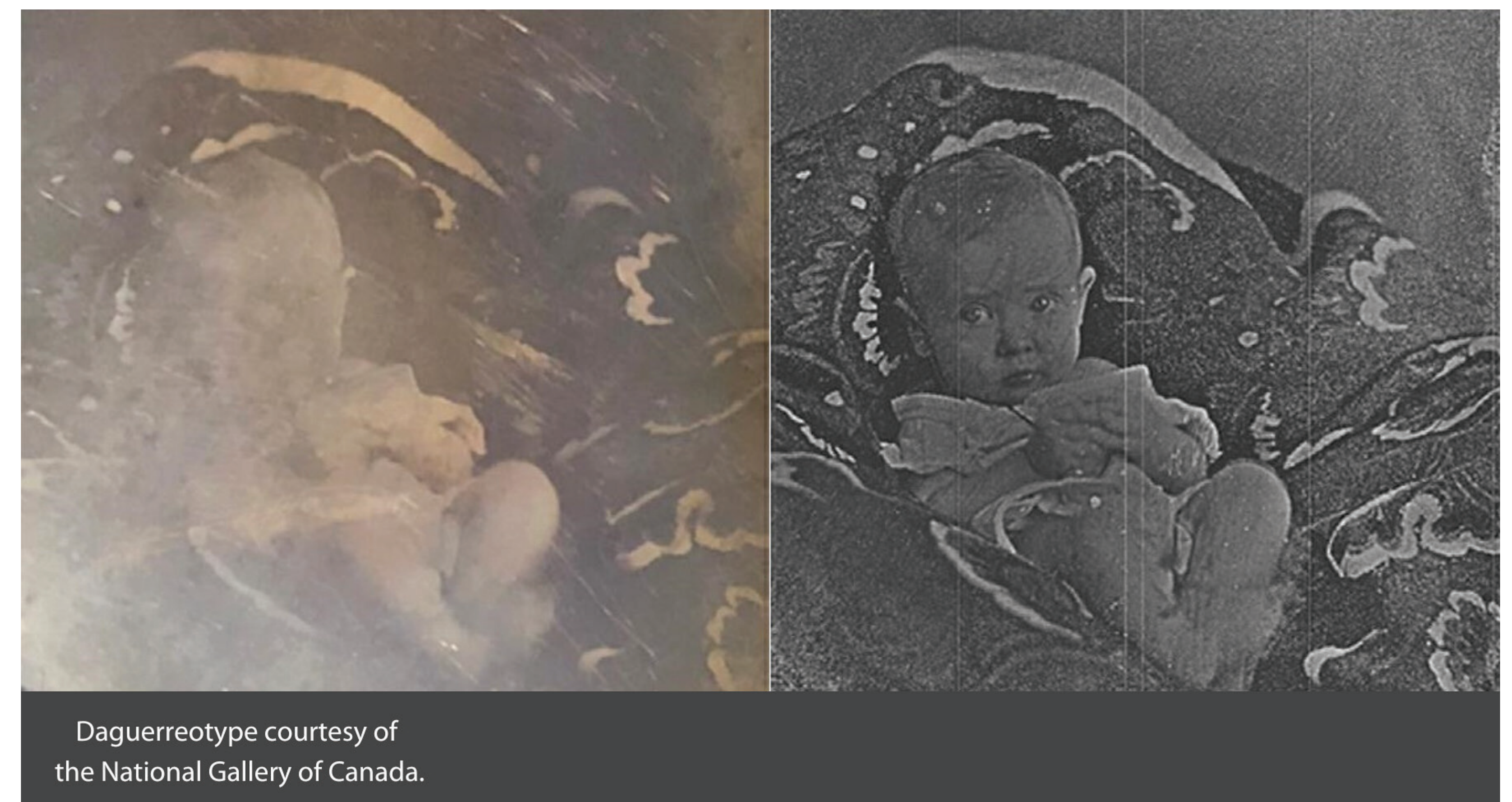
Science can help conserve oil paintings like Rita Letendre's abstract work. The Art Gallery of Ontario and the Canadian Conservation Institute used the Mid-IR beamline to shine light on the source of deteriorating brushstrokes. They found that a combination of experimental techniques and paint additives was behind both crumbling base layers and delicately soft spots on the canvas. Understanding the source of degradation is key to restoration efforts and helps professionals restore priceless works of art.

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Rita Letendre
"Victory" (Victory), 1961
Oil on canvas, Overall: 202.0 x 146.0 cm
Art Gallery of Ontario
Gift of Jessie and Percy Waes, 1974, donated by the Ontario Heritage Foundation, 1988
© Rita Letendre 1961, 68

RECOVERING HISTORIC IMAGES



Daguerreotype courtesy of
the National Gallery of Canada.

Researchers from Western University developed techniques to restore old, badly tarnished photographs that could also be used to study other historic artifacts and fossils and prevent corrosion on modern materials. The research could be a game changer when it comes to the conservation of antiques, especially for studying artifacts or fossils that have severe surface deterioration. The team says the technique could be used in a variety of scientific fields, from looking at tissue to materials science.

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