



# Bacteria may affect infant brain development

Alcohol exposure in unborn babies may affect brain development. The bacteria that live in our digestive tracts may be one of the reasons why.

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Up to 31% of children in the Western Cape are diagnosed with Foetal Alcohol Spectrum Disorders (FASD). This is a completely preventable spectrum of disorders resulting from alcohol exposure before birth.

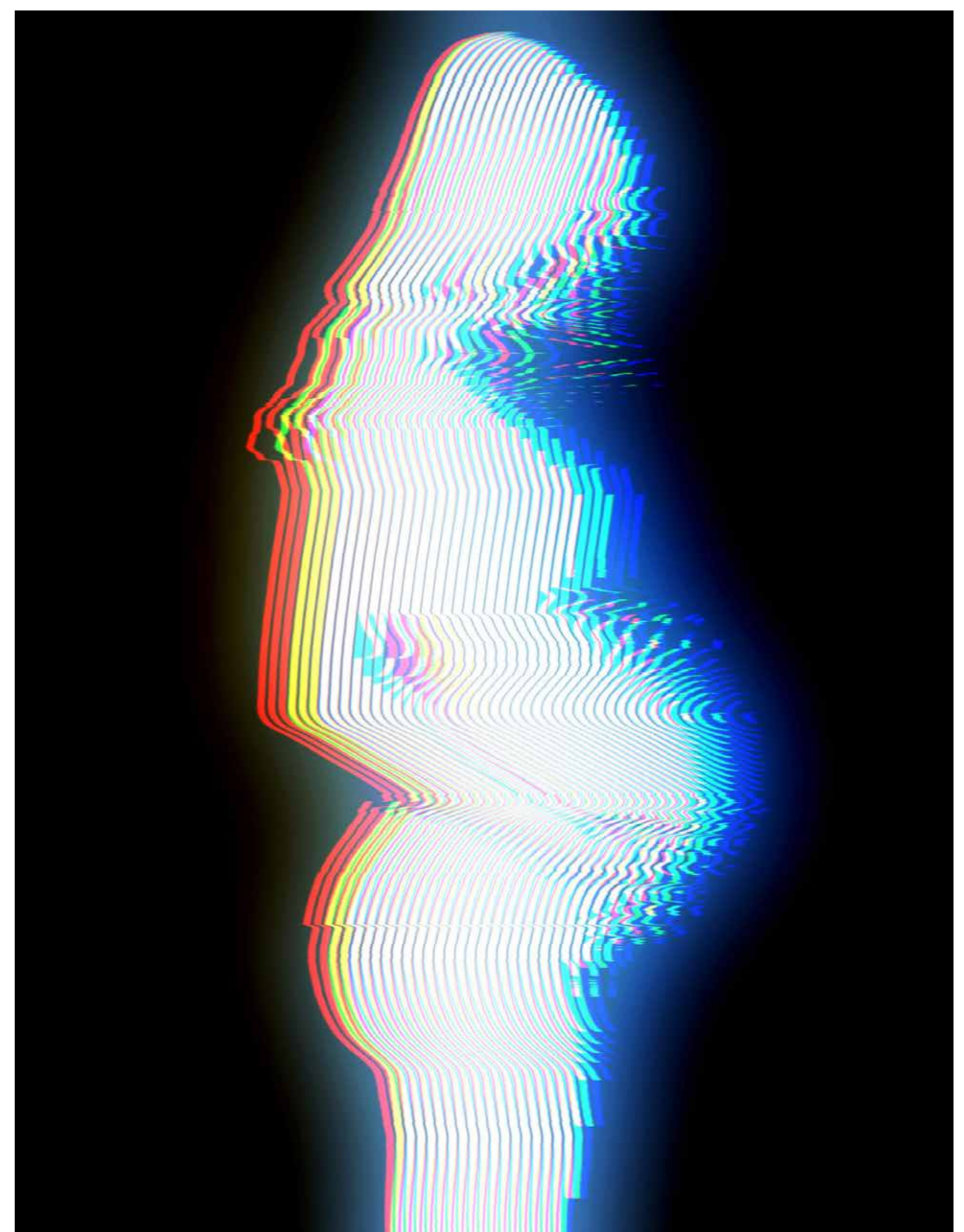
FASD results in birth defects, developmental disorders and intellectual disability, as well as secondary disabilities such as behavioural and attention difficulties as well as psychological problems such as depression and substance abuse.

Although researchers have determined that alcohol use during pregnancy can result in FASD, the mechanism by which alcohol causes the symptoms characteristic of FASD is not clear.

There are currently no therapeutic interventions available to these children, some of whom require life-long assistance. Understanding the mechanism by which alcohol causes the neurocognitive deficits and symptoms characteristic of FASD may lead to the development of treatments.

Researchers at Stellenbosch University's Faculty of Medicine and Health Sciences are investigating the mechanism by which alcohol causes the neurocognitive deficits and symptoms characteristic of FASD by investigating the maternal and infant gut microbiome.

"Infant brain development is influenced by the bacteria



*Studying the microbiome in the gut of infants may help prevent foetal alcohol spectrum disorders.*

present in a baby's digestive tract," says Natasha Kitchin.

"Prenatal alcohol exposure may affect the bacteria in the infant gut, which may increase the risk of FASD development."

Changes in the microbiome may be the mechanism by which

alcohol exposure affects foetal neurodevelopment.

"This work will lay the foundation for the development of microbe-based therapeutic interventions that could reduce the neurocognitive deficits and symptoms characteristic of FASD."