Gerd Hasenbein (?-1964)

The funding committee for the promotion of German science must have thought it was a joke rather than serious academic research: money was sought for a pregnancy test using earthworms! And on top of that, the applicant. It's name was Hasenbein ("hare leg"): Dr Gerd Hasenbein.
And yet, the application came from the spoken University Women's Hospital in Kiel, and the assistant there, Dr Hasenbein, had reported on his research efforts already in October of 1949, at the conference of the North-West German Society for Gynaecology: he wanted to develop a reliable pregnancy test for women using earth worms. The evaluator thus supported Hasenbein's request to the tune of 500 Deutsche Marks, for purchases to be made for the project.
They always were varied and imaginative, the attempts to answer this 'question of all questions' by means of biological observations and tests. There was nothing they didn't read into: the woman's gait and the clarity of her pupils, her appetite for unusual foodstuffs, a cock's crow and the shriek of an owl, how barley and wheat grew. A step closer to modern science were the biological tests done on warm-blooded animals such as rabbits, rats and mice. From the mid 1920s onwards, scientists then also carried out research on cold-blooded animals, like frogs and toads. All of them react to the pregnancy hormone in the urine of a pregnant woman by themselves producing sperm or ova.

Earthworms are undemanding test animals
Hasenbein went in a new direction: "It seems to us that the earthworm is especially suited to being a test animal, due to its high prevalence in both rural and urban areas. There are 33 types of earthworm that we know of in Germany, which vary by size, colour and weight." Due to his lack of personal experience, he contacted earthworm expert Dietrich E. Wilcke, from the Zoological Collection at the University of Bonn. From this man, he learnt the best 'hunting methods', the individual developmental stages of the animal, and the correct husbandry conditions: the worms are to be housed in large containers that are filled with earth and leaves and kept in cool cellars. The earth must be neither too dry, nor too moist, and should be replenished every three months.
Before injecting each animal with urine from a potentially pregnant woman, one extracts a seminal vesicle from it in order to determine its level of semen production. In order to ensure a reliable result, five earthworms are used for each series of tests. Two hours after the urine is injected, the worms are put to death in 30% alcohol, stretched

out on a cork board, and cut open. A dry smear is also taken from the seminal vesicle that was extracted earlier, and the initial and final smears are compared.
The only animals capable of giving a conclusive result are those whose initial smears exhibited no semen production. If sperm or sperm precursors are found to be present two hours after the injection, the ‘donor’ of the urine sample is pregnant. If the initial and final smears are the same, then the test result is ‘not pregnant’.
Hasenbein devoted himself to the earthworm test for around ten years. He stressed the advantage his method offered in terms of time saving: “The difference between the earthworm and the frog is that, with the earth worm, it is possible to observe the effect that gonadotropin has already at the spermiogenesis stage (when sperm is produced).” Why this method did not catch on – despite its superiority and its high accuracy rate of 90% coupled with the fact that earthworms and their well-known unpretentiousness– remains a mystery. Instead, the frog test, developed by Carlos Galli Mainini, saw an unexpected renaissance and was general practice right up until the development of immunological test procedures.
In 1955, Gerd Hasenbein transferred to the surgical clinic of the municipal hospital for Bremen and Blumenthal, as first assistant. In 1964, he died – at just 46 years old.