Julien Hautefeld and Ruben Van Marcke win the SCK•CEN award for best Thesis (08-06-2009)

SCK•CEN attaches considerable importance to training tomorrow's young researchers and engineers. In the field of nuclear science and technology, its staff is proud to support students at every stage of their thesis project. In keeping with tradition, SCK•CEN is delighted to honour this year's outstanding achievers.

Julien Hautefeld received the award for best Bachelor thesis, complete with €1000 in prize money, for his work on the effects of space conditions on mouse embryonic development. His thesis advisor was Sarah Baatout from the Radiobiology Unit.

Ruben Van Marcke took home the award for best Master thesis, together with a cash prize of €1500, for his ALARA research on BR2/SIDONIE. Frank Joppen and Robby Nijs advised and supported him in his work.

The winners were invited to claim their prizes from General Manager Eric van Walle at the lunch talk on Friday 29 May. It was also the opportunity for them to explain their methodology and findings in further detail.

Julien Hautefeld was unfortunately unable to attend the event, with SCK•CEN colleague Michaël Beck standing in for him to present the main findings. To simulate space-like conditions, mouse embryo cells were exposed to high doses of x-ray irradiation as well as extremely low gravity (microgravity). Based on these experiments, it seems that both conditions are detrimental to cell development. These findings are an excellent starting point for further research into the effects of space conditions on mouse embryonic development.

The focus of Ruben Van Marcke's research was on reducing radiation to BR2 employees during NTD silicon production. Using a computer model, calculations and reference measurements, Ruben modified work processes according to the ALARA principle, keeping exposure down to the lowest possible levels (As Low As Reasonably Achievable). Based on his findings, it seems that radiation levels drop significantly when employees perform their work deeper in the water tank. This can be achieved by using longer instruments.

Ellen Van Roey