

Ansaalem Mwaura, an MSc. Student at the Institute of Nuclear Science & Technology, successfully defended his thesis titled: **“Design and Characterisation of an Electrohydrodynamic Multinozzle Atomizer for Thermal Desalination Processes.”** In his research, Anselim was seeking to verify whether the combination of electrohydrodynamic atomization and multi effect distillation systems could improve the efficiency of the thermal desalination system.

The multinozzle atomizer uses electrohydrodynamic atomization, also known as electrospray, to create mono-sized electrically charged droplets. He investigated whether it provided small sized, monodispersed and broadly dispersed droplets which would eventually improve evaporation ratio of the liquid.

He made a design of a multinozzle atomizer, followed by computational modelling to check the process parameters and finally simulating of the complete design and characterising the working conditions of the device.

The sprayed water was analysed using Inductively Coupled Plasma Mass Spectrometry (ICPMS) and Total reflection X-ray Fluorescence (TXRF). His work provided vital information of the reactions that occurred during the electrospray process and thus gave insights of the possible implementation of electrospray in desalination hybrid systems.

Part of his work was done under Scholarship at NHL University of Applied Sciences, Leeuwarden, Netherlands under the supervision of professor Jan Marijnissenn and Luewton Agostinho

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