**Introduction**

CoNuS

**Functional Programming**

**Human Computer Interaction**

CoNus is a generic numerical modelling library written in Scala, a multi-paradigm programming language that targets the Java Virtual Machine (JVM). CoNus is designed to abstract the mechanics of forward modelling away from the user, allowing domain experts from different disciplines to construct and visualize forward models. CoNus allows several forward models to be run concurrently, and this is made possible by making extensive use of functional programming techniques.

Functional programming is based on the lambda calculus.

CoNus is experimental and currently lacks a visualization library to effectively plot the results of the simulations. Although the JVM has a rich eco-system, plotting and visualization options are very poor.

The aim of this project will be to implement this visualization library using functional programming techniques.

What is functional programming? Theoretical background

Describe your objectives and/or hypotheses, and outline the tasks completed during the independent research project.

Describe state-of-the-art of solutions to the problem, including commercial and academic approaches, and cite these using the reference style described in the “Guide for Authors” document from the SoftwareX journal.

Describe briefly the requirements of your solution (Software Requirement Specification –SRS).

Clearly state how your independent research project goes beyond the state-of-the-art and what original work you have done.