E2. Details of non-ARC contributions

Personnel

A/Prof Henry Gardner (in-kind Salary Level D2, 0.2 FTE)

A/Professor Henry Gardner's salary (20% of Academic Level D2 at ANU) and on-costs of 30% and cash contribution of 1.55% (difference between ANU and ARC on-cost percentage) are directly contributed by the Australian National University.

A/Prof Stephen Roberts (in-kind Salary Level D3, 0.2 FTE)

A/Professor Stephen Roberts' salary (20% of Academic Level D3 at ANU) and on-costs of 30% and cash contribution of 1.55% (difference between ANU and ARC on-cost percentage) are directly contributed by the Australian National University.

A/Prof Peter Strazdins (in-kind Salary Level D2, 0.2 FTE)

A/Professor Peter Strazdins' salary (20% of Academic Level D2 at ANU) and on-costs of 30% and cash contribution of 1.55% (difference between ANU and ARC on-cost percentage) are directly contributed by the Australian National University.

Prof Trygve Hegland (in kind Salary Level E1. 0.2 FTE)

Professor Trygve Hegland's salary (20% of Academic Level E1 at ANU) and on-costs of 30% and cash contribution of 1.55% (difference between ANU and ARC on-cost percentage) are directly contributed by the Australian National University.

Research Associate – Computer Science (Level B3, 1.0 FTE)

The ANU will cover the difference between ARC and ANU salary rates.

Research Associate – Mathematics (Level B2, 1.0 FTE)

The ANU will cover the difference between ARC and ANU salary rates.

PhD/HDR stipends – Computer Science and Mathematics

Two APA Scholarship items have been requested from the ARC in E1. As mentioned in C1, three further APA scholarships will be sought by the project through ANU. Two will be for students hosted by Computer Science and one by Mathematics.

Travel

Domestic conference - computer science

The ANU will cover the cost of one of the CIs, Gardner or Strazdins to attend the same domestic conferences as the computer science research associate.

Year 2 - 2019 ACSW. Cost $2,120 (see E1 justification).

Year 2 - 2019 OzCHI. (see E1) $2,334 (see E1 justification).

Year 3 - 2020 ASWEC. Cost $2324 (see E1 justification).

Domestic Conference - mathematics

The ANU will cover the cost of one of the CIs, Roberts or Hegland to attend the same domestic conferences as the mathematics research associate.

Year 1 - 2018 Modsim2018. Cost $2,424 (see E1 justification).

Year 2 - 2019 CTAC2019. Cost $2,424 (see E1 justification).

Year 3 - 2020 Modsim2020. Cost $2,440 (see E1 justification).

International conference - computer science

The ANU will cover the cost of one of the CIs, Gardner or Strazdins to also attend the same international conferences and Sandia labs as the research associate.

Year 2 - 2019 ICSE 2019. Cost $5,415 (see E1 justification).

Year 2 - 2019 SC 2019. Cost $5,839 (see E1 justification).

Year 3 - 2020 CHI 2020. Cost $5,016 (see E1 justification).

International conference - mathematics

The ANU will cover the cost of one of the CIs, Roberts or Hegland to also attend the same international conferences and Sandia labs as the mathematics research associate.

Year 1 - 2018 SIAM CSE 2018. Cost $6,252 (see E1 justification).

Year 2 - 2019 SIAM UQ 2019. Cost $6,410 (see E1 justification).

Year 3 - 2020 SIAM CSE 2020. Cost $5,660 (see E1 justification).

Equipment

Access to NCI Tenjin HPC Cluster. 200k service units

In this project we will leverage on-demand compute resources, such as the National Compute Infrastructure NCI Cloud Tenjin. Using these cloud services will further improve the project's ability to deliver timely results in high-pressure and time-critical decision making scenarios.

A 24 hours high fidelity simulation of a 50-100 km^2 catchment represented by a 2,500,000 triangular mesh takes some 400 hrs CPU time. When run on the NCI Raijin machine with 640 processors, this reduces to 1 hr wall time. To produce a reasonable surrogate model we will need to run multiple such jobs off line. In the development stage we will apply for enough CPU time to run up to 500 high fidelity runs on small catchments. This equates to 200k CPU hours. As such, in each of the project we will apply for at least 200k service units from the ANU allocation of NCI facility.

Costing based on NCI partner rate of 0.75 of the standard NCI rate of 4c/service Unit. Total $6,000/year.