Editorial

This edition of *Formal Aspects of Computing* marks the end of the first year of our re-launched format. It has not been an easy year either for the editors or for the ever-patient staff at Springer-Verlag; but it has certainly been successful with first class papers being published soon after acceptance. As with most computing journals, refereeing poses a (potential) bottleneck to getting an author's ideas into print but even here our colleagues at Springer-Verlag have come up with an incentive scheme from which our future referees will benefit and hopefully speed the refereeing process to everyone's advantage.

Recently, most editions of the journal have been standard issues with a number of submitted papers. It has been our stated intention since the journal began to have special editions with whole editions on a single topic. We are currently planning such a special edition to mark Rod Burstall's retirement (in fact we have so many excellent papers that there will probably have to be a double edition).

This special issue collects a number of papers on X-machines edited by Mike Holcombe and myself. Mike has written a brief introduction and there follow five papers which have all been refereed by experts in the area (I took personal charge of having Mike's paper refereed).

The generalisation of the testing theory to non-deterministic stream X-machines is the focus of two articles. Non-determinism can be generalised in several ways. R. Hierons and M. Harman look at quasi-non-deterministic machines and describe an approach to dealing with the generation of test sets for such machines. F. Ipate and M. Holcombe look at another way to view non-determinism and also focus on test set generation, the issue of fairness becomes important if the strong claims about fault detection by the test sets are to be achieved. M. Gheorghe has investigated how a collection of formal grammars can be controlled by a type of generalised stream X-machine so that the languages generated by such a system of grammars can be determined. He has shown that relatively simple grammars can generate very complex languages using this approach.

T. Balanescu explores further generalisations of Stream X-machines and discusses how the design for test conditions can be adapted for a specific type of machine.

A. Cowling et al. look at communicating X-machine systems and consider how this approach can be used to model message passing using a simple communicating matrix metaphor. Models built this way can be used to generate, automatically, concurrent programs.

In a paper to appear in Volume 13, F. Ipate and M. Holcombe look at how the test theory can be adapted to apply to the communicating X-machines systems case.

Indeed, Volume 13 already looks to be an exciting mix of scientific contributions – we also expect to back on a more regular publication schedule by the end of 2001.

CLIFF JONES