

## SRHMRA Submission 54 — Terence Speed

Bioinformatics is the application of mathematical, statistical and computational science to problems in biomedical science. The field grew out of the need to store, retrieve, display, analyse and interpret biomolecular sequence data, but now it is part of almost every aspect of biomedical research and practice. The subject has three important components: research, service and education, the last-mentioned being for specialists and for all biomedical researchers.

Bioinformatics in Australia is a long way behind that of its international research competitors. Countries such as the USA, Canada, United Kingdom, France, Spain, Germany, Denmark, Sweden, Finland, Japan, Korea, and Singapore have invested much more in research and training in bioinformatics than has Australia. Universities and biomedical research institutes around the country are greatly in need of people with expertise in bioinformatics, yet there is no serious effort under way to meet this need.

It would be of great long-term benefit to the nation's medical research effort if this review were to recommend that the NHMRC set in place a framework for supporting careers paths in bioinformatics. To achieve this, I see the need for the NHMRC to offer earmarked support for bioinformatics at all levels, namely, for

- postgraduate training;
- postdoctoral training, including opportunities for career transitions from other areas of science (physical, engineering, biological) to bioinformatics;
- early career research grants, to help support young bioinformatics researchers;
- bioinformatics research grants for mid-career researchers, and with
- all of the above to be assessed by a Bioinformatics Grant Review Panel.

Strong support at all these stages, and a clear recognition of the unique nature of the discipline of bioinformatics, would begin to offer career paths to bioinformatics researchers, and begin to address the NHMRC's long-term needs in the field.