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► **COVER:** '(Double) Crossed' by Patrick Morgan, inspired by the articles on p23 and p77



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The end of November 2006 saw groups of plant biologists finalizing their initial responses to a groundbreaking solicitation by the National Science Foundation (NSF). The NSF plans to fund — for 5 years and to the tune of US\$50 million — a Plant Science Cyberinfrastructure Collaborative.

The aim is to enable truly collaborative research, with the goal of tackling the 'grand challenges' in plant biology. The team that secures the funding will be charged with putting in place cutting-edge computational resources to allow plant scientists of all flavours to share data, analytical tools and ideas in the ultimate 'virtual lab'. Diverse sets of data will be brought together, from genome sequences and gene-expression profiles, to information on population dynamics and ecology. Communication will be key to the project. Researchers will share both their data and scientific visions, and the input of computer scientists will be essential, both in putting the cyberinfrastructure in place and allowing it to evolve dynamically with the changing needs of biologists.

Of course, it is not only plant scientists who are exploring the benefits of the 'cyberworld' to take biological research to the next level. In their Review on page 58, Luanne Peters and colleagues explore the diverse range of resources that have been built up over decades of using the mouse as a genetic and genomic model. The authors highlight the need to share and integrate data between laboratories, and to put in place the necessary computational infrastructure.

But the NSF solicitation is unique in aiming to bring together researchers across a whole kingdom, rather than those who work on a single species or one genetic model and its close relatives. Establishing a plant-science cyberinfrastructure will be a huge challenge; whether or not this challenge can be met within 5 years, the lessons that are learned will be invaluable to the whole field of biology.

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on acid-free paper