

## Preventing Patent Purgatory

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# BioScience

## Organisms from Molecules to the Environment

American Institute of Biological Sciences

### Preventing Patent Purgatory

The idea of a state license that allows an inventor to prevent others from copying an invention for a fixed period—otherwise known as a patent—has seemed a sensible one to enlightened governments since the 15th century. The public benefits by having the details of the invention disclosed, and the inventor's right to profit from the invention is preserved. But times have changed since the rulers of Venice issued the first such documents.

Today the international patent system is a nightmarish mire of broad yet uncertain rights. Wealthy corporations purchase patent rights they have little intention of exploiting to impress investors and discourage competitors. The main business of some patent "trolls" is threatening purported patent infringers with legal actions, which can be hugely expensive to settle. Devising ways to extend the lifetimes of patents drives pharmaceutical research agendas. Inventors in poor countries feel they cannot play such high-stakes legal games, and academic biotechnology researchers commonly ignore patents—thus exposing themselves to legal jeopardy.

Biomedical researchers are likely to be familiar with the perils of the increasingly complex patent system: the US National Research Council warned in 2006 of mounting difficulties for genomics and proteomics researchers who exchange research materials. As molecular technologies become more widespread, organismal and agricultural biologists too will most likely have to learn about licensing fees, profit-sharing agreements, and legal restraints on permissible research.

In September, an international expert group on biotechnology, innovation, and intellectual property, funded by the Canadian government, added its voice to calls for radical overhaul. The expert group, consisting chiefly of US and Canadian academics but with input from researchers around the globe, issued the results of its seven-year study, conducted from McGill University. The report is sobering reading: It documents failures of the patent system that have impeded biotechnology, and argues that it is "simply far from clear what effects patents actually have on levels of inventiveness and dissemination." Definitions of what is patentable have been stretched to the point of absurdity—in the United States, the report notes, methods for devising tax shelters can be patented.

The expert group notes that the US Supreme Court and governments in Europe have in recent years begun to moderate patent rights, but it calls for governments to adopt a more inclusive approach, one that addresses innovation broadly and allows for information to be more widely disseminated. It also proposes new institutions aimed at building trust between originators and potential users of biotechnology inventions; the goal is to increase sharing (which was, after all, part of the original justification for patents). The expert group has established an institution of its own, the Innovation Partnership ([www.theinnovationpartnership.org](http://www.theinnovationpartnership.org)) to start things moving.

Given the powerful interests vested in the current system, change will not be easy—indeed, earlier this year the US Senate abandoned its modest reform efforts. But the expert group does offer ideas that could, if adopted, make an end run around the patent trolls. The beneficiaries would be researchers and users of biotechnology in rich and poor countries alike.

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