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Going global

The past few years have witnessed an extraordinary surge of interest in the microarray. The profusion of sequenced genes of uncertain function—from those of *Arabidopsis thaliana* to those of the most recent 'arrival', *Caenorhabditis elegans*—is daunting. The vast numbers of loci assayed in genome scans are testimony to the substantive challenge of the complex trait. The microarray promises to tackle these problems by providing insight into gene function (via expression studies) and the relevance of genetic loci to phenotypic traits, using a systematic global strategy instead of a piecemeal one.

While intimately familiar with the practicalities of making a Southern blot, the forerunner of the microarray, many researchers lack a 'nuts-and-bolts' appreciation of the different types of microarray and their manufacture and processing. A detailed and thorough understanding of the options available improves the odds that one's choice will be vindicated; an appreciation of the biological context of genetic (and genomic) questions can also be critical to the success of microarray analysis. The articles in this special supplement of *Nature Genetics* have been selected with these issues in mind. The limitations and the ultimate utility of the microarray remain to be determined, however, as pointed out in the *Foreword* by Francis Collins of the National Human Genome Research Institute (NHGRI)—the generous sponsor of this supplement. It is hoped that in addition to serving as a practical resource, the contents of this supplement (which will be publicly available online) will provide a glimpse of things to come.

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A note on nomenclature

There currently exist in the literature at least two nomenclature systems for referring to hybridization partners. Both use common terms: "probes" and "targets". With a symmetry akin to the hybridization reaction itself, each system mirrors the other. What one describes as "probes", the other describes as "targets"; what one describes as "targets" the other describes as "probes". With respect to the nucleic acids whose entwining represents the hybridization reaction, the identity of one is defined—it tends to be tethered to the solid phase, making up the microarray itself. The identity of the other is revealed by hybridization. The strategy of the 'standard' microarray therefore parallels that of a reverse dot-blot, in which the probe is immobilized. For this reason, authors of articles appearing in this supplement have been encouraged to describe the tethered nucleic acid as "probe", and the free nucleic acid as "target".