



学際物質科学研究センター(TIMMS)セミナー

題目： 『Quantitative assessment of performance limits in nucleic acid microarray bioassay technologies』

講演者： Professor David W. Grainger

**George S. and Dolores Doré Eccles Presidential Endowed Chair in Pharmaceutics and Pharmaceutical Chemistry, and Professor of Bioengineering, Departments of Pharmaceutics, and Bioengineering
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日時： 6月4日(月曜日) 10:00-11:00

場所： 総合研究棟 B 0110 公開講義室

概要：

Nucleic acid microarray bioassays are currently a growing diagnostics market with billion dollar potential. However, these assays have substantial performance problems that must be solved before they will receive clinical approval or can be reliably produced on the nano-scale. We have used many different surface analytical methods to correlate the state of DNA on these microarray assay surfaces to their performance under relevant assay conditions. This includes study of immobilized DNA density, orientation, and DNA target capture capabilities on both model gold and commercial polymer array surfaces in buffer, cell lysate and serum. We have also compared capture capabilities of antibody-based and streptavidin affinity reagents in printed microarrays. Protein microarrays present more substantial challenges since their structural requirements on surfaces are much more complex than those for DNA, and printed, dried protein spots have poor shelf life. This talk should emphasize full surface and bioassay analysis of DNA microarray assays and contrast issues with protein-printed microarrays.

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