

**SEMINAR TITLE: Phenotype MicroArrays: An Overview of the Technology and Applications**

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*Biographical Sketch – Dr Barry Bochner*

Barry Bochner, President, CEO and CSO at Biolog, Inc. in Hayward, California, has a broad background and diverse interests in cell physiology and metabolic analysis. Dr. Bochner's educational background includes S.B. and S.M. Degrees from MIT and a Ph.D. in Bioengineering from University of Michigan. This was followed by postdoctoral work in Biochemistry at the University of California at Berkeley. Prior to cofounding Biolog, he was a Senior Scientist at Genentech, Inc. heading a group in microbial physiology and fermentation development. Dr. Bochner maintains memberships in a large number of biochemistry and microbiology professional organizations. In 2007 he was elected as a fellow of the American Academy of Microbiology.

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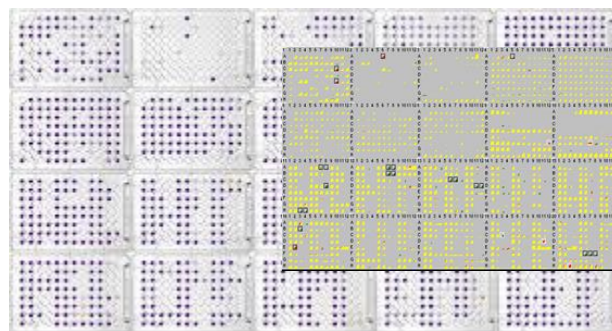
**Phenotype MicroArray (PM)** technology allows a biologist to test thousands of phenotypes of a cell line in a single experiment, to gain a comprehensive overview of the metabolism, physiology, and pathway fluxes.

It provides phenomic and metabolomic information that is complementary to genomic or proteomic analysis and often more easy to interpret and more useful. The PM technology platform is applicable to a wide range of cells including **bacterial, fungal or animal** and enables metabolic analysis in the context of genotype-phenotype studies.



*For example, it can be used for*

1. analyzing cells with mutations to determine the metabolic and physiologic effects of genetic differences
2. studying and defining cell metabolism and metabolic regulation,
3. understanding the interplay of environment and hormonal signals on cell metabolism and physiology,
4. optimizing cell culture conditions, and
5. looking at the effects of drugs and other chemicals on cellular pathways.



For **microbial cells**, recent work has demonstrated the utility of the technology for determining culture conditions that turn on and turn off production of toxins and other secondary metabolites that microbes can produce.

The technology also has many applications with **human cells**, including the assay metabolic changes induced by cancer, hormones, drugs, and inherited genetic disorders. Specific examples and discoveries will be presented to illustrate the many uses of PM technology.