



Metabolic Profiling: Application
to Toxicology and **Risk Reduction**

Complexity of Biological Networks



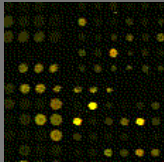
Genes
Proteins
Metabolites

ENVIRONMENTAL INJURY

DNA

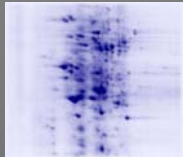


Transcription



Gene Expression

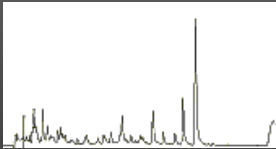
Proteins



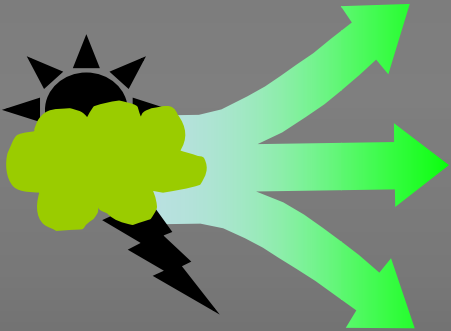
Proteomics

Biochemical Circuitry

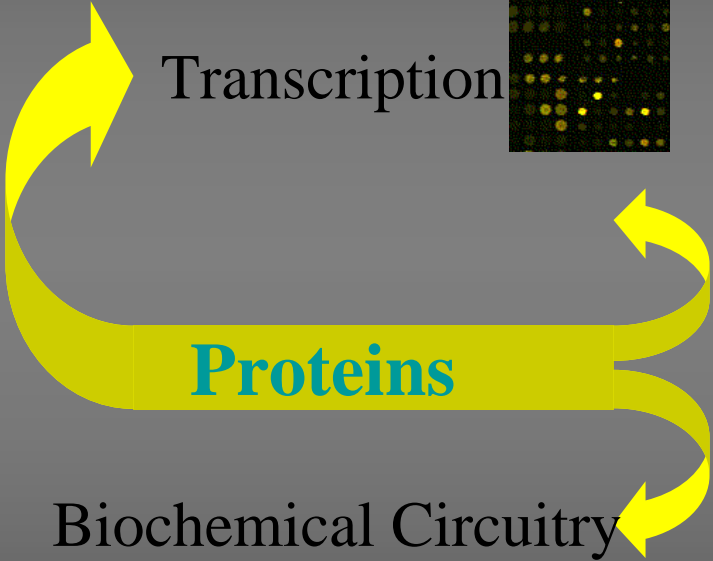
Metabolomics

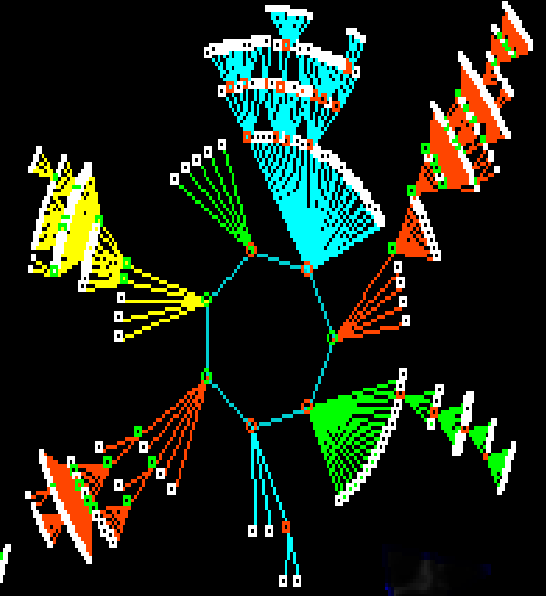
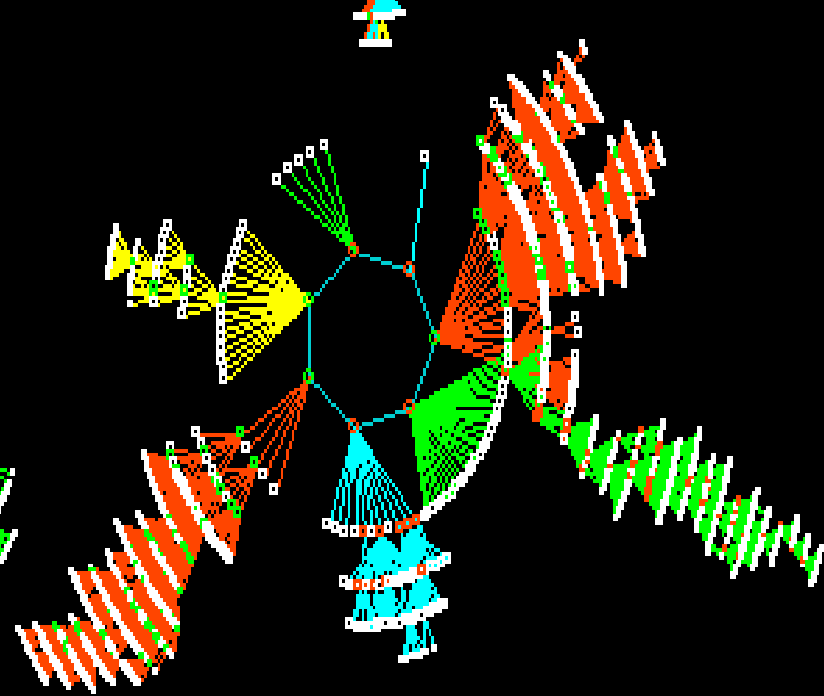
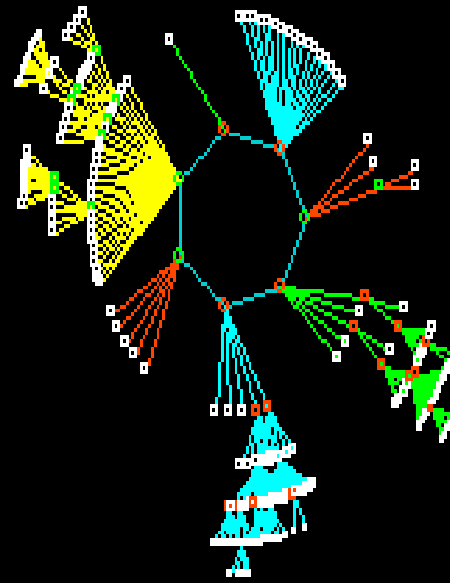
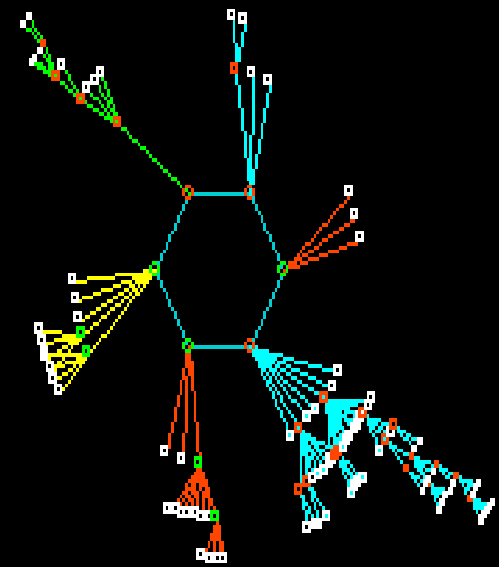
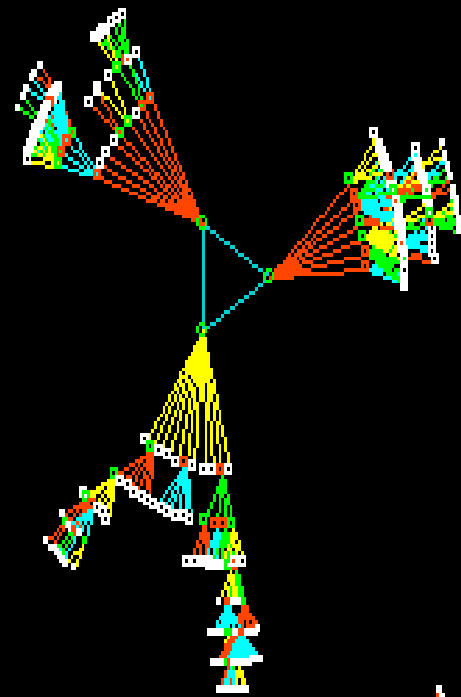
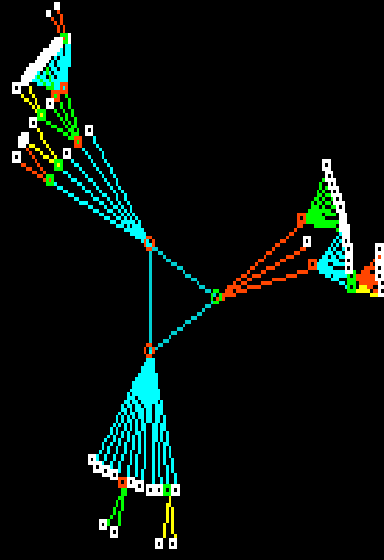


Disease Phenotypes



Environment





Risk Reduction Paradigm

Model

Assessment

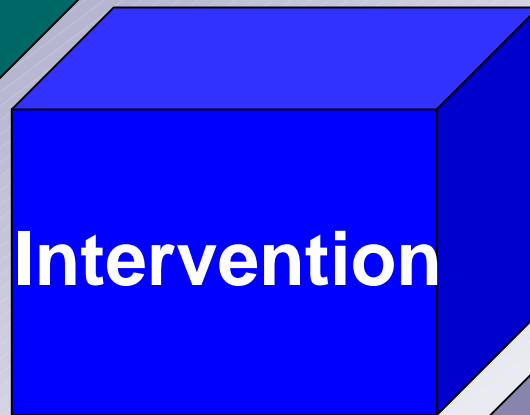
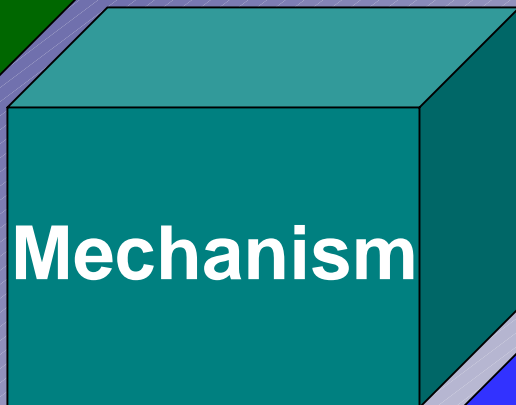
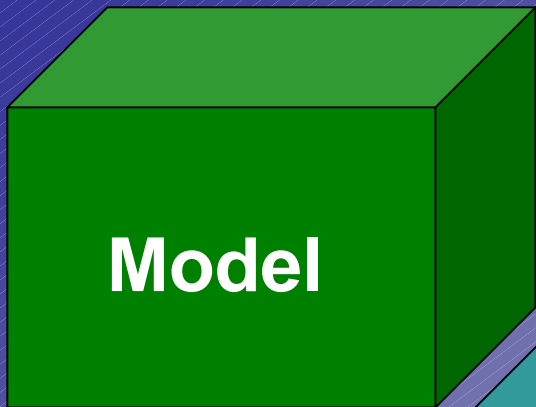
Mechanism

Communication

Intervention

Management

**Risk
Reduction**



Metabolic Profiling: Application to Risk Reduction

Steve Watkins

*Biochemical Profiling of Lipids
Lipomics Technologies*

Paul N-W Lee

*Development of Risk Reduction
Strategies Through Metabolic Profiling
UCLA*

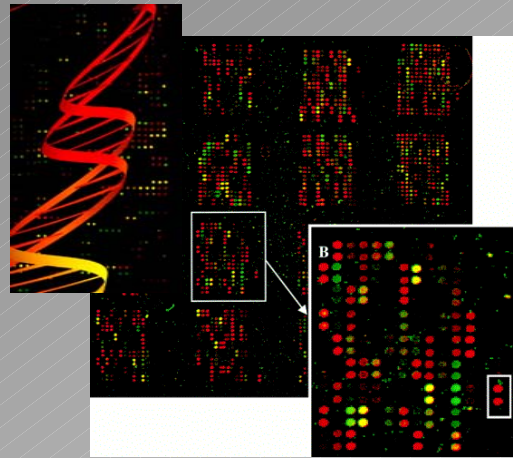
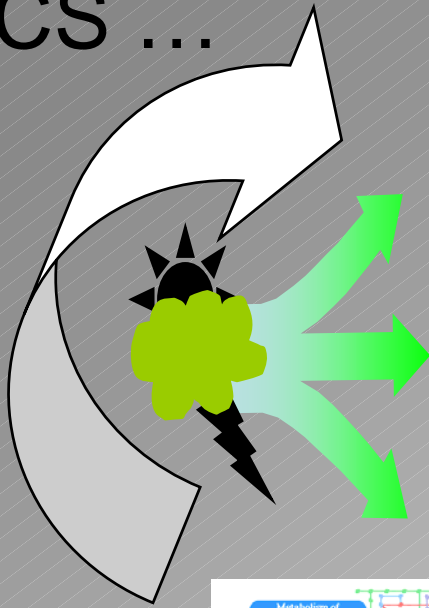
R. Kaddurah-Daouk

*Metabolic Analysis and Signatures in
Patients with Amyotrophic Lateral
Sclerosis, Dana-Farber Cancer Institute
and Metabolon, Inc.*

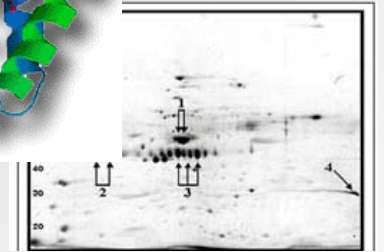
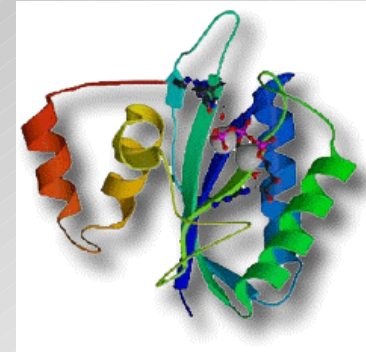
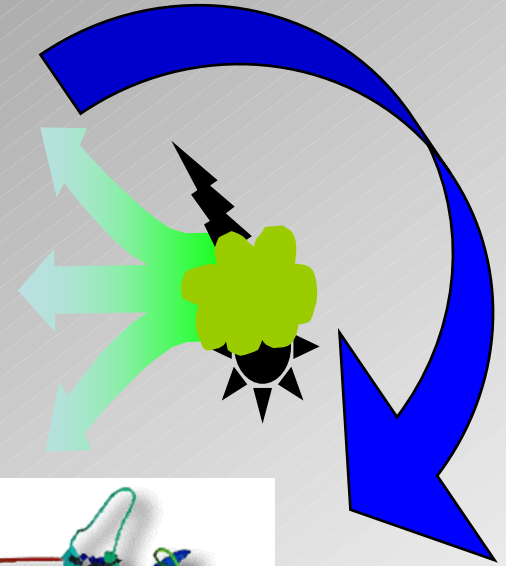
Shawn Ritchie

*Comprehensive Metabonomics
Phenomenome Discoveries, Inc.*

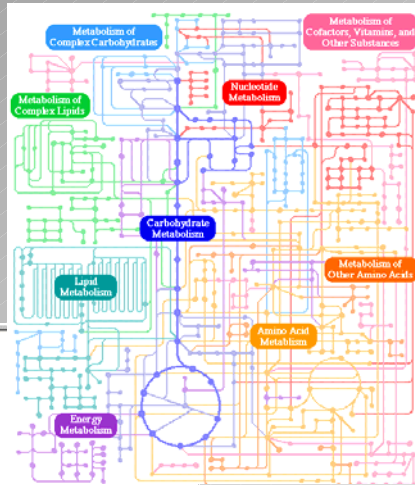
OMICS ...



Genomics



Proteomics



Metabolomics

