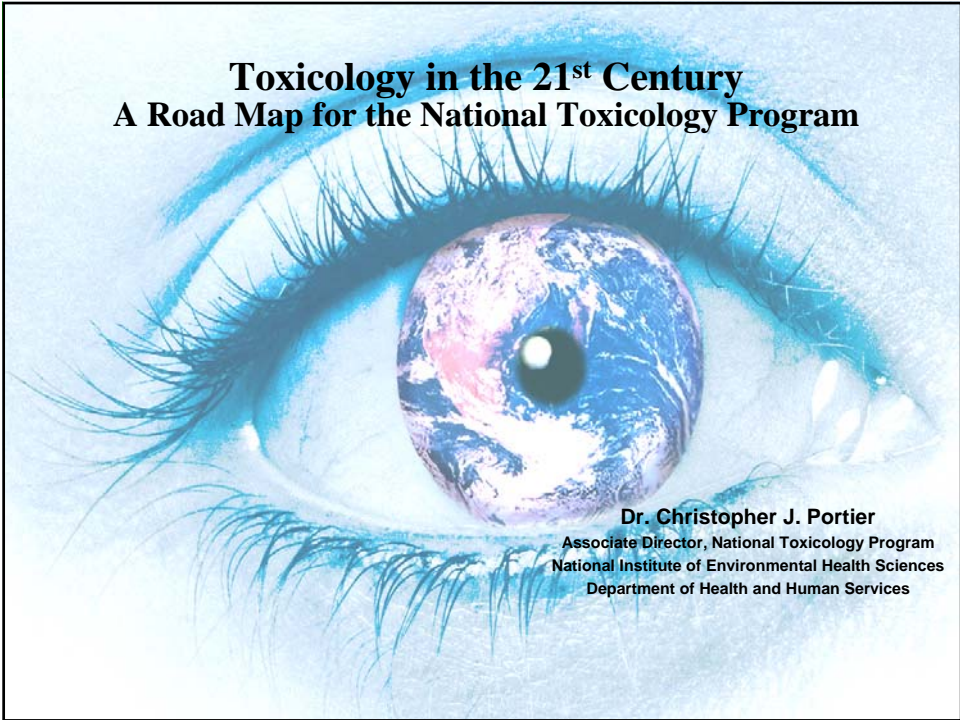


# Toxicology in the 21<sup>st</sup> Century

## A Road Map for the National Toxicology Program



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## Creating a Road Map for the NTP

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### ◆ Definition

- **Vision (n)** - the ability to imagine how a country, society, industry, etc. could develop in the future and to plan in a suitable way
- **Road Map (n)** - a detailed plan to guide progress toward a goal

## NTP Vision for the 21st Century

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*To move toxicology from a predominantly observational science at the level of disease-specific models to a predominantly predictive science focused upon a broad inclusion of target-specific, mechanism-based, biological observations.*



## Strategy

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- ◆ **Public Input**
- ◆ **Scientific Input**
  - NIEHS Committee (M. Hooth, Chair)
  - Executive Committee Subcommittee (J. Bucher, Chair)
  - Board of Scientific Counselors Subcommittee (S. Cohen, Chair)
- ◆ **Outside Experts**
- ◆ **NTP Workgroup and Retreat**
- ◆ **Final roadmap for new directions and program revisions**



## Questions to Consider

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- ◆ What information should NTP produce?
- ◆ How might this information be used in public health decisions?
- ◆ What will be needed to gain acceptance of a new testing paradigm?
- ◆ How can the NTP advance the utility of new methods?
- ◆ What new resources will be needed? What existing resources can be reduced?



## Activities to Consider

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- ◆ Rapidly develop better models, faster screens
- ◆ Move from disease-specific focus to systems/mechanism-based focus
  - Exposure timing
  - Genetic controls on response
  - System-wide evaluation of the data
  - Development of tools for integrating scientific data
- ◆ Develop better and broader baseline information
  - High-throughput methods
  - Mechanistic clarity of response
  - Broad array of agents used consistently

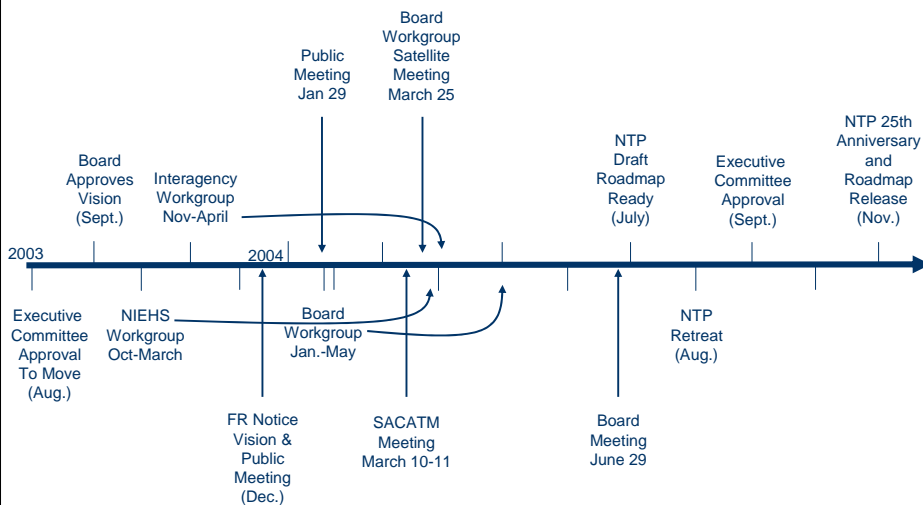


## Activities to Consider

- ◆ Enhance development of multidisciplinary/ multi-agency scientific teams
- ◆ Cross-link disease focus with mechanism focus
- ◆ Expand the linkage between toxicology and basic science to enhance both areas
- ◆ Develop training programs to meet the needs of a broader-based NTP



## NTP Activities for Development of a Roadmap - 2003/2004



2/24/04

***“The future is not some place we are going to, but one we are creating..”***

***“The paths are not to be found, but made, and the activity of making them, changes both the maker and the destination.”***

John Schaar

QuickTime™ and a  
TIFF (LZW) decompressor  
are needed to see this picture.