Application of U.S. Strategic Roadmap ... and How the North American 3R’s Collaborative May Help

SCIENTIFIC ADVISORY COMMITTEE ON ALTERNATIVE TOXICOLOGICAL METHODS
National Institutes of Health, Bethesda, MD
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3Rs Organizations in NA Can Help – Refinement & Communication

• Roadmap is heavy on Reduction and Replacement, but what about Refinement?

• Strategic Road Map Outline - “Develop mechanisms to improve communication between end-users and researchers.”
Microphysiologic Systems

Reproducibility, Endpoints, & Technology
Refinement’s Place in the Roadmap to New Approaches in Toxicology Research and Studies

• Depression / Morbidity / Death
• Clinical Pathology (Liver Enzymes, Renal Chemistry, Hematology)
• Limited Physiologic Parameters (EKG, Ophthalmology)

• Better or Surrogate Endpoints = Refinement
  - Biomarkers
  - Behavior
  - Physiology
New Approaches In Toxicology
Strategic Road Map Outline

“Develop mechanisms to improve communication between end-users and researchers.”
THE NORTH AMERICAN 3Rs COLLABORATIVE

REFINE. REDUCE. REPLACE.

ADVANCING SCIENCE, INNOVATION AND WELFARE THROUGH SHARING
What is the NA3RsC?

**Mission/Statement of Purpose**

- The mission of the NA3RsC is to advance the science of the 3Rs — replacing, reducing and refining the use of animals in research.
- Our strategy includes:
  - Raising awareness of current 3Rs technologies and approaches
  - Fostering networks and collaborations focused on the 3Rs
  - Acting as a clearinghouse for information on the 3Rs
- To do this we work across the scientific community with researchers from academia and industry, veterinarians and animal care staff, policy makers, regulators and funders.

Collaborative not Competitive!
Building a virtual 3Rs community...

• A Dynamic, Interactive, and Evolving Community
  - Theater to present educational symposiums live
  - 3Rs community pavilion
    • (a resource hub / portal to all North American 3Rs communities who participate)
    • Links to useful information
  - Platform to discuss and solve topical issues
Make a Difference Today

THE NORTH AMERICAN COLLABORATIVE

Refine. Reduce. Replace.
ADVANCING SCIENCE, INNOVATION AND WELFARE THROUGH SHARING

Website
Virtual Education Community
Welcome to our community...
<table>
<thead>
<tr>
<th>Literature</th>
<th>Replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refinement</td>
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- **Development of a Vapor Cup Dosing Method for Evaluation of EpiAirway**
  - 234KB

- **Tissue Engineered In Vitro Human Airway Models**
  - 2297KB

- **An In Vitro Human Airway Model for Toxicity and Drug Delivery Screening**
  - 164KB

- **Reconstructed human corneal skin ethic HCE test method for eye irritation testing**
  - 1402KB

- **Evaluation of in silico modelling for endpoints of toxicological relevance**
  - 633KB

- **Ocular Irritation Risk Assessments Using In Vitro BCOP**
  - 635KB

- **MucilAir™ an In Vitro Model for Assessment of Human Airway Toxicity**
  - 1578KB

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**THE NORTH AMERICAN 3Rs COLLABORATIVE**

**REFINE. REDUCE. REPLACE.**

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**eureka**
Presentation Hall

- Literature
- Refinement
- Reduction
- Replacement

Presentation 3

Visitors 1 Out of 3 Networking

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