
Conclusion and take home messages



**Workshop:
“Genetic Toxicology:
Opportunities to
Integrate New
Approaches”**

Purpose of this workshop

- To bring together expertise from both within and outside the discipline of genetic toxicology
- To consider the impact that our improved understanding of biology and new technologies might have on our ability to perform genetic toxicology studies to yield information that is more relevant to human hazard and risk assessment for genetic damage



Remaining issues and gaps

- Relevance of surrogate models
 - Ability to mimic human cells (DNA repair, metabolic activation, genetic stability) and whole body complexity
- Relevance of measured end-points
 - Need to consider all key events (including epigenetic factors) that might contribute to DNA damage, and impact response to DNA damage and DNA integrity
- Extrapolation to human
 - Need for appropriate safety and uncertainty factors
 - Based on protective mechanisms and genetic polymorphism.



Objectives of the Workshop

- To define ways of bridging genetic toxicology to other disciplines, and to identify potential synergies that would result in new approaches to inform more accurate genotoxicity risk assessment.
- To benefit from the new approaches used in other biology domains and “think outside of the box”



Objectives of the Workshop

- Technologies and tools are being developed in fields outside of genetic toxicology
 - Experimental models that would help increasing relevance to human
 - Technologies that would allow the measurement of multiple parameters for better understanding on mode of action are now available
- Our understanding of molecular biology has increased exponentially in recent years
 - particularly in areas such as epigenetics, miRNA, and genetic structure.

