

Development and Validation of Toxicogenomic Tools for Regulatory Toxicology

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Microarrays

Other "omic" Projects

Technical

Biological

Past

Platform Comparison
HC Toxarray™

Thyroid Hormone
Disruption
Radiofrequency Fields
NCM Study
HC Toxarray™

Tobacco Smoke

Air Pollution
Urban/Industrial
Location

Present

Reference

Inhaled Urban
Particulate Matter

Tobacco Smoke

Air Pollution
Urban/Industrial
Location

Thyroid Hormone
Disruption

Future

???

Stress Response

14 other studies

ChIP-chip

Proteomics
2 Dimensional Gels
Mass Spectrometry

Thyroid Hormone Disruption

Mouse

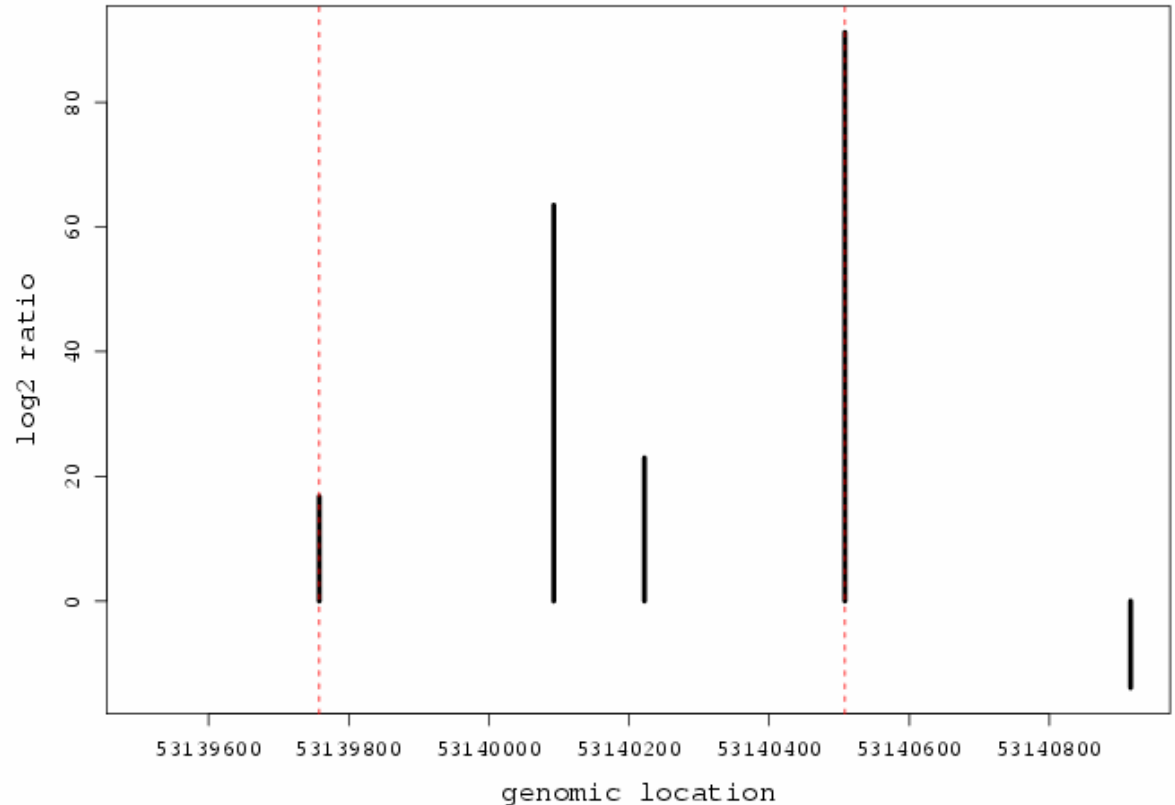
- Cerebellum
- Liver
- ChIP-chip data

Rat

- Cerebellum
- Hippocampus

Mouse & Rat

- Conserved Sequences



Statistical Challenges

- Dimensionality
 - 22K Agilent Microarrays
 - Moved on to 44K
 - 244K are available
- Statistical Inference
- Agilent ChIP-chip platform
- Proteomics
 - 2 Dimensional Gels
 - Mass Spectrometry

People Involved

- Principle Investigators
 - Carole Yauk
 - Mike Wade
 - James McNamee
 - Craig Parfett
 - Guillaume Pelletier
 - Renaud Vincent
 - Paul White
 - George Douglas
- Post Doctorial Fellows
 - Hongyan Dong
 - Aris Polyzos
 - Sabina Halappanavar
 - Jenny Zheng
 - Lisa Marie Kauri
- Biologists
 - Errol Thomson
 - Lynn Berndt-Weis
 - Andrea Rowan-Carroll
 - Sami Qutob
 - Vinita Chauhan
 - Bhaja Krushna Padhi
 - Alice Lee
- Bioinformaticians
 - Rémi Gagne
 - Priya Panchal
- Statisticians
 - Mayer Alvo
 - Zhongzhu Liu