

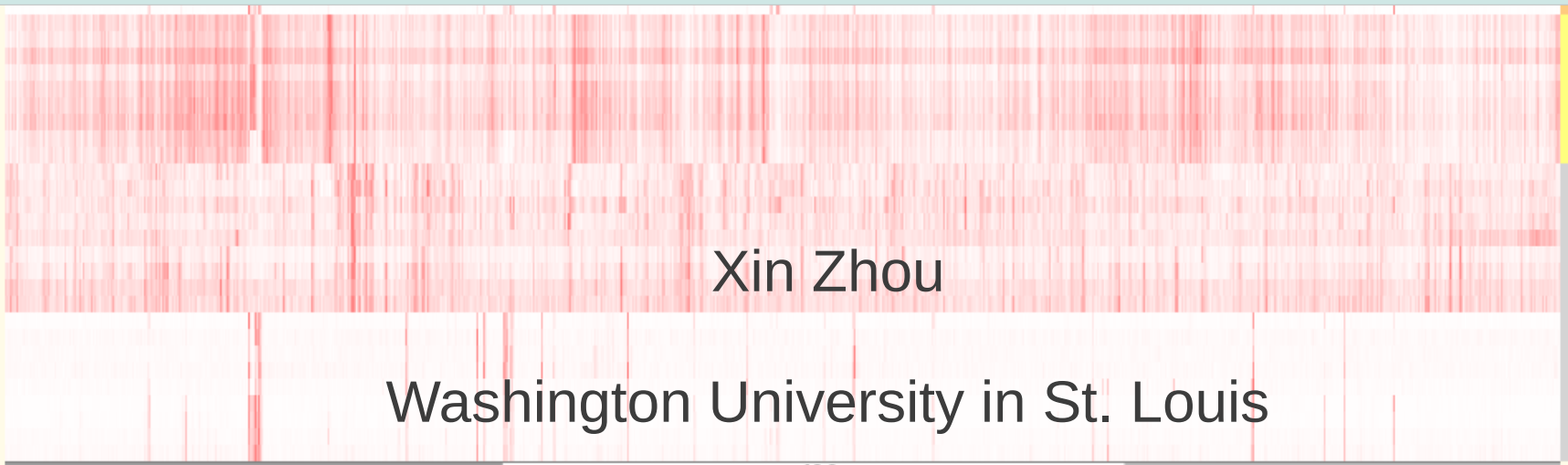


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Apps » Show message

- stop: chr10 25989362
- One pixel spans 5319 base pairs

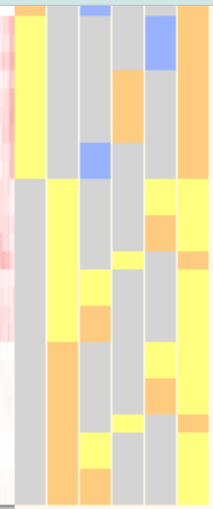
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Wash U Human Epigenome Browser

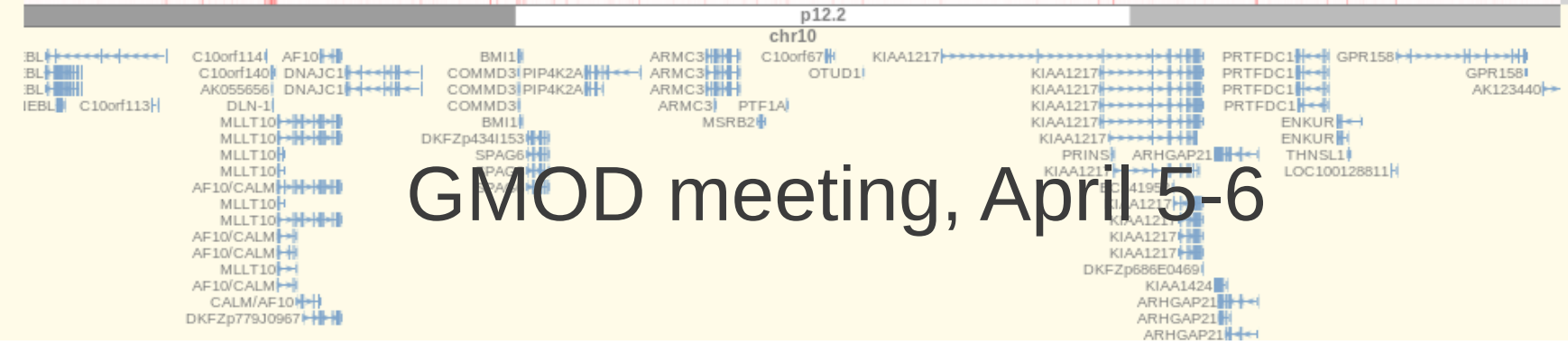


Xin Zhou

Washington University in St. Louis



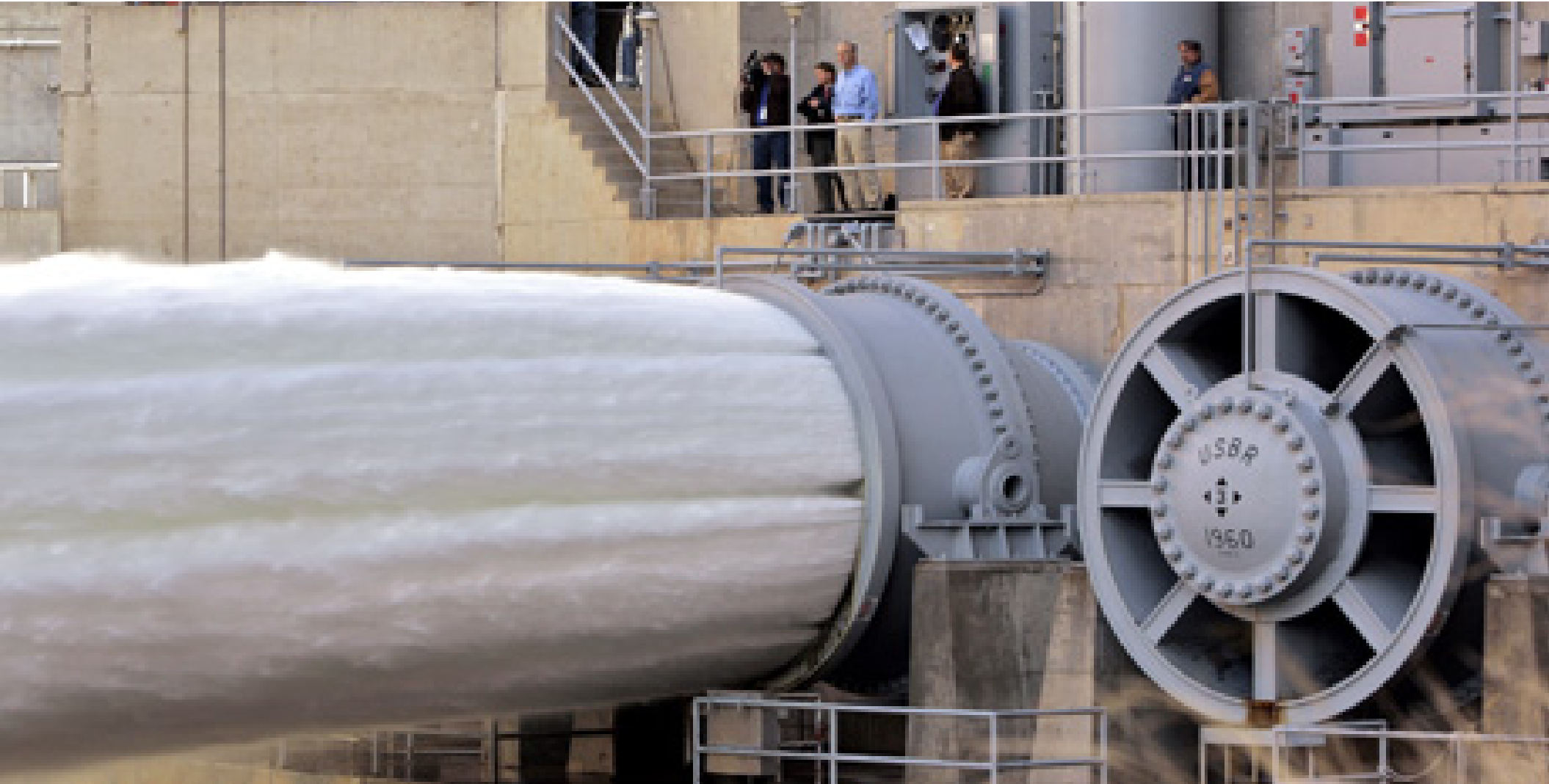
UCSC genes



GMOD meeting, April 5-6



“data flood”



Challenge with visualizing big public data sets



Encyclopedia of DNA Elements >3000



>1500

and so many more ...

Challenge with visualizing big public data sets



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and so many more ...

- * Metadata is critical
 - assay type
 - sample
 - processing methods

Challenge with visualizing big public data sets



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* Web display solution is nice

A lab's own data,
Array/sequencing data sets
Files amount to **1TB**

Challenge with visualizing big public data sets



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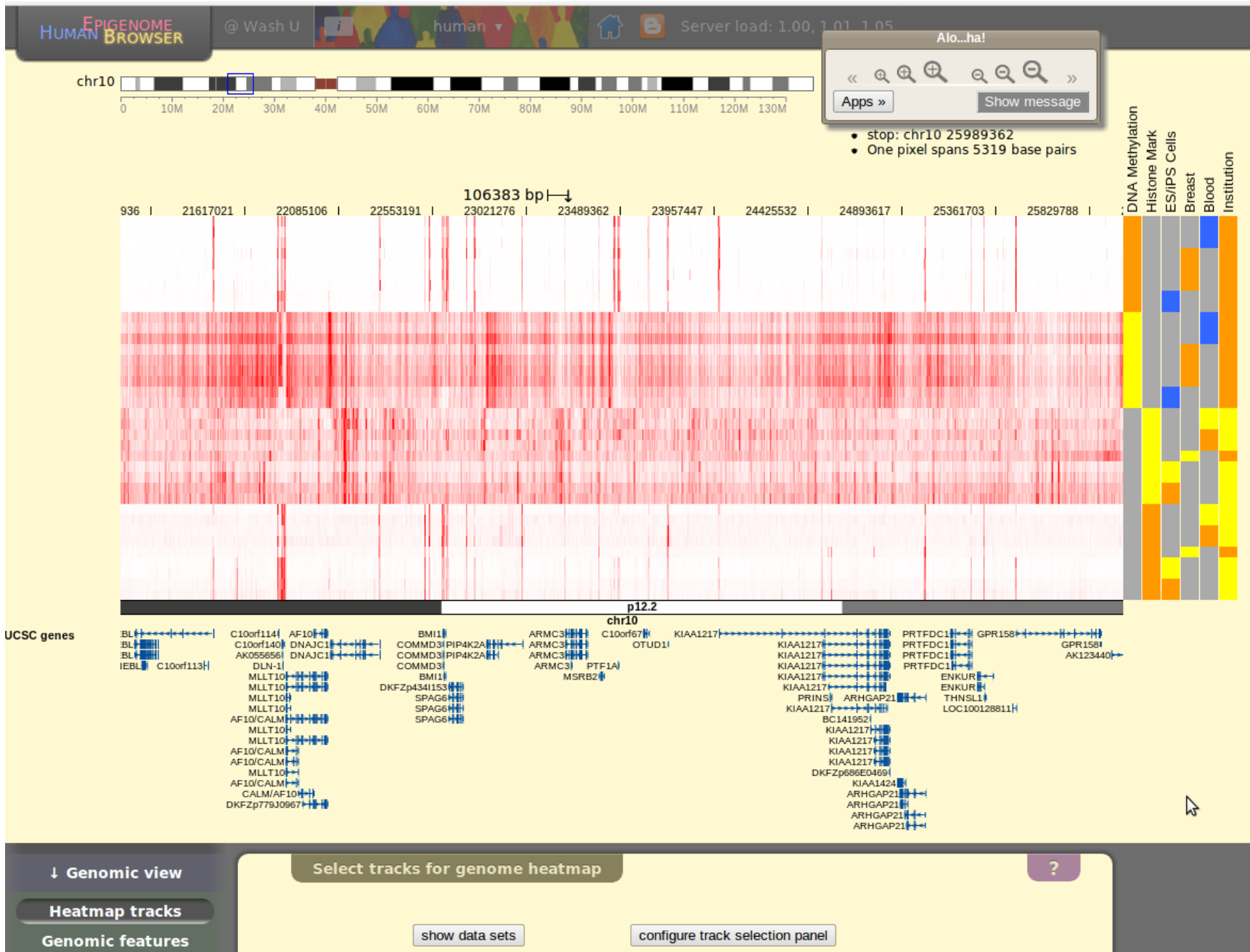
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* Integrate with public data sets

* Web display solution is nice

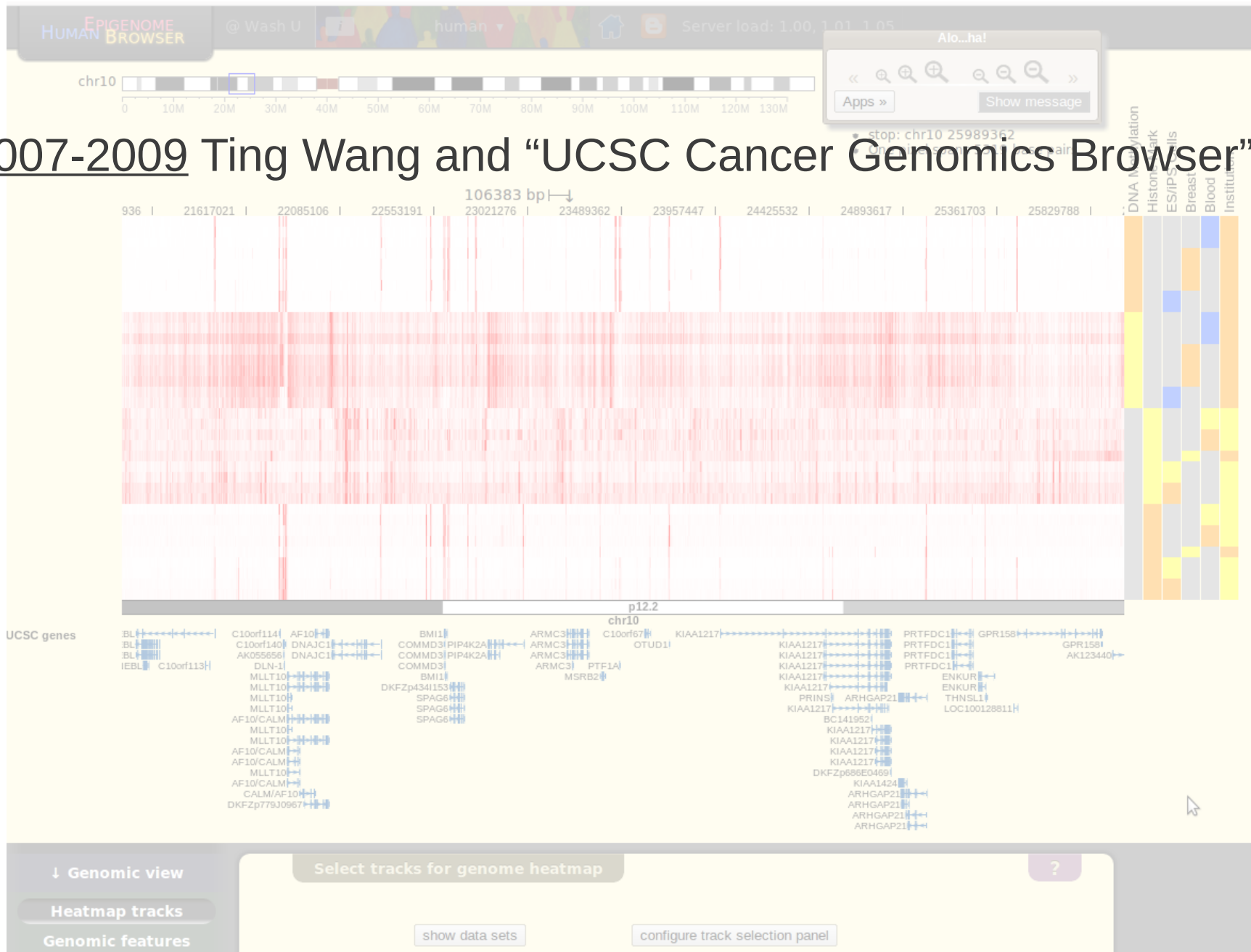
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Our solution



Brief history

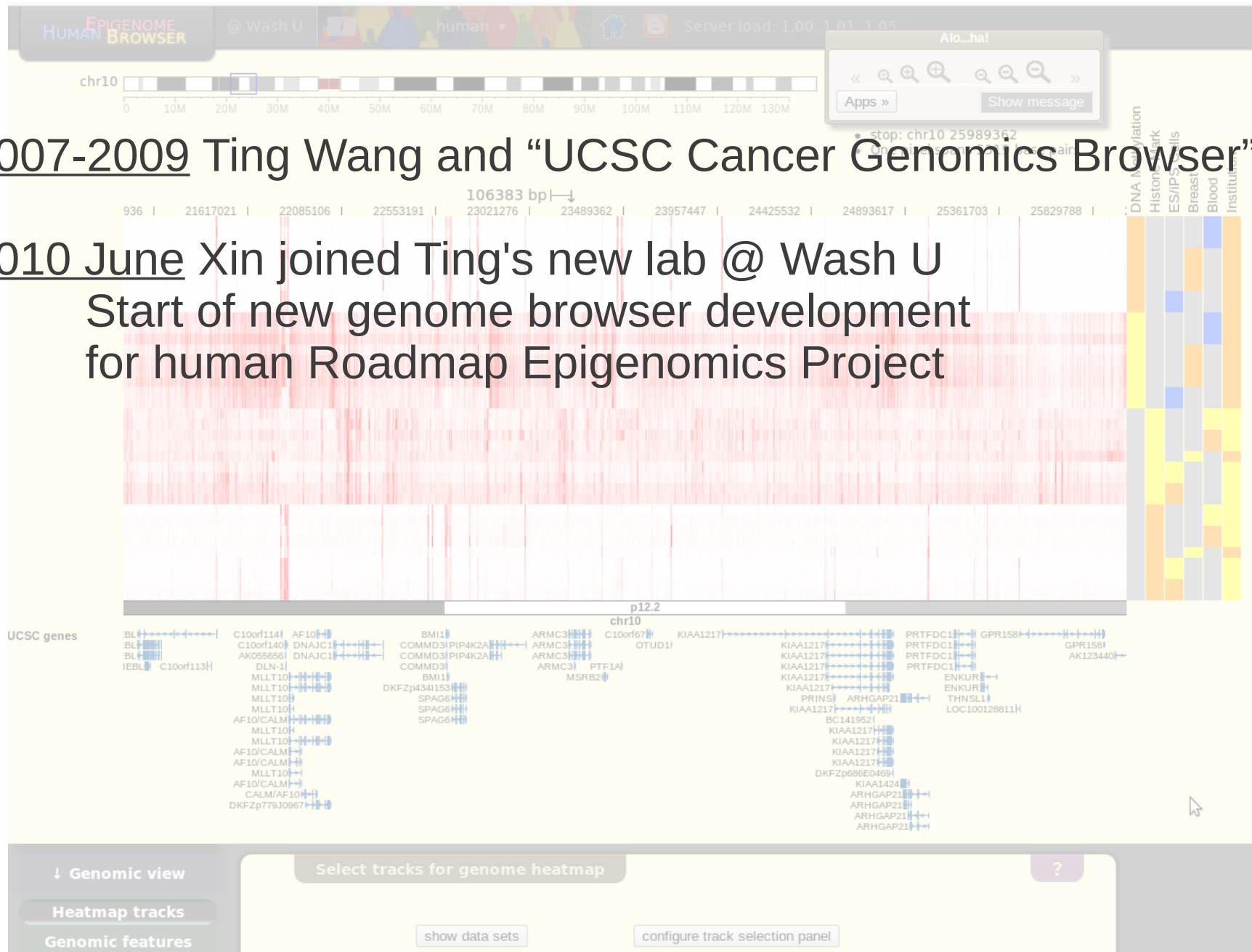
2007-2009 Ting Wang and “UCSC Cancer Genomics Browser”



Brief history

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2010 June Xin joined Ting's new lab @ Wash U
Start of new genome browser development
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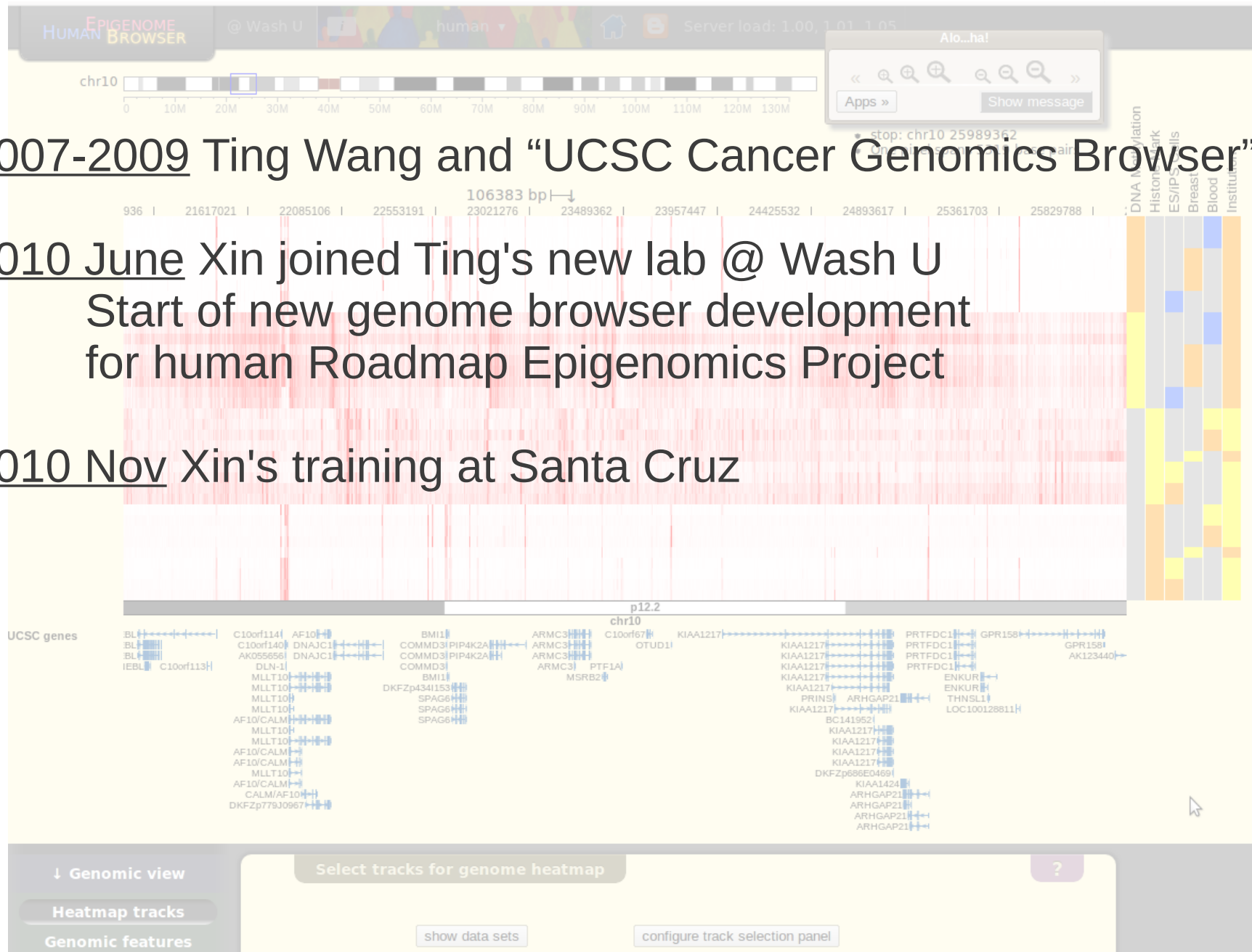


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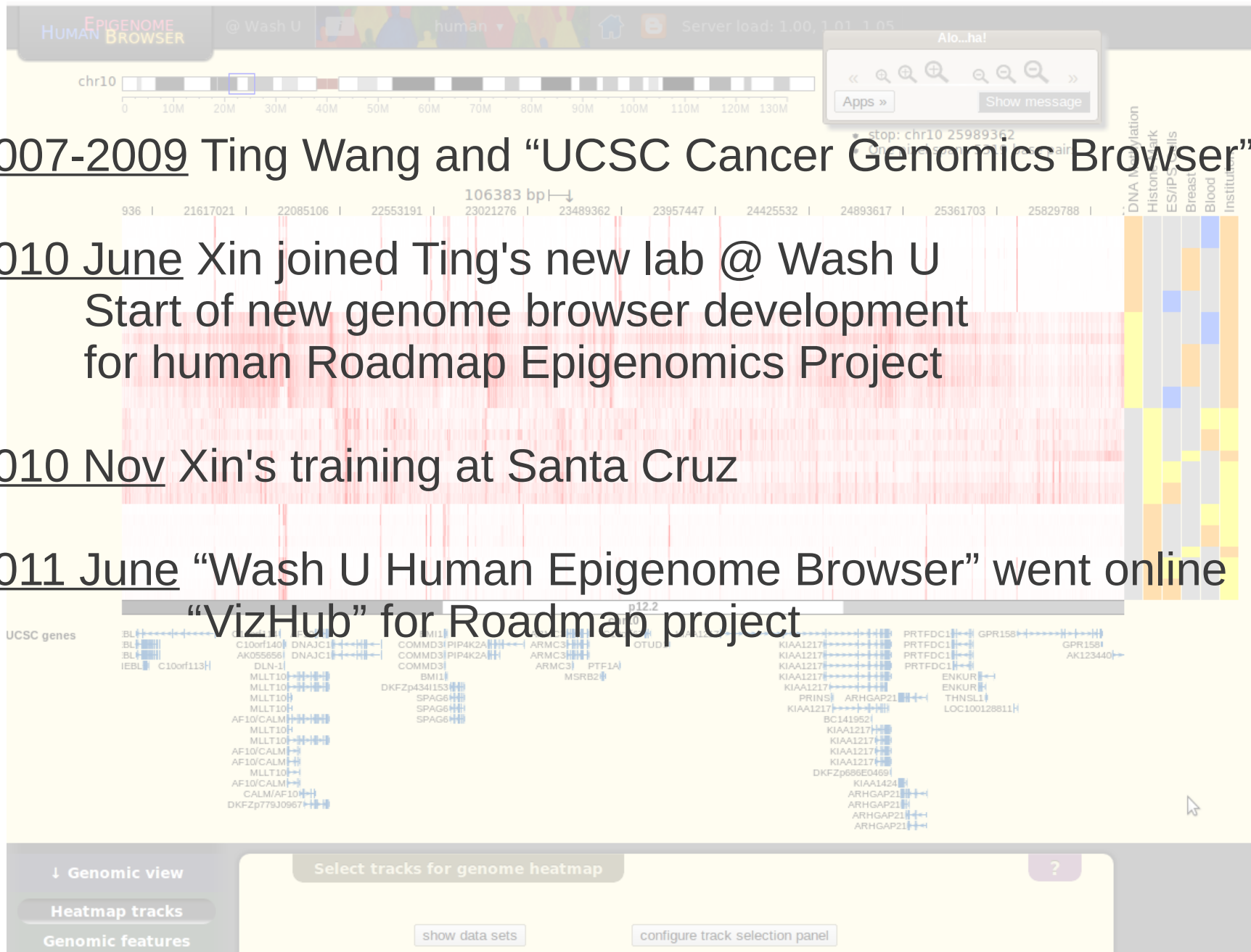
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“VizHub” for Roadmap project



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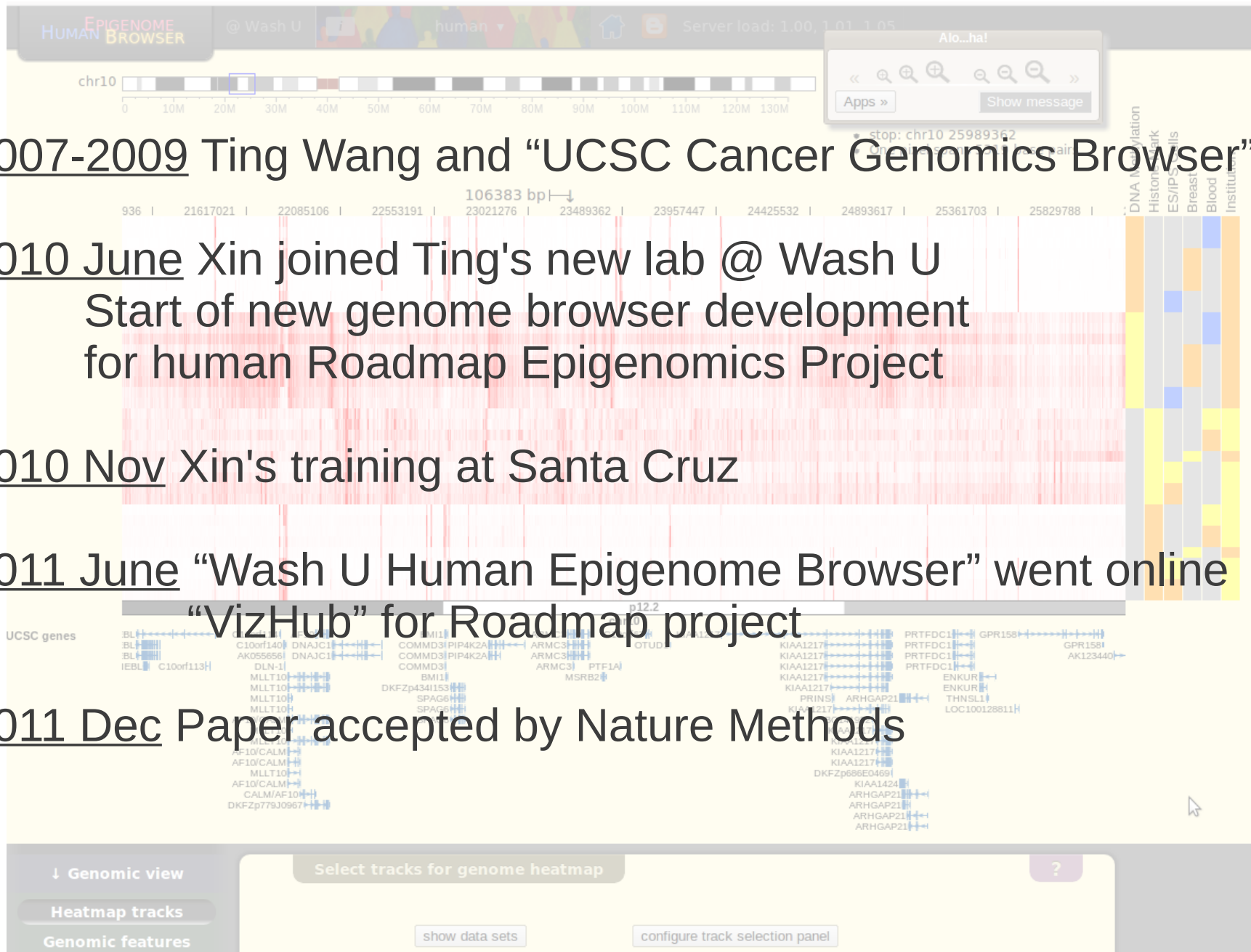
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2011 Dec Paper accepted by Nature Methods



“big data sets” visualization

- *“Need for Speed”*
 - BigWig, bigBed
 - Parallel programming

“big data sets” visualization

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- Ajax and client-side rendering
 - Configurable rendering style

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 - Metadata color map
 - Facet browsing

“big data sets” visualization

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- Custom track

Visualization and analysis

Bells and whistles

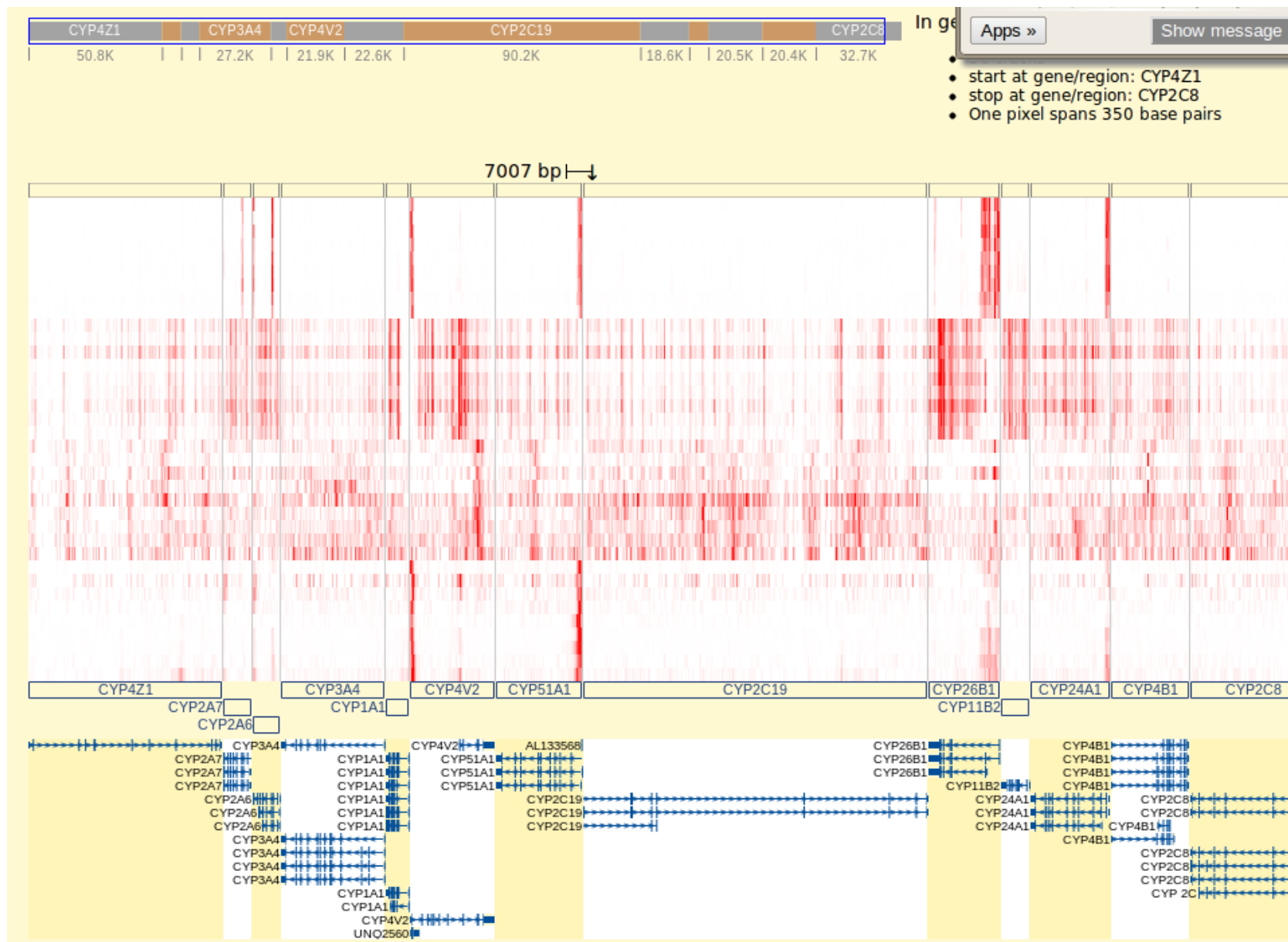
Genomic juxtaposition

Gene Set View

Genome Snapshot

Visualization and analysis

Gene Set View



Visualization and analysis

Genome Snapshot



Future work



Acknowledgement



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Principle Investigator

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Pamela A.F. Madden, PhD

Current Position

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M.S., Child Development/Child Care, University of Pittsburgh, Pittsburgh, Pennsylvania, 1983

Ph.D., Psychology in Education, University of Pittsburgh, Pittsburgh,



Thank you!



NIDA NATIONAL INSTITUTE
ON DRUG ABUSE
The Science of Drug Abuse & Addiction