



Curated TCGA Data

A MultiAssayExperiment Teaser



Hello!

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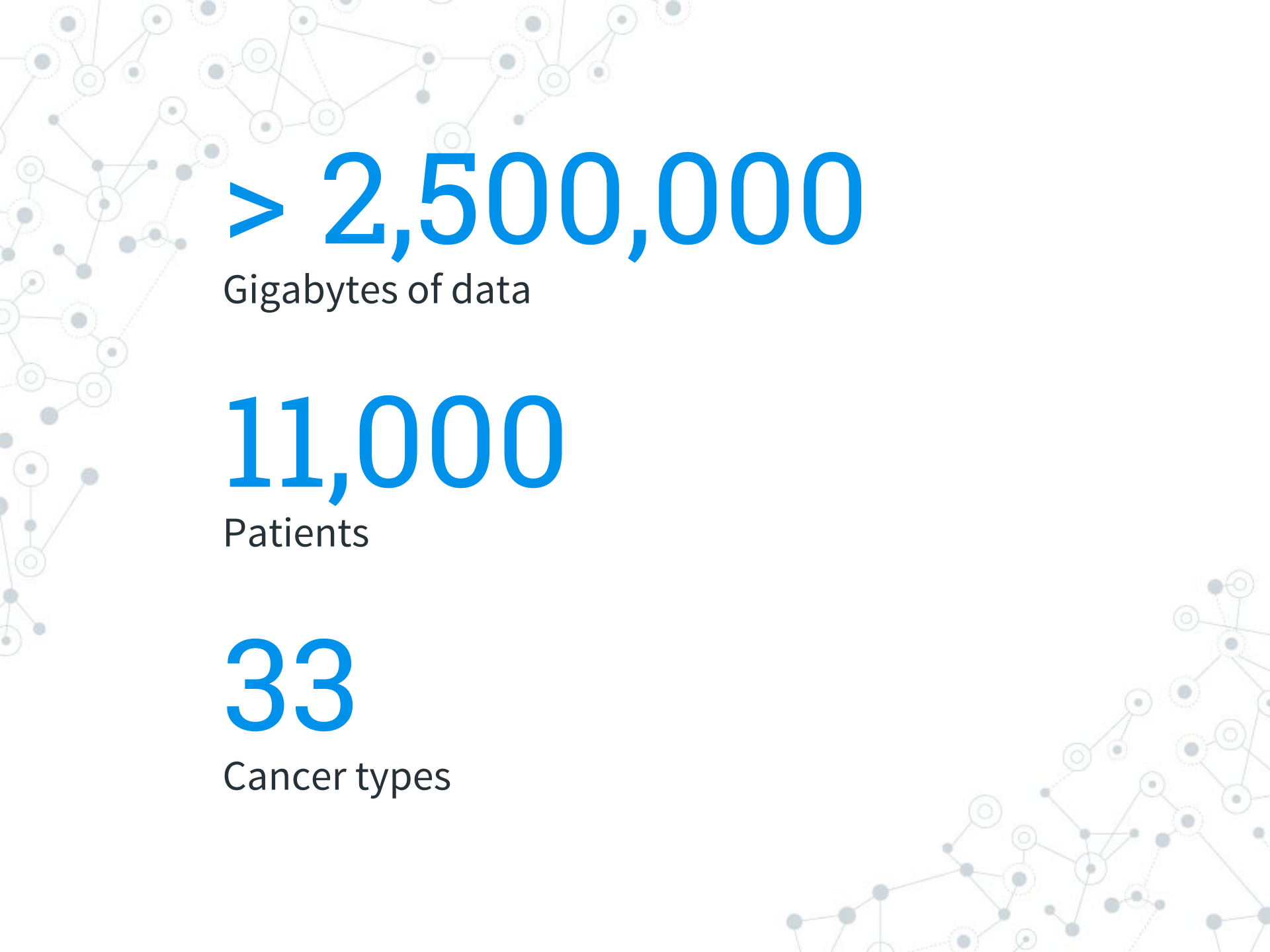


1.

Introduction

An overview of the TCGA data



A background network diagram consisting of interconnected nodes and lines, rendered in a light gray color. The nodes are represented by small circles, some of which are larger and have a double-circle effect. The lines are thin and connect the nodes in a complex, web-like structure.

> 2,500,000

Gigabytes of data

11,000

Patients

33

Cancer types



**International
Collaboration**



**Between 20
Institutions**



**Aligned
Reads**



**Somatic
Mutations**



**Gene
Expression**



**Copy
Number**



**Expression
Quantification**



**Biospecimen
Supplement**

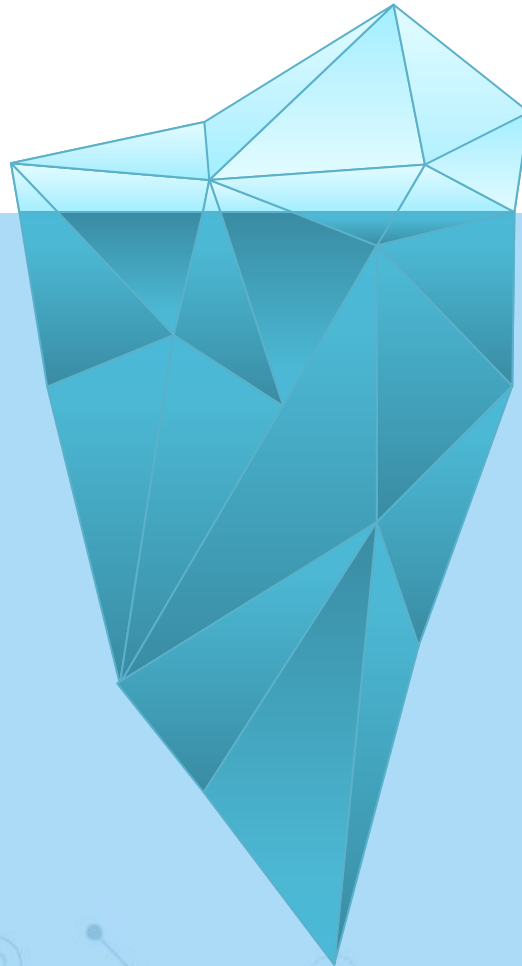


**Clinical
Supplement**



2. **Objectives**

Curation and the
MultiAssayExperiment class



The Curation

Clinical data were merged across all TCGA cohorts and cancer subtypes were obtained from all publication supplements. The curated clinical and subtype data are currently being incorporated into MultiAssayExperiment objects, to be published shortly.

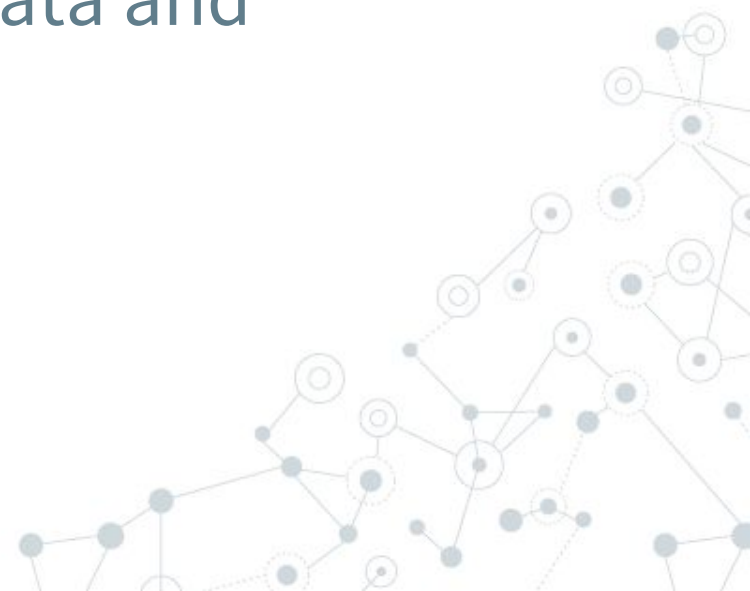
The Class

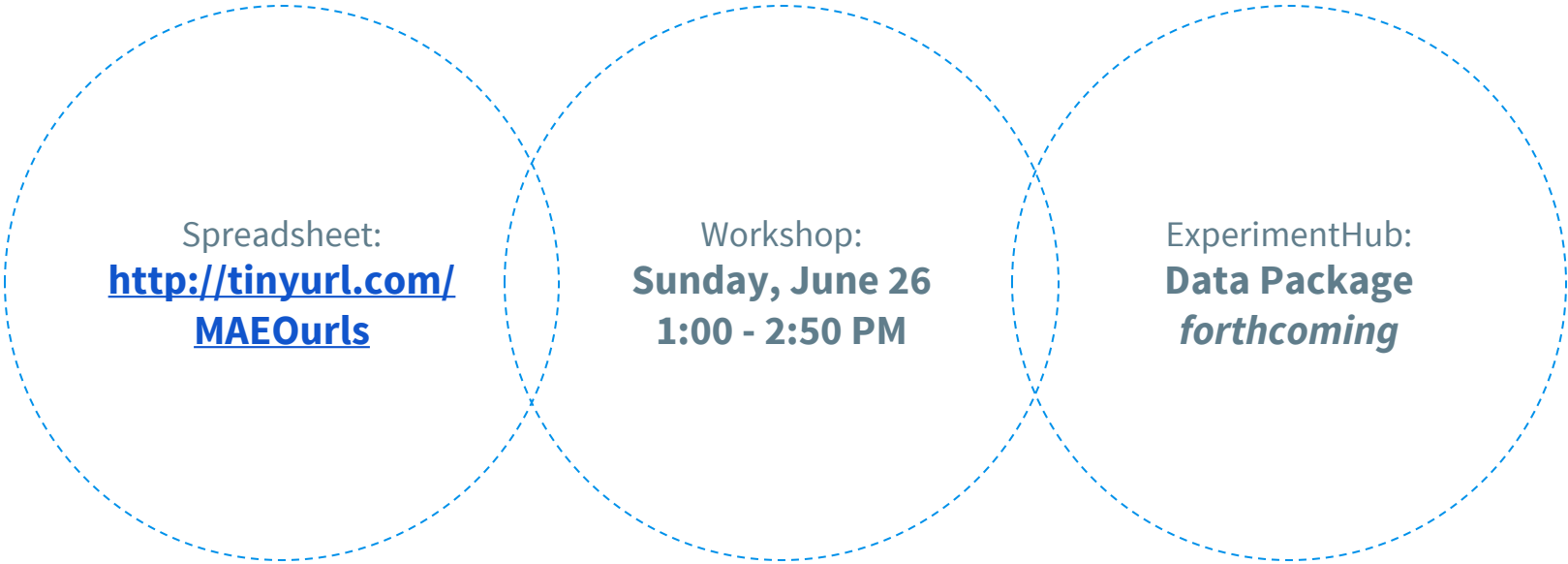
A new Bioconductor class, MultiAssayExperiment, was created to link gene-based and range-based omics data with clinical and subtype data. It is both subsetable and comprehensive, allowing for a unified representation of the complex data.



3. **Results**

Experiences with TCGA data and
MultiAssayExperiment





Spreadsheet:
<http://tinyurl.com/MAEOurls>

Workshop:
Sunday, June 26
1:00 - 2:50 PM

ExperimentHub:
Data Package
forthcoming



Thanks!

Acknowledgements

- ★ Levi Waldron, PhD
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- ★ WaldronLab

References

Cordelia Presentation Template. Slides Carnival. <http://www.slidescarnival.com/cordelia-free-presentation-template/216>. Accessed June 22, 2016.

Font-Awesome-SVG-PNG. Damian Kaczmarek, Dominykas Blyžė. <http://github.com/encharm/Font-Awesome-SVG-PNG>. Accessed June 22, 2016.

TCGA Infographic. National Cancer Institute. <http://www.cancer.gov/about-nci/organization/ccg/programs/gdc/tcga-infographic>. Accessed June 22, 2016.

Genomic Data Commons Data Portal. National Cancer Institute. <http://gdc-portal.nci.nih.gov>. Accessed June 22, 2016.

Links for More Info

This Presentation:

<https://tinyurl.com/MAEOpres>

Downloadable Objects:

<https://tinyurl.com/MAEOurls>

Interest Group:

<https://tinyurl.com/MAEOgroup>

WaldronLab:

<http://www.waldronlab.org/>

EmojiOne Emoji. Ranks.com, Inc. <http://emojione.com>. Accessed June 22, 2016.

Bioconductor - BioC2016. Bioconductor. <http://bioconductor.org/help/course-materials/2016/BioC2016/>. Accessed June 22, 2016.