

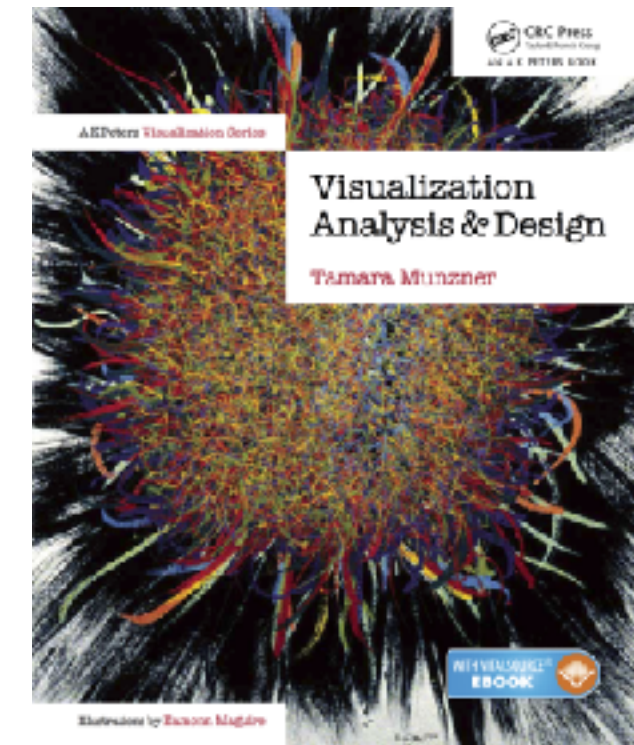
Intro

Tamara Munzner

Department of Computer Science
University of British Columbia

*Utah Viz Course Intros
Apr 4 2022*

<http://www.cs.ubc.ca/~tmm/talks.html#utah22intro>

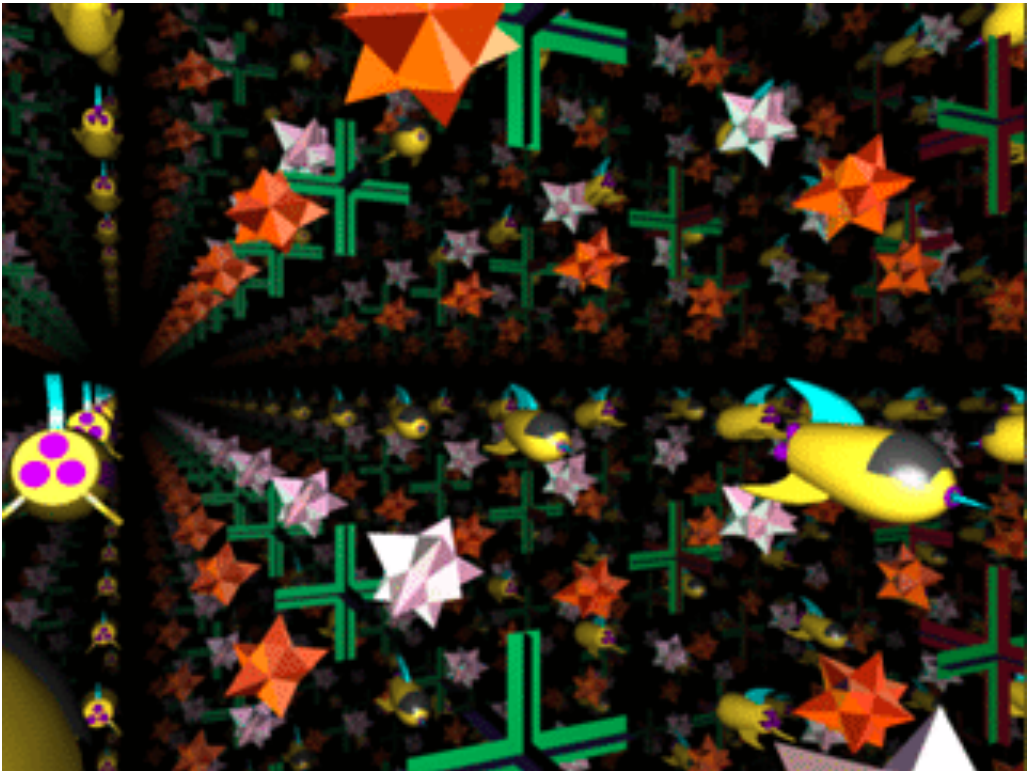


[@tamaramunzner](#)

About me

- technical staff, Geometry Center 1991-1995

Geometry Center: math vis videos, software



Outside In

The Shape of Space

Stuart Levy

Mark Phillips

Delle Maxwell

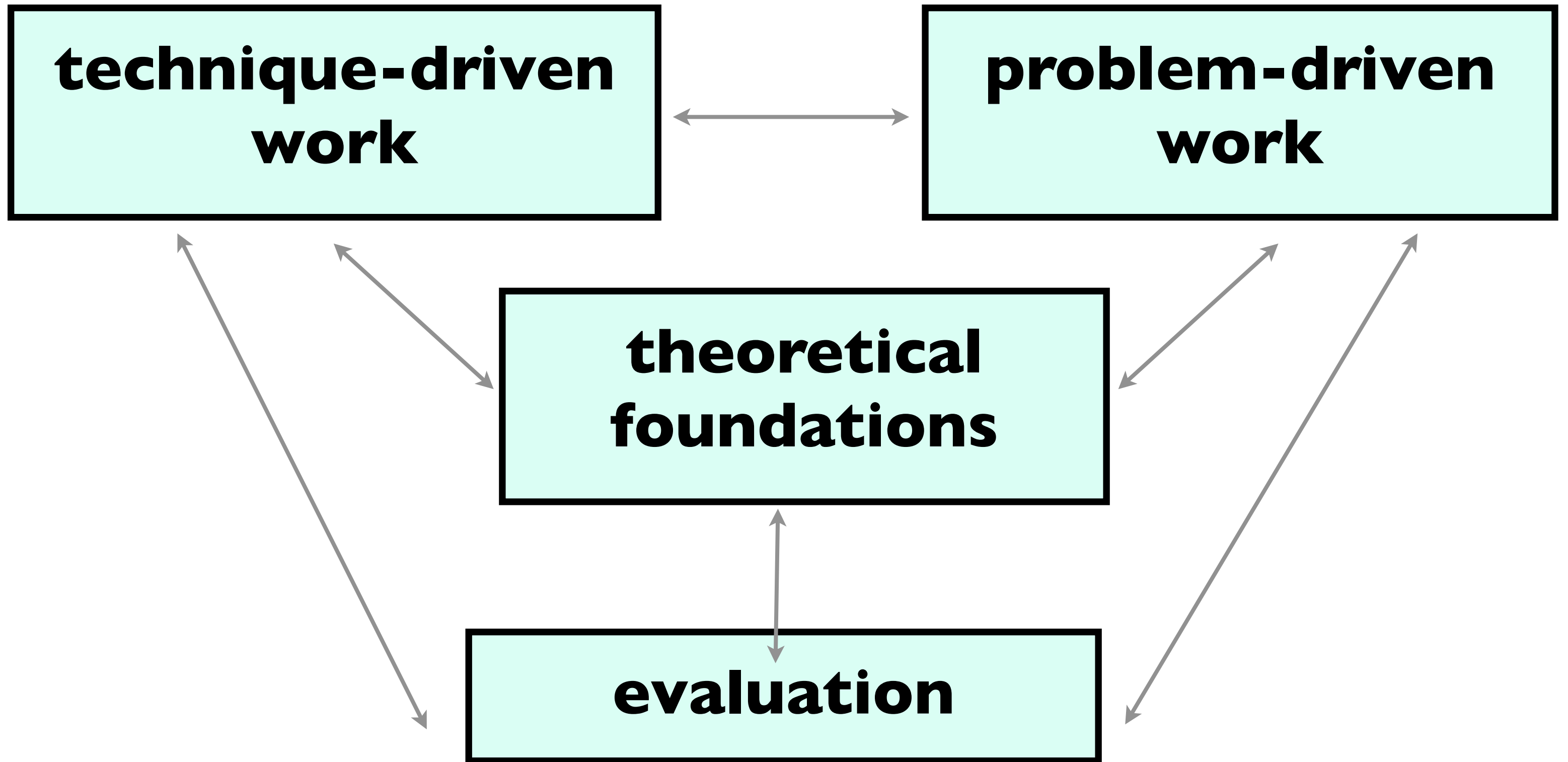


Geomview

About me

- technical staff, Geometry Center 1991-1995
- PhD @ Stanford w/ Pat Hanrahan, 1995-2000
- [DEC/Compaq] Systems Research Center (SRC), 2000-2002
- UBC, 2002-now

A quick taste of my own work!



Technique-driven: Graph/network drawing

T

P

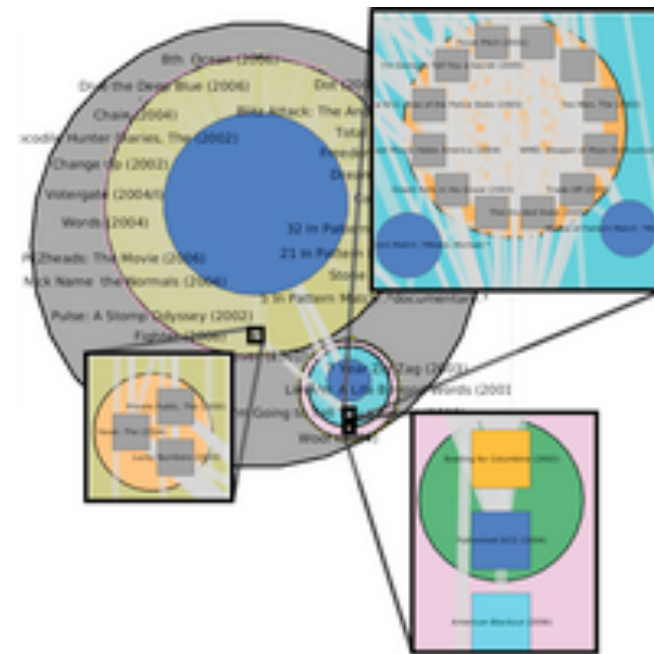
F

E

Daniel Archambault



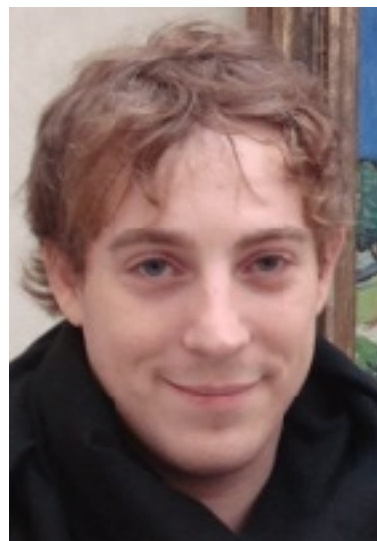
David Auber (Bordeaux)



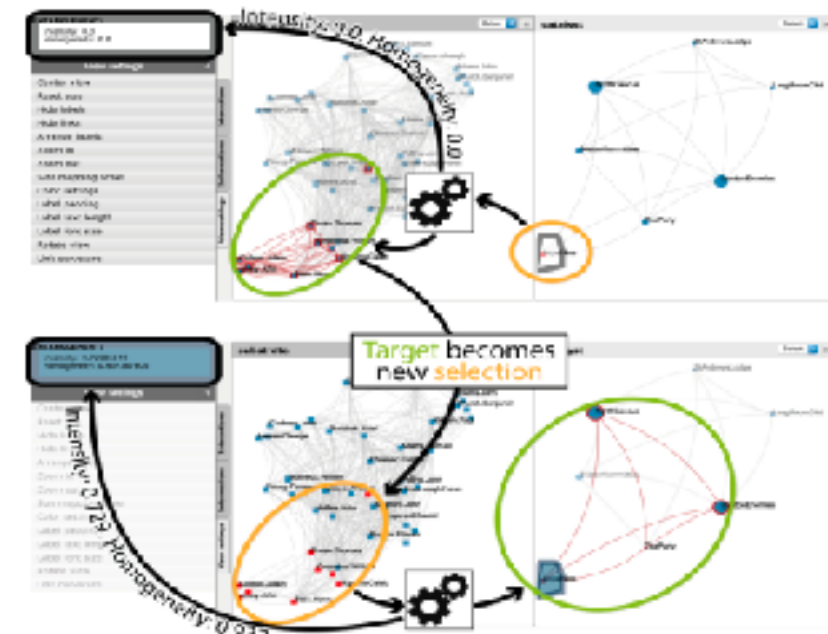
<https://youtu.be/AWXAe8zvkt8>

TopoLayout
SPF
Grouse
GrouseFlocks
TugGraph

Benjamin Renoust



Guy Melançon (Bordeaux)



Detangler

<https://youtu.be/QOtnHSsUV6k>

Technique-driven: Tree drawing

T

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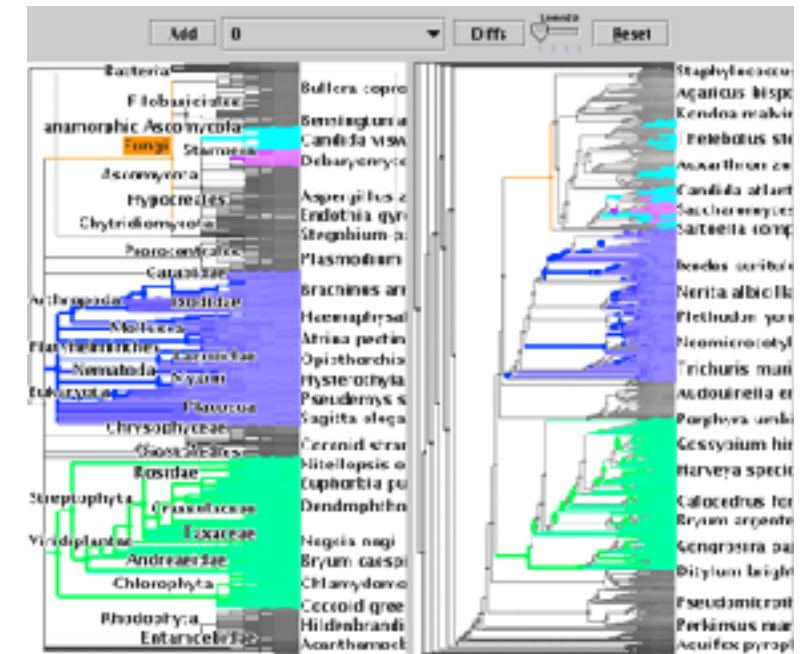
Zipeng Liu

Shing Hei Zhan



Aggregated Dendrograms

<https://youtu.be/2SLcz7KNLJw>



TreeJuxtaposer

<https://youtu.be/GdaPj8a9QEo>

Evaluation experiments: Graph/tree drawing

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Dmitry
Nekrasovski



Adam Bodnar



Joanna
McGrenere

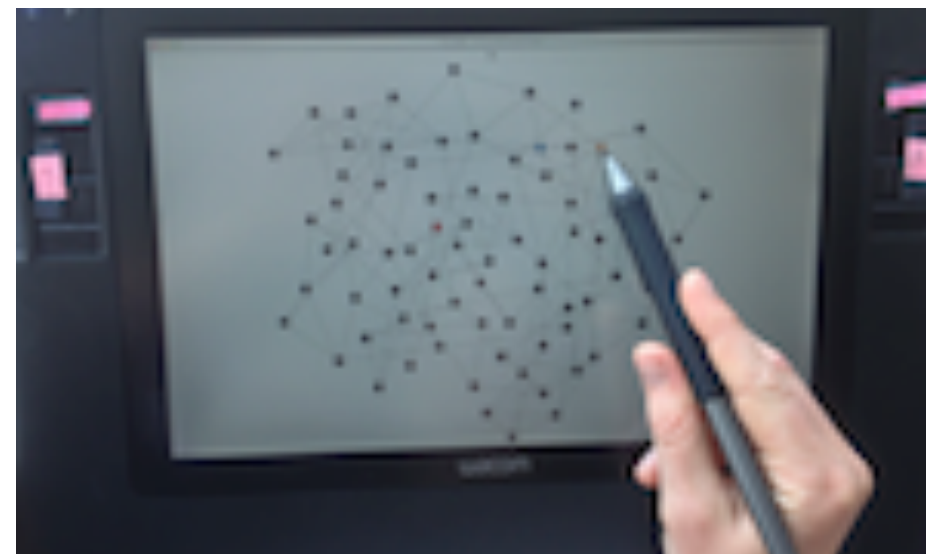


Stretch and squish navigation

Jessica Dawson



Joanna
McGrenere



Search set model of path tracing

Zipeng Liu



Sprawler
Metric

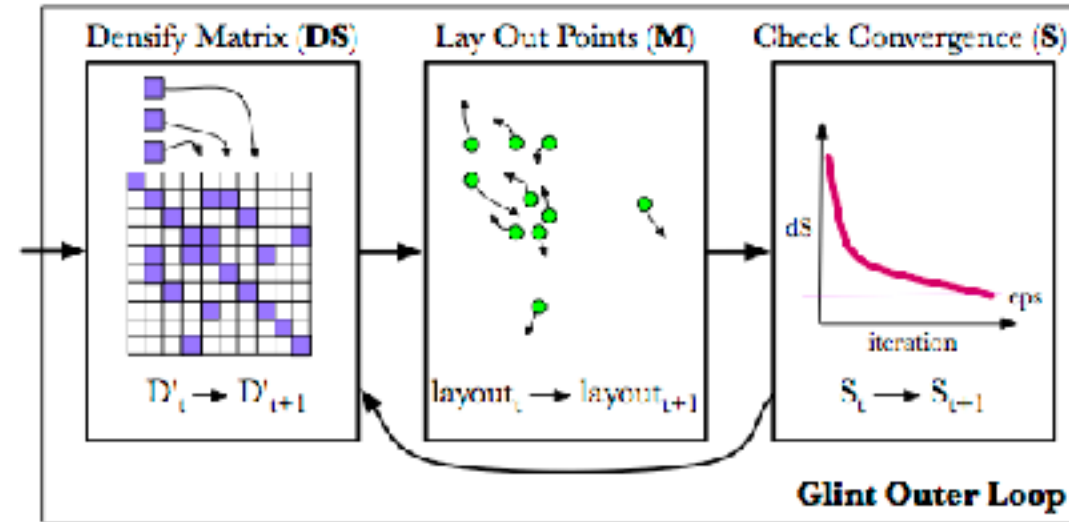
Technique-driven: Dimensionality reduction

T
F
E
P

Stephen Ingram



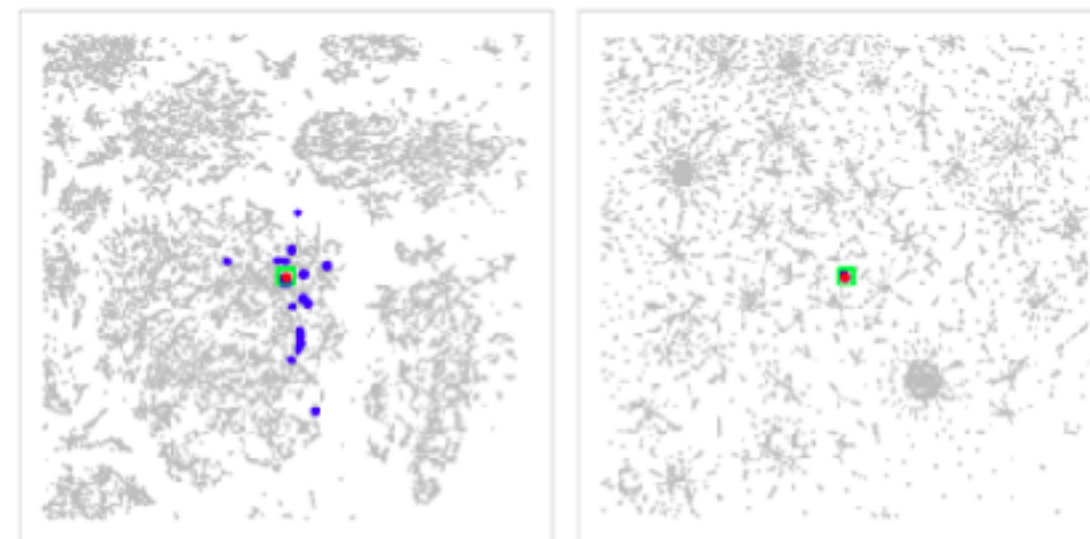
Glimmer



Glint



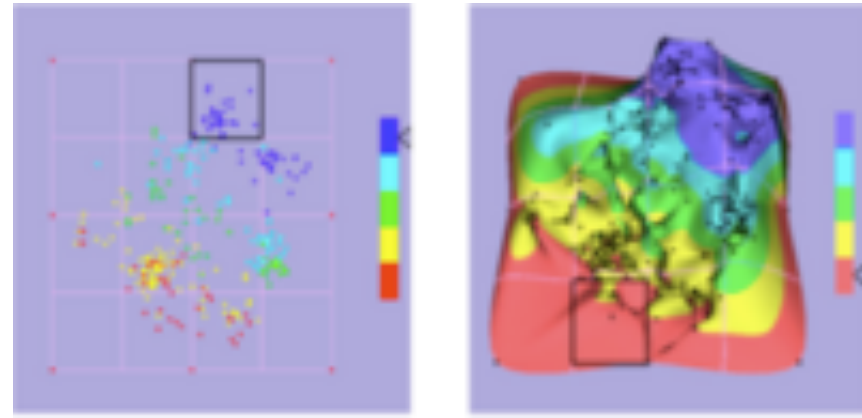
DimStiller



QSNE

Evaluation experiments: Dimensionality reduction

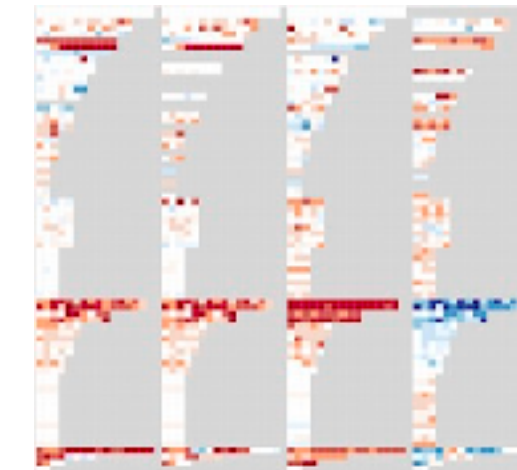
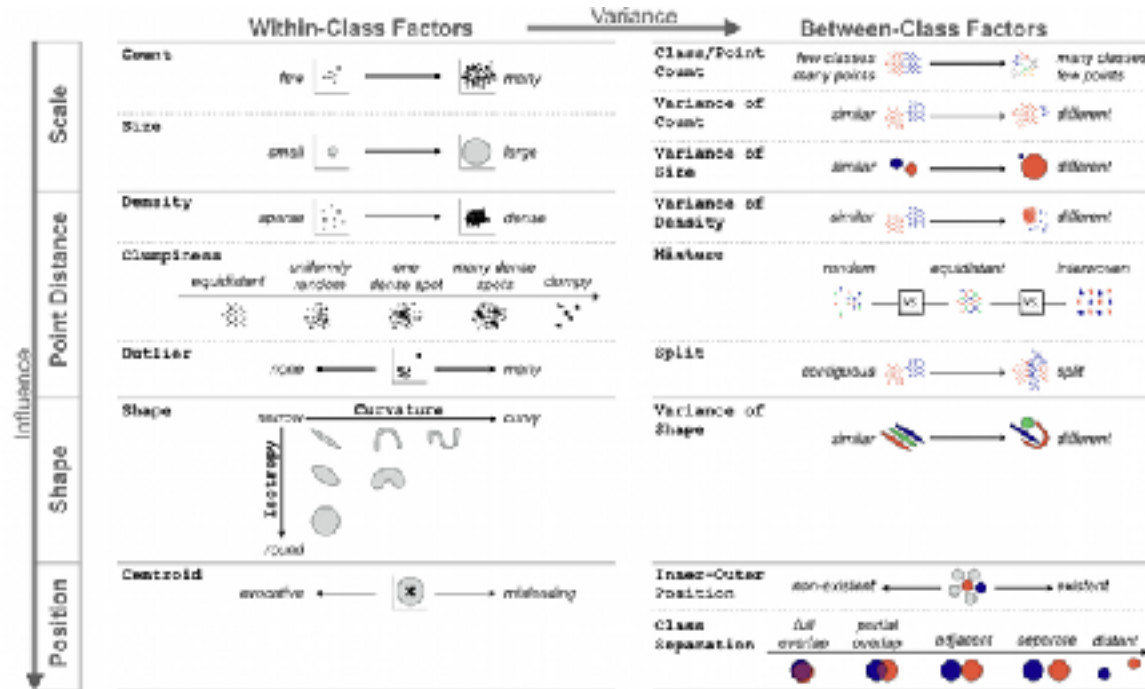
Melanie Tory



Points vs landscapes for dimensionally reduced data

T
F
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P

Michael Sedlmair Melanie Tory



Guidance on DR & scatterplot choices

Taxonomy of cluster separation factors

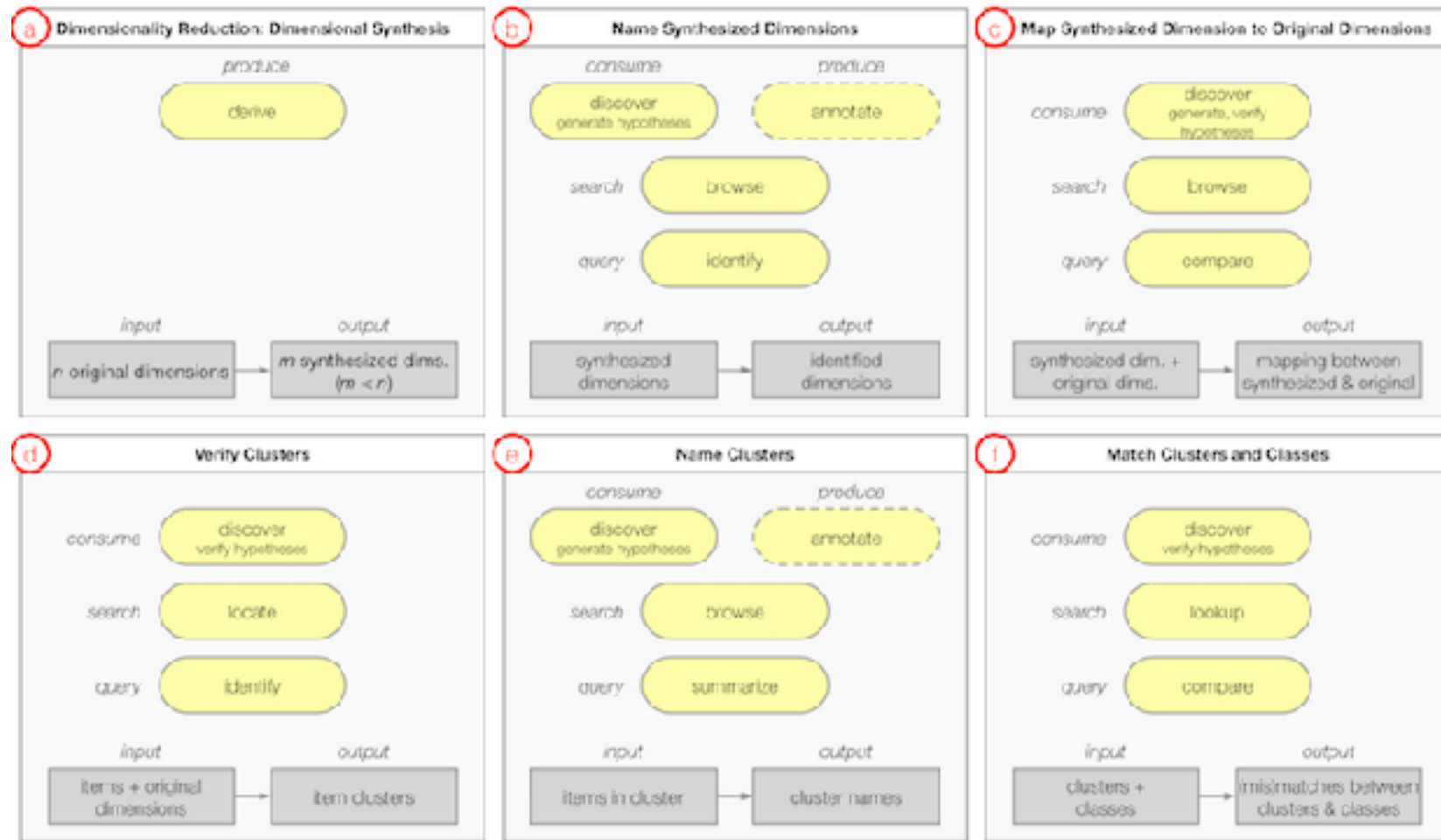
Evaluation in the field: Dimensionality reduction

T

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DR in the Wild

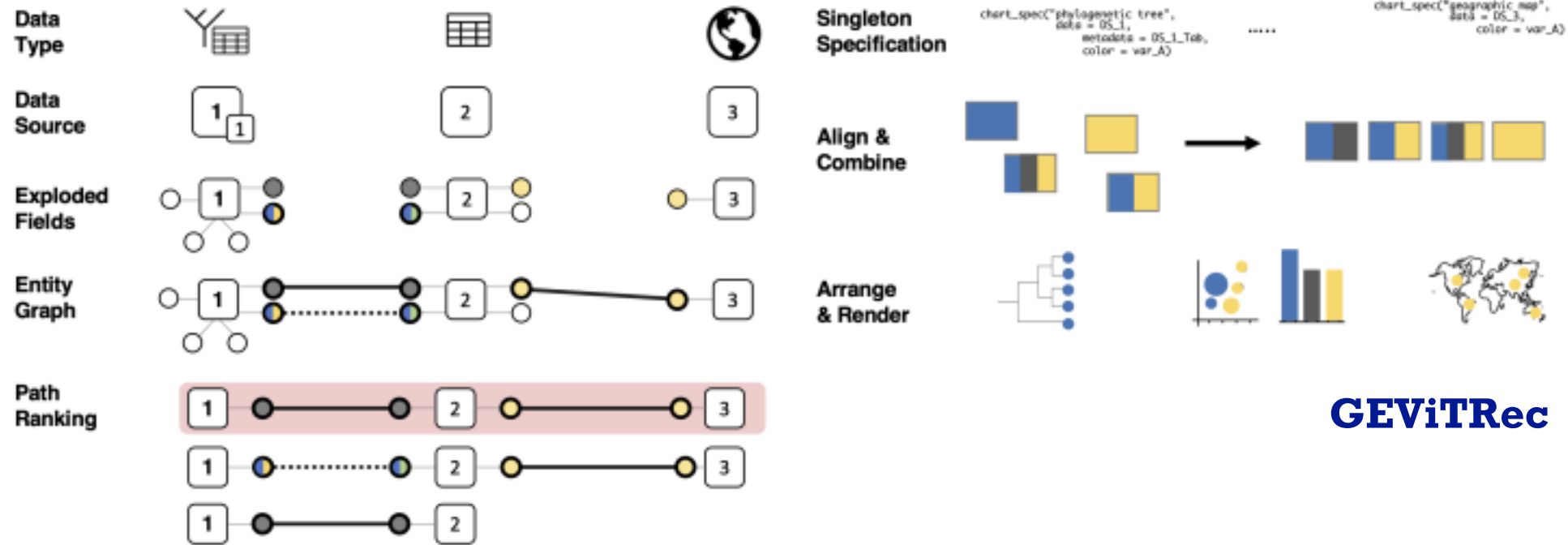
Matt Brehmer Michael Sedlmair Melanie Tory Stephen Ingram



Technique-driven: Recommenders

T F E P

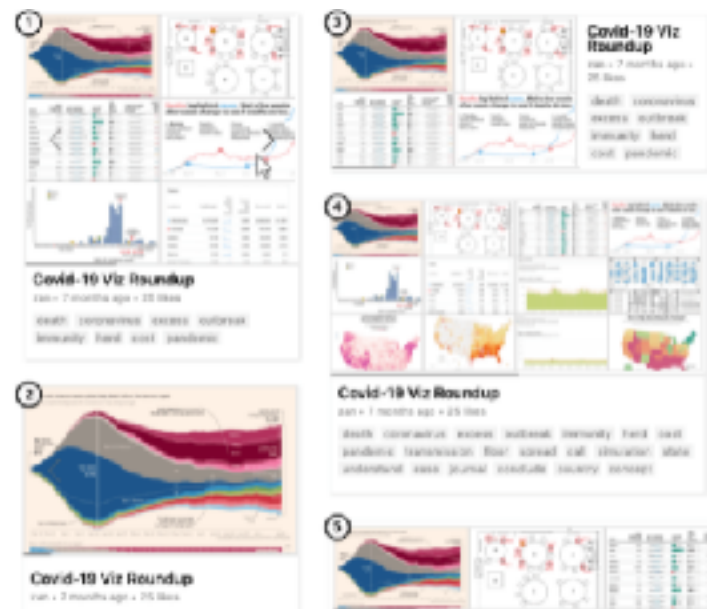
Anamaria Crisan



Michael Oppermann



Robert Kincaid (Tableau)



<https://youtu.be/SRAWFr4tBjA>

<https://youtu.be/7-7v4m-1bVY>

VizCommender
VizSnippets

Problem-driven: Genomics

T

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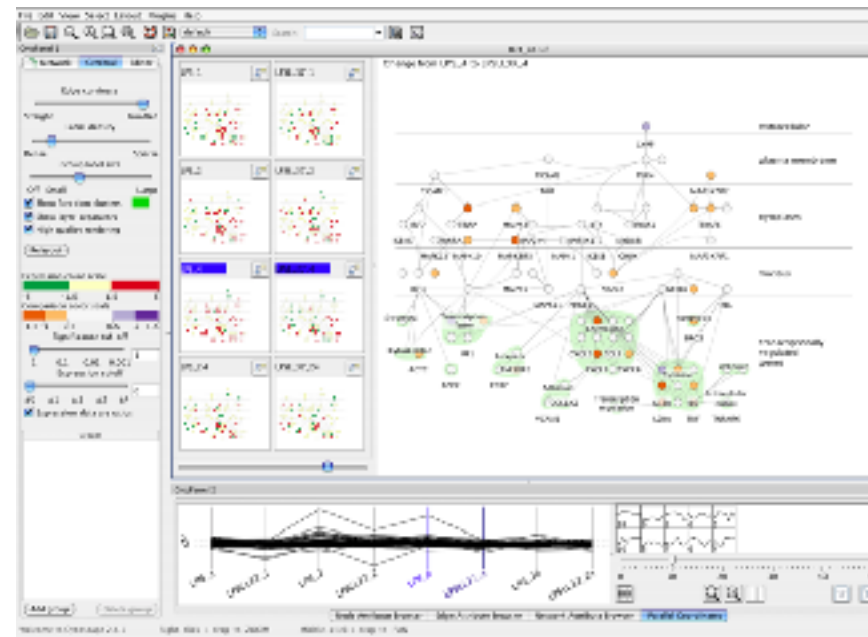
Aaron Barsky



Jenn Gardy
(Microbio)



Robert Kincaid
(Agilent)



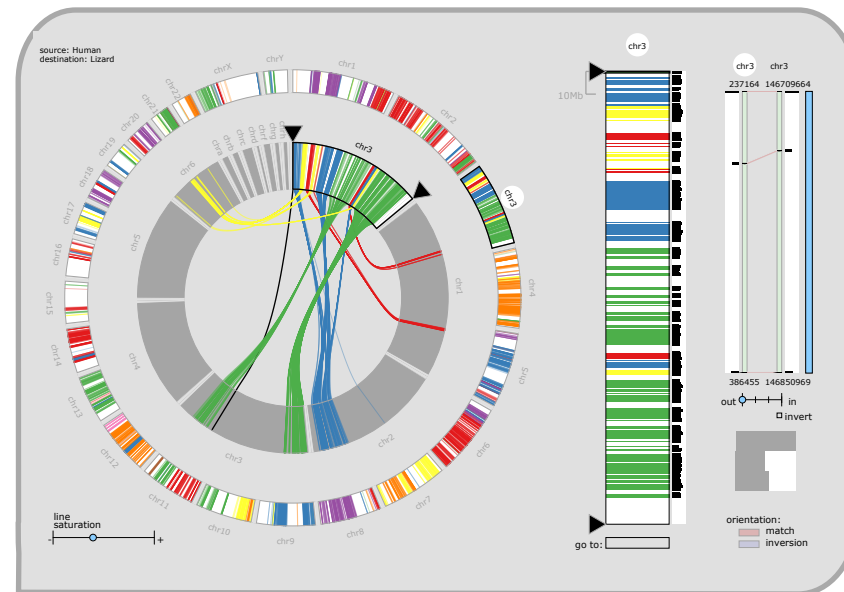
Cerebral

<https://youtu.be/76HhG1FQngI>

Miriah Meyer

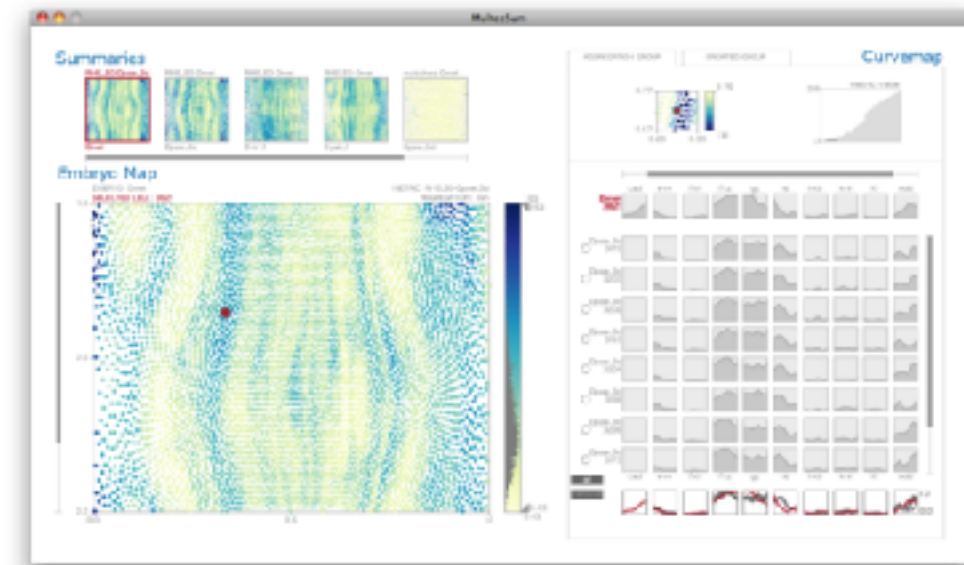


Hanspeter Pfister
(Harvard)



MizBee

<https://youtu.be/86p7brwuz2g>



MulteeSum, Pathline

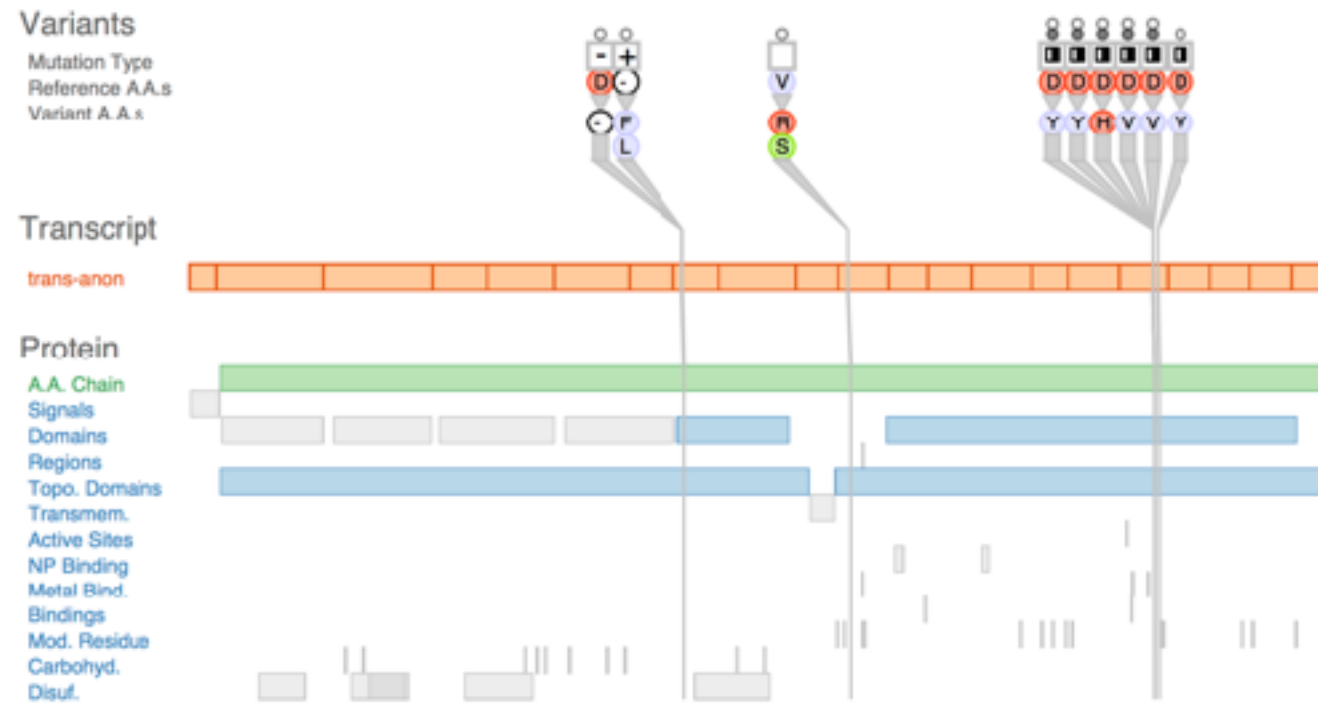
Problem-driven: Genomics, fisheries

T F E P

Joel Ferstay



Cydney Nielsen
(BC Cancer)



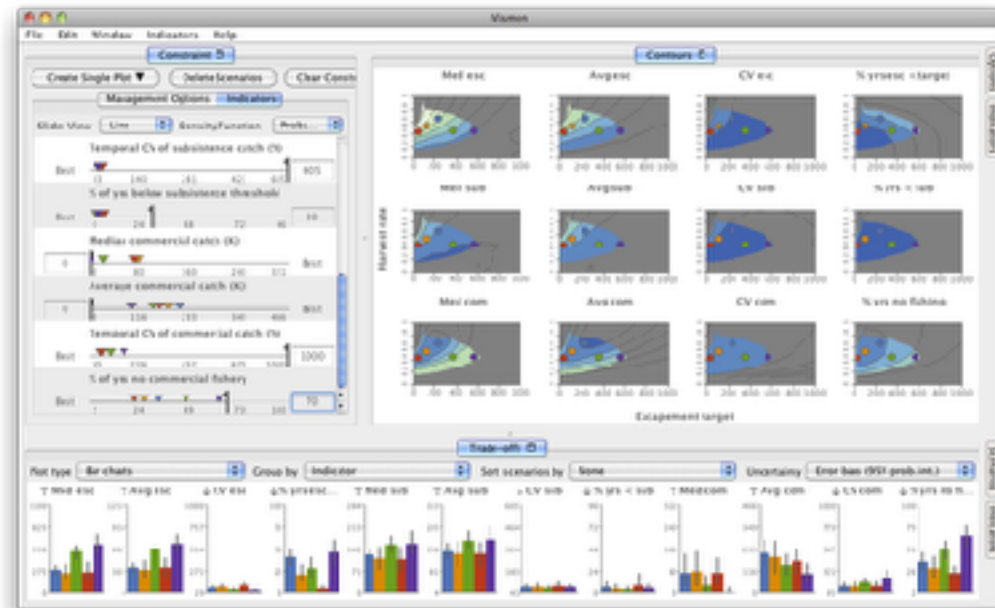
Variant View

https://youtu.be/AHDnv_qMXxQ

Maryam Booshehrian



Torsten Moeller
(SFU)



Vismon

<https://youtu.be/h0kHoS4VYmk>

Problem-driven: Tech industry

T

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Heidi Lam



Diane Tang
(Google)

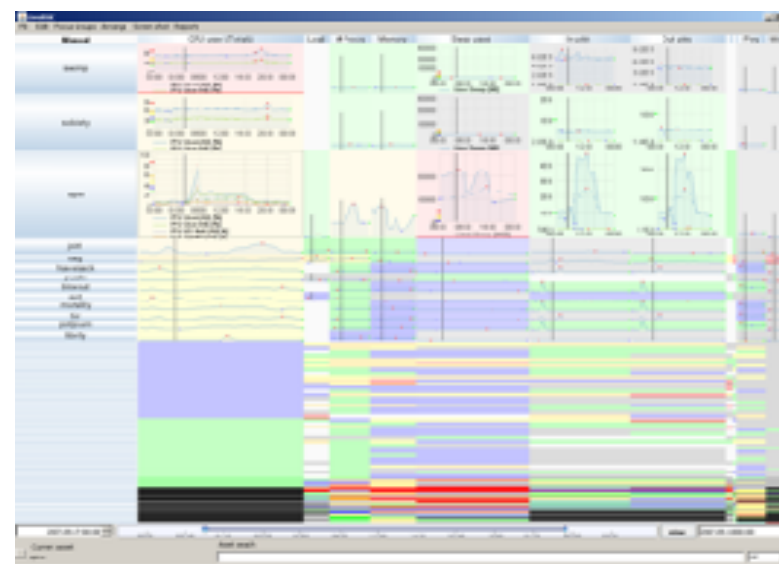


Session Viewer: web log analysis
<https://youtu.be/T4MaTZd56G4>

Peter McLachlan



Stephen North
(AT&T Research)



LiveRAC: systems time-series <https://youtu.be/ld0c3H0VSkw>

Problem-driven: Building energy mgmt, journalism

T F E P

Matt Brehmer



Kevin Tate
(Pulse/EnerNOC)



Energy Manager

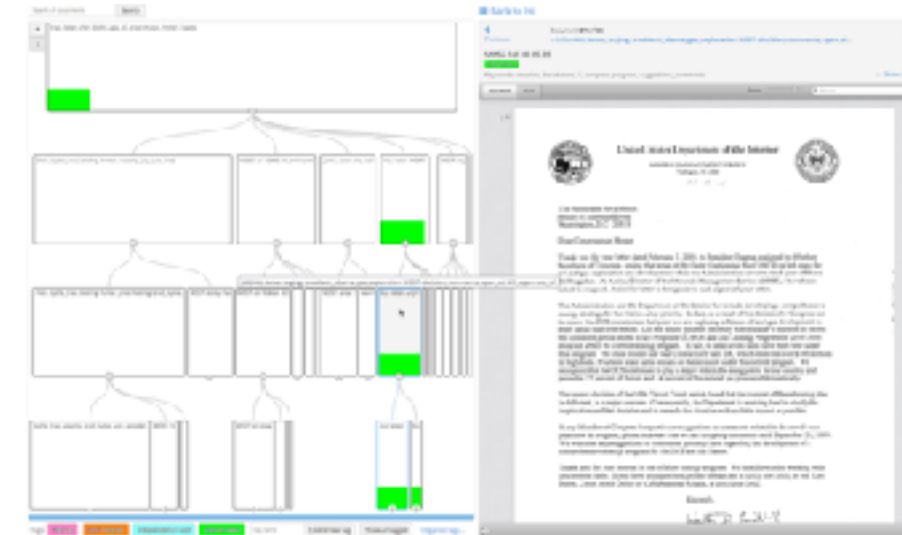
Matt Brehmer



Stephen Ingram



Jonathan Stray
(Assoc Press)



Overview

<https://vimeo.com/71483614>

Problem-driven: Data science

T F E P

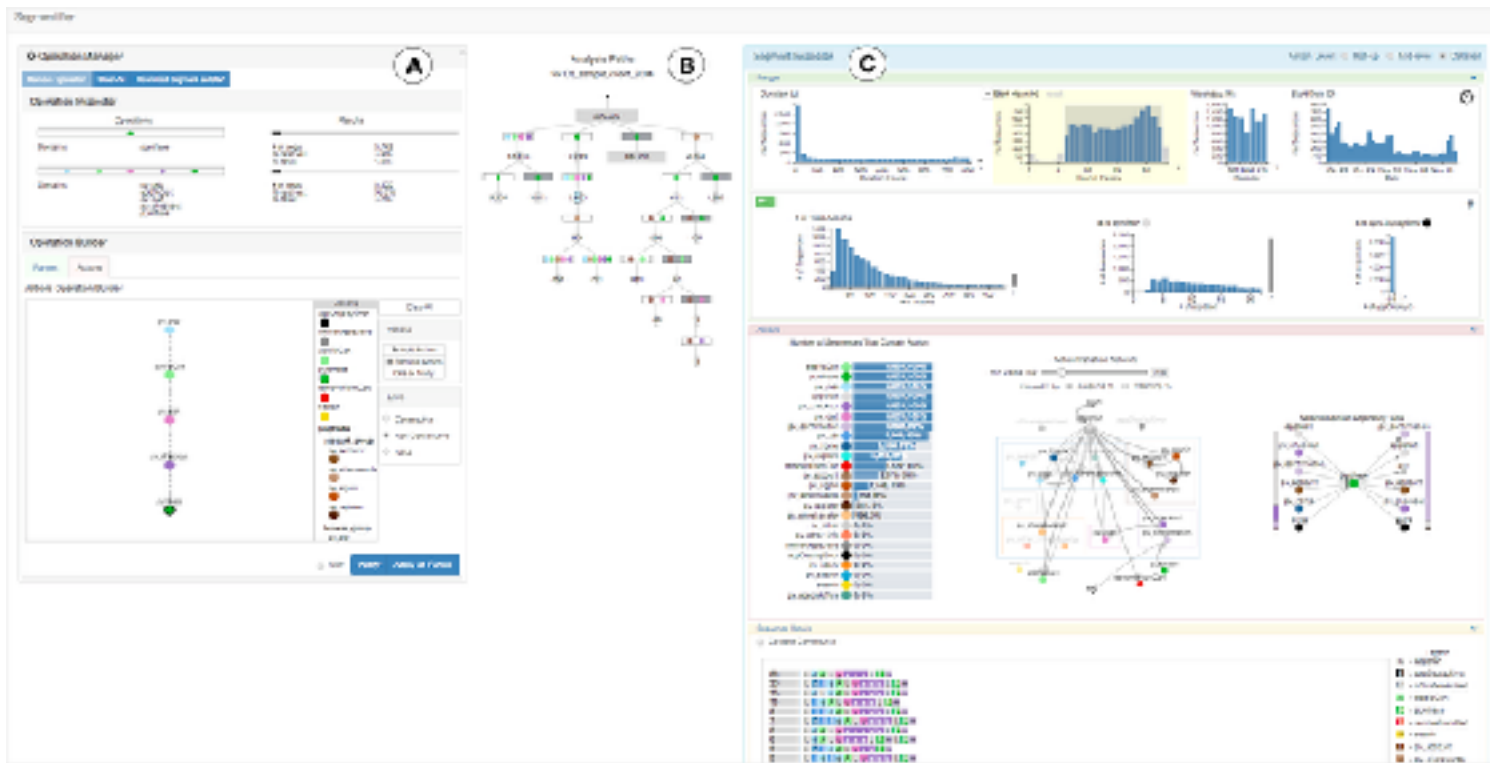
Kimberly Dextras-Romagnino



Segmentifier
(Mobify)

e-commerce clickstreams

build tools for human-in-the-loop
visual data analysis



<https://youtu.be/TobYDFeISOg>

Michael Oppermann



Ocupado
(Sensible Building Science)

wifi proxy for real-time building occupancy

visual analytics for facilities management

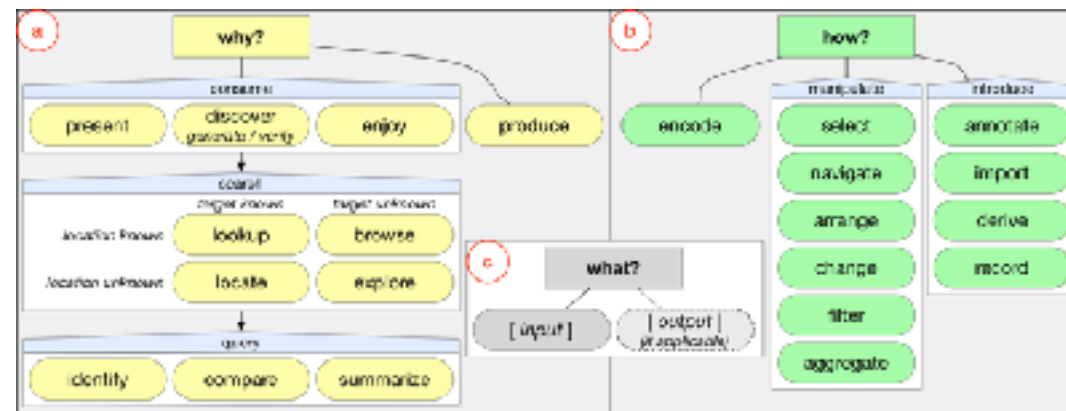


<https://youtu.be/KcwjVK8eUdw>

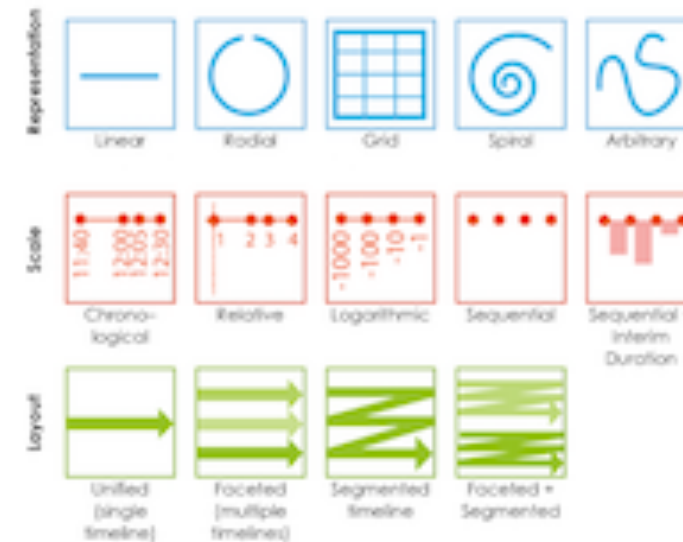
Theoretical foundations: Typologies

T
F
E
P

Matt Brehmer



Abstract Tasks



Timelines Revisited

timelinesrevisited.github.io/



Bongshin Lee
(Microsoft)



Benjamin Bach
(Microsoft)

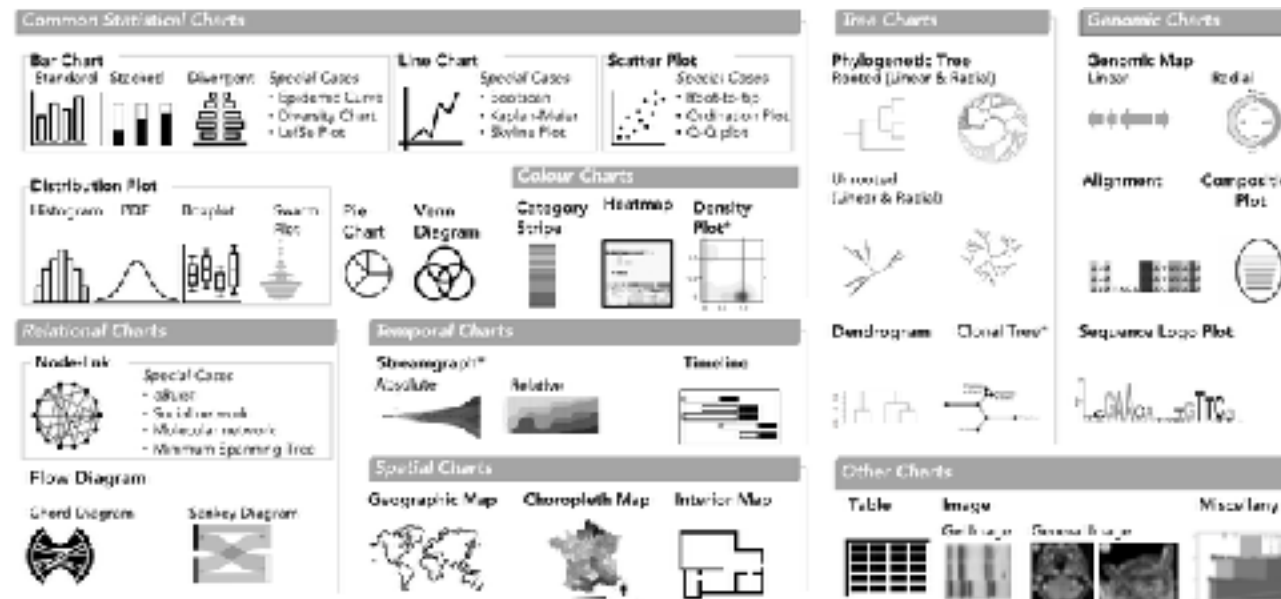


Nathalie Henry-Riche
(Microsoft)

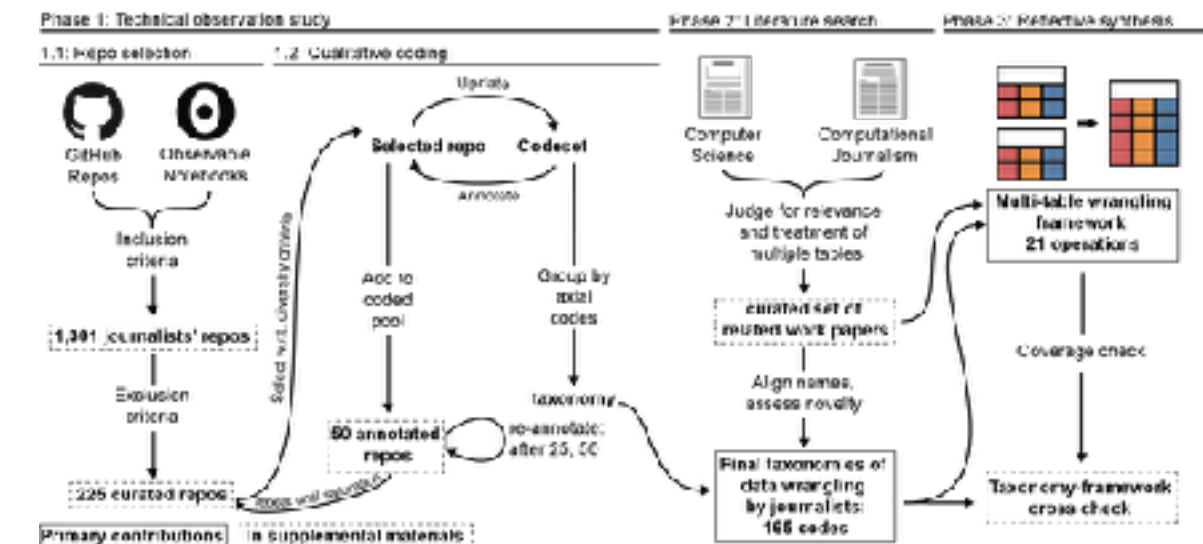
Steve Kasica



Anamaria Crisan



GEViT: Genomic Epidemiology Visualization Typology

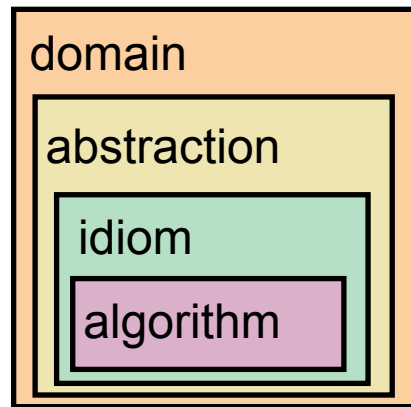


TableScraps

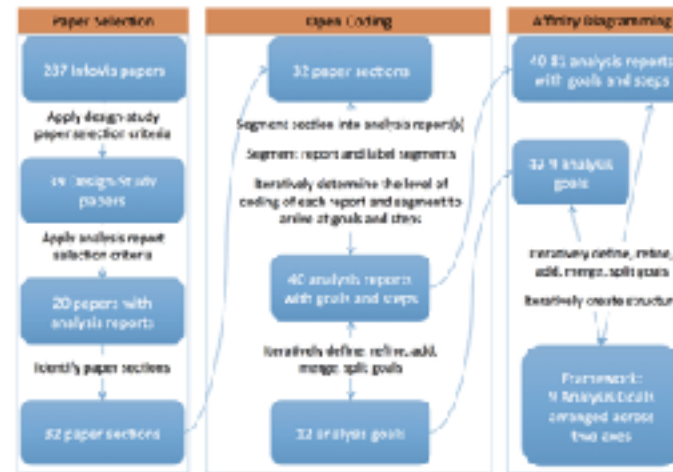
Theoretical foundations

- Strategy Pitfalls
- What I Did Over My Summer
- Least Publishable Unit
- Dense As Plutonium
- Bad Slice and Dice

Papers Process & Pitfalls



Nested Model

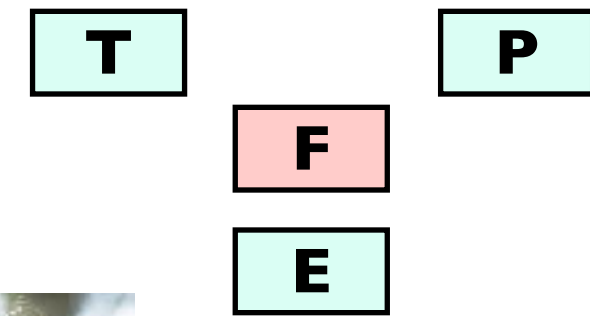


Goals2Tasks

Heidi Lam
(Tableau)



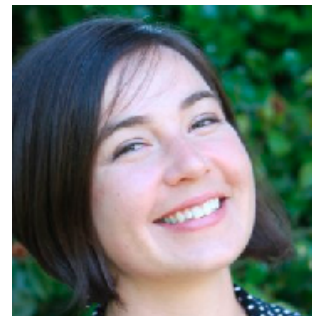
Melanie Tory
(Tableau)



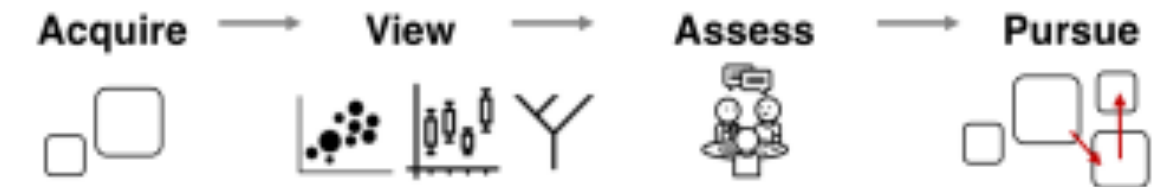
Design Study Methodology



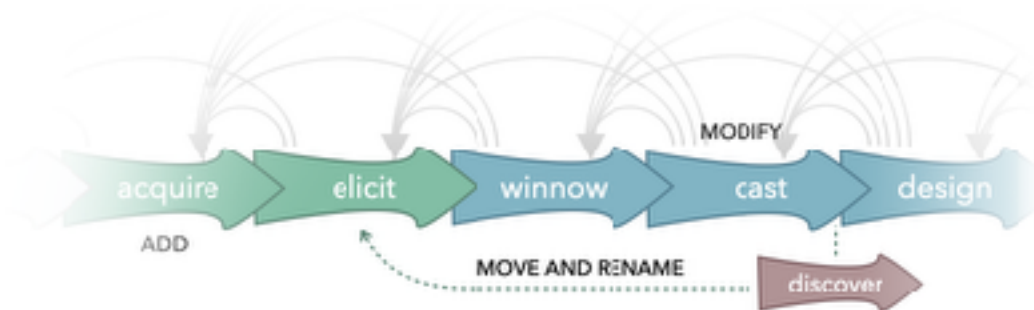
Michael
Sedlmair



Miriah
Meyer



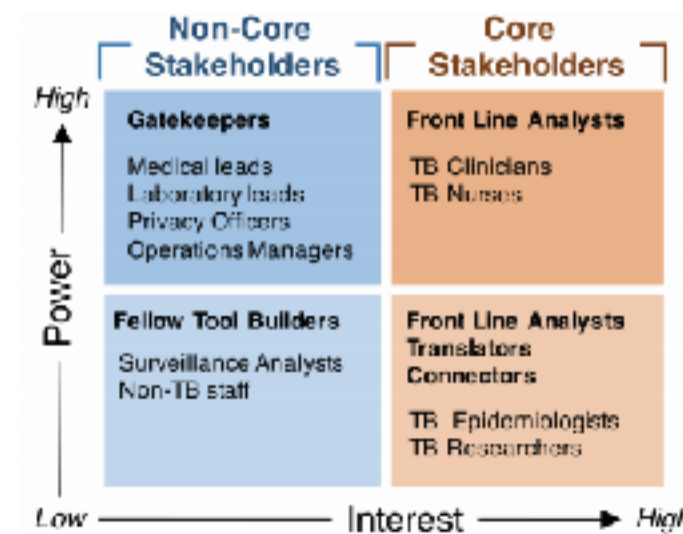
Data Recon



Data-First Design Studies

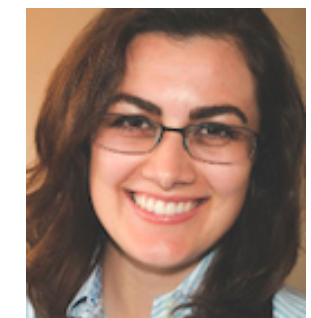


Michael
Oppermann



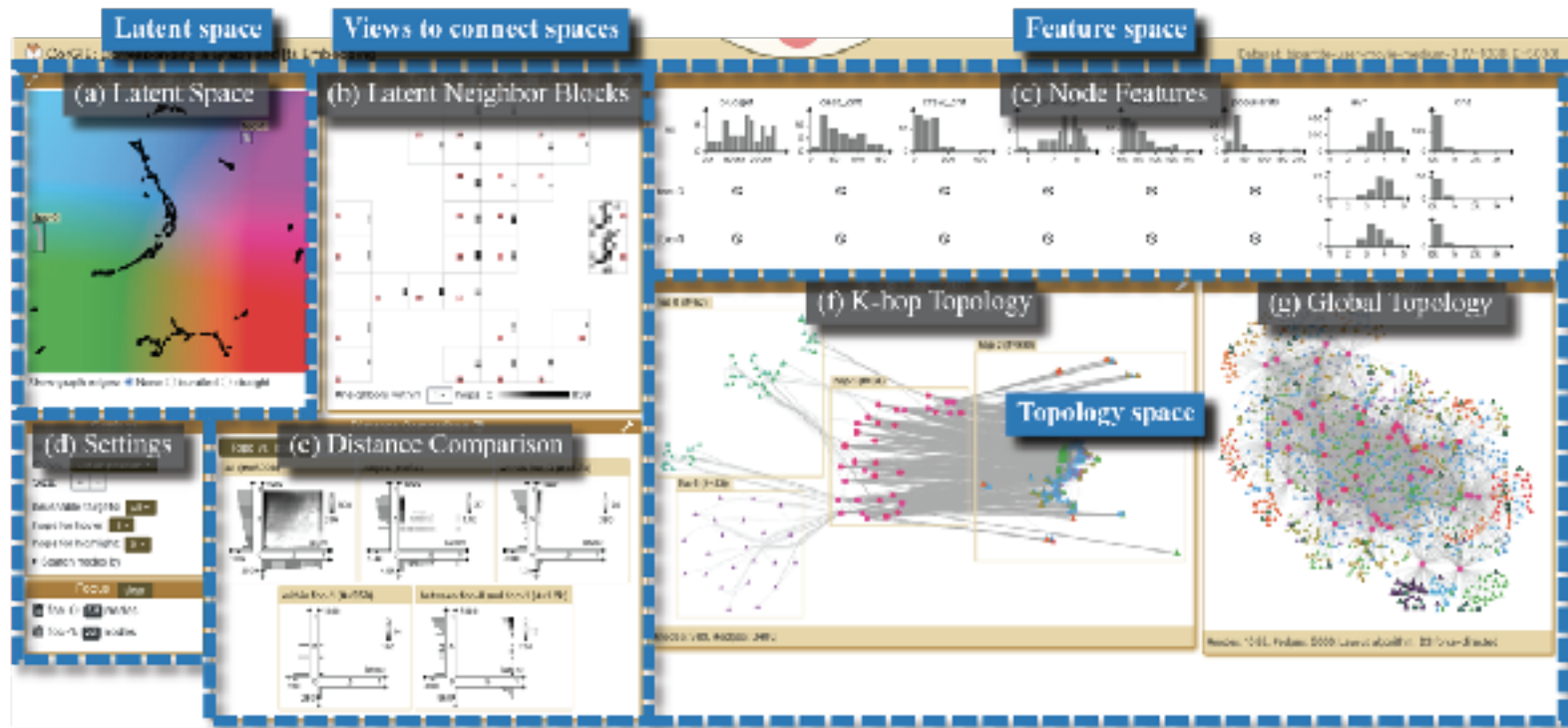
Regulatory & Organizational Constraints

Anamaria
Crisan



Machine Learning Curation

T F P
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CorGIE

<https://youtu.be/sQMF50aNtKI>

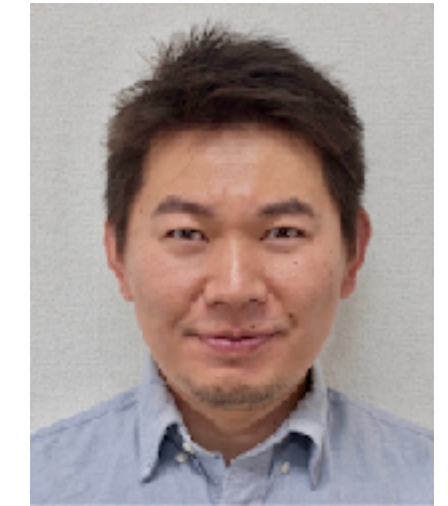
Zipeng Liu



Jürgen Bernard



Yang Wang (Uber/Facebook)



Matt Brehmer



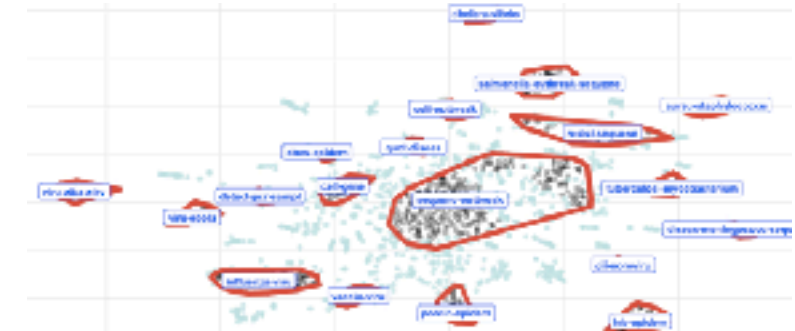
Johanna Fulda (Sud. Zeitung)



TimeLineCurator

<https://vimeo.com/123246662>

Anamaria Crisan



Adjutant

More Information

[@tamaramunzner](https://twitter.com/tamaramunzner)

- this talk

<http://www.cs.ubc.ca/~tmm/talks.html#utah22intro>

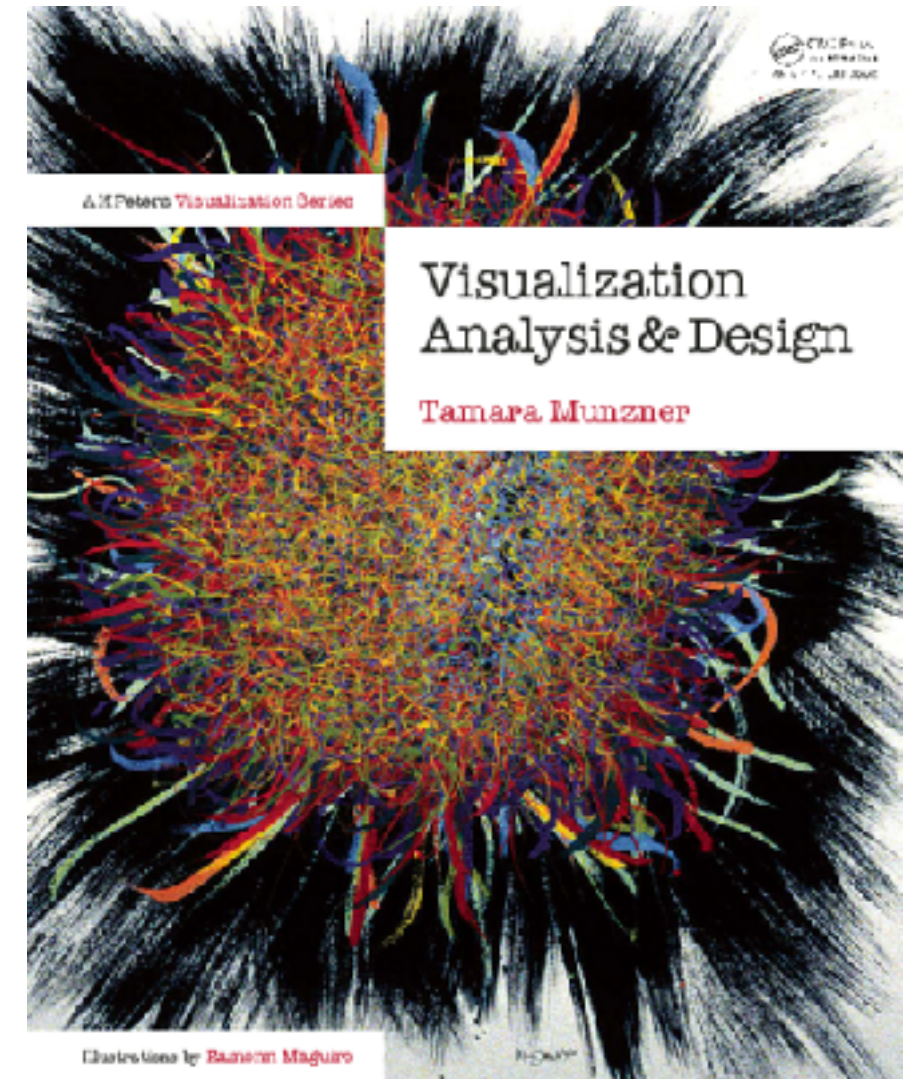
- book

<http://www.cs.ubc.ca/~tmm/vadbook>

- papers, videos, software, talks, courses

<http://www.cs.ubc.ca/group/infovis>

<http://www.cs.ubc.ca/~tmm>



Visualization Analysis and Design.
Munzner. A K Peters Visualization Series, CRC Press, Visualization Series, 2014.