



4AM

9AM in London (GMT), 6PM in Tokyo (GMT+9)

3rd.1: The Emotional Echo of Cultural Intelligence

Moderator: Todd N. Theriault, *Indiana University*

Panelists:

- Christiane Hütter, Felix Müller, Cristian Nogales, Iker Nuñez Carpintero, Sebastian Pirch, Martin Chiettini, Philipp Friedrich, *Ludwig Boltzmann Institute for Network Medicine, University of Vienna, Vienna, Austria & Department of Structural and Computational Biology, Max Perutz Labs, University of Vienna, Vienna, Austria*





the emotional echo of cultural intelligences

Felix Müller, Christiane Hütter, Cristian Nogales, Iker Nuñez,
Philipp Friedrich, Sebastian Pirch, Martin Chiettoni, Jörg Menche



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Network Medicine
of the University of Vienna

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MEDIZINISCHE
UNIVERSITÄT WIEN

Vienna
BioCenter

CeMM
SCIENCE IS OUR MEDICINE

Introducing the Team



Felix Müller
Data Scientist



Christiane Hütter
Predoctoral Fellow



Cristian Nogales
PostDoc Fellow



Iker Nuñez Carpintero
PostDoc Fellow



Philipp Friedrich
Data Scientist



Sebastian Pirch
3D Artist

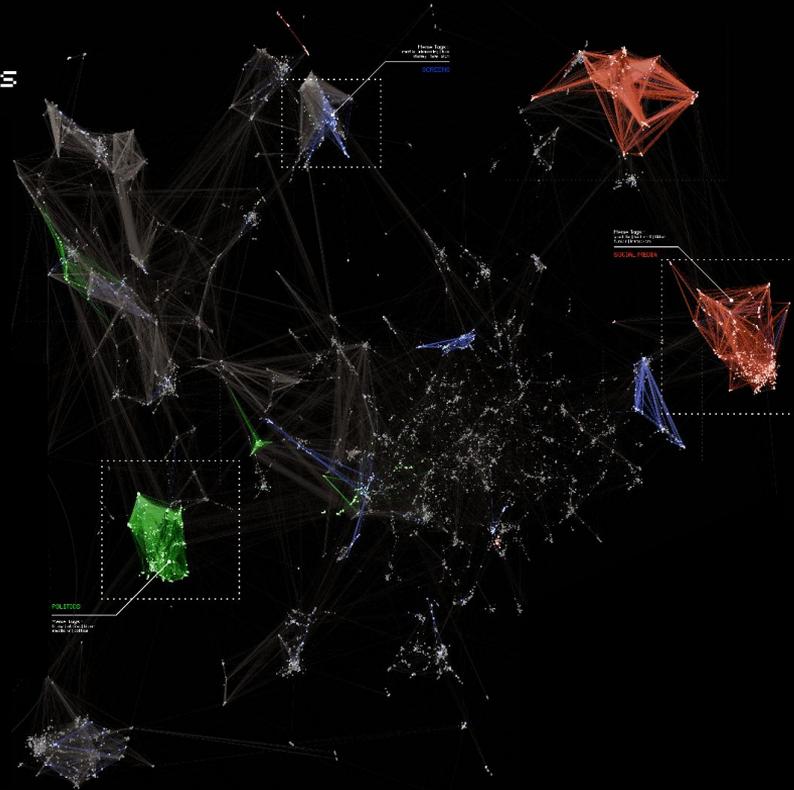


Martin Chiettini
3D Artist



Jörg Menche
Institute Director

the emotional echo of cultural intelligences



What does this cultural intelligence reveal about our collective consciousness?

Social debate, culture, debates, critical discourse made by thousands of people on the internet will be the fuel of the digital, adaptive intelligence of tomorrow.

Through this, we will find the way to fully shared, shared, and shared into memes. They form the emotional echo of all these decisions, and they will be the common backbone of the description of memes.

can be visualized as a network where links connect nodes of the flow.

It is the essence of a self-organizing system, the emotional echo, made by the sharing and linking of different emotions in the digital world.

Large, complex systems like a social network, meme network, and connections to real world are formed by the self-organizing system of digital intelligence.

This reflects various subtleties, allowing a deeper understanding of the world and cultural intelligence.



the emotional echo of cultural intelligences

"Stay safe. Be smart" about effects and influence of social media platforms and their viral trends.

symbol of influence

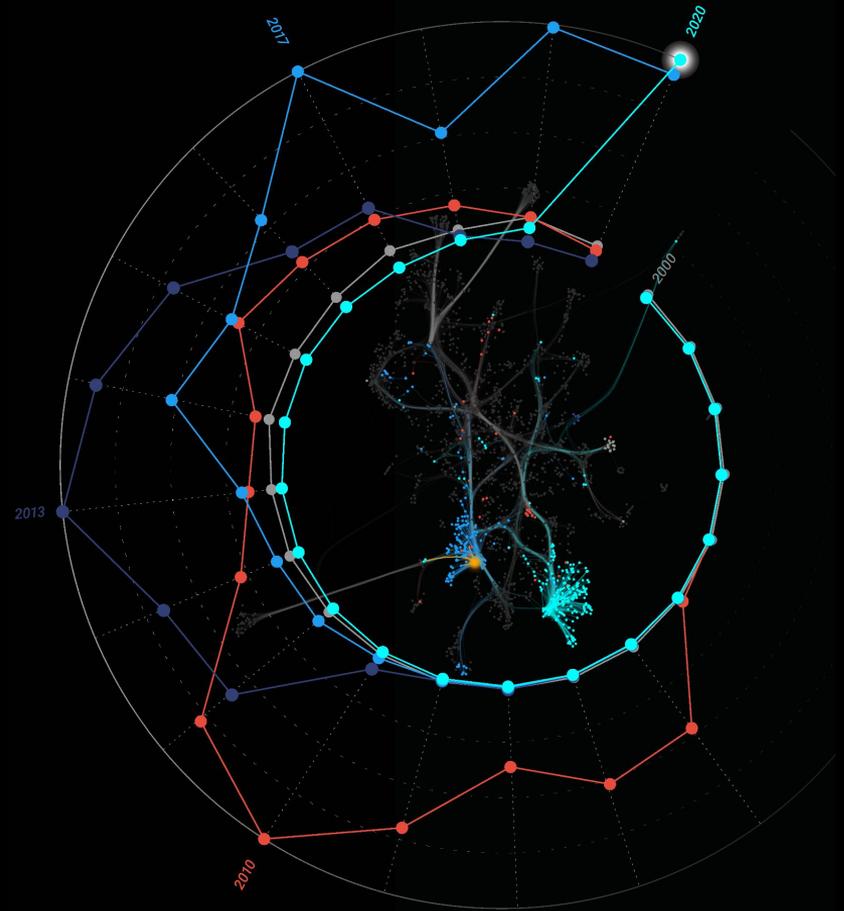
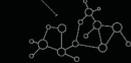


Dogecoin challenge

SOCIAL MEDIA Subnetwork of Memegraph

TOPIC :: Social Media Platform Dynamics
TAGS :: youtube twitter/ X tumblr tiktok instagram
YEAR :: 2020

- youtube
 - twitter/ X
 - tumblr
 - tiktok
 - instagram
 - other memes in year
- NOISE : meme
 ○ EDGE : memes of some subset
 ● HIGHLIGHT : representative meme in year



the emotional echo of cultural intelligences

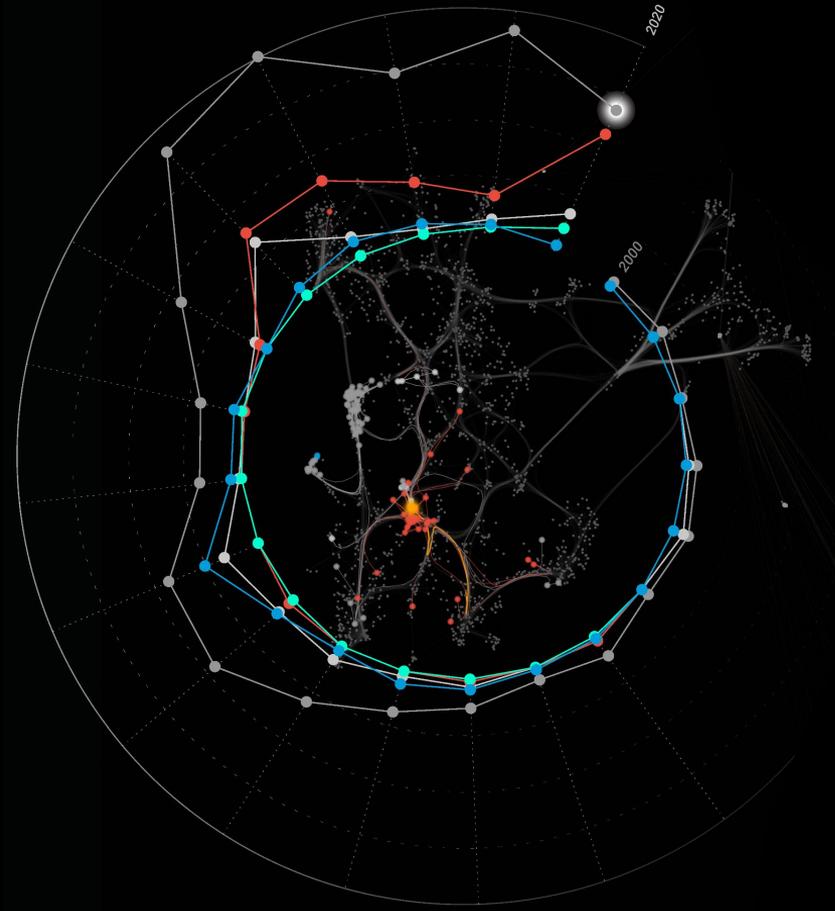
On the importance of cutting through
the confusion to reveal what's real
amidst the chaos of misinformation

symbol of finding
the truth
in the noise

POLITICS Subnetwork of Memegraph

TOPIC :: Political Digital Landscape
TASS :: elections trump obama biden politics
YEAR :: 2020

- trump
- obama
- elections
- biden
- politics
- other memes
in year



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Baby Yoda drinking soup

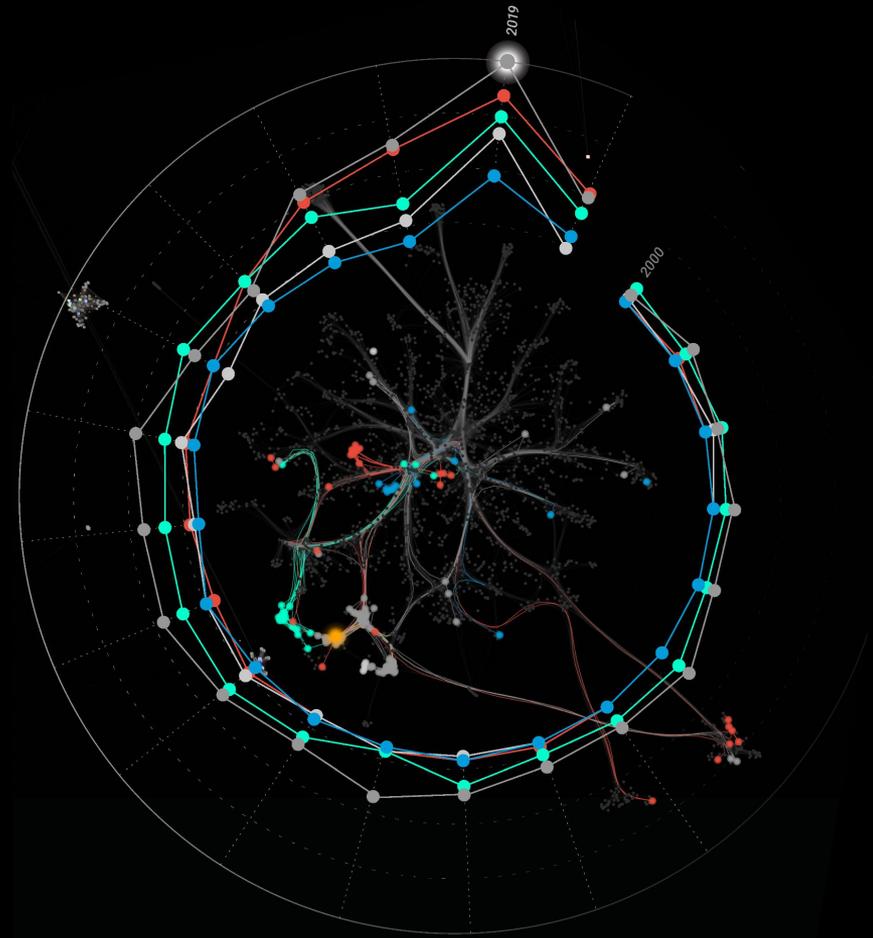
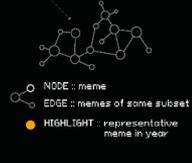
symbol of
quiet judgment

minding one's business while
watching drama and chaos unfold

SCREENS Subnetwork of Memegraph

TOPIC :: Screens Television Binge-watching
TAGS :: netflix hbo disney tv, streaming
YEAR :: 2019

- netflix
- streaming
- hbo
- disney
- television
- other memes in year





POLITICS

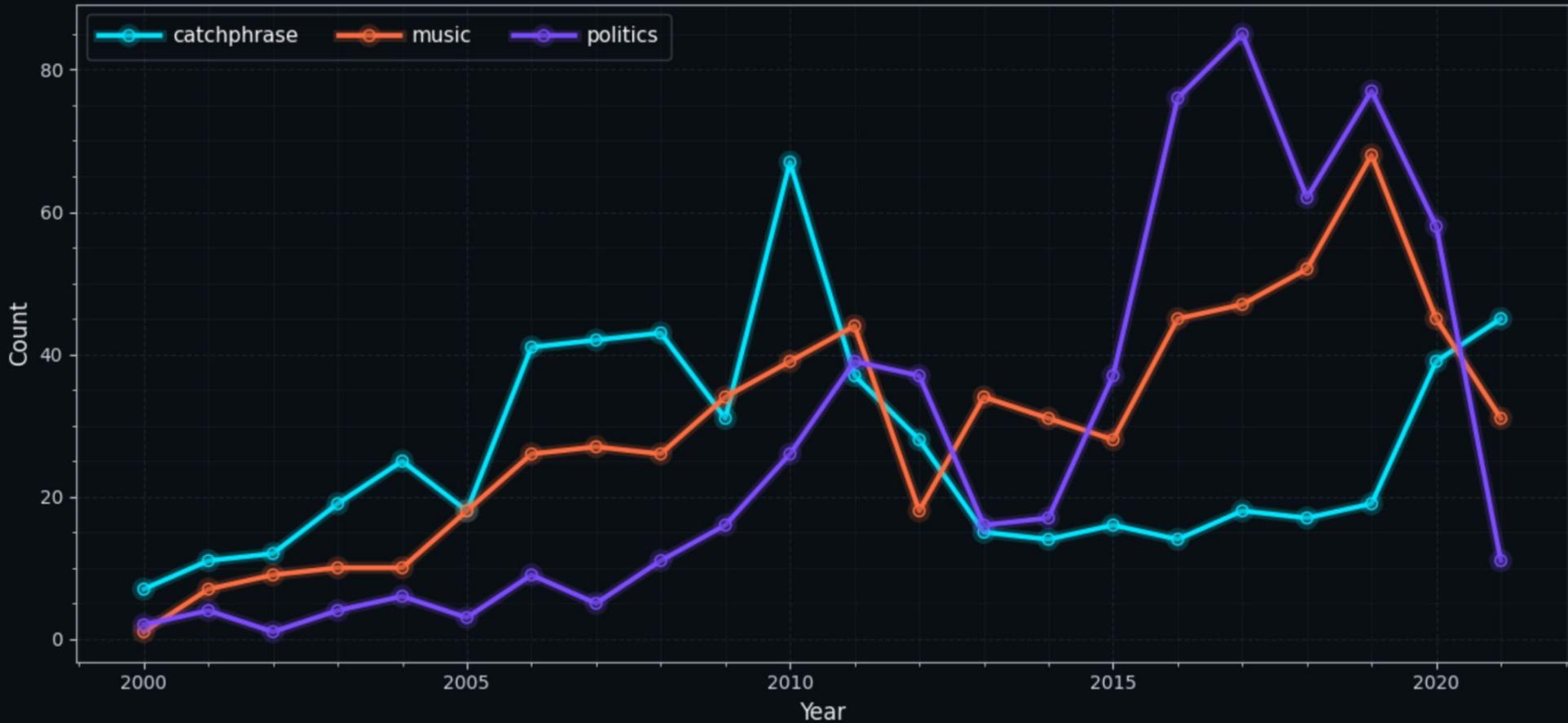
Meme Tags :
trump | obama | biden
elections | politics

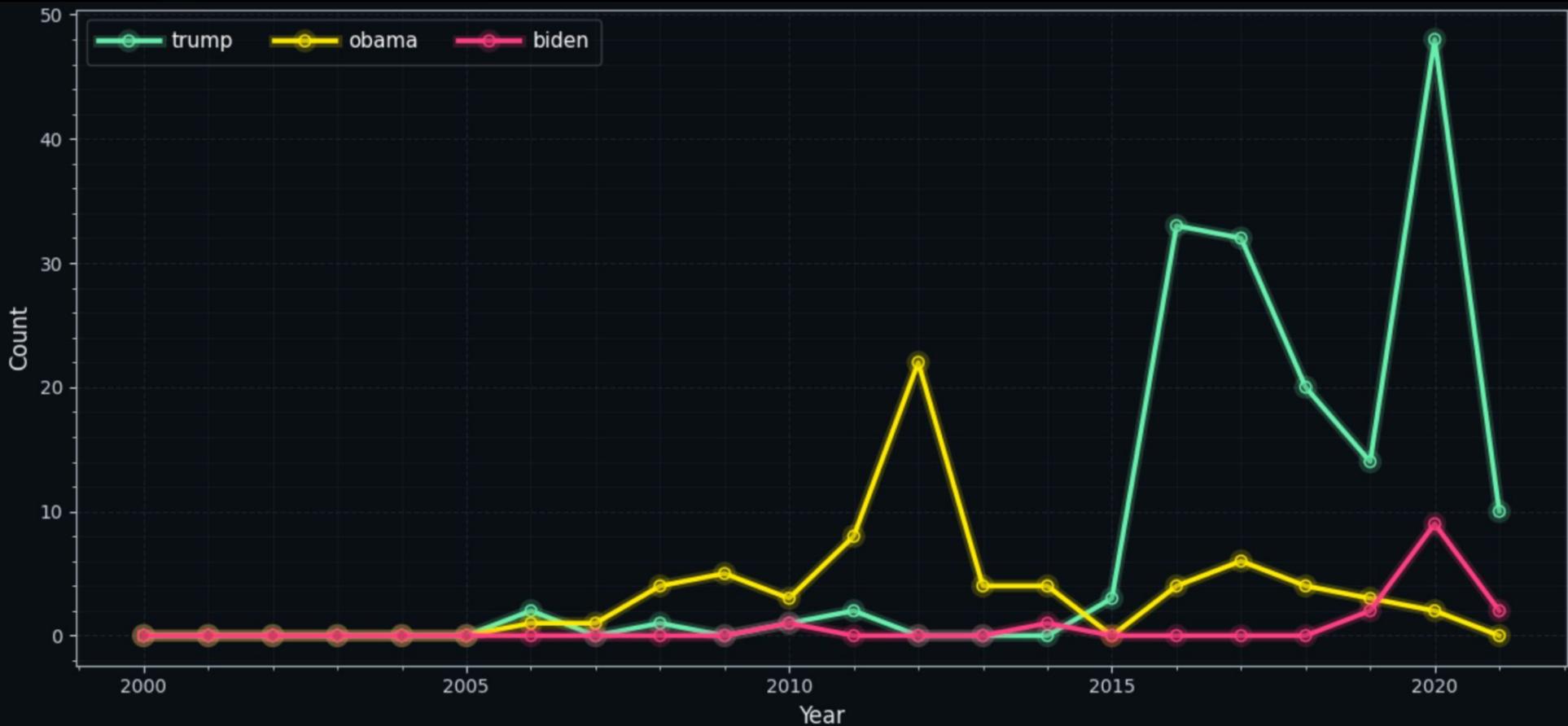


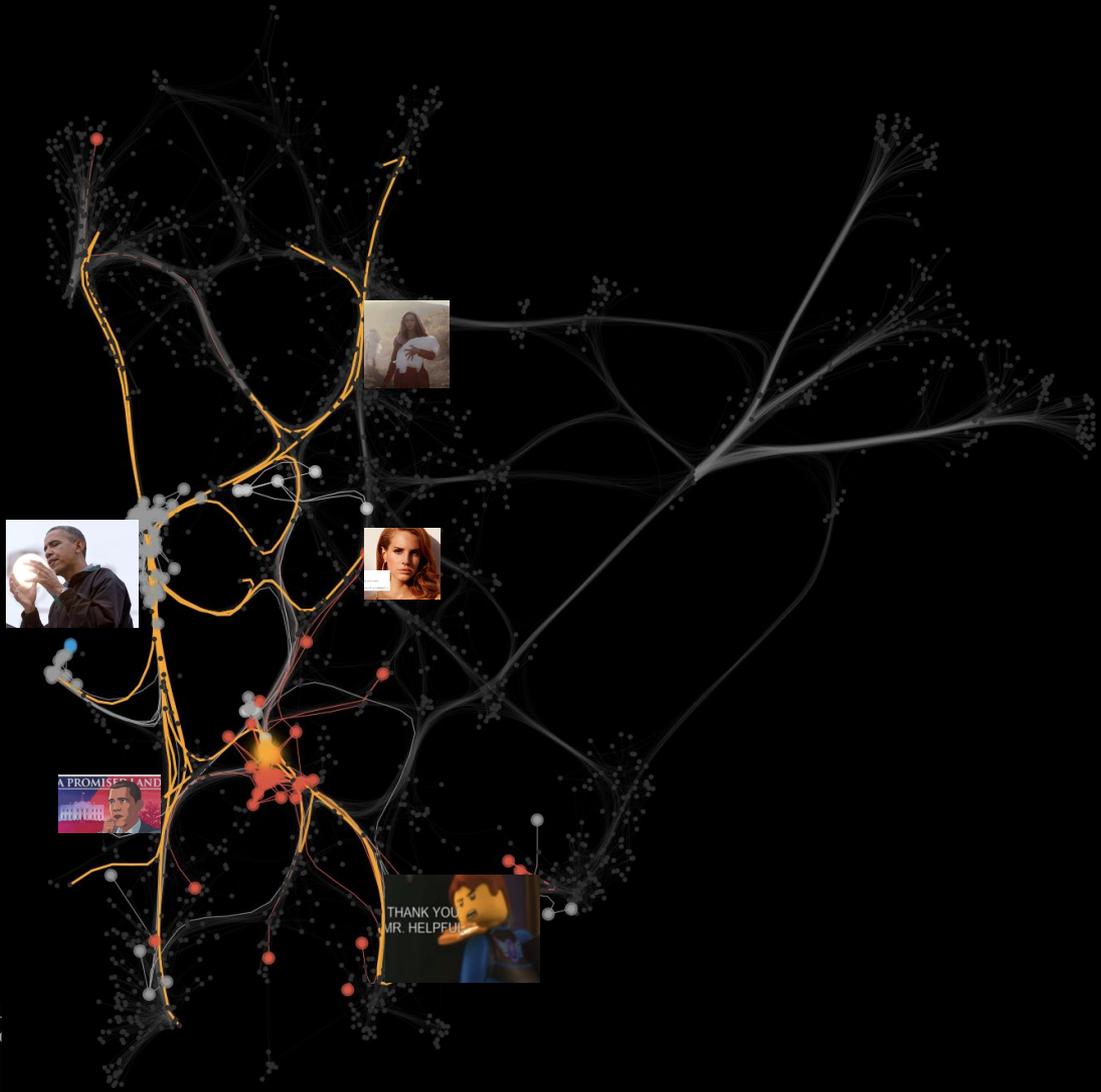
Felix Müller^{1,2}, Christiane Hütter^{1,2,3}, Cristian Nogueles^{1,2}, Iker Núñez-Carpintero¹, Philipp Friedrich¹, Sebastian Pirch^{1,2}, Martin Chietini^{1,2}, Jörg Menche^{1,2,4,5}

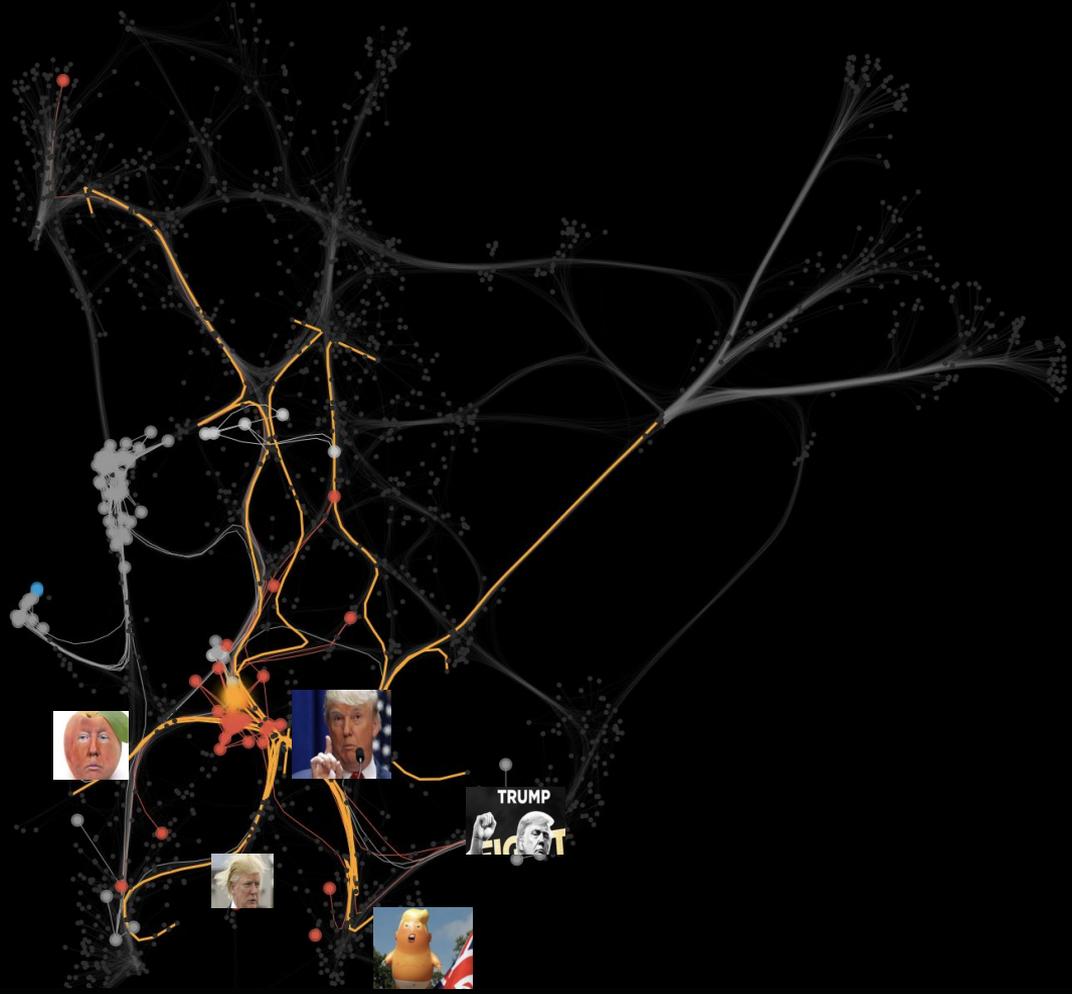
1. Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany; 2. Max Planck Institute for Dynamics in Complex Technical Systems, Leipzig, Germany; 3. Max Planck Institute for Informatics, Saarbrücken, Germany; 4. Max Planck Institute for Software Research, Saarbrücken, Germany; 5. Max Planck Institute for the History of Science, Berlin, Germany







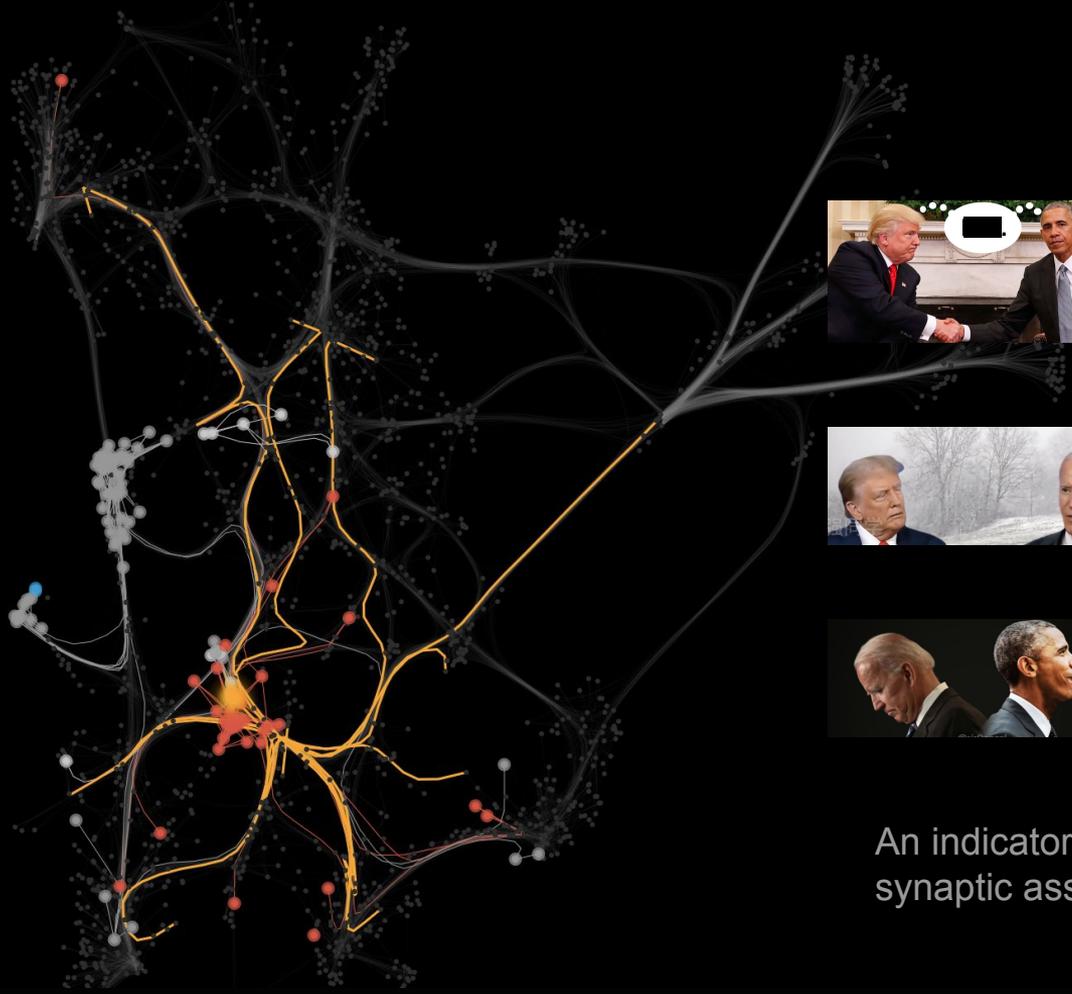




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1. Max Planck Institute of Mathematics in the Sciences, Leipzig, Germany; 2. Leipzig Center for Systems Biology, Leipzig, Germany; 3. Institute for Data Science in Chemistry, Leipzig, Germany; 4. Institute for Information Systems, Leipzig, Germany; 5. Institute for Complex Systems, Leipzig, Germany





Network distance



trump - obama = 4.1



trump - biden = 4.3

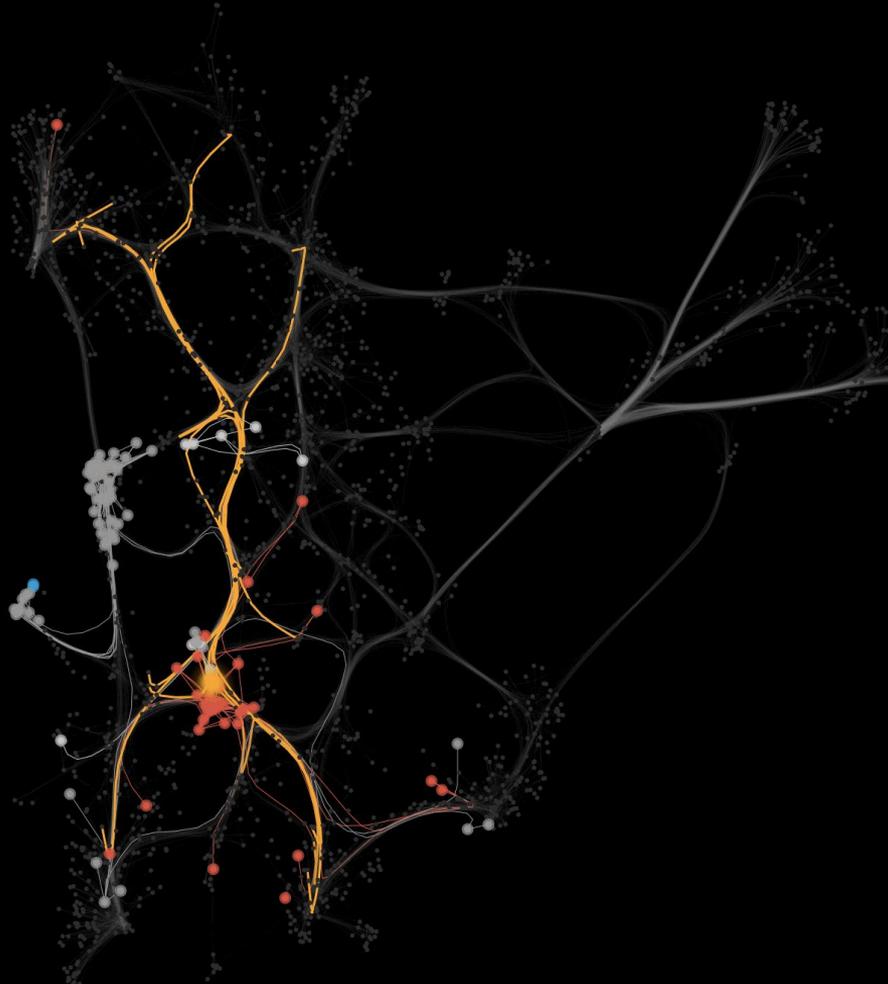


biden - obama = 4.2

An indicator of collective synaptic associability...?



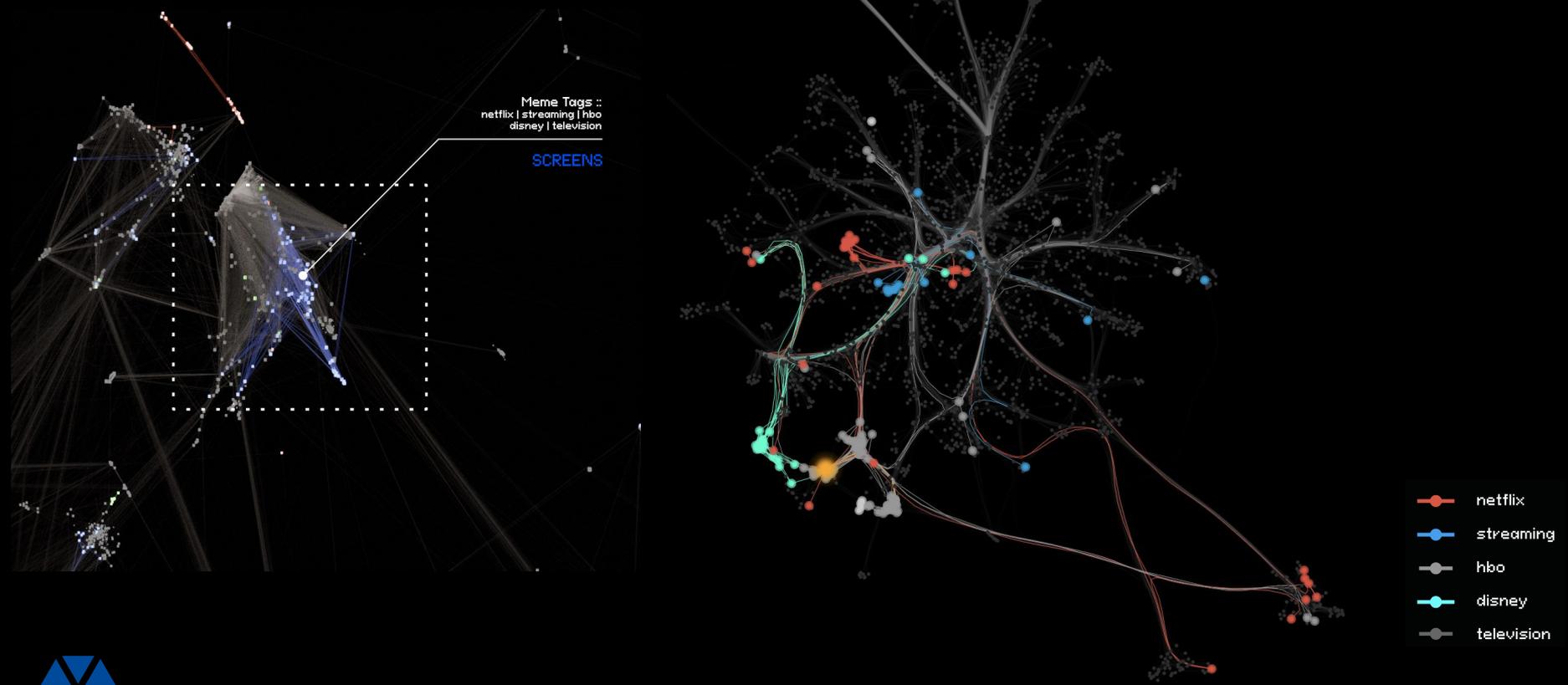
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1) Max Planck Institute for Intelligent Systems, 2) Max Planck Institute for Informatics, 3) Max Planck Institute for Software Research, 4) Max Planck Institute for the Science of Team Science, 5) Max Planck Institute for Evolutionary Biology



the emotional echo of cultural intelligences

Meme Tags ::
netflix | streaming | hbo
disney | television

SCREENS



- Layers
- ✓ year_2021
 - ✓ year_2020
 - ✓ year_2019
 - ✓ year_2018
 - ✓ year_2017
 - ✓ year_2016
 - ✓ year_2015
- Clusters
- ✓ twitter_instagram
 - ✓ youtube_instagram
 - ✓ twitter_meme_instagram_reddit
 - ✓ no_tag
 - ✓ twitter_tiktok_instagram
 - ✓ 4chan_facebook
 - ✓ youtube_4chan
- Origins
- ✓ Unknown
 - ✓ Meme

Display Options

- ✓ Orthographic View
- ✓ Intralayer Edges
- ✓ Show Nodes
- Show Node Labels
- Show Inter Stats Bars
- ✓ Line Antialiasing

Blend Mode: Additive

Intralayer Width: 1.0000

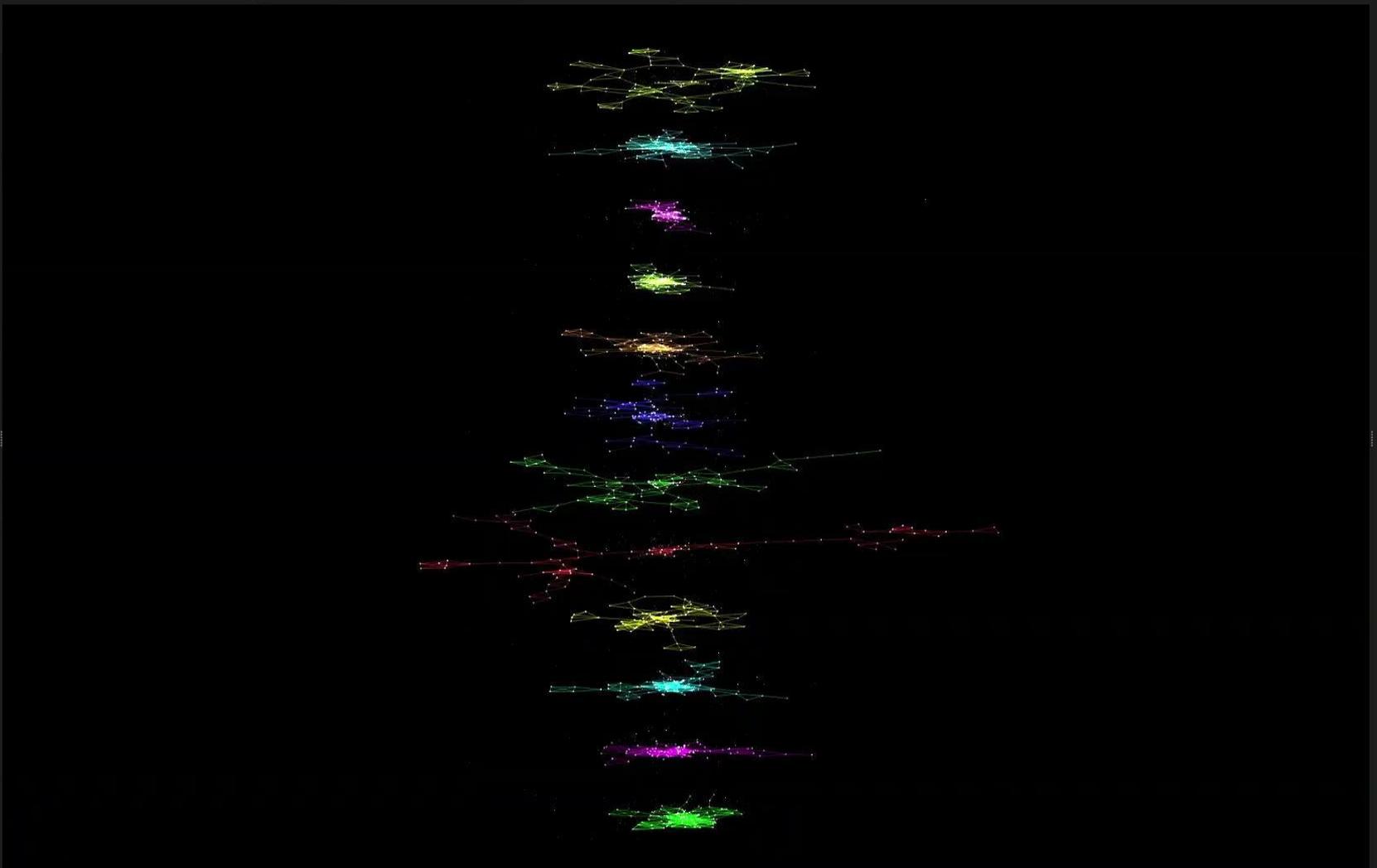
Interlayer Width: 1.0000

Intralayer Opacity: 1.02

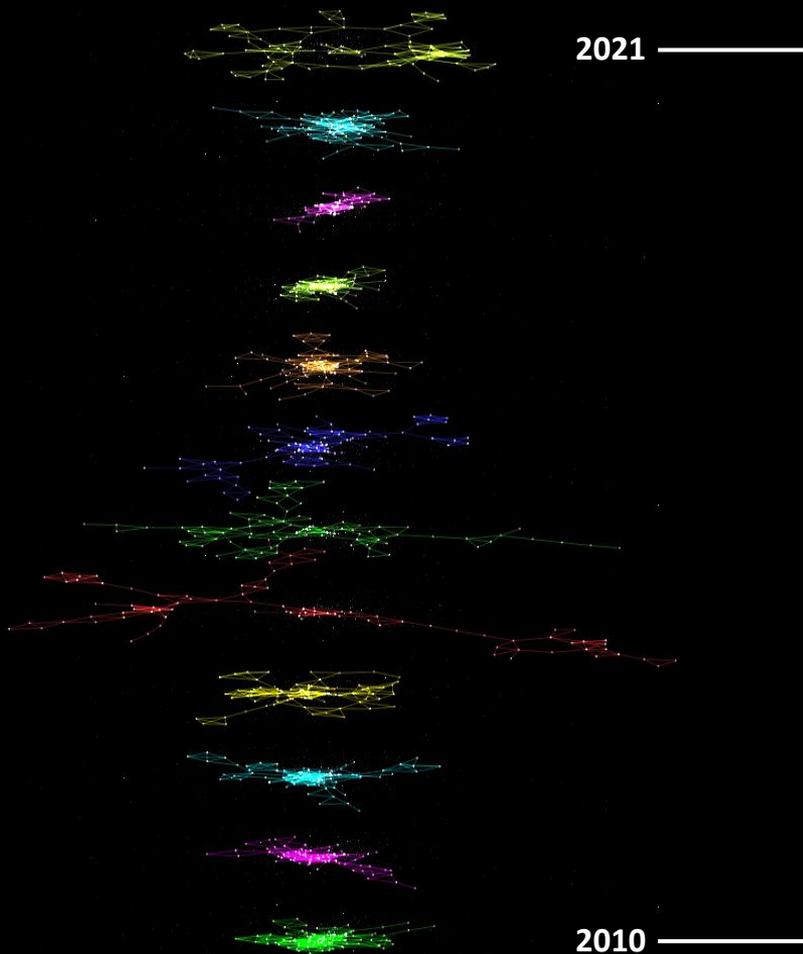
Interlayer Opacity: 0.5000

Node Size: 0.40

Node Opacity: 1.0000



Multiplex Echo of Social Media



Multiplex Echo of Social Media

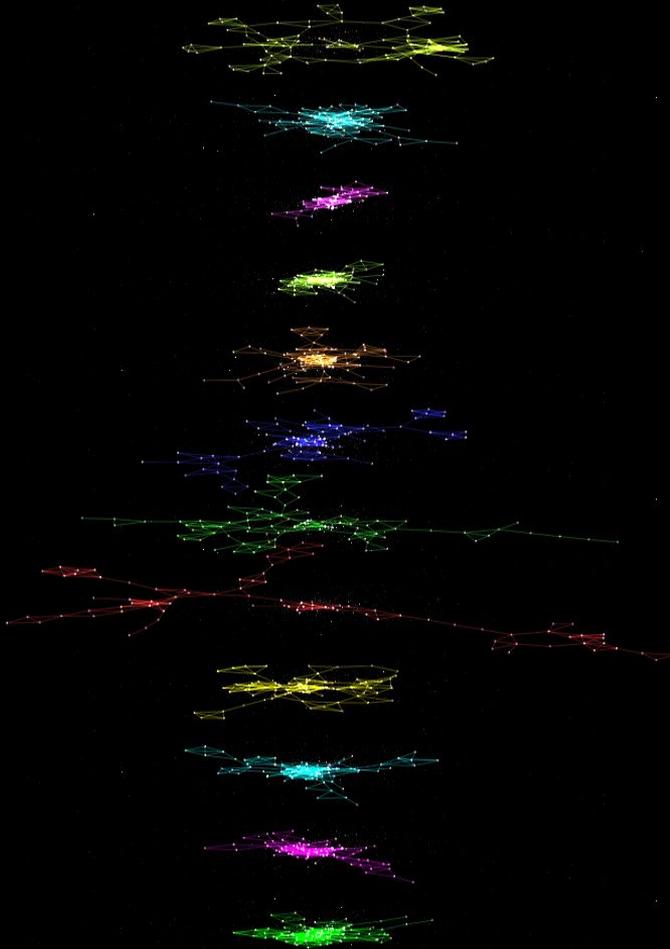


2017

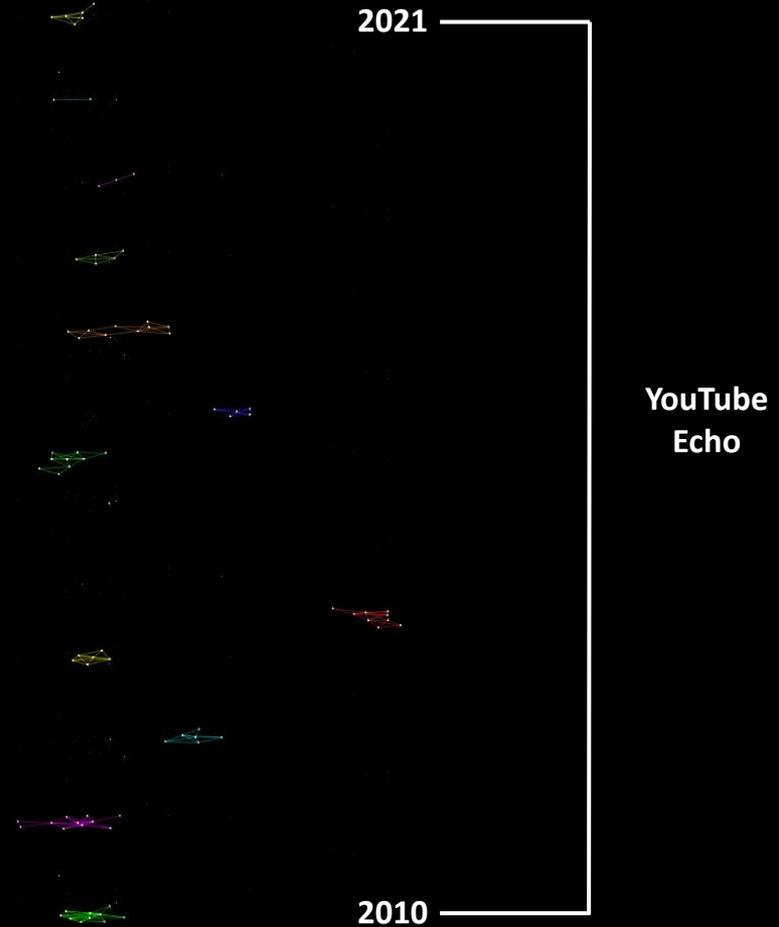
2010

4chan
Echo

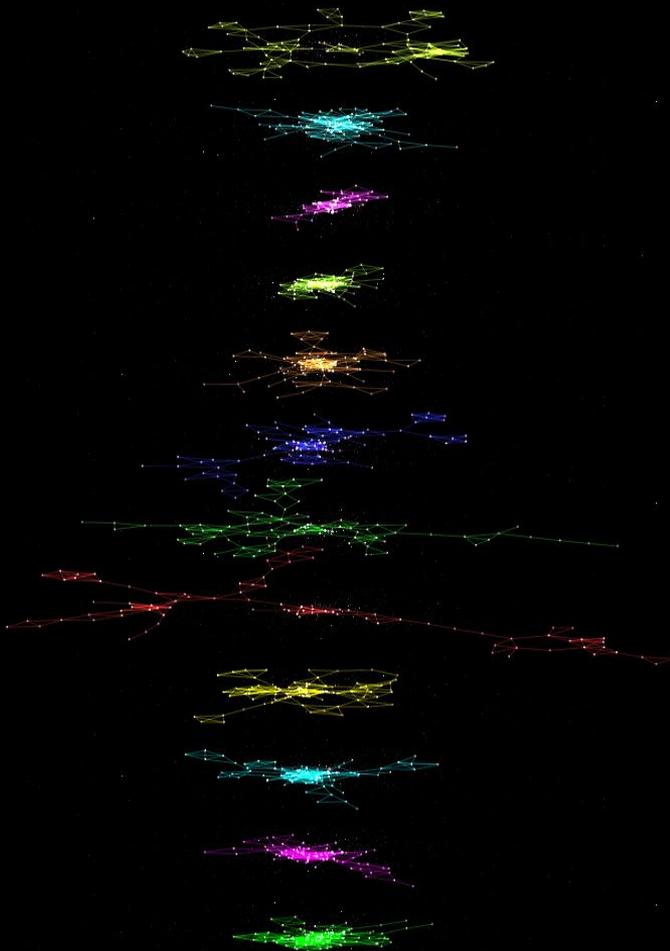
Multiplex Echo of Social Media



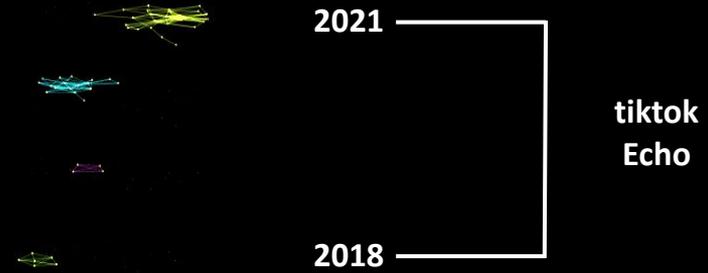
Multiplex Echo of Social Media



Multiplex Echo of Social Media

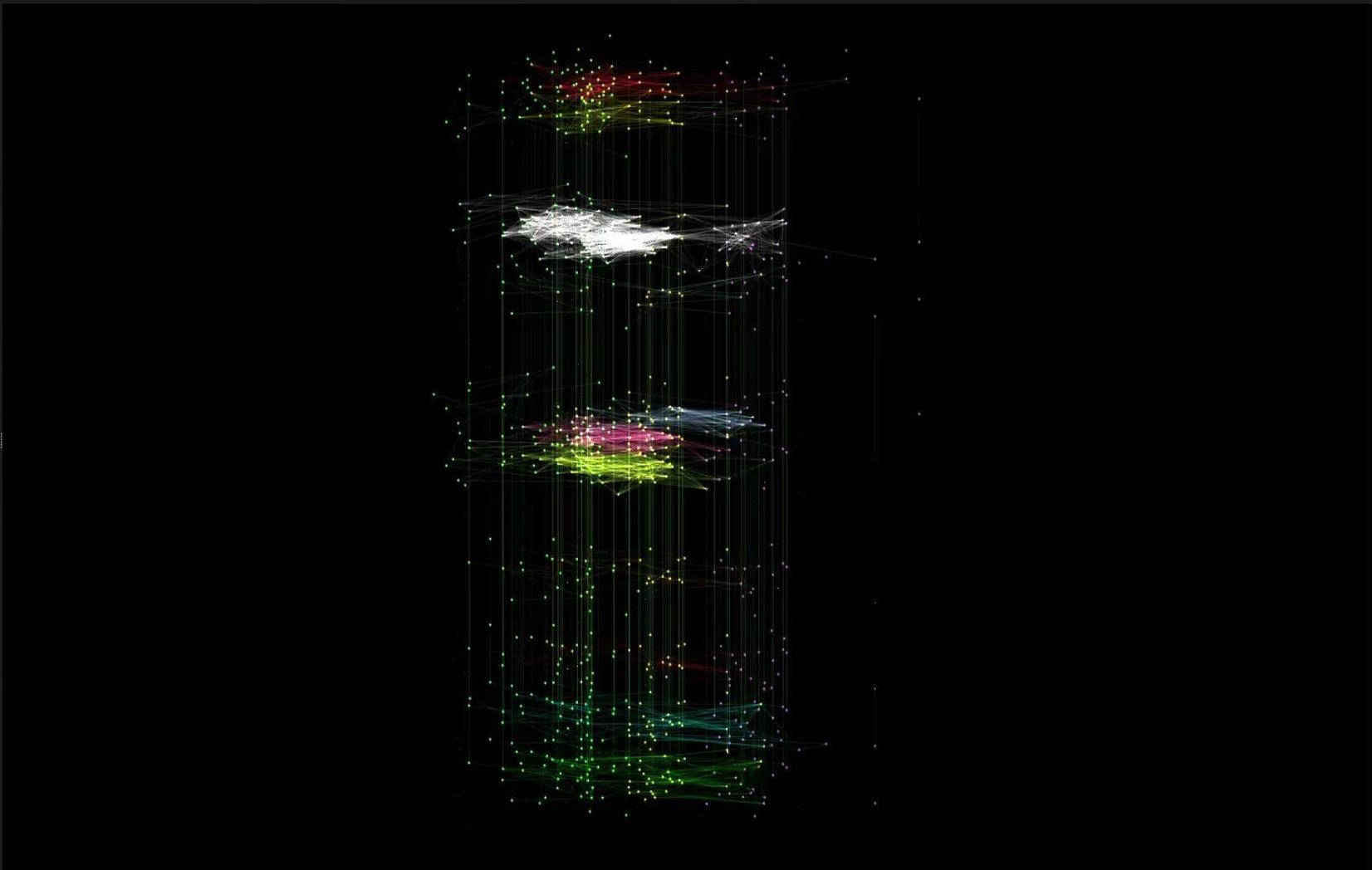


Multiplex Echo of Social Media



- Layers
- ppi_small_intestine
 - coex_THY
 - ppi_prostate
 - ppi_hypothalamus
 - ppi_skeletal muscle
 - ppi_brain
 - ppi_heart
- Clusters
- CM_3 & HC_4
 - CM_11
 - CM_8
 - CM_1
 - CM_7 & HC_2
 - CM_13 & HC_7
 - HC_3
- Origins
- Congenital Myopathies & Hereditary Cardiomyopathies
 - RWR Added & Hereditary Cardiomyopathies
 - Congenital Myopathies
 - Hereditary Cardiomyopathies
 - RWR Added
 - RWR Added & RWR Added

- Display Options
- Orthographic View
 - Intralayer Edges
 - Show Nodes
 - Show Node Labels
 - Show Inter Stats Bars
 - Line Antialiasing
- Blend Mode: Additive
- Intralayer Width: 1.0000
- Interlayer Width: 1.0000
- Intralayer Opacity: 0.39
- Interlayer Opacity: 0.15
- Node Size: 0.53
- Node Opacity: 1.0000



- Layers
- coex_HRV
 - coex_HRA
 - ppi_adrenal_gland
 - ppi_pituitary_gland
 - ppi_testes
 - ppi_uterus
- Clusters
- HC_6
 - HC_2
 - HC_7 & DM_2
 - CM_8 & HC_2 & DM_2
 - CM_8 & HC_2
 - CM_10
 - CM_6 & HC_3
- Origins
- Congenital Myopathies & Hereditary Cardio
 - RWR Added & Hereditary Cardiomyopathies
 - Congenital Myopathies & Hereditary Cardio
 - RWR Added & Hereditary Cardiomyopathies
 - Distal Myopathies
 - Congenital Myopathies
 - Hereditary Cardiomyopathies

Display Options

- Orthographic View
- Intralayer Edges
- Show Nodes
- Show Node Labels
- Show Inter Stats Bars
- Line Antialiasing

Blend Mode: Additive

Intralayer Width: 1.0000

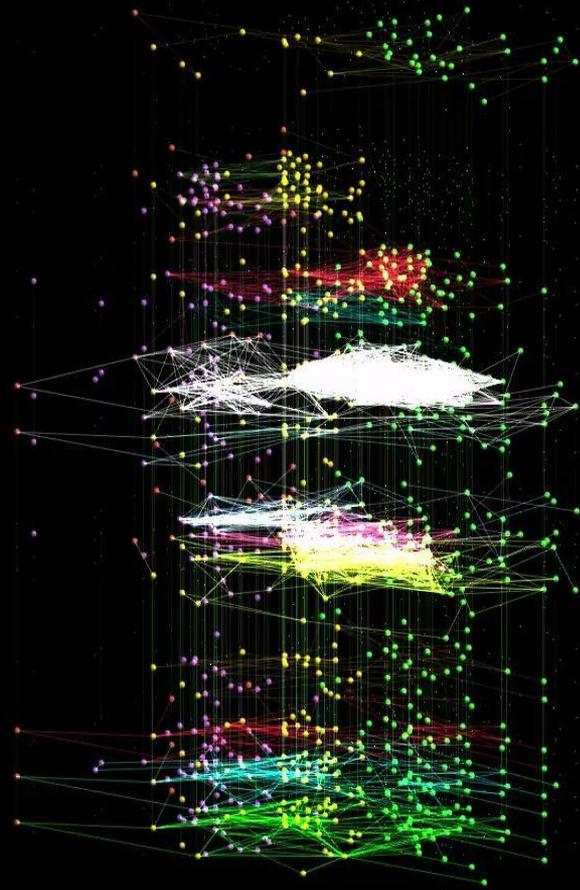
Interlayer Width: 1.0000

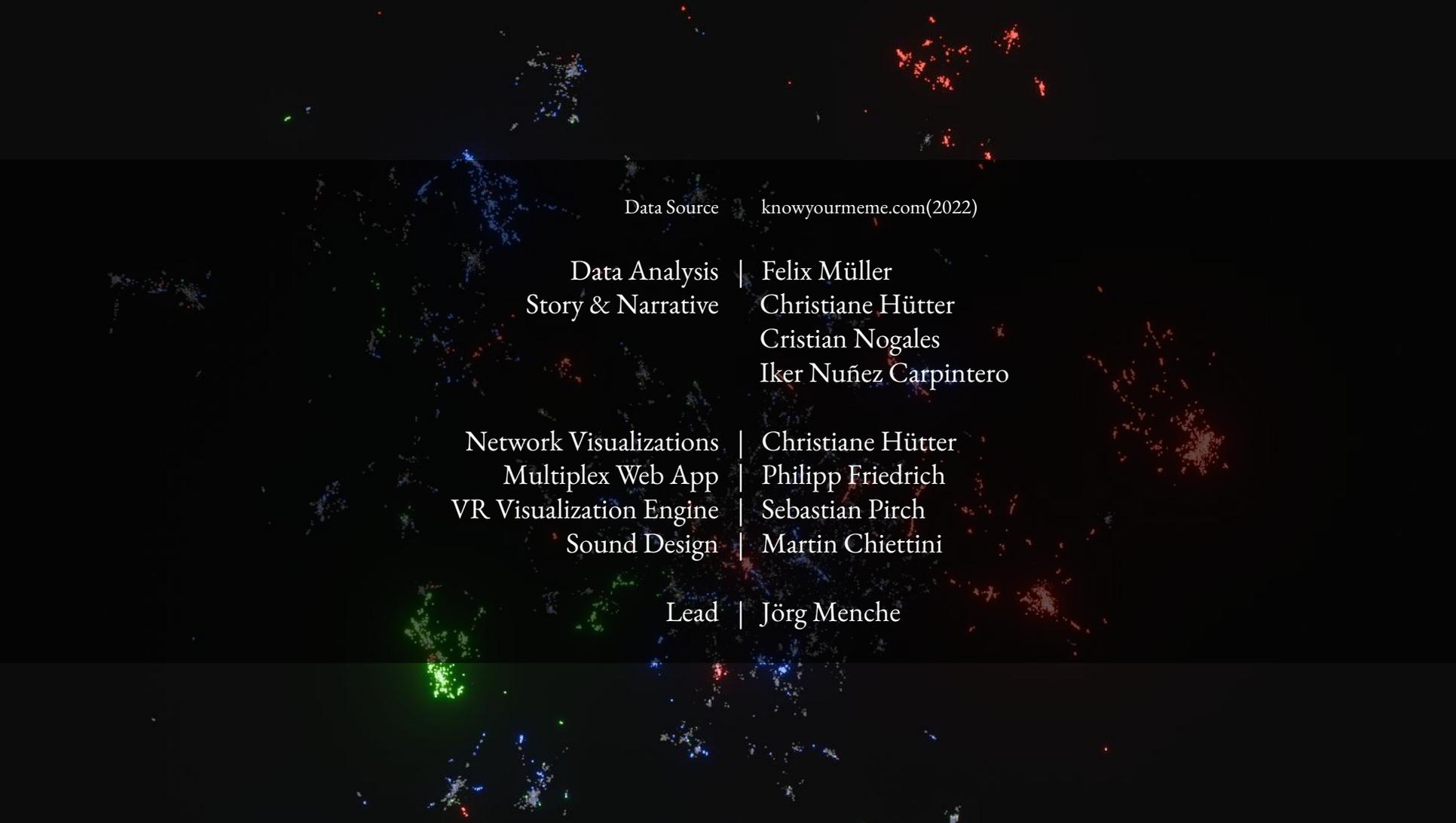
Intralayer Opacity: 0.63

Interlayer Opacity: 0.15

Node Size: 0.83

Node Opacity: 1.0000





Data Source | knowyourmeme.com(2022)

Data Analysis | Felix Müller
Story & Narrative | Christiane Hütter
Cristian Nogales
Iker Nuñez Carpintero

Network Visualizations | Christiane Hütter
Multiplex Web App | Philipp Friedrich
VR Visualization Engine | Sebastian Pirch
Sound Design | Martin Chiettini

Lead | Jörg Menche

24h Envisioning Intelligences
event slides and video recordings:



Call for exhibit submissions:
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