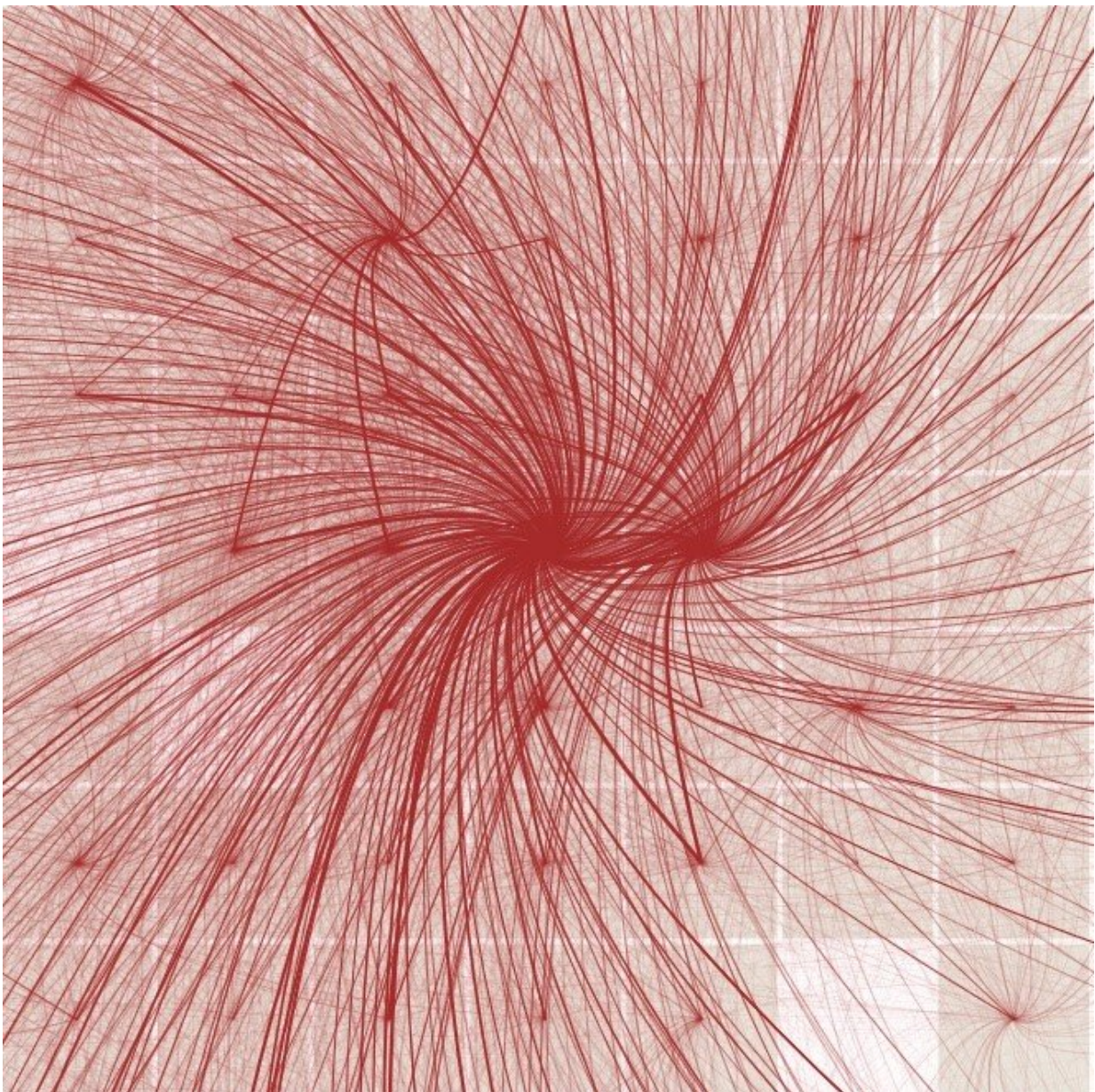


# The challenges arising from the collaboration between epidemiological modelers and visualization researchers

September 26 2022, by John Stevenson

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Flows of commuters to Central Glasgow data zones represented in a design developed by giCentre researchers as epidemiologists explored the effects of different assumptions about lockdown policies on their disease modeling. Credit: City, University of London giCentre, Department of Computer Science. London.

Academics in City's giCentre, Professor Jason Dykes, Professor Jo Wood, Dr. Aidan Slingby and Dr. Radu Jianu, have co-authored a research paper published in *Philosophical Transactions of the Royal Society A* revealing some of the challenges, solutions, and recommendations springing from the collaboration between epidemiological modelers and visualization researchers.

Their paper reports on an ongoing collaboration between epidemiological modelers and [visualization](#) researchers by documenting and reflecting upon knowledge constructs—a series of ideas, approaches and methods taken from existing visualization research and practice—deployed and developed to support modeling of the COVID-19 pandemic.

## **Spatial and temporal scales**

This article is part of the theme issue "Technical challenges of modeling real-life epidemics and examples of overcoming these."

The paper examines many of the issues with which modelers working on the COVID epidemic have had to grapple and how they can be addressed through effective interactive visualization. For example, How much detail should be included in the model?; What data should be used as inputs for the model and using what spatial and temporal scales?; What

are the effects of using different datasets and model parameter settings on model outputs—and how do these effects vary? Results of the RAMP activity were fed into SPI-M, the Scientific Pandemic Influenza Group on Modeling.

Professor Dykes, who directs the giCentre, City's Data Visualization research Group, hopes that the paper helps to show how visualization can be applied to develop scientific insights and "may stimulate mutually beneficial engagement between communities with complementary expertise to address problems of significance in epidemiology and beyond." Direct links to the interactive supplementary materials provided with the paper are intended to help with the kind of knowledge transfer required for such engagement.

**More information:** Jason Dykes et al, Visualization for epidemiological modelling: challenges, solutions, reflections and recommendations, *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences* (2022). [DOI: 10.1098/rsta.2021.0299](https://doi.org/10.1098/rsta.2021.0299)

giCenter tools:

Derived Data Space: [observablehq.com/d/78b20aa4152547e2](https://observablehq.com/d/78b20aa4152547e2)

Gridded GlyphMaps: [observablehq.com/@aidans/rampv...om-gridded-glyphmaps](https://observablehq.com/@aidans/rampv...om-gridded-glyphmaps)

OD Maps: [observablehq.com/@jwolondon/rampvis\\_idiom\\_odmap](https://observablehq.com/@jwolondon/rampvis_idiom_odmap)

Provided by City University London

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