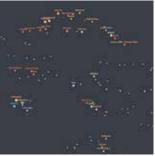# 2021 Call for Macroscopes

Background and Goals

The *Places & Spaces: Mapping Science* exhibit is designed to open people's minds and hearts to the value, complexity, and beauty of science and technology. We are inviting authors of interactive data visualizations, also called macroscopes, to submit their work for inclusion in the *Places & Spaces: Mapping Science* exhibit.

Places & Spaces: Mapping Science is a traveling exhibit that currently features 100 maps and 20 interactive macroscopes from a wide range of disciplines. Since 2005, the exhibit has traveled to 28 countries and appeared in various formats at over 382 venues and events, including the Davos Economic Forum, National Academy of Sciences, and the New York Public Library. News coverage has appeared in *Nature*, *Science*, *USA Today*, and *Wired*.

Macroscopes are software tools that help us focus on patterns in data that are too large or complex to see with the naked eye. The term macroscope was first coined in 1979 by Joël de Rosnay in a book titled *The Macroscope: A New World Scientific System* [1]. To meet the challenges posed by the rapidly increasing abundance, diversity, and complexity of information, de Rosnay proposes the macroscope, a tool for observing "what is at once too great, too slow, and too complex for our eyes."

The exhibit seeks macroscopes that help people interact with and understand data in new ways. Macroscopes that use novel data sets and algorithms, or employ innovative user interface designs are particularly welcome. The exhibit aims to set de facto standards for mapping the landscape of education, science, and technology, see http://scimaps.org/iteration/macroscopes for macroscopes already included in the exhibit.

As in years past, we welcome submissions from any area of science. However, this year we are particularly interested in macroscopes that help us better understand, prepare for, or confront the many challenges we

face as a people. The Covid-19 global pandemic has thrown a spotlight on—and in many cases exacerbated the impact of—long-standing inequalities in health care, education, employment, and well-being. Many communities struggle with issues of mental health and drug addiction. And, of course, we are still in the midst of an environmental crisis that seems to grow more dire everyday. Thus, the need is great for macroscope tools that can have a real impact on the way we confront these and the many other challenges ahead.

References

[1] de Rosnay, Joël. 1979. *The Macroscope: A New World Scientific System*. New York: Harper & Row.

Submission Details

Interactive data visualizations designed for desktop, mobile, touch-enabled, and/or large (e.g., tiled wall) devices are all welcome. To be incorporated into our exhibit kiosk, macroscopes must be 1) web-based, 2) touch-enabled, 3) allowed to run inside an iframe element, 4) have CORS enabled for http://idemo.cns. iu.edu, and 5) served over HTTPS. Macroscopes will be deployed on a 46" multi-touch display running Ubuntu 18.04 LTS and Chrome 69. Each macroscope should be fully functional for at least two years. Macroscopes might be deployed using other hardware, please contact the curatorial team to discuss options. Macroscope authors should be available to work with the exhibit staff over a period of three months to prepare the macroscopes for public display and travel.

Each entry must be submitted by March 15, 2021, and needs to include:

- Title of macroscope
- Author(s) name, email address, affiliation, mailing address
- Link to online site that features the macroscope tool or to executable code
- Macroscope tool description (300 words max): user group and needs served, data used, data analysis performed, visualization techniques applied, and main insights gained
- References to relevant publications or online sites that should be cited, links to related projects or works
- Describe the impact your data visualization has had on public awareness, social policy, or political action.
- Submit entries via the link below.

Review Process

Submissions will be reviewed and evaluated by the exhibit advisory board (listed below) in terms of their:

- Scientific rigor
- Value as a tool for data exploration
- Ability to provide new, actionable insights
- Relevance for a general audience

Final Submission

Authors of winning entries will be contacted by April 15, 2021 and invited to submit final entries by May 30, 2021. Each final entry consists of:

- Link to online site that features the macroscope tool or link to executable code. This must be a fully self-contained version of the macroscope that can operate without any outside links and without opening new windows.
- Biographies for all authors (100 words each)
- High resolution author portraits that are no smaller than 360 x 450 pixels, or 1.2" x 1.5" at 300 dpi.
- Signed copyright and reproduction agreement

Authors are welcome to use the expertise and resources of the exhibit curators and designers. The macroscopes are expected to be ready for display by August 31, 2021.

Exhibit Advisory Board

- **Gary Berg-Cross**, Cognitive psychologist
- **Donna Cox**, Advanced Visualization Laboratory, University of Illinois at Urbana-Champaign
- **Bonnie DeVarco**, Media X, Stanford University
- **Ingo Günther**, Karlsruhe Univerity of Art and Design
- **Francis Harvey**, Cartography and Visual Communication, Leipzig University
- **Peter A. Hook**, LawArXiv, Cornell Law Library
- **Lev Manovich**, Computer Science, The Graduate Center, City University of New York
- **Elijah Meeks**, Netflix
- **André Skupin**, Geography, San Diego State University
- **Olga Subiros**, Big Bang Data, Olga Subiros Studio
- **Stephen Uzzo**, New York Hall of Science
- **Benjamin Wiederkehr**, Interactive Things

Please feel free to send any questions you might have regarding the judging process to Katy Börner (katy@indiana.edu) and use the subject heading "Macroscope Inquiry."