



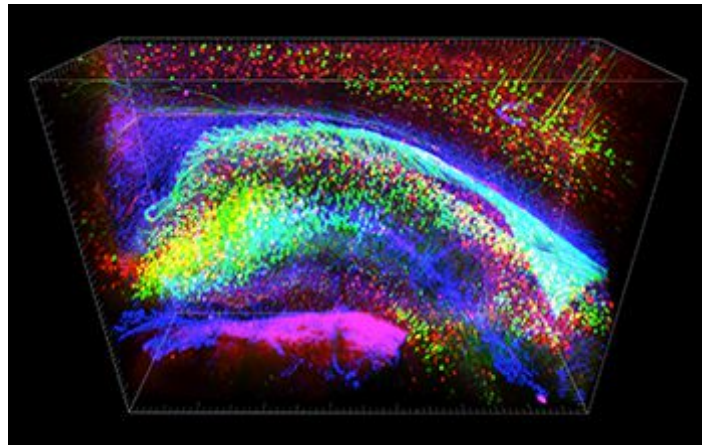
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## Impact

# New window into brain lets researchers study brain disorders

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**New technique renders brain 'transparent,' allows scientists to reconstruct neural circuitry**



NSF-funded scientists developed a new imaging technology to see into the brain.  
[Credit and Larger Version \(/impacts/impact\\_images.jsp?cntn\\_id=244098&org=NSF\)](/impacts/impact_images.jsp?cntn_id=244098&org=NSF)

**January 2, 2018**

Until recently, the composition of brain tissue limited researchers' insights into the brain's neural circuitry and function.

NSF-funded scientists developed a technique called CLARITY to chemically dissolve opaque elements and replace them with a hydrogel, essentially rendering the brain transparent. When used with fluorescent markers, CLARITY lets researchers precisely reconstruct the brain's neural circuitry in 3-D and analyze how changes to the brain may underlie certain disorders such as autism or depression.

The technique has been hailed as a breakthrough in neuroscience.

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### **NSF Directorate(s):**

Directorate for Biological Sciences

### **Locations**

California

**Related Awards**

[#0724593 In vivo Technology for Fast Optical Control of Neural Circuits \(/awardsearch/showAward.do?AwardNumber=0724593\)](#)


**Related Websites**

CLARITY opens window to brain circuitry, new era for neuroscience:

[https://nsf.gov/news/mmg/mmg\\_disp.jsp?med\\_id=78002&from=](https://nsf.gov/news/mmg/mmg_disp.jsp?med_id=78002&from=) <[https://nsf.gov/news/mmg/mmg\\_disp.jsp?med\\_id=78002&from=](https://nsf.gov/news/mmg/mmg_disp.jsp?med_id=78002&from=)>

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