

# nature.com on iOS devices

iphone & iPad

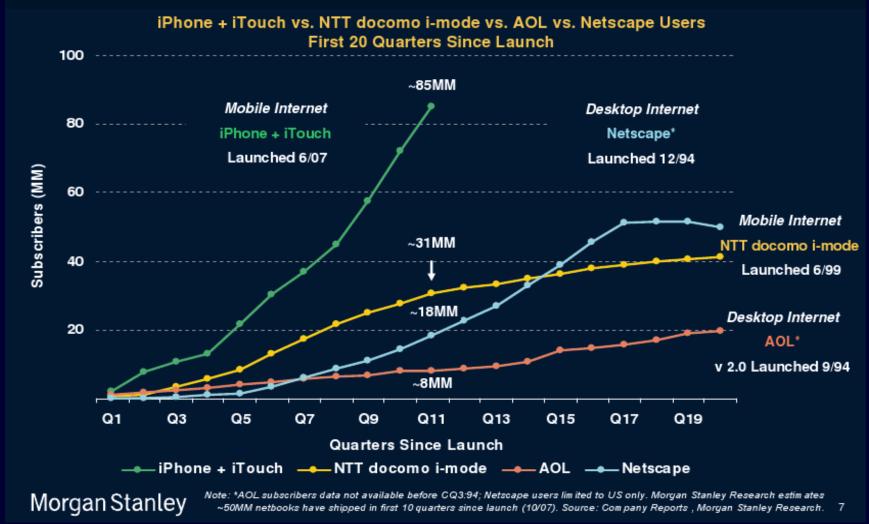




Photo by Sol Goldberg



## Mobile Internet Ramping Faster than Desktop Internet Did – Apple Leading Charge



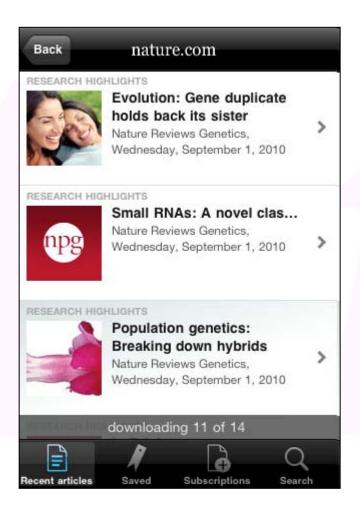




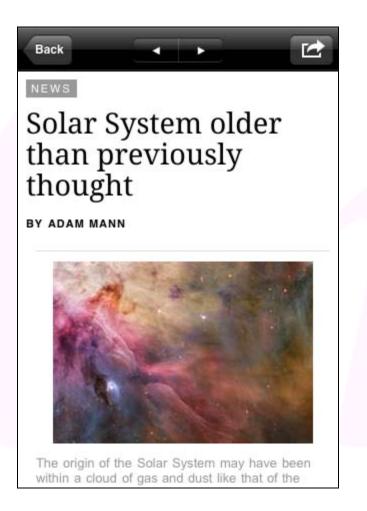
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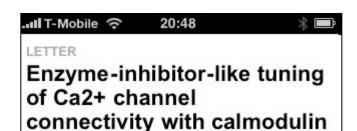






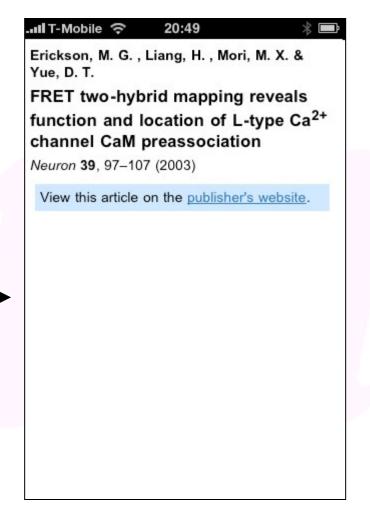






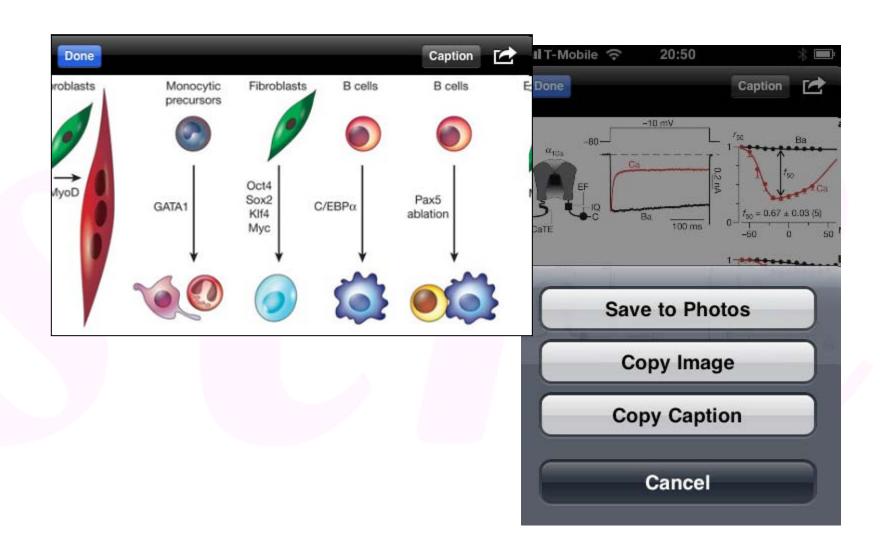
Xiaodong Liu, Philemon S. Yang, Wanjun Yang & David T. Yue

Ca<sup>2+</sup> channels and calmodulin (CaM) are two prominent signalling hubs <u>1</u> that synergistically affect functions as diverse as cardiac excitability <u>2</u>, synaptic plasticity <u>3</u> and gene transcription <u>4</u>. It is therefore fitting that these hubs are in some sense coordinated, as the opening of Ca<sub>V</sub>1–2 Ca<sup>2+</sup> channels are regulated by a single CaM constitutively complexed with channels <u>5</u>. The Ca<sup>2+</sup>-free form of CaM (apoCaM) is already pre-associated with the isoleucine–glutamine (IQ) domain on the channel carboxy terminus, and subsequent Ca<sup>2+</sup> binding to this 'resident'

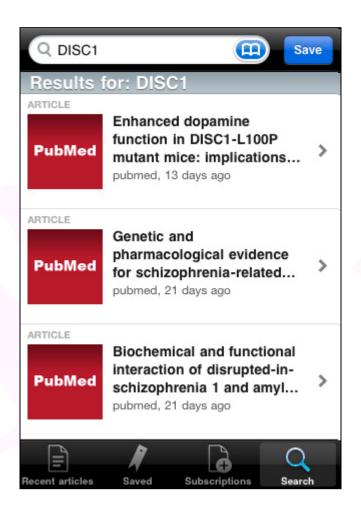


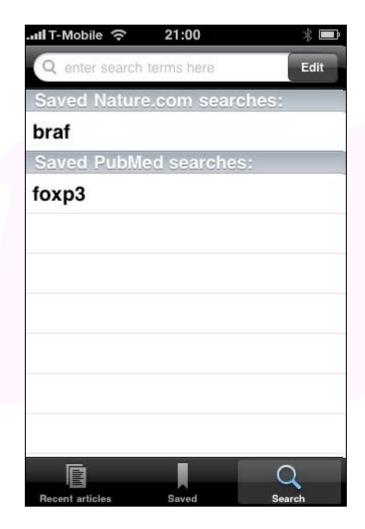
Screenshots from Martin Fenner













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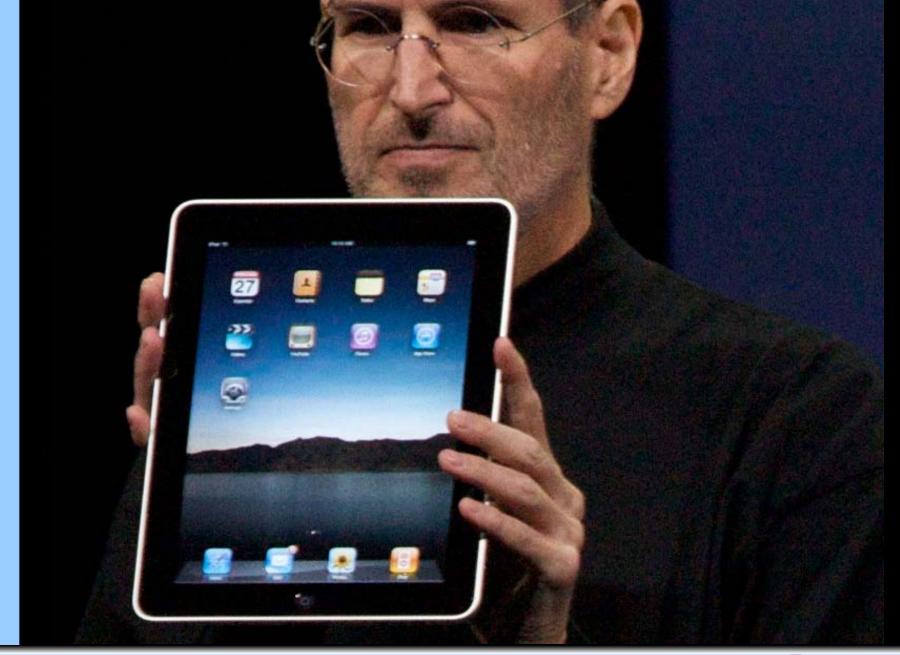


#### Marketing the app

 If you are not in the top 100, the App Store does not really help discoverability

Apple do not give you conversion rates



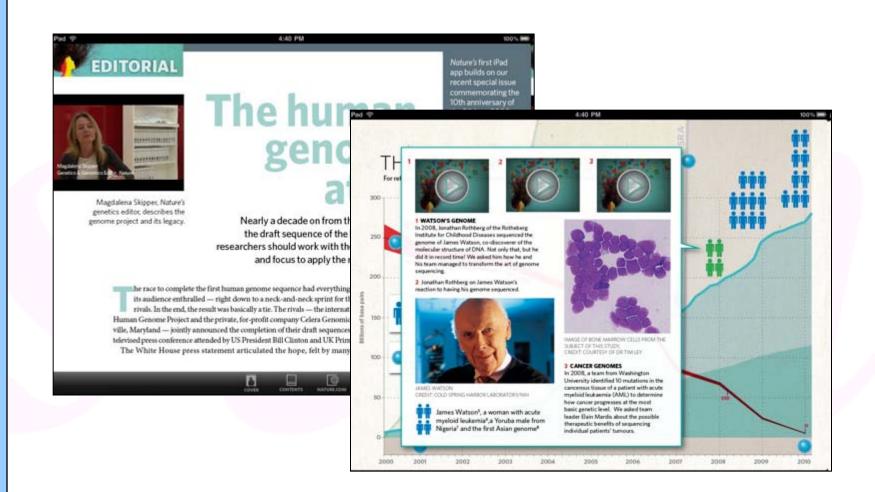


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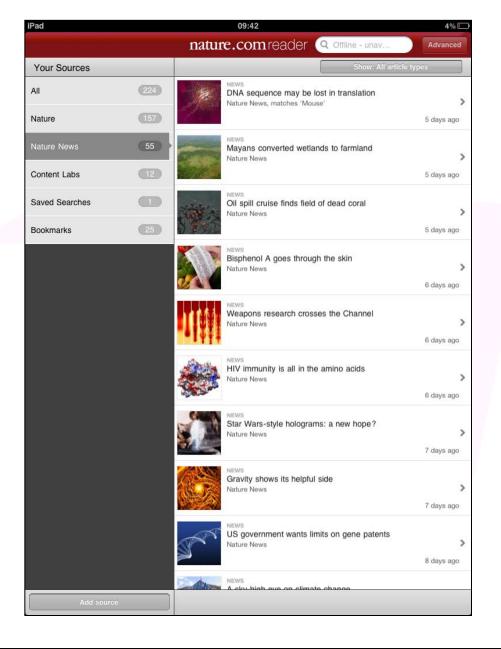
#### Tablets ≠ Mobiles



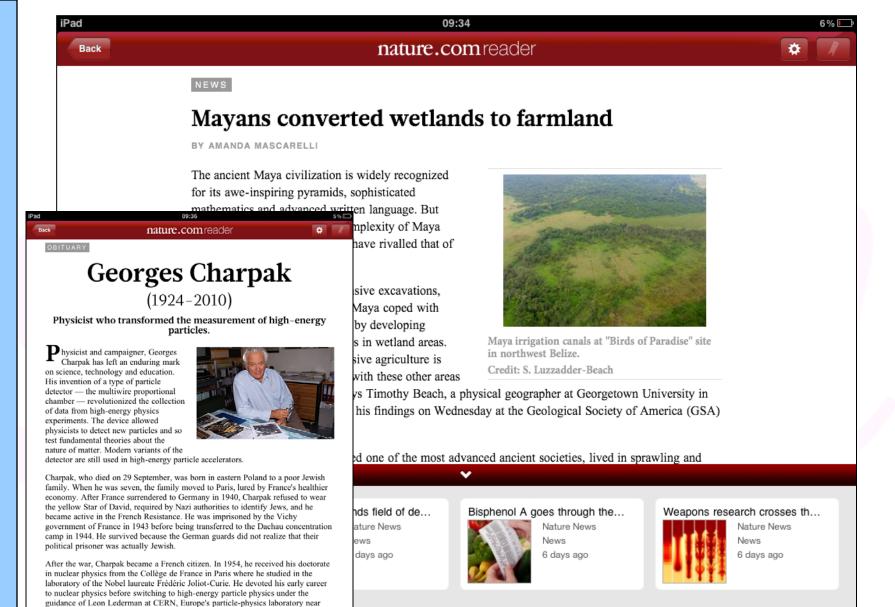






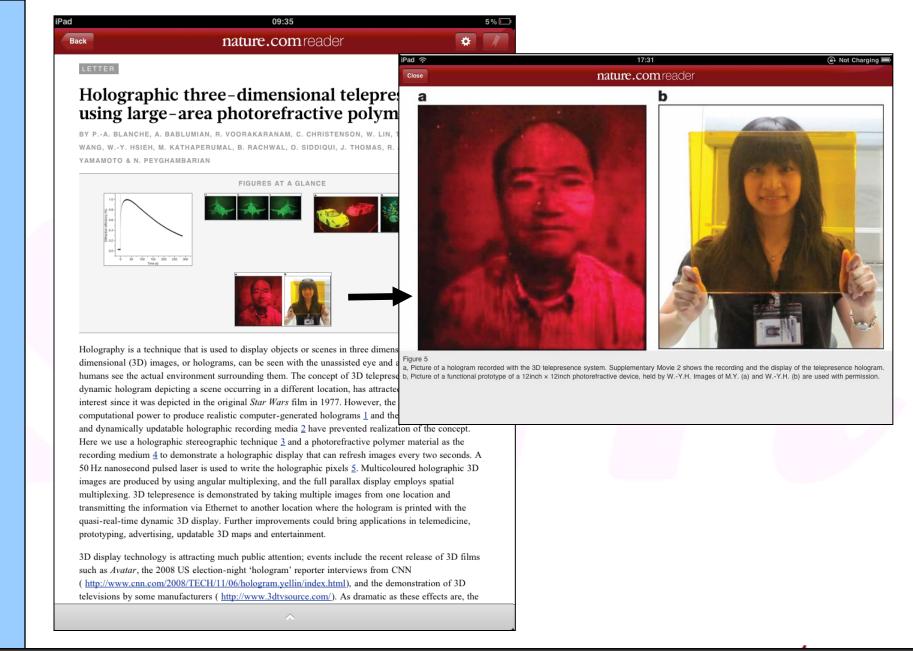






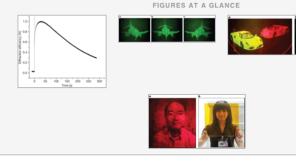
Geneva, Switzerland.











Holography is a technique that is used to display objects or scenes in three din dimensional (3D) images, or holograms, can be seen with the unassisted eye a humans see the actual environment surrounding them. The concept of 3D telep dynamic hologram depicting a scene occurring in a different location, has attrainterest since it was depicted in the original Star Wars film in 1977. However, computational power to produce realistic computer-generated holograms 1 and and dynamically updatable holographic recording media 2 have prevented real Here we use a holographic stereographic technique 3 and a photorefractive por recording medium 4 to demonstrate a holographic display that can refresh ima 50 Hz nanosecond pulsed laser is used to write the holographic pixels 5. Multivimages are produced by using angular multiplexing, and the full parallax displamultiplexing. 3D telepresence is demonstrated by taking multiple images from transmitting the information via Ethernet to another location where the holograquasi-real-time dynamic 3D display. Further improvements could bring applic prototyping, advertising, updatable 3D maps and entertainment.

3D display technology is attracting much public attention; events include the r such as *Avatar*, the 2008 US election-night 'hologram' reporter interviews from CNN (http://www.cnn.com/2008/TECH/11/06/hologram.yellin/index.html), and the demonstration of 3D televisions by some manufacturers (http://www.3dtvsource.com/). As dramatic as these effects are, the

write the holographic pixels 5. Multicoloured holographic 3D images are produced by using angular multiplexing, and the full parallax display employs spatial multiplexing. 3D telepresence is demonstrated by taking multiple images from one location and transmitting the information via Ethernet to another location where the hologram is printed with the quasi-real-time dynamic 3D display. Further improvements could bring applications in telemedicine, prototyping, advertising, updatable 3D maps and entertainment.

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3D display technology is attracting much public attention; events include the recent release of 3D films such as Avatar, the 2008 US electionnight 'hologram' reporter interviews from CNN (http://www.cnn.com/2008/TECH/11/06/hologram.yellin/index.html), and the demonstration of
3D televisions by some manufacturers (http://www.divsource.com/). As dramatic as these effects are, the technology used is based on
polarization stereoscopy (the technique currently used in cinemas and television), digital image fusion (in the case of CNN), or 2D
semitransparent screens (for musion; http://www.musion.co.uk/). As such, they have little to do with holography, which is the reproduction of
the amplitude and phase of light by diffraction §. Nevertheless, these examples show the great enthusiasm that the public, media and
industry share about 3D image rendering, and for a good reason: the human physiology has adapted to observe its environment in three
dimensions.

Holography, with its ability to recast the bath holography and the sease as it would have been scattered as it would have been scattered to hologram is so large that makin major issues, different solutions of a hologram from real objects holography), using the diffractic ease data management. Compa eyewear to perceive the 3D effects

Sang, X.

Demonstration of a large-size real-time full-color three-dimensional display

Opt. Lett. 34 3803-3805 (2009)

e), can be used to ne viewer to use by looking at the holographic stereography

worn by the observer.

roduce a high quality

14 or the synthesis

overcome those

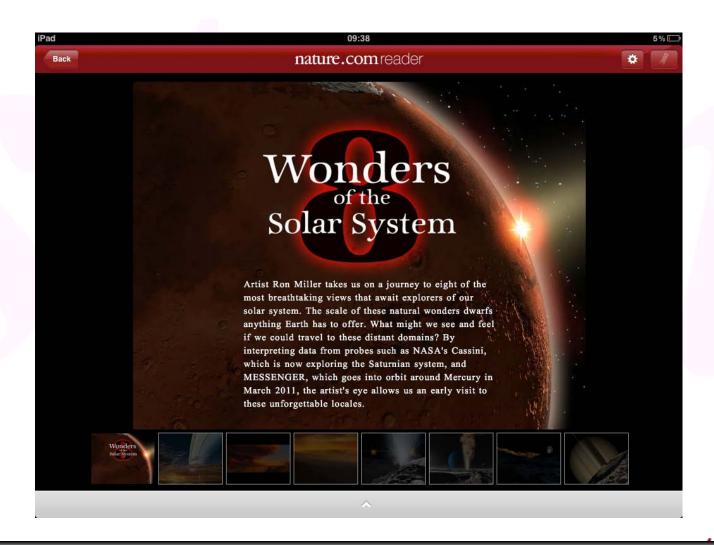
ed to as integral

screen from different angles. Applied to permanent holographic media such as silver halide films or photopolymers, holographic stereography is capable of providing excellent resolution and depth reproduction on large-scale 3D static images (<a href="http://www.zebraimaging.com">http://www.zebraimaging.com</a>): but dynamic updating capability has been missing until now.

Photorefractive inorganic crystals have been used in the past to demonstrate refreshable holographic displays 17 18. However, such systems suffer from the disadvantage that crystalline materials are not scalable in size owing to their laborious growth process, and thus are not well suited for display applications. Our group has introduced an updatable holographic 3D display based on the holographic stereographic technique using photorefractive polymeric materials 19. Although this was an important step towards dynamic holography, the



#### What's next?





### Time's Up!

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