

# Math wars: Debate sparks anti-pi day

June 29 2011, by Anqi Shen

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(PhysOrg.com) -- A controversial debate in the math world has led to celebrations today by opponents of the mathematical constant pi.

Tau Day, in honour of the constant some say should replace pi, is being celebrated by those who agree with US mathematicians Bob Palais and Michael Hartl. The two argue that tau, twice as large as pi at approximately 6.28, makes many calculations easier to perform.

In The Tau Manifesto, Hartl says that although pi is well- defined, it's "a confusing and unnatural choice for the circle constant...Pi is half of something. It's the something that is fundamental."

Whereas pi defines a circle as the ratio between circumference and diameter, tau defines a circle in terms of its circumference and radius.

Hartl and Palais note that tau shows up in several major [mathematical equations](#) - an observation, they say, that isn't simply a coincidence, but rather justifies adopting a new constant.

Supporters have taken the concept one step further by declaring June 28 Tau Day, meant to rival the more familiar tradition of Pi Day, held on March 14 each year.

Patrick Speissegger, associate professor at McMaster and Canada Research Chair in Model Theory, doesn't buy into the idea.

"It's not a question of right or wrong, but a matter of opinion," says

Speissegger. "Philosophically speaking, changing the constant from pi to tau makes no difference."

Except perhaps on the issue of practicality.

"It would be difficult for people who are learning math because they'd have to be able to know and use both constants - pi has been used in mathematical literature for the past 2,000 years," he says.

Chris Miller, a professor in the department of mathematics at The Ohio State University who was at McMaster on Tau Day, agrees with Speissegger.

"It depends on which you believe is more important: the circumference of a circle or the area of a circle," says Miller. "I don't see how one is more important than the other, and, in any case, you'd have to convince me that all the trouble is worth it."

Despite differences of opinion, [Tau](#) Day is well underway, with some supporters suggesting that [Pi](#) Day be renamed "Half-Tau Day."

Provided by McMaster University

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