

Remembering a famous debate 400 years ago and water's still-unsolved mysteries

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For online and print audiences deep into lazy late-summer-day reading, yearning for diversions from everyday cares, how about a glimpse 400 years back in time at a famous clash between Galileo and an arch-enemy over why ice floats on water? That debate, between a giant in the history of science and a little-remembered naysayer who challenged Galileo's idea that Earth revolves around the sun, is the topic of a story in the current edition of *Chemical & Engineering News*. C&EN is the weekly newsmagazine of the American Chemical Society, the world's largest scientific society.

Sarah Everts, C&EN senior editor, focuses on a 3-day debate between Galileo and Lodovico delle Colombe that was a sensation among the literati of 17th century Florence, Italy. Though Galileo correctly argued that ice floats because it is less dense than liquid water, delle Colombe stole the show on the last day by placing a thin wafer of ebony, a material more dense than water, on top of water, where it floated. Scientists now know that some materials denser than water—such as a paper clip—can sometimes float if placed carefully on the surface. That's because of a property of liquids termed "surface tension." But it did not invalidate Galileo's explanation.

The story describes how scientists met in Florence in July to commemorate the 400th anniversary of the debate. That meeting focused on the surprising mysteries and scientific controversies that still persist about [water](#). Water, H₂O, may be a very simple molecule, made of two atoms of hydrogen bonded to one atom of oxygen. But scientists

still are striving to understand some of the properties of the substance that covers 70 percent of Earth's surface and makes up almost 60 percent of an adult human body.

More information: "Galileo on Ice"
cen.acs.org/articles/91/i34/Galileo-Ice.html

Provided by American Chemical Society

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