Rewrite the textbooks on water's surface tension

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Researchers from the University of Melbourne and University of Sydney are confident their new reaserach results will make significant differences to the calculations of surface tension of water used by the next generation of atmospheric scientists, biophysicists and engineers of technology like inkjet printers.

These latest investigations have clinched a long-standing controversy amongst the physical Chemistry community; the air-water interface is negatively charged by the adsorption of hydroxide ions.

Prof Angus Gray-Weale from the Chemistry, Department of Chemistry University of Melbourne said, "The surface tension of water affects its behavior and changes with pH but previous research about the adsorption of various ions at the interface all ignored the presence of the hydroxide ion and its charge."

"We now need to rewrite the text book models of surface tension for the next generation of chemists who work at the refined molecular level."

Prof James Beattie from University of Sydney said, "Previous simulations and models are now recognised as inaccurate. I would estimate many hundreds of thousands of hours of computer time have been wasted because the theoreticians have not included the charge of the hydroxide in their boundary conditions for the simulations, thereby leaving out the strongest force in the system."

The announcement was made in the *Journal of Colloid and Interface Science*.

Provided by University of Melbourne

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