## **Understanding Charge Migration Mechanisms in Aqueous Environments**

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This talk reviews what ab initio computer simulations uncovered concerning the structure and dynamics of charge defects in bulk water. First, the solvated proton is discussed, which is essentially understood, followed by a discussion of the behavior of the solvated hydroxide, which is controversial. Finally, a glimpse is given to recent advances in understanding protonated water networks inside channel proteins.

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