

# A six dimensional version of the Seiberg-Witten equations

**Partha Ghosh**

**(ULB)**

**January 23, 2023  
Room M.G.005, UAntwerpen  
EoS Minicourse Event, UAntwerpen**

I will introduce a new set of gauge theoretic equations on six-manifolds which are influenced by the Seiberg-Witten equations in dimension 4. The original Seiberg–Witten equations, introduced in 1994, led quickly to a revolution in 4-dimensional differential geometry. They remain at the forefront of research today, with a very strong impact on symplectic geometry in dimension 4.

First, I will explain some ansatz of these new equations, on Kahler three-folds and in a few more cases. Then I will discuss some analytic properties of the moduli space and future research ideas which can be explored with these equations.