

# Steven Staal

## Medimate

### **Abstract**

#### **'Medimate, Commercialization of a Microfluidic Device to Monitor Lithium in Blood, as a Self Test at Home or at the Doctor's Office'**

By using state of the art Lab on a Chip technology Medimate develops and produces a rapid test for Lithium detection for self testing or testing at the doctors office. About 50% of patients with Manic Depressive Illness, also called Bipolar Disorder, have to control their Lithium level in blood on regular basis. Lithium medication is the most effective drug but also highly toxic just above the therapeutic level. Patients still have to go to the hospital for regular checkup. This is a cumbersome process and lacks direct feedback. With the self test of Medimate patients will be able to measure at home when necessary at every moment of the day. Patients will be able to directly act on the measurement result and this will prevent intoxications and therefore decrease the number of hospitalizations. In this presentation Medimate will show how the translation is made from state of the art Lab on a Chip technology towards a disposable measurement system for Lithium detection in whole blood. Besides that Medimate will show the potential of the Lab on a Chip technology platform by showing possibilities to measure other species in fluids. This will open market for Point of Care testing by for instance Kidney patients.

### **Speaker Biography**

#### **Steven Staal**



Steven S. Staal achieved his Master of Science Degree at the University of Twente in the field of Electrical Engineering. He specialized himself in the field of Lab on a Chip technology in different sensing techniques and electrical/chemical detection methods. After his graduation in 2004 he started the Medimate company in 2005. He founded Medimate to commercialize a successfully finished PhD project. This PhD project showed under laboratory conditions the possibilities to measure electrolytes directly from one droplet of blood. After three years of starting up Medimate now (June 08) has the prototype ready and is testing accuracy, reliability and shelf life. If the tests are successful Medimate will enter the Dutch market.