

## Press release

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### **Research that generates energy by mixing water receives EFCE award**



Generating electricity can be as simple as mixing salt water and fresh water. The European Federation of Chemical Engineering (EFCE) has recognised a postdoctoral researcher at TU Delft whose PhD thesis detailed such a process with its Excellence Award in Membrane Engineering.

Dr David Vermaas' PhD entitled '*Energy generation from mixing salt water and fresh water: smart flow strategies for reverse electrodialysis*' focused on using ion exchange membranes to harvest renewable energy from mixing water streams with different salinities.

The difference in salinity between salt and fresh water streams, when separated by an ion exchange membrane, induces a potential difference. The redox reaction that occurs then converts ionic current into an electrical current.

Vermaas' research has been scientifically published in highly ranked journals within the field of membrane engineering, and in addition, his research has resulted in two patent applications.

EFCE recognised Vermaas, who completed his PhD within the Membrane Science and Technology research group at the University of Twente, the Netherlands, for his strong personal contribution to the field of membrane engineering.

On receiving the award, Vermaas said: "I was extremely happy to receive this award, and it is such a great honour to be recognised by the Federation. Moving forward, this award will really motivate me to continue my research in transport through ion exchange membranes as this I find this a really exciting field to be working in."

Vermaas was presented with the Excellence Award in Membrane Engineering at the Euromembrane 2015 conference, which was held in Aachen, Germany in September 2015.

## **Related links**

[EFCE Media Centre](#)

[EFCE Excellence Award in Membrane Engineering](#)

## **Notes to media:**

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## **About chemical engineers**

Chemical, biochemical and process engineering is the application of science, maths and economics to the process of turning raw materials into everyday products. Professional chemical engineers design, construct and manage process operations all over the world. Oil and gas, pharmaceuticals, food and drink, synthetic fibres and clean drinking water are just some of the products where chemical engineering plays a central role.

## **About EFCE**

Founded in 1953, The European Federation of Chemical Engineering (EFCE) is a non-profit-making association, whose object is to promote co-operation in Europe between non-profit-making professional scientific and technical societies in 30 countries for the general advancement of chemical engineering and as a means of furthering the development of chemical engineering. See [www.efce.org](http://www.efce.org)