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Company profile

FutureChemistry – smart, safe and clean chemistry

Inge Diederen

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Company profile

FutureChemistry Holding BV is a privately owned spin-off company from the Radboud University Nijmegen and the German Fraunhofer Gesellschaft. Our focus is the development and optimisation of flow chemistry processes. FutureChemistry enables you to immediately take full advantage by providing products and services so everyone can easily implement flow chemistry into their own laboratory.

FutureChemistry is located in the Technology and Science Park of the Radboud University Nijmegen. FutureChemistry's strong knowledge network ensures fast implementation of recent scientific and technological breakthroughs.

Mission

We use our advanced flow technology with passion to transform ideas to realisation and capitalisation.

Vision

We believe that flow chemistry should be used to improve the safety and efficiency of chemical processes.

Figure 1 Photochemistry module with the FlowStart Evo.

Complete systems

FutureChemistry gives access to our technology by offering a wide range of flow chemistry systems, each one designed for different research purposes. These systems vary in mode of operation, scale and temperature range: our plug and play microreactor system *Flow*Start Evo, shown in Figure 1, is easy to use for any chemist, and *Flow*Screen and *Flow*Expert offer excellent solutions for the advanced flow chemistry user[i].

Dedicated flow systems

FutureChemistry is also a specialist in producing more customised and dedicated flow systems. Two examples are discussed in this profile.

In collaboration with the VU University Amsterdam, we developed the ***Flow*Start remote** shown in Figure 2. The *Flow*Start remote is a flow system that can be used remotely through an online control platform. This custom-made system gives high school students access to flow chemistry without safety risks. Students can synthesise, optimise and analyse a pH-dependent dye, methyl orange, from their computer. This web experiment can be accessed from any location in the world with internet access[ii].

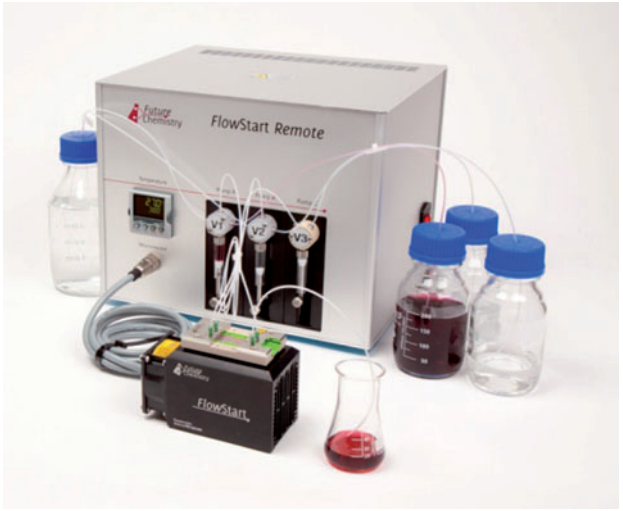


Figure 2 *Flow*Start remote.

[i]http://www.futurechemistry.com
[ii]http://www.chem.vu.nl/en/voor-het-vwo/scheikunde-experiment/index.asp

Radiochemistry

Advantages of flow chemistry, such as better control of reaction parameters, higher yields, lower waste and increased safety, would be a great feature for radiochemistry. A system that offers these advantages is the *Flow*Safe shown in Figure 3, a variant of the *Flow*Expert developed in collaboration with Veentra Instruments. The *Flow*Safe is used for the synthesis of new and routine clinical PET-tracers and retains the benefits of flexibility and ease-of-use of the instrument.

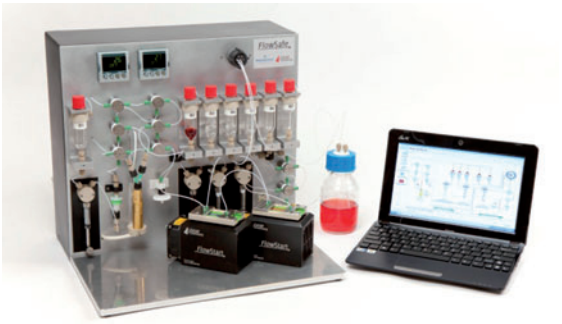
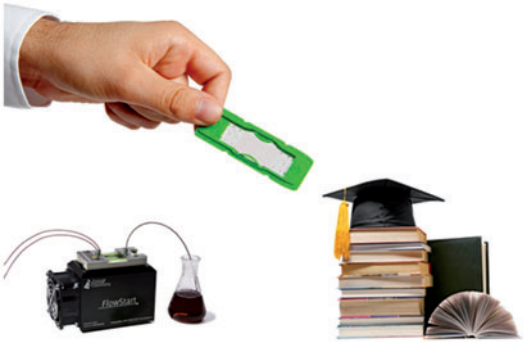


Figure 3 *Flow*Safe for production and development of PET-tracers in the hospital.

Practical course

Many companies are now applying flow chemistry. It is becoming an essential tool in research and development. Therefore, it becomes important to educate future scientists about this technology. That is why FutureChemistry offers a *flow chemistry practical course* on the implementation of flow chemistry at universities. This practical course has been successfully implemented at universities in Europe, the Unites States and Asia.



Contract research and services

FutureChemistry has years of experience in flow chemistry and can assist in feasibility studies, process optimisation, custom manufacturing and in the development of other innovative flow solutions.

Our experts offer services for implementation at our R&D facilities, thereby taking the problem of setting up flow chemistry in your company out of your hands.

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