

FOR IMMEDIATE RELEASE

**[Technische Universiteit Eindhoven](#) and [GoNano Technologies](#) to collaborate on
Enzymatic Synthesis of chiral intermediates**

Moscow, ID – Jul 18, 2011 – Technische Universiteit Eindhoven and GoNano Technologies entered an agreement to collaborate on a TU/e research project to synthesize multifunctional chiral building blocks, called α – amino alcohols, using GoNano Technologies' silica Nanospring-based Continuous Flow Reactor. The project, headed by Prof.dr. Volker Hessel, Chair of the Micro Flow Chemistry and Process Technology at TU/e, will utilize Nanosprings' highly accessible surface area, very low flow resistance and their ability to support immobilized enzymes to study the kinetics and steady-state conversion at various flow rates and concentrations. This project supports [ProAChim](#), an FP-7 ERA-IB European Research Project, whose mission is to combine efforts in enzyme and process engineering to improve access to multifunctional chiral intermediates.

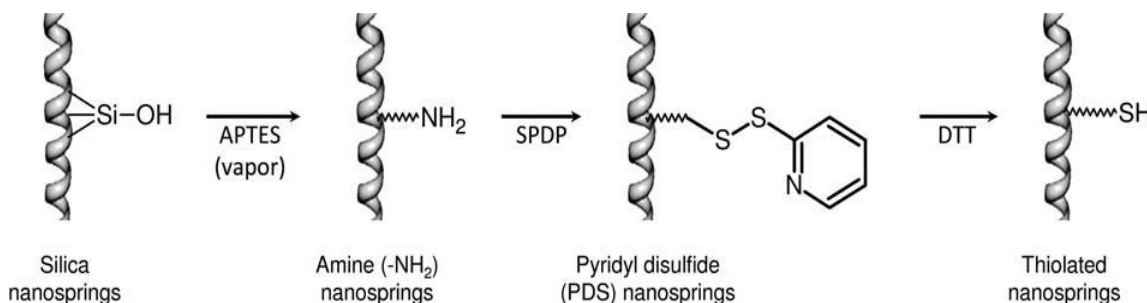


Figure 1: Functionalization of SiO_2 Nanosprings with thiol group for enzyme immobilization

“GoNano’s ability to coat silica Nanosprings with a full spectrum of active catalysts, including enzymes, provides a model technology fit for this project which is seeking to enhance the performance of a heterogeneous catalytic reaction,” said Tim Kinkeade, CEO of GoNano Technologies. “The Nanospring technology platform holds significant promise for applications where performance is dictated by active surface area.”

Prof.dr. Volker Hessel added, “Most of the top-selling drugs today, like the cholesterol lowering “Atorvastatine”, are chiral, i.e., they contain one or more stereogenic centres. This project will advance Nanosprings' capability to immobilize enzymes for production of building blocks for drugs with commercial applications. Furthermore, this collaboration will surely help ProAChim participating project partners in Europe and open up new applications for Nanosprings in pharmaceutical and chemical markets.”

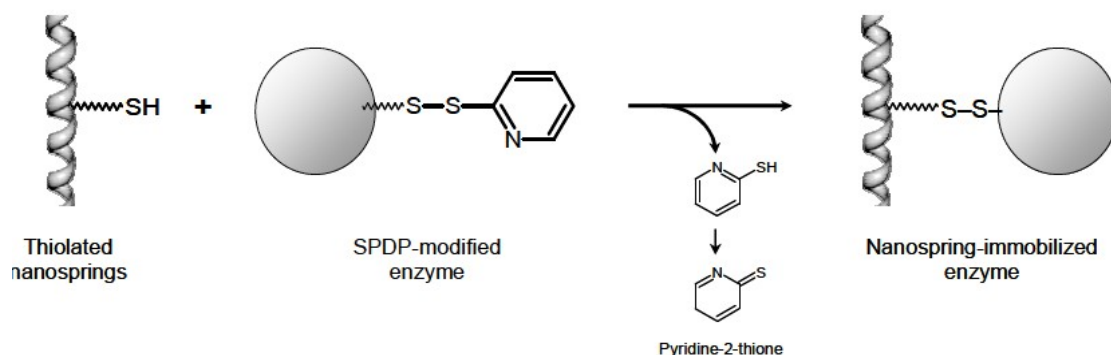


Figure 2: Immobilization of SPDP-modified enzyme on the thiolated Nanosprings by the formation of a covalent disulfide bond. The pyridyl-2-thiol leaving group irreversibly tautomerizes to the chromophore pyridine-2-thione

About Technische Universiteit Eindhoven

Founded as the second Technology University in the Netherlands, TU/e currently has 7,200 students, 600 Ph.D. students, 200 post-docs and 3,000 employees. The University produces almost 3,000 scientific papers, 140 Ph.D. awards and 40 patents annually. One of the former students of the university is Gerard Kleisterlee, the current CEO of Philips.

In a 2003 European Commission report, TU/e was ranked as 3rd among European research universities (after Cambridge and Oxford, at equality with TU Munich and thus making it the highest ranked Technical University in Europe), based on the impact of its scientific research. In a recent 2011 report, TU/e takes third place in Europe in the world rankings for materials science research drawn up by the information source [Thomson Reuters](#). The list is based on the citation impact of scientific articles published in the last ten years.

The university operates several international collaborations with other universities and commercial institutions worldwide.

About GoNano Technologies

GoNano Technologies, Inc. produces high surface area silica Nanospring materials for transformational solutions in pollution control, biocatalysis, catalysis, composites and sensory technologies. The company's patent-pending nanomaterials provide a scalable, industry compatible, low cost platform for highly efficient solutions. More information may be found at www.gonano-9.com. GoNano Technologies, Inc can be reached at 208-892-2000.

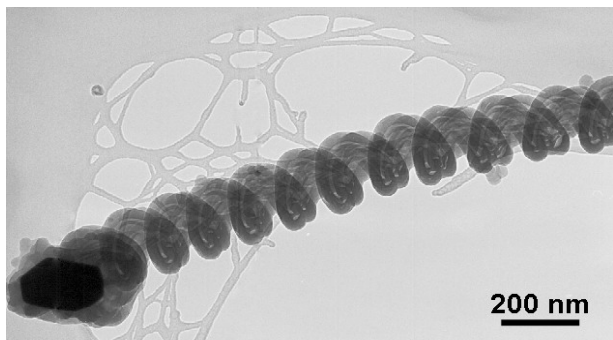


Figure 3: TEM image of a silica Nanospring. Scale bar is 200 nm.

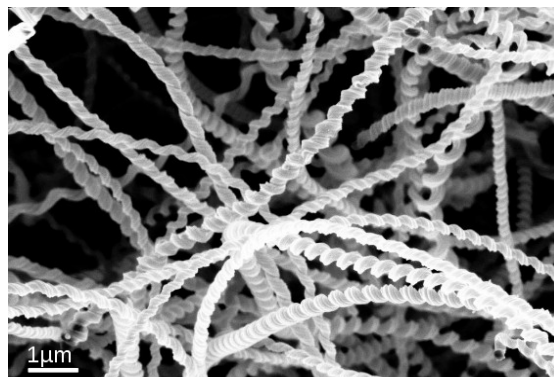


Figure 4: Fe-SEM Image of a Nanosprings mat. Scale bar is 1 μm.

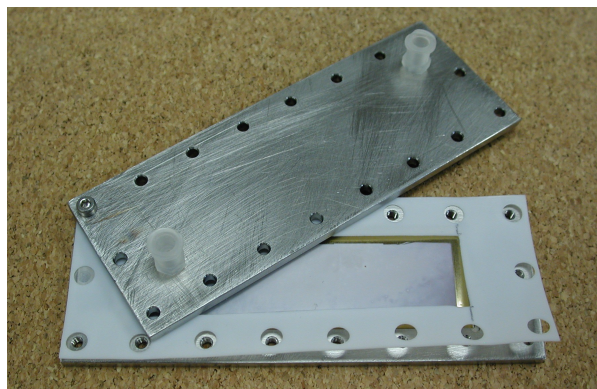


Figure 5: Open Reactor with changeable Catalyst coated Nanospring

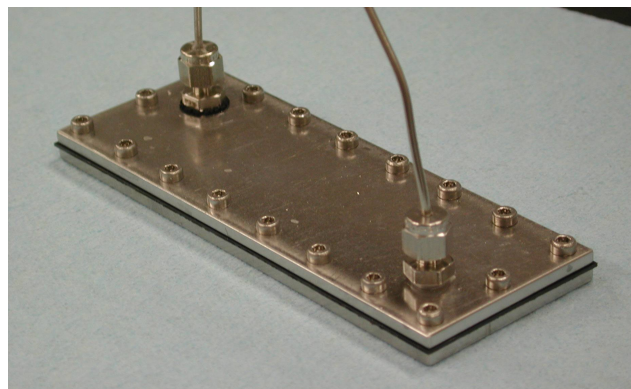


Figure 6: Closed Reactor with catalyst coated Nanospring Template

CONTACT:

Aziz Makhani
Director of Marketing and Sales
GoNano Technologies, Inc
121 West Sweet Avenue, Suite 115
Moscow, ID 83843
USA
+00 1 208-892-2000
aziz.makhani@gonano-9.com

Dr. Laurent Nelissen
Managing Director
Department of Chemical Engineering and
Chemistry
Technische Universiteit Eindhoven
P.O. Box 513
5600 MB EINDHOVEN, The Netherlands
+31 40 247-3000, x3060
l.n.i.h.nelissen@TUE.nl