



Enmix A.I.S.B.L.

European Nanoporous
Materials Institute of
Excellence

Newsletter - N° 2 – April 2012

In this issue:

Changes in the ENMIX positions

ENMIX 2011 Paper Award

Second ENMIX workshop in Norway

ChemWater project

Changes in the ENMIX positions

Prof. em. E. Vansant has decided to step down as CEO of ENMIX by December 1st, 2011. He wishes ENMIX all the best for the future and thanks all ENMIX members for their confidence in the past.

In the ENMIX Board of Directors (BoD) and General Assembly (GA) in Antwerp (November 30th, 2011) the resignation of the CEO together with the appointment of a new CEO was discussed. After consulting the ENMIX partners, the following proposal was made:

Prof. J. Weitkamp (University of Stuttgart) as new ENMIX CEO

Prof. E. Klemm (University of Stuttgart) as new ENMIX vice-CEO

In the ENMIX BoD as well as in the GA both nominations were accepted by an unanimous decision.



Prof. J. Weitkamp
CEO of ENMIX



Prof. E. Klemm
Vice-CEO of ENMIX

ENMIX 2011 Paper Award

The general assembly in Bled, Slovenia (April 1st, 2011) decided to establish an annual ENMIX Award in the field of synthesis, sorption, catalysis and membranes based on nanoporous materials. This award is meant for PhD students and postdocs younger than 35, on the basis of a non-published or published (or in press) paper on innovating topics. The ENMIX Award will be 1000 Euro, and the candidates will be nominated by the ENMIX partners.

For the 1st ENMIX award 2011, ten nominated papers were evaluated by an ENMIX selection committee, consisting of Prof. J. Weitkamp, Prof. P. Cool, Prof. F. Rodriguez-Reinoso, Prof. F. Kapteijn, Prof. A. Sepulveda-Escribano, Prof. V. Zaspalis and Prof. E. Vansant.

All papers evaluated were of a high scientific quality and published in renowned international journals. Therefore, the ranking of these papers was very difficult. The evaluation criteria were : the innovative scientific content, international collaborations, multidisciplinary, scientific and technological impact.

Taking into account these evaluation parameters, the paper selected for the ENMIX award 2011 is granted to :

IMMERSION CALORIMETRY AS A TOOL TO EVALUATE THE CATALYTIC PERFORMANCE OF TITANOSILICATE MATERIALS IN THE EPOXIDATION OF CYCLOHEXANE

by

J. Vernimmen, M. Guidotti, J. Silvestre-Albero, E.O. Jardin, M. Mertens, O.I. Lebedev, G. Van Tendeloo, R. Psaro, F. Rodriguez-Reinoso, V. Meynen and P. Cool

This paper covers essentially the four pillars of ENMIX and is of a high scientific value with important scientific and technological impacts. This fascinating work is the result of a very wide collaboration between research groups participating in ENMIX, EMH and ERIC. It reflects innovative ideas due to the new proposed link between the catalytic activity of nanoporous materials and immersion calorimetry (adequate screening tool) and tested on an industrial relevant catalytic reaction.

The ENMIX selection committee congratulates the authors of this paper with the ENMIX award 2011.



The ENMIX 2011 Award was awarded by Dr. Michael Stöcker to Prof. Vera Meynen as the representative of the authors during the 2nd workshop in Vatnahalsen, Norway.



ENMIX a.i.s.b.l.

**European Nanoporous
Materials Institute of
Excellence**

‘ENMIX 2011 Paper Award’

is granted to

*J. Vernimmen, M. Guidotti, J. Silvestre-Albero, E.O. Jardim, M. Mertens,
O.I. Lebedev, G. Van Tendeloo, R. Psaro, F. Rodriguez-Reinoso, V.
Meynen, P. Cool*

for their research paper published in Langmuir (2011) entitled

***‘Immersion calorimetry as a tool to evaluate the catalytic
performance of titanosilicate materials in the epoxidation of
cyclohexene’***

on behalf of the ENMIX selection committee,

Prof. E. F. Vansant, CEO of ENMIX

Vatnahalsen, Norway, September 2011

Second ENMIX Workshop, Vatnahalsen, Norway, September 15/16, 2011

The "European Nanoporous Materials Institute of Excellence (ENMIX)" and the "European Membrane House (EMH)" arranged a common workshop dedicated to "**Novel Materials for Future Energy Supply and a Clean Environment**" at the Vatnahalsen Høyfjellshotell in Myrdal, Norway, September 15/16, 2011. The remote location of the hotel in the fascinating landscape of the Western Norwegian fjords and mountains contributed to good framework conditions for the scheduled scope of the workshop.

23 junior and senior scientists associated to ENMIX and EMH participated in the workshop, which was devoted to three topical areas, each of them introduced by an invited lecture:

1. **Porous materials in future energy supply**, invited lecturer: R. Rakoczy, Süd-Chemie AG
2. **Membranes/filters/adsorbents for improved separation and purification**, invited lecturer: G. M. Rios, University of Montpellier
3. **Advanced environmental applications using porous materials, including "clean water"**, invited lecturer: M. Derewinski, Polish Academy of Sciences

Each invited lecture was followed by short presentations (5-10 minutes) by workshop participants before a final Round Table Discussion concluded the topical sessions.

All Round Table discussions were moderated by a scientist and the outcome was summarized by a secretary. The objective of the workshop was to contribute to a further development of ENMIX and the EMH with respect to a closer cooperation, common fund raising, generation of project ideas (proposals, master and Ph-D theses), personnel exchange etc.

A summary of the program was as follows:

Topic no. 1: Porous materials in future energy supply

Invited lecturer: R. Rakoczy, Süd-Chemie, Germany

Short essays: Y. Traa, Univ. of Stuttgart, Germany

L. Sommer, Univ. of Oslo, Norway

A. Lind, SINTEF, Norway

M. Mazaj, NICS, Slovenia

M. Märçz, Univ. of Oslo, Norway

Round table discussion

Topic no. 2: Membranes/filters/adsorbents for improved separation and purification

Invited lecturer: G.M. Rios, Univ. of Montpellier, France

Short essays: A.E. Pagana, CPERI/CERTH, Greece

S.D. Sklari, CPERI/CERTH, Greece

A. Inan, Univ. of Stuttgart, Germany

Round table discussion

Topic no. 3: Advanced environmental applications using porous materials, including “clean water”

Invited lecturer: M. Derewinski, PAS, Poland

Short essays: N. Novak Tusar, NICS, Slovenia

V. Meynen, Univ. of Antwerp, Belgium

V.P. Santos, TUDelft, The Netherlands

Round table discussion



Participants of the workshop

ChemWater project



Coordination European Strategies on Sustainable Materials, Processes and Emerging Technologies Development in Chemical Process and Water Industry across Technology Platforms

www.chemwater.eu

ChemWater targets efficient water management in the process industries

Linking process industry and water industry know how to sustain water resources: That is the essential content of the European project ChemWater that has just started. Over 30 months, 11 international partners from science, industry and water utilities will develop a long-term strategy for a sustainable industrial use of water in close coordination with existing initiatives and projects. A special focus will be the exploitation of technological potentials in the fields of nanotechnology, materials and process innovation.

Europe has to come to a more efficient water use to avoid the anticipated impacts of water shortages driven by climate change and other factors. Process industry, especially chemistry plays an essential role: It is both a major water user and a key solution provider for the development of future water technologies. The EU funded project ChemWater aims to coordinate EU strategies across and beyond existing technology platforms in order to integrate and exploit new findings particularly in the fields of nanotechnology, materials and process innovation.

A core rationale behind the project is to highlight the role of the European Chemical and related process industries as solution providers within the context of the complex challenges of industrial and urban water management. This role emphasizes a transformation in perspective which values “chemistry for water” alongside the more traditional “water for chemistry”. Such a perspective allows the project to extend its reach and impact beyond the chemical sector itself to key strategic European process industry sectors such as mining, industrial biotechnology, health, food, electronic, pulp and paper, and energy. On that purpose the relevant European Technology Platforms active in these sectors will be involved, as well as other important national clusters.

The individual building blocks of ChemWater follow an inherent logic: Based on the identification of cross-industry synergies, a roadmap 2050 for technologies and process development will be set up. According to this roadmap, research needs and business development opportunities can be assembled in an action plan. At the same time, concepts for the rapid uptake and commercialization of innovations and for the dissemination of innovation will be formulated. Thus, ChemWater provides significant support for the “Water Efficient Europe” initiative of the European Innovation Partnership. This support will be discussed in a ChemWater workshop in early 2012.

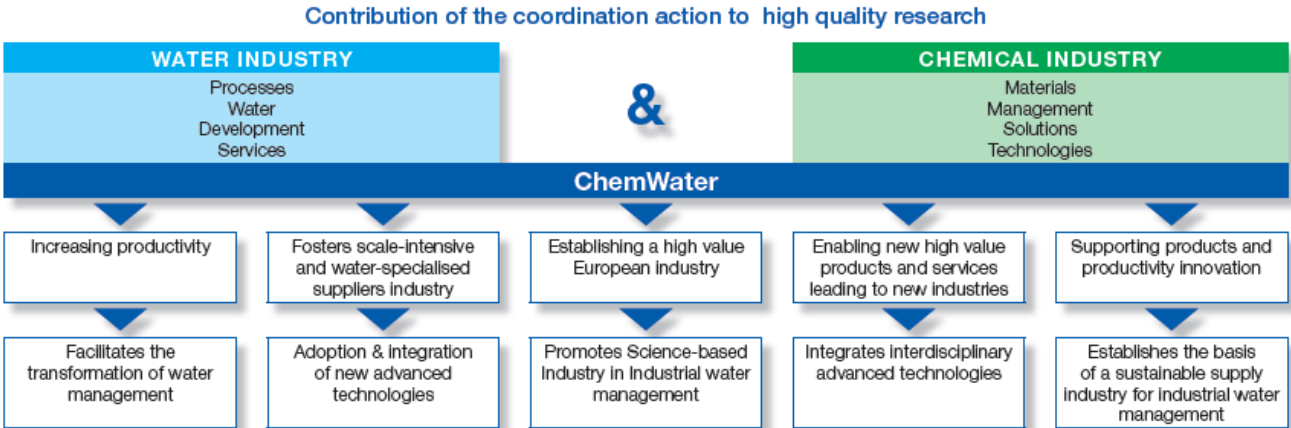
Finally, because the questions which are tackled in the project have an obvious trans-border dimension with interesting market opportunities for EU industry in other world regions, a special emphasis will be put on information in the direction of the border areas of Europe, particularly Russia and the New Independent States on the East and the Mediterranean to the South. To this end, the European instruments already in place - notably International

Cooperation Networks (INCO-Nets), Coordinated Actions and other Specific International Cooperation Actions (SICAs) - will be asked to contribute in a global approach.

CHALLENGES

- The improvement of processes making more efficient use of water.
- The integration of the water parameter in the development of new processes and design of industrial and manufacturing plants;
- The development of new materials (such as reactive membranes) for improved processes;
- The integration of emerging technologies such as nanotechnologies in both existing and upcoming industrial sectors (e.g. white biotechnology).
- Potential use / leverage of best practice in industrial process technologies, like process intensification (SusChem's F3 – demo plant), for water treatment processes.

We strongly believe that development of new materials and processes aiming at a more sustainable use of water will prove to be an economic opportunity for the European industry.



Consortium

	DECHEMA e.V. – Society for Chemical Engineering and Biotechnology, Germany (www.dechema.de)
	CEFIC – European Chemical Industry Council, Belgium (www.cefic.org)
	TNO – Netherlands Organization for Applied Scientific Research, The Netherlands (www.tno.nl)
	SE – Suez Environment SA, France (www.suez-environnement.com)
	EMH – European Membrane House, Belgium (www.euromemhouse.com)
	VITO – Flemish Institute for Technological Research NV, Belgium (www.vito.be)
	UCM – Complutense University of Madrid Spain (www.ucm.es/info/iqpapel/)
	CU – Cranfield University, UK (www.cranfield.ac.uk)
	ERIC – European Research Institute of Catalysis, Belgium (www.eric-aisbl.eu)
	ENMIX – European Nanoporous Materials Institute of Excellence, Belgium (www.enmix.org)
	VE – Veolia, France (www.veolia.com)

The activities of ENMIX within the ChemWater project are coordinated by Dr. Michael Stöcker, SINTEF, Norway, and the participating research groups are SINTEF, the University of Antwerp (Prof. P. Cool, Dr. E. Seftel), the University of Alicante (Prof. F. Rodriguez-Reinoso, Prof. A. Sepulveda) and CPERI-CERTH (Prof. V. Zaspalis, Dr. S. Sklari).

The 1st CSA ChemWater Workshop entitled '**Water Sustainable Process Industry: Vision 2050**' was arranged in Brussels on March 1st 2012. The fruitful discussions during the workshop and the outcome are available on the ChemWater website (www.chemwater.eu). The next workshops will be held on May 24th, 2012 in Brussels on '**Discussion on gap/challenge analysis**' and on September 5th, 2012 (place not finalised yet) on '**Definition of challenges**'.



Companies, institutes and individuals are invited to apply for a free copy of the Newsletter. Please forward your details by mail, e-mail or fax to the address below.

Contact

Prof. E. F. VANSANT
UNIVERSITY OF ANTWERPEN
DEPT. CHEMISTRY
Campus Drie Eiken
Universiteitsplein 1
B – 2610 ANTWERPEN (Belgium)
E-mail: etienne.vansant@ua.ac.be
Tel. : +32-3-2652355