



## EU pays you to train them!



The SOS network is centred on the **exploitation of Singlet Oxygen ( $^1\text{O}_2$ ) as green and benign oxidant** in synthetic routes, cross-linking strategies, bioconjugation procedures and materials production. Hereby chemistry generates the means to both understand and influence biological systems by providing reagents - from analytical probes to drugs - and to modulate materials towards optimal properties.

Ultimately our understanding and further development of the singlet oxygen oxidation should lead to useful applications in the fields of:

- organic chemistry (improved routes towards natural products);
- medicinal chemistry (targeted delivering formulation, diagnostics and therapeutics);
- physical chemistry (controlled singlet oxygen generation); and
- materials science (novel materials for water treatment and for improved diagnostics platforms).

Training schemes in this area have to be **highly interdisciplinary** in nature requiring a joint effort of chemists, physicists, biologists and material scientists. The **objective** of this network is to train young researchers to become skilled individuals able to face the current challenges posed by working in an interdisciplinary industrial environment.



universidade de aveiro



Within the EU 7<sup>th</sup> Framework Program a new call (FP7- People-2012) is opened for Marie Curie ITNs (Initial Training Networks) to prepare the next generation of scientists in understanding academic as well as business cultures.

These training networks offer early-stage researchers (PhD students and Postdocs) the opportunity to improve their research skills, join established research teams and enhance their career prospects.

The Marie Curie Actions for an Innovative Europe offer 100% funding for labour and research costs.

The proposals should encompass a **transnational networking** throughout Member States and EU Associate Countries, crosslinking academia and the private sector. Therefore the **involvement of private commercial entities** in the network is crucial

We would like you to join our network of established research groups and companies working within the field of green oxidation and its applications.

## What is offered to you?

- Access to cutting-edge research results in this area;
- Recruitment of researchers on EU funding for up to 3 years, including a monthly living allowance (gross salary), a mobility allowance (up to €1000 per researcher per month) and a contribution to research-related costs for the company (€ 1800 per researcher per month);
- Improvement of your recruitment strategy. Through close contact with all trainers (approx. 10), your company will have the first choice to recruit from the cohort of trained researchers.

Your participation will help diversify the traditional training settings and add to the employability of the researchers. All network members will provide training through research on individual projects, complemented by substantial training modules in key transferable skills. The types of training might also include hands-on training to develop scientific (new techniques or instruments, etc.) and communication skills (presentations, workshops, trade fair appearances).

ANNEMIEKE MADDER (Coordinator and contact point)  
LABORATORY FOR ORGANIC AND BIOMIMETIC CHEMISTRY  
DEPARTMENT OF ORGANIC CHEMISTRY  
KRIJGSLAAN, 281, S4  
B-9000 GENT

E: annemieke.madder@ugent.be  
P: +32 9 264 44 72  
F: +32 9 264 49 98

# SOS:

Marie Curie  
ITN

## Looking for the next generation of researchers

Call 2012



Modified oligonucleotide and modified peptide synthesis.

Design and synthesis of artificial receptors, novel peptide vaccines, enzyme models, oligonucleotide probes.

Crosslinking and labeling of biomacromolecules using singlet oxygen.



Development of new synthetic methodologies based on  $^1\text{O}_2$  chemistry and application to the synthesis of biologically active natural products.

Advancing the green aspects of  $^1\text{O}_2$  chemistry, using water as solvent and natural photosensitizers.



universidade de aveiro

Design, synthesize water-soluble photosensitizers and develop hybrid materials based on silica nanoparticles combined with porphyrins and related compounds.

Study the photochemical/physical and biological properties of this conjugates against cancer and microorganism cells.



Design and synthesis of new types of molecular level architectures based on phthalocyanines to control and influence different properties, in order to develop functional materials.

Synthesis and characterization of novel dyes capable of absorbing in the red region and beyond, and exhibiting singlet oxygen generation properties.



**BAM**

Federal Institute for  
Materials Research  
and Testing

Immunoanalytics in clinical diagnostics & environmental analysis.

Antibody (Ab) production and labeling; Site selective oligo arrays.

Targeted cross-linking of antibodies and oligos via  $^1\text{O}_2$  and furan strategies.

Magnetic/silica nanoparticles (NP) with porphyrin moieties for labeling Abs for imaging or cytotoxicity.

### Current participants:

• **UGENT**: Prof. Annemieke Madder  
University of Ghent (Belgium)  
Coordinator

• **UAM**: Prof. Tomas Torres  
Autonoma University of Madrid (Spain)

• **UOC**: Prof. Georgios Vassilikogiannakis  
University of Crete (Greece)

• **UA**: Prof. João Tomé  
University of Aveiro (Portugal)

• **BAM**: Dr. Rudolf J. Schneider  
Federal Institute for Materials Research and Testing (Germany)