

NOMATEN SEMINAR

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Nanometric Micelles for Drug Delivery and Catalysis

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Abstract:

Medicine has been a field where nanotechnologies have shown great promise for diagnosis and drug delivery applications. The challenge of nanomedicine consists in carrying active molecules through the different biological barriers and reaching specific targets in an efficient and non-toxic way. With the advent of nanotechnologies, different carrier systems are now available. However, the development of small biocompatible carriers with high loading capacity, extended circulation time, and favorable biodistribution has several unanswered issues.

This talk will give an overview of our findings regarding polymerized micelles obtained from original diacetylene-containing amphiphiles. Their chemical synthesis, assembly and characterization will be presented as well as some biomedical applications such as tumor imaging and drug delivery.

Micelles were also valorized by our group for synthetic applications such as the promotion of the Huisgen 1,3-dipolar cycloaddition (“click” reaction) between alkynes derivatives and azido compounds in water. Some examples illustrating the potential of the micelles in the catalysis of the “click” reaction will be presented.

Bio:

Dr. Eric Doris studied organic chemistry at the University of Strasbourg (France). He obtained his PhD degree in 1995 from the same University, under the guidance of Dr. Charles Mioskowski. In 1996 he completed his post-doctoral training with Sir Derek H. R. Barton (Nobel laureate) at Texas A&M University (USA). Since 1997, he has been working at the Alternative Energies and Atomic Energy Commission of France (CEA) where he is leading the *Nanosciences* research group. His current research interests include the synthesis of biologically active compounds, supramolecular assemblies on carbon nanotubes, and nanomedicine for drug delivery and imaging applications.