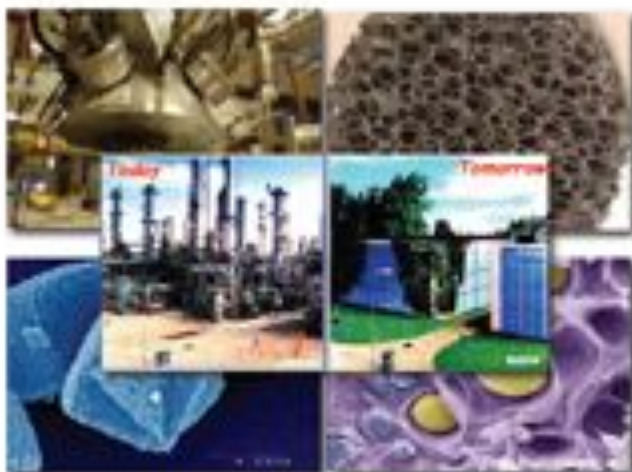


6th ERA-Chemistry Flash Conference

Roscoff (France), 28 February - 4 March 2010



"EXTREME CHEMICAL EFFICIENCY: DRIVING TO THE LIMITS"

Conference Chairmen

Prof. Reko LEINO
Åbo Akademi University, Finland

Prof. Jean-Claude CHARPENTIER
LRDP/CMRS/EDUC/Nancy, France

Conference organized by the CHRS, Institute of Chemistry

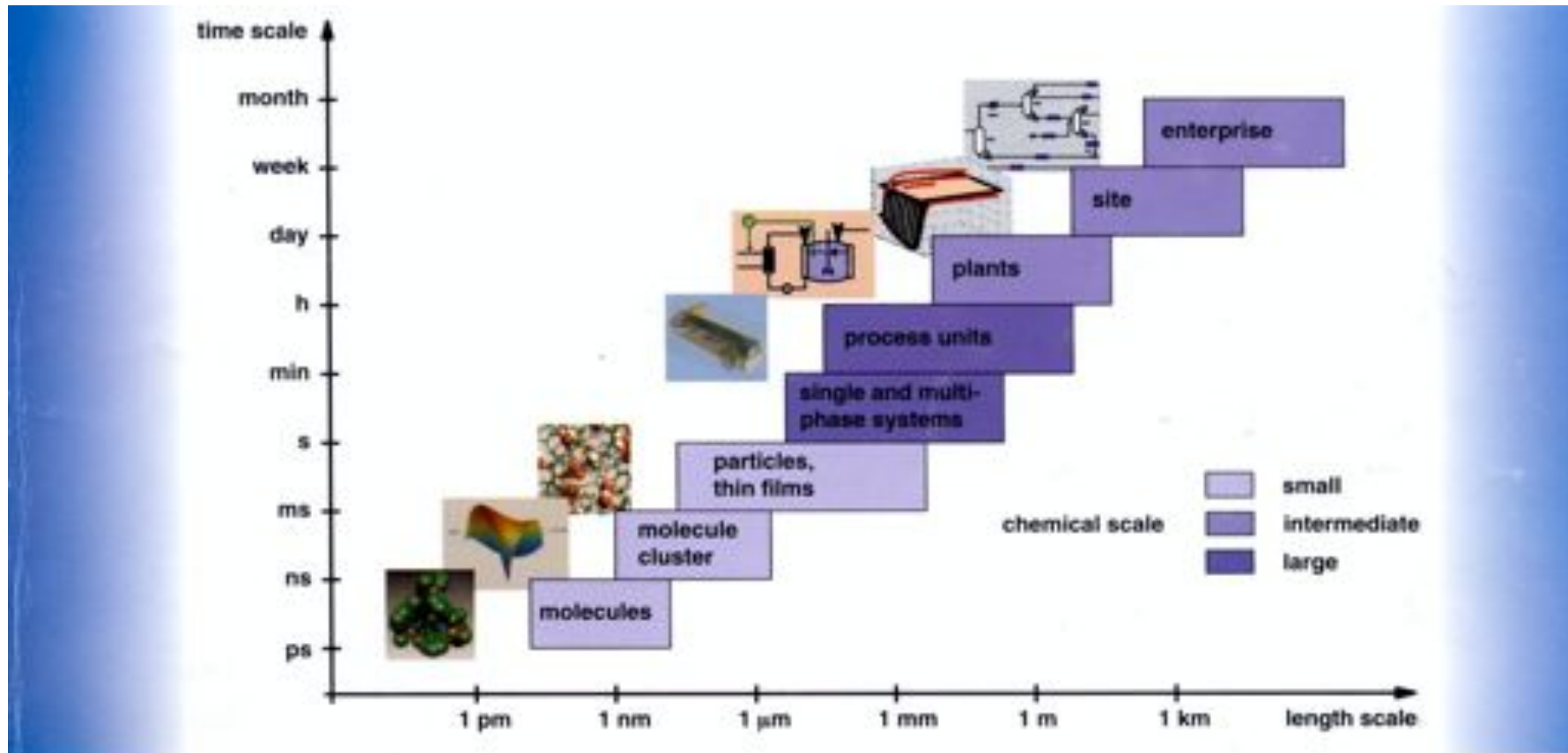
Invited speakers

Prof. Andrzej Stankiewicz (NL), Prof. Amir H. Navejde (USA), Prof. Krishna D.P. Nigam (IN), Prof. Shu Kobayashi (JP), Prof. David Milstein (IL), Prof. Carlos M. Afonso (PT), Prof. David Agar (DE), Prof. Matthias Beller (DE), Prof. Corinna Bolm (DE), Prof. Carmen Clever (ES), Prof. Darren Dixon (UK), Prof. Kunal Girela (PL), Prof. Leon Lech Gzodan (PL), Prof. Patrick Guiry (IE), Prof. Angel Irabien (ES), Dr. Sophie Jullien (FR), Prof. Hans Kasper (NL), Prof. Marc Lemaire (FR), Prof. Mike Marlow (FR), Prof. Gilbert Blas (FR), Prof. Tapio Salmi (FI), Prof. Michael C. Willis (UK)

Information and programmes at www.erachemistry.net



The multiscales of THE CHEMICAL SUPPLY CHAIN

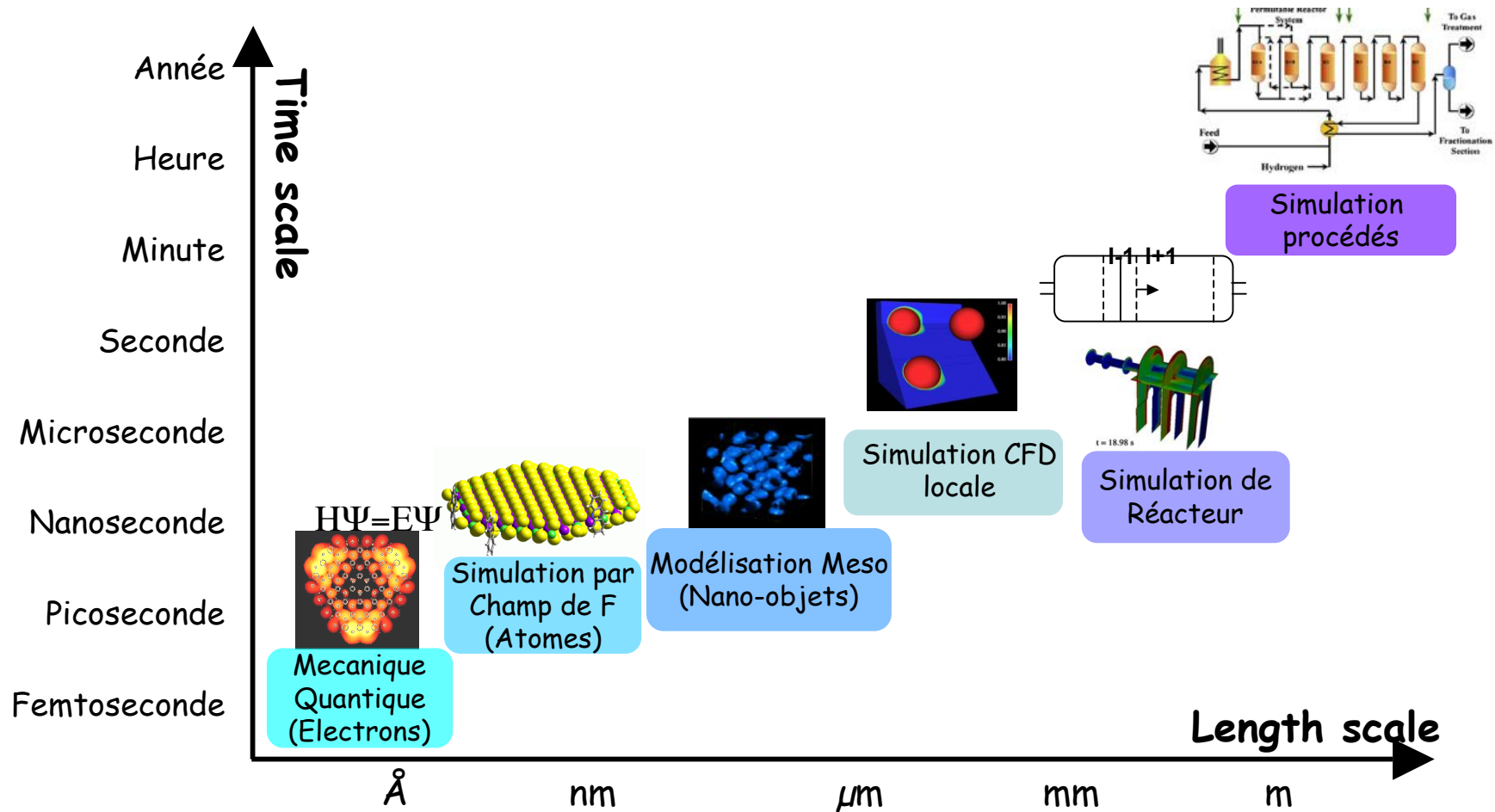


Chemical and Process Engineering is now concerned with the understanding and development of systematic procedures for the design and operation of chemical process systems, ranging :

FROM nano and microsystems-scales where chemicals have to be synthesized and characterized at the molecular-level

TO industrial-scale continuous and batch processes

Challenges for modeling in chemical engineering



The length and time scales covered in the multiscale approach

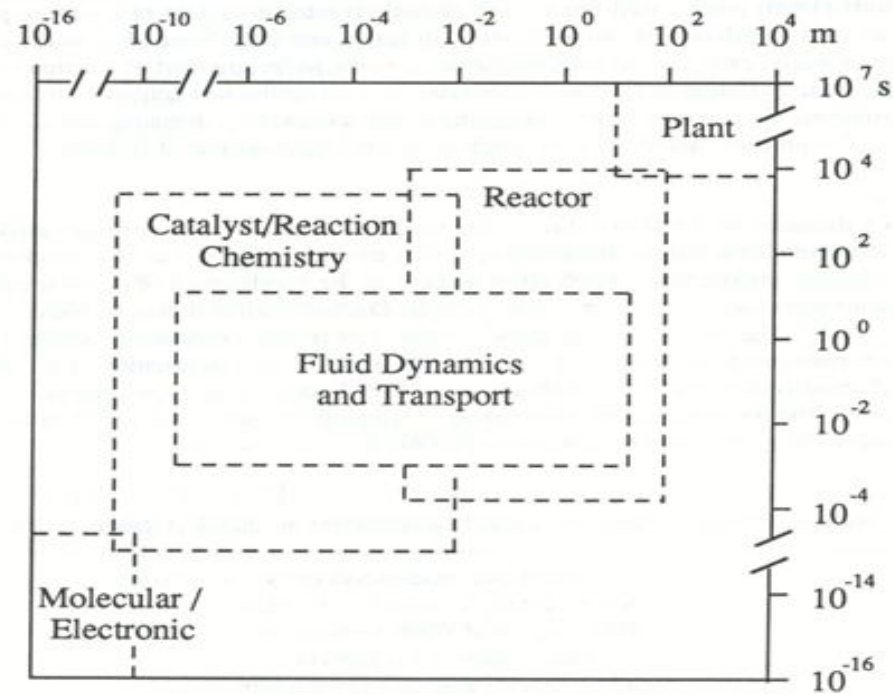
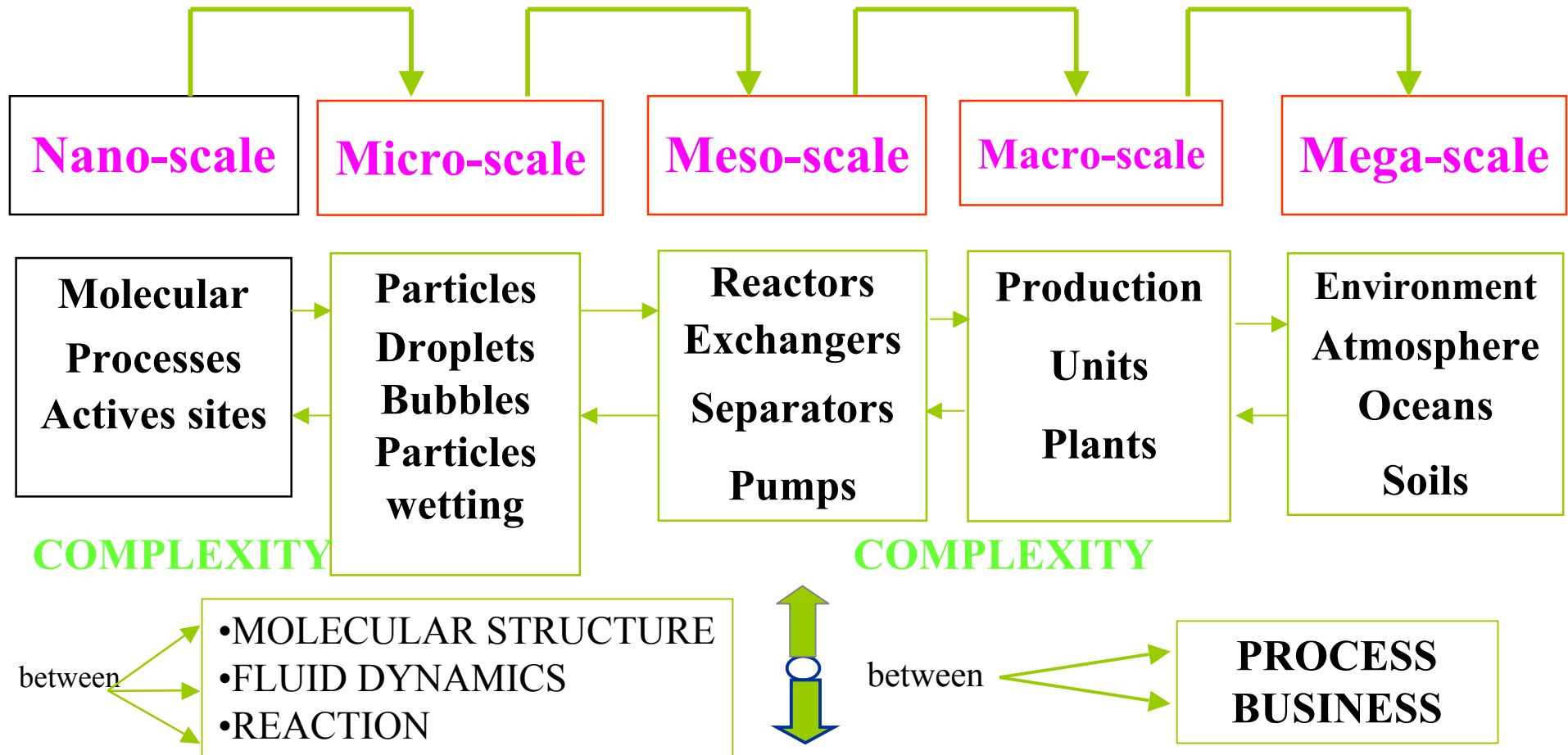


Figure 1. The Length and Time Scales Covered in the Multiscale Approach.

.....Organizing levels of complexity

Organizing levels of increasing complexity underlie the present view of chemical engineering



Transforming the MOLECULES INTO MONEY

TO UNDERSTAND and to DESCRIBE the relationship between events at NANO and MICRO-scales to better convert MOLECULES onto USEFUL PRODUCTS at the PROCESS-scales

BIOCHEMISTRY and BIOCHEMICAL ENGINEERING

Organising levels of complexity with an integrated approach of phenomena and simultaneous and coupled processes from the **GENE** with known structure and function up to the **PRODUCT** (ecoproduct) with the desired **END-USED PROPERTY** (Charpentier Computers and Chemical Engng (2009,33,936))

