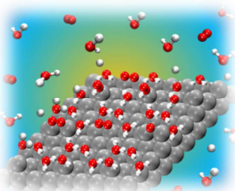


Workshop Multiscale Modeling for PEMFCs



From the nano-scale ...



... To the macro-scale

Minatec, Grenoble, France
June 12 & 13th 2014



Objectives

- Provide an overview of state-of-the-art multiscale modeling for PEMFC, while giving experimental insights
- Promote multi-scale modeling outside the PUMA MIND consortium
- Debate current issues, exchange knowledge and share experiences in multi-scale modeling

Audience

- PUMA MIND partners
- Academic and industrial researchers
- Fuel cell practitioners and consultants
- Research students

Registration

- Register by sending an email to manuelle.guinaud@cea.fr
- Registration is free of charge and includes lunch and refreshments. Please note that places are limited and will be allocated on a first come first served basis (limited to 80 people)



Programme

Day 1 – June 2014 12th

8.30 : Welcome and registration

9.00 : Keynote Lecture

- Succeeding with New Electrochemical Materials: A Market-Driven Modeling Approach
K. Malek, SFU, Canada

9.45: Session 1: Multiscale modeling methodology & examples

- Methodology in multi-scale modeling
E. Bonnetier, Jean Kuntzmann Laboratory, Grenoble, France
- TB_SIM code : An integrated multi-scale approach for the characterization of nanotransistors
Y.M. Niquet and F. Triozon, CEA INAC/LETI, France
- Multi-scale modeling of Li-ion batteries
M.L. Doublet, Institut Charles Gerhald Montpellier, France
- Multiscale simulations of enzyme catalysis
M. Field, Institut de Biologie Structurale, Grenoble, France

12.00: Lunch and poster session (by Puma Mind partners)

13.00: Visit of the Show Room (additional registration required).

14.00: Session 2: PUMA MIND dissemination

- Recent research highlights
M. Quinaud, CEA, France

15.00: Session 3: Electrochemical interface modeling

- Requirement of industrial multi-scale PEMFCs modeling. Description of the Electrochemical Double Layer
T. Mashio, Nissan, Japan
- DFT calculations, insights for new electrode materials
J. Rossmeisl, DTU, Denmark

16.50: Session 4 : Transport modeling

- Multiscale proton dynamic in the membrane
G. Gebel, CEA (to be confirmed)
- Pore Network Modeling, coupling with the cell/system level
J. Pauchet, CEA, France

Programme

Day 2 – June 2014 13th

8.30: Keynote lecture

- Diagnostics and health monitoring, energy management
D.Hissel, FCLab, France

9.15: Session 5 : Diagnostics and monitoring

- Heterogeneities at the cell level by modeling and experiments
N. Zamel, Fraunhofer Institute, Germany
- Modeling of fuel cell stacks
C. Kunush, CSIC, Spain
- Non-linear control for fuel cell system : from simulation to rapid prototyping
D. Buzon, CEA, France
- Interaction between fuel cell stack degradation and system operating conditions: coupling modeling and experiments
S.Rosini, CEA, France

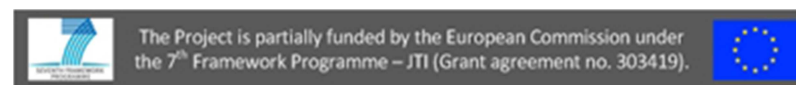
11.30: Session 6 : Future outlook

- A fuel cell modeling strategy roadmap 2014-2024
C. Kompis, Voder, UK

12.15 : Concluding remarks

12.30: Lunch

14.00: Visit of the Liten's laboratories (additional registration required).



The PUMA MIND Consortium reserves the right to alter the programme and accepts no responsibility for views expressed by speakers or delegates.