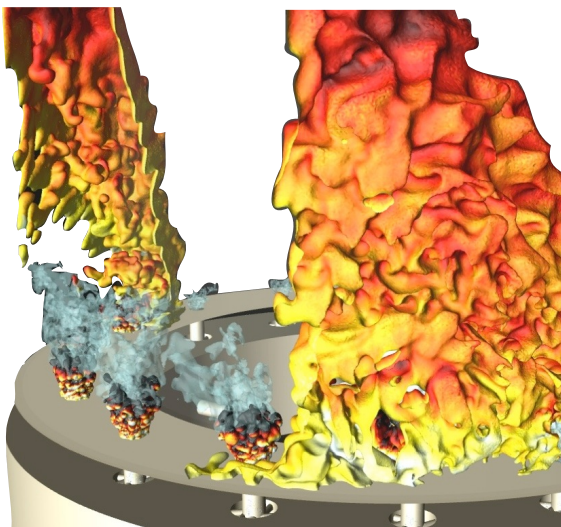


# Journée Thématique du GFC Uncertainties in reactive flows



Wednesday, March 23, 2016

Laboratoire EM2C (CNRS)  
CentraleSupélec (Châtenay-Malabry)  
Amphithéâtre n°5 (Bâtiment Olivier)



The French section of the Combustion Institute is organizing a meeting dedicated to uncertainties in reactive flows in both experimental and numerical contexts. In these two areas, uncertainties about geometry, boundary or initial conditions, models or diagnoses perturb the obtained results. Thus, the increasing knowledge maturity in the field of combustion is accompanied by a need to better characterize the level of uncertainty of the results, in order to ultimately reduce it. This day will enable to appreciate the challenges and efforts made on the treatment of these uncertainties through the following themes:

- Chemical kinetics
- Models and measurements in flames
- Uncertainty quantification methods

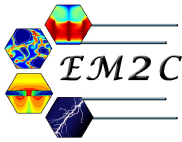
## Organizing committee

Ronan Vicquelin (CentraleSupélec, EM2C)  
Stéphane Jay (IFPEN)  
Benoît Fiorina (CentraleSupélec, EM2C)



CentraleSupélec, Campus de Châtenay-Malabry  
Grande Voie des Vignes  
92290 Châtenay-Malabry





## Journée Thématique du GFC Uncertainties in reactive flows

Laboratoire EM2C, CNRS, CentraleSupélec, March 23, 2016

**09h00 - 09h20 : Welcome and coffee**

**09h20 - 10h10 : Opening conference, G. Iaccarino (Stanford University)**

**10h10-10h30 : Break**

**10h30-12h10 : Chemical Kinetics 4 x (20 + 5 min.)**

- *Determining predictive uncertainties and global sensitivities for large parameters systems: A case study for n-butane oxidation, R. Bounaceur (LRGP)*
- *Modeling propagation of detailed chemical mechanism with tabulated chemistry, N. Dumont (EM2C)*
- *RCM Characterization Initiative: Reducing the experimental scatter in ignition data, G. Vanhove (PC2A)*
- *Benchmarking for the kinetic accuracy of ab initio calculations, A. Zaras (ICARE)*

**12h10 - 13h30 : Lunch**

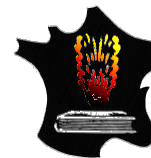
**13h30 - 15h10 : Models and measurements in flames 4 x (20 + 5 min.)**

- *Auto-thermal reforming (ATR) of natural gas: An automated derivation of optimised reduced chemical schemes, N. Jaouen (CORIA)*
- *Study of the influence of the flame consumption speed on the flame topology in a premixed swirled non-adiabatic combustor, A. Chatelier (ONERA/EM2C)*
- *On the estimation of bias and uncertainties on laminar burning velocity obtained from spherical expanding flames, B. Renou (CORIA)*
- *Uncertainties induced by phase-locked measurements of dynamic phenomena, L. Zimmer (EM2C)*

**15h10 - 15h30 : Break**

**15h30 - 17h25 : Uncertainty quantification methods 5 x (20 + 5 min.)**

- *Uncertainty Quantification Method in Chemical Systems and Stochastic Simulators, O. Le Maître (LIMSI)*
- *An uncertainty quantification framework coupled with a 1D Physics-based model for the prediction of NOx emissions in RQL combustion chamber, H. Musaefendic (Safran)*
- *Cost-effective data-driven fire behavior modeling by combining uncertainty quantification and data assimilation methods, M. Rochoux (CERFACS)*
- *Sensitivity analysis of the mixing layer flow configuration by the use of generalized polynomial chaos, M. Meldi (Pprime)*
- *Introducing UQ for thermoacoustic analysis: Longitudinal and annular applications, M. Bauerheim (LMFA)*



**FORMULAIRE D'INSCRIPTION**  
**Journée Thématique GFC**  
**Incertitudes dans les écoulements réactifs**  
**Mercredi 23 Mars 2016**

**Laboratoire EM2C CNRS – CentraleSupélec**  
**Grande Voie des Vignes, 92290 Châtenay-Malabry**

Nom : \_\_\_\_\_ Prénom : \_\_\_\_\_

Laboratoire/ : \_\_\_\_\_  
Entreprise \_\_\_\_\_

Adresse : \_\_\_\_\_  
\_\_\_\_\_

Mél : \_\_\_\_\_

Tél. : \_\_\_\_\_

Participera à la Journée thématique du 23/03/2016 :  Oui  Non

***Règlement des frais d'inscription***

L'inscription comprend les actes de la journée, le déjeuner, les pauses-café. Pour les non-adhérents au GFC pour l'année 2016, le prix de l'adhésion est rajouté : le bulletin d'adhésion à remplir vous sera envoyé par la suite. **Cochez la case correspondant à votre situation :**

	<b>Adhérent GFC 2016</b>	<b>Non-adhérent GFC 2016</b>
<b>Doctorants (moins de 28 ans)</b>	<input type="checkbox"/> 30 €	<input type="checkbox"/> 40 €
<b>Permanents, post-doc et autres personnels</b>	<input type="checkbox"/> 50 €	<input type="checkbox"/> 70 €

<p><input type="checkbox"/> <b>Paiement par chèque :</b> à l'ordre du <b>Groupement Français de Combustion</b></p> <p><input type="checkbox"/> <b>Paiement par bon de commande auprès du</b> <b>Groupement Français de Combustion</b> Association régie par la loi de 1901 - Exonération de TVA BNP PARIBAS Lille Hellemmes, code Banque (RIB) : 30004 00357 00003415359 67 IBAN : FR76 3000 4003 5700 0034 1535 967 BIC : BNPAFRPPLIL SIRET : 533 710 000 00019</p> <p><input type="checkbox"/> <b>Paiement à mon arrivée par chèque en €</b></p> <p><b><u>IMPORTANT : Pas de paiement par carte de crédit</u></b></p>	<p>Retourner le bulletin d'inscription et le règlement <b><u>avant le 04 mars 2016</u></b> à :</p> <p><b>Ronan Vicquelin</b> <b>Laboratoire EM2C, CentraleSupélec</b> <b>Grande Voie des Vignes</b> <b>92290 Châtenay-Malabry</b></p> <p>Pour tout renseignement contacter :</p> <p>R. Vicquelin Tél. : 01 41 13 10 90 Ronan.Vicquelin@centralesupelec.fr</p>
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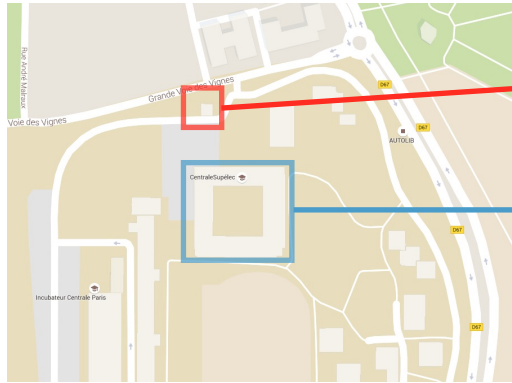
Fait à :

le :

Signature :

# Access to the Châtenay campus of CentraleSupélec

Please make sure to get a Visitor badge at the *poste de garde*. The meeting takes place in the amphitheater #5 in the Olivier building.



*Poste de garde* where to get your visitor badge

Olivier building, Amphitheater #5

## By car

- **Via the N 20**, when coming from PORTE d'ORLÉANS, take the direction of Antony until the crossroads "Croix de Bery"; turn right and head for "VERSAILLES (Châtenay-Malabry)". 500 m farther on, turn right again to take the D67 in the direction of Sceaux (avenue Sully Prudhomme) and then turn left at the first roundabout to take the Grande Voie des Vignes.
- **Via the N 118**, when coming from the PONT-DE-SÈVRES, take the A 86 to CRETEIL, then exit no 29 "Châtenay-Malabry Robinson". Follow the N186 that runs through the whole town of Châtenay. Turn left to take the D67 towards Sceaux (avenue Sully Prudhomme), then turn left again at the first roundabout to take the Grande Voie des Vignes.
- **Via the A86**, when coming from CRÉTEIL, take exit no 27 to Antony. 800 m farther on, turn right to take the D67 in the direction of Sceaux (avenue Sully Prudhomme) and then turn left at the first roundabout to take the Grande Voie des Vignes.

## By RER: Line B from Paris

- **Direction ST RÉMY-LÈS-CHEVREUSE**  
Take the Regional Express to ST RÉMY-LES-CHEVREUSE, get off at Antony, take bus 395 in the direction of "Clamart - G. Pompidou" and get off at the stop "Grande Voie des Vignes - École Centrale".
- **Direction ROBINSON**  
Take the Regional Express to ROBINSON, get off at Robinson, take bus 395 in the direction of "Antony RER" and get off at the stop "Grande Voie des Vignes - École Centrale".

## By plane

- **Take the ORLYVAL** to Antony station the junction with line B of the RER. Then take bus 395 to "Clamart - G. Pompidou" and get off at the stop "Grande Voie des Vignes - École Centrale".