



**PRISME Seminar 2012**  
Aix en Provence, France  
30 May 2012

Hosted by  
Institut de Radioprotection et de Sûreté Nucléaire (IRSN)

**PROGRAMME**

**Deadline for registration: 30 March 2012**

## **1. SPONSORSHIP**

The OECD meeting "PRISME Seminar 2012" to be held on 30 May 2012 in Aix en Provence, France, is sponsored by the Committee on the Safety of Nuclear Installations (CSNI) of the OECD Nuclear Energy Agency (NEA). It is hosted by the Institut de Radioprotection et de Sûreté Nucléaire (IRSN).

## **2. BACKGROUND AND OBJECTIVES**

The Nuclear Energy Agency of the Organisation for Economic Co-operation and Development (NEA-OECD) has, since 2006, sponsored collaborative projects on heat and smoke propagation mechanisms in multi-compartment fire scenarios. This project, entitled PRISME (French acronym for "Fire Propagation in Elementary Multi-room Scenarios"), consisted of a programme of experiments and analyses intended to study smoke and hot gases propagation in full scale, well-confined and mechanically ventilated fire compartments. The results have been of wider applicability in that they have provided new insights as the fire behaviour in a confined and ventilated atmosphere, as smoke and heat propagation in a facility, as cable malfunction, as the fire behaviour of electrical cabinet or cables. These results are important to improve the understanding of fire in confined and ventilated atmosphere.

The objectives of the PRISME project were to investigate different modes and mechanisms involved in the spread of hot gases and smoke from fire room towards adjacent rooms (from 1 to 3 rooms) via the following elements:

- Open door(s);
- Leakages (through openings, narrow slot and a firebreak door);
- Ventilation network (for example, reverse flow due to the effects of pressure, effect of forced vs natural flow rate in the doorways);
- Ventilation duct crossing through fire room and blowing out adjacent room.

The fire sources are liquid pool fire and real fire source as PVC cables and electrical cabinet. The fire powers are in the range from about 200 kW to several MW depending of the fuel nature, the fuel surface, the wall material and the ventilation airflow rate. The fire can be extinguished by lack of fuel or lack of oxygen in the fire room.

The large-scale experiments are carried out in a multi-room facility (named DIVA) for the confined and ventilated fire tests and in a calorimeter facility (named SATURNE) for open atmosphere. These experimental installations are located both at Cadarache (France). All compartments of DIVA are representative of nuclear power plants with high confined rooms connected to a ventilation network.

During the PRISME project, five experimental campaigns (more than 35 large-scale fire tests) were performed from early 2006 up to mid-2011:

- PRISME Source fire tests devoted to characterize the fire source and to investigate the fire behavior in a single compartment;
- PRISME Door fire tests devoted to study the smoke and gas propagation between two or three rooms through doorway and the effects of thermal stress on PVC electrical cables (surrogate and real cables);
- PRISME Leak fire tests devoted to investigate the smoke and gas propagation between two rooms through leakages (via two openings, a narrow vertical slot, a firebreak door and a crossing duct inside the fire room) and the effects of thermal stress on real electrical cables for which the electrical malfunction was measured;
- PRISME Integral fire tests devoted to study the heat and mass transfer of hot gases and smoke through doorways considering three and four rooms, and a special focus on smoke and heat propagation due to real fire source (electrical cabinet and cable fire sources), on ventilation driving on heat and smoke propagation (ventilation and damper effect), and on effect of water deluge system (sprinkler).

The PRISME experimental programme was completed by mid 2011.

The CSNI decided to hold a seminar where the major outcome of the PRISME Project could be presented and discussed.

The objectives of the seminar are:

- to review the experimental results of the PRISME project;
- to discuss the progress made on the understanding of fire in a confined and ventilated atmosphere;
- to discuss the applicability to nuclear power plants and use of the results;
- to exchange information on complementary research.

### **3. SCOPE AND TECHNICAL CONTENT OF THE SEMINAR**

The Seminar is intended to provide an in-depth review of the PRISME Project progress of the technical capabilities, results and analyses that have been produced during the project execution. The applications of the results and their significance for fire analysis to power plants are also to be addressed.

The seminar will consist of five sessions organized as follows:

#### *Session 1: Introduction of the seminar*

- General introduction on the PRISME project
- Technical introduction to the seminar

*Session 2: Experimental outcomes*

- PRISME Project: Fires in confined and ventilated nuclear-type multi-compartments
- Focus on some phenomena: the effect of ventilation on pyrolysis rate, dysfunction of electrical components in fire conditions, pressure effects on smoke/hot gases spreading in confined and ventilated fire rooms
- Outcomes from PRISME partners' experimental researches

*Session 3: Use of the PRISME results - Validation process of fire codes*

- Quantifying differences between computational results and measurements in the case of a large-scale well-confined fire scenario
- Sensibility analysis of fire codes

*Session 4: Use of the PRISME results – Pending issues and perspectives*

- Use of PRISME results as regards fire safety issues
- Solving pending issues: presentation of PRISME 2

*Session 5: Conclusions on the main PRISME outcomes in the general context of worldwide fire research*

- Conclusion on the main PRISME outcomes in the general context of worldwide fire research
- General discussions

#### **4. PARTICIPATION**

No fee is required for attending the seminar, but the access to seminar will be restricted to registered participants.

#### **5. LANGUAGE OF THE SEMINAR**

The official language of the Seminar will be English.

## 6. CONTACT PERSONS

**For technical information**, please contact:

- the Seminar OC chairman, Mr. Richard Gonzalez, IRSN [Tel: +33 4 42 19 95 42, e-mail: TUrichard.gonzalez@irsn.frUT] or
- the NEA secretariat, Mr. Greg Lamarre, NEA [Tel: +33 1 45 24 10 53, e-mail: Greg.LAMARRE@oecd.org]

**For practical information**, please contact:

- Pascale Magoia, IRSN, [pascale.magoia@irsn.fr M(Tel: +33 4 42 19 92 20, fax: +33 4 42 19 91 63) ].

## 7. MEETING PLACE

The meeting will take place at:

### **LE MAS D'ENTREMONT**

Célony  
315, Route d'Avignon  
13090 Aix-en-Provence  
France

## 8. PRACTICAL INFORMATION

*See Appendix for further details*

### **Registration**

Participants shall register by sending their registration form **before March 30, 2012**

### **Hotel**

Participants are requested to make their own hotel reservation

### **Transportation:**

The meeting place is approximately at 9 km of the city centre of Aix-en-Provence. The Marignane Airport and the Aix-en-Provence high-speed train (TGV) railway station are connected to Aix-en-Provence downtown by buses and taxis. No transportation will be provided between the airport, hotels and the meeting place.

A city bus line (number 14, see schedules in the appendix) exists between the city centre and the meeting place (Stop named Celony).

APPENDIX

	<p style="text-align: center;"><b>PRISME SEMINAR</b></p> <p style="text-align: center;"><b>30 MAY 2012</b></p> <p style="text-align: center;">LE MAS D'ENTREMONT – AIX-EN-PROVENCE - FRANCE</p>	
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**REGISTRATION FORM**

Please fill in and return to [pascale.magoia@irsn.fr](mailto:pascale.magoia@irsn.fr) or by fax. +33 (0)4 42 19 91 63  
**no later than 30<sup>th</sup> March 2012**

➤ **PRISME SEMINAR at Aix-en-Provence**  
I will participate  Wednesday 30 May 2012

➤ **MEAL**      Wednesday 30 May 2012      Lunch

Special request: \_\_\_\_\_ \* participants attending the MCCI meeting in the morning

Mr  Mrs  Miss  Ms  Dr  Prof

NAME: \_\_\_\_\_

First name: \_\_\_\_\_

Company: \_\_\_\_\_

Work address: \_\_\_\_\_

\_\_\_\_\_

Country: \_\_\_\_\_

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

E-mail: \_\_\_\_\_

**IMPORTANT**

**Accommodation:** Participants are requested to make their own hotel reservation (see map enclosed).

**Transportation:** The meeting place is approximately at 9 km of the city centre of Aix-en-Provence. The Marignane Airport and the Aix-en-Provence high-speed train (TGV) railway station are connected to Aix-en-Provence downtown by buses and taxis. No transportation will be provided between the airport, hotels and the meeting place. A city bus line (number 14, see schedules in the appendix) exists between the city centre and the meeting place (Stop named Celony).

APPENDIX



AIX EN PROVENCE - PROVENCE-ALPES-CÔTE D'AZUR - FRANCE

[www.masdentremont.com](http://www.masdentremont.com)



## APPENDIX

*Le Mas d'Entremont* HOTEL RESTAURANT ★★★★★

AIX EN PROVENCE  
PROVENCE-ALPES-CÔTE D'AZUR  
FRANCE

Hello!

Thank you for choosing to receive news and information on our establishment through the PDF Brochure service.

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If you do not have access to the internet at work or at home, log on to our website access by mobile phone:

<http://mobile.masdentremont.com>

See you soon,

LE MAS D'ENTREMONT

LE MAS D'ENTREMONT  
CELONY  
315 Route d'Avignon  
13090 AIX EN PROVENCE

Tel : +33442174242  
Fax : +33442211583  
Email : [entremont@masdentremont.com](mailto:entremont@masdentremont.com)  
Website : <http://www.masdentremont.com>

APPENDIX

*Le Mas d'Entremont* HOTEL RESTAURANT ★★★★★

AIX EN PROVENCE  
PROVENCE-ALPES-CÔTE D'AZUR  
FRANCE

*Location & Access*

*Me* MAP OF FRANCE



*Me* ACCESS MAP



*Me* HOW TO ARRIVE ?

**By car :**

From Paris, Lyon & Avignon:  
Take the exit Aix-Ouest and follow the direction for Sisteron.  
Then follow the signs for Avignon by RN7 (green signs)  
From Nice :  
Take the exit for GAP and then follow the signs for Avignon by RN7 (green signs)

For more information : [www.masdentremont.fr](http://www.masdentremont.fr)

Coordinate GPS : (Lat : 43.5841429 / Lon : 5.3728412)

**By plane:**

Marseille airport  
Take motorway A7 for Aix en then A51 follow signs for Avignon per RN7 (green signs).

For more information : [www.aeroport.fr](http://www.aeroport.fr)

**By train :**

TGV station Aix-en-Provence  
Shuttle from TGV station : tel +33 (0) 4 42 91 26 80

For more information : [www.sncf.fr](http://www.sncf.fr)

[Download our access plan \(PDF 186K\)](#)

*Me* DISTANCES

Distance in Km from Aix-en-Provence to :			
Marseille	34 Km	Montpellier	153 Km
Avignon	73 Km	Nice	176 Km
Toulon	81 Km	Valence	207 Km
Nîmes	106 Km	Lyon	295 Km
Orange	114 Km	Paris	756 Km

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Website : <http://www.masdentremont.com>

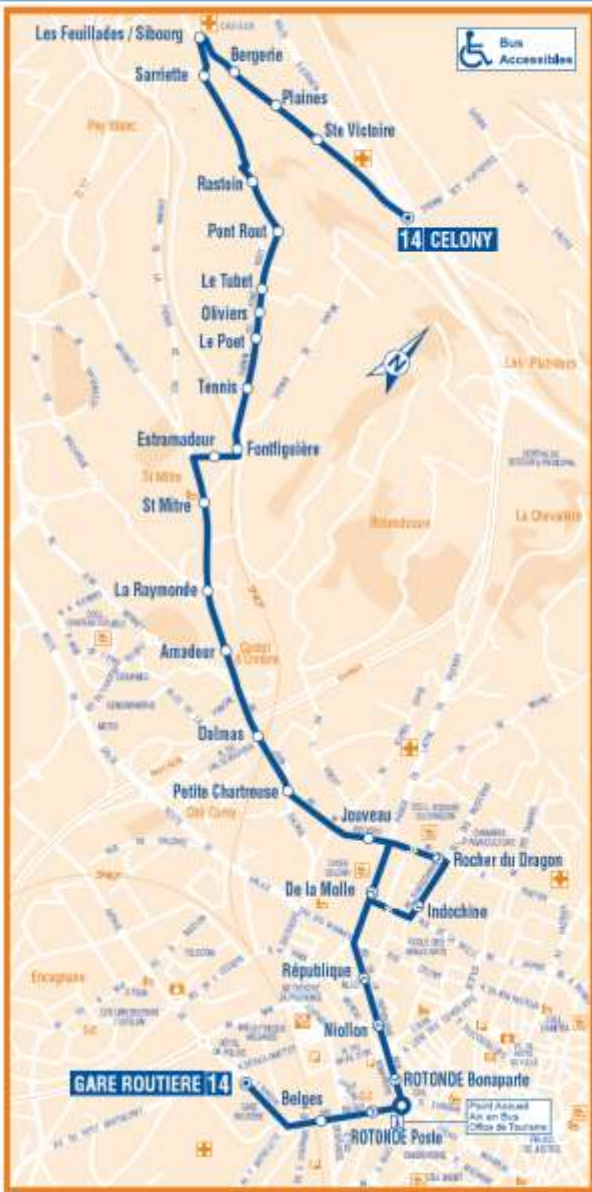
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APPENDIX

**ligne 14** **GARE ROUTIERE ↔ CELONY**  
 Quartiers desservis : Célony, Les Feuillades, Chemin du Pont Rout, Petite Chartreuse et Gare Routière



GARE ROUTIERE	PETITE CHARTREUSE	ESTRAMADOUR	CELONY
<b>DU LUNDI AU SAMEDI</b>			
07:05	07:11	07:15	07:30
07:40	07:46	07:50	08:05
08:10	08:16	08:20	08:30
08:40	08:46	08:50	09:00
09:40	09:46	09:50	10:00
11:25	11:31	11:35	11:50
(1) 12:05	12:11	12:15	12:30
12:35	12:41	12:45	13:00
13:35	13:41	13:45	14:00
14:00	14:06	14:10	14:25
15:35	15:41	15:45	16:00
16:05	16:11	16:15	16:30
16:35	16:41	16:45	17:00
17:05	17:15	17:20	17:40
17:30	17:40	17:45	18:05
18:10	18:16	18:20	18:40
18:35	18:41	18:45	19:05
19:10	19:16	19:20	19:35
20:10	20:16	20:20	20:35

<b>DIMANCHES ET JOURS FERIES</b>			
07:10	07:16	07:20	07:30
08:15	08:21	08:25	08:35
11:40	11:46	11:50	12:00
12:50	12:56	13:00	13:10
13:30	13:36	13:40	13:50
17:20	17:26	17:30	17:40
18:45	18:51	18:55	19:05

CELONY	ESTRAMADOUR	PETITE CHARTREUSE	GARE ROUTIERE
<b>DU LUNDI AU SAMEDI</b>			
07:05	07:15	07:22	07:35
07:30	07:45	07:52	08:05
08:05	08:15	08:20	08:30
08:35	08:45	08:52	09:05
09:05	09:15	09:22	09:35
10:55	11:05	11:12	11:25
12:05	12:15	12:22	12:35
13:00	13:10	13:17	13:30
14:00	14:10	14:17	14:30
14:30	14:40	14:45	14:55
15:00	15:10	15:15	15:25
17:00	17:10	17:17	17:30
17:40	17:50	17:57	18:10
18:05	18:15	18:22	18:35
18:40	18:50	18:57	19:10
19:05	19:15	19:22	19:35
19:35	19:45	19:50	20:00

<b>DIMANCHES ET JOURS FERIES</b>			
07:50	08:00	08:03	08:10
08:50	09:00	09:03	09:10
12:05	12:15	12:18	12:25
13:10	13:20	13:23	13:30
13:50	14:00	14:03	14:10
18:05	18:15	18:18	18:25
19:35	19:45	19:48	19:55

Deserte du Collège Château Double en période scolaire uniquement.  
 (1) Fonctionne le mercredi uniquement.

Arrêt : CELONY - Secteur B : CELONY  
 Réservations : N° Vert 0 800 526 230 **Proxi bus**



ACCOMODATION

Hôtel Aquabella\*\*\*  
 2 rue des Etuves  
 ☎ +33 (0) 442 991 500  
 Fax +33 (0) 442 991 507  
[www.aquabella.fr](http://www.aquabella.fr)

Hôtel Le Manoir\*\*\*  
 8 rue d'Entrecasteaux  
 ☎ +33 (0) 442 262 720  
 Fax +33 (0) 442 271 797  
<http://www.hotelmanoir.com/>

Hôtel les Augustins\*\*\*  
 3 rue de la Masse  
 ☎ +33 (0) 442 272 859  
 Fax +33 (0) 442 267 487  
<http://www.hotel-augustins.com>

Hôtel du Globe\*\*  
 74 cours Sextius  
 ☎ +33 (0) 442 260 358  
 Fax +33 (0) 442 261 368  
<http://www.hotelduglobe.com/>

Hôtel de France\*\*  
 63 rue Espariat  
 ☎ +33 (0) 442 279 015  
 Fax +33 (0) 442 261 147  
<http://hoteldefrance-aix.com/>

Hôtel St-Christophe\*\*  
 2 avenue Victor Hugo  
 ☎ +33 (0) 442 260 124  
 Fax +33 (0) 442 385 317  
<http://www.hotel-saintchristophe.com/>



Rotonde (Place Général de Gaulle)

More information available on <http://www.aixenprovencetourism.com/uk/aix-hotels.htm>