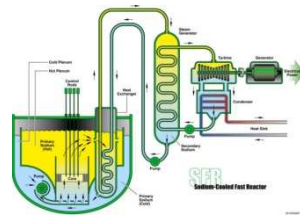


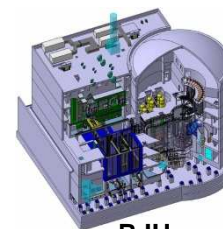
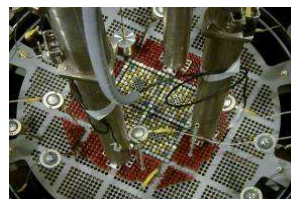
DE LA RECHERCHE À L'INDUSTRIE



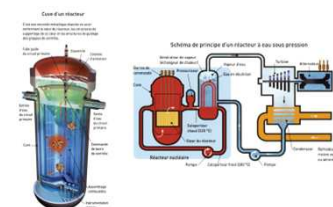
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LA DEMARCHE INNOVATION EN INSTRUMENTATION ET MESURE A CADARACHE



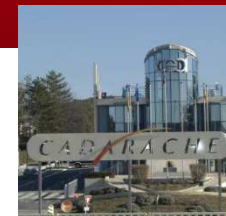
RJH



| Abdallah LYOUSSI CEA/DEN/CAD/DER; abdallah.lyoussi@cea.fr

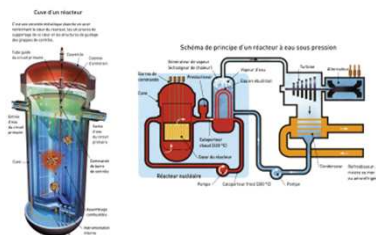
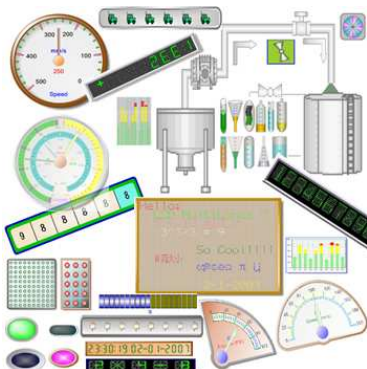
31 JANVIER 2013

Rencontre CEA ⇔ Industrie pour l'innovation et le transfert de technologie
Instrumentation – Mesure – Caractérisation et leurs Applications



Toutes les unités sont concernées directement ou indirectement par l'instrumentation et la mesure

Conventionnelle



Spécifique

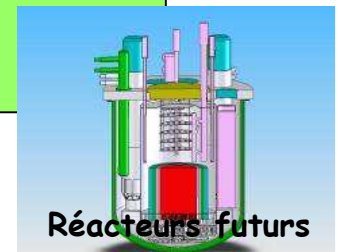
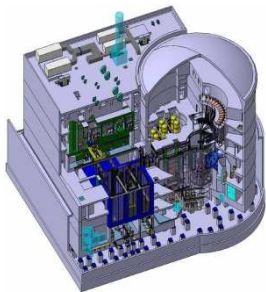
Milieux extrêmes, sévères, hostiles

- Rayonnements
- Haute température
- Forte pression
- CEM
- Métaux liquides
- Milieux opaques
- ...

Fondamentales pour l'étude, la compréhension avancée des phénomènes
physiques et physico-chimiques :

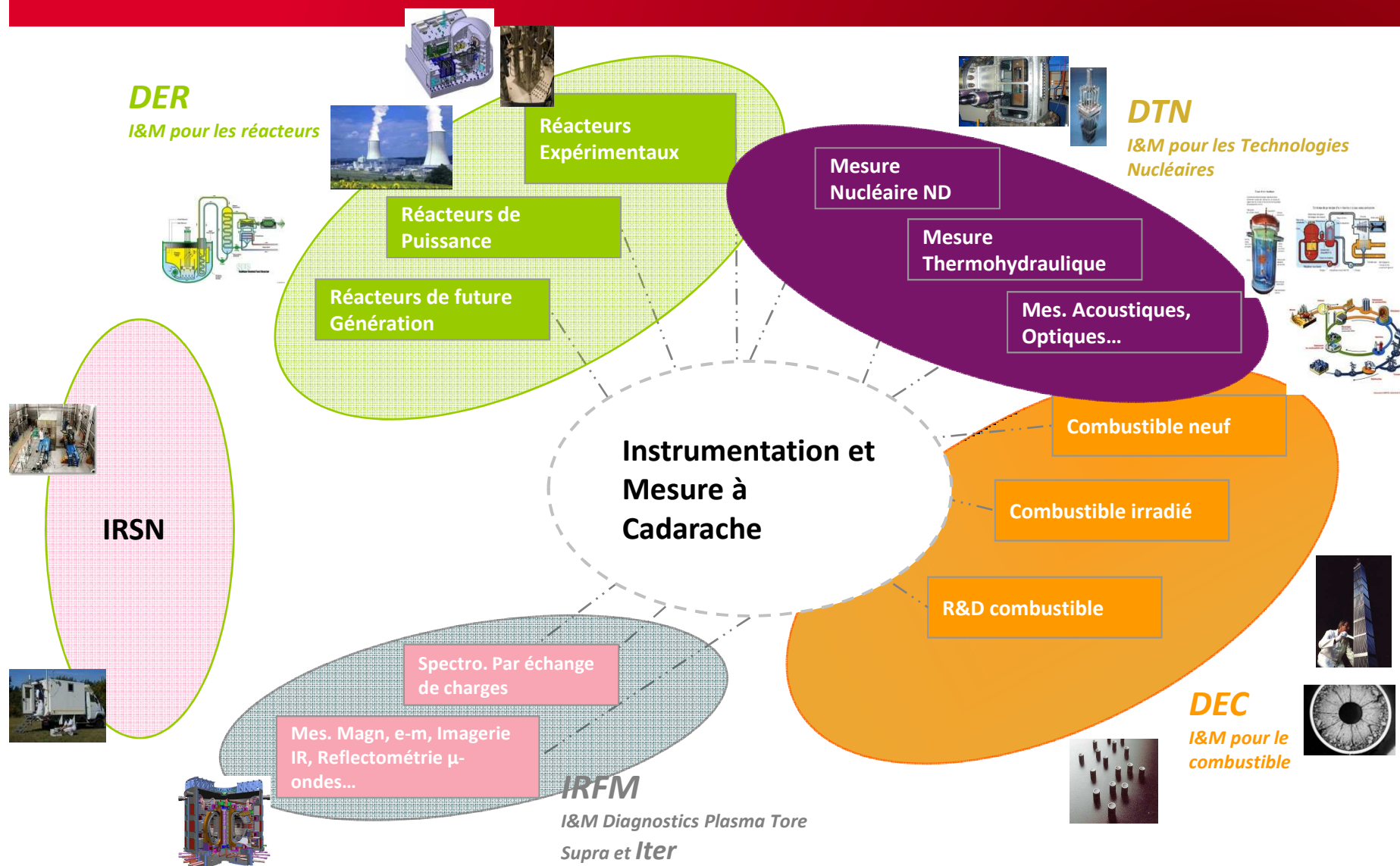
Thermohydraulique, Thermodynamique, Thermique, Optique (IR), Nucléaire, Neutronique,
Photonique, IRM, EM...

Répondre au mieux aux besoins des réacteurs
expérimentaux, de puissance et systèmes de future
génération (Maquettes critiques, EPR, RJH, GEN IV,
ADS, Fusion), au cycle du combustible (fabrication,
retraitement, démantèlement, gestion des déchets,
contrôle matière –safeguards-...)

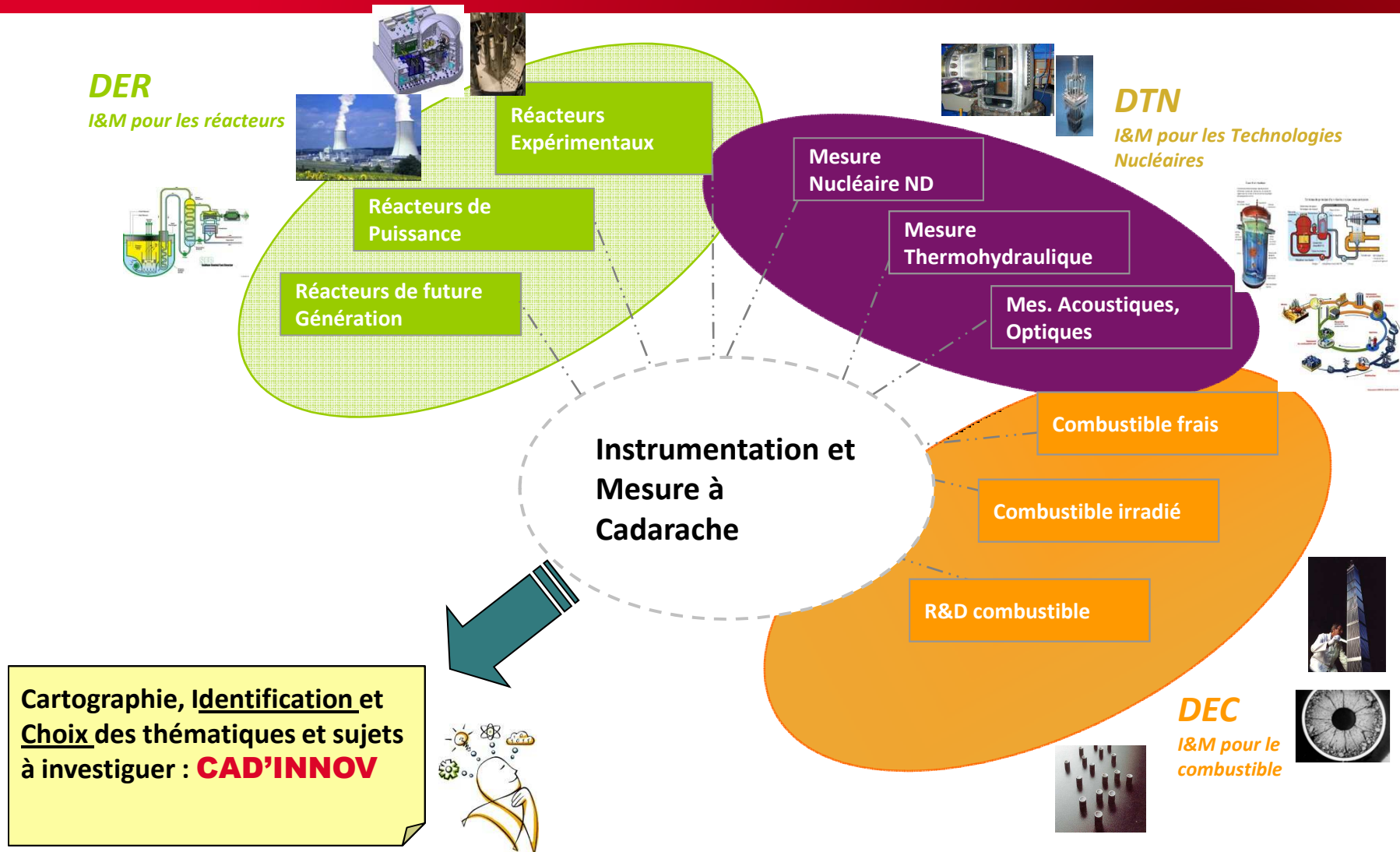


Réacteurs futurs

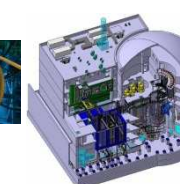
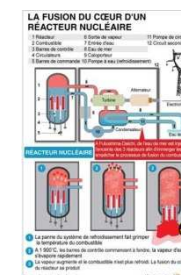
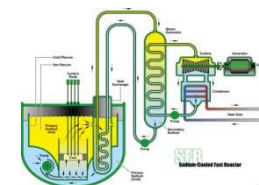
LES UNITES CONCERNEES A CADARACHE



LES UNITES RETENUES EN INNOVATION : DEN/CAD...



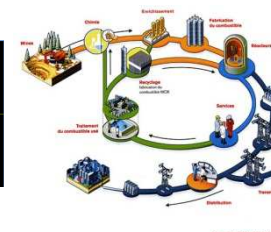
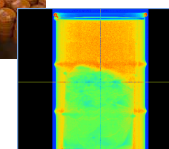
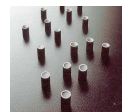
- Instrumentation en réacteurs pour les besoins :
 - de l'ISIR* et fonctionnement RNR (DER-DTN)
 - des Accidents Graves (suivi en ligne d'un AG, R&D exp.) (DTN-DEC)
 - de la R&D (dispos MTRs, ZPR, NPP) : DER & DTN
 - en service (REL, MTR) : DER & DTN



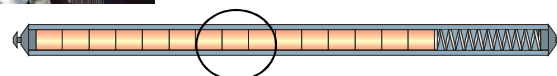
- CNP, Usines du Cycle, Safeguards, H.S. - DTN



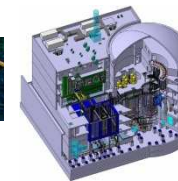
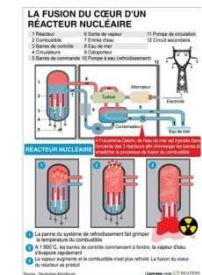
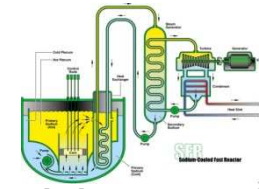
- R&D combustible - DEC



(*) Inspection en Service Intervention Réparation



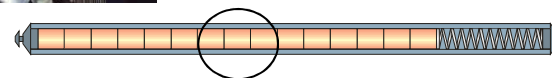
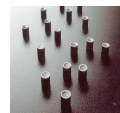
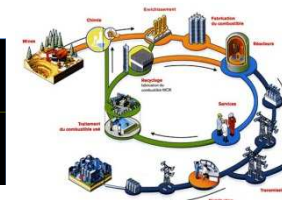
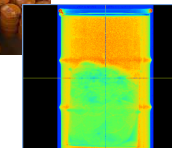
- Instrumentation en réacteurs pour les besoins :
 - de l'ISIR* et fonctionnement RNR (DER-DTN)
 - des Accidents Graves (suivi en ligne d'un AG, R&D exp.) (DTN-DEC)
 - de la R&D (dispos MTRs, ZPR, NPP) : DER & DTN
 - en service (REL, MTR) : DER & DTN(*)



- CNP, Usines du Cycle, Safeguards, H.S. - DTN



- R&D combustible - DEC

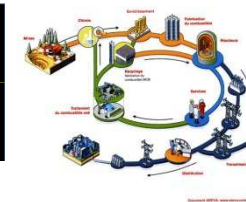
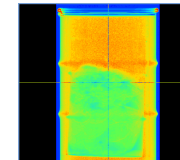
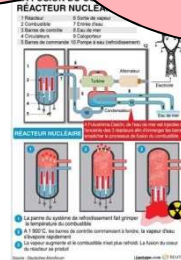
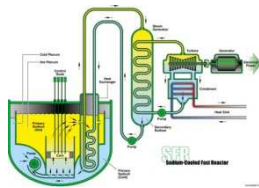


(*) du ressort de l'exploitant, du contrôle

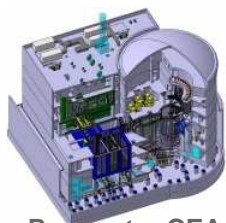
THEMATIQUES RETENUES AUJOURD'HUI

- Mesures Rayonnements
- Mesures Optiques
- Mesures Accoustiques
- Mesures Thermohydrauliques
- Mesures Thermodynamiques
- Electronique
- Algorithmique
- Analyse et Traitement du signal
- Modélisation

**Surveillance
Inspection**
DTN & DER



**En cœur : Dispos et
Cœur**
(INSNU, Programme
IN-CORE)
En cours...



CONGRES INTERNATIONAL ANIMMA 2013 23-27 JUIN A MARSEILLE

≈ 430 p, 34 nat.

23 Exposants



The first International Conference on **Advancements in Nuclear Instrumentation, Measurement Methods and their Applications ANIMMA** will take place 7-10 June, 2009 at the Convention Centre of Marseille, in southern France.

The aim of the conference is to bring together scientific, academic and industrial communities interested in, or actively involved in research and developments related to nuclear instrumentation and measurement methods.

The program is focused on instrumentation, but emphasizes the latest developments in all measurement stages: nuclear radiation detection and in-pile measurements, modelling, electronics, signal acquisition and analysis, interpretation and associated training/education activities.

ANIMMA offers an outstanding opportunity for scientists and engineers to meet and discuss new ways to address complex problems and find advanced solutions in nuclear instrumentation and measurement sciences and technologies.

Questions regarding the technical programme should be addressed by e-mail to: animma@cea.fr

www.animma.com

Abstract submission deadline: 1st July 2009
Final paper submission deadline: 1st July 2009
Open registration: January 2009



≈ 300 p, 25 nat.

15 Exposants



The second international conference on **Advancements in Nuclear Instrumentation, Measurement Methods and their Applications ANIMMA** will take place June 6-9, 2011 at the International Convention Center, Ghent, Belgium.

The aim of the conference is to bring together scientific, academic and industrial communities interested in, or actively involved in research and developments related to nuclear instrumentation and measurement methods.

The programme is focused on instrumentation, but emphasizes the latest developments in all measurement stages: nuclear radiation detection and in-pile measurements, modelling, electronics, signal acquisition and analysis, interpretation and associated training/education activities.

ANIMMA offers an outstanding opportunity for scientists and engineers to meet and discuss new ways to address complex problems and find advanced solutions in nuclear instrumentation and measurement sciences and technologies.

Questions regarding the technical programme should be addressed by e-mail to: animma@cea.fr

The conference topics include instrumentation and measurement methods for:

- Fundamental physics
- Nuclear reactors
- Research reactors
- Nuclear fuel cycle
- Safeguards, homeland security
- Environmental and medical sciences
- Education and training activities

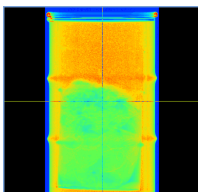
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ANIMMA 2013

500 p

GOAL



CONGRES INTERNATIONAL ANIMMA 2013

23-27 JUIN A MARSEILLE



MARSEILLE
PALAIS DES CONGRÈS
JUNE 23-27, 2013

INTERNATIONAL CONFERENCE ANNOUNCEMENT



The third international conference on **Advancements in Nuclear Instrumentation Measurement Methods and their Applications ANIMMA** will take place from 23 to 27 June 2013 at the Convention Centre of Marseille, in southern France.

Conference topics :

Fundamental physics

Nuclear power reactors

Research reactors

Nuclear fuel cycle

Safeguards, homeland security

Severe accident monitoring

Environmental and medical sciences

Education and training activities

The aim of the conference is to bring together scientific, academic and industrial communities involved in research and development related to nuclear instrumentation and measurement methods.

The program emphasizes the latest developments in all measurement stages: radiation detection, in-pile measurements, modeling, electronics, signal acquisition and analysis, interpretation and associated training/education activities.

ANIMMA meeting offers an outstanding opportunity to address complex problems and find advanced and innovative solutions in nuclear instrumentation and measurement sciences and technologies.

Key dates :
Abstract submission deadline: January 21, 2013
Final paper submission deadline: May 17, 2013
Open registration: January 2013

Contacts: animma@cea.fr
abdallah.lyoussi@cea.fr

www.animma.com

- **4 journées de conférences:**
 - **Plenières**
 - **Orales**
 - **Posters**



- **Short Courses :**
23 Juin 2013



- **Workshop:**
23 juin 2013

- **Stands d'exposition :**



- **Journée Visite Cadarache**

Contact :

abdallah.lyoussi@cea.fr

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